# Preliminary
# Hydrology & Hydraulics Report

## Surface Mining Permit (SMP) 159R2

County of Riverside

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# A. Introduction

## 1.1 Purpose & Scope

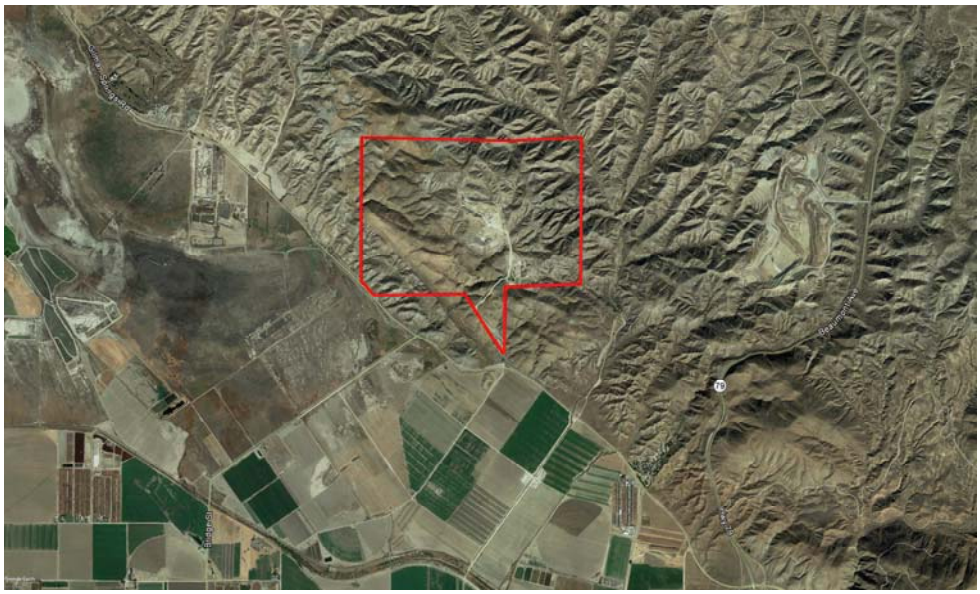
The following Preliminary Hydrology & Hydraulics Report has been prepared for Surface Mining Permit (SMP) 159R2 in Riverside County, CA.

**The scope of this Report is as follows:**

- Identification and delineation of the watershed tributary to the project site.
- Identification of historical (pre-disturbance) conditions on-site drainage areas and calculation of peak flow rates and runoff volumes for these areas.
- Identification of existing conditions on-site drainage areas and calculation of peak flow rates and runoff volumes for these areas.
- Identification of developed conditions on-site drainage areas and calculation of peak flow rates and runoff volumes for these areas.
- Comparative analysis of historical vs. existing vs. developed conditions hydrology.
- Identification of floodplain(s) impacting the site.
- Summary of findings & conclusion.

## 1.2 Project Overview

Per Exhibit "A" for SMP 159R2 (revised December 19, 2017) provided by Chandler Aggregates, Inc., the project entails revision to an existing surface mining permit to allow excavation of approximately 204.8 acres to a maximum depth of 461 feet, and subsequent reclamation activities.



Site Location

The project site is approx. 1,021 acres and is located in Riverside County approximately 1.5 miles northwest of the City of Beaumont and 3 miles north of the City of San Jacinto. Access to the site is provided via a private roadway off of Gilman Springs Road to the south. The study watershed is approximately 3,882 acres in size, of which 2,844 acres is tributary (offsite). Of this, 2,855 acres is attributed Laborde Canyon, which drains through the northeast corner of the project site.

All runoff from the study watershed ultimately discharges to the San Jacinto River, which flows northwesterly approximately 1.5 miles south of the project site.

Refer to Exhibit "A" for an aerial orthophoto of the project site. Refer to Exhibit "B" for a USGS quadrangle of the project site and study watershed.

## 1.3 References

The following documents have been made part of this report by reference:

1.) Hydrology Manual (April 1978) – Riverside County Flood Control & Water Conservation District.

2.) Surface Mining Permit (SMP) 159R2 Exhibit "A" (December 19, 2017) – Chandler Aggregates, Inc.

3.) Web Soil Survey "Western Riverside Areas, CA" (v.10, September 12, 2017) – National Resource Conservation Service (NRCS).

4.) 2011 National Land Cover Database (NLCD) – Multi-Resolution Land Characteristics (MRLC) Consortium.

# B. Methodology

## 1.1 General Methodology

The requirements and recommendations found in the Riverside County Hydrology Manual (April 1978) provided by the Riverside County Flood Control & Water Conservation District (RCFC & WCD) was used as the basis for the methodology and calculations found in this report. Unit Hydrograph calculations were performed for historical (pre-disturbance, per USGS quadrangle data), existing (reflecting the existing SMP operation and improvements), and developed conditions (per SMP 159R2) for the 100-year, 1, 3, 6, and 24-hour storm events, for comparative analysis of peak flow rates and runoff volumes. For developed conditions areas proposing complete retention of runoff, the 100-year, five-day storm was used.

## 1.2 Geographic Information System (GIS) Data

Due to the size of the study watershed, Geographic Information System (GIS) data was used for verification of hydrologic soils groups, land cover, hydrographic features, and topography discussed in this report. ArcGIS was used for area-averaging of precipitation and losses (SCS values).

## 1.3 Sources of Topography

On-site topography was based on 2 ft. and 10 ft. contours generated from a 2 ft. aerial topographic survey provided by Inland Aerial Surveys, Inc. and dated January 04, 2019. Off-site topography was based on contours interpolated from 20 ft. USGS quadrangle maps.

## 1.4 Watershed Precipitation

Watershed precipitation values, and the Slope of Intensity Curve (0.50) used in this report were based on the isohyetal maps found in the Riverside County Hydrology Manual (see Exhibit "C"). Note that these isohyetals were digitized and converted to raster data using ArcGIS, to calculate specific interpolated values for each drainage area for historical, existing, and developed conditions. These drainage area-specific values are tabulated as Attachment No. 1.

## 1.5 Watershed Losses

Refer to Exhibit "D.1" for a map of the hydrologic soils groups identified within the study watershed, based on National Resource Conservation Service (NRCS) Web Soil Survey "Western Riverside Areas, CA" (v.10, September 12, 2017). ArcGIS was then used to intersect these soils groups with the land cover types discussed below for the three analyzed conditions, to establish SCS (Soil Conservation Service) Curve Number (CN) values (per the Riverside County Hydrology Manual excerpts included as Attachment No. 2). These SCS values (AMC II) were then converted to raster data using ArcGIS, to calculated specific interpolated values for each drainage area.

Refer to Exhibit "D.2" for historical (pre-development) conditions land cover types, per 2011 National Land Cover Database (NLCD) provided by the Multi-Resolution Land Characteristics (MRLC) Consortium. Note that the NLCD classifications were translated to the nearest approximated cover type found in the

Riverside County Hydrology Manual for the purposes of SCS selection. Refer to Exhibit "D.3" for historical (pre-development) conditions SCS values established by intersecting the historical conditions cover types with the watershed soils groups. Note that all historical conditions drainage areas were assumed to be 100% pervious.

The historical conditions land cover types were altered to reflect existing conditions cover, as indicated on Exhibit "D.4". All existing disturbed areas were assumed to be "barren" based on analysis of aerial imagery and field investigation. Refer to Exhibit "D.5" for existing conditions SCS values established by intersecting the existing conditions cover types with the watershed soils groups. Note that existing conditions drainage areas impervious values were adjusted, as applicable, based on analysis of aerial imagery and field investigation.

The existing conditions land cover types were altered to reflect developed conditions cover, as indicated on Exhibit "D.6". All developed disturbed areas were assumed to be "barren" based on review of SMP 159R2 Exhibit "A" provided by Chandler Aggregates, Inc. Refer to Exhibit "D.7" for developed conditions SCS values established by intersecting the developed conditions cover types with the watershed soils groups. Note that developed conditions drainage areas impervious values were adjusted, as applicable, based review of SMP 159R2 Exhibit "A".

Exhibit "D.8" illustrates the General Plan Land Use designations for the project watershed. Based on this information, the development potential of the tributary watershed appears to be very low.

Specific SCS and impervious percentage values for all drainage areas are included in the hydrograph input values provided in Sections "E", "F", and "G" of this report. Note that AMC III was used for all 100-year calculations included in this report.

### 1.6 Unit Hydrograph Method Calculations

The Riverside County Unit Hydrograph Method (UNRIV) software applications provided by CivilDesign® Corporation were used for the unit hydrograph method calculations included in this report. Lag time for all hydrographs was calculated using the Army Corps (Snyder) lag equation.

## C. FEMA Floodplain Identification & Considerations

Per FEMA Flood Insurance Rate Map (FIRM) Panel No's. 06065C0795H and 06065C1460H (revised August 18, 2014), the project site is not impacted by any identified floodplains. Refer to Exhibit "E" for an overlay of the project site on the applicable FEMA FIRMs.

# D. Drainage Analysis by Condition

## 1.1 Historical (Pre-Development) Conditions

Refer to Exhibit "F" for the historical (pre-development) conditions study map. Per the USGS quadrangles for the study watershed, offsite flows within Laborde Canyon (Drainage Area 1 – 2,855.4 acres) originate approximately 1.5 miles north of the project's northern boundary and flow southerly through relatively steep canyons as an identified blue line stream before flowing through a small portion of the project site's northeastern corner. The majority of the remaining watershed flows are on-site, originating near the center of the project site and breaking to the east, west, and south before discharging off-site. On-site slopes are shown as moderate to relatively steep.

The USGS quadrangle indicates five additional blue line streams traversing the site. The most significant of these (for Drainage Area 14 – 355.4 acres) is shown as draining southerly and southwesterly through the approximate middle of the site.

## 1.2 Existing Conditions

Refer to Exhibit "G" for the existing conditions study map. The existing project site is partially developed as a surface mining operation/quarry. The majority of land disturbance is located at the approximate center of the site (within Drainage Area 31). Flows associated with the blue line stream discussed above (historical conditions Drainage Area 14) have been routed around the existing operation to the west side of the existing paved access road. These flows then continue in a manner substantially identical to historical conditions prior to discharge off of the site. The remaining five blue line streams (including Laborde Canyon) have not been disturbed by the existing mining operation and associated improvements. An existing aggregate processing plant is located within the northern portion of Drainage Area 32.

## 1.3 Developed Conditions

Refer to Exhibit "H" for the developed conditions study map, which shows the final permitted extents of SMP 159R2 (Drainage Area 45) and the associated aggregate processing plant area (Drainage Area 46). Flows associated with the blue line stream discussed above will be maintained, and the other blue line streams (including Laborde Canyon) will remain undisturbed. All other drainage areas will remain effectively unchanged from existing conditions.

The proposed excavation (Drainage Area 45) will have a capacity of 7,714 a.f., which will retain and infiltrate the calculated 100-year, 5-day runoff volume of 73.18 a.f. (see Section G of this report) at a depth of 1.54 ft. The proposed aggregate processing plant area (Drainage Area 46) will have a minimum capacity of 20 a.f., which will retain and infiltrate the calculated 100-year, 5-day runoff volume of 19.81 a.f. (see Section G of this Report).

# E. Historical (Pre-Development) Hydrology Calculations

## 1.1 Historical Conditions Unit Hydrograph Calculations

Input values for the historical (pre-development) conditions unit hydrograph calculations prepared for this report are tabulated as follows:

**Table 1** – Historical Conditions – Hydrograph Input Values

| DRAINAGE AREA | SIZE (AC) | LEN. (FT.) | LCA (FT.) | UPSTREAM ELEV. (FT.) | DOWNSTREAM ELEV. (FT.) | ELEV. CHANGE (FT.) | COVER TYPE | SCS (AMC II) | SCS (AMC III) | % IMP |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2,855.4 | 15,691 | 7,916 | 2,395 | 1,820 | 575 | MIXED | 80.59 | 91.4 | 0% |
| 2 | 28.3 | 2,006 | 995 | 2,330 | 1,810 | 520 | MIXED | 83.74 | 93.2 | 0% |
| 3 | 6.0 | 724 | 361 | 1,960 | 1,800 | 160 | MIXED | 83.79 | 93.3 | 0% |
| 4 | 5.9 | 610 | 202 | 1,900 | 1,800 | 100 | MIXED | 83.79 | 93.3 | 0% |
| 5 | 99.9 | 4,783 | 2,378 | 2,320 | 1,685 | 635 | MIXED | 83.70 | 93.2 | 0% |
| 6 | 116.3 | 3,722 | 1,850 | 2,220 | 1,600 | 620 | MIXED | 83.54 | 93.1 | 0% |
| 7 | 25.3 | 1,388 | 969 | 1,885 | 1,485 | 400 | MIXED | 83.98 | 93.4 | 0% |
| 8 | 22.1 | 1,834 | 844 | 1,890 | 1,480 | 410 | MIXED | 83.90 | 93.3 | 0% |
| 9 | 50.7 | 2,932 | 1,472 | 2,055 | 1,480 | 575 | MIXED | 83.91 | 93.3 | 0% |
| 10 | 3.3 | 709 | 382 | 1,580 | 1,460 | 120 | MIXED | 75.62 | 88.4 | 0% |
| 11 | 6.5 | 932 | 457 | 1,620 | 1,460 | 160 | MIXED | 76.05 | 88.6 | 0% |
| 12 | 26.1 | 2,119 | 665 | 2,040 | 1,505 | 535 | MIXED | 82.63 | 92.6 | 0% |
| 13 | 28.4 | 1,611 | 894 | 2,085 | 1,580 | 505 | MIXED | 80.04 | 91.0 | 0% |
| 14 | 355.4 | 6,167 | 3,141 | 2,160 | 1,620 | 540 | MIXED | 83.11 | 92.9 | 0% |
| 15 | 60.4 | 2,544 | 1,082 | 2,120 | 1,805 | 315 | MIXED | 81.83 | 92.1 | 0% |
| 16 | 45.6 | 1,854 | 862 | 2,095 | 1,810 | 285 | MIXED | 82.55 | 92.5 | 0% |
| 17 | 26.7 | 1,711 | 839 | 2,085 | 1,865 | 220 | MIXED | 81.93 | 92.2 | 0% |
| 18 | 1.2 | 256 | 132 | 2,030 | 2,000 | 30 | MIXED | 74.53 | 87.7 | 0% |
| 19 | 5.2 | 627 | 335 | 2,080 | 1,895 | 185 | MIXED | 79.78 | 90.9 | 0% |
| 20 | 33.7 | 1,583 | 934 | 2,085 | 1,795 | 290 | MIXED | 83.91 | 93.3 | 0% |
| 21 | 19.7 | 1,329 | 664 | 2,010 | 1,575 | 435 | MIXED | 81.95 | 92.2 | 0% |
| 22 | 54.4 | 3,079 | 1,493 | 2,055 | 1,560 | 495 | MIXED | 83.11 | 92.9 | 0% |
| 23 | 8.9 | 1,240 | 597 | 1,905 | 1,565 | 340 | MIXED | 82.30 | 92.4 | 0% |

Output for the historical conditions hydrograph calculations are tabulated on the following page.

**Table 2** – Historical Conditions – Output Calculations

| DRAINAGE AREA | LAG (HR) | Q100-1 (CFS) | Q100-3 (CFS) | Q100-6 (CFS) | Q100-24 (CFS) | V100-1 (AF) | V100-3 (AF) | V100-6 (AF) | V100-24 (AF) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.55 | 3,708 | 2,796 | 2,477 | 1,521 | 251.41 | 356.82 | 432.72 | 719.64 |
| 2 | 0.08 | 81 | 44 | 37 | 16 | 2.62 | 3.65 | 4.66 | 6.98 |
| 3 | 0.04 | 17 | 10 | 9 | 3 | 0.56 | 0.77 | 0.99 | 1.46 |
| 4 | 0.03 | 18 | 10 | 9 | 3 | 0.55 | 0.76 | 0.97 | 1.42 |
| 5 | 0.17 | 226 | 136 | 123 | 56 | 9.25 | 12.86 | 16.43 | 24.44 |
| 6 | 0.14 | 262 | 166 | 151 | 64 | 10.75 | 14.93 | 19.06 | 27.87 |
| 7 | 0.07 | 72 | 39 | 34 | 14 | 2.35 | 3.25 | 4.19 | 5.98 |
| 8 | 0.07 | 63 | 34 | 30 | 12 | 2.05 | 2.84 | 3.65 | 5.19 |
| 9 | 0.11 | 132 | 75 | 68 | 28 | 4.70 | 6.51 | 8.38 | 11.98 |
| 10 | 0.04 | 9 | 5 | 5 | 2 | 0.29 | 0.37 | 0.45 | 0.60 |
| 11 | 0.05 | 17 | 10 | 9 | 3 | 0.57 | 0.74 | 0.89 | 1.19 |
| 12 | 0.07 | 74 | 40 | 35 | 14 | 2.40 | 3.29 | 4.19 | 5.90 |
| 13 | 0.07 | 80 | 42 | 38 | 15 | 2.56 | 3.43 | 4.28 | 5.96 |
| 14 | 0.23 | 677 | 457 | 409 | 192 | 32.68 | 45.28 | 57.60 | 84.85 |
| 15 | 0.10 | 163 | 91 | 81 | 34 | 5.52 | 7.66 | 9.51 | 14.25 |
| 16 | 0.08 | 131 | 70 | 60 | 26 | 4.19 | 5.81 | 7.30 | 10.95 |
| 17 | 0.08 | 76 | 41 | 35 | 15 | 2.44 | 3.37 | 4.21 | 6.25 |
| 18 | 0.02 | 4 | 2 | 2 | 1 | 0.10 | 0.14 | 0.16 | 0.23 |
| 19 | 0.03 | 15 | 8 | 7 | 3 | 0.47 | 0.63 | 0.78 | 1.14 |
| 20 | 0.08 | 97 | 52 | 45 | 19 | 3.13 | 4.38 | 5.57 | 8.38 |
| 21 | 0.06 | 54 | 30 | 27 | 11 | 1.80 | 2.45 | 3.11 | 4.45 |
| 22 | 0.12 | 136 | 80 | 72 | 30 | 5.02 | 6.94 | 8.83 | 12.92 |
| 23 | 0.05 | 24 | 14 | 12 | 5 | 0.82 | 1.11 | 1.42 | 2.04 |

Refer to Attachment No. 3 for printouts of the historical conditions 100-year, 1, 3, 6, & 24-hour unit hydrograph calculations. Refer to Exhibit "F" for the historical conditions hydrology study map.

# F. Existing Conditions Hydrology Calculations

## 1.1 Existing Conditions Unit Hydrograph Calculations

Input values for the existing conditions unit hydrograph calculations prepared for this report are tabulated on the following page.

**Table 3** – Existing Conditions – Hydrograph Input Values

| DRAINAGE AREA | SIZE (AC) | LEN. (FT.) | LCA (FT.) | UPSTREAM ELEV. (FT.) | DOWNSTREAM ELEV. (FT.) | ELEV. CHANGE (FT.) | COVER TYPE | SCS (AMC II) | SCS (AMC III) | % IMP. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2,855.4 | 15,691 | 7,916 | 2,395 | 1,820 | 575 | MIXED | 80.59 | 91.4 | 0% |
| 2 | 31.0 | 2,195 | 1,000 | 2,330 | 1,808 | 522 | MIXED | 83.73 | 93.2 | 0% |
| 3 | 6.4 | 991 | 436 | 1,940 | 1,798 | 142 | MIXED | 83.81 | 93.3 | 0% |
| 4 | 0.7 | 426 | 170 | 1,888 | 1,800 | 88 | MIXED | 83.27 | 93.0 | 0% |
| 5 | 1.5 | 472 | 283 | 1,888 | 1,800 | 88 | MIXED | 83.69 | 93.2 | 0% |
| 6 | 4.5 | 735 | 371 | 1,858 | 1,796 | 62 | GRASS - FAIR | 84.00 | 93.4 | 0% |
| 7 | 102.6 | 5,340 | 3,092 | 2,330 | 1,650 | 680 | MIXED | 83.69 | 93.2 | 0% |
| 8 | 115.5 | 3,982 | 1,842 | 2,232 | 1,580 | 652 | MIXED | 83.55 | 93.1 | 0% |
| 9 | 1.5 | 435 | 196 | 1,890 | 1,630 | 260 | MIXED | 83.34 | 93.0 | 0% |
| 10 | 2.6 | 639 | 308 | 1,900 | 1,570 | 330 | MIXED | 83.98 | 93.4 | 0% |
| 11 | 0.8 | 288 | 83 | 1,664 | 1,544 | 120 | GRASS - FAIR | 84.00 | 93.4 | 0% |
| 12 | 0.1 | 87 | 41 | 1,602 | 1,574 | 28 | GRASS - FAIR | 84.00 | 93.4 | 0% |
| 13 | 6.9 | 1,106 | 604 | 1,900 | 1,512 | 388 | GRASS - FAIR | 84.00 | 93.4 | 0% |
| 14 | 0.6 | 304 | 158 | 1,562 | 1,484 | 78 | GRASS - FAIR | 84.00 | 93.4 | 0% |
| 15 | 13.7 | 1,459 | 942 | 1,888 | 1,480 | 408 | GRASS - FAIR | 84.00 | 93.4 | 0% |
| 16 | 21.5 | 2,099 | 758 | 1,960 | 1,462 | 498 | MIXED | 83.92 | 93.4 | 0% |
| 17 | 2.5 | 540 | 249 | 1,582 | 1,458 | 124 | MIXED | 83.73 | 93.2 | 0% |
| 18 | 0.9 | 378 | 130 | 1,554 | 1,446 | 108 | GRASS - FAIR | 84.00 | 93.4 | 0% |
| 19 | 5.2 | 953 | 367 | 1,582 | 1,444 | 138 | MIXED | 83.94 | 93.4 | 0% |
| 20 | 51.4 | 3,495 | 1,715 | 2,108 | 1,448 | 660 | MIXED | 83.13 | 92.9 | 0% |
| 21 | 6.4 | 1,043 | 548 | 1,650 | 1,454 | 196 | MIXED | 77.56 | 89.5 | 0% |
| 22 | 0.6 | 206 | 96 | 1,640 | 1,530 | 110 | MIXED | 83.58 | 93.1 | 0% |
| 23 | 0.6 | 207 | 116 | 1,650 | 1,526 | 124 | MIXED | 83.80 | 93.3 | 0% |
| 24 | 0.7 | 246 | 132 | 1,650 | 1,510 | 140 | GRASS - FAIR | 84.00 | 93.4 | 0% |
| 25 | 11.0 | 956 | 574 | 1,648 | 1,504 | 144 | MIXED | 83.85 | 93.3 | 0% |
| 26 | 0.3 | 115 | 61 | 1,658 | 1,600 | 58 | MIXED | 83.55 | 93.1 | 0% |
| 27 | 0.1 | 50 | 25 | 1,646 | 1,622 | 24 | GRASS - FAIR | 84.00 | 90.5 | 0% |
| 28 | 29.2 | 1,699 | 946 | 2,110 | 1,578 | 532 | MIXED | 79.11 | 93.4 | 0% |
| 29 | 2.0 | 596 | 340 | 1,802 | 1,620 | 182 | GRASS - FAIR | 84.00 | 93.4 | 0% |
| 30 | 0.6 | 233 | 135 | 1,798 | 1,710 | 88 | GRASS - FAIR | 84.00 | 94.2 | 0% |
| 31 | 295.2 | 7,190 | 3,962 | 2,206 | 1,614 | 592 | MIXED | 85.57 | 94.4 | 1% |
| 32 | 140.1 | 5,451 | 3,072 | 2,118 | 1,562 | 556 | MIXED | 85.91 | 94.4 | 5% |
| 33 | 1.6 | 134 | 96 | 1,692 | 1,614 | 78 | MIXED | 83.28 | 93.0 | 0% |
| 34 | 62.0 | 2,979 | 1,258 | 2,158 | 1,816 | 342 | MIXED | 81.57 | 91.9 | 0% |
| 35 | 43.0 | 2,184 | 1,169 | 2,120 | 1,822 | 298 | MIXED | 82.60 | 92.6 | 0% |
| 36 | 2.9 | 679 | 282 | 2,030 | 1,840 | 190 | MIXED | 83.20 | 92.9 | 0% |
| 37 | 24.3 | 1,783 | 754 | 2,102 | 1,854 | 248 | MIXED | 82.14 | 92.3 | 0% |
| 38 | 1.2 | 368 | 143 | 2,038 | 2,012 | 26 | MIXED | 70.21 | 85.1 | 0% |
| 39 | 0.9 | 275 | 116 | 2,038 | 2,000 | 38 | MIXED | 78.07 | 89.8 | 0% |
| 40 | 2.7 | 548 | 204 | 2,072 | 1,906 | 166 | MIXED | 80.98 | 91.6 | 0% |
| 41 | 0.6 | 340 | 159 | 2,054 | 1,898 | 156 | GRASS - FAIR | 84.00 | 93.4 | 0% |
| 42 | 0.8 | 337 | 100 | 2,048 | 1,906 | 142 | MIXED | 83.97 | 93.4 | 0% |
| 43 | 16.6 | 1,645 | 715 | 2,162 | 1,798 | 364 | GRASS - FAIR | 84.00 | 93.4 | 0% |
| 44 | 13.4 | 1,692 | 1,195 | 2,144 | 1,810 | 334 | MIXED | 83.98 | 93.4 | 0% |

Output for the existing conditions hydrograph calculations are tabulated as follows:

**Table 4** – Existing Conditions – Output Calculations

| DRAINAGE AREA | LAG (HR) | $Q_{100\text{-}1}$ (CFS) | $Q_{100\text{-}3}$ (CFS) | $Q_{100\text{-}6}$ (CFS) | $Q_{100\text{-}24}$ (CFS) | $V_{100\text{-}1}$ (AF) | $V_{100\text{-}3}$ (AF) | $V_{100\text{-}6}$ (AF) | $V_{100\text{-}24}$ (AF) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.55 | 3,708 | 2,796 | 2,477 | 1,521 | 251.41 | 356.82 | 432.72 | 719.64 |
| 2 | 0.08 | 89 | 48 | 41 | 18 | 2.87 | 3.99 | 5.10 | 7.64 |
| 3 | 0.05 | 17 | 10 | 9 | 4 | 0.59 | 0.83 | 1.06 | 1.56 |
| 4 | 0.02 | 2 | 1 | 1 | 0.4 | 0.06 | 0.09 | 0.11 | 0.17 |
| 5 | 0.03 | 5 | 2 | 2 | 0.8 | 0.14 | 0.19 | 0.25 | 0.36 |
| 6 | 0.05 | 12 | 7 | 6 | 3 | 0.42 | 0.58 | 0.75 | 1.09 |
| 7 | 0.20 | 220 | 137 | 121 | 57 | 9.50 | 13.21 | 16.87 | 25.09 |
| 8 | 0.14 | 254 | 164 | 149 | 64 | 10.68 | 14.83 | 18.93 | 27.60 |
| 9 | 0.02 | 5 | 2 | 2 | 1 | 0.14 | 0.19 | 0.24 | 0.35 |
| 10 | 0.03 | 8 | 4 | 4 | 1 | 0.24 | 0.33 | 0.43 | 0.62 |
| 11 | 0.01 | 3 | 1 | 1 | 0.4 | 0.07 | 0.10 | 0.13 | 0.19 |
| 12 | 0.01 | 0.4 | 0.2 | 0.2 | 0.1 | 0.01 | 0.01 | 0.02 | 0.02 |
| 13 | 0.05 | 19 | 11 | 10 | 4 | 0.64 | 0.89 | 1.14 | 1.63 |
| 14 | 0.02 | 2 | 1 | 1 | 0.3 | 0.06 | 0.08 | 0.10 | 0.14 |
| 15 | 0.07 | 39 | 21 | 19 | 8 | 1.27 | 1.76 | 2.27 | 3.24 |
| 16 | 0.07 | 62 | 33 | 29 | 12 | 2.00 | 2.76 | 3.56 | 5.07 |
| 17 | 0.03 | 8 | 4 | 4 | 1 | 0.23 | 0.32 | 0.41 | 0.58 |
| 18 | 0.02 | 3 | 2 | 1 | 1 | 0.08 | 0.12 | 0.15 | 0.21 |
| 19 | 0.05 | 14 | 8 | 7 | 3 | 0.48 | 0.67 | 0.86 | 1.21 |
| 20 | 0.13 | 123 | 74 | 67 | 28 | 4.74 | 6.52 | 8.34 | 11.85 |
| 21 | 0.05 | 17 | 10 | 9 | 3 | 0.57 | 0.74 | 0.91 | 1.22 |
| 22 | 0.01 | 2 | 1 | 1 | 0.3 | 0.06 | 0.08 | 0.10 | 0.14 |
| 23 | 0.01 | 2 | 1 | 1 | 0.3 | 0.06 | 0.08 | 0.10 | 0.14 |
| 24 | 0.01 | 3 | 1 | 1 | 0.4 | 0.07 | 0.09 | 0.12 | 0.16 |
| 25 | 0.05 | 30 | 17 | 15 | 6 | 1.02 | 1.41 | 1.82 | 2.59 |
| 26 | 0.01 | 1 | 0.5 | 0.5 | 0.2 | 0.03 | 0.04 | 0.05 | 0.07 |
| 27 | 0.004 | 0.4 | 0.2 | 0.2 | 0.1 | 0.01 | 0.01 | 0.02 | 0.02 |
| 28 | 0.07 | 82 | 44 | 38 | 15 | 2.62 | 3.48 | 4.30 | 5.98 |
| 29 | 0.03 | 6 | 3 | 3 | 1 | 0.19 | 0.26 | 0.33 | 0.48 |
| 30 | 0.02 | 2 | 1 | 1 | 0.3 | 0.06 | 0.08 | 0.10 | 0.14 |
| 31.1 | 0.13 | 226 | 140 | 127 | 55 | 8.99 | 12.46 | 15.87 | 23.50 |
| 31.2 | 0.20 | 370 | 230 | 204 | 96 | 15.91 | 22.58 | 29.43 | 45.48 |
| 31.3 | 0.07 | 85 | 46 | 40 | 17 | 2.74 | 3.81 | 4.86 | 7.16 |
| 32.1 | 0.21 | 137 | 89 | 79 | 38 | 6.29 | 9.00 | 11.83 | 18.56 |
| 32.2 | 0.01 | 6 | 3 | 3 | 1 | 0.29 (5-DAY) | 0.43 (5-DAY) | 0.58 (5-DAY) | 1.08 (5-DAY) |
| 32.3 | 0.05 | 24 | 14 | 13 | 5 | 0.83 | 1.17 | 1.51 | 2.27 |
| 32.4 | 0.12 | 151 | 90 | 81 | 34 | 5.67 | 7.86 | 10.02 | 14.74 |
| 33 | 0.03 | 9 | 5 | 4 | 2.0 | 0.26 | 0.34 | 0.41 | 0.57 |
| 34 | 0.12 | 156 | 92 | 82 | 35 | 5.66 | 7.83 | 9.70 | 14.51 |
| 35 | 0.10 | 119 | 65 | 58 | 24 | 3.95 | 5.48 | .6.9 | 10.34 |
| 36 | 0.03 | 9 | 5 | 4 | 2 | 0.27 | 0.37 | 0.47 | 0.71 |
| 37 | 0.08 | 69 | 37 | 32 | 14 | 2.23 | 3.08 | 3.85 | 5.72 |
| 38 | 0.03 | 4 | 2 | 2 | 1 | 0.10 | 0.13 | 0.14 | 0.21 |
| 39 | 0.02 | 3 | 2 | 1 | 0.5 | 0.08 | 0.11 | 0.13 | 0.19 |
| 40 | 0.03 | 9 | 4 | 4 | 2 | 0.25 | 0.34 | 0.42 | 0.62 |
| 41 | 0.02 | 2 | 1 | 1 | 0.3 | 0.06 | 0.08 | 0.10 | 0.15 |
| 42 | 0.02 | 3 | 1 | 1 | 0.5 | 0.07 | 0.10 | 0.13 | 0.20 |
| 43 | 0.07 | 47 | 26 | 23 | 10 | 1.54 | 2.16 | 2.75 | 4.17 |
| 44 | 0.08 | 39 | 21 | 18 | 8 | 1.24 | 1.74 | 2.22 | 3.33 |

Refer to Attachment No. 4 for printouts of the existing conditions 100-year, 1, 3, 6, & 24-hour unit hydrograph calculations. Refer to Exhibit "G" for the existing conditions hydrology study map.

# G. Developed Conditions Hydrology Calculations

## 1.1 Developed Conditions Unit Hydrograph Calculations

Input values for developed conditions unit hydrograph calculations prepared for this report are tabulated as follows:

**Table 5** – Developed Conditions – Hydrograph Input Values

| DRAINAGE AREA | SIZE (AC) | LEN. (FT.) | LCA (FT.) | UPSTREAM ELEV. (FT.) | DOWNSTREAM ELEV. (FT.) | ELEV. CHANGE (FT.) | COVER TYPE | SCS (AMC II) | SCS (AMC III) | % IMP. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2,855.4 | 15,691 | 7,916 | 2,395 | 1,820 | 575 | MIXED | 80.59 | 91.4 | 0% |
| 2 | 31.0 | 2,195 | 1,000 | 2,330 | 1,808 | 522 | MIXED | 83.73 | 93.2 | 0% |
| 3 | 6.4 | 991 | 436 | 1,940 | 1,798 | 142 | MIXED | 83.81 | 93.3 | 0% |
| 4 | 0.7 | 426 | 170 | 1,888 | 1,800 | 88 | MIXED | 83.27 | 93.0 | 0% |
| 5 | 1.5 | 472 | 283 | 1,888 | 1,800 | 88 | MIXED | 83.69 | 93.2 | 0% |
| 6 | 4.5 | 735 | 371 | 1,858 | 1,796 | 62 | GRASS - FAIR | 84.00 | 93.4 | 0% |
| 7 | 102.6 | 5,340 | 3,092 | 2,330 | 1,650 | 680 | MIXED | 83.69 | 93.2 | 0% |
| 8 | 103.4 | 3,982 | 1,641 | 2,232 | 1,580 | 652 | MIXED | 83.58 | 93.1 | 0% |
| 9 | 1.5 | 435 | 196 | 1,890 | 1,630 | 260 | MIXED | 83.34 | 93.0 | 0% |
| 10 | 2.6 | 639 | 308 | 1,900 | 1,570 | 330 | MIXED | 83.98 | 93.4 | 0% |
| 11 | 0.8 | 288 | 83 | 1,664 | 1,544 | 120 | GRASS - FAIR | 84.00 | 93.4 | 0% |
| 12 | 0.1 | 87 | 41 | 1,602 | 1,574 | 28 | GRASS - FAIR | 84.00 | 93.4 | 0% |
| 13 | 6.9 | 1,106 | 604 | 1,900 | 1,512 | 388 | GRASS - FAIR | 84.00 | 93.4 | 0% |
| 14 | 0.6 | 304 | 158 | 1,562 | 1,484 | 78 | GRASS - FAIR | 84.00 | 93.4 | 0% |
| 15 | 13.7 | 1,459 | 942 | 1,888 | 1,480 | 408 | GRASS - FAIR | 84.00 | 93.4 | 0% |
| 16 | 21.5 | 2,099 | 758 | 1,960 | 1,462 | 498 | MIXED | 83.92 | 93.4 | 0% |
| 17 | 2.5 | 540 | 249 | 1,582 | 1,458 | 124 | MIXED | 83.73 | 93.2 | 0% |
| 18 | 0.9 | 378 | 130 | 1,554 | 1,446 | 108 | GRASS - FAIR | 84.00 | 93.4 | 0% |
| 19 | 5.2 | 953 | 367 | 1,582 | 1,444 | 138 | MIXED | 83.94 | 93.4 | 0% |
| 20 | 51.4 | 3,495 | 1,715 | 2,108 | 1,448 | 660 | MIXED | 83.13 | 92.9 | 0% |
| 21 | 6.4 | 1,043 | 548 | 1,650 | 1,454 | 196 | MIXED | 77.56 | 89.5 | 0% |
| 22 | 0.6 | 206 | 96 | 1,640 | 1,530 | 110 | MIXED | 83.58 | 93.1 | 0% |
| 23 | 0.6 | 207 | 116 | 1,650 | 1,526 | 124 | MIXED | 83.80 | 93.3 | 0% |
| 24 | 0.7 | 246 | 132 | 1,650 | 1,510 | 140 | GRASS - FAIR | 84.00 | 93.4 | 0% |
| 25 | 11.0 | 956 | 574 | 1,648 | 1,504 | 144 | MIXED | 83.85 | 93.3 | 0% |
| 26 | 0.3 | 115 | 61 | 1,658 | 1,600 | 58 | MIXED | 83.55 | 93.1 | 0% |
| 27 | 0.1 | 50 | 25 | 1,646 | 1,622 | 24 | GRASS - FAIR | 84.00 | 90.5 | 0% |
| 28 | 29.2 | 1,699 | 946 | 2,110 | 1,578 | 532 | MIXED | 79.11 | 93.4 | 0% |
| 29 | 2.0 | 596 | 340 | 1,802 | 1,620 | 182 | GRASS - FAIR | 84.00 | 93.4 | 0% |
| 30 | 0.6 | 233 | 135 | 1,798 | 1,710 | 88 | GRASS - FAIR | 84.00 | 94.2 | 0% |
| 31.1 | 97.6 | 3,369 | 1,689 | 2,206 | 1,964 | 242 | MIXED | 82.90 | 92.7 | 0% |
| 31.2 | 72.4 | 3,708 | 1,484 | 1,994 | 1,614 | 380 | MIXED | 85.70 | 94.3 | 0% |
| 31.3 | 25.0 | 1,434 | 695 | 2,118 | 1,952 | 166 | MIXED | 83.72 | 93.2 | 0% |
| 32.1 | 40.0 | 3,673 | 2,072 | 1,952 | 1,656 | 296 | MIXED | 88.70 | 95.5 | 4.0% |
| 32.2 | 7.4 | 930 | 494 | 1,980 | 1,657 | 323 | MIXED | 86.21 | 94.5 | 0.0% |
| 32.3 | 66.2 | 3,168 | 1,443 | 1,998 | 1,560 | 438 | MIXED | 83.96 | 93.4 | 0.8% |
| 33 | 2.9 | 443 | 310 | 1,656 | 1,578 | 78 | MIXED | 77.14 | 89.3 | 0.0% |
| 34 | 62.0 | 2,979 | 1,258 | 2,158 | 1,816 | 342 | MIXED | 81.57 | 91.9 | 0% |
| 35 | 43.0 | 2,184 | 1,169 | 2,120 | 1,822 | 298 | MIXED | 82.60 | 92.6 | 0% |

**Table 5** – Developed Conditions – Hydrograph Input Values (Continued)

| DRAINAGE AREA | SIZE (AC) | LEN. (FT.) | LCA (FT.) | UPSTREAM ELEV. (FT.) | DOWNSTREAM ELEV. (FT.) | ELEV. CHANGE (FT.) | COVER TYPE | SCS (AMC II) | SCS (AMC III) | % IMP. |
|---|---|---|---|---|---|---|---|---|---|---|
| 36 | 2.9 | 679 | 282 | 2,030 | 1,840 | 190 | MIXED | 83.20 | 92.9 | 0% |
| 37 | 24.3 | 1,783 | 754 | 2,102 | 1,854 | 248 | MIXED | 82.14 | 92.3 | 0% |
| 38 | 1.2 | 368 | 143 | 2,038 | 2,012 | 26 | MIXED | 70.21 | 85.1 | 0% |
| 39 | 0.9 | 275 | 116 | 2,038 | 2,000 | 38 | MIXED | 78.07 | 89.8 | 0% |
| 40 | 2.7 | 548 | 204 | 2,072 | 1,906 | 166 | MIXED | 80.98 | 91.6 | 0% |
| 41 | 0.6 | 340 | 159 | 2,054 | 1,898 | 156 | GRASS - FAIR | 84.00 | 93.4 | 0% |
| 42 | 0.8 | 337 | 100 | 2,048 | 1,906 | 142 | MIXED | 83.97 | 93.4 | 0% |
| 43 | 16.6 | 1,645 | 715 | 2,162 | 1,798 | 364 | GRASS - FAIR | 84.00 | 93.4 | 0% |
| 44 | 12.0 | 1,692 | 1,195 | 2,144 | 1,810 | 334 | MIXED | 83.86 | 93.3 | 0% |
| 45 | 108.2 | 2,240 | 946 | 1,996 | 1,764 | 232 | BARREN | 92.89 | 97.2 | 1.00% |
| 46 | 31.0 | 2,008 | 1,122 | 2,128 | 1,930 | 198 | BARREN | 93.00 | 97.2 | 1.23% |

Output for the developed conditions hydrograph calculations are tabulated as follows:

**Table 6** – Developed Conditions – Output Calculations

| DRAINAGE AREA | LAG (HR) | Q100-1 (CFS) | Q100-3 (CFS) | Q100-6 (CFS) | Q100-24 (CFS) | V100-1 (AF) | V100-3 (AF) | V100-6 (AF) | V100-24 (AF) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.55 | 3,708 | 2,796 | 2,477 | 1,521 | 251.41 | 356.82 | 432.72 | 719.64 |
| 2 | 0.08 | 89 | 48 | 41 | 18 | 2.87 | 3.99 | 5.10 | 7.64 |
| 3 | 0.05 | 17 | 10 | 9 | 4 | 0.59 | 0.83 | 1.06 | 1.56 |
| 4 | 0.02 | 2 | 1 | 1 | 0.4 | 0.06 | 0.09 | 0.11 | 0.17 |
| 5 | 0.03 | 5 | 2 | 2 | 0.8 | 0.14 | 0.19 | 0.25 | 0.36 |
| 6 | 0.05 | 12 | 7 | 6 | 3 | 0.42 | 0.58 | 0.75 | 1.09 |
| 7 | 0.20 | 220 | 137 | 121 | 57 | 9.50 | 13.21 | 16.87 | 25.09 |
| 8 | 0.13 | 235 | 148 | 135 | 57 | 9.56 | 13.29 | 16.96 | 24.74 |
| 9 | 0.02 | 5 | 2 | 2 | 1 | 0.14 | 0.19 | 0.24 | 0.35 |
| 10 | 0.03 | 8 | 4 | 4 | 1 | 0.24 | 0.33 | 0.43 | 0.62 |
| 11 | 0.01 | 3 | 1 | 1 | 0.4 | 0.07 | 0.10 | 0.13 | 0.19 |
| 12 | 0.01 | 0.4 | 0.2 | 0.2 | 0.1 | 0.01 | 0.01 | 0.02 | 0.02 |
| 13 | 0.05 | 19 | 11 | 10 | 4 | 0.64 | 0.89 | 1.14 | 1.63 |
| 14 | 0.02 | 2 | 1 | 1 | 0.3 | 0.06 | 0.08 | 0.10 | 0.14 |
| 15 | 0.07 | 39 | 21 | 19 | 8 | 1.27 | 1.76 | 2.27 | 3.24 |
| 16 | 0.07 | 62 | 33 | 29 | 12 | 2.00 | 2.76 | 3.56 | 5.07 |
| 17 | 0.03 | 8 | 4 | 4 | 1 | 0.23 | 0.32 | 0.41 | 0.58 |
| 18 | 0.02 | 3 | 2 | 1 | 1 | 0.08 | 0.12 | 0.15 | 0.21 |
| 19 | 0.05 | 14 | 8 | 7 | 3 | 0.48 | 0.67 | 0.86 | 1.21 |
| 20 | 0.13 | 123 | 74 | 67 | 28 | 4.74 | 6.52 | 8.34 | 11.85 |
| 21 | 0.05 | 17 | 10 | 9 | 3 | 0.57 | 0.74 | 0.91 | 1.22 |
| 22 | 0.01 | 2 | 1 | 1 | 0.3 | 0.06 | 0.08 | 0.10 | 0.14 |
| 23 | 0.01 | 2 | 1 | 1 | 0.3 | 0.06 | 0.08 | 0.10 | 0.14 |
| 24 | 0.01 | 3 | 1 | 1 | 0.4 | 0.07 | 0.09 | 0.12 | 0.16 |
| 25 | 0.05 | 30 | 17 | 15 | 6 | 1.02 | 1.41 | 1.82 | 2.59 |
| 26 | 0.01 | 1 | 0.5 | 0.5 | 0.2 | 0.03 | 0.04 | 0.05 | 0.07 |

**Table 6** – Developed Conditions – Output Calculations (Continued)

| DRAINAGE AREA | LAG (HR) | Q100-1 (CFS) | Q100-3 (CFS) | Q100-6 (CFS) | Q100-24 (CFS) | V100-1 (AF) | V100-3 (AF) | V100-6 (AF) | V100-24 (AF) |
|---|---|---|---|---|---|---|---|---|---|
| 27 | 0.004 | 0.4 | 0.2 | 0.2 | 0.1 | 0.01 | 0.01 | 0.02 | 0.02 |
| 28 | 0.07 | 82 | 44 | 38 | 15 | 2.62 | 3.48 | 4.30 | 5.98 |
| 29 | 0.03 | 6 | 3 | 3 | 1 | 0.19 | 0.26 | 0.33 | 0.48 |
| 30 | 0.02 | 2 | 1 | 1 | 0.3 | 0.06 | 0.08 | 0.10 | 0.14 |
| 31.1 | 0.15 | 211 | 136 | 124 | 54 | 8.98 | 12.41 | 15.76 | 23.22 |
| 31.2 | 0.14 | 163 | 104 | 95 | 42 | 6.79 | 9.57 | 12.40 | 18.91 |
| 31.3 | 0.07 | 71 | 38 | 34 | 14 | 2.32 | 3.22 | 4.12 | 6.07 |
| 32.1 | 0.16 | 91 | 56 | 51 | 23 | 3.81 | 5.47 | 7.20 | 11.37 |
| 32.2 | 0.04 | 20 | 12 | 11 | 4 | 0.70 | 0.98 | 1.28 | 1.94 |
| 32.3 | 0.12 | 163 | 97 | 88 | 37 | 6.14 | 8.57 | 10.98 | 16.27 |
| 33 | 0.03 | 9 | 5 | 4 | 2 | 0.26 | 0.34 | 0.41 | 0.57 |
| 34 | 0.12 | 156 | 92 | 82 | 35 | 5.66 | 7.83 | 9.70 | 14.51 |
| 35 | 0.10 | 119 | 65 | 58 | 24 | 3.95 | 5.48 | 6.90 | 10.34 |
| 36 | 0.03 | 9 | 5 | 4 | 2 | 0.27 | 0.37 | 0.47 | 0.71 |
| 37 | 0.08 | 69 | 37 | 32 | 14 | 2.23 | 3.08 | 3.85 | 5.72 |
| 38 | 0.03 | 4 | 2 | 2 | 1 | 0.10 | 0.13 | 0.14 | 0.21 |
| 39 | 0.02 | 3 | 2 | 1 | 0.5 | 0.08 | 0.11 | 0.13 | 0.19 |
| 40 | 0.03 | 9 | 4 | 4 | 2 | 0.25 | 0.34 | 0.42 | 0.62 |
| 41 | 0.02 | 2 | 1 | 1 | 0.3 | 0.06 | 0.08 | 0.10 | 0.15 |
| 42 | 0.02 | 3 | 1 | 1 | 0.5 | 0.07 | 0.10 | 0.13 | 0.20 |
| 43 | 0.07 | 47 | 26 | 23 | 10 | 1.54 | 2.16 | 2.75 | 4.17 |
| 44 | 0.08 | 34 | 19 | 16 | 7 | 1.11 | 1.56 | 1.98 | 2.97 |
| 45 | 0.10 | 311 | 174 | 155 | 69 | 18.22 (5-DAY) | 28.64 (5-DAY) | 39.55 (5-DAY) | 73.18 (5-DAY) |
| 46 | 0.10 | 87 | 49 | 44 | 19 | 4.99 (5-DAY) | 7.73 (5-DAY) | 10.66 (5-DAY) | 19.81 (5-DAY) |

Refer to Attachment No. 5 for printouts of the developed conditions 100-year, 1, 3, 6, & 24-hour unit hydrograph calculations. Refer to Exhibit "H" for the developed conditions hydrology study map.

# H. Summary & Conclusion

## 1.1 Summary of Conditions

Summaries of the unit hydrograph calculations for the three analyzed conditions are tabulated below:

**Table 7** – Summary of Historical vs. Existing Conditions

| HISTORICAL CONDITIONS LOCATION(S) | COMPARABLE EXISTING CONDITIONS LOCATION(S) | HISTORICAL Q100-1 (CFS) | EXISTING Q100-1 (CFS) | CHANGE Q100-1 (CFS) | HISTORICAL Q100-3 (CFS) | EXISTING Q100-3 (CFS) | CHANGE Q100-3 (CFS) | HISTORICAL Q100-6 (CFS) | EXISTING Q100-6 (CFS) | CHANGE Q100-6 (CFS) | HISTORICAL Q100-24 (CFS) | EXISTING Q100-24 (CFS) | CHANGE Q100-24 (CFS) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-2.0 | 1-2.0 | 3,708 | 3,708 | 0 | 2,796 | 2,796 | 0 | 2,477 | 2,477 | 0 | 1,521 | 1,521 | 0 |
| 2-2.0 | 2-2.0 | 81 | 89 | 8 | 44 | 48 | 4 | 37 | 41 | 4 | 16 | 14 | -2 |
| 3-2.0 | 3-2.0 | 17 | 17 | 0 | 10 | 10 | 0 | 9 | 9 | 0 | 3 | 4 | 1 |
| 4-2.0 | 4-2.0, 5-2.0, 6-2.0 | 18 | 19 | 1 | 10 | 10 | 0 | 9 | 9 | 0 | 3 | 4 | 1 |
| 5-2.0 | 7-2.0 | 226 | 220 | -6 | 136 | 137 | 1 | 123 | 121 | -2 | 56 | 57 | 1 |
| 6-2.0 | 8-2.0, 9-2.0, 10-2.0 | 262 | 267 | 5 | 166 | 170 | 4 | 151 | 155 | 4 | 64 | 66 | 2 |
| 7-2.0 | 11-2.0, 12-2.0, 13-2.0, 14-2.0, 15-2.0 | 72 | 63 | -9 | 39 | 34 | -5 | 34 | 31 | -3 | 14 | 13 | -1 |
| 8-2.0 | 16-2.0 | 63 | 62 | -1 | 34 | 33 | -1 | 30 | 29 | -1 | 12 | 12 | 0 |
| 9-2.0, 10-2.0 | 17-2.0, 18-2.0, 19-2.0, 20-2.0 | 141 | 148 | 7 | 80 | 88 | 8 | 73 | 79 | 6 | 30 | 33 | 3 |
| 11-2.0 | 21-2.0 | 17 | 17 | 0 | 10 | 10 | 0 | 9 | 9 | 0 | 3 | 3 | 0 |
| 12-2.0 | 22-2.0, 23-2.0, 24-2.0, 25-2.0 | 74 | 37 | -37 | 40 | 20 | -20 | 35 | 18 | -17 | 14 | 7 | -7 |
| 13-2.0 | 26-2.0, 27-2.0, 28-2.0, 29-2.0 | 80 | 89 | 9 | 42 | 48 | 6 | 38 | 42 | 4 | 15 | 16 | 1 |
| 14-2.0 | 30-2.0, 31.2-2.0 | 677 | 683 | 6 | 457 | 417 | -40 | 409 | 372 | -37 | 192 | 168 | -24 |
| 15-2.0 | 34-2.0 | 163 | 156 | -7 | 91 | 92 | 1 | 81 | 82 | 1 | 34 | 35 | 1 |
| 16-2.0 | 35-2.0, 36-2.0 | 131 | 128 | -3 | 70 | 70 | 0 | 60 | 62 | 2 | 26 | 26 | 0 |
| 17-2.0 | 37-2.0 | 76 | 69 | -7 | 41 | 37 | -4 | 35 | 32 | -3 | 15 | 14 | -1 |
| 18-2.0 | 38-2.0, 39-2.0 | 4 | 7 | 3 | 2 | 4 | 2 | 2 | 3 | 1 | 1 | 2 | 1 |
| 19-2.0 | 40-2.0, 41-2.0, 42-2.0 | 15 | 14 | -1 | 8 | 6 | -2 | 7 | 6 | -1 | 3 | 3 | 0 |
| 20-2.0 | 43-2.0, 44-2.0 | 97 | 86 | -11 | 52 | 47 | -5 | 45 | 41 | -4 | 19 | 18 | -1 |
| 21-2.0 | 33-2.0 | 54 | 33 | -21 | 30 | 19 | -11 | 27 | 17 | -10 | 11 | 7 | -4 |
| 22-2.0, 23-2.0 | 32.4-2.0 | 160 | 288 | 128 | 94 | 179 | 85 | 84 | 160 | 76 | 35 | 72 | 37 |

**Table 8** – Summary of Existing vs. Developed Conditions

| EXISTING CONDITIONS LOCATION | DEVELOPED CONDITIONS LOCATION | EXISTING Q100-1 (CFS) | DEVELOPED Q100-1 (CFS) | CHANGE Q100-1 (CFS) | EXISTING Q100-3 (CFS) | DEVELOPED Q100-3 (CFS) | CHANGE Q100-3 (CFS) | EXISTING Q100-6 (CFS) | DEVELOPED Q100-6 (CFS) | CHANGE Q100-6 (CFS) | EXISTING Q100-24 (CFS) | DEVELOPED Q100-24 (CFS) | CHANGE Q100-24 (CFS) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-2.0 | 1-2.0 | 3,708 | 3,708 | 0 | 2,796 | 2,796 | 0 | 2,477 | 2,477 | 0 | 1,521 | 1,521 | 0 |
| 2-2.0 | 2-2.0 | 89 | 89 | 0 | 48 | 48 | 0 | 41 | 41 | 0 | 18 | 18 | 0 |
| 3-2.0 | 3-2.0 | 17 | 17 | 0 | 10 | 10 | 0 | 9 | 9 | 0 | 4 | 4 | 0 |
| 4-2.0 | 4-2.0 | 2 | 2 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0.4 | 0.4 | 0 |
| 5-2.0 | 5-2.0 | 5 | 5 | 0 | 2 | 2 | 0 | 2 | 2 | 0 | 0.8 | 0.8 | 0 |
| 6-2.0 | 6-2.0 | 12 | 12 | 0 | 7 | 7 | 0 | 6 | 6 | 0 | 3 | 3 | 0 |
| 7-2.0 | 7-2.0 | 220 | 220 | 0 | 137 | 137 | 0 | 121 | 121 | 0 | 57 | 57 | 0 |
| 8-2.0 | 8-2.0 | 254 | 235 | -19 | 164 | 148 | -16 | 149 | 135 | -14 | 64 | 57 | -7 |
| 9-2.0 | 9-2.0 | 5 | 5 | 0 | 2 | 2 | 0 | 2 | 2 | 0 | 1 | 1 | 0 |
| 10-2.0 | 10-2.0 | 8 | 8 | 0 | 4 | 4 | 0 | 4 | 4 | 0 | 1 | 1 | 0 |
| 11-2.0 | 11-2.0 | 3 | 3 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0.4 | 0.4 | 0 |
| 12-2.0 | 12-2.0 | 0.4 | 0.4 | 0 | 0.2 | 0.2 | 0 | 0.2 | 0.2 | 0 | 0.1 | 0.1 | 0 |
| 13-2.0 | 13-2.0 | 19 | 19 | 0 | 11 | 11 | 0 | 10 | 10 | 0 | 4 | 4 | 0 |
| 14-2.0 | 14-2.0 | 2 | 2 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0.3 | 0.3 | 0 |
| 15-2.0 | 15-2.0 | 39 | 39 | 0 | 21 | 21 | 0 | 19 | 19 | 0 | 8 | 8 | 0 |
| 16-2.0 | 16-2.0 | 62 | 62 | 0 | 33 | 33 | 0 | 29 | 29 | 0 | 12 | 12 | 0 |
| 17-2.0 | 17-2.0 | 8 | 8 | 0 | 4 | 4 | 0 | 4 | 4 | 0 | 1 | 1 | 0 |
| 18-2.0 | 18-2.0 | 3 | 3 | 0 | 2 | 2 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |
| 19-2.0 | 19-2.0 | 14 | 14 | 0 | 8 | 8 | 0 | 7 | 7 | 0 | 3 | 3 | 0 |
| 20-2.0 | 20-2.0 | 123 | 123 | 0 | 74 | 74 | 0 | 67 | 67 | 0 | 28 | 28 | 0 |
| 21-2.0 | 21-2.0 | 17 | 17 | 0 | 10 | 10 | 0 | 9 | 9 | 0 | 3 | 3 | 0 |
| 22-2.0 | 22-2.0 | 2 | 2 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0.3 | 0.3 | 0 |
| 23-2.0 | 23-2.0 | 2 | 2 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0.3 | 0.3 | 0 |
| 24-2.0 | 24-2.0 | 3 | 3 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0.4 | 0.4 | 0 |
| 25-2.0 | 25-2.0 | 30 | 30 | 0 | 17 | 17 | 0 | 15 | 15 | 0 | 6 | 6 | 0 |
| 26-2.0 | 26-2.0 | 1 | 1 | 0 | 0.5 | 0.5 | 0 | 0.5 | 0.5 | 0 | 0.2 | 0.2 | 0 |
| 27-2.0 | 27-2.0 | 0.4 | 0.4 | 0 | 0.2 | 0.2 | 0 | 0.2 | 0.2 | 0 | 0.1 | 0.1 | 0 |
| 28-2.0 | 28-2.0 | 82 | 82 | 0 | 44 | 44 | 0 | 38 | 38 | 0 | 15 | 15 | 0 |
| 29-2.0 | 29-2.0 | 6 | 6 | 0 | 3 | 3 | 0 | 3 | 3 | 0 | 1 | 1 | 0 |
| 30-2.0 | 30-2.0 | 2 | 2 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0.3 | 0.3 | 0 |
| 31.2-2.0 | 31.2-2.0 | 681 | 532 | -149 | 416 | 327 | -89 | 371 | 297 | -74 | 168 | 129 | -39 |
| 32.4-2.0 | 32.3-2.0 | 288 | 274 | -14 | 179 | 165 | -14 | 160 | 150 | -10 | 72 | 64 | -8 |
| 33-2.0 | 33.2.0 | 33 | 9 | -24 | 19 | 5 | -14 | 17 | 4 | -13 | 7 | 2 | -5 |
| 34-2.0 | 34.2.0 | 156 | 156 | 0 | 92 | 92 | 0 | 82 | 82 | 0 | 35 | 35 | 0 |
| 35-2.0 | 35.2.0 | 119 | 119 | 0 | 65 | 65 | 0 | 58 | 58 | 0 | 24 | 24 | 0 |
| 36-2.0 | 36.2.0 | 9 | 9 | 0 | 5 | 5 | 0 | 4 | 4 | 0 | 2 | 2 | 0 |
| 37-2.0 | 37.2.0 | 69 | 69 | 0 | 37 | 37 | 0 | 32 | 32 | 0 | 14 | 14 | 0 |
| 38-2.0 | 38.2.0 | 4 | 4 | 0 | 2 | 2 | 0 | 2 | 2 | 0 | 1 | 1 | 0 |
| 39-2.0 | 39.2.0 | 3 | 3 | 0 | 2 | 2 | 0 | 1 | 1 | 0 | 0.5 | 0.5 | 0 |
| 40-2.0 | 40.2.0 | 9 | 9 | 0 | 4 | 4 | 0 | 4 | 4 | 0 | 2 | 2 | 0 |
| 41-2.0 | 41.2.0 | 2 | 2 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0.3 | 0.3 | 0 |
| 42-2.0 | 42.2.0 | 3 | 3 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0.5 | 0.5 | 0 |
| 43-2.0 | 43.2.0 | 47 | 47 | 0 | 26 | 26 | 0 | 23 | 23 | 0 | 10 | 10 | 0 |
| 44-2.0 | 44.2.0 | 39 | 34 | -5 | 21 | 19 | -2 | 18 | 16 | -2 | 8 | 7 | -1 |

**Table 9** – Summary of Historical vs. Developed Conditions

| HISTORICAL CONDITIONS LOCATION(S) | COMPARABLE DEVELOPED CONDITIONS LOCATION(S) | HISTORICAL Q100-1 (CFS) | DEVELOPED Q100-1 (CFS) | CHANGE Q100-1 (CFS) | HISTORICAL Q100-3 (CFS) | DEVELOPED Q100-3 (CFS) | CHANGE Q100-3 (CFS) | HISTORICAL Q100-6 (CFS) | DEVELOPED Q100-6 (CFS) | CHANGE Q100-6 (CFS) | HISTORICAL Q100-24 (CFS) | DEVELOPED Q100-24 (CFS) | CHANGE Q100-24 (CFS) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-2.0 | 1-2.0 | 3,708 | 3,708 | 0 | 2,796 | 2,796 | 0 | 2,477 | 2,477 | 0 | 1,521 | 1,521 | 0 |
| 2-2.0 | 2-2.0 | 81 | 89 | 8 | 44 | 48 | 4 | 37 | 41 | 4 | 16 | 18 | 2 |
| 3-2.0 | 3-2.0 | 17 | 17 | 0 | 10 | 10 | 0 | 9 | 9 | 0 | 3 | 4 | 1 |
| 4-2.0 | 4-2.0, 5-2.0, 6-2.0 | 18 | 19 | 1 | 10 | 10 | 0 | 9 | 9 | 0 | 3 | 4 | 1 |
| 5-2.0 | 7-2.0 | 226 | 220 | -6 | 136 | 137 | 1 | 123 | 121 | -2 | 56 | 57 | 1 |
| 6-2.0 | 8-2.0, 9-2.0, 10-2.0 | 262 | 248 | -14 | 166 | 154 | -12 | 151 | 141 | -10 | 64 | 59 | -5 |
| 7-2.0 | 11-2.0, 12-2.0, 13-2.0, 14-2.0, 15-2.0 | 72 | 63 | -9 | 39 | 34 | -5 | 34 | 31 | -3 | 14 | 13 | -1 |
| 8-2.0 | 16-2.0 | 63 | 62 | -1 | 34 | 33 | -1 | 30 | 29 | -1 | 12 | 12 | 0 |
| 9-2.0, 10-2.0 | 17-2.0, 18-2.0, 19-2.0, 20-2.0 | 141 | 148 | 7 | 80 | 88 | 8 | 73 | 79 | 6 | 30 | 33 | 3 |
| 11-2.0 | 21-2.0 | 17 | 17 | 0 | 10 | 10 | 0 | 9 | 9 | 0 | 3 | 3 | 0 |
| 12-2.0 | 22-2.0, 23-2.0, 24-2.0, 25-2.0 | 74 | 37 | -37 | 40 | 20 | -20 | 35 | 18 | -17 | 14 | 7 | -7 |
| 13-2.0 | 26-2.0, 27-2.0, 28-2.0, 29-2.0 | 80 | 89 | 9 | 42 | 48 | 6 | 38 | 42 | 4 | 15 | 16 | 1 |
| 14-2.0 | 30-2.0, 31.2-2.0 | 677 | 534 | -143 | 457 | 328 | -129 | 409 | 298 | -111 | 192 | 129 | -63 |
| 15-2.0 | 34-2.0 | 163 | 156 | -7 | 91 | 92 | 1 | 81 | 82 | 1 | 34 | 35 | 1 |
| 16-2.0 | 35-2.0, 36-2.0 | 131 | 128 | -3 | 70 | 70 | 0 | 60 | 62 | 2 | 26 | 26 | 0 |
| 17-2.0 | 37-2.0 | 76 | 69 | -7 | 41 | 37 | -4 | 35 | 32 | -3 | 15 | 14 | -1 |
| 18-2.0 | 38-2.0, 39-2.0 | 4 | 7 | 3 | 2 | 4 | 2 | 2 | 3 | 1 | 1 | 2 | 1 |
| 19-2.0 | 40-2.0, 41-2.0, 42-2.0 | 15 | 14 | -1 | 8 | 6 | -2 | 7 | 6 | -1 | 3 | 3 | 0 |
| 20-2.0 | 43-2.0, 44-2.0 | 97 | 81 | -16 | 52 | 45 | -7 | 45 | 39 | -6 | 19 | 17 | -2 |
| 21-2.0 | 33-2.0 | 54 | 9 | -45 | 30 | 5 | -25 | 27 | 4 | -23 | 11 | 2 | -9 |
| 22-2.0, 23-2.0 | 32.3-2.0 | 160 | 274 | 114 | 94 | 165 | 71 | 84 | 150 | 66 | 35 | 64 | 29 |

**Table 10** – Summary of Conditions

| CONDITION | COMBINED $Q_{100\text{-}1}$ (CFS) | COMBINED $Q_{100\text{-}3}$ (CFS) | COMBINED $Q_{100\text{-}6}$ (CFS) | COMBINED $Q_{100\text{-}24}$ (CFS) | COMBINED $V_{100\text{-}1}$ (AF) | COMBINED $V_{100\text{-}3}$ (AF) | COMBINED $V_{100\text{-}6}$ (AF) | COMBINED $V_{100\text{-}24}$ (AF) |
|---|---|---|---|---|---|---|---|---|
| HISTORICAL | 6,136 | 4,252 | 3,775 | 2,087 | 346.23 | 487.99 | 599.35 | 964.07 |
| EXISITNG | 6,201 | 4,274 | 3,795 | 2,099 | 346.46 | 489.20 | 595.13 | 971.63 |
| DEVELOPED | 5,903 | 4,090 | 3,638 | 2,020 | 333.52 | 470.82 | 578.04 | 934.48 |

As shown above, total combined peak flows are relatively the same from historical to existing conditions. Small differences exist due to differences in drainage area lag times based on different topographic sources (USGS vs. aerial topography), as well as the existing drainage improvements. Total combined runoff volumes are increased slightly from historical to existing conditions, due to the changes in SCS and imperviousness values resulting from the existing mining operation and associated improvements.

Total combined peak flows and total combined runoff volumes are reduced for all analyzed events for developed conditions, due to complete retention of all flows for developed conditions Drainage Areas 45 and 46 (flows and volumes for these areas were therefore not included as part of the developed condition portion of the above tabulation).

## 1.2 Conclusion

Based on analysis of historical (pre-development), existing, and developed conditions, it is concluded that:

1.) SMP 159R2 will maintain the existing routing of one blue line stream that substantially mimics historical (predevelopment conditions);

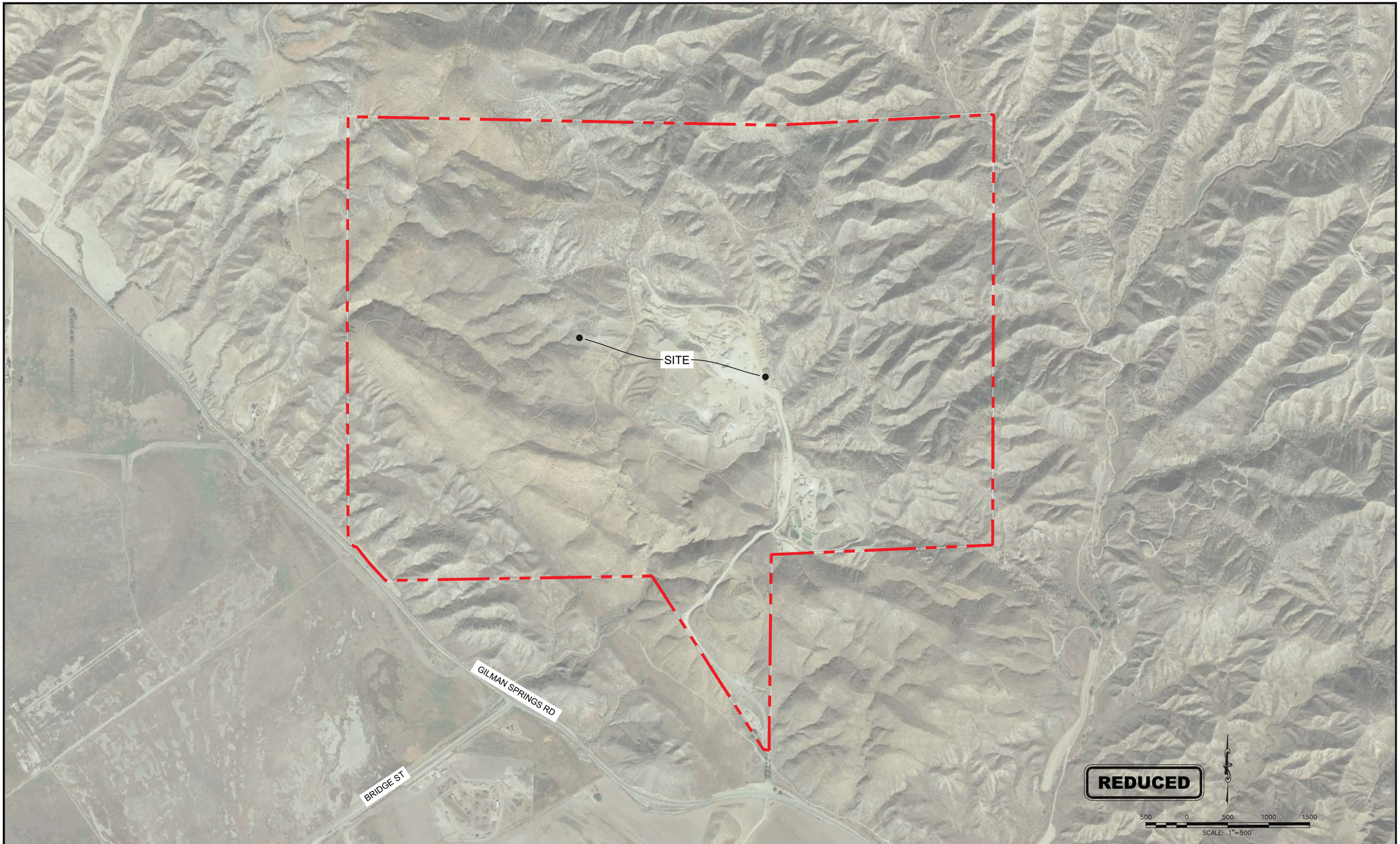
2.) SMP 159R2 will not have any other hydrologic impact on any other identified blue line streams currently traversing the site;

3.) SMP159R2 will not result in any increase of peak flows or runoff volumes for any flows discharging from the project site limits, and will therefore not have any detrimental hydrologic impact to downstream properties, conveyances, or receiving waters.

**(END)**

# EXHIBIT “A”

Project Watershed – Aerial Orthophoto




# AERIAL PHOTO EXHIBIT
## CHANDLER AGGREGATES - GILMAN SPRINGS
COUNTY OF RIVERSIDE, CA

PREPARED BY:

BONADIMAN

CIVILDESIGN

| BY | MARK | REVISION DESCRIPTION | DATE |
|---|---|---|---|
| | | | |

| | |
|---|---|
| PREPARED FOR: | CHANDLER AGGREGATES |
| JOB NO: | 174469 |
| PREPARED BY: | JDN |
| CHECKED BY: | JTS |

**NOTE:** JOSEPH E. BONADIMAN & ASSOCIATES, INC. DOES NOT WARRANTY THE ACCURACY OF THE G.I.S. DATA PRESENTED IN THIS EXHIBIT. THIS EXHIBIT MAY CONTAIN INFORMATION COPYRIGHTED TO THE COUNTY OF RIVERSIDE, CA.

AERIAL PHOTO EXHIBIT
CHANDLER AGGREGATES - GILMAN SPRINGS
COUNTY OF RIVERSIDE, CA

DISREGARD PRINTS BEARING EARLIER REVISION DATES → 11–21–17

A

SHEET 1 OF 1

# EXHIBIT “B”

Project Watershed – USGS Quadrangle

WATERSHED LIMITS

SITE LIMITS

WATERSHED LIMITS

SITE LIMITS

SITE LIMITS

SITE LIMITS

SITE LIMITS

WATERSHED LIMITS

REDUCED

2000 0 2000 4000 6000

SCALE: 1"=2000'

# USGS QUADRANGLE EXHIBIT
## CHANDLER AGGREGATES - GILMAN SPRINGS
COUNTY OF RIVERSIDE, CA

PREPARED BY:

BONADIMAN

CIVILDESIGN

| BY | MARK | REVISION DESCRIPTION | DATE |
|---|---|---|---|

| | |
|---|---|
| PREPARED FOR: | CHANDLER AGGREGATES |
| JOB NO: | 174469 |
| PREPARED BY: | JDN |
| CHECKED BY: | JTS |

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USGS QUADRANGLE EXHIBIT
CHANDLER AGGREGATES - GILMAN SPRINGS
COUNTY OF RIVERSIDE, CA

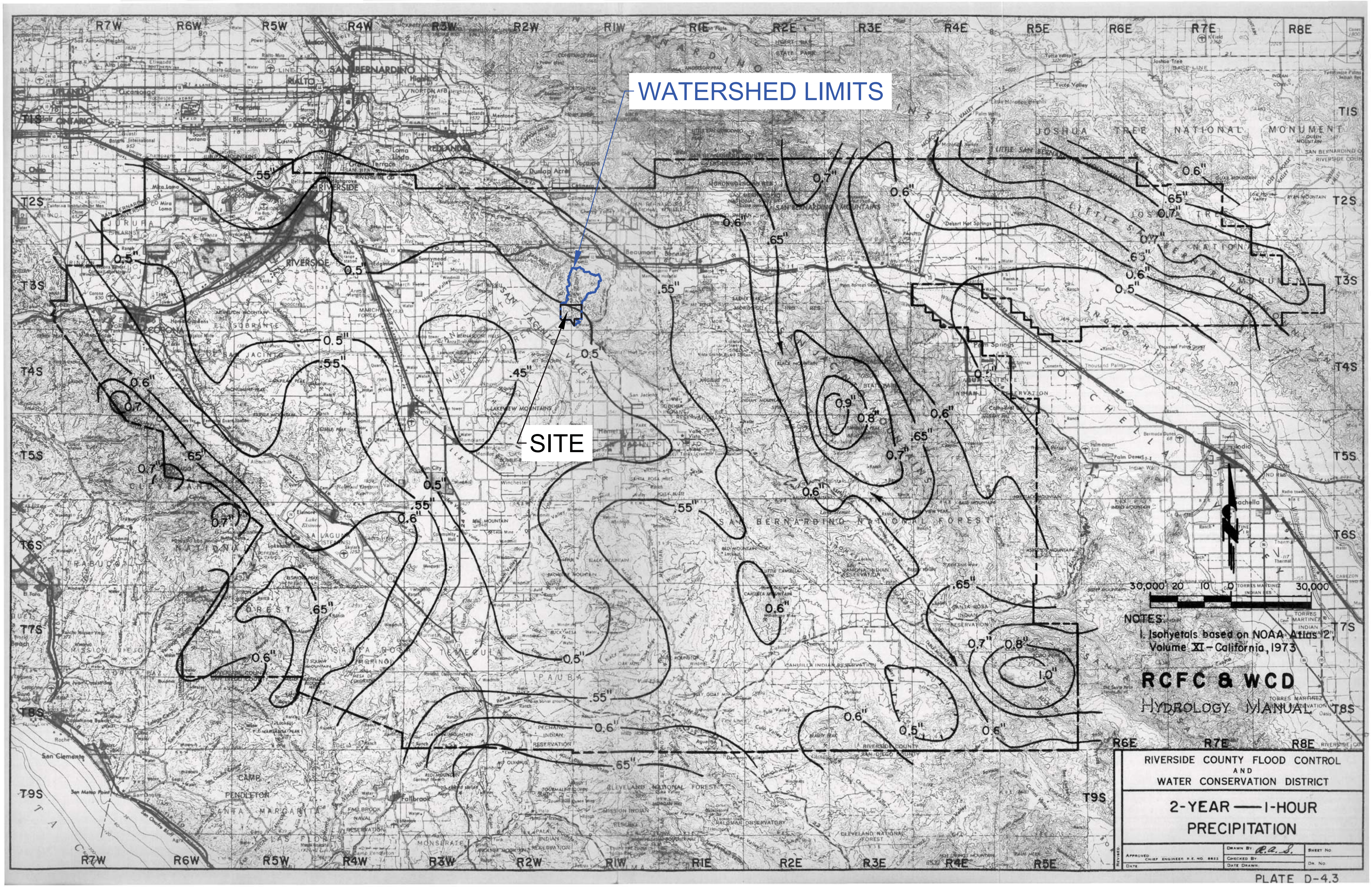
B

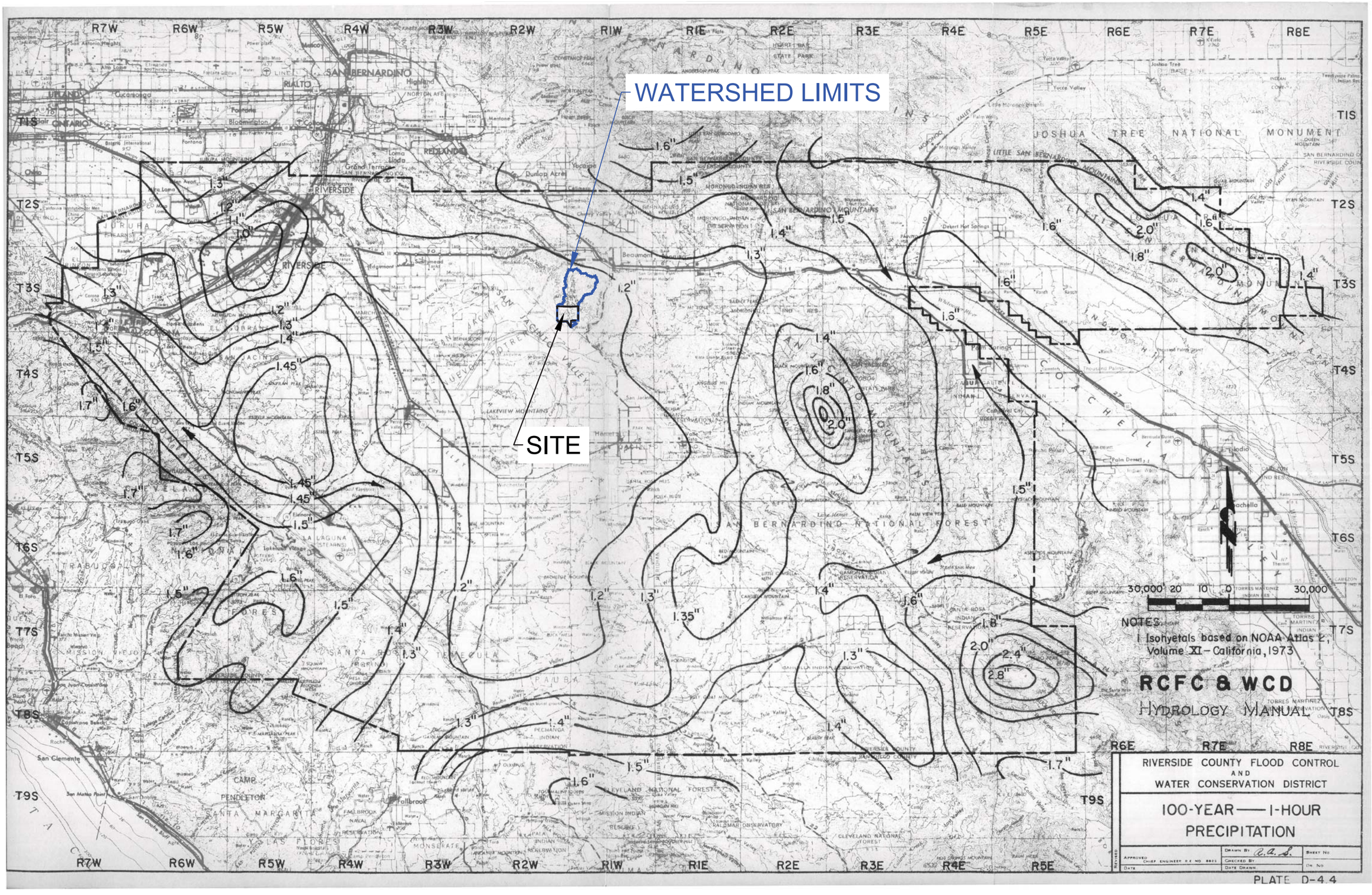
DISREGARD PRINTS BEARING EARLIER REVISION DATES → 11–17–17

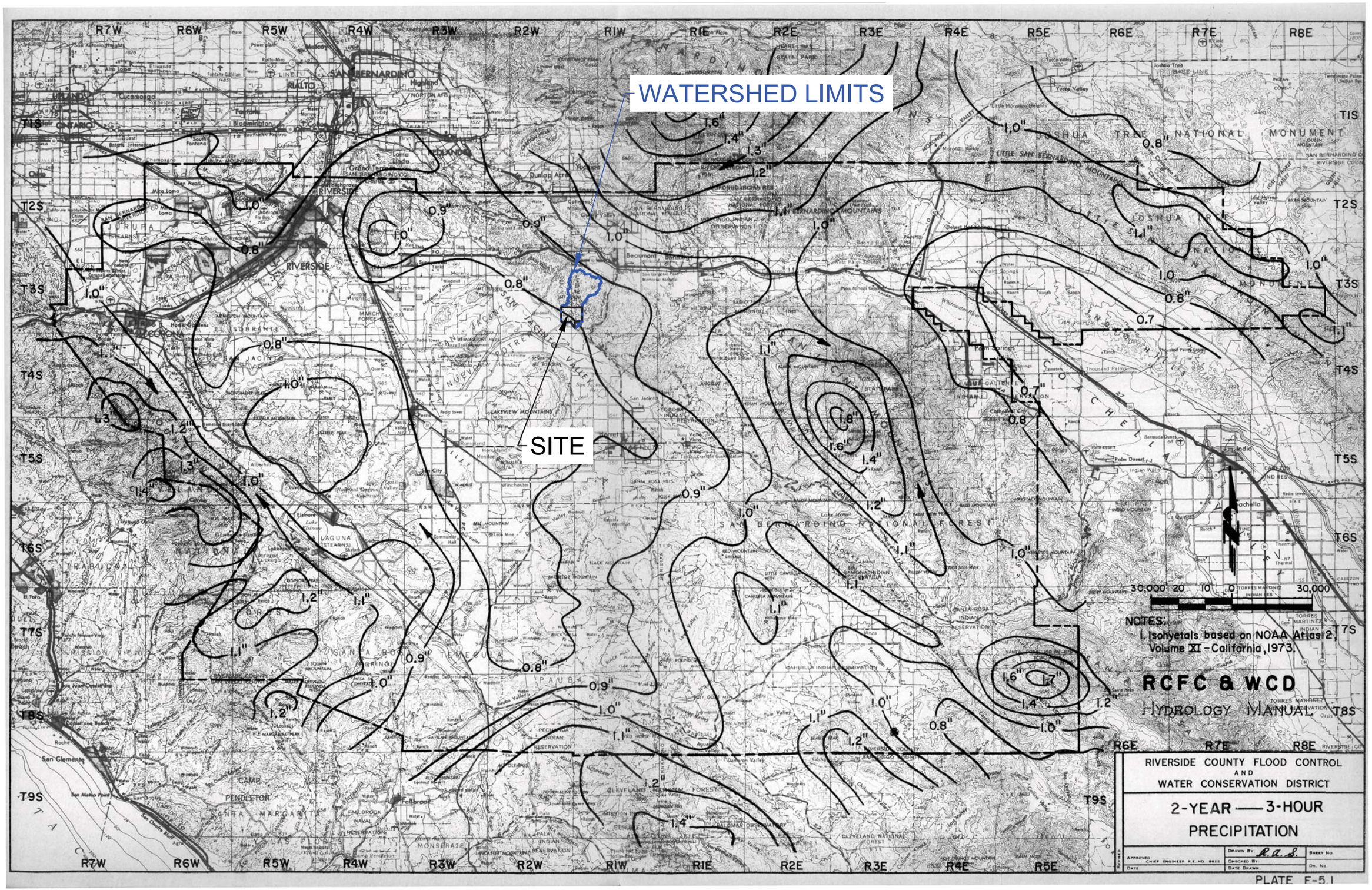
SHEET 1 OF 1

# EXHIBIT “C”

Watershed Precipitation


WATERSHED LIMITS
SITE
R7W R6W R5W R4W R3W R2W R1W R1E R2E R3E R4E R5E R6E R7E R8E
T1S T2S T3S T4S T5S T6S T7S T8S T9S
0.5" .55" 0.6" .65" 0.7" 0.8" 0.9" 1.0" .45"
30,000' 20 10 0 30,000'
NOTES:
1. Isohyetals based on NOAA Atlas 2, Volume XI – California, 1973
RCFC & WCD
HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
2-YEAR — 1-HOUR PRECIPITATION
PLATE D-4.3


WATERSHED LIMITS
SITE
R7W
R6W
R5W
R4W
R3W
R2W
R1W
R1E
R2E
R3E
R4E
R5E
R6E
R7E
R8E
T1S
T2S
T3S
T4S
T5S
T6S
T7S
T8S
T9S
1.0"
1.1"
1.2"
1.3"
1.4"
1.45"
1.5"
1.6"
1.7"
1.8"
2.0"
2.4"
2.8"
1.35"
SAN BERNARDINO
RIVERSIDE
RIALTO
REDLANDS
JOSHUA TREE NATIONAL MONUMENT
SAN BERNARDINO NATIONAL FOREST
SAN BERNARDINO MOUNTAINS
SAN JACINTO MOUNTAINS
SAN JACINTO VALLEY
Beaumont
Palm Springs
Indio
Yucca Valley
Twentynine Palms
Joshua Tree
Desert Hot Springs
Cathedral City
Palm Desert
La Quinta
Indian Wells
Rancho Mirage
Thousand Palms
Coachella
Fontana
Rialto
Colton
Loma Linda
Highland
Mentone
Redlands
Grand Terrace
Riverside
Corona
Norco
Eastvale
Jurupa Valley
Mira Loma
Ontario
Upland
Claremont
Pomona
Chino
Chino Hills
Diamond Bar
Walnut
Rowland Heights
La Habra Heights
Whittier
Brea
Yorba Linda
Anaheim
Fullerton
Placentia
Norco Hills
Lake Mathews
Lake Elsinore
Temecula
Murrieta
Wildomar
Menifee
Hemet
San Jacinto
Perris
Moreno Valley
Sun City
Canyon Lake
Lake Perris
Lake Skinner
Vail Lake
Pechanga Indian Reservation
Soboba Indian Reservation
Morongo Indian Reservation
Agua Caliente Indian Reservation
Cahuilla Indian Reservation
Santa Rosa Plateau
Cleveland National Forest
Camp Pendleton
Fallbrook
San Clemente
Dana Point
Mission Viejo
Laguna Niguel
Laguna Beach
Trabuco Canyon
Lake Forest
Irvine
Tustin
Orange
Santa Ana
Garden Grove
Huntington Beach
Newport Beach
Costa Mesa
Fountain Valley
Westminster
Seal Beach
Los Alamitos
Cypress
Buena Park
La Mirada
Whittier
Norwalk
Downey
Bellflower
Lakewood
Long Beach
Signal Hill
Santa Fe Springs
Pico Rivera
Montebello
Commerce
Vernon
Huntington Park
South Gate
Lynwood
Compton
Carson
Torrance
Gardena
Hawthorne
Inglewood
Culver City
Beverly Hills
Santa Monica
Malibu
Pacific Palisades
Topanga
Calabasas
Agoura Hills
Westlake Village
Thousand Oaks
Simi Valley
Moorpark
Camarillo
Oxnard
Port Hueneme
Ventura
Santa Paula
Fillmore
Piru
Castaic
Valencia
Santa Clarita
Saugus
Newhall
Palmdale
Lancaster
Edwards AFB
Rosamond
Mojave
Tehachapi
Bakersfield
Arvin
Lamont
Wasco
Shafter
Delano
McFarland
Kern
Taft
Maricopa
Buttonwillow
Lost Hills
Kettleman City
Avenal
Coalinga
Huron
Lemoore
Hanford
Corcoran
Tulare
Visalia
Porterville
Lindsay
Exeter
Farmersville
Dinuba
Reedley
Sanger
Selma
Kingsburg
Fresno
Clovis
Madera
Chowchilla
Merced
Atwater
Livingston
Gustine
Los Banos
Dos Palos
Firebaugh
Mendota
Kerman
Tranquillity
Coalinga
Avenal
Kettleman City
Lemoore
Hanford
Corcoran
Tulare
Visalia
Porterville
Lindsay
Exeter
Farmersville
Dinuba
Reedley
Sanger
Selma
Kingsburg
Fresno
Clovis
Madera
Chowchilla
Merced
Atwater
Livingston
Gustine
Los Banos
Dos Palos
Firebaugh
Mendota
Kerman
Tranquillity
30,000 20 10 0 30,000
NOTES:
1 Isohyetals based on NOAA Atlas 2, Volume XI – California, 1973
RCFC & WCD
HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
100-YEAR — 1-HOUR PRECIPITATION
PLATE D-4.4


WATERSHED LIMITS
SITE
NOTES:
1. Isohyetals based on NOAA Atlas 2, Volume XI - California, 1973.
RCFC & WCD
HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
2-YEAR — 3-HOUR PRECIPITATION
PLATE E-5.1

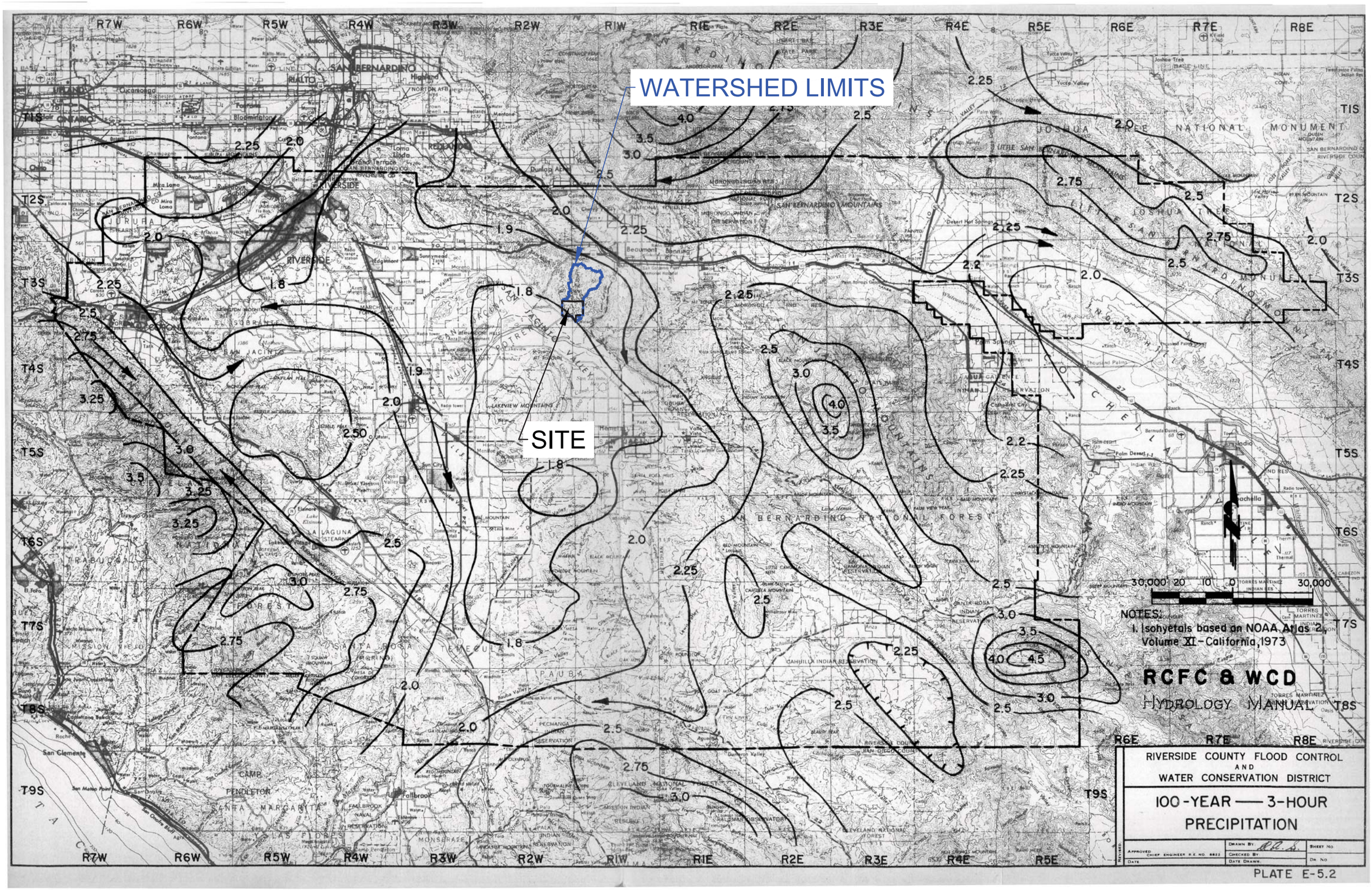
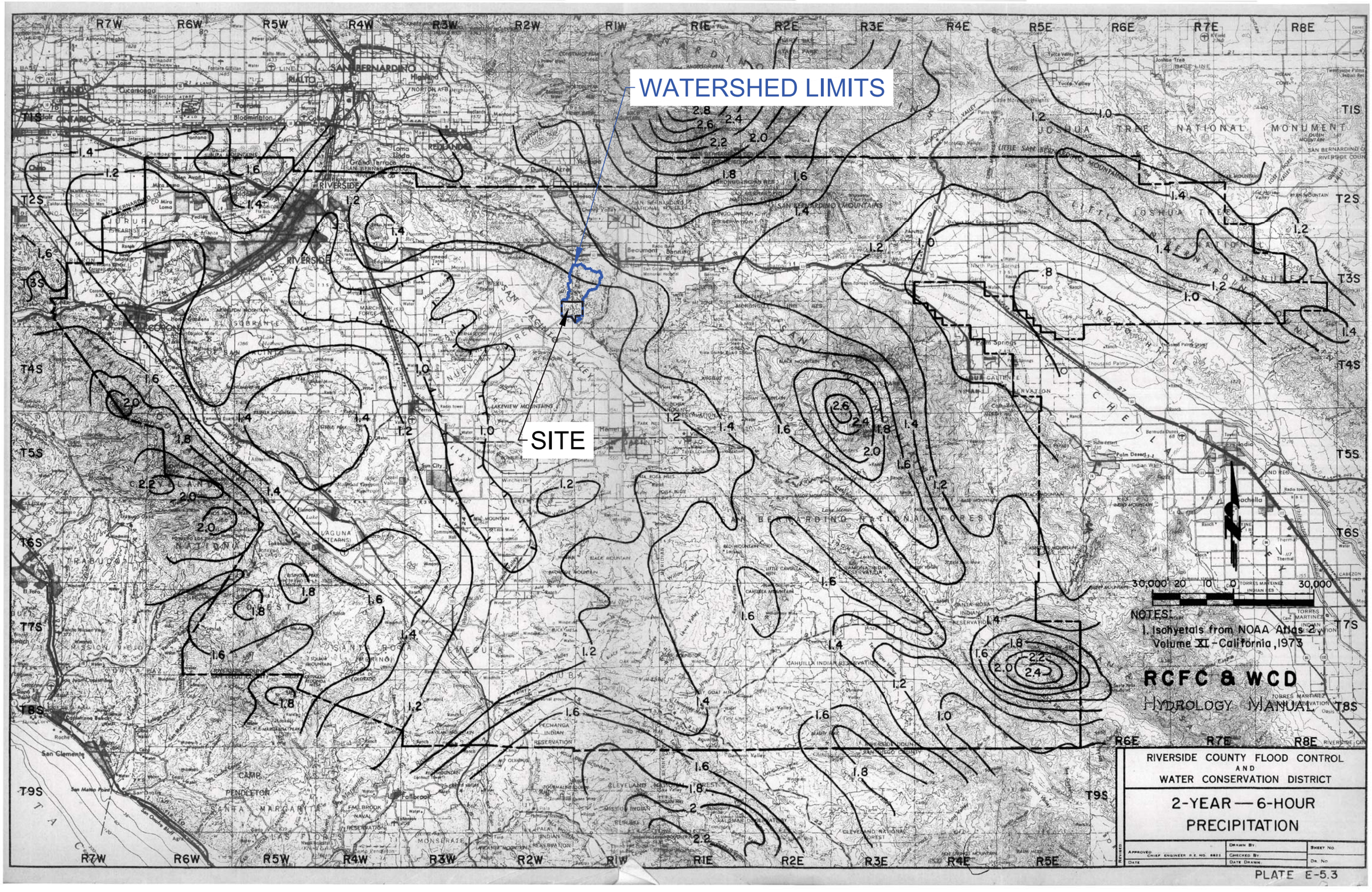
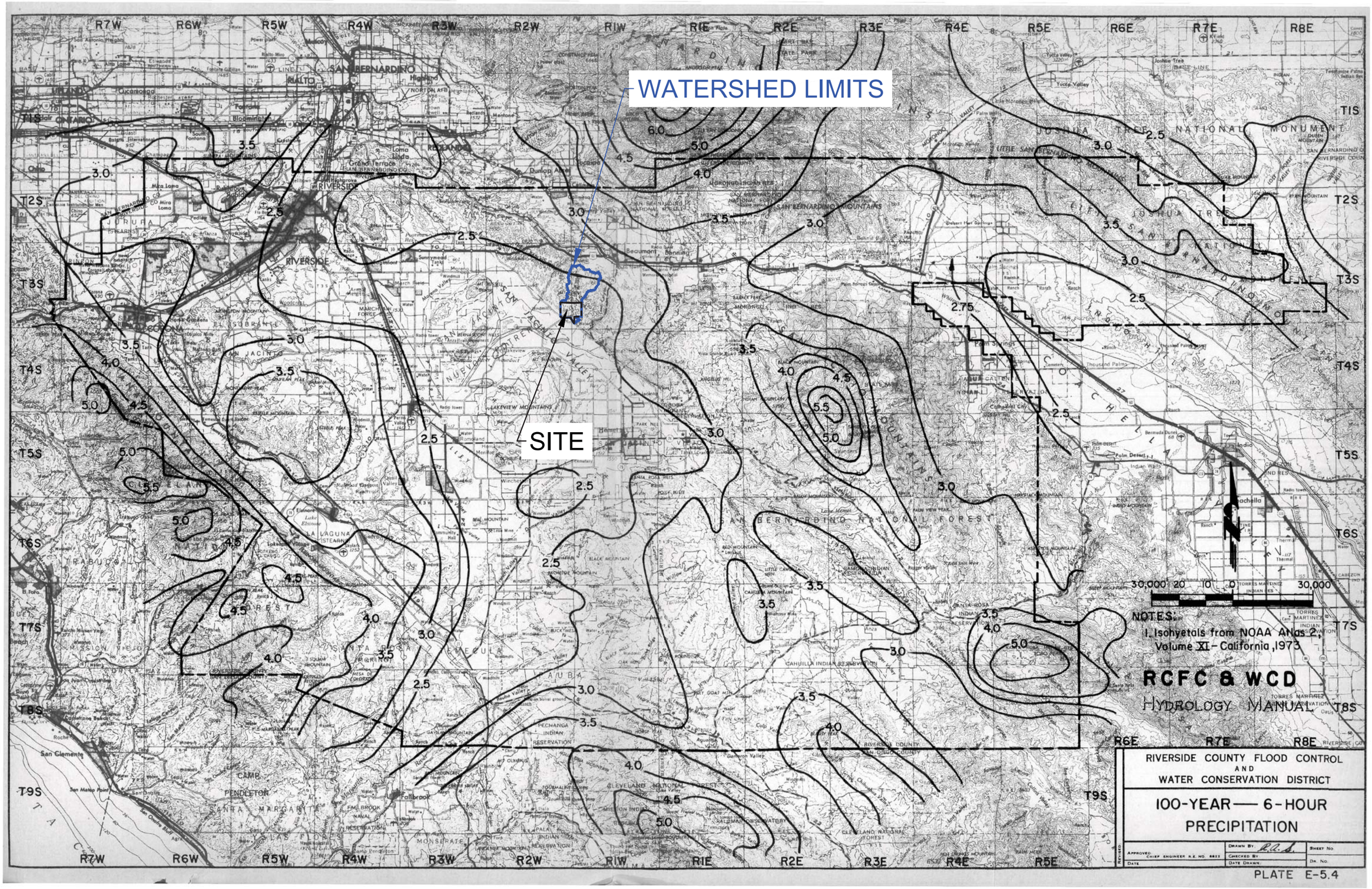

WATERSHED LIMITS
SITE
R7W
R6W
R5W
R4W
R3W
R2W
R1W
R1E
R2E
R3E
R4E
R5E
R6E
R7E
R8E
T1S
T2S
T3S
T4S
T5S
T6S
T7S
T8S
T9S
SAN BERNARDINO
RIVERSIDE
RIALTO
JURUPA
SAN JACINTO
SAN BERNARDINO MOUNTAINS
SAN BERNARDINO NATIONAL FOREST
JOSHUA TREE NATIONAL MONUMENT
Palm Springs
Indio
Coachella
Yucca Valley
Desert Hot Springs
Beaumont
Banning
Hemet
Perris
Corona
Ontario
Fontana
Rancho Cucamonga
Redlands
Loma Linda
Moreno Valley
March AFB
Lake Elsinore
Temecula
Murrieta
San Clemente
Fallbrook
Oceanside
CAMP PENDLETON
SANTA MARGARITA
LAGUNA MOUNTAINS
LAKEVIEW MOUNTAINS
SANTA ROSA PLATEAU
PECHANGA INDIAN RESERVATION
AGUANGA
CAHUILLA INDIAN RESERVATION
SANTA ROSA INDIAN RESERVATION
MORONGO INDIAN RESERVATION
SAN JACINTO MOUNTAINS
SAN JACINTO VALLEY
SANTA ANA MOUNTAINS
SANTA ANA RIVER
SAN JACINTO RIVER
TEMECULA CREEK
SANTA MARGARITA RIVER
SAN LUIS REY RIVER
SAN ONOFRE BLUFF
CLEVELAND NATIONAL FOREST
MISSION INDIAN RESERVATION
PALA INDIAN RESERVATION
2.25
2.0
1.9
1.8
2.5
2.75
3.0
3.25
3.5
4.0
4.5
2.2
2.50
30,000 20 10 0 30,000
NOTES:
1. Isohyetals based on NOAA Atlas 2, Volume XI - California, 1973
RCFC & WCD
HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
100-YEAR — 3-HOUR PRECIPITATION
DRAWN BY:
CHECKED BY:
DATE DRAWN:
SHEET NO.
DR. NO.
APPROVED CHIEF ENGINEER R.E. NO. 8822
DATE
REVISED

PLATE E-5.2


WATERSHED LIMITS
SITE
NOTES:
1. Isohyetals from NOAA Atlas 2 Volume XI - California, 1973
RCFC & WCD
HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
2-YEAR — 6-HOUR PRECIPITATION
PLATE E-5.3


WATERSHED LIMITS
SITE
R7W
R6W
R5W
R4W
R3W
R2W
R1W
R1E
R2E
R3E
R4E
R5E
R6E
R7E
R8E
T1S
T2S
T3S
T4S
T5S
T6S
T7S
T8S
T9S
RIVERSIDE
SAN BERNARDINO
RIALTO
ONTARIO
CORONA
MORENO VALLEY
PERRIS
HEMET
TEMECULA
MURRIETA
SAN JACINTO
BANNING
BEAUMONT
INDIO
PALM SPRINGS
COACHELLA
FALLBROOK
SAN CLEMENTE
SAN BERNARDINO MOUNTAINS
SAN JACINTO MOUNTAINS
SANTA ROSA MTS.
LAKEVIEW MOUNTAINS
JOSHUA TREE NATIONAL MONUMENT
SAN BERNARDINO NATIONAL FOREST
CLEVELAND NATIONAL FOREST
AGUA CALIENTE INDIAN RESERVATION
CAHUILLA INDIAN RESERVATION
PECHANGA INDIAN RESERVATION
SANTA ROSA INDIAN RESERVATION
TORRES MARTINEZ INDIAN RES.
MARCH AIR FORCE BASE
NORTON AFB
CAMP PENDLETON
FALLBROOK NAVAL RESERVATION
3.5
3.0
2.5
4.0
4.5
5.0
5.5
6.0
2.75
30,000 20 10 0 30,000
NOTES:
1. Isohyetals from NOAA Atlas 2, Volume XI - California, 1973
RCFC & WCD
HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
100-YEAR — 6-HOUR PRECIPITATION
APPROVED: CHIEF ENGINEER R.E. NO. 6822
DATE
DRAWN BY: R.A.S.
CHECKED BY:
DATE DRAWN:
SHEET NO.
DR. NO.
REVISED
PLATE E-5.4

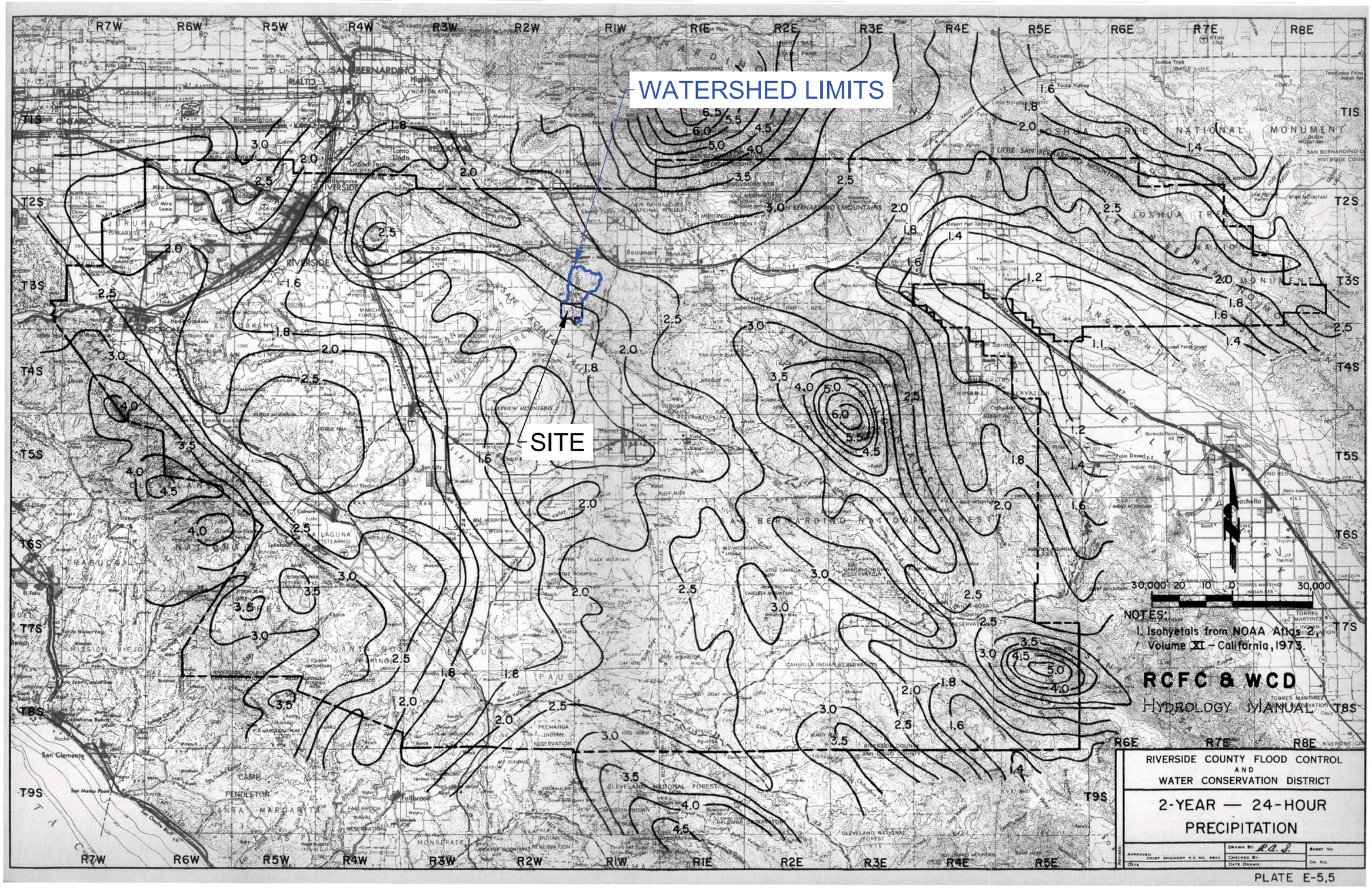
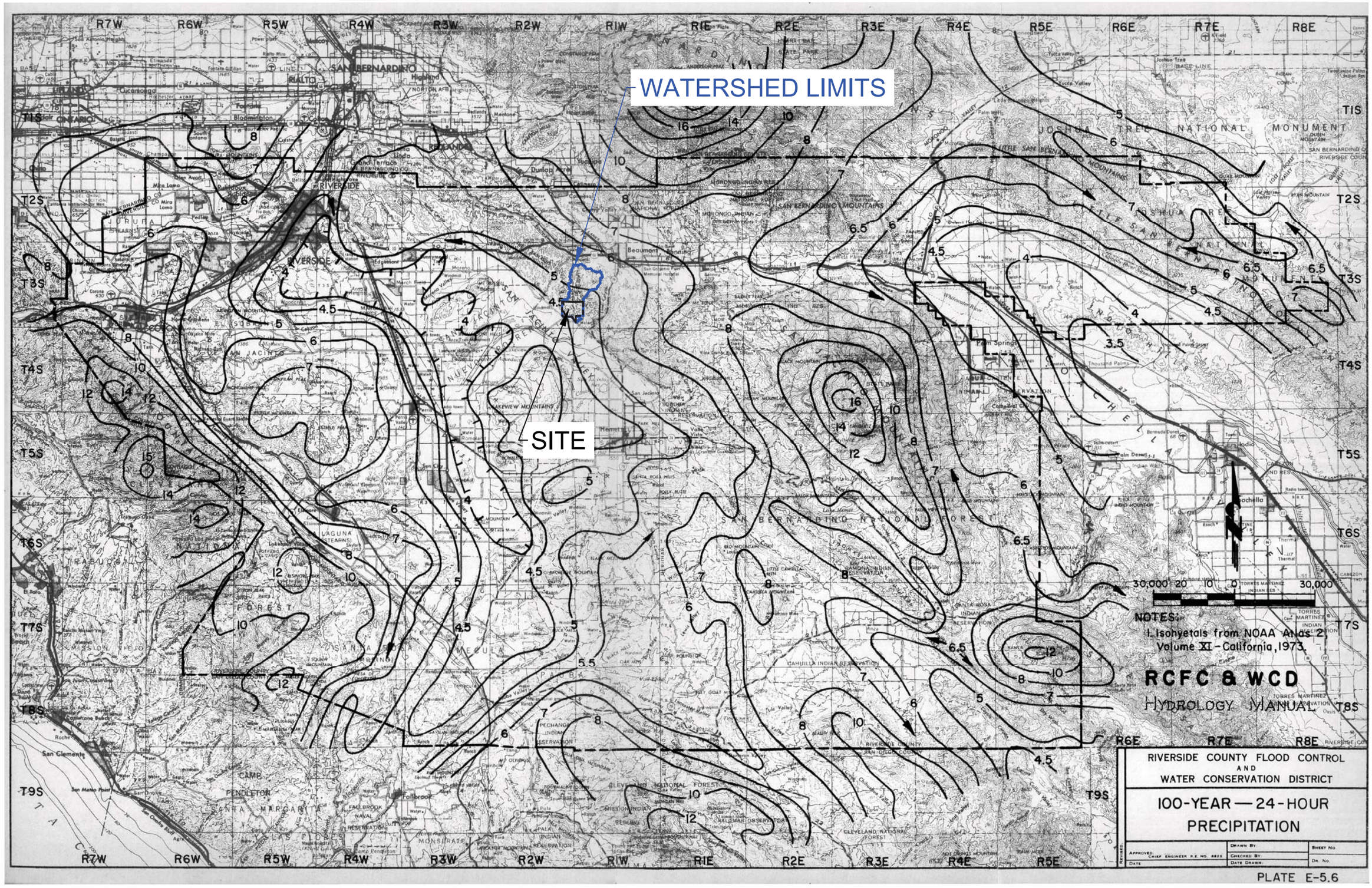

WATERSHED LIMITS
SITE
R7W
R6W
R5W
R4W
R3W
R2W
R1W
R1E
R2E
R3E
R4E
R5E
R6E
R7E
R8E
T1S
T2S
T3S
T4S
T5S
T6S
T7S
T8S
T9S
SAN BERNARDINO
RIVERSIDE
JOSHUA TREE NATIONAL MONUMENT
SAN BERNARDINO MOUNTAINS
SAN JACINTO MOUNTAINS
CLEVELAND NATIONAL FOREST
SANTA ROSA MOUNTAINS
PALM SPRINGS
Beaumont
Banning
Corona
Fallbrook
Temecula
Murrieta
Hemet
San Clemente
Desert Hot Springs
Thousand Palms
Palm Desert
Indian Wells
La Quinta
Indio
Coachella
30,000 20 10 0 30,000
NOTES:
1. Isohyetals from NOAA Atlas 2, Volume XI - California, 1973.
RCFC & WCD
HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
2-YEAR — 24-HOUR PRECIPITATION
DRAWN BY: R.A.S.
CHECKED BY:
DATE DRAWN:
SHEET NO.
DR. NO.
REVISED

PLATE E-5.5

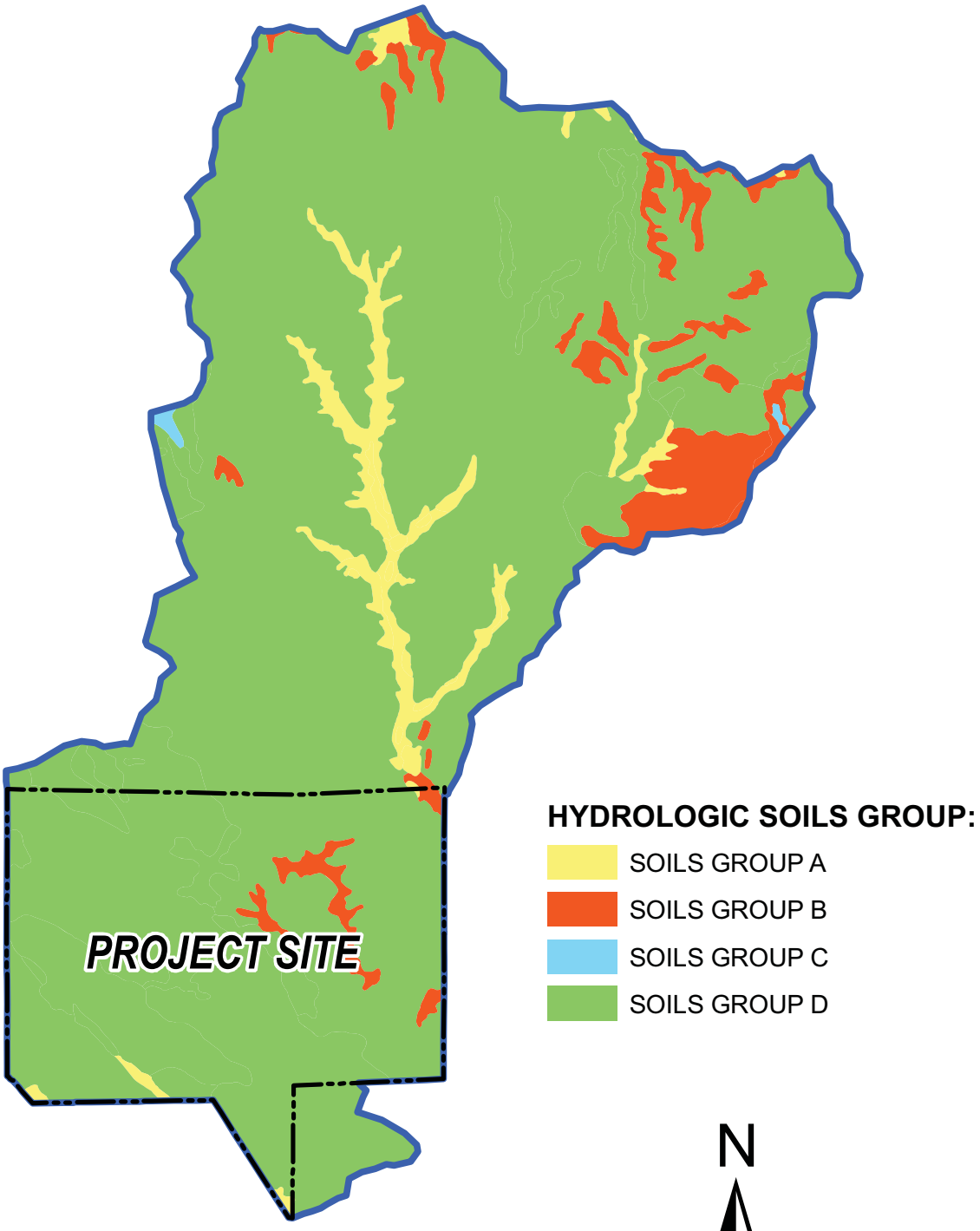

WATERSHED LIMITS
SITE
NOTES:
1. Isohyetals from NOAA Atlas 2
Volume XI - California, 1973.
RCFC & WCD
HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CONTROL
AND
WATER CONSERVATION DISTRICT
100-YEAR — 24-HOUR
PRECIPITATION
PLATE E-5.6

# EXHIBIT “D.1”

Watershed Hydrologic Soils Groups

# EXHIBIT "D.1"

## HYDROLOGIC SOILS GROUPS

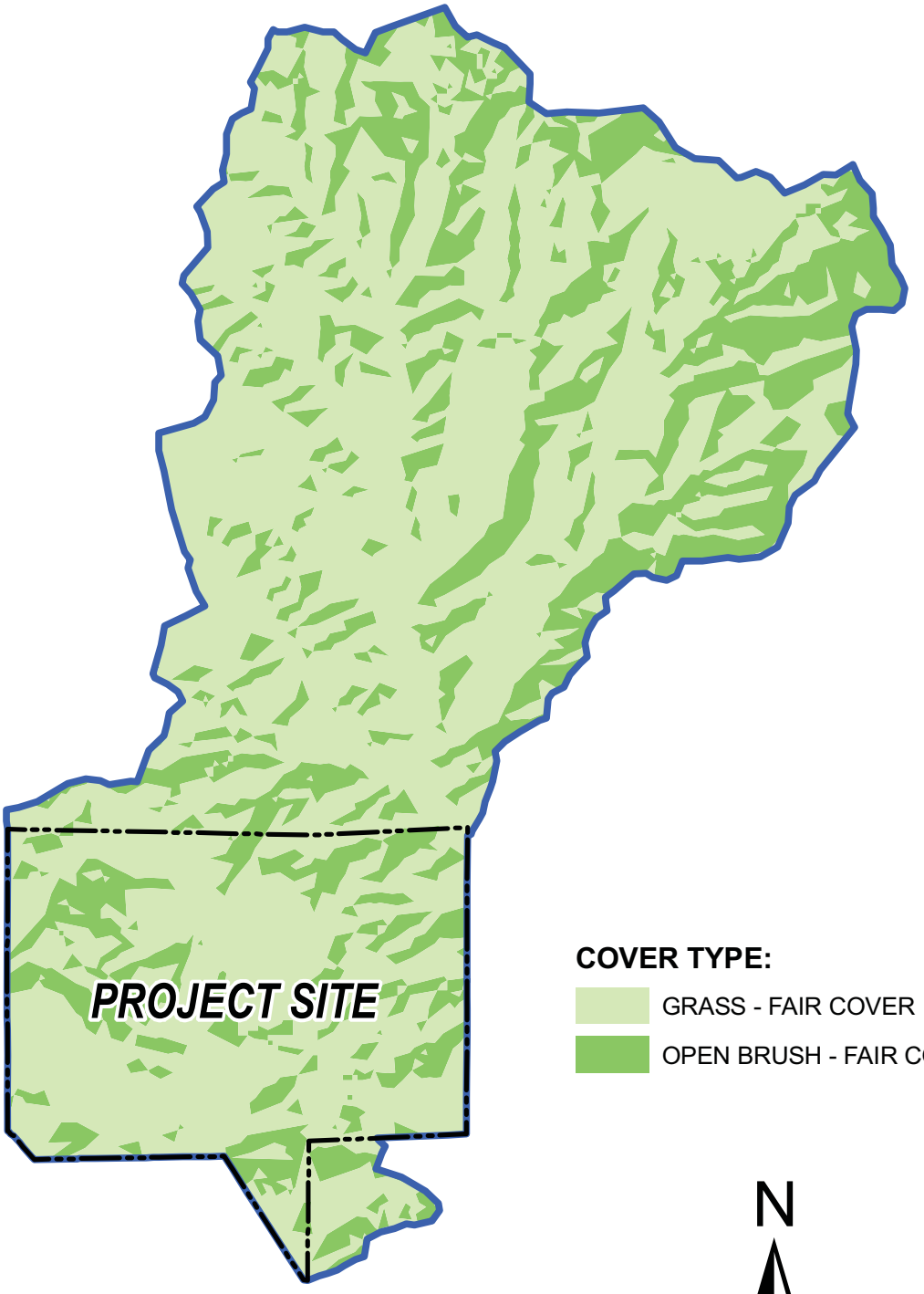


# EXHIBIT “D.2”

Watershed Cover (Historical Conditions)

# EXHIBIT "D.2"

## COVER - HISTORICAL CONDITIONS




**COVER TYPE:**

- GRASS - FAIR COVER
- OPEN BRUSH - FAIR COVER

N

0 1,500 3,000 6,000 FEET

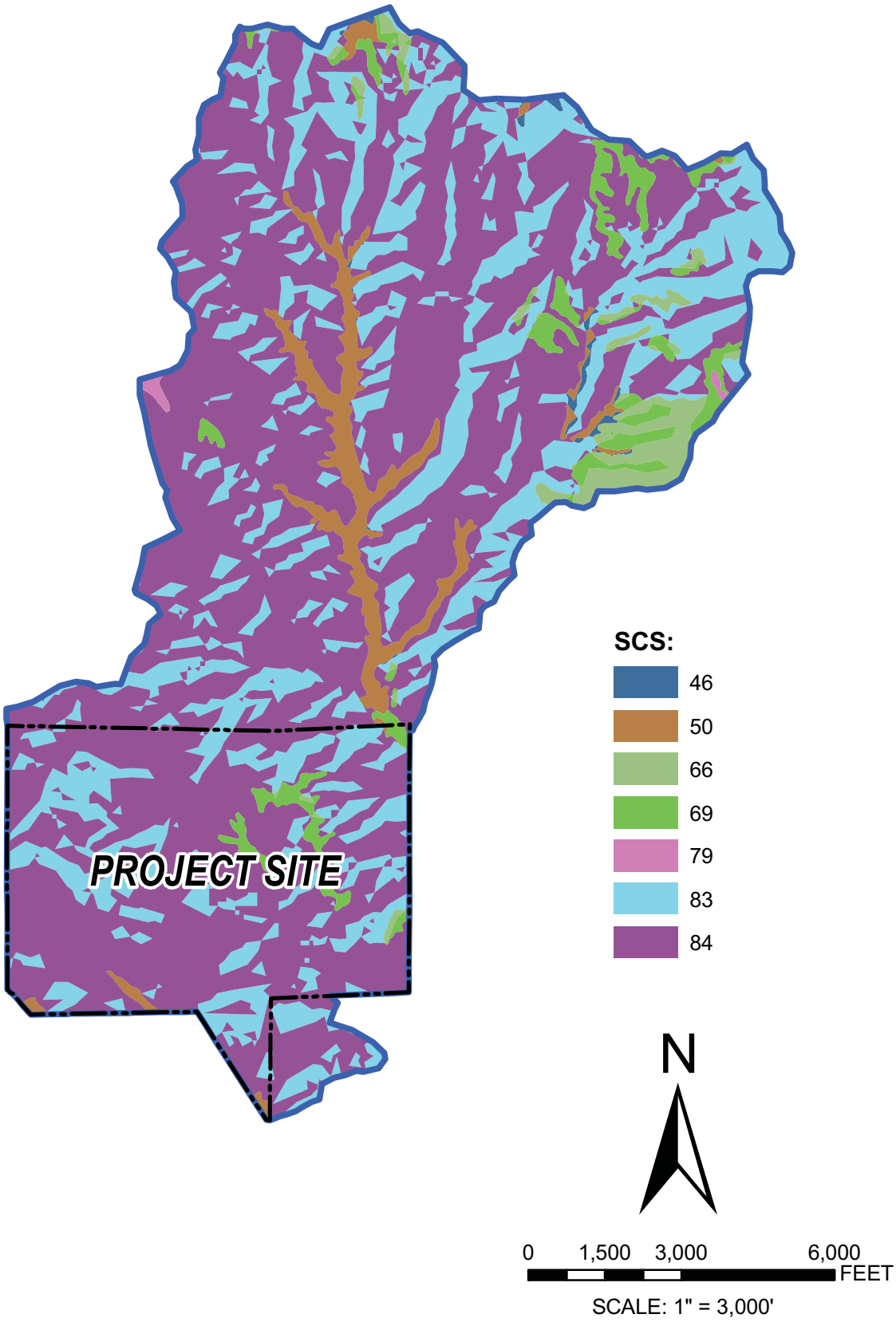
SCALE: 1" = 3,000'

# EXHIBIT “D.3”

Watershed SCS (Historical Conditions)

# EXHIBIT "D.3"

## SCS - HISTORICAL CONDITIONS

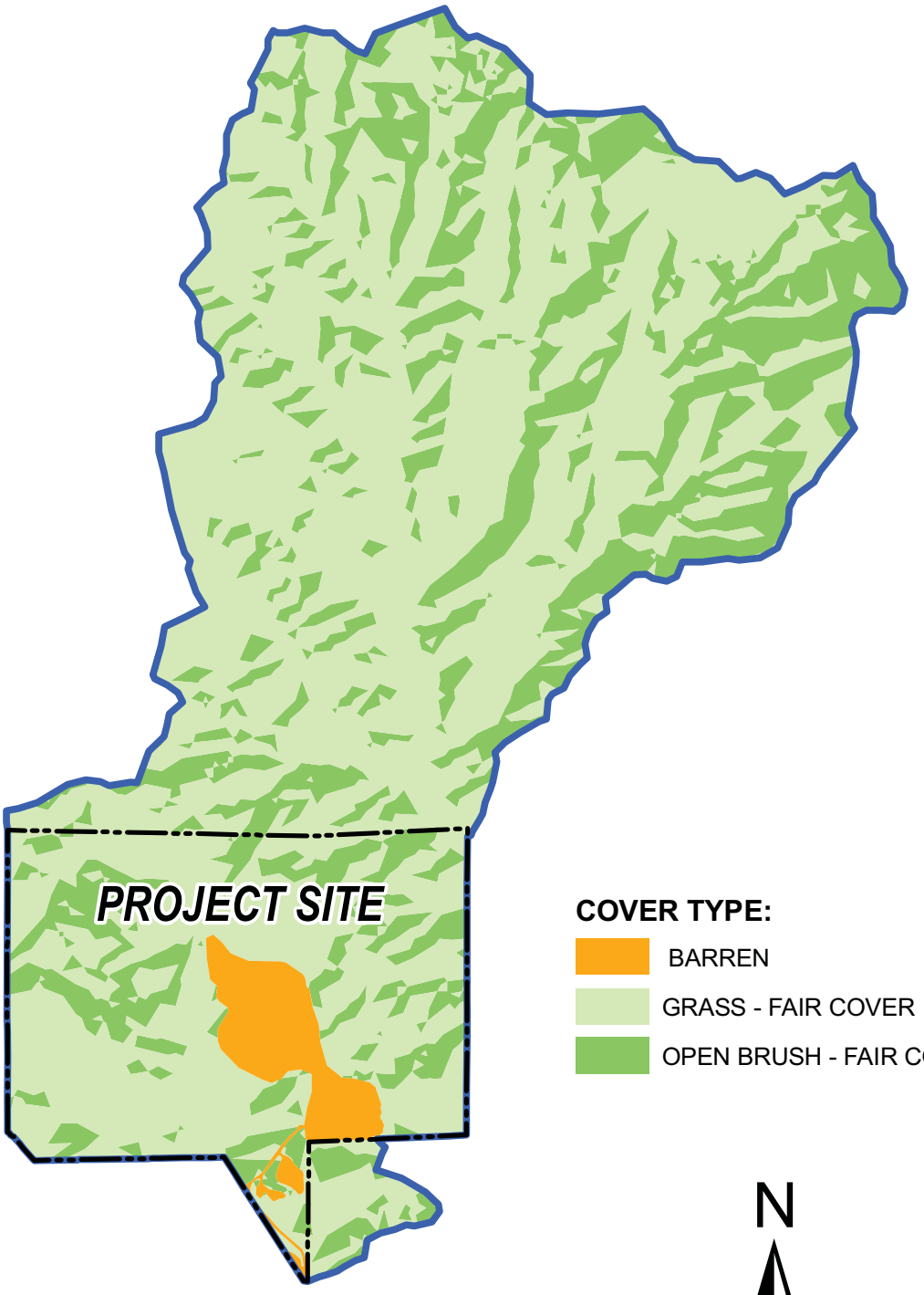


# EXHIBIT “D.4”

Watershed Cover (Existing Conditions)

# EXHIBIT "D.4"

## COVER - EXISTING CONDITIONS




**COVER TYPE:**

- BARREN
- GRASS - FAIR COVER
- OPEN BRUSH - FAIR COVER

N

0 1,500 3,000 6,000 FEET

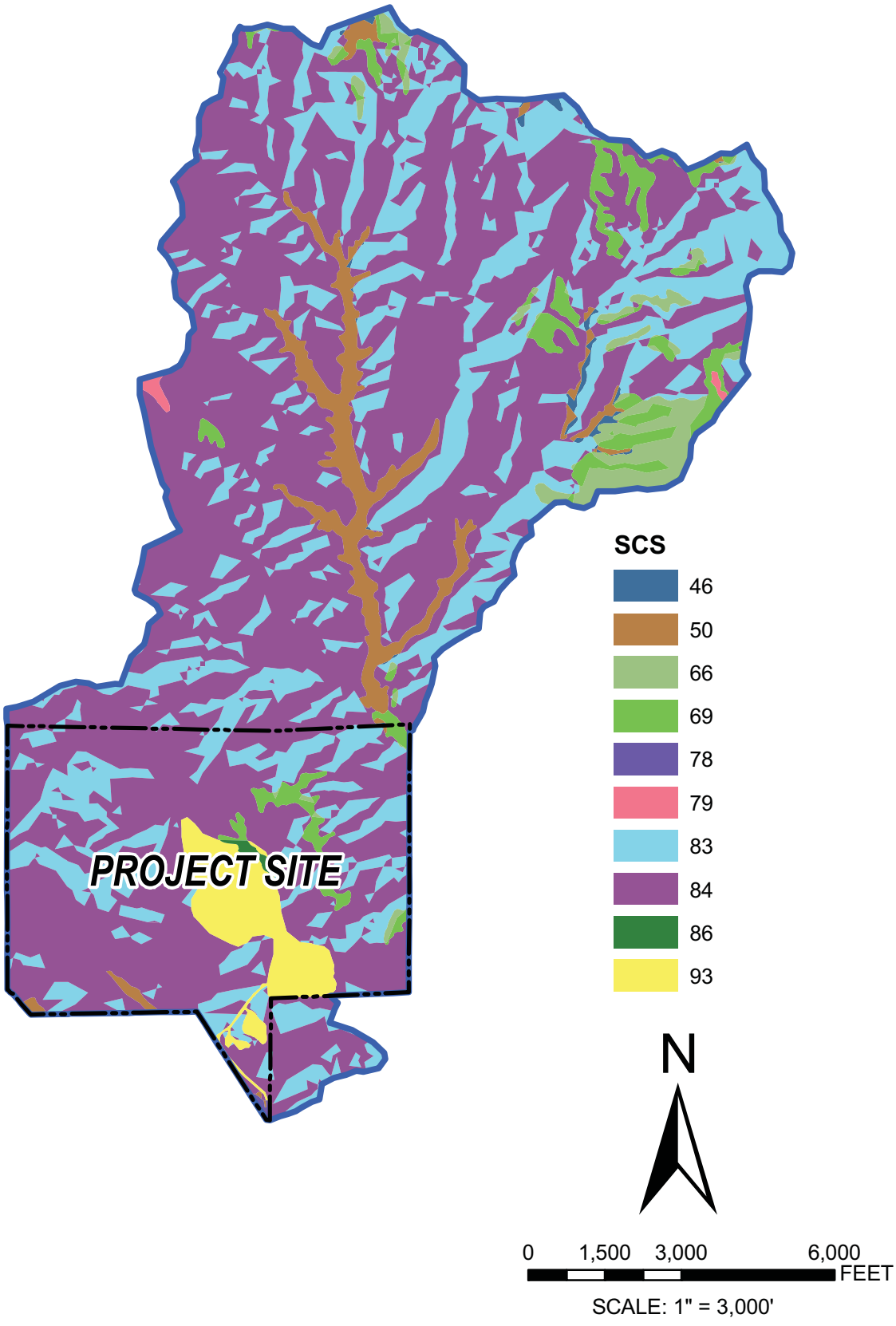
SCALE: 1" = 3,000'

# EXHIBIT “D.5”

Watershed SCS (Existing Conditions)

# EXHIBIT "D.5"

## SCS - EXISTING CONDITIONS



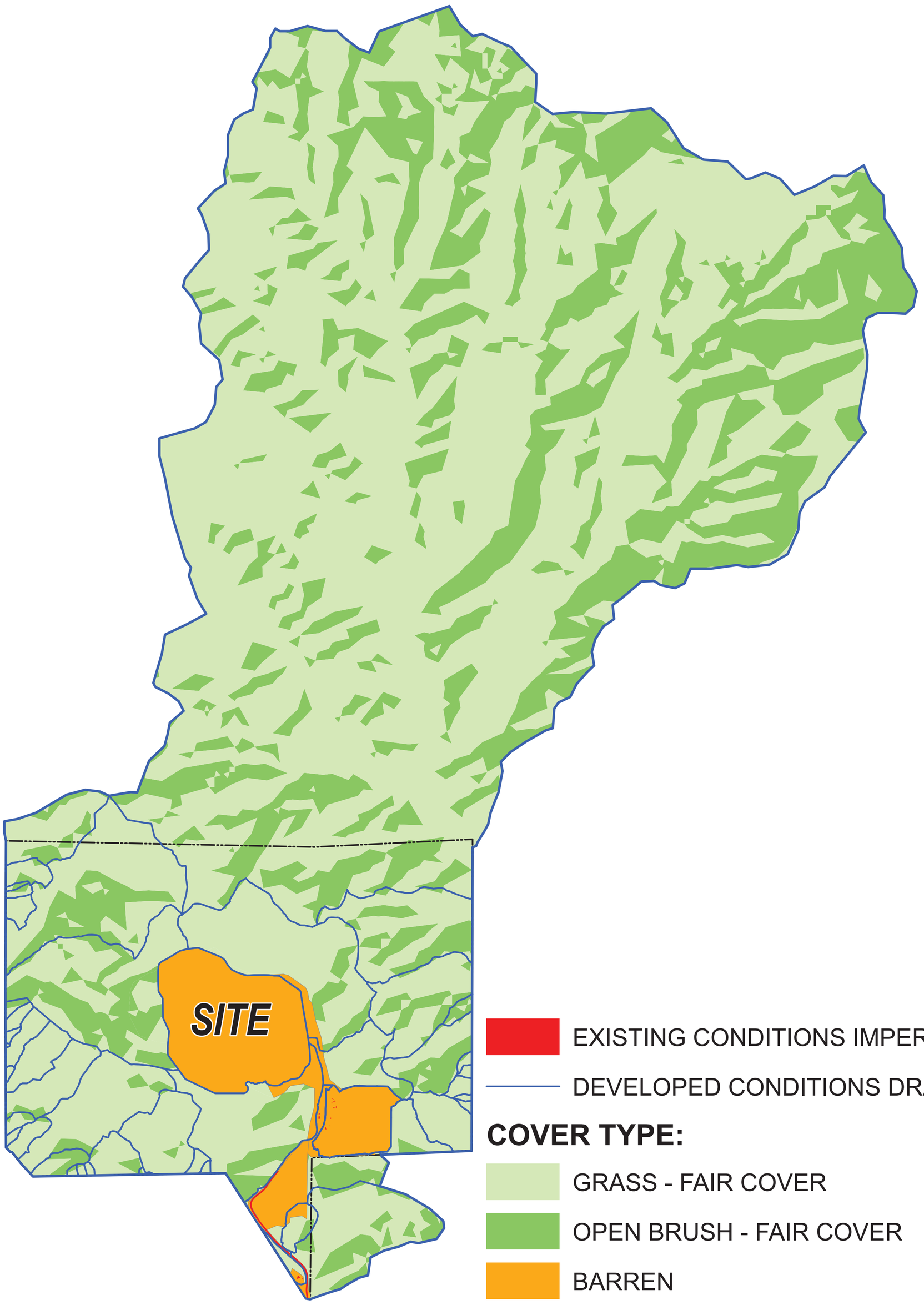

SCALE: 1" = 3,000'

# EXHIBIT “D.6”

Watershed Cover (Developed Conditions)

# EXHIBIT "D.6"

## COVER - DEVELOPED CONDITIONS




EXISTING CONDITIONS IMPERVIOUS AREAS*

DEVELOPED CONDITIONS DRAINAGE AREAS

**COVER TYPE:**

GRASS - FAIR COVER

OPEN BRUSH - FAIR COVER

BARREN

***NOTE: TO ESTABLISH IMPERVIOUS COVER % FOR DRAINAGE AREAS WHERE DISTURBANCE ACTIVITIES ARE PROPOSED, THE EXISTING IMPERVIOUS COVER % FOR THESE AREAS (SHOWN ON THIS MAP) WAS INCREASED BY A CONSERVATIVE 1%.***

N

0 500 1,000 2,000 3,000 4,000 5,000 FEET

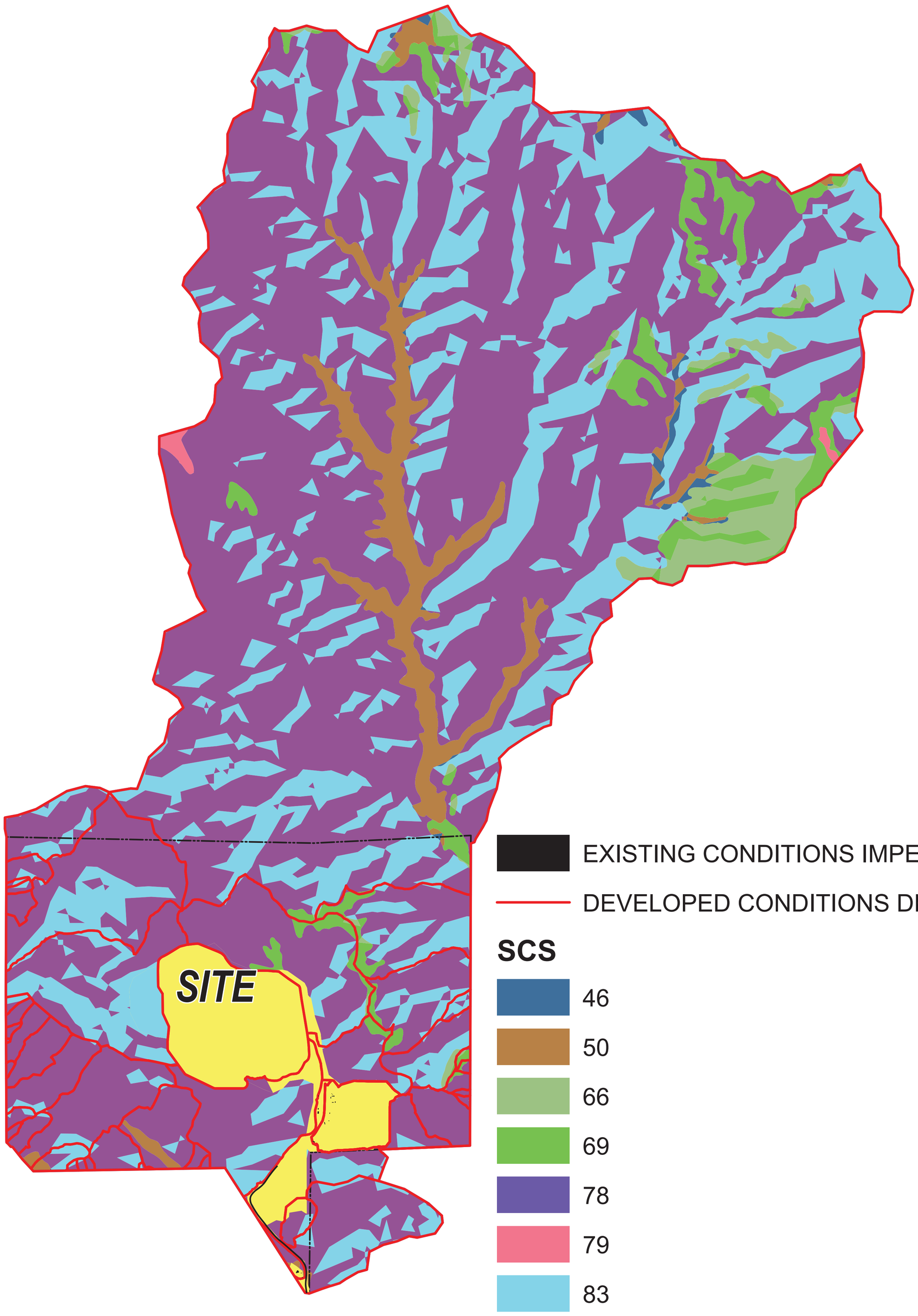
SCALE: 1" = 1,000'

# EXHIBIT “D.7”

Watershed SCS (Developed Conditions)

# EXHIBIT "D.7"

## SCS - DEVELOPED CONDITIONS




SCALE: 1" = 1,000'

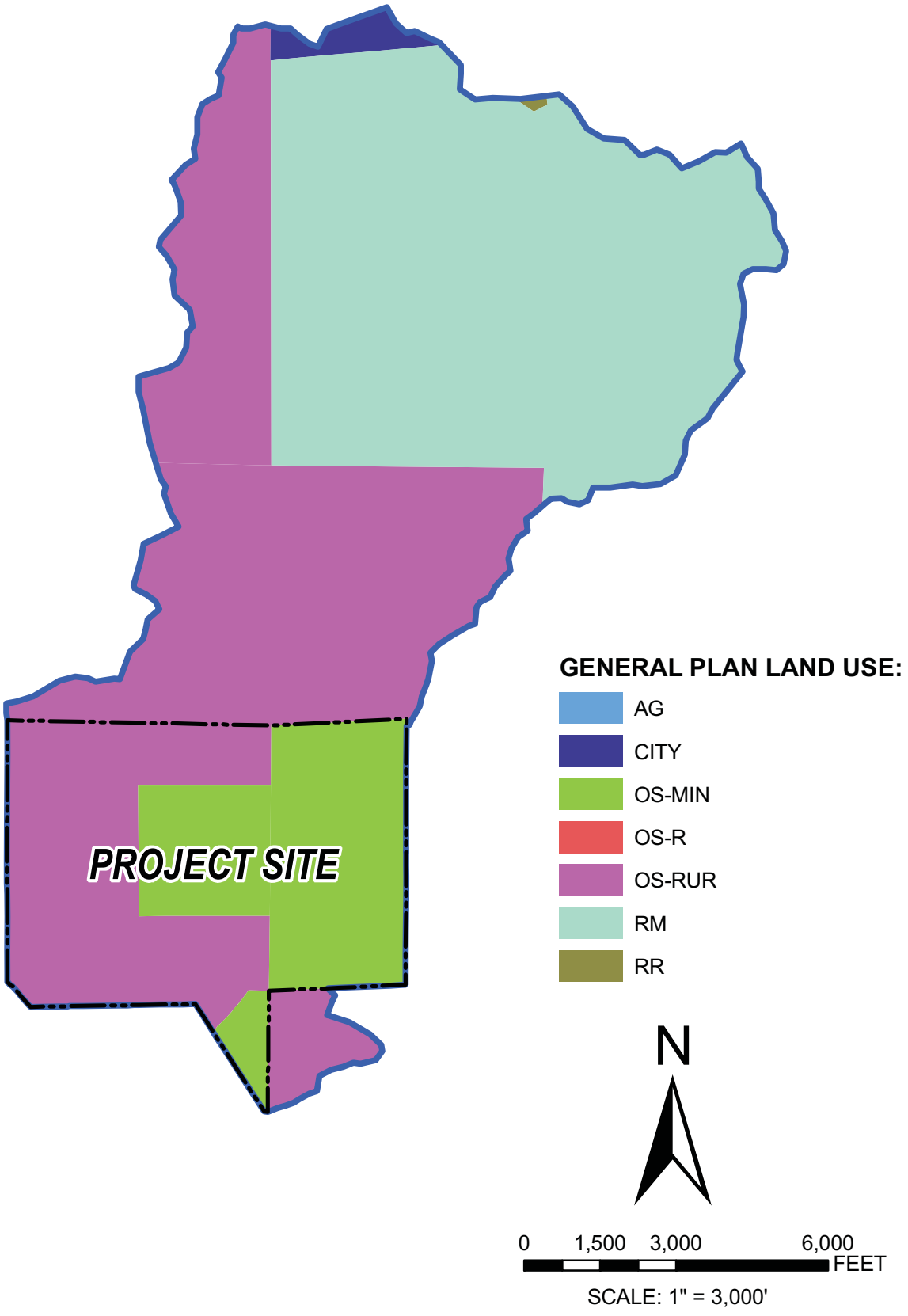
***NOTE: TO ESTABLISH IMPERVIOUS COVER % FOR DRAINAGE AREAS WHERE DISTURBANCE ACTIVITIES ARE PROPOSED, THE EXISTING IMPERVIOUS COVER % FOR THESE AREAS (SHOWN ON THIS MAP) WAS INCREASED BY A CONSERVATIVE 1%.***

# EXHIBIT “D.8”

Watershed Land Use

# EXHIBIT "D.8"

## WATERSHED LAND USE



# EXHIBIT “E”

FEMA FIRM

## NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

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Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) zone 11. The **horizontal datum** was NAD83, GRS1980 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov/ or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242** or visit its website at http://www.ngs.noaa.gov/.

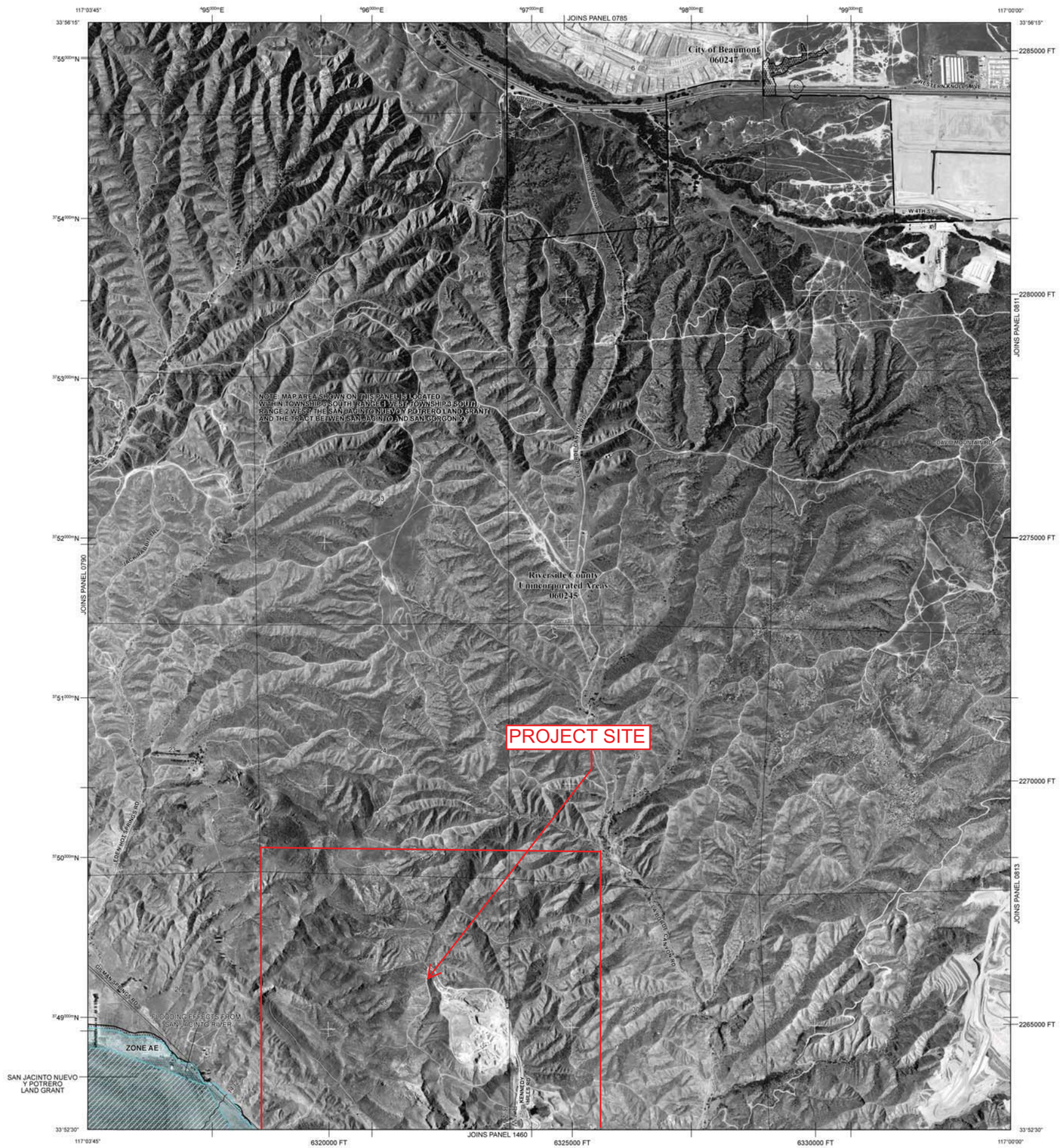
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The **"profile base lines"** depicted on this map represent the hydraulic modeling baselines that match the flood profiles in the FIS report. As a result of improved topographic data, the "profile base line", in some cases, may deviate significantly from the channel centerline or appear outside the SFHA.

**Corporate limits** shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

For information and questions about this map, available products associated with this FIRM including historic versions of this FIRM, how to order products or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Map Service Center website at http://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website. Users may determine the current map date for each FIRM panel by visiting the FEMA Map Service Center website or by calling the FEMA Map Information eXchange.




## LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

| | |
|---|---|
| **ZONE A** | No Base Flood Elevations determined. |
| **ZONE AE** | Base Flood Elevations determined. |
| **ZONE AH** | Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined. |
| **ZONE AO** | Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined. |
| **ZONE AR** | Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood. |
| **ZONE A99** | Areas to be protected from 1% annual chance flood event by a Federal flood protection system under construction; no Base Flood Elevations determined. |
| **ZONE V** | Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined. |
| **ZONE VE** | Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined. |

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

| | |
|---|---|
| **ZONE X** | Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood. |

OTHER AREAS

| | |
|---|---|
| **ZONE X** | Areas determined to be outside the 0.2% annual chance floodplain. |
| **ZONE D** | Areas in which flood hazards are undetermined, but possible. |

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% annual chance floodplain boundary
0.2% annual chance floodplain boundary
Floodway boundary
Zone D boundary
CBRS and OPA boundary
Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities
513 — Base Flood Elevation line and value; elevation in feet*
(EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*
* Referenced to the North American Vertical Datum of 1988
A — A — Cross section line
23 — 23 — Transect line
97°07'30", 32°22'30" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
4275000mE — 1000-meter Universal Transverse Mercator grid ticks, zone 11
6000000 FT — 5000-foot grid values: California State Plane coordinate system, Zone VI (FIPSZONE = 406), Lambert projection
DX5510 — Bench mark (see explanation in Notes to Users section of this FIRM panel)
M1.5 — River Mile

MAP REPOSITORIES
Refer to Map Repositories List on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
August 28, 2008

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL
August 18, 2014: for a description of revisions, see Notice to Users page in the Flood Insurance Study report.

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 1000'

800 0 800 1,600 2,400 FEET
300 0 300 600 METERS

NFIP
NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0795H

# FIRM

## FLOOD INSURANCE RATE MAP
## RIVERSIDE COUNTY, CALIFORNIA
## AND INCORPORATED AREAS

**PANEL 795 OF 3805**

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

| COMMUNITY | NUMBER | PANEL | SUFFIX |
|---|---|---|---|
| BEAUMONT, CITY OF | 060247 | 0795 | H |
| RIVERSIDE COUNTY UNINCORPORATED AREAS | 060245 | 0795 | H |

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

**MAP NUMBER**
**06065C0795H**

**MAP REVISED**
**AUGUST 18, 2014**

Federal Emergency Management Agency

## NOTES TO USERS

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1315 East-West Highway
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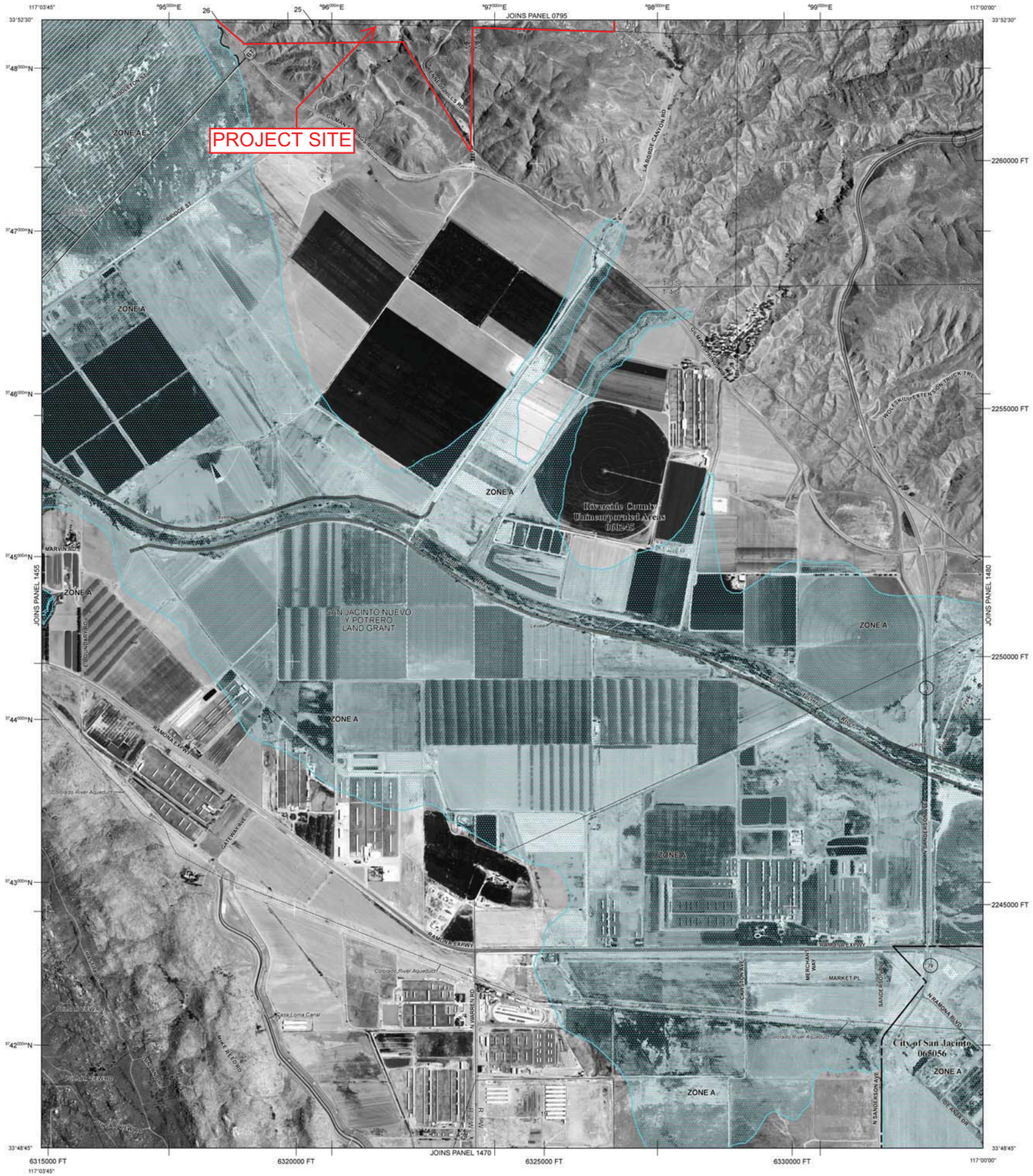
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| | |
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|---|---|
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| | |
|---|---|
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- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities
- 513 (EL 987) — Base Flood Elevation line and value; elevation in feet*
- Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988

- A — A — Cross section line
- 23 — 23 — Transect line
- 97°07'30", 32°22'30" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
- 4275000mE — 1000-meter Universal Transverse Mercator grid ticks, zone 11
- 6000000 FT — 5000-foot grid values: California State Plane coordinate system, Zone VI (FIPSZONE = 406), Lambert projection
- DX5510 — Bench mark (see explanation in Notes to Users section of this FIRM panel)
- M1.5 — River Mile

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EFFECTIVE DATE OF COUNTYWIDE
FLOOD INSURANCE RATE MAP
August 28, 2008

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL
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MAP SCALE 1" = 1000'

500 0 500 1,000 1,500 2,000 FEET
300 0 300 600 METERS

NFIP
NATIONAL FLOOD INSURANCE PROGRAM

PANEL 1460H

# FIRM

FLOOD INSURANCE RATE MAP
RIVERSIDE COUNTY, CALIFORNIA
AND INCORPORATED AREAS

PANEL 1460 OF 3805
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

| COMMUNITY | NUMBER | PANEL | SUFFIX |
|---|---|---|---|
| RIVERSIDE COUNTY UNINCORPORATED AREAS | 060245 | 1460 | H |
| SAN JACINTO, CITY OF | 065056 | 1460 | H |

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
06065C1460H

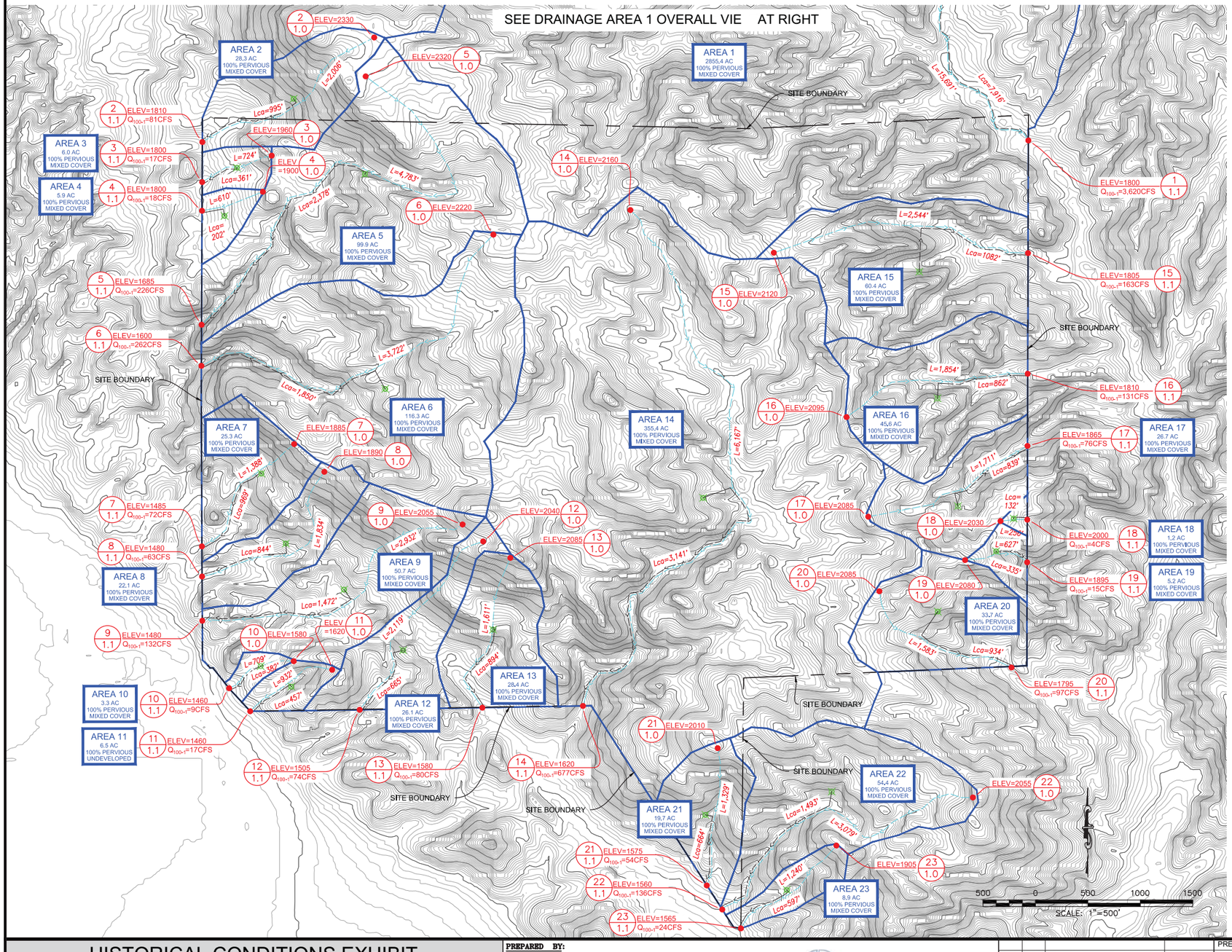
MAP REVISED
AUGUST 18, 2014

Federal Emergency Management Agency

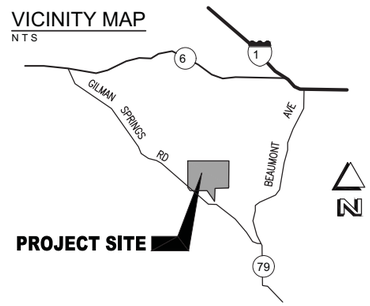
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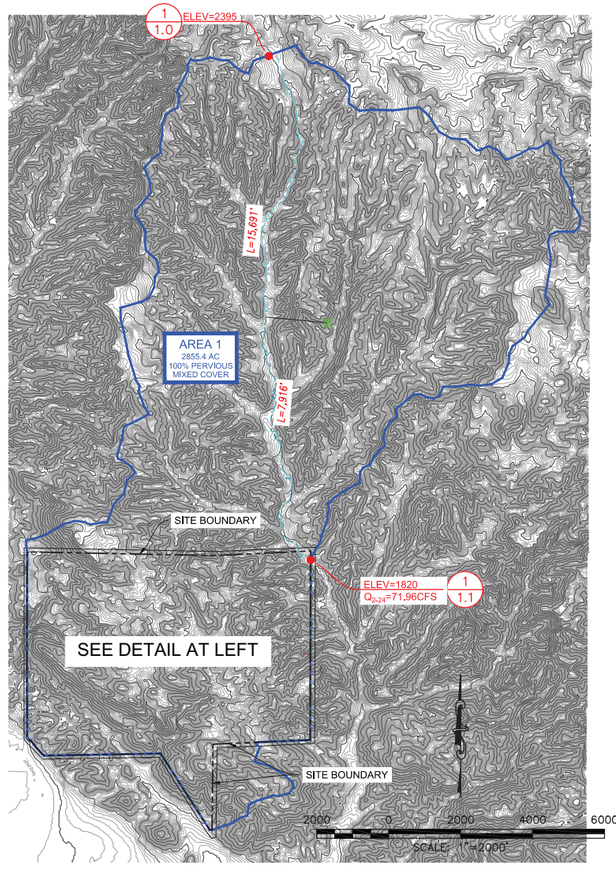
Historical Conditions
Hydrology Study Map

# EXHIBIT "F"
# HISTORICAL CONDITIONS EXHIBIT
## CHANDLER AGGREGATES - GILMAN SPRINGS
COUNTY OF RIVERSIDE, CA

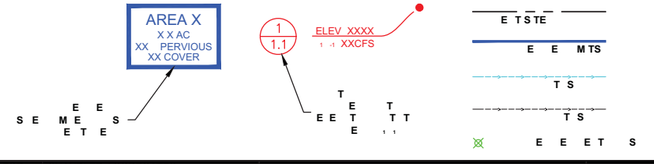



VICINITY MAP
NTS




M E E




| | | | |
|---|---|---|---|
| PREPARED FOR: | CHANDLER AGGREGATES | | |
| JOB NO: | 174469 | | |
| PREPARED BY: | JDN | | |
| CHECKED BY: | JTS | | |

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HISTORICAL CONDITIONS EXHIBIT
CHANDLER AGGREGATES - GILMAN SPRINGS
COUNTY OF RIVERSIDE, CA

HISTORICAL CONDITIONS EXHIBIT
CHANDLER AGGREGATES - GILMAN SPRINGS
COUNTY OF RIVERSIDE, CA

F

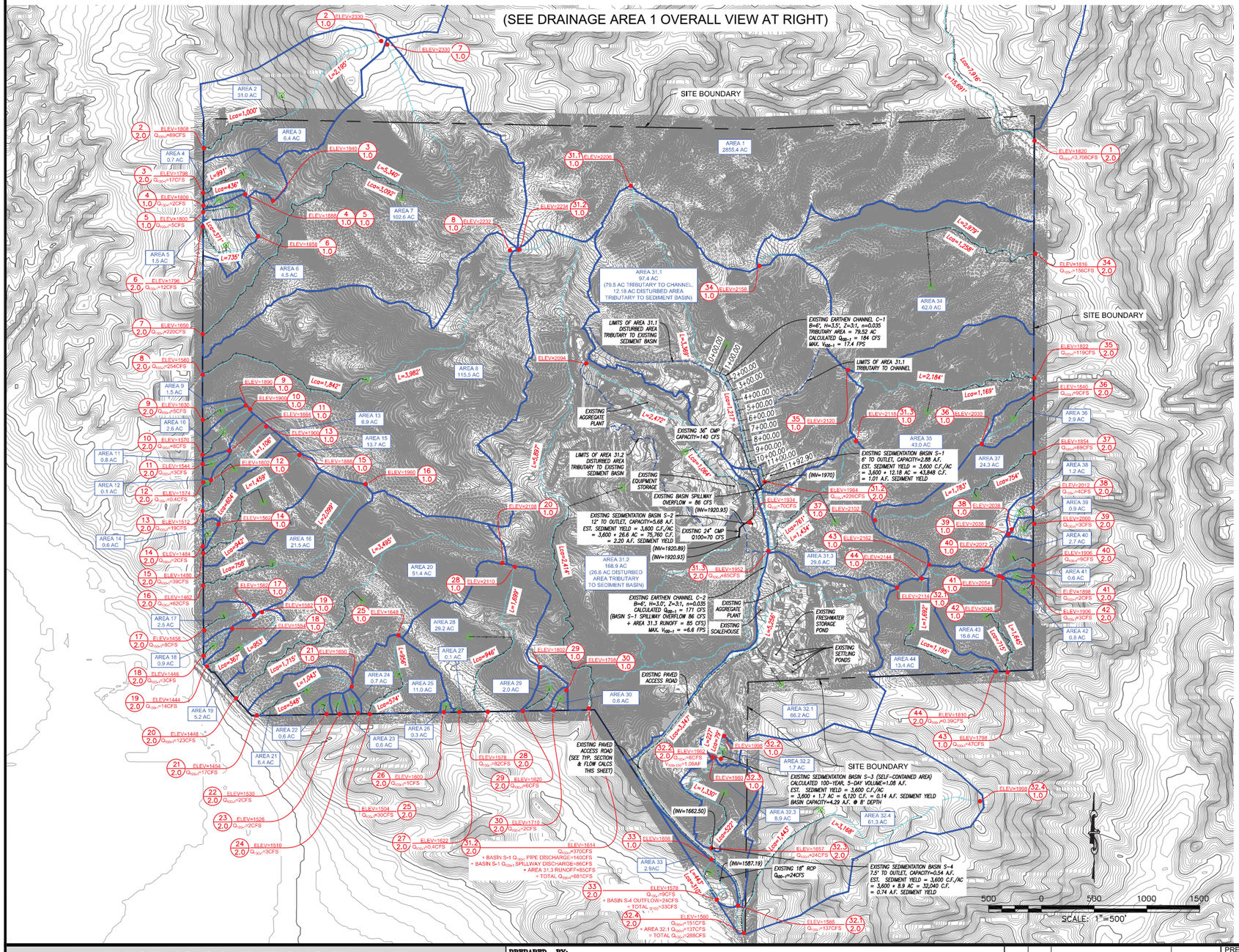
DISREGARD PRINTS BEARING EARLIER REVISION DATES → 03-29-18

SHEET 1 OF 1

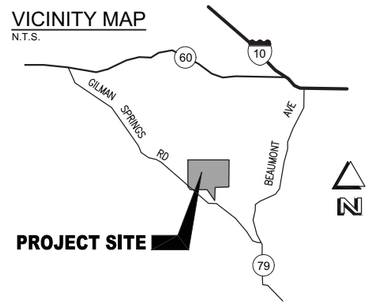
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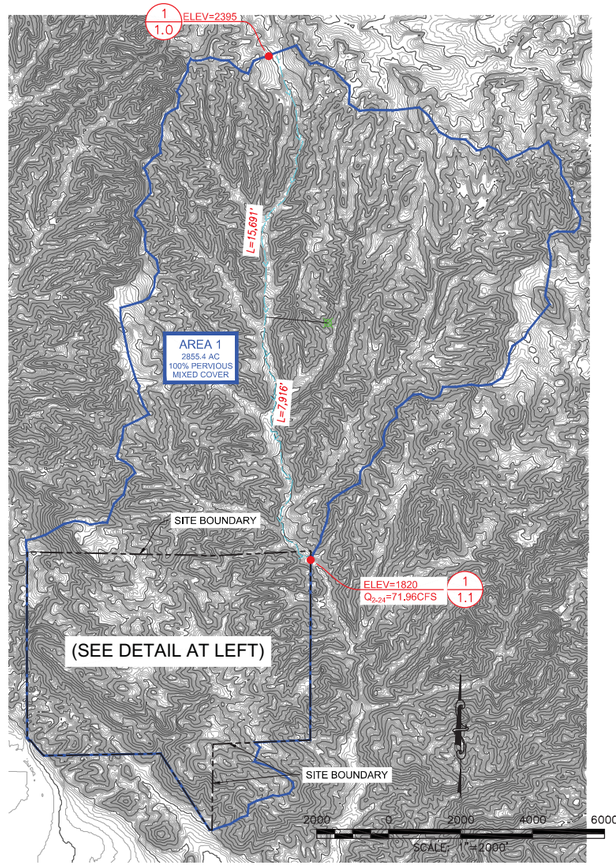
## Existing Conditions
## Hydrology Study Map

# EXHIBIT "G"
# EXISTING CONDITIONS EXHIBIT
## CHANDLER AGGREGATES - GILMAN SPRINGS
COUNTY OF RIVERSIDE, CA




VICINITY MAP
N.T.S.




## MAP LEGEND

- DRAINAGE AREA & SIZE (e.g. AREA 42, 0.8 AC)
- UNIT HYDROGRAPH NODE LOCATION, ELEVATION, & TOTAL PEAK Q0-24 (e.g. 1, 1.1, ELEV=XXXX, Q0-24=XXCFS)
- PROJECT SITE BOUNDARY
- DRAINAGE AREA LIMITS
- FLOW PATHS
- Lca FLOW PATHS
- DRAINAGE AREA CENTROIDS

EXISTING CONDITIONS EXHIBIT
CHANDLER AGGREGATES - GILMAN SPRINGS
COUNTY OF RIVERSIDE, CA

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|---|---|---|---|

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|---|---|
| PREPARED FOR: | CHANDLER AGGREGATES |
| JOB NO: | 174469 |
| PREPARED BY: | JDN |
| CHECKED BY: | JTS |

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EXISTING CONDITIONS EXHIBIT
CHANDLER AGGREGATES - GILMAN SPRINGS
COUNTY OF RIVERSIDE, CA

G

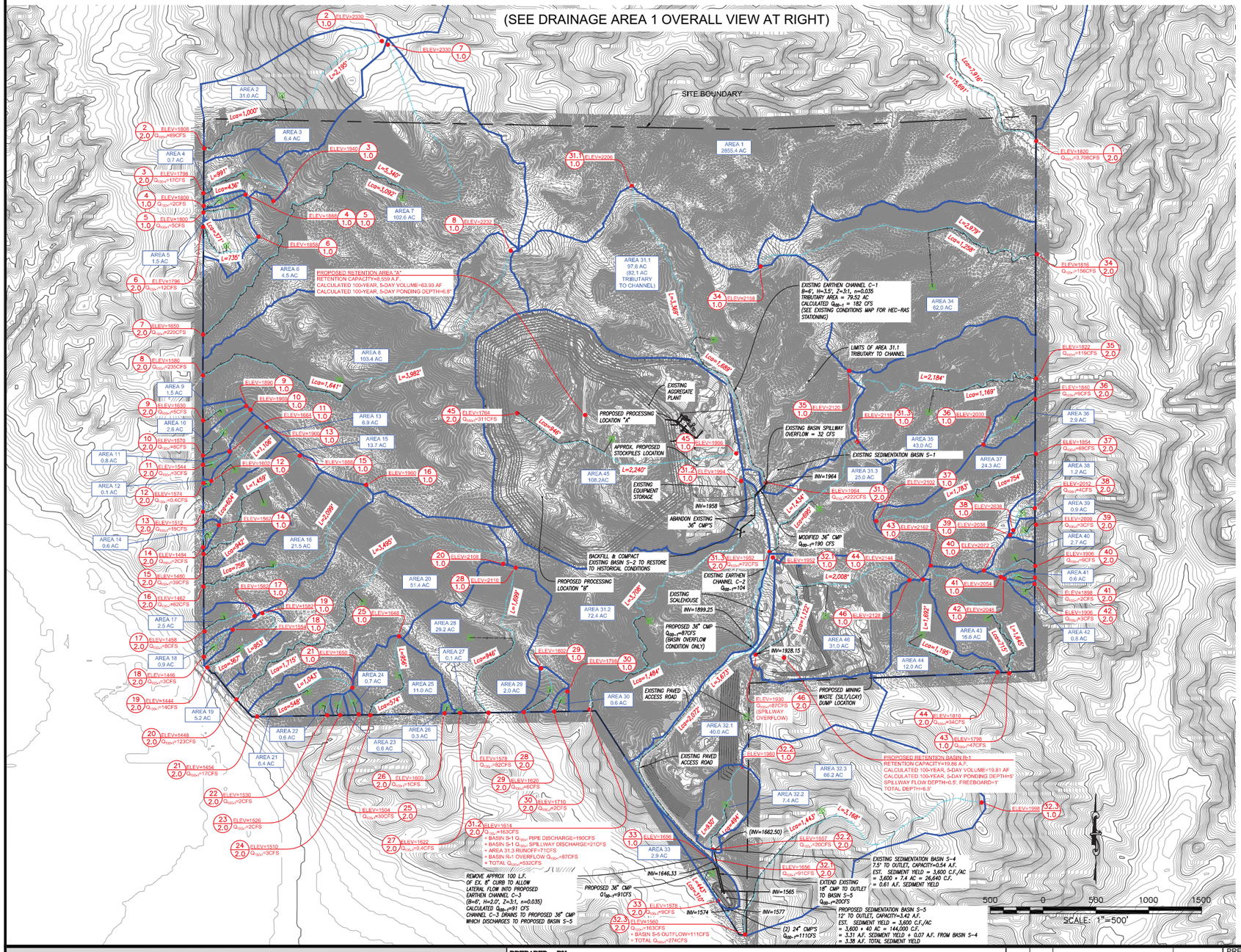
DISREGARD PRINTS BEARING EARLIER REVISION DATES → 04-23-19

SHEET 1 OF 1

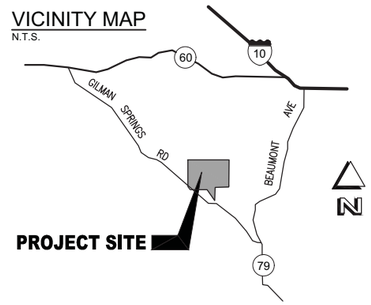
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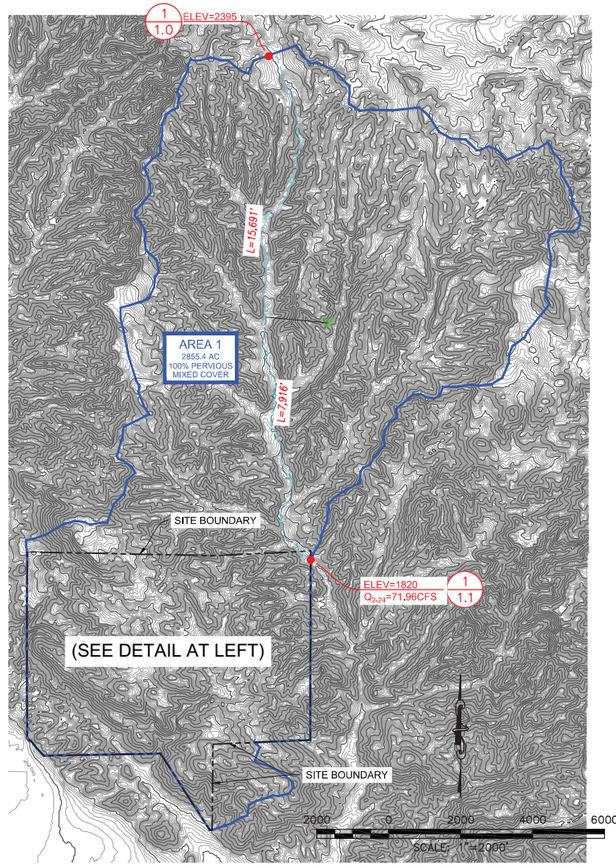
Developed Conditions
Hydrology Study Map

# EXHIBIT "H"
# DEVELOPED CONDITIONS EXHIBIT
## CHANDLER AGGREGATES - GILMAN SPRINGS
COUNTY OF RIVERSIDE, CA

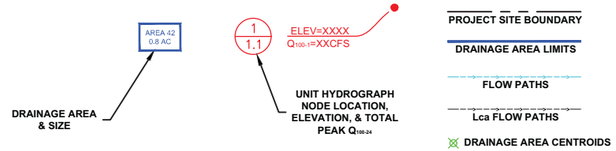



VICINITY MAP
N.T.S.




## MAP LEGEND




DEVELOPED CONDITIONS EXHIBIT
CHANDLER AGGREGATES - GILMAN SPRINGS
COUNTY OF RIVERSIDE, CA

PREPARED BY:
BONADIMAN
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| BY | MARK | REVISION DESCRIPTION | DATE |
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|---|---|
| PREPARED FOR: | CHANDLER AGGREGATES |
| JOB NO: | 174469 |
| PREPARED BY: | JDN |
| CHECKED BY: | JTS |

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DEVELOPED CONDITIONS EXHIBIT
CHANDLER AGGREGATES - GILMAN SPRINGS
COUNTY OF RIVERSIDE, CA

DISREGARD PRINTS BEARING EARLIER REVISION DATES → 04-23-19

H

SHEET 1 OF 1

# ATTACHMENT NO. 1

Precipitation Values by Drainage Area

PRECIPITATION VALUES - HISTORICAL CONDITIONS

| DRAINAGE AREA | 2YR-1HR | 100YR-1HR | 2YR-3HR | 100YR-3HR | 2YR-6HR | 100YR-6HR | 2YR-24HR | 100YR-24HR | SLOPE CURVE |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.52 | 1.20 | 0.86 | 1.86 | 1.20 | 2.51 | 2.06 | 5.17 | 0.50 |
| 2 | 0.50 | 1.20 | 0.81 | 1.81 | 1.14 | 2.50 | 1.80 | 4.71 | 0.50 |
| 3 | 0.50 | 1.20 | 0.81 | 1.81 | 1.14 | 2.50 | 1.80 | 4.65 | 0.50 |
| 4 | 0.50 | 1.20 | 0.81 | 1.81 | 1.14 | 2.50 | 1.80 | 4.63 | 0.50 |
| 5 | 0.50 | 1.20 | 0.81 | 1.81 | 1.14 | 2.50 | 1.80 | 4.69 | 0.50 |
| 6 | 0.50 | 1.20 | 0.80 | 1.81 | 1.13 | 2.50 | 1.80 | 4.64 | 0.50 |
| 7 | 0.49 | 1.20 | 0.80 | 1.80 | 1.12 | 2.50 | 1.80 | 4.54 | 0.50 |
| 8 | 0.49 | 1.20 | 0.80 | 1.80 | 1.12 | 2.50 | 1.80 | 4.53 | 0.50 |
| 9 | 0.49 | 1.20 | 0.80 | 1.80 | 1.12 | 2.50 | 1.80 | 4.55 | 0.50 |
| 10 | 0.49 | 1.20 | 0.80 | 1.80 | 1.12 | 2.50 | 1.80 | 4.50 | 0.50 |
| 11 | 0.49 | 1.20 | 0.80 | 1.80 | 1.12 | 2.50 | 1.80 | 4.50 | 0.50 |
| 12 | 0.49 | 1.20 | 0.80 | 1.80 | 1.12 | 2.50 | 1.80 | 4.55 | 0.50 |
| 13 | 0.49 | 1.20 | 0.80 | 1.80 | 1.13 | 2.50 | 1.80 | 4.58 | 0.50 |
| 14 | 0.50 | 1.20 | 0.81 | 1.81 | 1.14 | 2.50 | 1.80 | 4.68 | 0.50 |
| 15 | 0.50 | 1.20 | 0.82 | 1.83 | 1.16 | 2.50 | 1.81 | 4.78 | 0.50 |
| 16 | 0.50 | 1.20 | 0.81 | 1.82 | 1.15 | 2.50 | 1.80 | 4.76 | 0.50 |
| 17 | 0.50 | 1.20 | 0.81 | 1.82 | 1.15 | 2.50 | 1.80 | 4.74 | 0.50 |
| 18 | 0.50 | 1.20 | 0.81 | 1.82 | 1.16 | 2.50 | 1.80 | 4.76 | 0.50 |
| 19 | 0.50 | 1.20 | 0.81 | 1.82 | 1.15 | 2.50 | 1.80 | 4.75 | 0.50 |
| 20 | 0.50 | 1.20 | 0.81 | 1.82 | 1.15 | 2.50 | 1.80 | 4.72 | 0.50 |
| 21 | 0.50 | 1.20 | 0.80 | 1.80 | 1.13 | 2.50 | 1.80 | 4.62 | 0.50 |
| 22 | 0.50 | 1.20 | 0.80 | 1.81 | 1.14 | 2.50 | 1.80 | 4.66 | 0.50 |
| 23 | 0.50 | 1.20 | 0.80 | 1.80 | 1.14 | 2.50 | 1.80 | 4.64 | 0.50 |

# PRECIPITATION VALUES - EXISTING CONDITIONS

| DRAINAGE AREA | 2YR-1HR | 100YR-1HR | 2YR-3HR | 100YR-3HR | 2YR-6HR | 100YR-6HR | 2YR-24HR | 100YR-24HR | SLOPE CURVE |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.52 | 1.20 | 0.86 | 1.86 | 1.20 | 2.51 | 2.06 | 5.17 | 0.50 |
| 2 | 0.50 | 1.20 | 0.81 | 1.81 | 1.14 | 2.50 | 1.80 | 4.71 | 0.50 |
| 3 | 0.50 | 1.20 | 0.81 | 1.81 | 1.14 | 2.50 | 1.80 | 4.66 | 0.50 |
| 4 | 0.50 | 1.20 | 0.81 | 1.81 | 1.14 | 2.50 | 1.80 | 4.64 | 0.50 |
| 5 | 0.50 | 1.20 | 0.81 | 1.81 | 1.13 | 2.50 | 1.80 | 4.64 | 0.50 |
| 6 | 0.50 | 1.20 | 0.81 | 1.81 | 1.13 | 2.50 | 1.80 | 4.63 | 0.50 |
| 7 | 0.50 | 1.20 | 0.81 | 1.81 | 1.14 | 2.50 | 1.80 | 4.69 | 0.50 |
| 8 | 0.50 | 1.20 | 0.80 | 1.81 | 1.13 | 2.50 | 1.80 | 4.63 | 0.50 |
| 9 | 0.49 | 1.20 | 0.80 | 1.80 | 1.12 | 2.50 | 1.80 | 4.55 | 0.50 |
| 10 | 0.49 | 1.20 | 0.80 | 1.80 | 1.12 | 2.50 | 1.80 | 4.55 | 0.50 |
| 11 | 0.49 | 1.20 | 0.80 | 1.80 | 1.12 | 2.50 | 1.80 | 4.53 | 0.50 |
| 12 | 0.49 | 1.20 | 0.80 | 1.80 | 1.12 | 2.50 | 1.80 | 4.52 | 0.50 |
| 13 | 0.49 | 1.20 | 0.80 | 1.80 | 1.12 | 2.50 | 1.80 | 4.54 | 0.50 |
| 14 | 0.49 | 1.20 | 0.80 | 1.80 | 1.12 | 2.50 | 1.80 | 4.50 | 0.50 |
| 15 | 0.49 | 1.20 | 0.80 | 1.80 | 1.13 | 2.50 | 1.80 | 4.54 | 0.50 |
| 16 | 0.49 | 1.20 | 0.80 | 1.80 | 1.12 | 2.50 | 1.80 | 4.54 | 0.50 |
| 17 | 0.49 | 1.20 | 0.80 | 1.80 | 1.12 | 2.50 | 1.80 | 4.50 | 0.50 |
| 18 | 0.49 | 1.20 | 0.80 | 1.80 | 1.12 | 2.50 | 1.80 | 4.50 | 0.50 |
| 19 | 0.49 | 1.20 | 0.80 | 1.80 | 1.12 | 2.50 | 1.80 | 4.50 | 0.50 |
| 20 | 0.49 | 1.20 | 0.80 | 1.80 | 1.12 | 2.50 | 1.80 | 4.56 | 0.50 |
| 21 | 0.49 | 1.20 | 0.80 | 1.80 | 1.12 | 2.50 | 1.80 | 4.51 | 0.50 |
| 22 | 0.49 | 1.20 | 0.80 | 1.80 | 1.12 | 2.50 | 1.80 | 4.52 | 0.50 |
| 23 | 0.49 | 1.20 | 0.80 | 1.80 | 1.12 | 2.50 | 1.80 | 4.52 | 0.50 |
| 24 | 0.49 | 1.20 | 0.80 | 1.80 | 1.12 | 2.50 | 1.80 | 4.53 | 0.50 |
| 25 | 0.49 | 1.20 | 0.80 | 1.80 | 1.12 | 2.50 | 1.80 | 4.54 | 0.50 |
| 26 | 0.49 | 1.20 | 0.80 | 1.80 | 1.12 | 2.50 | 1.80 | 4.56 | 0.50 |
| 27 | 0.49 | 1.20 | 0.80 | 1.80 | 1.12 | 2.50 | 1.80 | 4.56 | 0.50 |
| 28 | 0.49 | 1.20 | 0.80 | 1.80 | 1.13 | 2.50 | 1.80 | 4.59 | 0.50 |
| 29 | 0.50 | 1.20 | 0.80 | 1.80 | 1.13 | 2.50 | 1.80 | 4.59 | 0.50 |
| 30 | 0.50 | 1.20 | 0.80 | 1.80 | 1.13 | 2.50 | 1.80 | 4.59 | 0.50 |
| 31 | 0.50 | 1.20 | 0.81 | 1.81 | 1.14 | 2.50 | 1.80 | 4.69 | 0.50 |
| 32 | 0.50 | 1.20 | 0.80 | 1.81 | 1.14 | 2.50 | 1.80 | 4.66 | 0.50 |
| 33 | 0.50 | 1.20 | 0.80 | 1.80 | 1.13 | 2.50 | 1.80 | 4.62 | 0.50 |
| 34 | 0.50 | 1.20 | 0.82 | 1.83 | 1.16 | 2.50 | 1.81 | 4.78 | 0.50 |
| 35 | 0.50 | 1.20 | 0.82 | 1.82 | 1.16 | 2.50 | 1.80 | 4.76 | 0.50 |
| 36 | 0.50 | 1.20 | 0.82 | 1.82 | 1.16 | 2.50 | 1.80 | 4.77 | 0.50 |
| 37 | 0.50 | 1.20 | 0.81 | 1.82 | 1.16 | 2.50 | 1.80 | 4.74 | 0.50 |
| 38 | 0.50 | 1.20 | 0.81 | 1.82 | 1.16 | 2.50 | 1.80 | 4.76 | 0.50 |
| 39 | 0.50 | 1.20 | 0.81 | 1.82 | 1.16 | 2.50 | 1.80 | 4.76 | 0.50 |
| 40 | 0.50 | 1.20 | 0.81 | 1.82 | 1.16 | 2.50 | 1.80 | 4.75 | 0.50 |
| 41 | 0.50 | 1.20 | 0.81 | 1.82 | 1.16 | 2.50 | 1.80 | 4.75 | 0.50 |
| 42 | 0.50 | 1.20 | 0.81 | 1.82 | 1.15 | 2.50 | 1.80 | 4.75 | 0.50 |
| 43 | 0.50 | 1.20 | 0.81 | 1.82 | 1.15 | 2.50 | 1.80 | 4.74 | 0.50 |
| 44 | 0.50 | 1.20 | 0.81 | 1.82 | 1.15 | 2.50 | 1.80 | 4.71 | 0.50 |

# PRECIPITATION VALUES - DEVELOPED CONDITIONS

| DRAINAGE AREA | 2YR-1HR | 100YR-1HR | 2YR-3HR | 100YR-3HR | 2YR-6HR | 100YR-6HR | 2YR-24HR | 100YR-24HR | SLOPE CURVE |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.52 | 1.20 | 0.86 | 1.86 | 1.20 | 2.51 | 2.06 | 5.17 | 0.50 |
| 2 | 0.50 | 1.20 | 0.81 | 1.81 | 1.14 | 2.50 | 1.80 | 4.71 | 0.50 |
| 3 | 0.50 | 1.20 | 0.81 | 1.81 | 1.14 | 2.50 | 1.80 | 4.66 | 0.50 |
| 4 | 0.50 | 1.20 | 0.81 | 1.81 | 1.14 | 2.50 | 1.80 | 4.64 | 0.50 |
| 5 | 0.50 | 1.20 | 0.81 | 1.81 | 1.13 | 2.50 | 1.80 | 4.64 | 0.50 |
| 6 | 0.50 | 1.20 | 0.81 | 1.81 | 1.13 | 2.50 | 1.80 | 4.63 | 0.50 |
| 7 | 0.50 | 1.20 | 0.81 | 1.81 | 1.14 | 2.50 | 1.80 | 4.69 | 0.50 |
| 8 | 0.50 | 1.20 | 0.80 | 1.81 | 1.13 | 2.50 | 1.80 | 4.63 | 0.50 |
| 9 | 0.49 | 1.20 | 0.80 | 1.80 | 1.12 | 2.50 | 1.80 | 4.55 | 0.50 |
| 10 | 0.49 | 1.20 | 0.80 | 1.80 | 1.12 | 2.50 | 1.80 | 4.55 | 0.50 |
| 11 | 0.49 | 1.20 | 0.80 | 1.80 | 1.12 | 2.50 | 1.80 | 4.53 | 0.50 |
| 12 | 0.49 | 1.20 | 0.80 | 1.80 | 1.12 | 2.50 | 1.80 | 4.52 | 0.50 |
| 13 | 0.49 | 1.20 | 0.80 | 1.80 | 1.12 | 2.50 | 1.80 | 4.54 | 0.50 |
| 14 | 0.49 | 1.20 | 0.80 | 1.80 | 1.12 | 2.50 | 1.80 | 4.50 | 0.50 |
| 15 | 0.49 | 1.20 | 0.80 | 1.80 | 1.13 | 2.50 | 1.80 | 4.54 | 0.50 |
| 16 | 0.49 | 1.20 | 0.80 | 1.80 | 1.12 | 2.50 | 1.80 | 4.54 | 0.50 |
| 17 | 0.49 | 1.20 | 0.80 | 1.80 | 1.12 | 2.50 | 1.80 | 4.50 | 0.50 |
| 18 | 0.49 | 1.20 | 0.80 | 1.80 | 1.12 | 2.50 | 1.80 | 4.50 | 0.50 |
| 19 | 0.49 | 1.20 | 0.80 | 1.80 | 1.12 | 2.50 | 1.80 | 4.50 | 0.50 |
| 20 | 0.49 | 1.20 | 0.80 | 1.80 | 1.12 | 2.50 | 1.80 | 4.56 | 0.50 |
| 21 | 0.49 | 1.20 | 0.80 | 1.80 | 1.12 | 2.50 | 1.80 | 4.51 | 0.50 |
| 22 | 0.49 | 1.20 | 0.80 | 1.80 | 1.12 | 2.50 | 1.80 | 4.52 | 0.50 |
| 23 | 0.49 | 1.20 | 0.80 | 1.80 | 1.12 | 2.50 | 1.80 | 4.52 | 0.50 |
| 24 | 0.49 | 1.20 | 0.80 | 1.80 | 1.12 | 2.50 | 1.80 | 4.53 | 0.50 |
| 25 | 0.49 | 1.20 | 0.80 | 1.80 | 1.12 | 2.50 | 1.80 | 4.54 | 0.50 |
| 26 | 0.49 | 1.20 | 0.80 | 1.80 | 1.12 | 2.50 | 1.80 | 4.56 | 0.50 |
| 27 | 0.49 | 1.20 | 0.80 | 1.80 | 1.12 | 2.50 | 1.80 | 4.56 | 0.50 |
| 28 | 0.49 | 1.20 | 0.80 | 1.80 | 1.13 | 2.50 | 1.80 | 4.59 | 0.50 |
| 29 | 0.50 | 1.20 | 0.80 | 1.80 | 1.13 | 2.50 | 1.80 | 4.59 | 0.50 |
| 30 | 0.50 | 1.20 | 0.80 | 1.80 | 1.13 | 2.50 | 1.80 | 4.59 | 0.50 |
| 31 | 0.50 | 1.20 | 0.81 | 1.81 | 1.14 | 2.50 | 1.80 | 4.69 | 0.50 |
| 32 | 0.50 | 1.20 | 0.80 | 1.81 | 1.14 | 2.50 | 1.80 | 4.66 | 0.50 |
| 33 | 0.50 | 1.20 | 0.80 | 1.80 | 1.13 | 2.50 | 1.80 | 4.62 | 0.50 |
| 34 | 0.50 | 1.20 | 0.82 | 1.83 | 1.16 | 2.50 | 1.81 | 4.78 | 0.50 |
| 35 | 0.50 | 1.20 | 0.82 | 1.82 | 1.16 | 2.50 | 1.80 | 4.76 | 0.50 |
| 36 | 0.50 | 1.20 | 0.82 | 1.82 | 1.16 | 2.50 | 1.80 | 4.77 | 0.50 |
| 37 | 0.50 | 1.20 | 0.81 | 1.82 | 1.16 | 2.50 | 1.80 | 4.74 | 0.50 |
| 38 | 0.50 | 1.20 | 0.81 | 1.82 | 1.16 | 2.50 | 1.80 | 4.76 | 0.50 |
| 39 | 0.50 | 1.20 | 0.81 | 1.82 | 1.16 | 2.50 | 1.80 | 4.76 | 0.50 |
| 40 | 0.50 | 1.20 | 0.81 | 1.82 | 1.16 | 2.50 | 1.80 | 4.75 | 0.50 |
| 41 | 0.50 | 1.20 | 0.81 | 1.82 | 1.16 | 2.50 | 1.80 | 4.75 | 0.50 |
| 42 | 0.50 | 1.20 | 0.81 | 1.82 | 1.15 | 2.50 | 1.80 | 4.75 | 0.50 |
| 43 | 0.50 | 1.20 | 0.81 | 1.82 | 1.15 | 2.50 | 1.80 | 4.74 | 0.50 |
| 44 | 0.50 | 1.20 | 0.81 | 1.82 | 1.15 | 2.50 | 1.80 | 4.71 | 0.50 |
| 45 | 0.50 | 1.20 | 0.80 | 1.81 | 1.14 | 2.50 | 1.80 | 4.68 | 0.50 |
| 46 | 0.50 | 1.20 | 0.80 | 1.81 | 1.15 | 2.50 | 1.80 | 4.69 | 0.50 |

# ATTACHMENT NO. 2

## Applicable RCFC & WCD Hydrology Manual Excerpts & Tables

## ACTUAL IMPERVIOUS COVER

| Land Use (1) | Range-Percent | Recommended Value For Average Conditions-Percent(2) |
|---|---|---|
| Natural or Agriculture | 0 - 10 | 0 |
| Single Family Residential: (3) | | |
| 40,000 S. F. (1 Acre) Lots | 10 - 25 | 20 |
| 20,000 S. F. (½ Acre) Lots | 30 - 45 | 40 |
| 7,200 - 10,000 S. F. Lots | 45 - 55 | 50 |
| Multiple Family Residential: | | |
| Condominiums | 45 - 70 | 65 |
| Apartments | 65 - 90 | 80 |
| Mobile Home Park | 60 - 85 | 75 |
| Commercial, Downtown Business or Industrial | 80 -100 | 90 |

Notes:

1. Land use should be based on ultimate development of the watershed. Long range master plans for the County and incorporated cities should be reviewed to insure reasonable land use assumptions.

2. Recommended values are based on average conditions which may not apply to a particular study area. The percentage impervious may vary greatly even on comparable sized lots due to differences in dwelling size, improvements, etc. Landscape practices should also be considered as it is common in some areas to use ornamental gravels underlain by impervious plastic materials in place of lawns and shrubs. A field investigation of a study area should always be made, and a review of aerial photos, where available may assist in estimating the percentage of impervious cover in developed areas.

3. For typical horse ranch subdivisions increase impervious area 5 percent over the values recommended in the table above.

**RCFC & WCD**
HYDROLOGY MANUAL

IMPERVIOUS COVER FOR DEVELOPED AREAS

PLATE D-5.6

## COVER TYPE DESCRIPTIONS

NATURAL COVERS -

Barren - Areas with 15 percent or less of the ground surface covered by plants or litter. It includes rockland, eroded land, and shaped or graded land. Barren land does not include fallow land.

Chaparral, Broadleaf - Areas on which the principal vegetation consists of evergreen shrubs with broad, hard, stiff leaves such as manzonita, ceanothus and scrub oak. The brush cover is usually dense or moderately dense.

Chaparral, Narrowleaf - Land on which the principal vegetation consists of diffusely branched evergreen shrubs with fine needle-like leaves such as chamise and redshank. The shrubs are usually widely spaced and low in growth. If the narrowleaf chaparral shrubs are dense and high; the land should be included with broadleaf chaparral cover.

Grass, Annual - Land on which the principal vegetation consists of annual grasses and weeds such as annual bromes, wild barley, soft chess, ryegrass and filaree.

Grass, Perennial - Areas on which the principal vegetation consists of perennial grass, either native or introduced, and which grows under normal dryland conditions. Examples are Stipa or needle grass, Harding grass and wheat grass. It does not include irrigated and meadow grasses.

Meadow - Land areas with seasonally high water table, often called cienegas. Principal vegetation consists of sod-forming grasses interspersed with other plants.

Open Brush - Principal vegetation consists of soft wood shrubs, usually grayish in color. Examples include California buckwheat, California sagebrush, black sage, white sage and purple sage. It also includes vegetation on desert facing slopes where broadleaf chaparral predominate in an open shrub cover.

Woodland - Areas on which coniferous or broadleaf trees predominate. The crown or canopy density, the amount of ground surface shaded at high noon, is at least 50 percent. Open areas may have a cover of annual or perennial grasses or of brush. Plant cover under the trees is usually sparse because of leaf or needle litter accumulation.

Woodland, Grass - Areas with an open cover of broadleaf or coniferous trees usually live oak and pines, with the intervening ground space occupied by annual grasses or weeds. The trees may occur singly or in small clumps. Canopy density, the amount of ground surface shaded at high noon, is from 20 to 50 percent.

URBAN COVERS -

Residential or Commercial Landscaping - The pervious portions of commercial establishments, single and multiple family dwellings, trailer parks and schools where the predominant land cover is lawn, shrubbery and trees.

COVER TYPE DESCRIPTIONS

URBAN COVERS (cont.) -

Turf - Golf courses, parks, cemeteries, and similar lands where the predominant cover is irrigated mowed close-grown turf grass. Parks in which trees are dense may be classified as woodland.

AGRICULTURAL COVER -

Fallow - Fallow land is land plowed but not yet seeded or tilled. It is more effective than barren land in reducing storm runoff.

Legumes, Close Seeded - Alfalfa, sweetclover, timothy, etc. and combinations, either planted in close rows or broadcast.

Orchards, Deciduous - Land planted to such deciduous trees as apples, apricots, pears, walnuts and almonds. The ground cover during the rainy reason alters the hydrologic response to storm rainfall. Ground cover may be annual grass or perennial grass with or without legumes. Occasionally legumes are used alone. Use runoff index numbers which apply to the land use or the kind and condition of cover during storm periods. If orchards are kept bare by disking, or through the use of herbicides, fallow applies.

Orchards, Evergreen - Land planted to evergreen trees which include citrus and avocado orchards and coniferous plantings. The effectiveness of this kind of land use is in part determined by the tree, the litter and the ground cover. In these groves the ground cover may be legumes alone or annual or perennial grasses with or without legumes. The ground cover may be entirely litter if the tree canopy is sufficiently dense to produce a substantial quantity of fallen leaves or needles. As with deciduous orchards, management practices affect the runoff potential of evergreen orchards.

Pasture, Dryland - Equivalent to annual grass. Land on which the principal vegetation consists of annual grasses and weeds such as annual bromes, wild barley, soft chess, ryegrass and filaree.

Pasture, Irrigated - Irrigated land planted to perennial grasses and legumes for production of forage and which is cultivated only to establish or renew the stand of plants.

Row Crops - Lettuce, tomatoes, sugar beets, tulips or any field crop planted in rows far enough apart that most of the soil surface is exposed to rainfall impact throughout the growing season. At plowing, planting and harvest times it is equivalent to fallow.

Small Grain - Wheat, oats, barley, flax, etc. planted in rows close enough that the soil surface is not exposed except during planting and shortly thereafter.

Vineyards - As with orchards, ground cover and land condition must be considered in estimating runoff potential. Use runoff index numbers which apply to the kind and condition of cover. For example either annual grass or fallow may apply.

Reference: Bibliography item No. 17.

**RCFC & WCD**

HYDROLOGY MANUAL

COVER TYPE DESCRIPTIONS

RUNOFF INDEX NUMBERS OF HYDROLOGIC SOIL-COVER COMPLEXES FOR PERVIOUS AREAS-AMC II

| Cover Type (3) | Quality of Cover (2) | Soil Group A | B | C | D |
|---|---|---|---|---|---|
| NATURAL COVERS - | | | | | |
| Barren (Rockland, eroded and graded land) | | 78 | 86 | 91 | 93 |
| Chaparrel, Broadleaf (Manzonita, ceanothus and scrub oak) | Poor | 53 | 70 | 80 | 85 |
| | Fair | 40 | 63 | 75 | 81 |
| | Good | 31 | 57 | 71 | 78 |
| Chaparrel, Narrowleaf (Chamise and redshank) | Poor | 71 | 82 | 88 | 91 |
| | Fair | 55 | 72 | 81 | 86 |
| Grass, Annual or Perennial | Poor | 67 | 78 | 86 | 89 |
| | Fair | 50 | 69 | 79 | 84 |
| | Good | 38 | 61 | 74 | 80 |
| Meadows or Cienegas (Areas with seasonally high water table, principal vegetation is sod forming grass) | Poor | 63 | 77 | 85 | 88 |
| | Fair | 51 | 70 | 80 | 84 |
| | Good | 30 | 58 | 72 | 78 |
| Open Brush (Soft wood shrubs - buckwheat, sage, etc.) | Poor | 62 | 76 | 84 | 88 |
| | Fair | 46 | 66 | 77 | 83 |
| | Good | 41 | 63 | 75 | 81 |
| Woodland (Coniferous or broadleaf trees predominate. Canopy density is at least 50 percent) | Poor | 45 | 66 | 77 | 83 |
| | Fair | 36 | 60 | 73 | 79 |
| | Good | 28 | 55 | 70 | 77 |
| Woodland, Grass (Coniferous or broadleaf trees with canopy density from 20 to 50 percent) | Poor | 57 | 73 | 82 | 86 |
| | Fair | 44 | 65 | 77 | 82 |
| | Good | 33 | 58 | 72 | 79 |
| URBAN COVERS - | | | | | |
| Residential or Commercial Landscaping (Lawn, shrubs, etc.) | Good | 32 | 56 | 69 | 75 |
| Turf (Irrigated and mowed grass) | Poor | 58 | 74 | 83 | 87 |
| | Fair | 44 | 65 | 77 | 82 |
| | Good | 33 | 58 | 72 | 79 |
| AGRICULTURAL COVERS - | | | | | |
| Fallow (Land plowed but not tilled or seeded) | | 76 | 85 | 90 | 92 |

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HYDROLOGY MANUAL

RUNOFF INDEX NUMBERS FOR PERVIOUS AREA

PLATE D-5.5 (1 of 2)

RUNOFF INDEX NUMBERS OF HYDROLOGIC SOIL-COVER COMPLEXES FOR PERVIOUS AREAS-AMC II

| Cover Type (3) | Quality of Cover (2) | Soil Group A | B | C | D |
|---|---|---|---|---|---|
| AGRICULTURAL COVERS (cont.) - | | | | | |
| Legumes, Close Seeded (Alfalfa, sweetclover, timothy, etc.) | Poor | 66 | 77 | 85 | 89 |
| | Good | 58 | 72 | 81 | 85 |
| Orchards, Deciduous (Apples, apricots, pears, walnuts, etc.) | | See Note 4 | | | |
| Orchards, Evergreen (Citrus, avocados, etc.) | Poor | 57 | 73 | 82 | 86 |
| | Fair | 44 | 65 | 77 | 82 |
| | Good | 33 | 58 | 72 | 79 |
| Pasture, Dryland (Annual grasses) | Poor | 67 | 78 | 86 | 89 |
| | Fair | 50 | 69 | 79 | 84 |
| | Good | 38 | 61 | 74 | 80 |
| Pasture, Irrigated (Legumes and perennial grass) | Poor | 58 | 74 | 83 | 87 |
| | Fair | 44 | 65 | 77 | 82 |
| | Good | 33 | 58 | 72 | 79 |
| Row Crops (Field crops - tomatoes, sugar beets, etc.) | Poor | 72 | 81 | 88 | 91 |
| | Good | 67 | 78 | 85 | 89 |
| Small Grain (Wheat, oats, barley, etc.) | Poor | 65 | 76 | 84 | 88 |
| | Good | 63 | 75 | 83 | 87 |
| Vineyard | | See Note 4 | | | |

Notes:

1. All runoff index (RI) numbers are for Antecedent Moisture Condition (AMC) II.

2. Quality of cover definitions:
   Poor-Heavily grazed or regularly burned areas. Less than 50 percent of the ground surface is protected by plant cover or brush and tree canopy.
   Fair-Moderate cover with 50 percent to 75 percent of the ground surface protected.
   Good-Heavy or dense cover with more than 75 percent of the ground surface protected.

3. See Plate C-2 for a detailed description of cover types.

4. Use runoff index numbers based on ground cover type. See discussion under "Cover Type Descriptions" on Plate C-2.

5. Reference Bibliography item 17.

ACTUAL IMPERVIOUS COVER

| Land Use (1) | Range-Percent | Recommended Value For Average Conditions-Percent(2) |
|---|---|---|
| Natural or Agriculture | 0 - 10 | 0 |
| Single Family Residential: (3) | | |
| 40,000 S. F. (1 Acre) Lots | 10 - 25 | 20 |
| 20,000 S. F. (½ Acre) Lots | 30 - 45 | 40 |
| 7,200 - 10,000 S. F. Lots | 45 - 55 | 50 |
| Multiple Family Residential: | | |
| Condominiums | 45 - 70 | 65 |
| Apartments | 65 - 90 | 80 |
| Mobile Home Park | 60 - 85 | 75 |
| Commercial, Downtown Business or Industrial | 80 -100 | 90 |

Notes:

1. Land use should be based on ultimate development of the watershed. Long range master plans for the County and incorporated cities should be reviewed to insure reasonable land use assumptions.

2. Recommended values are based on average conditions which may not apply to a particular study area. The percentage impervious may vary greatly even on comparable sized lots due to differences in dwelling size, improvements, etc. Landscape practices should also be considered as it is common in some areas to use ornamental gravels underlain by impervious plastic materials in place of lawns and shrubs. A field investigation of a study area should always be made, and a review of aerial photos, where available may assist in estimating the percentage of impervious cover in developed areas.

3. For typical horse ranch subdivisions increase impervious area 5 percent over the values recommended in the table above.

**RCFC & WCD**
HYDROLOGY MANUAL

IMPERVIOUS COVER FOR DEVELOPED AREAS

PLATE D-5.6

# ATTACHMENT NO. 3

Historical Conditions
100-Year Unit Hydrograph Calculations

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/19/17 File: EX11100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORICAL CONDITIONS AREA 1
100-YEAR STORM EVENT
BY: JDN, DATE: 12-19-17

---

Drainage Area = 2855.40(Ac.) = 4.462 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2855.40(Ac.) = 4.462 Sq. Mi.
Length along longest watercourse = 15691.00(Ft.)
Length along longest watercourse measured to centroid = 7916.00(Ft.)
Length along longest watercourse = 2.972 Mi.
Length along longest watercourse measured to centroid = 1.499 Mi.
Difference in elevation = 575.00(Ft.)
Slope along watercourse = 193.4867 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.545 Hr.
Lag time = 32.70 Min.
25% of lag time = 8.17 Min.
40% of lag time = 13.08 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2855.40 | 0.52 | 1484.81 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2855.40 | 1.20 | 3426.48 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.520(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 97.41 %
Adjusted average point rain = 1.169(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2855.400 | 80.59 | 0.000 |

Total Area Entered = 2855.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 80.6 | 91.4 | 0.112 | 0.000 | 0.112 | 1.000 | 0.112 |
| | | | | | Sum (F) = | 0.112 |

Area averaged mean soil loss (F) (In/Hr) = 0.112

Minimum soil loss rate ((In/Hr)) = 0.056
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 15.291 | 0.969 | 27.873 |
| 2 | 0.167 | 30.581 | 2.470 | 71.074 |
| 3 | 0.250 | 45.872 | 3.529 | 101.558 |
| 4 | 0.333 | 61.163 | 4.687 | 134.867 |
| 5 | 0.417 | 76.453 | 6.882 | 198.049 |
| 6 | 0.500 | 91.744 | 10.344 | 297.674 |
| 7 | 0.583 | 107.034 | 19.083 | 549.146 |
| 8 | 0.667 | 122.325 | 11.023 | 317.218 |
| 9 | 0.750 | 137.616 | 6.510 | 187.339 |
| 10 | 0.833 | 152.906 | 5.004 | 143.992 |
| 11 | 0.917 | 168.197 | 3.890 | 111.941 |
| 12 | 1.000 | 183.488 | 3.486 | 100.320 |
| 13 | 1.083 | 198.778 | 2.892 | 83.228 |
| 14 | 1.167 | 214.069 | 2.555 | 73.513 |
| 15 | 1.250 | 229.360 | 2.189 | 62.990 |
| 16 | 1.333 | 244.650 | 1.929 | 55.501 |
| 17 | 1.417 | 259.941 | 1.757 | 50.571 |
| 18 | 1.500 | 275.231 | 1.490 | 42.887 |
| 19 | 1.583 | 290.522 | 1.342 | 38.616 |
| 20 | 1.667 | 305.813 | 1.206 | 34.693 |
| 21 | 1.750 | 321.103 | 1.026 | 29.514 |
| 22 | 1.833 | 336.394 | 0.911 | 26.207 |
| 23 | 1.917 | 351.685 | 0.741 | 21.328 |
| 24 | 2.000 | 366.975 | 0.660 | 18.994 |
| 25 | 2.083 | 382.266 | 0.591 | 17.005 |
| 26 | 2.167 | 397.557 | 0.453 | 13.048 |
| 27 | 2.250 | 412.847 | 0.342 | 9.836 |
| 28 | 2.333 | 428.138 | 0.187 | 5.370 |
| 29 | 2.417 | 443.428 | 0.183 | 5.280 |
| 30 | 2.500 | 458.719 | 0.179 | 5.137 |
| 31 | 2.583 | 474.010 | 0.156 | 4.481 |
| 32 | 2.667 | 489.300 | 0.153 | 4.400 |
| 33 | 2.750 | 504.591 | 0.150 | 4.321 |
| 34 | 2.833 | 519.882 | 0.107 | 3.071 |
| 35 | 2.917 | 535.172 | 0.092 | 2.640 |
| 36 | 3.000 | 550.463 | 0.092 | 2.641 |
| 37 | 3.083 | 565.754 | 0.108 | 3.106 |
| 38 | 3.167 | 581.044 | 0.122 | 3.520 |
| 39 | 3.250 | 596.335 | 0.122 | 3.520 |
| 40 | 3.333 | 611.625 | 0.105 | 3.011 |
| 41 | 3.417 | 626.916 | 0.063 | 1.811 |
| 42 | 3.500 | 642.207 | 0.061 | 1.760 |
| 43 | 3.583 | 657.497 | 0.057 | 1.654 |
| 44 | 3.667 | 672.788 | 0.035 | 0.994 |
| 45 | 3.750 | 688.079 | 0.031 | 0.880 |
| 46 | 3.833 | 703.369 | 0.039 | 1.126 |
| | | | Sum = 100.000 | Sum= 2877.708 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 4.20 | 0.589 | 0.112 | ( 0.530) | 0.477 |
| 2 0.17 | 4.30 | 0.603 | 0.112 | ( 0.543) | 0.491 |
| 3 0.25 | 5.00 | 0.701 | 0.112 | ( 0.631) | 0.589 |
| 4 0.33 | 5.00 | 0.701 | 0.112 | ( 0.631) | 0.589 |
| 5 0.42 | 5.80 | 0.814 | 0.112 | ( 0.732) | 0.701 |
| 6 0.50 | 6.50 | 0.912 | 0.112 | ( 0.821) | 0.799 |
| 7 0.58 | 7.40 | 1.038 | 0.112 | ( 0.934) | 0.926 |
| 8 0.67 | 8.60 | 1.206 | 0.112 | ( 1.086) | 1.094 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 9 | 0.75 | 12.30 | 1.725 | 0.112 | ( 1.553) | 1.613 |
| 10 | 0.83 | 29.10 | 4.082 | 0.112 | ( 3.674) | 3.970 |
| 11 | 0.92 | 6.80 | 0.954 | 0.112 | ( 0.858) | 0.841 |
| 12 | 1.00 | 5.00 | 0.701 | 0.112 | ( 0.631) | 0.589 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 12.7

Flood volume = Effective rainfall 1.06(In)
times area 2855.4(Ac.)/[(In)/(Ft.)] = 251.4(Ac.Ft)
Total soil loss = 0.11(In)
Total soil loss = 26.745(Ac.Ft)
Total rainfall = 1.17(In)
Flood volume = 10951243.6 Cubic Feet
Total soil loss = 1165016.7 Cubic Feet

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Peak flow rate of this hydrograph = 3708.320(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 950.0 | 1900.0 | 2850.0 | 3800.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0916 | 13.30 | Q | | | | |
| 0+10 | 0.4193 | 47.59 | Q | | | | |
| 0+15 | 1.1064 | 99.77 | VQ | | | | |
| 0+20 | 2.2945 | 172.51 | VQ | | | | |
| 0+25 | 4.2365 | 281.98 | V Q | | | | |
| 0+30 | 7.3405 | 450.71 | \|V Q | | | | |
| 0+35 | 12.5623 | 758.19 | \|V Q | | | | |
| 0+40 | 19.3477 | 985.25 | \| V Q | | | | |
| 0+45 | 27.6657 | 1207.77 | \| V \| Q | | | | |
| 0+50 | 37.9955 | 1499.89 | \| V \| Q | | | | |
| 0+55 | 50.7051 | 1845.42 | \| V \| Q | | | | |
| 1+ 0 | 65.5089 | 2149.52 | \| V \| Q | | | | |
| 1+ 5 | 82.3266 | 2441.93 | \| \| V \| Q | | | | |
| 1+10 | 101.5212 | 2787.05 | \| \| V \| Q | | | | |
| 1+15 | 123.5830 | 3203.37 | \| \| V \| Q | | | | |
| 1+20 | 149.1223 | 3708.32 | \| \| \| V \| Q | | | | |
| 1+25 | 167.9353 | 2731.64 | \| \| \| V Q \| | | | | |
| 1+30 | 181.8179 | 2015.76 | \| \| \|Q V \| | | | | |
| 1+35 | 192.0730 | 1489.03 | \| \| Q \| V \| | | | | |
| 1+40 | 200.1803 | 1177.18 | \| \| Q \| \|V \| | | | | |
| 1+45 | 207.1337 | 1009.64 | \| \| Q \| \| V \| | | | | |
| 1+50 | 213.0613 | 860.68 | \| \| Q\| \| V \| | | | | |
| 1+55 | 218.2449 | 752.66 | \| Q \| \| V \| | | | | |
| 2+ 0 | 222.7444 | 653.33 | \| Q \| \| V \| | | | | |
| 2+ 5 | 226.7044 | 575.00 | \| Q \| \| V \| | | | | |
| 2+10 | 230.2074 | 508.62 | \| Q \| \| V \| | | | | |
| 2+15 | 233.2478 | 441.47 | \| Q \| \| V \| | | | | |
| 2+20 | 235.9153 | 387.32 | \| Q \| \| V \| | | | | |
| 2+25 | 238.2390 | 337.40 | \| Q \| \| V \| | | | | |
| 2+30 | 240.2305 | 289.17 | \| Q \| \| V \| | | | | |
| 2+35 | 241.9426 | 248.60 | \| Q \| \| V \| | | | | |
| 2+40 | 243.3722 | 207.58 | \| Q \| \| V \| | | | | |
| 2+45 | 244.5951 | 177.56 | \|Q \| \| V \| | | | | |
| 2+50 | 245.6250 | 149.54 | \|Q \| \| V\| | | | | |
| 2+55 | 246.4454 | 119.13 | \|Q \| \| V\| | | | | |
| 3+ 0 | 247.0849 | 92.85 | Q \| \| V\| | | | | |
| 3+ 5 | 247.5552 | 68.29 | Q \| \| V\| | | | | |
| 3+10 | 247.9718 | 60.49 | Q \| \| V\| | | | | |
| 3+15 | 248.3517 | 55.17 | Q \| \| V\| | | | | |
| 3+20 | 248.7025 | 50.94 | Q \| \| V\| | | | | |
| 3+25 | 249.0320 | 47.84 | Q \| \| V\| | | | | |
| 3+30 | 249.3373 | 44.33 | Q \| \| V\| | | | | |
| 3+35 | 249.6006 | 38.24 | Q \| \| V\| | | | | |
| 3+40 | 249.8407 | 34.86 | Q \| \| V\| | | | | |
| 3+45 | 250.0696 | 33.24 | Q \| \| V\| | | | | |
| 3+50 | 250.3014 | 33.65 | Q \| \| V\| | | | | |
| 3+55 | 250.5289 | 33.03 | Q \| \| V\| | | | | |
| 4+ 0 | 250.7386 | 30.45 | Q \| \| V\| | | | | |
| 4+ 5 | 250.9139 | 25.46 | Q \| \| V\| | | | | |
| 4+10 | 251.0438 | 18.87 | Q \| \| V\| | | | | |
| 4+15 | 251.1524 | 15.76 | Q \| \| V\| | | | | |
| 4+20 | 251.2401 | 12.73 | Q \| \| V\| | | | | |
| 4+25 | 251.3023 | 9.03 | Q \| \| V\| | | | | |

```
    4+30     251.3513      7.12  Q          |          |          |         V|
    4+35     251.3913      5.80  Q          |          |          |         V|
    4+40     251.4014      1.47  Q          |          |          |         V|
    4+45     251.4060      0.66  Q          |          |          |          V
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U n i t  H y d r o g r a p h  A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 1
100-YEAR STORM EVENT
BY: JDN, DATE: 12-19-17

---

Drainage Area = 2855.40(Ac.) = 4.462 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2855.40(Ac.) = 4.462 Sq. Mi.
Length along longest watercourse = 15691.00(Ft.)
Length along longest watercourse measured to centroid = 7916.00(Ft.)
Length along longest watercourse = 2.972 Mi.
Length along longest watercourse measured to centroid = 1.499 Mi.
Difference in elevation = 575.00(Ft.)
Slope along watercourse = 193.4867 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.545 Hr.
Lag time = 32.70 Min.
25% of lag time = 8.17 Min.
40% of lag time = 13.08 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2855.40 | 0.86 | 2455.64 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2855.40 | 1.86 | 5311.04 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.860(In)
Area Averaged 100-Year Rainfall = 1.860(In)

Point rain (area averaged) = 1.860(In)
Areal adjustment factor = 98.75 %
Adjusted average point rain = 1.837(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2855.400 | 80.59 | 0.000 |

Total Area Entered = 2855.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 80.6 | 91.4 | 0.112 | 0.000 | 0.112 | 1.000 | 0.112 |
| | | | | | Sum (F) = | 0.112 |

Area averaged mean soil loss (F) (In/Hr) = 0.112

Minimum soil loss rate ((In/Hr)) = 0.056
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 15.291 | 0.969 | 27.873 |
| 2 0.167 | 30.581 | 2.470 | 71.074 |
| 3 0.250 | 45.872 | 3.529 | 101.558 |
| 4 0.333 | 61.163 | 4.687 | 134.867 |
| 5 0.417 | 76.453 | 6.882 | 198.049 |
| 6 0.500 | 91.744 | 10.344 | 297.674 |
| 7 0.583 | 107.034 | 19.083 | 549.146 |
| 8 0.667 | 122.325 | 11.023 | 317.218 |
| 9 0.750 | 137.616 | 6.510 | 187.339 |
| 10 0.833 | 152.906 | 5.004 | 143.992 |
| 11 0.917 | 168.197 | 3.890 | 111.941 |
| 12 1.000 | 183.488 | 3.486 | 100.320 |
| 13 1.083 | 198.778 | 2.892 | 83.228 |
| 14 1.167 | 214.069 | 2.555 | 73.513 |
| 15 1.250 | 229.360 | 2.189 | 62.990 |
| 16 1.333 | 244.650 | 1.929 | 55.501 |
| 17 1.417 | 259.941 | 1.757 | 50.571 |
| 18 1.500 | 275.231 | 1.490 | 42.887 |
| 19 1.583 | 290.522 | 1.342 | 38.616 |
| 20 1.667 | 305.813 | 1.206 | 34.693 |
| 21 1.750 | 321.103 | 1.026 | 29.514 |
| 22 1.833 | 336.394 | 0.911 | 26.207 |
| 23 1.917 | 351.685 | 0.741 | 21.328 |
| 24 2.000 | 366.975 | 0.660 | 18.994 |
| 25 2.083 | 382.266 | 0.591 | 17.005 |
| 26 2.167 | 397.557 | 0.453 | 13.048 |
| 27 2.250 | 412.847 | 0.342 | 9.836 |
| 28 2.333 | 428.138 | 0.187 | 5.370 |
| 29 2.417 | 443.428 | 0.183 | 5.280 |
| 30 2.500 | 458.719 | 0.179 | 5.137 |
| 31 2.583 | 474.010 | 0.156 | 4.481 |
| 32 2.667 | 489.300 | 0.153 | 4.400 |
| 33 2.750 | 504.591 | 0.150 | 4.321 |
| 34 2.833 | 519.882 | 0.107 | 3.071 |
| 35 2.917 | 535.172 | 0.092 | 2.640 |
| 36 3.000 | 550.463 | 0.092 | 2.641 |
| 37 3.083 | 565.754 | 0.108 | 3.106 |
| 38 3.167 | 581.044 | 0.122 | 3.520 |
| 39 3.250 | 596.335 | 0.122 | 3.520 |
| 40 3.333 | 611.625 | 0.105 | 3.011 |
| 41 3.417 | 626.916 | 0.063 | 1.811 |
| 42 3.500 | 642.207 | 0.061 | 1.760 |
| 43 3.583 | 657.497 | 0.057 | 1.654 |
| 44 3.667 | 672.788 | 0.035 | 0.994 |
| 45 3.750 | 688.079 | 0.031 | 0.880 |
| 46 3.833 | 703.369 | 0.039 | 1.126 |
| | | Sum = 100.000 | Sum= 2877.708 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 1.30 | 0.287 | 0.112 | ( 0.258) | 0.174 |
| 2 0.17 | 1.30 | 0.287 | 0.112 | ( 0.258) | 0.174 |
| 3 0.25 | 1.10 | 0.242 | 0.112 | ( 0.218) | 0.130 |
| 4 0.33 | 1.50 | 0.331 | 0.112 | ( 0.298) | 0.218 |
| 5 0.42 | 1.50 | 0.331 | 0.112 | ( 0.298) | 0.218 |
| 6 0.50 | 1.80 | 0.397 | 0.112 | ( 0.357) | 0.284 |
| 7 0.58 | 1.50 | 0.331 | 0.112 | ( 0.298) | 0.218 |
| 8 0.67 | 1.80 | 0.397 | 0.112 | ( 0.357) | 0.284 |
| 9 0.75 | 1.80 | 0.397 | 0.112 | ( 0.357) | 0.284 |
| 10 0.83 | 1.50 | 0.331 | 0.112 | ( 0.298) | 0.218 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 11 | 0.92 | 1.60 | 0.353 | 0.112 | ( | 0.317) | 0.240 |
| 12 | 1.00 | 1.80 | 0.397 | 0.112 | ( | 0.357) | 0.284 |
| 13 | 1.08 | 2.20 | 0.485 | 0.112 | ( | 0.436) | 0.373 |
| 14 | 1.17 | 2.20 | 0.485 | 0.112 | ( | 0.436) | 0.373 |
| 15 | 1.25 | 2.20 | 0.485 | 0.112 | ( | 0.436) | 0.373 |
| 16 | 1.33 | 2.00 | 0.441 | 0.112 | ( | 0.397) | 0.328 |
| 17 | 1.42 | 2.60 | 0.573 | 0.112 | ( | 0.516) | 0.461 |
| 18 | 1.50 | 2.70 | 0.595 | 0.112 | ( | 0.536) | 0.483 |
| 19 | 1.58 | 2.40 | 0.529 | 0.112 | ( | 0.476) | 0.417 |
| 20 | 1.67 | 2.70 | 0.595 | 0.112 | ( | 0.536) | 0.483 |
| 21 | 1.75 | 3.30 | 0.727 | 0.112 | ( | 0.655) | 0.615 |
| 22 | 1.83 | 3.10 | 0.683 | 0.112 | ( | 0.615) | 0.571 |
| 23 | 1.92 | 2.90 | 0.639 | 0.112 | ( | 0.575) | 0.527 |
| 24 | 2.00 | 3.00 | 0.661 | 0.112 | ( | 0.595) | 0.549 |
| 25 | 2.08 | 3.10 | 0.683 | 0.112 | ( | 0.615) | 0.571 |
| 26 | 2.17 | 4.20 | 0.926 | 0.112 | ( | 0.833) | 0.813 |
| 27 | 2.25 | 5.00 | 1.102 | 0.112 | ( | 0.992) | 0.990 |
| 28 | 2.33 | 3.50 | 0.771 | 0.112 | ( | 0.694) | 0.659 |
| 29 | 2.42 | 6.80 | 1.499 | 0.112 | ( | 1.349) | 1.386 |
| 30 | 2.50 | 7.30 | 1.609 | 0.112 | ( | 1.448) | 1.497 |
| 31 | 2.58 | 8.20 | 1.807 | 0.112 | ( | 1.627) | 1.695 |
| 32 | 2.67 | 5.90 | 1.300 | 0.112 | ( | 1.170) | 1.188 |
| 33 | 2.75 | 2.00 | 0.441 | 0.112 | ( | 0.397) | 0.328 |
| 34 | 2.83 | 1.80 | 0.397 | 0.112 | ( | 0.357) | 0.284 |
| 35 | 2.92 | 1.80 | 0.397 | 0.112 | ( | 0.357) | 0.284 |
| 36 | 3.00 | 0.60 | 0.132 | 0.112 | ( | 0.119) | 0.020 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 18.0

Flood volume = Effective rainfall 1.50(In)
times area 2855.4(Ac.)/[(In)/(Ft.)] = 356.8(Ac.Ft)
Total soil loss = 0.34(In)
Total soil loss = 80.235(Ac.Ft)
Total rainfall = 1.84(In)
Flood volume = 15543197.9 Cubic Feet
Total soil loss = 3495050.2 Cubic Feet

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Peak flow rate of this hydrograph = 2795.783(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 700.0 | 1400.0 | 2100.0 | 2800.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0334 | 4.86 | Q | \| | \| | \| | \| |
| 0+10 | 0.1522 | 17.24 | Q | \| | \| | \| | \| |
| 0+15 | 0.3843 | 33.70 | Q | \| | \| | \| | \| |
| 0+20 | 0.7736 | 56.53 | Q | \| | \| | \| | \| |
| 0+25 | 1.4129 | 92.82 | VQ | \| | \| | \| | \| |
| 0+30 | 2.4427 | 149.54 | V Q | \| | \| | \| | \| |
| 0+35 | 4.1730 | 251.23 | V Q | \| | \| | \| | \| |
| 0+40 | 6.3404 | 314.70 | V Q | \| | \| | \| | \| |
| 0+45 | 8.7942 | 356.29 | V Q | \| | \| | \| | \| |
| 0+50 | 11.7203 | 424.88 | \|V Q | \| | \| | \| | \| |
| 0+55 | 14.9953 | 475.53 | \|V Q | \| | \| | \| | \| |
| 1+ 0 | 18.6385 | 529.00 | \| V Q | \| | \| | \| | \| |
| 1+ 5 | 22.4576 | 554.52 | \| V Q | \| | \| | \| | \| |
| 1+10 | 26.5976 | 601.14 | \| V Q | \| | \| | \| | \| |
| 1+15 | 30.9708 | 634.99 | \| V Q\| | \| | \| | \| | \| |
| 1+20 | 35.4383 | 648.67 | \| V Q\| | \| | \| | \| | \| |
| 1+25 | 40.2056 | 692.22 | \| V Q\| | \| | \| | \| | \| |
| 1+30 | 45.4377 | 759.70 | \| V Q | \| | \| | \| | \| |
| 1+35 | 51.2182 | 839.33 | \| V \|Q | \| | \| | \| | \| |
| 1+40 | 57.3701 | 893.26 | \| V \| Q | \| | \| | \| | \| |
| 1+45 | 63.8528 | 941.28 | \| V \| Q | \| | \| | \| | \| |
| 1+50 | 70.6807 | 991.41 | \| V \| Q | \| | \| | \| | \| |
| 1+55 | 78.1287 | 1081.45 | \| V \| Q | \| | \| | \| | \| |
| 2+ 0 | 86.0441 | 1149.32 | \| V\| Q | \| | \| | \| | \| |
| 2+ 5 | 94.2486 | 1191.29 | \| V Q | \| | \| | \| | \| |
| 2+10 | 103.0146 | 1272.82 | \| \|V Q | \| | \| | \| | \| |
| 2+15 | 112.5472 | 1384.14 | \| \| V Q\| | \| | \| | \| | \| |
| 2+20 | 122.5197 | 1448.01 | \| \| V Q | \| | \| | \| | \| |
| 2+25 | 132.9409 | 1513.15 | \| \| V \|Q | \| | \| | \| | \| |
| 2+30 | 144.2241 | 1638.32 | \| \| V \| Q | \| | \| | \| | \| |
| 2+35 | 156.7719 | 1821.94 | \| \| V \| Q | \| | \| | \| | \| |

| | | | |
|---|---|---|---|
| 2+40 | 171.0775 | 2077.18 | |
| 2+45 | 186.8620 | 2291.90 | |
| 2+50 | 203.2518 | 2379.81 | |
| 2+55 | 221.6397 | 2669.92 | |
| 3+ 0 | 240.8944 | 2795.78 | |
| 3+ 5 | 259.7484 | 2737.60 | |
| 3+10 | 276.0370 | 2365.11 | |
| 3+15 | 288.5938 | 1823.24 | |
| 3+20 | 298.9102 | 1497.95 | |
| 3+25 | 307.6397 | 1267.52 | |
| 3+30 | 314.6413 | 1016.63 | |
| 3+35 | 320.4562 | 844.32 | |
| 3+40 | 325.4208 | 720.87 | |
| 3+45 | 329.7290 | 625.55 | |
| 3+50 | 333.4846 | 545.31 | |
| 3+55 | 336.7610 | 475.74 | |
| 4+ 0 | 339.6189 | 414.96 | |
| 4+ 5 | 342.1022 | 360.58 | |
| 4+10 | 344.2716 | 315.00 | |
| 4+15 | 346.1430 | 271.73 | |
| 4+20 | 347.7420 | 232.18 | |
| 4+25 | 349.1062 | 198.08 | |
| 4+30 | 350.2582 | 167.27 | |
| 4+35 | 351.2313 | 141.30 | |
| 4+40 | 352.0270 | 115.53 | |
| 4+45 | 352.6687 | 93.17 | |
| 4+50 | 353.1952 | 76.45 | |
| 4+55 | 353.6412 | 64.75 | |
| 5+ 0 | 354.0335 | 56.96 | |
| 5+ 5 | 354.3819 | 50.59 | |
| 5+10 | 354.6926 | 45.12 | |
| 5+15 | 354.9755 | 41.08 | |
| 5+20 | 355.2285 | 36.74 | |
| 5+25 | 355.4574 | 33.22 | |
| 5+30 | 355.6718 | 31.14 | |
| 5+35 | 355.8745 | 29.43 | |
| 5+40 | 356.0647 | 27.62 | |
| 5+45 | 356.2333 | 24.49 | |
| 5+50 | 356.3760 | 20.72 | |
| 5+55 | 356.4939 | 17.12 | |
| 6+ 0 | 356.5886 | 13.74 | |
| 6+ 5 | 356.6635 | 10.87 | |
| 6+10 | 356.7224 | 8.55 | |
| 6+15 | 356.7635 | 5.98 | |
| 6+20 | 356.7931 | 4.29 | |
| 6+25 | 356.8097 | 2.42 | |
| 6+30 | 356.8162 | 0.94 | |
| 6+35 | 356.8202 | 0.59 | |
| 6+40 | 356.8226 | 0.34 | |
| 6+45 | 356.8227 | 0.02 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/19/17 File: EX16100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 1
100-YEAR STORM EVENT
BY: JDN, DATE: 12-19-17

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Drainage Area = 2855.40(Ac.) = 4.462 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2855.40(Ac.) = 4.462 Sq. Mi.
Length along longest watercourse = 15691.00(Ft.)
Length along longest watercourse measured to centroid = 7916.00(Ft.)
Length along longest watercourse = 2.972 Mi.
Length along longest watercourse measured to centroid = 1.499 Mi.
Difference in elevation = 575.00(Ft.)
Slope along watercourse = 193.4867 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.545 Hr.
Lag time = 32.70 Min.
25% of lag time = 8.17 Min.
40% of lag time = 13.08 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2855.40 | 1.20 | 3426.48 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2855.40 | 2.51 | 7167.05 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.200(In)
Area Averaged 100-Year Rainfall = 2.510(In)

Point rain (area averaged) = 2.510(In)
Areal adjustment factor = 99.02 %
Adjusted average point rain = 2.485(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2855.400 | 80.59 | 0.000 |

Total Area Entered = 2855.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 80.6 | 91.4 | 0.112 | 0.000 | 0.112 | 1.000 | 0.112 |
| | | | | | Sum (F) = | 0.112 |

Area averaged mean soil loss (F) (In/Hr) = 0.112

Minimum soil loss rate ((In/Hr)) = 0.056
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 15.291 | 0.969 | 27.873 |
| 2 0.167 | 30.581 | 2.470 | 71.074 |
| 3 0.250 | 45.872 | 3.529 | 101.558 |
| 4 0.333 | 61.163 | 4.687 | 134.867 |
| 5 0.417 | 76.453 | 6.882 | 198.049 |
| 6 0.500 | 91.744 | 10.344 | 297.674 |
| 7 0.583 | 107.034 | 19.083 | 549.146 |
| 8 0.667 | 122.325 | 11.023 | 317.218 |
| 9 0.750 | 137.616 | 6.510 | 187.339 |
| 10 0.833 | 152.906 | 5.004 | 143.992 |
| 11 0.917 | 168.197 | 3.890 | 111.941 |
| 12 1.000 | 183.488 | 3.486 | 100.320 |
| 13 1.083 | 198.778 | 2.892 | 83.228 |
| 14 1.167 | 214.069 | 2.555 | 73.513 |
| 15 1.250 | 229.360 | 2.189 | 62.990 |
| 16 1.333 | 244.650 | 1.929 | 55.501 |
| 17 1.417 | 259.941 | 1.757 | 50.571 |
| 18 1.500 | 275.231 | 1.490 | 42.887 |
| 19 1.583 | 290.522 | 1.342 | 38.616 |
| 20 1.667 | 305.813 | 1.206 | 34.693 |
| 21 1.750 | 321.103 | 1.026 | 29.514 |
| 22 1.833 | 336.394 | 0.911 | 26.207 |
| 23 1.917 | 351.685 | 0.741 | 21.328 |
| 24 2.000 | 366.975 | 0.660 | 18.994 |
| 25 2.083 | 382.266 | 0.591 | 17.005 |
| 26 2.167 | 397.557 | 0.453 | 13.048 |
| 27 2.250 | 412.847 | 0.342 | 9.836 |
| 28 2.333 | 428.138 | 0.187 | 5.370 |
| 29 2.417 | 443.428 | 0.183 | 5.280 |
| 30 2.500 | 458.719 | 0.179 | 5.137 |
| 31 2.583 | 474.010 | 0.156 | 4.481 |
| 32 2.667 | 489.300 | 0.153 | 4.400 |
| 33 2.750 | 504.591 | 0.150 | 4.321 |
| 34 2.833 | 519.882 | 0.107 | 3.071 |
| 35 2.917 | 535.172 | 0.092 | 2.640 |
| 36 3.000 | 550.463 | 0.092 | 2.641 |
| 37 3.083 | 565.754 | 0.108 | 3.106 |
| 38 3.167 | 581.044 | 0.122 | 3.520 |
| 39 3.250 | 596.335 | 0.122 | 3.520 |
| 40 3.333 | 611.625 | 0.105 | 3.011 |
| 41 3.417 | 626.916 | 0.063 | 1.811 |
| 42 3.500 | 642.207 | 0.061 | 1.760 |
| 43 3.583 | 657.497 | 0.057 | 1.654 |
| 44 3.667 | 672.788 | 0.035 | 0.994 |
| 45 3.750 | 688.079 | 0.031 | 0.880 |
| 46 3.833 | 703.369 | 0.039 | 1.126 |
| | | Sum = 100.000 | Sum= 2877.708 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 0.50 | 0.149 | 0.112 | ( 0.134) | 0.037 |
| 2 0.17 | 0.60 | 0.179 | 0.112 | ( 0.161) | 0.067 |
| 3 0.25 | 0.60 | 0.179 | 0.112 | ( 0.161) | 0.067 |
| 4 0.33 | 0.60 | 0.179 | 0.112 | ( 0.161) | 0.067 |
| 5 0.42 | 0.60 | 0.179 | 0.112 | ( 0.161) | 0.067 |
| 6 0.50 | 0.70 | 0.209 | 0.112 | ( 0.188) | 0.096 |
| 7 0.58 | 0.70 | 0.209 | 0.112 | ( 0.188) | 0.096 |
| 8 0.67 | 0.70 | 0.209 | 0.112 | ( 0.188) | 0.096 |
| 9 0.75 | 0.70 | 0.209 | 0.112 | ( 0.188) | 0.096 |
| 10 0.83 | 0.70 | 0.209 | 0.112 | ( 0.188) | 0.096 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 11 | 0.92 | 0.70 | 0.209 | 0.112 | ( 0.188) | 0.096 |
| 12 | 1.00 | 0.80 | 0.239 | 0.112 | ( 0.215) | 0.126 |
| 13 | 1.08 | 0.80 | 0.239 | 0.112 | ( 0.215) | 0.126 |
| 14 | 1.17 | 0.80 | 0.239 | 0.112 | ( 0.215) | 0.126 |
| 15 | 1.25 | 0.80 | 0.239 | 0.112 | ( 0.215) | 0.126 |
| 16 | 1.33 | 0.80 | 0.239 | 0.112 | ( 0.215) | 0.126 |
| 17 | 1.42 | 0.80 | 0.239 | 0.112 | ( 0.215) | 0.126 |
| 18 | 1.50 | 0.80 | 0.239 | 0.112 | ( 0.215) | 0.126 |
| 19 | 1.58 | 0.80 | 0.239 | 0.112 | ( 0.215) | 0.126 |
| 20 | 1.67 | 0.80 | 0.239 | 0.112 | ( 0.215) | 0.126 |
| 21 | 1.75 | 0.80 | 0.239 | 0.112 | ( 0.215) | 0.126 |
| 22 | 1.83 | 0.80 | 0.239 | 0.112 | ( 0.215) | 0.126 |
| 23 | 1.92 | 0.80 | 0.239 | 0.112 | ( 0.215) | 0.126 |
| 24 | 2.00 | 0.90 | 0.268 | 0.112 | ( 0.242) | 0.156 |
| 25 | 2.08 | 0.80 | 0.239 | 0.112 | ( 0.215) | 0.126 |
| 26 | 2.17 | 0.90 | 0.268 | 0.112 | ( 0.242) | 0.156 |
| 27 | 2.25 | 0.90 | 0.268 | 0.112 | ( 0.242) | 0.156 |
| 28 | 2.33 | 0.90 | 0.268 | 0.112 | ( 0.242) | 0.156 |
| 29 | 2.42 | 0.90 | 0.268 | 0.112 | ( 0.242) | 0.156 |
| 30 | 2.50 | 0.90 | 0.268 | 0.112 | ( 0.242) | 0.156 |
| 31 | 2.58 | 0.90 | 0.268 | 0.112 | ( 0.242) | 0.156 |
| 32 | 2.67 | 0.90 | 0.268 | 0.112 | ( 0.242) | 0.156 |
| 33 | 2.75 | 1.00 | 0.298 | 0.112 | ( 0.268) | 0.186 |
| 34 | 2.83 | 1.00 | 0.298 | 0.112 | ( 0.268) | 0.186 |
| 35 | 2.92 | 1.00 | 0.298 | 0.112 | ( 0.268) | 0.186 |
| 36 | 3.00 | 1.00 | 0.298 | 0.112 | ( 0.268) | 0.186 |
| 37 | 3.08 | 1.00 | 0.298 | 0.112 | ( 0.268) | 0.186 |
| 38 | 3.17 | 1.10 | 0.328 | 0.112 | ( 0.295) | 0.216 |
| 39 | 3.25 | 1.10 | 0.328 | 0.112 | ( 0.295) | 0.216 |
| 40 | 3.33 | 1.10 | 0.328 | 0.112 | ( 0.295) | 0.216 |
| 41 | 3.42 | 1.20 | 0.358 | 0.112 | ( 0.322) | 0.245 |
| 42 | 3.50 | 1.30 | 0.388 | 0.112 | ( 0.349) | 0.275 |
| 43 | 3.58 | 1.40 | 0.418 | 0.112 | ( 0.376) | 0.305 |
| 44 | 3.67 | 1.40 | 0.418 | 0.112 | ( 0.376) | 0.305 |
| 45 | 3.75 | 1.50 | 0.447 | 0.112 | ( 0.403) | 0.335 |
| 46 | 3.83 | 1.50 | 0.447 | 0.112 | ( 0.403) | 0.335 |
| 47 | 3.92 | 1.60 | 0.477 | 0.112 | ( 0.429) | 0.365 |
| 48 | 4.00 | 1.60 | 0.477 | 0.112 | ( 0.429) | 0.365 |
| 49 | 4.08 | 1.70 | 0.507 | 0.112 | ( 0.456) | 0.395 |
| 50 | 4.17 | 1.80 | 0.537 | 0.112 | ( 0.483) | 0.424 |
| 51 | 4.25 | 1.90 | 0.567 | 0.112 | ( 0.510) | 0.454 |
| 52 | 4.33 | 2.00 | 0.596 | 0.112 | ( 0.537) | 0.484 |
| 53 | 4.42 | 2.10 | 0.626 | 0.112 | ( 0.564) | 0.514 |
| 54 | 4.50 | 2.10 | 0.626 | 0.112 | ( 0.564) | 0.514 |
| 55 | 4.58 | 2.20 | 0.656 | 0.112 | ( 0.591) | 0.544 |
| 56 | 4.67 | 2.30 | 0.686 | 0.112 | ( 0.617) | 0.574 |
| 57 | 4.75 | 2.40 | 0.716 | 0.112 | ( 0.644) | 0.603 |
| 58 | 4.83 | 2.40 | 0.716 | 0.112 | ( 0.644) | 0.603 |
| 59 | 4.92 | 2.50 | 0.746 | 0.112 | ( 0.671) | 0.633 |
| 60 | 5.00 | 2.60 | 0.775 | 0.112 | ( 0.698) | 0.663 |
| 61 | 5.08 | 3.10 | 0.925 | 0.112 | ( 0.832) | 0.812 |
| 62 | 5.17 | 3.60 | 1.074 | 0.112 | ( 0.966) | 0.961 |
| 63 | 5.25 | 3.90 | 1.163 | 0.112 | ( 1.047) | 1.051 |
| 64 | 5.33 | 4.20 | 1.253 | 0.112 | ( 1.127) | 1.140 |
| 65 | 5.42 | 4.70 | 1.402 | 0.112 | ( 1.262) | 1.289 |
| 66 | 5.50 | 5.60 | 1.670 | 0.112 | ( 1.503) | 1.558 |
| 67 | 5.58 | 1.90 | 0.567 | 0.112 | ( 0.510) | 0.454 |
| 68 | 5.67 | 0.90 | 0.268 | 0.112 | ( 0.242) | 0.156 |
| 69 | 5.75 | 0.60 | 0.179 | 0.112 | ( 0.161) | 0.067 |
| 70 | 5.83 | 0.50 | 0.149 | 0.112 | ( 0.134) | 0.037 |
| 71 | 5.92 | 0.30 | 0.089 | ( 0.112) | 0.081 | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.112) | 0.054 | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 21.8

Flood volume = Effective rainfall 1.82(In)
times area 2855.4(Ac.)/[(In)/(Ft.)] = 432.7(Ac.Ft)
Total soil loss = 0.67(In)
Total soil loss = 158.674(Ac.Ft)
Total rainfall = 2.49(In)
Flood volume = 18849188.0 Cubic Feet
Total soil loss = 6911855.6 Cubic Feet

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Peak flow rate of this hydrograph = 2476.969(CFS)

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6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 625.0 1250.0 1875.0 2500.0 |
|---|---|---|---|
| 0+ 5 | 0.0071 | 1.02 | Q |
| 0+10 | 0.0378 | 4.47 | Q |
| 0+15 | 0.1089 | 10.32 | Q |
| 0+20 | 0.2350 | 18.31 | Q |
| 0+25 | 0.4389 | 29.61 | Q |
| 0+30 | 0.7645 | 47.29 | Q |
| 0+35 | 1.3049 | 78.47 | VQ |
| 0+40 | 2.0593 | 109.54 | VQ |
| 0+45 | 2.9540 | 129.91 | V Q |
| 0+50 | 3.9644 | 146.70 | V Q |
| 0+55 | 5.0938 | 163.99 | V Q |
| 1+ 0 | 6.3902 | 188.24 | V Q |
| 1+ 5 | 7.8081 | 205.88 | V Q |
| 1+10 | 9.3211 | 219.68 | V Q |
| 1+15 | 10.9224 | 232.51 | \|V Q |
| 1+20 | 12.6144 | 245.68 | \|V Q |
| 1+25 | 14.4124 | 261.07 | \|V Q |
| 1+30 | 16.3616 | 283.03 | \|V Q |
| 1+35 | 18.4097 | 297.38 | \|V Q |
| 1+40 | 20.5260 | 307.28 | \|V Q |
| 1+45 | 22.6979 | 315.35 | \| V Q |
| 1+50 | 24.9158 | 322.05 | \| V Q |
| 1+55 | 27.1740 | 327.88 | \| V Q |
| 2+ 0 | 29.4721 | 333.69 | \| V Q |
| 2+ 5 | 31.8095 | 339.40 | \| V Q |
| 2+10 | 34.1848 | 344.88 | \| V Q |
| 2+15 | 36.6034 | 351.19 | \| V Q |
| 2+20 | 39.0741 | 358.74 | \| V Q |
| 2+25 | 41.6081 | 367.94 | \| V Q |
| 2+30 | 44.2483 | 383.36 | \| V Q |
| 2+35 | 46.9140 | 387.06 | \| V Q |
| 2+40 | 49.6760 | 401.04 | \| V Q |
| 2+45 | 52.5085 | 411.28 | \| V Q |
| 2+50 | 55.3947 | 419.07 | \| VQ |
| 2+55 | 58.3351 | 426.96 | \| VQ |
| 3+ 0 | 61.3285 | 434.63 | \| VQ |
| 3+ 5 | 64.3860 | 443.96 | \| V Q |
| 3+10 | 67.5298 | 456.49 | \| VQ |
| 3+15 | 70.8181 | 477.45 | \| VQ |
| 3+20 | 74.2074 | 492.13 | \| VQ |
| 3+25 | 77.6812 | 504.39 | \| VQ |
| 3+30 | 81.2574 | 519.28 | \| VQ |
| 3+35 | 84.9695 | 538.99 | \| VQ |
| 3+40 | 88.8874 | 568.87 | \| VQ\| |
| 3+45 | 92.9906 | 595.79 | \| VQ\| |
| 3+50 | 97.2981 | 625.45 | \| V Q |
| 3+55 | 101.8955 | 667.55 | \| VQ |
| 4+ 0 | 106.8139 | 714.14 | \| V\|Q |
| 4+ 5 | 112.0511 | 760.44 | \| V Q |
| 4+10 | 117.5604 | 799.96 | \| V Q |
| 4+15 | 123.3813 | 845.19 | \| \|V Q |
| 4+20 | 129.4931 | 887.44 | \| \|V Q |
| 4+25 | 135.9455 | 936.89 | \| \| V Q |
| 4+30 | 142.7277 | 984.77 | \| \| V Q |
| 4+35 | 149.9001 | 1041.42 | \| \| V Q |
| 4+40 | 157.5029 | 1103.94 | \| \| V Q |
| 4+45 | 165.5518 | 1168.70 | \| \| V Q |
| 4+50 | 174.0471 | 1233.51 | \| \| V Q\| |
| 4+55 | 182.9717 | 1295.86 | \| \| V Q |
| 5+ 0 | 192.2797 | 1351.52 | \| \| V \|Q |
| 5+ 5 | 202.0454 | 1417.98 | \| \| V \| Q |
| 5+10 | 212.3501 | 1496.23 | \| \| V\| Q |
| 5+15 | 223.2614 | 1584.32 | \| \| V Q |
| 5+20 | 234.8220 | 1678.60 | \| \| \|V Q |
| 5+25 | 247.2202 | 1800.22 | \| \| \| V Q |
| 5+30 | 260.7328 | 1962.02 | \| \| \| V \|Q |
| 5+35 | 275.5810 | 2155.96 | \| \| \| V \| Q |
| 5+40 | 291.5372 | 2316.84 | \| \| \| V \| Q |
| 5+45 | 308.2034 | 2419.93 | \| \| \| V \| Q |
| 5+50 | 325.2624 | 2476.97 | \| \| \| V Q\| |
| 5+55 | 342.2582 | 2467.79 | \| \| \| \|V Q\| |
| 6+ 0 | 358.3269 | 2333.17 | \| \| \| \| V Q \| |
| 6+ 5 | 370.6471 | 1788.90 | \| \| \| Q \| V \| |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6+10 | 380.0317 | 1362.65 | \| | \| | \| | Q \| | \| | V \| | \| |
| 6+15 | 387.5947 | 1098.14 | \| | \| | \| | \| Q | \| | V \| | \| |
| 6+20 | 393.8869 | 913.62 | \| | \| | \| Q | \| | \| | \| V | \| |
| 6+25 | 399.2434 | 777.77 | \| | \| | Q \| | \| | \| | \| V | \| |
| 6+30 | 403.8349 | 666.68 | \| | \| | Q \| | \| | \| | \| V | \| |
| 6+35 | 407.8086 | 576.99 | \| | \| | Q \| | \| | \| | \| V | \| |
| 6+40 | 411.2598 | 501.10 | \| | \| | Q \| | \| | \| | \| V | \| |
| 6+45 | 414.2736 | 437.61 | \| | \| | Q \| | \| | \| | \| V | \| |
| 6+50 | 416.9074 | 382.44 | \| | \| | Q \| | \| | \| | \| V | \| |
| 6+55 | 419.1918 | 331.68 | \| | \| | Q \| | \| | \| | \| V | \| |
| 7+ 0 | 421.1770 | 288.26 | \| | \| | Q \| | \| | \| | \| V | \| |
| 7+ 5 | 422.8946 | 249.39 | \| | Q \| | \| | \| | \| | \| V | \| |
| 7+10 | 424.3651 | 213.52 | \| | Q \| | \| | \| | \| | \| V | \| |
| 7+15 | 425.6192 | 182.10 | \| Q \| | \| | \| | \| | \| | \| V | \| |
| 7+20 | 426.6743 | 153.19 | \| Q \| | \| | \| | \| | \| | \| V | \| |
| 7+25 | 427.5629 | 129.03 | \| Q \| | \| | \| | \| | \| | \| V | \| |
| 7+30 | 428.3036 | 107.54 | \|Q \| | \| | \| | \| | \| | \| V | \| |
| 7+35 | 428.9062 | 87.50 | \|Q \| | \| | \| | \| | \| | \| V | \| |
| 7+40 | 429.3964 | 71.17 | \|Q \| | \| | \| | \| | \| | \| V | \| |
| 7+45 | 429.7997 | 58.56 | Q \| | \| | \| | \| | \| | \| V | \| |
| 7+50 | 430.1578 | 52.00 | Q \| | \| | \| | \| | \| | \| V | \| |
| 7+55 | 430.4807 | 46.89 | Q \| | \| | \| | \| | \| | \| V | \| |
| 8+ 0 | 430.7709 | 42.13 | Q \| | \| | \| | \| | \| | \| V | \| |
| 8+ 5 | 431.0341 | 38.22 | Q \| | \| | \| | \| | \| | \| V | \| |
| 8+10 | 431.2724 | 34.59 | Q \| | \| | \| | \| | \| | \| V | \| |
| 8+15 | 431.4843 | 30.77 | Q \| | \| | \| | \| | \| | \| V | \| |
| 8+20 | 431.6788 | 28.24 | Q \| | \| | \| | \| | \| | \| V | \| |
| 8+25 | 431.8606 | 26.40 | Q \| | \| | \| | \| | \| | \| V | \| |
| 8+30 | 432.0308 | 24.72 | Q \| | \| | \| | \| | \| | \| V | \| |
| 8+35 | 432.1856 | 22.48 | Q \| | \| | \| | \| | \| | \| V | \| |
| 8+40 | 432.3192 | 19.39 | Q \| | \| | \| | \| | \| | \| V | \| |
| 8+45 | 432.4272 | 15.69 | Q \| | \| | \| | \| | \| | \| V | \| |
| 8+50 | 432.5105 | 12.09 | Q \| | \| | \| | \| | \| | \| V | \| |
| 8+55 | 432.5775 | 9.72 | Q \| | \| | \| | \| | \| | \| V | \| |
| 9+ 0 | 432.6292 | 7.51 | Q \| | \| | \| | \| | \| | \| V | \| |
| 9+ 5 | 432.6656 | 5.28 | Q \| | \| | \| | \| | \| | \| V | \| |
| 9+10 | 432.6915 | 3.77 | Q \| | \| | \| | \| | \| | \| V | \| |
| 9+15 | 432.7088 | 2.52 | Q \| | \| | \| | \| | \| | \| V | \| |
| 9+20 | 432.7144 | 0.80 | Q \| | \| | \| | \| | \| | \| V | \| |
| 9+25 | 432.7164 | 0.30 | Q \| | \| | \| | \| | \| | \| V | \| |
| 9+30 | 432.7173 | 0.13 | Q \| | \| | \| | \| | \| | \| V | \| |
| 9+35 | 432.7177 | 0.06 | Q \| | \| | \| | \| | \| | \| V | \| |
| 9+40 | 432.7178 | 0.02 | Q \| | \| | \| | \| | \| | \| V | \| |
| 9+45 | 432.7178 | 0.01 | Q \| | \| | \| | \| | \| | \| V | \| |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/19/17 File: EX124100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 1
100-YEAR STORM EVENT
BY: JDN, DATE: 12-19-17

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Drainage Area = 2855.40(Ac.) = 4.462 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2855.40(Ac.) = 4.462 Sq. Mi.
Length along longest watercourse = 15691.00(Ft.)
Length along longest watercourse measured to centroid = 7916.00(Ft.)
Length along longest watercourse = 2.972 Mi.
Length along longest watercourse measured to centroid = 1.499 Mi.
Difference in elevation = 575.00(Ft.)
Slope along watercourse = 193.4867 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.545 Hr.
Lag time = 32.70 Min.
25% of lag time = 8.17 Min.
40% of lag time = 13.08 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2855.40 | 2.06 | 5882.12 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2855.40 | 5.17 | 14762.42 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 2.060(In)
Area Averaged 100-Year Rainfall = 5.170(In)

Point rain (area averaged) = 5.170(In)
Areal adjustment factor = 99.44 %
Adjusted average point rain = 5.141(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2855.400 | 80.59 | 0.000 |

Total Area Entered = 2855.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 80.6 | 91.4 | 0.112 | 0.000 | 0.112 | 1.000 | 0.112 |
| | | | | | Sum (F) = | 0.112 |

Area averaged mean soil loss (F) (In/Hr) = 0.112

Minimum soil loss rate ((In/Hr)) = 0.056
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 15.291 | 0.969 | 27.873 |
| 2 0.167 | 30.581 | 2.470 | 71.074 |
| 3 0.250 | 45.872 | 3.529 | 101.558 |
| 4 0.333 | 61.163 | 4.687 | 134.867 |
| 5 0.417 | 76.453 | 6.882 | 198.049 |
| 6 0.500 | 91.744 | 10.344 | 297.674 |
| 7 0.583 | 107.034 | 19.083 | 549.146 |
| 8 0.667 | 122.325 | 11.023 | 317.218 |
| 9 0.750 | 137.616 | 6.510 | 187.339 |
| 10 0.833 | 152.906 | 5.004 | 143.992 |
| 11 0.917 | 168.197 | 3.890 | 111.941 |
| 12 1.000 | 183.488 | 3.486 | 100.320 |
| 13 1.083 | 198.778 | 2.892 | 83.228 |
| 14 1.167 | 214.069 | 2.555 | 73.513 |
| 15 1.250 | 229.360 | 2.189 | 62.990 |
| 16 1.333 | 244.650 | 1.929 | 55.501 |
| 17 1.417 | 259.941 | 1.757 | 50.571 |
| 18 1.500 | 275.231 | 1.490 | 42.887 |
| 19 1.583 | 290.522 | 1.342 | 38.616 |
| 20 1.667 | 305.813 | 1.206 | 34.693 |
| 21 1.750 | 321.103 | 1.026 | 29.514 |
| 22 1.833 | 336.394 | 0.911 | 26.207 |
| 23 1.917 | 351.685 | 0.741 | 21.328 |
| 24 2.000 | 366.975 | 0.660 | 18.994 |
| 25 2.083 | 382.266 | 0.591 | 17.005 |
| 26 2.167 | 397.557 | 0.453 | 13.048 |
| 27 2.250 | 412.847 | 0.342 | 9.836 |
| 28 2.333 | 428.138 | 0.187 | 5.370 |
| 29 2.417 | 443.428 | 0.183 | 5.280 |
| 30 2.500 | 458.719 | 0.179 | 5.137 |
| 31 2.583 | 474.010 | 0.156 | 4.481 |
| 32 2.667 | 489.300 | 0.153 | 4.400 |
| 33 2.750 | 504.591 | 0.150 | 4.321 |
| 34 2.833 | 519.882 | 0.107 | 3.071 |
| 35 2.917 | 535.172 | 0.092 | 2.640 |
| 36 3.000 | 550.463 | 0.092 | 2.641 |
| 37 3.083 | 565.754 | 0.108 | 3.106 |
| 38 3.167 | 581.044 | 0.122 | 3.520 |
| 39 3.250 | 596.335 | 0.122 | 3.520 |
| 40 3.333 | 611.625 | 0.105 | 3.011 |
| 41 3.417 | 626.916 | 0.063 | 1.811 |
| 42 3.500 | 642.207 | 0.061 | 1.760 |
| 43 3.583 | 657.497 | 0.057 | 1.654 |
| 44 3.667 | 672.788 | 0.035 | 0.994 |
| 45 3.750 | 688.079 | 0.031 | 0.880 |
| 46 3.833 | 703.369 | 0.039 | 1.126 |
| | | Sum = 100.000 | Sum= 2877.708 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.041 | ( 0.199) | | 0.037 | 0.004 |
| 2 | 0.17 | 0.07 | 0.041 | ( 0.198) | | 0.037 | 0.004 |
| 3 | 0.25 | 0.07 | 0.041 | ( 0.198) | | 0.037 | 0.004 |
| 4 | 0.33 | 0.10 | 0.062 | ( 0.197) | | 0.056 | 0.006 |
| 5 | 0.42 | 0.10 | 0.062 | ( 0.196) | | 0.056 | 0.006 |
| 6 | 0.50 | 0.10 | 0.062 | ( 0.195) | | 0.056 | 0.006 |
| 7 | 0.58 | 0.10 | 0.062 | ( 0.195) | | 0.056 | 0.006 |
| 8 | 0.67 | 0.10 | 0.062 | ( 0.194) | | 0.056 | 0.006 |
| 9 | 0.75 | 0.10 | 0.062 | ( 0.193) | | 0.056 | 0.006 |
| 10 | 0.83 | 0.13 | 0.082 | ( 0.192) | | 0.074 | 0.008 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 11 | 0.92 | 0.13 | 0.082 | ( | 0.192) | 0.074 | | 0.008 |
| 12 | 1.00 | 0.13 | 0.082 | ( | 0.191) | 0.074 | | 0.008 |
| 13 | 1.08 | 0.10 | 0.062 | ( | 0.190) | 0.056 | | 0.006 |
| 14 | 1.17 | 0.10 | 0.062 | ( | 0.189) | 0.056 | | 0.006 |
| 15 | 1.25 | 0.10 | 0.062 | ( | 0.189) | 0.056 | | 0.006 |
| 16 | 1.33 | 0.10 | 0.062 | ( | 0.188) | 0.056 | | 0.006 |
| 17 | 1.42 | 0.10 | 0.062 | ( | 0.187) | 0.056 | | 0.006 |
| 18 | 1.50 | 0.10 | 0.062 | ( | 0.186) | 0.056 | | 0.006 |
| 19 | 1.58 | 0.10 | 0.062 | ( | 0.186) | 0.056 | | 0.006 |
| 20 | 1.67 | 0.10 | 0.062 | ( | 0.185) | 0.056 | | 0.006 |
| 21 | 1.75 | 0.10 | 0.062 | ( | 0.184) | 0.056 | | 0.006 |
| 22 | 1.83 | 0.13 | 0.082 | ( | 0.183) | 0.074 | | 0.008 |
| 23 | 1.92 | 0.13 | 0.082 | ( | 0.183) | 0.074 | | 0.008 |
| 24 | 2.00 | 0.13 | 0.082 | ( | 0.182) | 0.074 | | 0.008 |
| 25 | 2.08 | 0.13 | 0.082 | ( | 0.181) | 0.074 | | 0.008 |
| 26 | 2.17 | 0.13 | 0.082 | ( | 0.180) | 0.074 | | 0.008 |
| 27 | 2.25 | 0.13 | 0.082 | ( | 0.180) | 0.074 | | 0.008 |
| 28 | 2.33 | 0.13 | 0.082 | ( | 0.179) | 0.074 | | 0.008 |
| 29 | 2.42 | 0.13 | 0.082 | ( | 0.178) | 0.074 | | 0.008 |
| 30 | 2.50 | 0.13 | 0.082 | ( | 0.178) | 0.074 | | 0.008 |
| 31 | 2.58 | 0.17 | 0.103 | ( | 0.177) | 0.093 | | 0.010 |
| 32 | 2.67 | 0.17 | 0.103 | ( | 0.176) | 0.093 | | 0.010 |
| 33 | 2.75 | 0.17 | 0.103 | ( | 0.175) | 0.093 | | 0.010 |
| 34 | 2.83 | 0.17 | 0.103 | ( | 0.175) | 0.093 | | 0.010 |
| 35 | 2.92 | 0.17 | 0.103 | ( | 0.174) | 0.093 | | 0.010 |
| 36 | 3.00 | 0.17 | 0.103 | ( | 0.173) | 0.093 | | 0.010 |
| 37 | 3.08 | 0.17 | 0.103 | ( | 0.172) | 0.093 | | 0.010 |
| 38 | 3.17 | 0.17 | 0.103 | ( | 0.172) | 0.093 | | 0.010 |
| 39 | 3.25 | 0.17 | 0.103 | ( | 0.171) | 0.093 | | 0.010 |
| 40 | 3.33 | 0.17 | 0.103 | ( | 0.170) | 0.093 | | 0.010 |
| 41 | 3.42 | 0.17 | 0.103 | ( | 0.170) | 0.093 | | 0.010 |
| 42 | 3.50 | 0.17 | 0.103 | ( | 0.169) | 0.093 | | 0.010 |
| 43 | 3.58 | 0.17 | 0.103 | ( | 0.168) | 0.093 | | 0.010 |
| 44 | 3.67 | 0.17 | 0.103 | ( | 0.167) | 0.093 | | 0.010 |
| 45 | 3.75 | 0.17 | 0.103 | ( | 0.167) | 0.093 | | 0.010 |
| 46 | 3.83 | 0.20 | 0.123 | ( | 0.166) | 0.111 | | 0.012 |
| 47 | 3.92 | 0.20 | 0.123 | ( | 0.165) | 0.111 | | 0.012 |
| 48 | 4.00 | 0.20 | 0.123 | ( | 0.165) | 0.111 | | 0.012 |
| 49 | 4.08 | 0.20 | 0.123 | ( | 0.164) | 0.111 | | 0.012 |
| 50 | 4.17 | 0.20 | 0.123 | ( | 0.163) | 0.111 | | 0.012 |
| 51 | 4.25 | 0.20 | 0.123 | ( | 0.163) | 0.111 | | 0.012 |
| 52 | 4.33 | 0.23 | 0.144 | ( | 0.162) | 0.130 | | 0.014 |
| 53 | 4.42 | 0.23 | 0.144 | ( | 0.161) | 0.130 | | 0.014 |
| 54 | 4.50 | 0.23 | 0.144 | ( | 0.161) | 0.130 | | 0.014 |
| 55 | 4.58 | 0.23 | 0.144 | ( | 0.160) | 0.130 | | 0.014 |
| 56 | 4.67 | 0.23 | 0.144 | ( | 0.159) | 0.130 | | 0.014 |
| 57 | 4.75 | 0.23 | 0.144 | ( | 0.158) | 0.130 | | 0.014 |
| 58 | 4.83 | 0.27 | 0.165 | ( | 0.158) | 0.148 | | 0.016 |
| 59 | 4.92 | 0.27 | 0.165 | ( | 0.157) | 0.148 | | 0.016 |
| 60 | 5.00 | 0.27 | 0.165 | ( | 0.156) | 0.148 | | 0.016 |
| 61 | 5.08 | 0.20 | 0.123 | ( | 0.156) | 0.111 | | 0.012 |
| 62 | 5.17 | 0.20 | 0.123 | ( | 0.155) | 0.111 | | 0.012 |
| 63 | 5.25 | 0.20 | 0.123 | ( | 0.154) | 0.111 | | 0.012 |
| 64 | 5.33 | 0.23 | 0.144 | ( | 0.154) | 0.130 | | 0.014 |
| 65 | 5.42 | 0.23 | 0.144 | ( | 0.153) | 0.130 | | 0.014 |
| 66 | 5.50 | 0.23 | 0.144 | ( | 0.152) | 0.130 | | 0.014 |
| 67 | 5.58 | 0.27 | 0.165 | ( | 0.152) | 0.148 | | 0.016 |
| 68 | 5.67 | 0.27 | 0.165 | ( | 0.151) | 0.148 | | 0.016 |
| 69 | 5.75 | 0.27 | 0.165 | ( | 0.150) | 0.148 | | 0.016 |
| 70 | 5.83 | 0.27 | 0.165 | ( | 0.150) | 0.148 | | 0.016 |
| 71 | 5.92 | 0.27 | 0.165 | ( | 0.149) | 0.148 | | 0.016 |
| 72 | 6.00 | 0.27 | 0.165 | ( | 0.148) | 0.148 | | 0.016 |
| 73 | 6.08 | 0.30 | 0.185 | | 0.148 | ( | 0.167) | 0.037 |
| 74 | 6.17 | 0.30 | 0.185 | | 0.147 | ( | 0.167) | 0.038 |
| 75 | 6.25 | 0.30 | 0.185 | | 0.146 | ( | 0.167) | 0.039 |
| 76 | 6.33 | 0.30 | 0.185 | | 0.146 | ( | 0.167) | 0.039 |
| 77 | 6.42 | 0.30 | 0.185 | | 0.145 | ( | 0.167) | 0.040 |
| 78 | 6.50 | 0.30 | 0.185 | | 0.144 | ( | 0.167) | 0.041 |
| 79 | 6.58 | 0.33 | 0.206 | | 0.144 | ( | 0.185) | 0.062 |
| 80 | 6.67 | 0.33 | 0.206 | | 0.143 | ( | 0.185) | 0.063 |
| 81 | 6.75 | 0.33 | 0.206 | | 0.142 | ( | 0.185) | 0.063 |
| 82 | 6.83 | 0.33 | 0.206 | | 0.142 | ( | 0.185) | 0.064 |
| 83 | 6.92 | 0.33 | 0.206 | | 0.141 | ( | 0.185) | 0.064 |
| 84 | 7.00 | 0.33 | 0.206 | | 0.141 | ( | 0.185) | 0.065 |
| 85 | 7.08 | 0.33 | 0.206 | | 0.140 | ( | 0.185) | 0.066 |
| 86 | 7.17 | 0.33 | 0.206 | | 0.139 | ( | 0.185) | 0.066 |
| 87 | 7.25 | 0.33 | 0.206 | | 0.139 | ( | 0.185) | 0.067 |
| 88 | 7.33 | 0.37 | 0.226 | | 0.138 | ( | 0.204) | 0.088 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 89 | 7.42 | 0.37 | 0.226 | 0.137 | ( 0.204) | 0.089 |
| 90 | 7.50 | 0.37 | 0.226 | 0.137 | ( 0.204) | 0.089 |
| 91 | 7.58 | 0.40 | 0.247 | 0.136 | ( 0.222) | 0.111 |
| 92 | 7.67 | 0.40 | 0.247 | 0.136 | ( 0.222) | 0.111 |
| 93 | 7.75 | 0.40 | 0.247 | 0.135 | ( 0.222) | 0.112 |
| 94 | 7.83 | 0.43 | 0.267 | 0.134 | ( 0.241) | 0.133 |
| 95 | 7.92 | 0.43 | 0.267 | 0.134 | ( 0.241) | 0.134 |
| 96 | 8.00 | 0.43 | 0.267 | 0.133 | ( 0.241) | 0.134 |
| 97 | 8.08 | 0.50 | 0.308 | 0.132 | ( 0.278) | 0.176 |
| 98 | 8.17 | 0.50 | 0.308 | 0.132 | ( 0.278) | 0.177 |
| 99 | 8.25 | 0.50 | 0.308 | 0.131 | ( 0.278) | 0.177 |
| 100 | 8.33 | 0.50 | 0.308 | 0.131 | ( 0.278) | 0.178 |
| 101 | 8.42 | 0.50 | 0.308 | 0.130 | ( 0.278) | 0.179 |
| 102 | 8.50 | 0.50 | 0.308 | 0.129 | ( 0.278) | 0.179 |
| 103 | 8.58 | 0.53 | 0.329 | 0.129 | ( 0.296) | 0.200 |
| 104 | 8.67 | 0.53 | 0.329 | 0.128 | ( 0.296) | 0.201 |
| 105 | 8.75 | 0.53 | 0.329 | 0.128 | ( 0.296) | 0.202 |
| 106 | 8.83 | 0.57 | 0.350 | 0.127 | ( 0.315) | 0.223 |
| 107 | 8.92 | 0.57 | 0.350 | 0.126 | ( 0.315) | 0.223 |
| 108 | 9.00 | 0.57 | 0.350 | 0.126 | ( 0.315) | 0.224 |
| 109 | 9.08 | 0.63 | 0.391 | 0.125 | ( 0.352) | 0.266 |
| 110 | 9.17 | 0.63 | 0.391 | 0.125 | ( 0.352) | 0.266 |
| 111 | 9.25 | 0.63 | 0.391 | 0.124 | ( 0.352) | 0.267 |
| 112 | 9.33 | 0.67 | 0.411 | 0.123 | ( 0.370) | 0.288 |
| 113 | 9.42 | 0.67 | 0.411 | 0.123 | ( 0.370) | 0.289 |
| 114 | 9.50 | 0.67 | 0.411 | 0.122 | ( 0.370) | 0.289 |
| 115 | 9.58 | 0.70 | 0.432 | 0.122 | ( 0.389) | 0.310 |
| 116 | 9.67 | 0.70 | 0.432 | 0.121 | ( 0.389) | 0.311 |
| 117 | 9.75 | 0.70 | 0.432 | 0.120 | ( 0.389) | 0.311 |
| 118 | 9.83 | 0.73 | 0.452 | 0.120 | ( 0.407) | 0.333 |
| 119 | 9.92 | 0.73 | 0.452 | 0.119 | ( 0.407) | 0.333 |
| 120 | 10.00 | 0.73 | 0.452 | 0.119 | ( 0.407) | 0.334 |
| 121 | 10.08 | 0.50 | 0.308 | 0.118 | ( 0.278) | 0.190 |
| 122 | 10.17 | 0.50 | 0.308 | 0.118 | ( 0.278) | 0.191 |
| 123 | 10.25 | 0.50 | 0.308 | 0.117 | ( 0.278) | 0.191 |
| 124 | 10.33 | 0.50 | 0.308 | 0.116 | ( 0.278) | 0.192 |
| 125 | 10.42 | 0.50 | 0.308 | 0.116 | ( 0.278) | 0.193 |
| 126 | 10.50 | 0.50 | 0.308 | 0.115 | ( 0.278) | 0.193 |
| 127 | 10.58 | 0.67 | 0.411 | 0.115 | ( 0.370) | 0.297 |
| 128 | 10.67 | 0.67 | 0.411 | 0.114 | ( 0.370) | 0.297 |
| 129 | 10.75 | 0.67 | 0.411 | 0.114 | ( 0.370) | 0.298 |
| 130 | 10.83 | 0.67 | 0.411 | 0.113 | ( 0.370) | 0.298 |
| 131 | 10.92 | 0.67 | 0.411 | 0.112 | ( 0.370) | 0.299 |
| 132 | 11.00 | 0.67 | 0.411 | 0.112 | ( 0.370) | 0.299 |
| 133 | 11.08 | 0.63 | 0.391 | 0.111 | ( 0.352) | 0.279 |
| 134 | 11.17 | 0.63 | 0.391 | 0.111 | ( 0.352) | 0.280 |
| 135 | 11.25 | 0.63 | 0.391 | 0.110 | ( 0.352) | 0.280 |
| 136 | 11.33 | 0.63 | 0.391 | 0.110 | ( 0.352) | 0.281 |
| 137 | 11.42 | 0.63 | 0.391 | 0.109 | ( 0.352) | 0.282 |
| 138 | 11.50 | 0.63 | 0.391 | 0.109 | ( 0.352) | 0.282 |
| 139 | 11.58 | 0.57 | 0.350 | 0.108 | ( 0.315) | 0.241 |
| 140 | 11.67 | 0.57 | 0.350 | 0.108 | ( 0.315) | 0.242 |
| 141 | 11.75 | 0.57 | 0.350 | 0.107 | ( 0.315) | 0.243 |
| 142 | 11.83 | 0.60 | 0.370 | 0.107 | ( 0.333) | 0.264 |
| 143 | 11.92 | 0.60 | 0.370 | 0.106 | ( 0.333) | 0.264 |
| 144 | 12.00 | 0.60 | 0.370 | 0.105 | ( 0.333) | 0.265 |
| 145 | 12.08 | 0.83 | 0.514 | 0.105 | ( 0.463) | 0.409 |
| 146 | 12.17 | 0.83 | 0.514 | 0.104 | ( 0.463) | 0.410 |
| 147 | 12.25 | 0.83 | 0.514 | 0.104 | ( 0.463) | 0.410 |
| 148 | 12.33 | 0.87 | 0.535 | 0.103 | ( 0.481) | 0.431 |
| 149 | 12.42 | 0.87 | 0.535 | 0.103 | ( 0.481) | 0.432 |
| 150 | 12.50 | 0.87 | 0.535 | 0.102 | ( 0.481) | 0.432 |
| 151 | 12.58 | 0.93 | 0.576 | 0.102 | ( 0.518) | 0.474 |
| 152 | 12.67 | 0.93 | 0.576 | 0.101 | ( 0.518) | 0.475 |
| 153 | 12.75 | 0.93 | 0.576 | 0.101 | ( 0.518) | 0.475 |
| 154 | 12.83 | 0.97 | 0.596 | 0.100 | ( 0.537) | 0.496 |
| 155 | 12.92 | 0.97 | 0.596 | 0.100 | ( 0.537) | 0.497 |
| 156 | 13.00 | 0.97 | 0.596 | 0.099 | ( 0.537) | 0.497 |
| 157 | 13.08 | 1.13 | 0.699 | 0.099 | ( 0.629) | 0.600 |
| 158 | 13.17 | 1.13 | 0.699 | 0.098 | ( 0.629) | 0.601 |
| 159 | 13.25 | 1.13 | 0.699 | 0.098 | ( 0.629) | 0.601 |
| 160 | 13.33 | 1.13 | 0.699 | 0.097 | ( 0.629) | 0.602 |
| 161 | 13.42 | 1.13 | 0.699 | 0.097 | ( 0.629) | 0.602 |
| 162 | 13.50 | 1.13 | 0.699 | 0.096 | ( 0.629) | 0.603 |
| 163 | 13.58 | 0.77 | 0.473 | 0.096 | ( 0.426) | 0.377 |
| 164 | 13.67 | 0.77 | 0.473 | 0.095 | ( 0.426) | 0.378 |
| 165 | 13.75 | 0.77 | 0.473 | 0.095 | ( 0.426) | 0.378 |
| 166 | 13.83 | 0.77 | 0.473 | 0.094 | ( 0.426) | 0.379 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 167 | 13.92 | 0.77 | 0.473 | 0.094 | ( 0.426) | 0.379 |
| 168 | 14.00 | 0.77 | 0.473 | 0.093 | ( 0.426) | 0.380 |
| 169 | 14.08 | 0.90 | 0.555 | 0.093 | ( 0.500) | 0.462 |
| 170 | 14.17 | 0.90 | 0.555 | 0.092 | ( 0.500) | 0.463 |
| 171 | 14.25 | 0.90 | 0.555 | 0.092 | ( 0.500) | 0.463 |
| 172 | 14.33 | 0.87 | 0.535 | 0.091 | ( 0.481) | 0.443 |
| 173 | 14.42 | 0.87 | 0.535 | 0.091 | ( 0.481) | 0.444 |
| 174 | 14.50 | 0.87 | 0.535 | 0.091 | ( 0.481) | 0.444 |
| 175 | 14.58 | 0.87 | 0.535 | 0.090 | ( 0.481) | 0.445 |
| 176 | 14.67 | 0.87 | 0.535 | 0.090 | ( 0.481) | 0.445 |
| 177 | 14.75 | 0.87 | 0.535 | 0.089 | ( 0.481) | 0.446 |
| 178 | 14.83 | 0.83 | 0.514 | 0.089 | ( 0.463) | 0.425 |
| 179 | 14.92 | 0.83 | 0.514 | 0.088 | ( 0.463) | 0.426 |
| 180 | 15.00 | 0.83 | 0.514 | 0.088 | ( 0.463) | 0.426 |
| 181 | 15.08 | 0.80 | 0.494 | 0.087 | ( 0.444) | 0.406 |
| 182 | 15.17 | 0.80 | 0.494 | 0.087 | ( 0.444) | 0.407 |
| 183 | 15.25 | 0.80 | 0.494 | 0.086 | ( 0.444) | 0.407 |
| 184 | 15.33 | 0.77 | 0.473 | 0.086 | ( 0.426) | 0.387 |
| 185 | 15.42 | 0.77 | 0.473 | 0.086 | ( 0.426) | 0.387 |
| 186 | 15.50 | 0.77 | 0.473 | 0.085 | ( 0.426) | 0.388 |
| 187 | 15.58 | 0.63 | 0.391 | 0.085 | ( 0.352) | 0.306 |
| 188 | 15.67 | 0.63 | 0.391 | 0.084 | ( 0.352) | 0.306 |
| 189 | 15.75 | 0.63 | 0.391 | 0.084 | ( 0.352) | 0.307 |
| 190 | 15.83 | 0.63 | 0.391 | 0.083 | ( 0.352) | 0.307 |
| 191 | 15.92 | 0.63 | 0.391 | 0.083 | ( 0.352) | 0.308 |
| 192 | 16.00 | 0.63 | 0.391 | 0.083 | ( 0.352) | 0.308 |
| 193 | 16.08 | 0.13 | 0.082 | ( 0.082) | 0.074 | 0.008 |
| 194 | 16.17 | 0.13 | 0.082 | ( 0.082) | 0.074 | 0.008 |
| 195 | 16.25 | 0.13 | 0.082 | ( 0.081) | 0.074 | 0.008 |
| 196 | 16.33 | 0.13 | 0.082 | ( 0.081) | 0.074 | 0.008 |
| 197 | 16.42 | 0.13 | 0.082 | ( 0.080) | 0.074 | 0.008 |
| 198 | 16.50 | 0.13 | 0.082 | ( 0.080) | 0.074 | 0.008 |
| 199 | 16.58 | 0.10 | 0.062 | ( 0.080) | 0.056 | 0.006 |
| 200 | 16.67 | 0.10 | 0.062 | ( 0.079) | 0.056 | 0.006 |
| 201 | 16.75 | 0.10 | 0.062 | ( 0.079) | 0.056 | 0.006 |
| 202 | 16.83 | 0.10 | 0.062 | ( 0.078) | 0.056 | 0.006 |
| 203 | 16.92 | 0.10 | 0.062 | ( 0.078) | 0.056 | 0.006 |
| 204 | 17.00 | 0.10 | 0.062 | ( 0.078) | 0.056 | 0.006 |
| 205 | 17.08 | 0.17 | 0.103 | 0.077 | ( 0.093) | 0.026 |
| 206 | 17.17 | 0.17 | 0.103 | 0.077 | ( 0.093) | 0.026 |
| 207 | 17.25 | 0.17 | 0.103 | 0.076 | ( 0.093) | 0.026 |
| 208 | 17.33 | 0.17 | 0.103 | 0.076 | ( 0.093) | 0.027 |
| 209 | 17.42 | 0.17 | 0.103 | 0.076 | ( 0.093) | 0.027 |
| 210 | 17.50 | 0.17 | 0.103 | 0.075 | ( 0.093) | 0.027 |
| 211 | 17.58 | 0.17 | 0.103 | 0.075 | ( 0.093) | 0.028 |
| 212 | 17.67 | 0.17 | 0.103 | 0.075 | ( 0.093) | 0.028 |
| 213 | 17.75 | 0.17 | 0.103 | 0.074 | ( 0.093) | 0.029 |
| 214 | 17.83 | 0.13 | 0.082 | 0.074 | ( 0.074) | 0.008 |
| 215 | 17.92 | 0.13 | 0.082 | 0.073 | ( 0.074) | 0.009 |
| 216 | 18.00 | 0.13 | 0.082 | 0.073 | ( 0.074) | 0.009 |
| 217 | 18.08 | 0.13 | 0.082 | 0.073 | ( 0.074) | 0.010 |
| 218 | 18.17 | 0.13 | 0.082 | 0.072 | ( 0.074) | 0.010 |
| 219 | 18.25 | 0.13 | 0.082 | 0.072 | ( 0.074) | 0.010 |
| 220 | 18.33 | 0.13 | 0.082 | 0.072 | ( 0.074) | 0.011 |
| 221 | 18.42 | 0.13 | 0.082 | 0.071 | ( 0.074) | 0.011 |
| 222 | 18.50 | 0.13 | 0.082 | 0.071 | ( 0.074) | 0.011 |
| 223 | 18.58 | 0.10 | 0.062 | ( 0.071) | 0.056 | 0.006 |
| 224 | 18.67 | 0.10 | 0.062 | ( 0.070) | 0.056 | 0.006 |
| 225 | 18.75 | 0.10 | 0.062 | ( 0.070) | 0.056 | 0.006 |
| 226 | 18.83 | 0.07 | 0.041 | ( 0.070) | 0.037 | 0.004 |
| 227 | 18.92 | 0.07 | 0.041 | ( 0.069) | 0.037 | 0.004 |
| 228 | 19.00 | 0.07 | 0.041 | ( 0.069) | 0.037 | 0.004 |
| 229 | 19.08 | 0.10 | 0.062 | ( 0.069) | 0.056 | 0.006 |
| 230 | 19.17 | 0.10 | 0.062 | ( 0.068) | 0.056 | 0.006 |
| 231 | 19.25 | 0.10 | 0.062 | ( 0.068) | 0.056 | 0.006 |
| 232 | 19.33 | 0.13 | 0.082 | 0.068 | ( 0.074) | 0.015 |
| 233 | 19.42 | 0.13 | 0.082 | 0.067 | ( 0.074) | 0.015 |
| 234 | 19.50 | 0.13 | 0.082 | 0.067 | ( 0.074) | 0.015 |
| 235 | 19.58 | 0.10 | 0.062 | ( 0.067) | 0.056 | 0.006 |
| 236 | 19.67 | 0.10 | 0.062 | ( 0.066) | 0.056 | 0.006 |
| 237 | 19.75 | 0.10 | 0.062 | ( 0.066) | 0.056 | 0.006 |
| 238 | 19.83 | 0.07 | 0.041 | ( 0.066) | 0.037 | 0.004 |
| 239 | 19.92 | 0.07 | 0.041 | ( 0.066) | 0.037 | 0.004 |
| 240 | 20.00 | 0.07 | 0.041 | ( 0.065) | 0.037 | 0.004 |
| 241 | 20.08 | 0.10 | 0.062 | ( 0.065) | 0.056 | 0.006 |
| 242 | 20.17 | 0.10 | 0.062 | ( 0.065) | 0.056 | 0.006 |
| 243 | 20.25 | 0.10 | 0.062 | ( 0.064) | 0.056 | 0.006 |
| 244 | 20.33 | 0.10 | 0.062 | ( 0.064) | 0.056 | 0.006 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 245 | 20.42 | 0.10 | 0.062 | ( | 0.064) | 0.056 | 0.006 |
| 246 | 20.50 | 0.10 | 0.062 | ( | 0.064) | 0.056 | 0.006 |
| 247 | 20.58 | 0.10 | 0.062 | ( | 0.063) | 0.056 | 0.006 |
| 248 | 20.67 | 0.10 | 0.062 | ( | 0.063) | 0.056 | 0.006 |
| 249 | 20.75 | 0.10 | 0.062 | ( | 0.063) | 0.056 | 0.006 |
| 250 | 20.83 | 0.07 | 0.041 | ( | 0.063) | 0.037 | 0.004 |
| 251 | 20.92 | 0.07 | 0.041 | ( | 0.062) | 0.037 | 0.004 |
| 252 | 21.00 | 0.07 | 0.041 | ( | 0.062) | 0.037 | 0.004 |
| 253 | 21.08 | 0.10 | 0.062 | ( | 0.062) | 0.056 | 0.006 |
| 254 | 21.17 | 0.10 | 0.062 | ( | 0.062) | 0.056 | 0.006 |
| 255 | 21.25 | 0.10 | 0.062 | ( | 0.061) | 0.056 | 0.006 |
| 256 | 21.33 | 0.07 | 0.041 | ( | 0.061) | 0.037 | 0.004 |
| 257 | 21.42 | 0.07 | 0.041 | ( | 0.061) | 0.037 | 0.004 |
| 258 | 21.50 | 0.07 | 0.041 | ( | 0.061) | 0.037 | 0.004 |
| 259 | 21.58 | 0.10 | 0.062 | ( | 0.060) | 0.056 | 0.006 |
| 260 | 21.67 | 0.10 | 0.062 | ( | 0.060) | 0.056 | 0.006 |
| 261 | 21.75 | 0.10 | 0.062 | ( | 0.060) | 0.056 | 0.006 |
| 262 | 21.83 | 0.07 | 0.041 | ( | 0.060) | 0.037 | 0.004 |
| 263 | 21.92 | 0.07 | 0.041 | ( | 0.060) | 0.037 | 0.004 |
| 264 | 22.00 | 0.07 | 0.041 | ( | 0.059) | 0.037 | 0.004 |
| 265 | 22.08 | 0.10 | 0.062 | ( | 0.059) | 0.056 | 0.006 |
| 266 | 22.17 | 0.10 | 0.062 | ( | 0.059) | 0.056 | 0.006 |
| 267 | 22.25 | 0.10 | 0.062 | ( | 0.059) | 0.056 | 0.006 |
| 268 | 22.33 | 0.07 | 0.041 | ( | 0.059) | 0.037 | 0.004 |
| 269 | 22.42 | 0.07 | 0.041 | ( | 0.058) | 0.037 | 0.004 |
| 270 | 22.50 | 0.07 | 0.041 | ( | 0.058) | 0.037 | 0.004 |
| 271 | 22.58 | 0.07 | 0.041 | ( | 0.058) | 0.037 | 0.004 |
| 272 | 22.67 | 0.07 | 0.041 | ( | 0.058) | 0.037 | 0.004 |
| 273 | 22.75 | 0.07 | 0.041 | ( | 0.058) | 0.037 | 0.004 |
| 274 | 22.83 | 0.07 | 0.041 | ( | 0.058) | 0.037 | 0.004 |
| 275 | 22.92 | 0.07 | 0.041 | ( | 0.057) | 0.037 | 0.004 |
| 276 | 23.00 | 0.07 | 0.041 | ( | 0.057) | 0.037 | 0.004 |
| 277 | 23.08 | 0.07 | 0.041 | ( | 0.057) | 0.037 | 0.004 |
| 278 | 23.17 | 0.07 | 0.041 | ( | 0.057) | 0.037 | 0.004 |
| 279 | 23.25 | 0.07 | 0.041 | ( | 0.057) | 0.037 | 0.004 |
| 280 | 23.33 | 0.07 | 0.041 | ( | 0.057) | 0.037 | 0.004 |
| 281 | 23.42 | 0.07 | 0.041 | ( | 0.057) | 0.037 | 0.004 |
| 282 | 23.50 | 0.07 | 0.041 | ( | 0.057) | 0.037 | 0.004 |
| 283 | 23.58 | 0.07 | 0.041 | ( | 0.057) | 0.037 | 0.004 |
| 284 | 23.67 | 0.07 | 0.041 | ( | 0.056) | 0.037 | 0.004 |
| 285 | 23.75 | 0.07 | 0.041 | ( | 0.056) | 0.037 | 0.004 |
| 286 | 23.83 | 0.07 | 0.041 | ( | 0.056) | 0.037 | 0.004 |
| 287 | 23.92 | 0.07 | 0.041 | ( | 0.056) | 0.037 | 0.004 |
| 288 | 24.00 | 0.07 | 0.041 | ( | 0.056) | 0.037 | 0.004 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 36.3

Flood volume = Effective rainfall 3.02(In)
times area 2855.4(Ac.)/[(In)/(Ft.)] = 719.6(Ac.Ft)
Total soil loss = 2.12(In)
Total soil loss = 503.698(Ac.Ft)
Total rainfall = 5.14(In)
Flood volume = 31347647.2 Cubic Feet
Total soil loss = 21941074.8 Cubic Feet

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Peak flow rate of this hydrograph = 1520.583(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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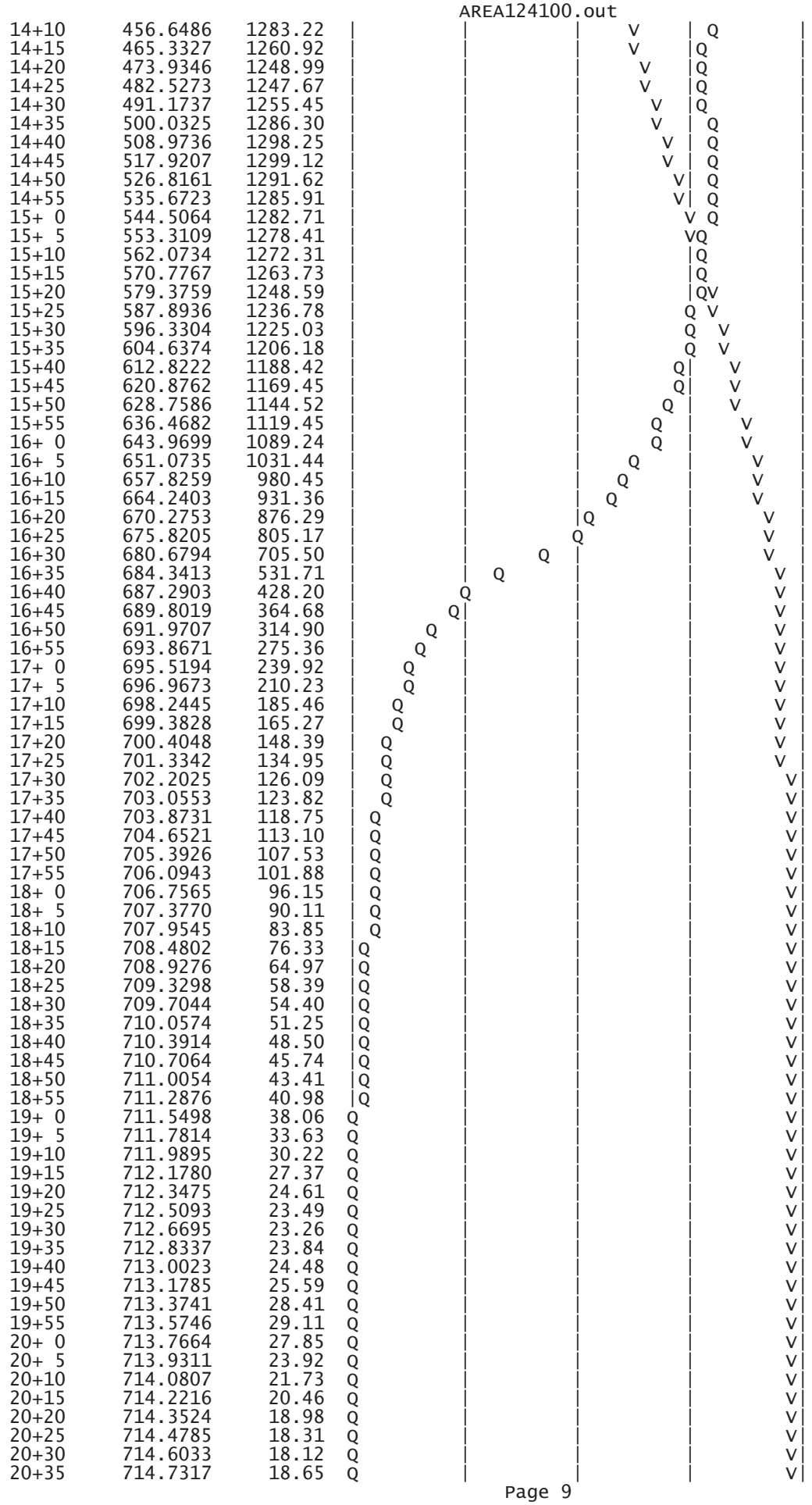
Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 400.0 | 800.0 | 1200.0 | 1600.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0008 | 0.11 | Q | \| | \| | \| | \| |
| 0+10 | 0.0036 | 0.41 | Q | \| | \| | \| | \| |
| 0+15 | 0.0093 | 0.83 | Q | \| | \| | \| | \| |
| 0+20 | 0.0192 | 1.44 | Q | \| | \| | \| | \| |
| 0+25 | 0.0357 | 2.40 | Q | \| | \| | \| | \| |
| 0+30 | 0.0621 | 3.83 | Q | \| | \| | \| | \| |
| 0+35 | 0.1060 | 6.37 | Q | \| | \| | \| | \| |
| 0+40 | 0.1616 | 8.08 | Q | \| | \| | \| | \| |
| 0+45 | 0.2268 | 9.47 | Q | \| | \| | \| | \| |
| 0+50 | 0.3043 | 11.25 | Q | \| | \| | \| | \| |
| 0+55 | 0.3904 | 12.51 | Q | \| | \| | \| | \| |
| 1+ 0 | 0.4835 | 13.51 | Q | \| | \| | \| | \| |
| 1+ 5 | 0.5824 | 14.37 | Q | \| | \| | \| | \| |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1+10 | 0.6869 | 15.17 | Q | | | | |
| 1+15 | 0.7973 | 16.03 | Q | | | | |
| 1+20 | 0.9164 | 17.29 | Q | | | | |
| 1+25 | 1.0396 | 17.89 | Q | | | | |
| 1+30 | 1.1634 | 17.97 | Q | | | | |
| 1+35 | 1.2833 | 17.41 | Q | | | | |
| 1+40 | 1.4019 | 17.23 | Q | | | | |
| 1+45 | 1.5209 | 17.26 | Q | | | | |
| 1+50 | 1.6406 | 17.38 | Q | | | | |
| 1+55 | 1.7619 | 17.61 | Q | | | | |
| 2+ 0 | 1.8850 | 17.88 | Q | | | | |
| 2+ 5 | 2.0105 | 18.23 | Q | | | | |
| 2+10 | 2.1392 | 18.68 | Q | | | | |
| 2+15 | 2.2724 | 19.33 | Q | | | | |
| 2+20 | 2.4135 | 20.49 | Q | | | | |
| 2+25 | 2.5592 | 21.16 | Q | | | | |
| 2+30 | 2.7076 | 21.55 | Q | | | | |
| 2+35 | 2.8585 | 21.91 | Q | | | | |
| 2+40 | 3.0121 | 22.29 | Q | | | | |
| 2+45 | 3.1685 | 22.71 | Q | | | | |
| 2+50 | 3.3280 | 23.16 | Q | | | | |
| 2+55 | 3.4914 | 23.73 | Q | | | | |
| 3+ 0 | 3.6599 | 24.47 | Q | | | | |
| 3+ 5 | 3.8370 | 25.71 | Q | | | | |
| 3+10 | 4.0193 | 26.47 | Q | | | | |
| 3+15 | 4.2049 | 26.95 | Q | | | | |
| 3+20 | 4.3932 | 27.35 | Q | | | | |
| 3+25 | 4.5837 | 27.66 | Q | | | | |
| 3+30 | 4.7762 | 27.94 | Q | | | | |
| 3+35 | 4.9702 | 28.18 | Q | | | | |
| 3+40 | 5.1656 | 28.37 | Q | | | | |
| 3+45 | 5.3622 | 28.55 | Q | | | | |
| 3+50 | 5.5603 | 28.76 | Q | | | | |
| 3+55 | 5.7603 | 29.04 | Q | | | | |
| 4+ 0 | 5.9626 | 29.36 | Q | | | | |
| 4+ 5 | 6.1673 | 29.73 | Q | | | | |
| 4+10 | 6.3755 | 30.22 | Q | | | | |
| 4+15 | 6.5883 | 30.90 | Q | | | | |
| 4+20 | 6.8097 | 32.15 | Q | | | | |
| 4+25 | 7.0369 | 33.00 | Q | | | | |
| 4+30 | 7.2686 | 33.64 | Q | | | | |
| 4+35 | 7.5045 | 34.25 | Q | | | | |
| 4+40 | 7.7450 | 34.92 | Q | | | | |
| 4+45 | 7.9913 | 35.76 | Q | | | | |
| 4+50 | 8.2471 | 37.14 | Q | | | | |
| 4+55 | 8.5095 | 38.11 | Q | | | | |
| 5+ 0 | 8.7771 | 38.85 | Q | | | | |
| 5+ 5 | 9.0487 | 39.44 | Q | | | | |
| 5+10 | 9.3234 | 39.90 | Q | | | | |
| 5+15 | 9.6017 | 40.40 | VQ | | | | |
| 5+20 | 9.8860 | 41.29 | VQ | | | | |
| 5+25 | 10.1719 | 41.51 | VQ | | | | |
| 5+30 | 10.4548 | 41.07 | VQ | | | | |
| 5+35 | 10.7277 | 39.62 | Q | | | | |
| 5+40 | 10.9980 | 39.26 | Q | | | | |
| 5+45 | 11.2711 | 39.65 | Q | | | | |
| 5+50 | 11.5517 | 40.75 | VQ | | | | |
| 5+55 | 11.8383 | 41.61 | VQ | | | | |
| 6+ 0 | 12.1303 | 42.41 | VQ | | | | |
| 6+ 5 | 12.4351 | 44.26 | VQ | | | | |
| 6+10 | 12.7554 | 46.50 | VQ | | | | |
| 6+15 | 13.0940 | 49.17 | VQ | | | | |
| 6+20 | 13.4555 | 52.49 | VQ | | | | |
| 6+25 | 13.8490 | 57.13 | VQ | | | | |
| 6+30 | 14.2895 | 63.97 | VQ | | | | |
| 6+35 | 14.8183 | 76.78 | VQ | | | | |
| 6+40 | 15.4103 | 85.96 | V Q | | | | |
| 6+45 | 16.0524 | 93.23 | V Q | | | | |
| 6+50 | 16.7438 | 100.39 | V Q | | | | |
| 6+55 | 17.4894 | 108.26 | V Q | | | | |
| 7+ 0 | 18.3020 | 117.99 | \|VQ | | | | |
| 7+ 5 | 19.2150 | 132.57 | \|V Q | | | | |
| 7+10 | 20.1945 | 142.22 | \|V Q | | | | |
| 7+15 | 21.2209 | 149.03 | \|V Q | | | | |
| 7+20 | 22.2911 | 155.40 | \|V Q | | | | |
| 7+25 | 23.4062 | 161.91 | \|V  Q | | | | |
| 7+30 | 24.5678 | 168.67 | \|V  Q | | | | |
| 7+35 | 25.7817 | 176.25 | \|v  Q | | | | |

| | | | |
|---|---|---|---|
| 7+40 | 27.0609 | 185.75 | |
| 7+45 | 28.4219 | 197.61 | |
| 7+50 | 29.9074 | 215.69 | |
| 7+55 | 31.4983 | 231.00 | |
| 8+ 0 | 33.1933 | 246.12 | |
| 8+ 5 | 35.0337 | 267.22 | |
| 8+10 | 37.0020 | 285.80 | |
| 8+15 | 39.0998 | 304.61 | |
| 8+20 | 41.3626 | 328.55 | |
| 8+25 | 43.7687 | 349.37 | |
| 8+30 | 46.3245 | 371.10 | |
| 8+35 | 49.0953 | 402.31 | |
| 8+40 | 52.0140 | 423.81 | |
| 8+45 | 55.0437 | 439.91 | |
| 8+50 | 58.1757 | 454.77 | |
| 8+55 | 61.4133 | 470.10 | |
| 9+ 0 | 64.7683 | 487.15 | |
| 9+ 5 | 68.2820 | 510.18 | |
| 9+10 | 71.9378 | 530.83 | |
| 9+15 | 75.7351 | 551.37 | |
| 9+20 | 79.7130 | 577.59 | |
| 9+25 | 83.8546 | 601.36 | |
| 9+30 | 88.1687 | 626.41 | |
| 9+35 | 92.7241 | 661.44 | |
| 9+40 | 97.4618 | 687.91 | |
| 9+45 | 102.3579 | 710.92 | |
| 9+50 | 107.4390 | 737.77 | |
| 9+55 | 112.6737 | 760.09 | |
| 10+ 0 | 118.0552 | 781.38 | |
| 10+ 5 | 123.5818 | 802.46 | |
| 10+10 | 129.1769 | 812.42 | |
| 10+15 | 134.7986 | 816.27 | |
| 10+20 | 140.4363 | 818.59 | |
| 10+25 | 145.9856 | 805.75 | |
| 10+30 | 151.3227 | 774.96 | |
| 10+35 | 156.2061 | 709.07 | |
| 10+40 | 160.8871 | 679.69 | |
| 10+45 | 165.5097 | 671.20 | |
| 10+50 | 170.1341 | 671.46 | |
| 10+55 | 174.8319 | 682.12 | |
| 11+ 0 | 179.6807 | 704.04 | |
| 11+ 5 | 184.8683 | 753.24 | |
| 11+10 | 190.2304 | 778.58 | |
| 11+15 | 195.6781 | 791.00 | |
| 11+20 | 201.1801 | 798.90 | |
| 11+25 | 206.7073 | 802.55 | |
| 11+30 | 212.2433 | 803.82 | |
| 11+35 | 217.7348 | 797.38 | |
| 11+40 | 223.1980 | 793.25 | |
| 11+45 | 228.6393 | 790.08 | |
| 11+50 | 234.0560 | 786.51 | |
| 11+55 | 239.4411 | 781.91 | |
| 12+ 0 | 244.7686 | 773.55 | |
| 12+ 5 | 250.0001 | 759.61 | |
| 12+10 | 255.2554 | 763.07 | |
| 12+15 | 260.6166 | 778.44 | |
| 12+20 | 266.1713 | 806.54 | |
| 12+25 | 271.9612 | 840.70 | |
| 12+30 | 278.0739 | 887.57 | |
| 12+35 | 284.7698 | 972.24 | |
| 12+40 | 291.8354 | 1025.93 | |
| 12+45 | 299.1646 | 1064.19 | |
| 12+50 | 306.7616 | 1103.08 | |
| 12+55 | 314.5862 | 1136.13 | |
| 13+ 0 | 322.6419 | 1169.70 | |
| 13+ 5 | 331.0009 | 1213.72 | |
| 13+10 | 339.6228 | 1251.89 | |
| 13+15 | 348.4950 | 1288.26 | |
| 13+20 | 357.6554 | 1330.09 | |
| 13+25 | 367.1019 | 1371.62 | |
| 13+30 | 376.8741 | 1418.93 | |
| 13+35 | 387.0912 | 1483.52 | |
| 13+40 | 397.5108 | 1512.92 | |
| 13+45 | 407.9831 | 1520.58 | |
| 13+50 | 418.4176 | 1515.10 | |
| 13+55 | 428.6848 | 1490.79 | |
| 14+ 0 | 438.6138 | 1441.69 | |
| 14+ 5 | 447.8110 | 1335.44 | |



| | | | |
|---|---|---|---|
| 14+10 | 456.6486 | 1283.22 | |
| 14+15 | 465.3327 | 1260.92 | |
| 14+20 | 473.9346 | 1248.99 | |
| 14+25 | 482.5273 | 1247.67 | |
| 14+30 | 491.1737 | 1255.45 | |
| 14+35 | 500.0325 | 1286.30 | |
| 14+40 | 508.9736 | 1298.25 | |
| 14+45 | 517.9207 | 1299.12 | |
| 14+50 | 526.8161 | 1291.62 | |
| 14+55 | 535.6723 | 1285.91 | |
| 15+ 0 | 544.5064 | 1282.71 | |
| 15+ 5 | 553.3109 | 1278.41 | |
| 15+10 | 562.0734 | 1272.31 | |
| 15+15 | 570.7767 | 1263.73 | |
| 15+20 | 579.3759 | 1248.59 | |
| 15+25 | 587.8936 | 1236.78 | |
| 15+30 | 596.3304 | 1225.03 | |
| 15+35 | 604.6374 | 1206.18 | |
| 15+40 | 612.8222 | 1188.42 | |
| 15+45 | 620.8762 | 1169.45 | |
| 15+50 | 628.7586 | 1144.52 | |
| 15+55 | 636.4682 | 1119.45 | |
| 16+ 0 | 643.9699 | 1089.24 | |
| 16+ 5 | 651.0735 | 1031.44 | |
| 16+10 | 657.8259 | 980.45 | |
| 16+15 | 664.2403 | 931.36 | |
| 16+20 | 670.2753 | 876.29 | |
| 16+25 | 675.8205 | 805.17 | |
| 16+30 | 680.6794 | 705.50 | |
| 16+35 | 684.3413 | 531.71 | |
| 16+40 | 687.2903 | 428.20 | |
| 16+45 | 689.8019 | 364.68 | |
| 16+50 | 691.9707 | 314.90 | |
| 16+55 | 693.8671 | 275.36 | |
| 17+ 0 | 695.5194 | 239.92 | |
| 17+ 5 | 696.9673 | 210.23 | |
| 17+10 | 698.2445 | 185.46 | |
| 17+15 | 699.3828 | 165.27 | |
| 17+20 | 700.4048 | 148.39 | |
| 17+25 | 701.3342 | 134.95 | |
| 17+30 | 702.2025 | 126.09 | |
| 17+35 | 703.0553 | 123.82 | |
| 17+40 | 703.8731 | 118.75 | |
| 17+45 | 704.6521 | 113.10 | |
| 17+50 | 705.3926 | 107.53 | |
| 17+55 | 706.0943 | 101.88 | |
| 18+ 0 | 706.7565 | 96.15 | |
| 18+ 5 | 707.3770 | 90.11 | |
| 18+10 | 707.9545 | 83.85 | |
| 18+15 | 708.4802 | 76.33 | |
| 18+20 | 708.9276 | 64.97 | |
| 18+25 | 709.3298 | 58.39 | |
| 18+30 | 709.7044 | 54.40 | |
| 18+35 | 710.0574 | 51.25 | |
| 18+40 | 710.3914 | 48.50 | |
| 18+45 | 710.7064 | 45.74 | |
| 18+50 | 711.0054 | 43.41 | |
| 18+55 | 711.2876 | 40.98 | |
| 19+ 0 | 711.5498 | 38.06 | |
| 19+ 5 | 711.7814 | 33.63 | |
| 19+10 | 711.9895 | 30.22 | |
| 19+15 | 712.1780 | 27.37 | |
| 19+20 | 712.3475 | 24.61 | |
| 19+25 | 712.5093 | 23.49 | |
| 19+30 | 712.6695 | 23.26 | |
| 19+35 | 712.8337 | 23.84 | |
| 19+40 | 713.0023 | 24.48 | |
| 19+45 | 713.1785 | 25.59 | |
| 19+50 | 713.3741 | 28.41 | |
| 19+55 | 713.5746 | 29.11 | |
| 20+ 0 | 713.7664 | 27.85 | |
| 20+ 5 | 713.9311 | 23.92 | |
| 20+10 | 714.0807 | 21.73 | |
| 20+15 | 714.2216 | 20.46 | |
| 20+20 | 714.3524 | 18.98 | |
| 20+25 | 714.4785 | 18.31 | |
| 20+30 | 714.6033 | 18.12 | |
| 20+35 | 714.7317 | 18.65 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 20+40 | 714.8612 | 18.82 | Q | \| | \| | \| | V\| |
| 20+45 | 714.9905 | 18.77 | Q | \| | \| | \| | V\| |
| 20+50 | 715.1191 | 18.66 | Q | \| | \| | \| | V\| |
| 20+55 | 715.2457 | 18.39 | Q | \| | \| | \| | V\| |
| 21+ 0 | 715.3703 | 18.08 | Q | \| | \| | \| | V\| |
| 21+ 5 | 715.4926 | 17.76 | Q | \| | \| | \| | V\| |
| 21+10 | 715.6124 | 17.40 | Q | \| | \| | \| | V\| |
| 21+15 | 715.7288 | 16.91 | Q | \| | \| | \| | V\| |
| 21+20 | 715.8384 | 15.91 | Q | \| | \| | \| | V\| |
| 21+25 | 715.9449 | 15.46 | Q | \| | \| | \| | V\| |
| 21+30 | 716.0509 | 15.40 | Q | \| | \| | \| | V\| |
| 21+35 | 716.1605 | 15.91 | Q | \| | \| | \| | V\| |
| 21+40 | 716.2708 | 16.02 | Q | \| | \| | \| | V\| |
| 21+45 | 716.3794 | 15.76 | Q | \| | \| | \| | V\| |
| 21+50 | 716.4826 | 14.98 | Q | \| | \| | \| | V\| |
| 21+55 | 716.5836 | 14.67 | Q | \| | \| | \| | V\| |
| 22+ 0 | 716.6853 | 14.76 | Q | \| | \| | \| | V\| |
| 22+ 5 | 716.7916 | 15.44 | Q | \| | \| | \| | V\| |
| 22+10 | 716.8994 | 15.65 | Q | \| | \| | \| | V\| |
| 22+15 | 717.0058 | 15.46 | Q | \| | \| | \| | V\| |
| 22+20 | 717.1071 | 14.71 | Q | \| | \| | \| | V\| |
| 22+25 | 717.2065 | 14.44 | Q | \| | \| | \| | V\| |
| 22+30 | 717.3069 | 14.57 | Q | \| | \| | \| | V\| |
| 22+35 | 717.4117 | 15.21 | Q | \| | \| | \| | V\| |
| 22+40 | 717.5170 | 15.30 | Q | \| | \| | \| | V\| |
| 22+45 | 717.6198 | 14.91 | Q | \| | \| | \| | V\| |
| 22+50 | 717.7159 | 13.95 | Q | \| | \| | \| | V\| |
| 22+55 | 717.8083 | 13.42 | Q | \| | \| | \| | V\| |
| 23+ 0 | 717.8988 | 13.15 | Q | \| | \| | \| | V\| |
| 23+ 5 | 717.9881 | 12.95 | Q | \| | \| | \| | V\| |
| 23+10 | 718.0763 | 12.81 | Q | \| | \| | \| | V\| |
| 23+15 | 718.1636 | 12.67 | Q | \| | \| | \| | V\| |
| 23+20 | 718.2500 | 12.55 | Q | \| | \| | \| | V\| |
| 23+25 | 718.3358 | 12.45 | Q | \| | \| | \| | V\| |
| 23+30 | 718.4210 | 12.37 | Q | \| | \| | \| | V\| |
| 23+35 | 718.5057 | 12.31 | Q | \| | \| | \| | V\| |
| 23+40 | 718.5902 | 12.26 | Q | \| | \| | \| | V\| |
| 23+45 | 718.6742 | 12.20 | Q | \| | \| | \| | V\| |
| 23+50 | 718.7579 | 12.15 | Q | \| | \| | \| | V\| |
| 23+55 | 718.8412 | 12.09 | Q | \| | \| | \| | V\| |
| 24+ 0 | 718.9242 | 12.05 | Q | \| | \| | \| | V\| |
| 24+ 5 | 719.0062 | 11.91 | Q | \| | \| | \| | V\| |
| 24+10 | 719.0861 | 11.60 | Q | \| | \| | \| | V\| |
| 24+15 | 719.1629 | 11.16 | Q | \| | \| | \| | V\| |
| 24+20 | 719.2357 | 10.57 | Q | \| | \| | \| | V\| |
| 24+25 | 719.3027 | 9.73 | Q | \| | \| | \| | V\| |
| 24+30 | 719.3612 | 8.49 | Q | \| | \| | \| | V\| |
| 24+35 | 719.4040 | 6.22 | Q | \| | \| | \| | V\| |
| 24+40 | 719.4378 | 4.91 | Q | \| | \| | \| | V\| |
| 24+45 | 719.4664 | 4.14 | Q | \| | \| | \| | V\| |
| 24+50 | 719.4908 | 3.54 | Q | \| | \| | \| | V\| |
| 24+55 | 719.5120 | 3.07 | Q | \| | \| | \| | V\| |
| 25+ 0 | 719.5302 | 2.65 | Q | \| | \| | \| | V\| |
| 25+ 5 | 719.5461 | 2.31 | Q | \| | \| | \| | V\| |
| 25+10 | 719.5599 | 2.00 | Q | \| | \| | \| | V\| |
| 25+15 | 719.5719 | 1.74 | Q | \| | \| | \| | V\| |
| 25+20 | 719.5823 | 1.51 | Q | \| | \| | \| | V\| |
| 25+25 | 719.5913 | 1.30 | Q | \| | \| | \| | V\| |
| 25+30 | 719.5990 | 1.12 | Q | \| | \| | \| | V\| |
| 25+35 | 719.6056 | 0.95 | Q | \| | \| | \| | V\| |
| 25+40 | 719.6111 | 0.81 | Q | \| | \| | \| | V\| |
| 25+45 | 719.6159 | 0.69 | Q | \| | \| | \| | V\| |
| 25+50 | 719.6199 | 0.58 | Q | \| | \| | \| | V\| |
| 25+55 | 719.6232 | 0.49 | Q | \| | \| | \| | V\| |
| 26+ 0 | 719.6260 | 0.41 | Q | \| | \| | \| | V\| |
| 26+ 5 | 719.6283 | 0.34 | Q | \| | \| | \| | V\| |
| 26+10 | 719.6303 | 0.28 | Q | \| | \| | \| | V\| |
| 26+15 | 719.6319 | 0.24 | Q | \| | \| | \| | V\| |
| 26+20 | 719.6335 | 0.22 | Q | \| | \| | \| | V\| |
| 26+25 | 719.6348 | 0.20 | Q | \| | \| | \| | V\| |
| 26+30 | 719.6360 | 0.18 | Q | \| | \| | \| | V\| |
| 26+35 | 719.6371 | 0.16 | Q | \| | \| | \| | V\| |
| 26+40 | 719.6381 | 0.14 | Q | \| | \| | \| | V\| |
| 26+45 | 719.6389 | 0.12 | Q | \| | \| | \| | V\| |
| 26+50 | 719.6397 | 0.11 | Q | \| | \| | \| | V\| |
| 26+55 | 719.6404 | 0.10 | Q | \| | \| | \| | V\| |
| 27+ 0 | 719.6410 | 0.09 | Q | \| | \| | \| | V\| |
| 27+ 5 | 719.6415 | 0.08 | Q | \| | \| | \| | V\| |

```
   27+10     719.6419      0.06  Q          |          |          |         V|
   27+15     719.6422      0.05  Q          |          |          |         V|
   27+20     719.6425      0.03  Q          |          |          |         V|
   27+25     719.6427      0.03  Q          |          |          |         V|
   27+30     719.6428      0.02  Q          |          |          |         V|
   27+35     719.6429      0.01  Q          |          |          |         V|
   27+40     719.6429      0.01  Q          |          |          |         V|
   27+45     719.6430      0.00  Q          |          |          |          V
-------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA21100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 2
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

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Drainage Area = 28.30(Ac.) = 0.044 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 28.30(Ac.) = 0.044 Sq. Mi.
Length along longest watercourse = 2006.00(Ft.)
Length along longest watercourse measured to centroid = 995.00(Ft.)
Length along longest watercourse = 0.380 Mi.
Length along longest watercourse measured to centroid = 0.188 Mi.
Difference in elevation = 520.00(Ft.)
Slope along watercourse = 1368.6939 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.078 Hr.
Lag time = 4.69 Min.
25% of lag time = 1.17 Min.
40% of lag time = 1.88 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 28.30 | 0.50 | 14.15 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 28.30 | 1.20 | 33.96 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.97 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 28.300 | 83.74 | 0.000 |

Total Area Entered = 28.30(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.7 | 93.2 | 0.088 | 0.000 | 0.088 | 1.000 | 0.088 |
| | | | | | Sum (F) = | 0.088 |

Area averaged mean soil loss (F) (In/Hr) = 0.088

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

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| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 106.557 | 16.746 | 4.776 |
| 2 | 0.167 | 213.113 | 56.119 | 16.006 |
| 3 | 0.250 | 319.670 | 17.361 | 4.951 |
| 4 | 0.333 | 426.227 | 6.656 | 1.898 |
| 5 | 0.417 | 532.784 | 1.888 | 0.538 |
| 6 | 0.500 | 639.340 | 0.793 | 0.226 |
| 7 | 0.583 | 745.897 | 0.438 | 0.125 |
| | | Sum = | 100.000 Sum= | 28.521 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.088 | ( 0.544) | 0.517 |
| 2 | 0.17 | 4.30 | 0.619 | 0.088 | ( 0.557) | 0.531 |
| 3 | 0.25 | 5.00 | 0.720 | 0.088 | ( 0.648) | 0.632 |
| 4 | 0.33 | 5.00 | 0.720 | 0.088 | ( 0.648) | 0.632 |
| 5 | 0.42 | 5.80 | 0.835 | 0.088 | ( 0.751) | 0.747 |
| 6 | 0.50 | 6.50 | 0.936 | 0.088 | ( 0.842) | 0.848 |
| 7 | 0.58 | 7.40 | 1.065 | 0.088 | ( 0.959) | 0.977 |
| 8 | 0.67 | 8.60 | 1.238 | 0.088 | ( 1.114) | 1.150 |
| 9 | 0.75 | 12.30 | 1.771 | 0.088 | ( 1.594) | 1.683 |
| 10 | 0.83 | 29.10 | 4.189 | 0.088 | ( 3.770) | 4.101 |
| 11 | 0.92 | 6.80 | 0.979 | 0.088 | ( 0.881) | 0.891 |
| 12 | 1.00 | 5.00 | 0.720 | 0.088 | ( 0.648) | 0.632 |
| | | (Loss Rate Not Used) | | | |
| Sum = | | 100.0 | | | Sum = 13.3 |

Flood volume = Effective rainfall 1.11(In)
times area 28.3(Ac.)/[(In)/(Ft.)] = 2.6(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.207(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 114220.7 Cubic Feet
Total soil loss = 9022.5 Cubic Feet

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Peak flow rate of this hydrograph = 81.273(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 22.5 | 45.0 | 67.5 | 90.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0170 | 2.47 | VQ | | | | |
| 0+10 | 0.0915 | 10.81 | V Q | | | | |
| 0+15 | 0.1885 | 14.09 | V Q | | | | |
| 0+20 | 0.3039 | 16.75 | V Q | | | | |
| 0+25 | 0.4286 | 18.11 | V Q | | | | |
| 0+30 | 0.5715 | 20.75 | VQ | | | | |
| 0+35 | 0.7346 | 23.68 | QV | | | | |
| 0+40 | 0.9227 | 27.32 | Q V | | | | |
| 0+45 | 1.1537 | 33.54 | Q V | | | | |
| 0+50 | 1.5312 | 54.81 | VQ | | | | |
| 0+55 | 2.0909 | 81.27 | V Q | | | | |
| 1+ 0 | 2.3785 | 41.75 | Q V | | | | |
| 1+ 5 | 2.5411 | 23.61 | Q V | | | | |
| 1+10 | 2.5932 | 7.56 | Q V | | | | |

```
    1+15       2.6126      2.82  |Q        |          |          |        V|
    1+20       2.6199      1.05  Q         |          |          |        V|
    1+25       2.6216      0.25  Q         |          |          |        V|
    1+30       2.6221      0.08  Q         |          |          |        V|
-------------------------------------------------------------------------
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA23100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 2
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

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Drainage Area = 28.30(Ac.) = 0.044 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 28.30(Ac.) = 0.044 Sq. Mi.
Length along longest watercourse = 2006.00(Ft.)
Length along longest watercourse measured to centroid = 995.00(Ft.)
Length along longest watercourse = 0.380 Mi.
Length along longest watercourse measured to centroid = 0.188 Mi.
Difference in elevation = 520.00(Ft.)
Slope along watercourse = 1368.6939 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.078 Hr.
Lag time = 4.69 Min.
25% of lag time = 1.17 Min.
40% of lag time = 1.88 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 28.30 | 0.81 | 22.92 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 28.30 | 1.81 | 51.22 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.810(In)
Area Averaged 100-Year Rainfall = 1.810(In)

Point rain (area averaged) = 1.810(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.810(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 28.300 | 83.74 | 0.000 |

Total Area Entered = 28.30(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.7 | 93.2 | 0.088 | 0.000 | 0.088 | 1.000 | 0.088 |
| | | | | | Sum (F) = | 0.088 |

Area averaged mean soil loss (F) (In/Hr) = 0.088

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 106.557 | 16.746 | 4.776 |
| 2 0.167 | 213.113 | 56.119 | 16.006 |
| 3 0.250 | 319.670 | 17.361 | 4.951 |
| 4 0.333 | 426.227 | 6.656 | 1.898 |
| 5 0.417 | 532.784 | 1.888 | 0.538 |
| 6 0.500 | 639.340 | 0.793 | 0.226 |
| 7 0.583 | 745.897 | 0.438 | 0.125 |
| | Sum = | 100.000 Sum= | 28.521 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.282 | 0.088 | ( 0.254) | 0.194 |
| 2 | 0.17 | 1.30 | 0.282 | 0.088 | ( 0.254) | 0.194 |
| 3 | 0.25 | 1.10 | 0.239 | 0.088 | ( 0.215) | 0.151 |
| 4 | 0.33 | 1.50 | 0.326 | 0.088 | ( 0.293) | 0.238 |
| 5 | 0.42 | 1.50 | 0.326 | 0.088 | ( 0.293) | 0.238 |
| 6 | 0.50 | 1.80 | 0.391 | 0.088 | ( 0.352) | 0.303 |
| 7 | 0.58 | 1.50 | 0.326 | 0.088 | ( 0.293) | 0.238 |
| 8 | 0.67 | 1.80 | 0.391 | 0.088 | ( 0.352) | 0.303 |
| 9 | 0.75 | 1.80 | 0.391 | 0.088 | ( 0.352) | 0.303 |
| 10 | 0.83 | 1.50 | 0.326 | 0.088 | ( 0.293) | 0.238 |
| 11 | 0.92 | 1.60 | 0.347 | 0.088 | ( 0.313) | 0.260 |
| 12 | 1.00 | 1.80 | 0.391 | 0.088 | ( 0.352) | 0.303 |
| 13 | 1.08 | 2.20 | 0.478 | 0.088 | ( 0.430) | 0.390 |
| 14 | 1.17 | 2.20 | 0.478 | 0.088 | ( 0.430) | 0.390 |
| 15 | 1.25 | 2.20 | 0.478 | 0.088 | ( 0.430) | 0.390 |
| 16 | 1.33 | 2.00 | 0.434 | 0.088 | ( 0.391) | 0.347 |
| 17 | 1.42 | 2.60 | 0.565 | 0.088 | ( 0.508) | 0.477 |
| 18 | 1.50 | 2.70 | 0.586 | 0.088 | ( 0.528) | 0.499 |
| 19 | 1.58 | 2.40 | 0.521 | 0.088 | ( 0.469) | 0.433 |
| 20 | 1.67 | 2.70 | 0.586 | 0.088 | ( 0.528) | 0.499 |
| 21 | 1.75 | 3.30 | 0.717 | 0.088 | ( 0.645) | 0.629 |
| 22 | 1.83 | 3.10 | 0.673 | 0.088 | ( 0.606) | 0.585 |
| 23 | 1.92 | 2.90 | 0.630 | 0.088 | ( 0.567) | 0.542 |
| 24 | 2.00 | 3.00 | 0.652 | 0.088 | ( 0.586) | 0.564 |
| 25 | 2.08 | 3.10 | 0.673 | 0.088 | ( 0.606) | 0.585 |
| 26 | 2.17 | 4.20 | 0.912 | 0.088 | ( 0.821) | 0.824 |
| 27 | 2.25 | 5.00 | 1.086 | 0.088 | ( 0.977) | 0.998 |
| 28 | 2.33 | 3.50 | 0.760 | 0.088 | ( 0.684) | 0.672 |
| 29 | 2.42 | 6.80 | 1.477 | 0.088 | ( 1.329) | 1.389 |
| 30 | 2.50 | 7.30 | 1.585 | 0.088 | ( 1.427) | 1.498 |
| 31 | 2.58 | 8.20 | 1.781 | 0.088 | ( 1.603) | 1.693 |
| 32 | 2.67 | 5.90 | 1.281 | 0.088 | ( 1.153) | 1.193 |
| 33 | 2.75 | 2.00 | 0.434 | 0.088 | ( 0.391) | 0.347 |
| 34 | 2.83 | 1.80 | 0.391 | 0.088 | ( 0.352) | 0.303 |
| 35 | 2.92 | 1.80 | 0.391 | 0.088 | ( 0.352) | 0.303 |
| 36 | 3.00 | 0.60 | 0.130 | 0.088 | ( 0.117) | 0.042 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 18.6 |

Flood volume = Effective rainfall 1.55(In)
times area 28.3(Ac.)/[(In)/(Ft.)] = 3.6(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.621(Ac.Ft)
Total rainfall = 1.81(In)
Flood volume = 158849.0 Cubic Feet
Total soil loss = 27067.4 Cubic Feet

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Peak flow rate of this hydrograph = 43.563(CFS)

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3 - H O U R  S T O R M
R u n o f f  H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 12.5 | 25.0 | 37.5 | 50.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0064 | 0.93 | Q | | | | |
| 0+10 | 0.0343 | 4.04 | V Q | | | | |
| 0+15 | 0.0673 | 4.80 | V Q | | | | |
| 0+20 | 0.1010 | 4.89 | V Q | | | | |
| 0+25 | 0.1435 | 6.17 | V Q | | | | |
| 0+30 | 0.1908 | 6.87 | V Q | | | | |
| 0+35 | 0.2443 | 7.77 | V Q | | | | |
| 0+40 | 0.2953 | 7.40 | V Q | | | | |
| 0+45 | 0.3521 | 8.26 | V Q | | | | |
| 0+50 | 0.4086 | 8.19 | V Q | | | | |
| 0+55 | 0.4592 | 7.35 | Q | | | | |
| 1+ 0 | 0.5117 | 7.62 | VQ | | | | |
| 1+ 5 | 0.5717 | 8.72 | Q | | | | |
| 1+10 | 0.6429 | 10.34 | VQ | | | | |
| 1+15 | 0.7176 | 10.85 | VQ | | | | |
| 1+20 | 0.7921 | 10.82 | Q | | | | |
| 1+25 | 0.8666 | 10.81 | QV | | | | |
| 1+30 | 0.9548 | 12.81 | Q | | | | |
| 1+35 | 1.0473 | 13.42 | QV | | | | |
| 1+40 | 1.1370 | 13.02 | Q V | | | | |
| 1+45 | 1.2366 | 14.47 | Q V | | | | |
| 1+50 | 1.3508 | 16.58 | QV | | | | |
| 1+55 | 1.4639 | 16.43 | Q V | | | | |
| 2+ 0 | 1.5734 | 15.90 | Q V | | | | |
| 2+ 5 | 1.6845 | 16.13 | Q V | | | | |
| 2+10 | 1.8061 | 17.66 | Q V | | | | |
| 2+15 | 1.9607 | 22.44 | Q V | | | | |
| 2+20 | 2.1321 | 24.89 | Q V | | | | |
| 2+25 | 2.3003 | 24.42 | Q V | | | | |
| 2+30 | 2.5432 | 35.27 | VQ | | | | |
| 2+35 | 2.8258 | 41.03 | V Q | | | | |
| 2+40 | 3.1258 | 43.56 | Q | | | | |
| 2+45 | 3.3532 | 33.02 | Q | | | | |
| 2+50 | 3.4726 | 17.33 | Q | | | | |
| 2+55 | 3.5532 | 11.71 | Q | | | | |
| 3+ 0 | 3.6113 | 8.43 | Q | | | | |
| 3+ 5 | 3.6349 | 3.43 | Q | | | | |
| 3+10 | 3.6430 | 1.18 | Q | | | | |
| 3+15 | 3.6454 | 0.36 | Q | | | | |
| 3+20 | 3.6463 | 0.13 | Q | | | | |
| 3+25 | 3.6466 | 0.05 | Q | | | | |
| 3+30 | 3.6467 | 0.01 | Q | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA26100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 2
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

---

Drainage Area = 28.30(Ac.) = 0.044 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 28.30(Ac.) = 0.044 Sq. Mi.
Length along longest watercourse = 2006.00(Ft.)
Length along longest watercourse measured to centroid = 995.00(Ft.)
Length along longest watercourse = 0.380 Mi.
Length along longest watercourse measured to centroid = 0.188 Mi.
Difference in elevation = 520.00(Ft.)
Slope along watercourse = 1368.6939 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.078 Hr.
Lag time = 4.69 Min.
25% of lag time = 1.17 Min.
40% of lag time = 1.88 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 28.30 | 1.14 | 32.26 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 28.30 | 2.50 | 70.75 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.140(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 28.300 | 83.74 | 0.000 |

Total Area Entered = 28.30(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.7 | 93.2 | 0.088 | 0.000 | 0.088 | 1.000 | 0.088 |
| | | | | | Sum (F) = | 0.088 |

Area averaged mean soil loss (F) (In/Hr) = 0.088

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 106.557 | 16.746 | 4.776 |
| 2 | 0.167 | 213.113 | 56.119 | 16.006 |
| 3 | 0.250 | 319.670 | 17.361 | 4.951 |
| 4 | 0.333 | 426.227 | 6.656 | 1.898 |
| 5 | 0.417 | 532.784 | 1.888 | 0.538 |
| 6 | 0.500 | 639.340 | 0.793 | 0.226 |
| 7 | 0.583 | 745.897 | 0.438 | 0.125 |
| | | | Sum = 100.000 Sum= | 28.521 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.088 | ( 0.135) 0.062 |
| 2 | 0.17 | 0.60 | 0.180 | 0.088 | ( 0.162) 0.092 |
| 3 | 0.25 | 0.60 | 0.180 | 0.088 | ( 0.162) 0.092 |
| 4 | 0.33 | 0.60 | 0.180 | 0.088 | ( 0.162) 0.092 |
| 5 | 0.42 | 0.60 | 0.180 | 0.088 | ( 0.162) 0.092 |
| 6 | 0.50 | 0.70 | 0.210 | 0.088 | ( 0.189) 0.122 |
| 7 | 0.58 | 0.70 | 0.210 | 0.088 | ( 0.189) 0.122 |
| 8 | 0.67 | 0.70 | 0.210 | 0.088 | ( 0.189) 0.122 |
| 9 | 0.75 | 0.70 | 0.210 | 0.088 | ( 0.189) 0.122 |
| 10 | 0.83 | 0.70 | 0.210 | 0.088 | ( 0.189) 0.122 |
| 11 | 0.92 | 0.70 | 0.210 | 0.088 | ( 0.189) 0.122 |
| 12 | 1.00 | 0.80 | 0.240 | 0.088 | ( 0.216) 0.152 |
| 13 | 1.08 | 0.80 | 0.240 | 0.088 | ( 0.216) 0.152 |
| 14 | 1.17 | 0.80 | 0.240 | 0.088 | ( 0.216) 0.152 |
| 15 | 1.25 | 0.80 | 0.240 | 0.088 | ( 0.216) 0.152 |
| 16 | 1.33 | 0.80 | 0.240 | 0.088 | ( 0.216) 0.152 |
| 17 | 1.42 | 0.80 | 0.240 | 0.088 | ( 0.216) 0.152 |
| 18 | 1.50 | 0.80 | 0.240 | 0.088 | ( 0.216) 0.152 |
| 19 | 1.58 | 0.80 | 0.240 | 0.088 | ( 0.216) 0.152 |
| 20 | 1.67 | 0.80 | 0.240 | 0.088 | ( 0.216) 0.152 |
| 21 | 1.75 | 0.80 | 0.240 | 0.088 | ( 0.216) 0.152 |
| 22 | 1.83 | 0.80 | 0.240 | 0.088 | ( 0.216) 0.152 |
| 23 | 1.92 | 0.80 | 0.240 | 0.088 | ( 0.216) 0.152 |
| 24 | 2.00 | 0.90 | 0.270 | 0.088 | ( 0.243) 0.182 |
| 25 | 2.08 | 0.80 | 0.240 | 0.088 | ( 0.216) 0.152 |
| 26 | 2.17 | 0.90 | 0.270 | 0.088 | ( 0.243) 0.182 |
| 27 | 2.25 | 0.90 | 0.270 | 0.088 | ( 0.243) 0.182 |
| 28 | 2.33 | 0.90 | 0.270 | 0.088 | ( 0.243) 0.182 |
| 29 | 2.42 | 0.90 | 0.270 | 0.088 | ( 0.243) 0.182 |
| 30 | 2.50 | 0.90 | 0.270 | 0.088 | ( 0.243) 0.182 |
| 31 | 2.58 | 0.90 | 0.270 | 0.088 | ( 0.243) 0.182 |
| 32 | 2.67 | 0.90 | 0.270 | 0.088 | ( 0.243) 0.182 |
| 33 | 2.75 | 1.00 | 0.300 | 0.088 | ( 0.270) 0.212 |
| 34 | 2.83 | 1.00 | 0.300 | 0.088 | ( 0.270) 0.212 |
| 35 | 2.92 | 1.00 | 0.300 | 0.088 | ( 0.270) 0.212 |
| 36 | 3.00 | 1.00 | 0.300 | 0.088 | ( 0.270) 0.212 |
| 37 | 3.08 | 1.00 | 0.300 | 0.088 | ( 0.270) 0.212 |
| 38 | 3.17 | 1.10 | 0.330 | 0.088 | ( 0.297) 0.242 |
| 39 | 3.25 | 1.10 | 0.330 | 0.088 | ( 0.297) 0.242 |
| 40 | 3.33 | 1.10 | 0.330 | 0.088 | ( 0.297) 0.242 |
| 41 | 3.42 | 1.20 | 0.360 | 0.088 | ( 0.324) 0.272 |
| 42 | 3.50 | 1.30 | 0.390 | 0.088 | ( 0.351) 0.302 |
| 43 | 3.58 | 1.40 | 0.420 | 0.088 | ( 0.378) 0.332 |
| 44 | 3.67 | 1.40 | 0.420 | 0.088 | ( 0.378) 0.332 |
| 45 | 3.75 | 1.50 | 0.450 | 0.088 | ( 0.405) 0.362 |
| 46 | 3.83 | 1.50 | 0.450 | 0.088 | ( 0.405) 0.362 |
| 47 | 3.92 | 1.60 | 0.480 | 0.088 | ( 0.432) 0.392 |
| 48 | 4.00 | 1.60 | 0.480 | 0.088 | ( 0.432) 0.392 |
| 49 | 4.08 | 1.70 | 0.510 | 0.088 | ( 0.459) 0.422 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 50 | 4.17 | 1.80 | 0.540 | 0.088 | ( 0.486) | 0.452 | |
| 51 | 4.25 | 1.90 | 0.570 | 0.088 | ( 0.513) | 0.482 | |
| 52 | 4.33 | 2.00 | 0.600 | 0.088 | ( 0.540) | 0.512 | |
| 53 | 4.42 | 2.10 | 0.630 | 0.088 | ( 0.567) | 0.542 | |
| 54 | 4.50 | 2.10 | 0.630 | 0.088 | ( 0.567) | 0.542 | |
| 55 | 4.58 | 2.20 | 0.660 | 0.088 | ( 0.594) | 0.572 | |
| 56 | 4.67 | 2.30 | 0.690 | 0.088 | ( 0.621) | 0.602 | |
| 57 | 4.75 | 2.40 | 0.720 | 0.088 | ( 0.648) | 0.632 | |
| 58 | 4.83 | 2.40 | 0.720 | 0.088 | ( 0.648) | 0.632 | |
| 59 | 4.92 | 2.50 | 0.750 | 0.088 | ( 0.675) | 0.662 | |
| 60 | 5.00 | 2.60 | 0.780 | 0.088 | ( 0.702) | 0.692 | |
| 61 | 5.08 | 3.10 | 0.930 | 0.088 | ( 0.837) | 0.842 | |
| 62 | 5.17 | 3.60 | 1.080 | 0.088 | ( 0.972) | 0.992 | |
| 63 | 5.25 | 3.90 | 1.170 | 0.088 | ( 1.053) | 1.082 | |
| 64 | 5.33 | 4.20 | 1.260 | 0.088 | ( 1.134) | 1.172 | |
| 65 | 5.42 | 4.70 | 1.410 | 0.088 | ( 1.269) | 1.322 | |
| 66 | 5.50 | 5.60 | 1.680 | 0.088 | ( 1.512) | 1.592 | |
| 67 | 5.58 | 1.90 | 0.570 | 0.088 | ( 0.513) | 0.482 | |
| 68 | 5.67 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 | |
| 69 | 5.75 | 0.60 | 0.180 | 0.088 | ( 0.162) | 0.092 | |
| 70 | 5.83 | 0.50 | 0.150 | 0.088 | ( 0.135) | 0.062 | |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.088) | 0.081 | 0.009 | |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.088) | 0.054 | 0.006 | |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.7

Flood volume = Effective rainfall 1.98(In)
times area 28.3(Ac.)/[(In)/(Ft.)] = 4.7(Ac.Ft)
Total soil loss = 0.52(In)
Total soil loss = 1.235(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 203010.8 Cubic Feet
Total soil loss = 53786.7 Cubic Feet

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Peak flow rate of this hydrograph = 37.486(CFS)

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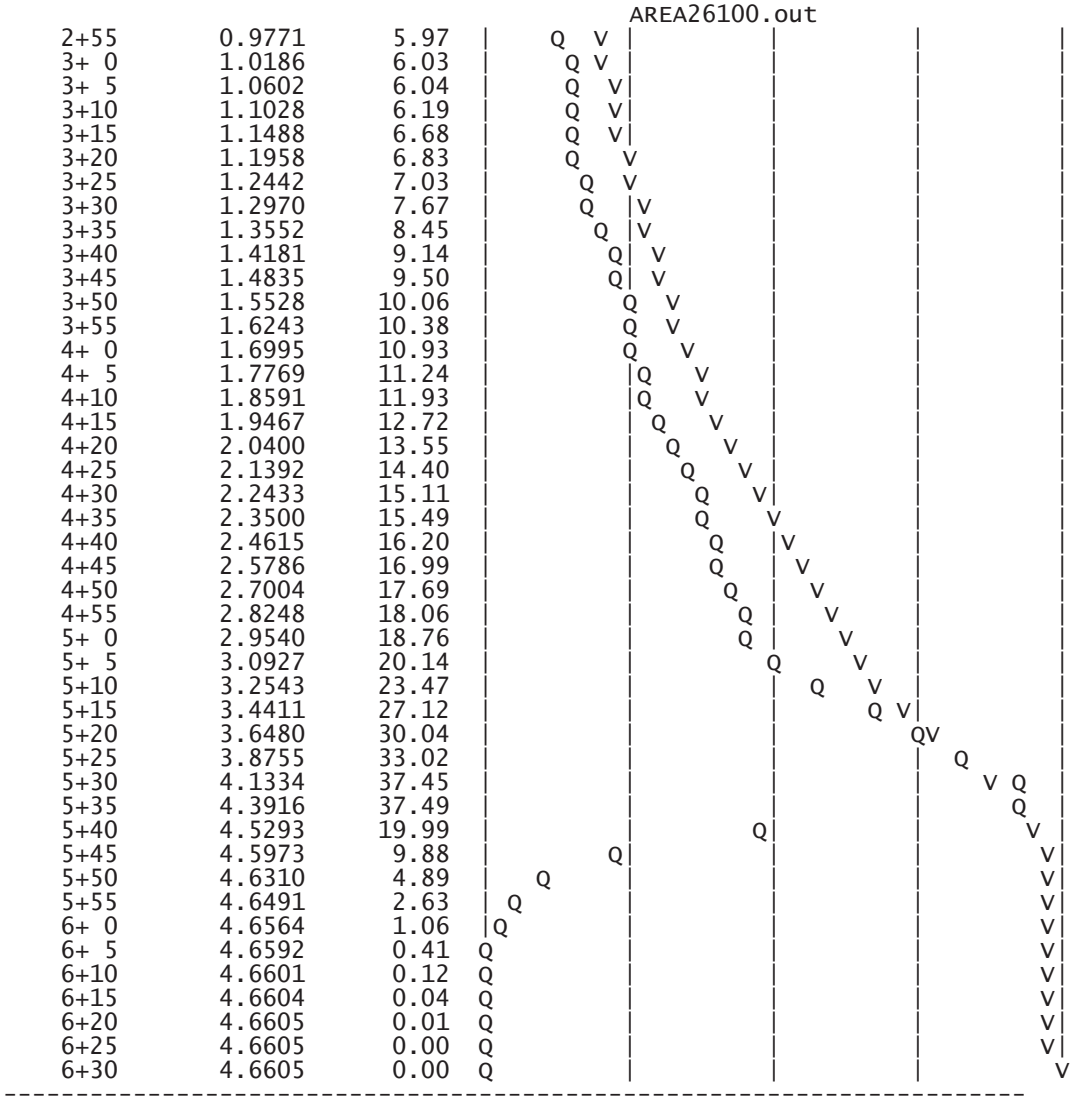
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 10.0 | 20.0 | 30.0 | 40.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0020 | 0.30 | Q | \| | \| | \| | \| |
| 0+10 | 0.0119 | 1.44 | VQ | \| | \| | \| | \| |
| 0+15 | 0.0273 | 2.22 | V Q | \| | \| | \| | \| |
| 0+20 | 0.0444 | 2.49 | V Q | \| | \| | \| | \| |
| 0+25 | 0.0622 | 2.58 | V Q | \| | \| | \| | \| |
| 0+30 | 0.0812 | 2.75 | V Q | \| | \| | \| | \| |
| 0+35 | 0.1035 | 3.25 | V Q | \| | \| | \| | \| |
| 0+40 | 0.1270 | 3.40 | \|V Q | \| | \| | \| | \| |
| 0+45 | 0.1508 | 3.46 | \|V Q | \| | \| | \| | \| |
| 0+50 | 0.1747 | 3.48 | \|V Q | \| | \| | \| | \| |
| 0+55 | 0.1987 | 3.48 | \|V Q | \| | \| | \| | \| |
| 1+ 0 | 0.2237 | 3.63 | \|V Q | \| | \| | \| | \| |
| 1+ 5 | 0.2520 | 4.11 | \| V Q | \| | \| | \| | \| |
| 1+10 | 0.2813 | 4.26 | \| V Q | \| | \| | \| | \| |
| 1+15 | 0.3110 | 4.31 | \| V Q | \| | \| | \| | \| |
| 1+20 | 0.3409 | 4.33 | \| V Q | \| | \| | \| | \| |
| 1+25 | 0.3707 | 4.34 | \| VQ | \| | \| | \| | \| |
| 1+30 | 0.4006 | 4.34 | \| VQ | \| | \| | \| | \| |
| 1+35 | 0.4305 | 4.34 | \| VQ | \| | \| | \| | \| |
| 1+40 | 0.4604 | 4.34 | \| VQ | \| | \| | \| | \| |
| 1+45 | 0.4903 | 4.34 | \| Q | \| | \| | \| | \| |
| 1+50 | 0.5203 | 4.34 | \| Q | \| | \| | \| | \| |
| 1+55 | 0.5502 | 4.34 | \| Q | \| | \| | \| | \| |
| 2+ 0 | 0.5810 | 4.49 | \| Q | \| | \| | \| | \| |
| 2+ 5 | 0.6143 | 4.82 | \| QV | \| | \| | \| | \| |
| 2+10 | 0.6462 | 4.63 | \| QV | \| | \| | \| | \| |
| 2+15 | 0.6808 | 5.02 | \| Q | \| | \| | \| | \| |
| 2+20 | 0.7161 | 5.13 | \| QV | \| | \| | \| | \| |
| 2+25 | 0.7517 | 5.18 | \| QV | \| | \| | \| | \| |
| 2+30 | 0.7875 | 5.19 | \| QV | \| | \| | \| | \| |
| 2+35 | 0.8233 | 5.19 | \| Q V | \| | \| | \| | \| |
| 2+40 | 0.8591 | 5.20 | \| Q V | \| | \| | \| | \| |
| 2+45 | 0.8958 | 5.34 | \| Q V | \| | \| | \| | \| |
| 2+50 | 0.9359 | 5.82 | \| Q V | \| | \| | \| | \| |



| | | | |
|---|---|---|---|
| 2+55 | 0.9771 | 5.97 | |
| 3+ 0 | 1.0186 | 6.03 | |
| 3+ 5 | 1.0602 | 6.04 | |
| 3+10 | 1.1028 | 6.19 | |
| 3+15 | 1.1488 | 6.68 | |
| 3+20 | 1.1958 | 6.83 | |
| 3+25 | 1.2442 | 7.03 | |
| 3+30 | 1.2970 | 7.67 | |
| 3+35 | 1.3552 | 8.45 | |
| 3+40 | 1.4181 | 9.14 | |
| 3+45 | 1.4835 | 9.50 | |
| 3+50 | 1.5528 | 10.06 | |
| 3+55 | 1.6243 | 10.38 | |
| 4+ 0 | 1.6995 | 10.93 | |
| 4+ 5 | 1.7769 | 11.24 | |
| 4+10 | 1.8591 | 11.93 | |
| 4+15 | 1.9467 | 12.72 | |
| 4+20 | 2.0400 | 13.55 | |
| 4+25 | 2.1392 | 14.40 | |
| 4+30 | 2.2433 | 15.11 | |
| 4+35 | 2.3500 | 15.49 | |
| 4+40 | 2.4615 | 16.20 | |
| 4+45 | 2.5786 | 16.99 | |
| 4+50 | 2.7004 | 17.69 | |
| 4+55 | 2.8248 | 18.06 | |
| 5+ 0 | 2.9540 | 18.76 | |
| 5+ 5 | 3.0927 | 20.14 | |
| 5+10 | 3.2543 | 23.47 | |
| 5+15 | 3.4411 | 27.12 | |
| 5+20 | 3.6480 | 30.04 | |
| 5+25 | 3.8755 | 33.02 | |
| 5+30 | 4.1334 | 37.45 | |
| 5+35 | 4.3916 | 37.49 | |
| 5+40 | 4.5293 | 19.99 | |
| 5+45 | 4.5973 | 9.88 | |
| 5+50 | 4.6310 | 4.89 | |
| 5+55 | 4.6491 | 2.63 | |
| 6+ 0 | 4.6564 | 1.06 | |
| 6+ 5 | 4.6592 | 0.41 | |
| 6+10 | 4.6601 | 0.12 | |
| 6+15 | 4.6604 | 0.04 | |
| 6+20 | 4.6605 | 0.01 | |
| 6+25 | 4.6605 | 0.00 | |
| 6+30 | 4.6605 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA224100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 2
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

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Drainage Area = 28.30(Ac.) = 0.044 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 28.30(Ac.) = 0.044 Sq. Mi.
Length along longest watercourse = 2006.00(Ft.)
Length along longest watercourse measured to centroid = 995.00(Ft.)
Length along longest watercourse = 0.380 Mi.
Length along longest watercourse measured to centroid = 0.188 Mi.
Difference in elevation = 520.00(Ft.)
Slope along watercourse = 1368.6939 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.078 Hr.
Lag time = 4.69 Min.
25% of lag time = 1.17 Min.
40% of lag time = 1.88 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 28.30 | 1.80 | 50.94 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 28.30 | 4.71 | 133.29 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.710(In)

Point rain (area averaged) = 4.710(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 4.710(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 28.300 | 83.74 | 0.000 |

Total Area Entered = 28.30(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.7 | 93.2 | 0.088 | 0.000 | 0.088 | 1.000 | 0.088 |
| | | | | | Sum (F) = | 0.088 |

Area averaged mean soil loss (F) (In/Hr) = 0.088

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 106.557 | 16.746 | 4.776 |
| 2 0.167 | 213.113 | 56.119 | 16.006 |
| 3 0.250 | 319.670 | 17.361 | 4.951 |
| 4 0.333 | 426.227 | 6.656 | 1.898 |
| 5 0.417 | 532.784 | 1.888 | 0.538 |
| 6 0.500 | 639.340 | 0.793 | 0.226 |
| 7 0.583 | 745.897 | 0.438 | 0.125 |
| | Sum = | 100.000 Sum= | 28.521 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.038 | ( 0.156) | 0.034 | 0.004 |
| 2 | 0.17 | 0.07 | 0.038 | ( 0.155) | 0.034 | 0.004 |
| 3 | 0.25 | 0.07 | 0.038 | ( 0.154) | 0.034 | 0.004 |
| 4 | 0.33 | 0.10 | 0.057 | ( 0.154) | 0.051 | 0.006 |
| 5 | 0.42 | 0.10 | 0.057 | ( 0.153) | 0.051 | 0.006 |
| 6 | 0.50 | 0.10 | 0.057 | ( 0.153) | 0.051 | 0.006 |
| 7 | 0.58 | 0.10 | 0.057 | ( 0.152) | 0.051 | 0.006 |
| 8 | 0.67 | 0.10 | 0.057 | ( 0.152) | 0.051 | 0.006 |
| 9 | 0.75 | 0.10 | 0.057 | ( 0.151) | 0.051 | 0.006 |
| 10 | 0.83 | 0.13 | 0.075 | ( 0.150) | 0.068 | 0.008 |
| 11 | 0.92 | 0.13 | 0.075 | ( 0.150) | 0.068 | 0.008 |
| 12 | 1.00 | 0.13 | 0.075 | ( 0.149) | 0.068 | 0.008 |
| 13 | 1.08 | 0.10 | 0.057 | ( 0.149) | 0.051 | 0.006 |
| 14 | 1.17 | 0.10 | 0.057 | ( 0.148) | 0.051 | 0.006 |
| 15 | 1.25 | 0.10 | 0.057 | ( 0.147) | 0.051 | 0.006 |
| 16 | 1.33 | 0.10 | 0.057 | ( 0.147) | 0.051 | 0.006 |
| 17 | 1.42 | 0.10 | 0.057 | ( 0.146) | 0.051 | 0.006 |
| 18 | 1.50 | 0.10 | 0.057 | ( 0.146) | 0.051 | 0.006 |
| 19 | 1.58 | 0.10 | 0.057 | ( 0.145) | 0.051 | 0.006 |
| 20 | 1.67 | 0.10 | 0.057 | ( 0.144) | 0.051 | 0.006 |
| 21 | 1.75 | 0.10 | 0.057 | ( 0.144) | 0.051 | 0.006 |
| 22 | 1.83 | 0.13 | 0.075 | ( 0.143) | 0.068 | 0.008 |
| 23 | 1.92 | 0.13 | 0.075 | ( 0.143) | 0.068 | 0.008 |
| 24 | 2.00 | 0.13 | 0.075 | ( 0.142) | 0.068 | 0.008 |
| 25 | 2.08 | 0.13 | 0.075 | ( 0.142) | 0.068 | 0.008 |
| 26 | 2.17 | 0.13 | 0.075 | ( 0.141) | 0.068 | 0.008 |
| 27 | 2.25 | 0.13 | 0.075 | ( 0.140) | 0.068 | 0.008 |
| 28 | 2.33 | 0.13 | 0.075 | ( 0.140) | 0.068 | 0.008 |
| 29 | 2.42 | 0.13 | 0.075 | ( 0.139) | 0.068 | 0.008 |
| 30 | 2.50 | 0.13 | 0.075 | ( 0.139) | 0.068 | 0.008 |
| 31 | 2.58 | 0.17 | 0.094 | ( 0.138) | 0.085 | 0.009 |
| 32 | 2.67 | 0.17 | 0.094 | ( 0.138) | 0.085 | 0.009 |
| 33 | 2.75 | 0.17 | 0.094 | ( 0.137) | 0.085 | 0.009 |
| 34 | 2.83 | 0.17 | 0.094 | ( 0.136) | 0.085 | 0.009 |
| 35 | 2.92 | 0.17 | 0.094 | ( 0.136) | 0.085 | 0.009 |
| 36 | 3.00 | 0.17 | 0.094 | ( 0.135) | 0.085 | 0.009 |
| 37 | 3.08 | 0.17 | 0.094 | ( 0.135) | 0.085 | 0.009 |
| 38 | 3.17 | 0.17 | 0.094 | ( 0.134) | 0.085 | 0.009 |
| 39 | 3.25 | 0.17 | 0.094 | ( 0.134) | 0.085 | 0.009 |
| 40 | 3.33 | 0.17 | 0.094 | ( 0.133) | 0.085 | 0.009 |
| 41 | 3.42 | 0.17 | 0.094 | ( 0.133) | 0.085 | 0.009 |
| 42 | 3.50 | 0.17 | 0.094 | ( 0.132) | 0.085 | 0.009 |
| 43 | 3.58 | 0.17 | 0.094 | ( 0.131) | 0.085 | 0.009 |
| 44 | 3.67 | 0.17 | 0.094 | ( 0.131) | 0.085 | 0.009 |
| 45 | 3.75 | 0.17 | 0.094 | ( 0.130) | 0.085 | 0.009 |
| 46 | 3.83 | 0.20 | 0.113 | ( 0.130) | 0.102 | 0.011 |
| 47 | 3.92 | 0.20 | 0.113 | ( 0.129) | 0.102 | 0.011 |
| 48 | 4.00 | 0.20 | 0.113 | ( 0.129) | 0.102 | 0.011 |
| 49 | 4.08 | 0.20 | 0.113 | ( 0.128) | 0.102 | 0.011 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 50 | 4.17 | 0.20 | 0.113 | ( | 0.128) | 0.102 | | 0.011 |
| 51 | 4.25 | 0.20 | 0.113 | ( | 0.127) | 0.102 | | 0.011 |
| 52 | 4.33 | 0.23 | 0.132 | ( | 0.127) | 0.119 | | 0.013 |
| 53 | 4.42 | 0.23 | 0.132 | ( | 0.126) | 0.119 | | 0.013 |
| 54 | 4.50 | 0.23 | 0.132 | ( | 0.125) | 0.119 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.132 | ( | 0.125) | 0.119 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.132 | ( | 0.124) | 0.119 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.132 | ( | 0.124) | 0.119 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.151 | | 0.123 | ( | 0.136) | 0.027 |
| 59 | 4.92 | 0.27 | 0.151 | | 0.123 | ( | 0.136) | 0.028 |
| 60 | 5.00 | 0.27 | 0.151 | | 0.122 | ( | 0.136) | 0.028 |
| 61 | 5.08 | 0.20 | 0.113 | ( | 0.122) | 0.102 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.113 | ( | 0.121) | 0.102 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.113 | ( | 0.121) | 0.102 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.132 | ( | 0.120) | 0.119 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.132 | ( | 0.120) | 0.119 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.132 | ( | 0.119) | 0.119 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.151 | | 0.119 | ( | 0.136) | 0.032 |
| 68 | 5.67 | 0.27 | 0.151 | | 0.118 | ( | 0.136) | 0.033 |
| 69 | 5.75 | 0.27 | 0.151 | | 0.117 | ( | 0.136) | 0.033 |
| 70 | 5.83 | 0.27 | 0.151 | | 0.117 | ( | 0.136) | 0.034 |
| 71 | 5.92 | 0.27 | 0.151 | | 0.116 | ( | 0.136) | 0.034 |
| 72 | 6.00 | 0.27 | 0.151 | | 0.116 | ( | 0.136) | 0.035 |
| 73 | 6.08 | 0.30 | 0.170 | | 0.115 | ( | 0.153) | 0.054 |
| 74 | 6.17 | 0.30 | 0.170 | | 0.115 | ( | 0.153) | 0.055 |
| 75 | 6.25 | 0.30 | 0.170 | | 0.114 | ( | 0.153) | 0.055 |
| 76 | 6.33 | 0.30 | 0.170 | | 0.114 | ( | 0.153) | 0.056 |
| 77 | 6.42 | 0.30 | 0.170 | | 0.113 | ( | 0.153) | 0.056 |
| 78 | 6.50 | 0.30 | 0.170 | | 0.113 | ( | 0.153) | 0.057 |
| 79 | 6.58 | 0.33 | 0.188 | | 0.112 | ( | 0.170) | 0.076 |
| 80 | 6.67 | 0.33 | 0.188 | | 0.112 | ( | 0.170) | 0.077 |
| 81 | 6.75 | 0.33 | 0.188 | | 0.111 | ( | 0.170) | 0.077 |
| 82 | 6.83 | 0.33 | 0.188 | | 0.111 | ( | 0.170) | 0.078 |
| 83 | 6.92 | 0.33 | 0.188 | | 0.110 | ( | 0.170) | 0.078 |
| 84 | 7.00 | 0.33 | 0.188 | | 0.110 | ( | 0.170) | 0.079 |
| 85 | 7.08 | 0.33 | 0.188 | | 0.109 | ( | 0.170) | 0.079 |
| 86 | 7.17 | 0.33 | 0.188 | | 0.109 | ( | 0.170) | 0.080 |
| 87 | 7.25 | 0.33 | 0.188 | | 0.108 | ( | 0.170) | 0.080 |
| 88 | 7.33 | 0.37 | 0.207 | | 0.108 | ( | 0.187) | 0.099 |
| 89 | 7.42 | 0.37 | 0.207 | | 0.107 | ( | 0.187) | 0.100 |
| 90 | 7.50 | 0.37 | 0.207 | | 0.107 | ( | 0.187) | 0.100 |
| 91 | 7.58 | 0.40 | 0.226 | | 0.106 | ( | 0.203) | 0.120 |
| 92 | 7.67 | 0.40 | 0.226 | | 0.106 | ( | 0.203) | 0.120 |
| 93 | 7.75 | 0.40 | 0.226 | | 0.105 | ( | 0.203) | 0.121 |
| 94 | 7.83 | 0.43 | 0.245 | | 0.105 | ( | 0.220) | 0.140 |
| 95 | 7.92 | 0.43 | 0.245 | | 0.104 | ( | 0.220) | 0.140 |
| 96 | 8.00 | 0.43 | 0.245 | | 0.104 | ( | 0.220) | 0.141 |
| 97 | 8.08 | 0.50 | 0.283 | | 0.103 | ( | 0.254) | 0.179 |
| 98 | 8.17 | 0.50 | 0.283 | | 0.103 | ( | 0.254) | 0.180 |
| 99 | 8.25 | 0.50 | 0.283 | | 0.102 | ( | 0.254) | 0.180 |
| 100 | 8.33 | 0.50 | 0.283 | | 0.102 | ( | 0.254) | 0.181 |
| 101 | 8.42 | 0.50 | 0.283 | | 0.102 | ( | 0.254) | 0.181 |
| 102 | 8.50 | 0.50 | 0.283 | | 0.101 | ( | 0.254) | 0.182 |
| 103 | 8.58 | 0.53 | 0.301 | | 0.101 | ( | 0.271) | 0.201 |
| 104 | 8.67 | 0.53 | 0.301 | | 0.100 | ( | 0.271) | 0.201 |
| 105 | 8.75 | 0.53 | 0.301 | | 0.100 | ( | 0.271) | 0.202 |
| 106 | 8.83 | 0.57 | 0.320 | | 0.099 | ( | 0.288) | 0.221 |
| 107 | 8.92 | 0.57 | 0.320 | | 0.099 | ( | 0.288) | 0.222 |
| 108 | 9.00 | 0.57 | 0.320 | | 0.098 | ( | 0.288) | 0.222 |
| 109 | 9.08 | 0.63 | 0.358 | | 0.098 | ( | 0.322) | 0.260 |
| 110 | 9.17 | 0.63 | 0.358 | | 0.097 | ( | 0.322) | 0.261 |
| 111 | 9.25 | 0.63 | 0.358 | | 0.097 | ( | 0.322) | 0.261 |
| 112 | 9.33 | 0.67 | 0.377 | | 0.096 | ( | 0.339) | 0.280 |
| 113 | 9.42 | 0.67 | 0.377 | | 0.096 | ( | 0.339) | 0.281 |
| 114 | 9.50 | 0.67 | 0.377 | | 0.095 | ( | 0.339) | 0.281 |
| 115 | 9.58 | 0.70 | 0.396 | | 0.095 | ( | 0.356) | 0.301 |
| 116 | 9.67 | 0.70 | 0.396 | | 0.095 | ( | 0.356) | 0.301 |
| 117 | 9.75 | 0.70 | 0.396 | | 0.094 | ( | 0.356) | 0.302 |
| 118 | 9.83 | 0.73 | 0.414 | | 0.094 | ( | 0.373) | 0.321 |
| 119 | 9.92 | 0.73 | 0.414 | | 0.093 | ( | 0.373) | 0.321 |
| 120 | 10.00 | 0.73 | 0.414 | | 0.093 | ( | 0.373) | 0.322 |
| 121 | 10.08 | 0.50 | 0.283 | | 0.092 | ( | 0.254) | 0.190 |
| 122 | 10.17 | 0.50 | 0.283 | | 0.092 | ( | 0.254) | 0.191 |
| 123 | 10.25 | 0.50 | 0.283 | | 0.091 | ( | 0.254) | 0.191 |
| 124 | 10.33 | 0.50 | 0.283 | | 0.091 | ( | 0.254) | 0.192 |
| 125 | 10.42 | 0.50 | 0.283 | | 0.091 | ( | 0.254) | 0.192 |
| 126 | 10.50 | 0.50 | 0.283 | | 0.090 | ( | 0.254) | 0.193 |
| 127 | 10.58 | 0.67 | 0.377 | | 0.090 | ( | 0.339) | 0.287 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 128 | 10.67 | 0.67 | 0.377 | 0.089 | ( 0.339) | 0.288 |
| 129 | 10.75 | 0.67 | 0.377 | 0.089 | ( 0.339) | 0.288 |
| 130 | 10.83 | 0.67 | 0.377 | 0.088 | ( 0.339) | 0.288 |
| 131 | 10.92 | 0.67 | 0.377 | 0.088 | ( 0.339) | 0.289 |
| 132 | 11.00 | 0.67 | 0.377 | 0.087 | ( 0.339) | 0.289 |
| 133 | 11.08 | 0.63 | 0.358 | 0.087 | ( 0.322) | 0.271 |
| 134 | 11.17 | 0.63 | 0.358 | 0.087 | ( 0.322) | 0.271 |
| 135 | 11.25 | 0.63 | 0.358 | 0.086 | ( 0.322) | 0.272 |
| 136 | 11.33 | 0.63 | 0.358 | 0.086 | ( 0.322) | 0.272 |
| 137 | 11.42 | 0.63 | 0.358 | 0.085 | ( 0.322) | 0.273 |
| 138 | 11.50 | 0.63 | 0.358 | 0.085 | ( 0.322) | 0.273 |
| 139 | 11.58 | 0.57 | 0.320 | 0.084 | ( 0.288) | 0.236 |
| 140 | 11.67 | 0.57 | 0.320 | 0.084 | ( 0.288) | 0.236 |
| 141 | 11.75 | 0.57 | 0.320 | 0.084 | ( 0.288) | 0.237 |
| 142 | 11.83 | 0.60 | 0.339 | 0.083 | ( 0.305) | 0.256 |
| 143 | 11.92 | 0.60 | 0.339 | 0.083 | ( 0.305) | 0.256 |
| 144 | 12.00 | 0.60 | 0.339 | 0.082 | ( 0.305) | 0.257 |
| 145 | 12.08 | 0.83 | 0.471 | 0.082 | ( 0.424) | 0.389 |
| 146 | 12.17 | 0.83 | 0.471 | 0.082 | ( 0.424) | 0.389 |
| 147 | 12.25 | 0.83 | 0.471 | 0.081 | ( 0.424) | 0.390 |
| 148 | 12.33 | 0.87 | 0.490 | 0.081 | ( 0.441) | 0.409 |
| 149 | 12.42 | 0.87 | 0.490 | 0.080 | ( 0.441) | 0.409 |
| 150 | 12.50 | 0.87 | 0.490 | 0.080 | ( 0.441) | 0.410 |
| 151 | 12.58 | 0.93 | 0.527 | 0.080 | ( 0.475) | 0.448 |
| 152 | 12.67 | 0.93 | 0.527 | 0.079 | ( 0.475) | 0.448 |
| 153 | 12.75 | 0.93 | 0.527 | 0.079 | ( 0.475) | 0.449 |
| 154 | 12.83 | 0.97 | 0.546 | 0.078 | ( 0.492) | 0.468 |
| 155 | 12.92 | 0.97 | 0.546 | 0.078 | ( 0.492) | 0.468 |
| 156 | 13.00 | 0.97 | 0.546 | 0.078 | ( 0.492) | 0.469 |
| 157 | 13.08 | 1.13 | 0.641 | 0.077 | ( 0.576) | 0.563 |
| 158 | 13.17 | 1.13 | 0.641 | 0.077 | ( 0.576) | 0.564 |
| 159 | 13.25 | 1.13 | 0.641 | 0.076 | ( 0.576) | 0.564 |
| 160 | 13.33 | 1.13 | 0.641 | 0.076 | ( 0.576) | 0.565 |
| 161 | 13.42 | 1.13 | 0.641 | 0.076 | ( 0.576) | 0.565 |
| 162 | 13.50 | 1.13 | 0.641 | 0.075 | ( 0.576) | 0.565 |
| 163 | 13.58 | 0.77 | 0.433 | 0.075 | ( 0.390) | 0.358 |
| 164 | 13.67 | 0.77 | 0.433 | 0.074 | ( 0.390) | 0.359 |
| 165 | 13.75 | 0.77 | 0.433 | 0.074 | ( 0.390) | 0.359 |
| 166 | 13.83 | 0.77 | 0.433 | 0.074 | ( 0.390) | 0.360 |
| 167 | 13.92 | 0.77 | 0.433 | 0.073 | ( 0.390) | 0.360 |
| 168 | 14.00 | 0.77 | 0.433 | 0.073 | ( 0.390) | 0.360 |
| 169 | 14.08 | 0.90 | 0.509 | 0.073 | ( 0.458) | 0.436 |
| 170 | 14.17 | 0.90 | 0.509 | 0.072 | ( 0.458) | 0.436 |
| 171 | 14.25 | 0.90 | 0.509 | 0.072 | ( 0.458) | 0.437 |
| 172 | 14.33 | 0.87 | 0.490 | 0.071 | ( 0.441) | 0.418 |
| 173 | 14.42 | 0.87 | 0.490 | 0.071 | ( 0.441) | 0.419 |
| 174 | 14.50 | 0.87 | 0.490 | 0.071 | ( 0.441) | 0.419 |
| 175 | 14.58 | 0.87 | 0.490 | 0.070 | ( 0.441) | 0.419 |
| 176 | 14.67 | 0.87 | 0.490 | 0.070 | ( 0.441) | 0.420 |
| 177 | 14.75 | 0.87 | 0.490 | 0.070 | ( 0.441) | 0.420 |
| 178 | 14.83 | 0.83 | 0.471 | 0.069 | ( 0.424) | 0.402 |
| 179 | 14.92 | 0.83 | 0.471 | 0.069 | ( 0.424) | 0.402 |
| 180 | 15.00 | 0.83 | 0.471 | 0.069 | ( 0.424) | 0.402 |
| 181 | 15.08 | 0.80 | 0.452 | 0.068 | ( 0.407) | 0.384 |
| 182 | 15.17 | 0.80 | 0.452 | 0.068 | ( 0.407) | 0.384 |
| 183 | 15.25 | 0.80 | 0.452 | 0.068 | ( 0.407) | 0.385 |
| 184 | 15.33 | 0.77 | 0.433 | 0.067 | ( 0.390) | 0.366 |
| 185 | 15.42 | 0.77 | 0.433 | 0.067 | ( 0.390) | 0.366 |
| 186 | 15.50 | 0.77 | 0.433 | 0.067 | ( 0.390) | 0.367 |
| 187 | 15.58 | 0.63 | 0.358 | 0.066 | ( 0.322) | 0.292 |
| 188 | 15.67 | 0.63 | 0.358 | 0.066 | ( 0.322) | 0.292 |
| 189 | 15.75 | 0.63 | 0.358 | 0.065 | ( 0.322) | 0.292 |
| 190 | 15.83 | 0.63 | 0.358 | 0.065 | ( 0.322) | 0.293 |
| 191 | 15.92 | 0.63 | 0.358 | 0.065 | ( 0.322) | 0.293 |
| 192 | 16.00 | 0.63 | 0.358 | 0.064 | ( 0.322) | 0.293 |
| 193 | 16.08 | 0.13 | 0.075 | 0.064 | ( 0.068) | 0.011 |
| 194 | 16.17 | 0.13 | 0.075 | 0.064 | ( 0.068) | 0.012 |
| 195 | 16.25 | 0.13 | 0.075 | 0.064 | ( 0.068) | 0.012 |
| 196 | 16.33 | 0.13 | 0.075 | 0.063 | ( 0.068) | 0.012 |
| 197 | 16.42 | 0.13 | 0.075 | 0.063 | ( 0.068) | 0.012 |
| 198 | 16.50 | 0.13 | 0.075 | 0.063 | ( 0.068) | 0.013 |
| 199 | 16.58 | 0.10 | 0.057 | ( 0.062) | 0.051 | 0.006 |
| 200 | 16.67 | 0.10 | 0.057 | ( 0.062) | 0.051 | 0.006 |
| 201 | 16.75 | 0.10 | 0.057 | ( 0.062) | 0.051 | 0.006 |
| 202 | 16.83 | 0.10 | 0.057 | ( 0.061) | 0.051 | 0.006 |
| 203 | 16.92 | 0.10 | 0.057 | ( 0.061) | 0.051 | 0.006 |
| 204 | 17.00 | 0.10 | 0.057 | ( 0.061) | 0.051 | 0.006 |
| 205 | 17.08 | 0.17 | 0.094 | 0.060 | ( 0.085) | 0.034 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 206 | 17.17 | 0.17 | 0.094 | | 0.060 | ( | 0.085) | 0.034 |
| 207 | 17.25 | 0.17 | 0.094 | | 0.060 | ( | 0.085) | 0.034 |
| 208 | 17.33 | 0.17 | 0.094 | | 0.059 | ( | 0.085) | 0.035 |
| 209 | 17.42 | 0.17 | 0.094 | | 0.059 | ( | 0.085) | 0.035 |
| 210 | 17.50 | 0.17 | 0.094 | | 0.059 | ( | 0.085) | 0.035 |
| 211 | 17.58 | 0.17 | 0.094 | | 0.059 | ( | 0.085) | 0.036 |
| 212 | 17.67 | 0.17 | 0.094 | | 0.058 | ( | 0.085) | 0.036 |
| 213 | 17.75 | 0.17 | 0.094 | | 0.058 | ( | 0.085) | 0.036 |
| 214 | 17.83 | 0.13 | 0.075 | | 0.058 | ( | 0.068) | 0.018 |
| 215 | 17.92 | 0.13 | 0.075 | | 0.057 | ( | 0.068) | 0.018 |
| 216 | 18.00 | 0.13 | 0.075 | | 0.057 | ( | 0.068) | 0.018 |
| 217 | 18.08 | 0.13 | 0.075 | | 0.057 | ( | 0.068) | 0.019 |
| 218 | 18.17 | 0.13 | 0.075 | | 0.057 | ( | 0.068) | 0.019 |
| 219 | 18.25 | 0.13 | 0.075 | | 0.056 | ( | 0.068) | 0.019 |
| 220 | 18.33 | 0.13 | 0.075 | | 0.056 | ( | 0.068) | 0.019 |
| 221 | 18.42 | 0.13 | 0.075 | | 0.056 | ( | 0.068) | 0.020 |
| 222 | 18.50 | 0.13 | 0.075 | | 0.055 | ( | 0.068) | 0.020 |
| 223 | 18.58 | 0.10 | 0.057 | ( | 0.055) | | 0.051 | 0.006 |
| 224 | 18.67 | 0.10 | 0.057 | ( | 0.055) | | 0.051 | 0.006 |
| 225 | 18.75 | 0.10 | 0.057 | ( | 0.055) | | 0.051 | 0.006 |
| 226 | 18.83 | 0.07 | 0.038 | ( | 0.054) | | 0.034 | 0.004 |
| 227 | 18.92 | 0.07 | 0.038 | ( | 0.054) | | 0.034 | 0.004 |
| 228 | 19.00 | 0.07 | 0.038 | ( | 0.054) | | 0.034 | 0.004 |
| 229 | 19.08 | 0.10 | 0.057 | ( | 0.054) | | 0.051 | 0.006 |
| 230 | 19.17 | 0.10 | 0.057 | ( | 0.053) | | 0.051 | 0.006 |
| 231 | 19.25 | 0.10 | 0.057 | ( | 0.053) | | 0.051 | 0.006 |
| 232 | 19.33 | 0.13 | 0.075 | | 0.053 | ( | 0.068) | 0.022 |
| 233 | 19.42 | 0.13 | 0.075 | | 0.053 | ( | 0.068) | 0.023 |
| 234 | 19.50 | 0.13 | 0.075 | | 0.052 | ( | 0.068) | 0.023 |
| 235 | 19.58 | 0.10 | 0.057 | ( | 0.052) | | 0.051 | 0.006 |
| 236 | 19.67 | 0.10 | 0.057 | ( | 0.052) | | 0.051 | 0.006 |
| 237 | 19.75 | 0.10 | 0.057 | ( | 0.052) | | 0.051 | 0.006 |
| 238 | 19.83 | 0.07 | 0.038 | ( | 0.051) | | 0.034 | 0.004 |
| 239 | 19.92 | 0.07 | 0.038 | ( | 0.051) | | 0.034 | 0.004 |
| 240 | 20.00 | 0.07 | 0.038 | ( | 0.051) | | 0.034 | 0.004 |
| 241 | 20.08 | 0.10 | 0.057 | | 0.051 | ( | 0.051) | 0.006 |
| 242 | 20.17 | 0.10 | 0.057 | | 0.051 | ( | 0.051) | 0.006 |
| 243 | 20.25 | 0.10 | 0.057 | | 0.050 | ( | 0.051) | 0.006 |
| 244 | 20.33 | 0.10 | 0.057 | | 0.050 | ( | 0.051) | 0.006 |
| 245 | 20.42 | 0.10 | 0.057 | | 0.050 | ( | 0.051) | 0.007 |
| 246 | 20.50 | 0.10 | 0.057 | | 0.050 | ( | 0.051) | 0.007 |
| 247 | 20.58 | 0.10 | 0.057 | | 0.049 | ( | 0.051) | 0.007 |
| 248 | 20.67 | 0.10 | 0.057 | | 0.049 | ( | 0.051) | 0.007 |
| 249 | 20.75 | 0.10 | 0.057 | | 0.049 | ( | 0.051) | 0.007 |
| 250 | 20.83 | 0.07 | 0.038 | ( | 0.049) | | 0.034 | 0.004 |
| 251 | 20.92 | 0.07 | 0.038 | ( | 0.049) | | 0.034 | 0.004 |
| 252 | 21.00 | 0.07 | 0.038 | ( | 0.048) | | 0.034 | 0.004 |
| 253 | 21.08 | 0.10 | 0.057 | | 0.048 | ( | 0.051) | 0.008 |
| 254 | 21.17 | 0.10 | 0.057 | | 0.048 | ( | 0.051) | 0.008 |
| 255 | 21.25 | 0.10 | 0.057 | | 0.048 | ( | 0.051) | 0.009 |
| 256 | 21.33 | 0.07 | 0.038 | ( | 0.048) | | 0.034 | 0.004 |
| 257 | 21.42 | 0.07 | 0.038 | ( | 0.048) | | 0.034 | 0.004 |
| 258 | 21.50 | 0.07 | 0.038 | ( | 0.047) | | 0.034 | 0.004 |
| 259 | 21.58 | 0.10 | 0.057 | | 0.047 | ( | 0.051) | 0.009 |
| 260 | 21.67 | 0.10 | 0.057 | | 0.047 | ( | 0.051) | 0.009 |
| 261 | 21.75 | 0.10 | 0.057 | | 0.047 | ( | 0.051) | 0.010 |
| 262 | 21.83 | 0.07 | 0.038 | ( | 0.047) | | 0.034 | 0.004 |
| 263 | 21.92 | 0.07 | 0.038 | ( | 0.047) | | 0.034 | 0.004 |
| 264 | 22.00 | 0.07 | 0.038 | ( | 0.046) | | 0.034 | 0.004 |
| 265 | 22.08 | 0.10 | 0.057 | | 0.046 | ( | 0.051) | 0.010 |
| 266 | 22.17 | 0.10 | 0.057 | | 0.046 | ( | 0.051) | 0.010 |
| 267 | 22.25 | 0.10 | 0.057 | | 0.046 | ( | 0.051) | 0.011 |
| 268 | 22.33 | 0.07 | 0.038 | ( | 0.046) | | 0.034 | 0.004 |
| 269 | 22.42 | 0.07 | 0.038 | ( | 0.046) | | 0.034 | 0.004 |
| 270 | 22.50 | 0.07 | 0.038 | ( | 0.046) | | 0.034 | 0.004 |
| 271 | 22.58 | 0.07 | 0.038 | ( | 0.045) | | 0.034 | 0.004 |
| 272 | 22.67 | 0.07 | 0.038 | ( | 0.045) | | 0.034 | 0.004 |
| 273 | 22.75 | 0.07 | 0.038 | ( | 0.045) | | 0.034 | 0.004 |
| 274 | 22.83 | 0.07 | 0.038 | ( | 0.045) | | 0.034 | 0.004 |
| 275 | 22.92 | 0.07 | 0.038 | ( | 0.045) | | 0.034 | 0.004 |
| 276 | 23.00 | 0.07 | 0.038 | ( | 0.045) | | 0.034 | 0.004 |
| 277 | 23.08 | 0.07 | 0.038 | ( | 0.045) | | 0.034 | 0.004 |
| 278 | 23.17 | 0.07 | 0.038 | ( | 0.045) | | 0.034 | 0.004 |
| 279 | 23.25 | 0.07 | 0.038 | ( | 0.044) | | 0.034 | 0.004 |
| 280 | 23.33 | 0.07 | 0.038 | ( | 0.044) | | 0.034 | 0.004 |
| 281 | 23.42 | 0.07 | 0.038 | ( | 0.044) | | 0.034 | 0.004 |
| 282 | 23.50 | 0.07 | 0.038 | ( | 0.044) | | 0.034 | 0.004 |
| 283 | 23.58 | 0.07 | 0.038 | ( | 0.044) | | 0.034 | 0.004 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 284 | 23.67 | 0.07 | 0.038 | ( | 0.044) | 0.034 | 0.004 |
| 285 | 23.75 | 0.07 | 0.038 | ( | 0.044) | 0.034 | 0.004 |
| 286 | 23.83 | 0.07 | 0.038 | ( | 0.044) | 0.034 | 0.004 |
| 287 | 23.92 | 0.07 | 0.038 | ( | 0.044) | 0.034 | 0.004 |
| 288 | 24.00 | 0.07 | 0.038 | ( | 0.044) | 0.034 | 0.004 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 35.5

Flood volume = Effective rainfall 2.96(In)
times area 28.3(Ac.)/[(In)/(Ft.)] = 7.0(Ac.Ft)
Total soil loss = 1.75(In)
Total soil loss = 4.131(Ac.Ft)
Total rainfall = 4.71(In)
Flood volume = 303869.6 Cubic Feet
Total soil loss = 179957.2 Cubic Feet

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Peak flow rate of this hydrograph = 16.106(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

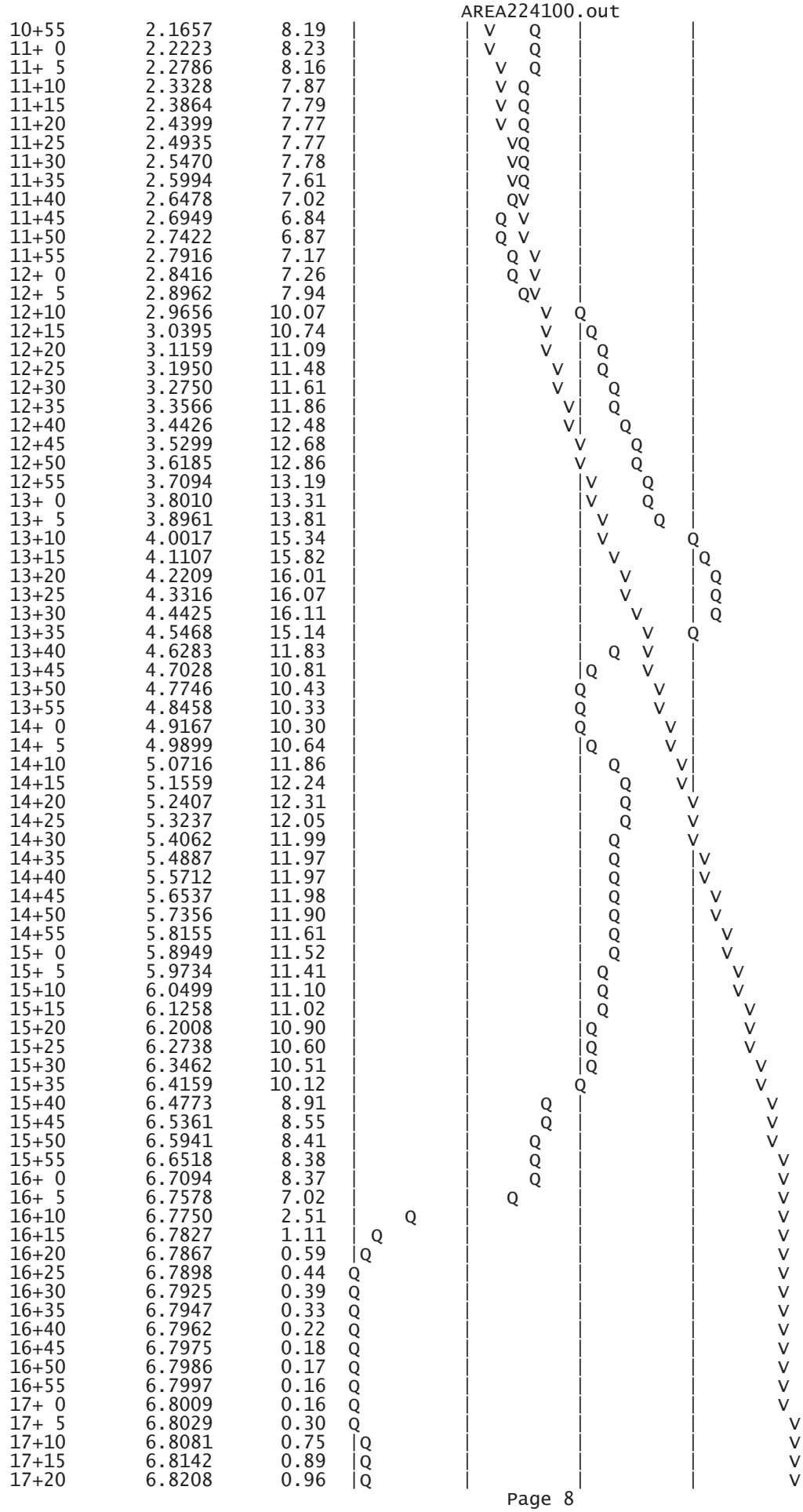
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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 5.0 | 10.0 | 15.0 | 20.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0001 | 0.02 | Q | | | | |
| 0+10 | 0.0007 | 0.08 | Q | | | | |
| 0+15 | 0.0013 | 0.10 | Q | | | | |
| 0+20 | 0.0021 | 0.11 | Q | | | | |
| 0+25 | 0.0031 | 0.15 | Q | | | | |
| 0+30 | 0.0042 | 0.16 | Q | | | | |
| 0+35 | 0.0053 | 0.16 | Q | | | | |
| 0+40 | 0.0064 | 0.16 | Q | | | | |
| 0+45 | 0.0075 | 0.16 | Q | | | | |
| 0+50 | 0.0087 | 0.17 | Q | | | | |
| 0+55 | 0.0101 | 0.20 | Q | | | | |
| 1+ 0 | 0.0115 | 0.21 | Q | | | | |
| 1+ 5 | 0.0129 | 0.20 | Q | | | | |
| 1+10 | 0.0141 | 0.18 | Q | | | | |
| 1+15 | 0.0153 | 0.17 | Q | | | | |
| 1+20 | 0.0164 | 0.16 | Q | | | | |
| 1+25 | 0.0175 | 0.16 | Q | | | | |
| 1+30 | 0.0186 | 0.16 | Q | | | | |
| 1+35 | 0.0197 | 0.16 | Q | | | | |
| 1+40 | 0.0208 | 0.16 | Q | | | | |
| 1+45 | 0.0219 | 0.16 | Q | | | | |
| 1+50 | 0.0231 | 0.17 | Q | | | | |
| 1+55 | 0.0245 | 0.20 | Q | | | | |
| 2+ 0 | 0.0259 | 0.21 | Q | | | | |
| 2+ 5 | 0.0274 | 0.21 | Q | | | | |
| 2+10 | 0.0289 | 0.21 | Q | | | | |
| 2+15 | 0.0304 | 0.21 | Q | | | | |
| 2+20 | 0.0318 | 0.22 | Q | | | | |
| 2+25 | 0.0333 | 0.22 | Q | | | | |
| 2+30 | 0.0348 | 0.22 | Q | | | | |
| 2+35 | 0.0363 | 0.22 | Q | | | | |
| 2+40 | 0.0381 | 0.25 | Q | | | | |
| 2+45 | 0.0399 | 0.26 | Q | | | | |
| 2+50 | 0.0418 | 0.27 | Q | | | | |
| 2+55 | 0.0436 | 0.27 | Q | | | | |
| 3+ 0 | 0.0454 | 0.27 | Q | | | | |
| 3+ 5 | 0.0473 | 0.27 | Q | | | | |
| 3+10 | 0.0492 | 0.27 | Q | | | | |
| 3+15 | 0.0510 | 0.27 | Q | | | | |
| 3+20 | 0.0529 | 0.27 | Q | | | | |
| 3+25 | 0.0547 | 0.27 | Q | | | | |
| 3+30 | 0.0566 | 0.27 | Q | | | | |
| 3+35 | 0.0584 | 0.27 | Q | | | | |
| 3+40 | 0.0603 | 0.27 | Q | | | | |
| 3+45 | 0.0621 | 0.27 | Q | | | | |
| 3+50 | 0.0640 | 0.28 | Q | | | | |
| 3+55 | 0.0661 | 0.31 | Q | | | | |
| 4+ 0 | 0.0683 | 0.32 | Q | | | | |
| 4+ 5 | 0.0705 | 0.32 | Q | | | | |
| 4+10 | 0.0728 | 0.32 | Q | | | | |
| 4+15 | 0.0750 | 0.32 | Q | | | | |
| 4+20 | 0.0773 | 0.33 | Q | | | | |

| | | | |
|---|---|---|---|
| 4+25 | 0.0797 | 0.36 | Q |
| 4+30 | 0.0823 | 0.37 | Q |
| 4+35 | 0.0849 | 0.37 | Q |
| 4+40 | 0.0875 | 0.38 | Q |
| 4+45 | 0.0901 | 0.38 | Q |
| 4+50 | 0.0931 | 0.44 | Q |
| 4+55 | 0.0978 | 0.68 | VQ |
| 5+ 0 | 0.1030 | 0.76 | VQ |
| 5+ 5 | 0.1079 | 0.71 | VQ |
| 5+10 | 0.1110 | 0.45 | Q |
| 5+15 | 0.1135 | 0.37 | Q |
| 5+20 | 0.1159 | 0.35 | Q |
| 5+25 | 0.1184 | 0.37 | Q |
| 5+30 | 0.1210 | 0.37 | Q |
| 5+35 | 0.1242 | 0.47 | Q |
| 5+40 | 0.1295 | 0.77 | VQ |
| 5+45 | 0.1356 | 0.88 | VQ |
| 5+50 | 0.1420 | 0.93 | VQ |
| 5+55 | 0.1485 | 0.95 | VQ |
| 6+ 0 | 0.1552 | 0.97 | VQ |
| 6+ 5 | 0.1627 | 1.08 | V Q |
| 6+10 | 0.1723 | 1.40 | V Q |
| 6+15 | 0.1826 | 1.50 | V Q |
| 6+20 | 0.1933 | 1.55 | V Q |
| 6+25 | 0.2042 | 1.58 | V Q |
| 6+30 | 0.2152 | 1.60 | V Q |
| 6+35 | 0.2269 | 1.70 | V Q |
| 6+40 | 0.2408 | 2.02 | V Q |
| 6+45 | 0.2555 | 2.13 | V Q |
| 6+50 | 0.2705 | 2.18 | V Q |
| 6+55 | 0.2857 | 2.20 | V Q |
| 7+ 0 | 0.3010 | 2.22 | V Q |
| 7+ 5 | 0.3164 | 2.24 | V Q |
| 7+10 | 0.3319 | 2.25 | V Q |
| 7+15 | 0.3475 | 2.27 | V Q |
| 7+20 | 0.3638 | 2.37 | V Q |
| 7+25 | 0.3823 | 2.69 | V Q |
| 7+30 | 0.4016 | 2.79 | V Q |
| 7+35 | 0.4218 | 2.93 | V Q |
| 7+40 | 0.4442 | 3.26 | V Q |
| 7+45 | 0.4674 | 3.37 | V Q |
| 7+50 | 0.4916 | 3.51 | V Q |
| 7+55 | 0.5181 | 3.84 | V Q |
| 8+ 0 | 0.5453 | 3.95 | V Q |
| 8+ 5 | 0.5741 | 4.18 | V Q |
| 8+10 | 0.6072 | 4.81 | V Q |
| 8+15 | 0.6417 | 5.01 | V Q |
| 8+20 | 0.6769 | 5.10 | V Q |
| 8+25 | 0.7123 | 5.14 | V Q |
| 8+30 | 0.7478 | 5.16 | V Q |
| 8+35 | 0.7841 | 5.27 | V Q |
| 8+40 | 0.8225 | 5.58 | V Q |
| 8+45 | 0.8617 | 5.69 | V Q |
| 8+50 | 0.9018 | 5.83 | V Q |
| 8+55 | 0.9442 | 6.15 | V Q |
| 9+ 0 | 0.9873 | 6.26 | V Q |
| 9+ 5 | 1.0321 | 6.50 | V Q |
| 9+10 | 1.0811 | 7.12 | V Q |
| 9+15 | 1.1316 | 7.33 | V Q |
| 9+20 | 1.1832 | 7.50 | V Q |
| 9+25 | 1.2372 | 7.84 | V Q |
| 9+30 | 1.2920 | 7.95 | V Q |
| 9+35 | 1.3478 | 8.10 | V Q |
| 9+40 | 1.4058 | 8.42 | V Q |
| 9+45 | 1.4645 | 8.53 | V Q |
| 9+50 | 1.5243 | 8.67 | V Q |
| 9+55 | 1.5863 | 9.00 | V Q |
| 10+ 0 | 1.6490 | 9.11 | V Q |
| 10+ 5 | 1.7077 | 8.53 | V Q |
| 10+10 | 1.7521 | 6.44 | V Q |
| 10+15 | 1.7921 | 5.81 | VQ |
| 10+20 | 1.8304 | 5.57 | VQ |
| 10+25 | 1.8684 | 5.51 | VQ |
| 10+30 | 1.9062 | 5.49 | Q |
| 10+35 | 1.9471 | 5.94 | Q |
| 10+40 | 1.9985 | 7.46 | V Q |
| 10+45 | 2.0532 | 7.94 | V Q |
| 10+50 | 2.1092 | 8.13 | V Q |



| | | | |
|---|---|---|---|
| 10+55 | 2.1657 | 8.19 | |
| 11+ 0 | 2.2223 | 8.23 | |
| 11+ 5 | 2.2786 | 8.16 | |
| 11+10 | 2.3328 | 7.87 | |
| 11+15 | 2.3864 | 7.79 | |
| 11+20 | 2.4399 | 7.77 | |
| 11+25 | 2.4935 | 7.77 | |
| 11+30 | 2.5470 | 7.78 | |
| 11+35 | 2.5994 | 7.61 | |
| 11+40 | 2.6478 | 7.02 | |
| 11+45 | 2.6949 | 6.84 | |
| 11+50 | 2.7422 | 6.87 | |
| 11+55 | 2.7916 | 7.17 | |
| 12+ 0 | 2.8416 | 7.26 | |
| 12+ 5 | 2.8962 | 7.94 | |
| 12+10 | 2.9656 | 10.07 | |
| 12+15 | 3.0395 | 10.74 | |
| 12+20 | 3.1159 | 11.09 | |
| 12+25 | 3.1950 | 11.48 | |
| 12+30 | 3.2750 | 11.61 | |
| 12+35 | 3.3566 | 11.86 | |
| 12+40 | 3.4426 | 12.48 | |
| 12+45 | 3.5299 | 12.68 | |
| 12+50 | 3.6185 | 12.86 | |
| 12+55 | 3.7094 | 13.19 | |
| 13+ 0 | 3.8010 | 13.31 | |
| 13+ 5 | 3.8961 | 13.81 | |
| 13+10 | 4.0017 | 15.34 | |
| 13+15 | 4.1107 | 15.82 | |
| 13+20 | 4.2209 | 16.01 | |
| 13+25 | 4.3316 | 16.07 | |
| 13+30 | 4.4425 | 16.11 | |
| 13+35 | 4.5468 | 15.14 | |
| 13+40 | 4.6283 | 11.83 | |
| 13+45 | 4.7028 | 10.81 | |
| 13+50 | 4.7746 | 10.43 | |
| 13+55 | 4.8458 | 10.33 | |
| 14+ 0 | 4.9167 | 10.30 | |
| 14+ 5 | 4.9899 | 10.64 | |
| 14+10 | 5.0716 | 11.86 | |
| 14+15 | 5.1559 | 12.24 | |
| 14+20 | 5.2407 | 12.31 | |
| 14+25 | 5.3237 | 12.05 | |
| 14+30 | 5.4062 | 11.99 | |
| 14+35 | 5.4887 | 11.97 | |
| 14+40 | 5.5712 | 11.97 | |
| 14+45 | 5.6537 | 11.98 | |
| 14+50 | 5.7356 | 11.90 | |
| 14+55 | 5.8155 | 11.61 | |
| 15+ 0 | 5.8949 | 11.52 | |
| 15+ 5 | 5.9734 | 11.41 | |
| 15+10 | 6.0499 | 11.10 | |
| 15+15 | 6.1258 | 11.02 | |
| 15+20 | 6.2008 | 10.90 | |
| 15+25 | 6.2738 | 10.60 | |
| 15+30 | 6.3462 | 10.51 | |
| 15+35 | 6.4159 | 10.12 | |
| 15+40 | 6.4773 | 8.91 | |
| 15+45 | 6.5361 | 8.55 | |
| 15+50 | 6.5941 | 8.41 | |
| 15+55 | 6.6518 | 8.38 | |
| 16+ 0 | 6.7094 | 8.37 | |
| 16+ 5 | 6.7578 | 7.02 | |
| 16+10 | 6.7750 | 2.51 | |
| 16+15 | 6.7827 | 1.11 | |
| 16+20 | 6.7867 | 0.59 | |
| 16+25 | 6.7898 | 0.44 | |
| 16+30 | 6.7925 | 0.39 | |
| 16+35 | 6.7947 | 0.33 | |
| 16+40 | 6.7962 | 0.22 | |
| 16+45 | 6.7975 | 0.18 | |
| 16+50 | 6.7986 | 0.17 | |
| 16+55 | 6.7997 | 0.16 | |
| 17+ 0 | 6.8009 | 0.16 | |
| 17+ 5 | 6.8029 | 0.30 | |
| 17+10 | 6.8081 | 0.75 | |
| 17+15 | 6.8142 | 0.89 | |
| 17+20 | 6.8208 | 0.96 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+25 | 6.8275 | 0.98 | \|Q | \| | \| | \| | V\| |
| 17+30 | 6.8344 | 0.99 | \|Q | \| | \| | \| | V\| |
| 17+35 | 6.8413 | 1.01 | \| Q | \| | \| | \| | V\| |
| 17+40 | 6.8483 | 1.01 | \| Q | \| | \| | \| | V\| |
| 17+45 | 6.8554 | 1.02 | \| Q | \| | \| | \| | V\| |
| 17+50 | 6.8618 | 0.94 | \|Q | \| | \| | \| | V\| |
| 17+55 | 6.8663 | 0.65 | \|Q | \| | \| | \| | V\| |
| 18+ 0 | 6.8702 | 0.56 | \|Q | \| | \| | \| | V\| |
| 18+ 5 | 6.8739 | 0.53 | \|Q | \| | \| | \| | V\| |
| 18+10 | 6.8775 | 0.53 | \|Q | \| | \| | \| | V\| |
| 18+15 | 6.8812 | 0.54 | \|Q | \| | \| | \| | V\| |
| 18+20 | 6.8850 | 0.54 | \|Q | \| | \| | \| | V\| |
| 18+25 | 6.8887 | 0.55 | \|Q | \| | \| | \| | V\| |
| 18+30 | 6.8926 | 0.56 | \|Q | \| | \| | \| | V\| |
| 18+35 | 6.8960 | 0.50 | Q | \| | \| | \| | V\| |
| 18+40 | 6.8979 | 0.27 | Q | \| | \| | \| | V\| |
| 18+45 | 6.8992 | 0.20 | Q | \| | \| | \| | V\| |
| 18+50 | 6.9004 | 0.16 | Q | \| | \| | \| | V\| |
| 18+55 | 6.9013 | 0.13 | Q | \| | \| | \| | V\| |
| 19+ 0 | 6.9020 | 0.11 | Q | \| | \| | \| | V\| |
| 19+ 5 | 6.9029 | 0.12 | Q | \| | \| | \| | V\| |
| 19+10 | 6.9039 | 0.15 | Q | \| | \| | \| | V\| |
| 19+15 | 6.9050 | 0.16 | Q | \| | \| | \| | V\| |
| 19+20 | 6.9066 | 0.24 | Q | \| | \| | \| | V\| |
| 19+25 | 6.9101 | 0.51 | \|Q | \| | \| | \| | V\| |
| 19+30 | 6.9143 | 0.60 | \|Q | \| | \| | \| | V\| |
| 19+35 | 6.9181 | 0.55 | \|Q | \| | \| | \| | V\| |
| 19+40 | 6.9201 | 0.29 | Q | \| | \| | \| | V\| |
| 19+45 | 6.9215 | 0.21 | Q | \| | \| | \| | V\| |
| 19+50 | 6.9226 | 0.17 | Q | \| | \| | \| | V\| |
| 19+55 | 6.9235 | 0.13 | Q | \| | \| | \| | V\| |
| 20+ 0 | 6.9243 | 0.11 | Q | \| | \| | \| | V\| |
| 20+ 5 | 6.9251 | 0.12 | Q | \| | \| | \| | V\| |
| 20+10 | 6.9262 | 0.15 | Q | \| | \| | \| | V\| |
| 20+15 | 6.9273 | 0.16 | Q | \| | \| | \| | V\| |
| 20+20 | 6.9285 | 0.17 | Q | \| | \| | \| | V\| |
| 20+25 | 6.9297 | 0.18 | Q | \| | \| | \| | V\| |
| 20+30 | 6.9310 | 0.19 | Q | \| | \| | \| | V\| |
| 20+35 | 6.9324 | 0.19 | Q | \| | \| | \| | V\| |
| 20+40 | 6.9337 | 0.20 | Q | \| | \| | \| | V\| |
| 20+45 | 6.9351 | 0.21 | Q | \| | \| | \| | V\| |
| 20+50 | 6.9365 | 0.19 | Q | \| | \| | \| | V\| |
| 20+55 | 6.9374 | 0.14 | Q | \| | \| | \| | V\| |
| 21+ 0 | 6.9382 | 0.12 | Q | \| | \| | \| | V\| |
| 21+ 5 | 6.9391 | 0.13 | Q | \| | \| | \| | V\| |
| 21+10 | 6.9405 | 0.20 | Q | \| | \| | \| | V\| |
| 21+15 | 6.9421 | 0.23 | Q | \| | \| | \| | V\| |
| 21+20 | 6.9436 | 0.22 | Q | \| | \| | \| | V\| |
| 21+25 | 6.9446 | 0.14 | Q | \| | \| | \| | V\| |
| 21+30 | 6.9454 | 0.12 | Q | \| | \| | \| | V\| |
| 21+35 | 6.9463 | 0.14 | Q | \| | \| | \| | V\| |
| 21+40 | 6.9479 | 0.23 | Q | \| | \| | \| | V\| |
| 21+45 | 6.9497 | 0.26 | Q | \| | \| | \| | V\| |
| 21+50 | 6.9513 | 0.24 | Q | \| | \| | \| | V\| |
| 21+55 | 6.9524 | 0.15 | Q | \| | \| | \| | V\| |
| 22+ 0 | 6.9532 | 0.12 | Q | \| | \| | \| | V\| |
| 22+ 5 | 6.9542 | 0.14 | Q | \| | \| | \| | V\| |
| 22+10 | 6.9559 | 0.25 | Q | \| | \| | \| | V\| |
| 22+15 | 6.9578 | 0.28 | Q | \| | \| | \| | V\| |
| 22+20 | 6.9596 | 0.26 | Q | \| | \| | \| | V\| |
| 22+25 | 6.9607 | 0.16 | Q | \| | \| | \| | V\| |
| 22+30 | 6.9616 | 0.13 | Q | \| | \| | \| | V\| |
| 22+35 | 6.9624 | 0.11 | Q | \| | \| | \| | V\| |
| 22+40 | 6.9631 | 0.11 | Q | \| | \| | \| | V\| |
| 22+45 | 6.9639 | 0.11 | Q | \| | \| | \| | V\| |
| 22+50 | 6.9646 | 0.11 | Q | \| | \| | \| | V\| |
| 22+55 | 6.9653 | 0.11 | Q | \| | \| | \| | V\| |
| 23+ 0 | 6.9661 | 0.11 | Q | \| | \| | \| | V\| |
| 23+ 5 | 6.9668 | 0.11 | Q | \| | \| | \| | V\| |
| 23+10 | 6.9676 | 0.11 | Q | \| | \| | \| | V\| |
| 23+15 | 6.9683 | 0.11 | Q | \| | \| | \| | V\| |
| 23+20 | 6.9690 | 0.11 | Q | \| | \| | \| | V\| |
| 23+25 | 6.9698 | 0.11 | Q | \| | \| | \| | V\| |
| 23+30 | 6.9705 | 0.11 | Q | \| | \| | \| | V\| |
| 23+35 | 6.9713 | 0.11 | Q | \| | \| | \| | V\| |
| 23+40 | 6.9720 | 0.11 | Q | \| | \| | \| | V\| |
| 23+45 | 6.9727 | 0.11 | Q | \| | \| | \| | V\| |
| 23+50 | 6.9735 | 0.11 | Q | \| | \| | \| | V\| |

```
   23+55       6.9742      0.11  Q          |          |          |         V|
   24+ 0       6.9750      0.11  Q          |          |          |         V|
   24+ 5       6.9756      0.09  Q          |          |          |         V|
   24+10       6.9758      0.03  Q          |          |          |         V|
   24+15       6.9759      0.01  Q          |          |          |         V|
   24+20       6.9759      0.00  Q          |          |          |         V|
   24+25       6.9759      0.00  Q          |          |          |         V|
   24+30       6.9759      0.00  Q          |          |          |          V
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA31100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174460 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 3
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

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Drainage Area = 6.00(Ac.) = 0.009 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 6.00(Ac.) = 0.009 Sq. Mi.
Length along longest watercourse = 724.00(Ft.)
Length along longest watercourse measured to centroid = 361.00(Ft.)
Length along longest watercourse = 0.137 Mi.
Length along longest watercourse measured to centroid = 0.068 Mi.
Difference in elevation = 160.00(Ft.)
Slope along watercourse = 1166.8508 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.037 Hr.
Lag time = 2.23 Min.
25% of lag time = 0.56 Min.
40% of lag time = 0.89 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.00 | 0.50 | 3.00 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.00 | 1.20 | 7.20 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 6.000 | 83.79 | 0.000 |

Total Area Entered = 6.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.8 | 93.3 | 0.087 | 0.000 | 0.087 | 1.000 | 0.087 |
| | | | | | Sum (F) = | 0.087 |

Area averaged mean soil loss (F) (In/Hr) = 0.087

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 223.831 | 46.733 | 2.826 |
| 2 | 0.167 | 447.663 | 47.686 | 2.884 |
| 3 | 0.250 | 671.494 | 4.932 | 0.298 |
| 4 | 0.333 | 895.325 | 0.649 | 0.039 |
| | | Sum = | 100.000 Sum= | 6.047 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.087 ( 0.544) | 0.517 |
| 2 | 0.17 | 4.30 | 0.619 | 0.087 ( 0.557) | 0.532 |
| 3 | 0.25 | 5.00 | 0.720 | 0.087 ( 0.648) | 0.633 |
| 4 | 0.33 | 5.00 | 0.720 | 0.087 ( 0.648) | 0.633 |
| 5 | 0.42 | 5.80 | 0.835 | 0.087 ( 0.752) | 0.748 |
| 6 | 0.50 | 6.50 | 0.936 | 0.087 ( 0.842) | 0.849 |
| 7 | 0.58 | 7.40 | 1.066 | 0.087 ( 0.959) | 0.978 |
| 8 | 0.67 | 8.60 | 1.238 | 0.087 ( 1.114) | 1.151 |
| 9 | 0.75 | 12.30 | 1.771 | 0.087 ( 1.594) | 1.684 |
| 10 | 0.83 | 29.10 | 4.190 | 0.087 ( 3.771) | 4.103 |
| 11 | 0.92 | 6.80 | 0.979 | 0.087 ( 0.881) | 0.892 |
| 12 | 1.00 | 5.00 | 0.720 | 0.087 ( 0.648) | 0.633 |
| | | (Loss Rate Not Used) | | | |
| Sum = | | 100.0 | | Sum = | 13.3 |

Flood volume = Effective rainfall 1.11(In)
times area 6.0(Ac.)/[(In)/(Ft.)] = 0.6(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.044(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 24230.2 Cubic Feet
Total soil loss = 1904.4 Cubic Feet

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Peak flow rate of this hydrograph = 16.839(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 5.0 10.0 15.0 20.0 |
|---|---|---|---|
| 0+ 5 | 0.0101 | 1.46 | V Q |
| 0+10 | 0.0307 | 3.00 | V Q |
| 0+15 | 0.0547 | 3.48 | V Q |
| 0+20 | 0.0808 | 3.79 | V Q |
| 0+25 | 0.1093 | 4.15 | VQ |
| 0+30 | 0.1422 | 4.77 | QV |
| 0+35 | 0.1798 | 5.46 | Q V |
| 0+40 | 0.2236 | 6.36 | Q V |
| 0+45 | 0.2815 | 8.41 | Q V |
| 0+50 | 0.3975 | 16.84 | V Q |
| 0+55 | 0.5001 | 14.91 | Q V |
| 1+ 0 | 0.5390 | 5.65 | Q V |
| 1+ 5 | 0.5545 | 2.25 | Q V |
| 1+10 | 0.5561 | 0.22 | Q V |
| 1+15 | 0.5562 | 0.02 | Q V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA33100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174460 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 3
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

---

Drainage Area = 6.00(Ac.) = 0.009 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 6.00(Ac.) = 0.009 Sq. Mi.
Length along longest watercourse = 724.00(Ft.)
Length along longest watercourse measured to centroid = 361.00(Ft.)
Length along longest watercourse = 0.137 Mi.
Length along longest watercourse measured to centroid = 0.068 Mi.
Difference in elevation = 160.00(Ft.)
Slope along watercourse = 1166.8508 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.037 Hr.
Lag time = 2.23 Min.
25% of lag time = 0.56 Min.
40% of lag time = 0.89 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.00 | 0.81 | 4.86 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.00 | 1.81 | 10.86 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.810(In)
Area Averaged 100-Year Rainfall = 1.810(In)

Point rain (area averaged) = 1.810(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.810(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 6.000 | 83.79 | 0.000 |

Total Area Entered = 6.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.8 | 93.3 | 0.087 | 0.000 | 0.087 | 1.000 | 0.087 |
| | | | | | Sum (F) = | 0.087 |

Area averaged mean soil loss (F) (In/Hr) = 0.087

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 223.831 | 46.733 | 2.826 |
| 2 0.167 | 447.663 | 47.686 | 2.884 |
| 3 0.250 | 671.494 | 4.932 | 0.298 |
| 4 0.333 | 895.325 | 0.649 | 0.039 |
| | | Sum = 100.000 Sum= | 6.047 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 1.30 | 0.282 | 0.087 | ( 0.254) | 0.195 |
| 2 0.17 | 1.30 | 0.282 | 0.087 | ( 0.254) | 0.195 |
| 3 0.25 | 1.10 | 0.239 | 0.087 | ( 0.215) | 0.151 |
| 4 0.33 | 1.50 | 0.326 | 0.087 | ( 0.293) | 0.238 |
| 5 0.42 | 1.50 | 0.326 | 0.087 | ( 0.293) | 0.238 |
| 6 0.50 | 1.80 | 0.391 | 0.087 | ( 0.352) | 0.304 |
| 7 0.58 | 1.50 | 0.326 | 0.087 | ( 0.293) | 0.238 |
| 8 0.67 | 1.80 | 0.391 | 0.087 | ( 0.352) | 0.304 |
| 9 0.75 | 1.80 | 0.391 | 0.087 | ( 0.352) | 0.304 |
| 10 0.83 | 1.50 | 0.326 | 0.087 | ( 0.293) | 0.238 |
| 11 0.92 | 1.60 | 0.348 | 0.087 | ( 0.313) | 0.260 |
| 12 1.00 | 1.80 | 0.391 | 0.087 | ( 0.352) | 0.304 |
| 13 1.08 | 2.20 | 0.478 | 0.087 | ( 0.430) | 0.390 |
| 14 1.17 | 2.20 | 0.478 | 0.087 | ( 0.430) | 0.390 |
| 15 1.25 | 2.20 | 0.478 | 0.087 | ( 0.430) | 0.390 |
| 16 1.33 | 2.00 | 0.434 | 0.087 | ( 0.391) | 0.347 |
| 17 1.42 | 2.60 | 0.565 | 0.087 | ( 0.508) | 0.477 |
| 18 1.50 | 2.70 | 0.586 | 0.087 | ( 0.528) | 0.499 |
| 19 1.58 | 2.40 | 0.521 | 0.087 | ( 0.469) | 0.434 |
| 20 1.67 | 2.70 | 0.586 | 0.087 | ( 0.528) | 0.499 |
| 21 1.75 | 3.30 | 0.717 | 0.087 | ( 0.645) | 0.629 |
| 22 1.83 | 3.10 | 0.673 | 0.087 | ( 0.606) | 0.586 |
| 23 1.92 | 2.90 | 0.630 | 0.087 | ( 0.567) | 0.542 |
| 24 2.00 | 3.00 | 0.652 | 0.087 | ( 0.586) | 0.564 |
| 25 2.08 | 3.10 | 0.673 | 0.087 | ( 0.606) | 0.586 |
| 26 2.17 | 4.20 | 0.912 | 0.087 | ( 0.821) | 0.825 |
| 27 2.25 | 5.00 | 1.086 | 0.087 | ( 0.977) | 0.999 |
| 28 2.33 | 3.50 | 0.760 | 0.087 | ( 0.684) | 0.673 |
| 29 2.42 | 6.80 | 1.477 | 0.087 | ( 1.329) | 1.389 |
| 30 2.50 | 7.30 | 1.586 | 0.087 | ( 1.427) | 1.498 |
| 31 2.58 | 8.20 | 1.781 | 0.087 | ( 1.603) | 1.694 |
| 32 2.67 | 5.90 | 1.281 | 0.087 | ( 1.153) | 1.194 |
| 33 2.75 | 2.00 | 0.434 | 0.087 | ( 0.391) | 0.347 |
| 34 2.83 | 1.80 | 0.391 | 0.087 | ( 0.352) | 0.304 |
| 35 2.92 | 1.80 | 0.391 | 0.087 | ( 0.352) | 0.304 |
| 36 3.00 | 0.60 | 0.130 | 0.087 | ( 0.117) | 0.043 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 18.6 |

Flood volume = Effective rainfall 1.55(In)
times area 6.0(Ac.)/[(In)/(Ft.)] = 0.8(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.131(Ac.Ft)
Total rainfall = 1.81(In)
Flood volume = 33707.6 Cubic Feet
Total soil loss = 5713.2 Cubic Feet

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Peak flow rate of this hydrograph = 9.551(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0038 | 0.55 | V Q | | | | |
| 0+10 | 0.0115 | 1.11 | V Q | | | | |
| 0+15 | 0.0187 | 1.05 | V Q | | | | |
| 0+20 | 0.0268 | 1.18 | V Q | | | | |
| 0+25 | 0.0365 | 1.41 | V Q | | | | |
| 0+30 | 0.0477 | 1.62 | V Q | | | | |
| 0+35 | 0.0589 | 1.63 | V Q | | | | |
| 0+40 | 0.0703 | 1.65 | V Q | | | | |
| 0+45 | 0.0828 | 1.82 | V Q | | | | |
| 0+50 | 0.0941 | 1.65 | V Q | | | | |
| 0+55 | 0.1046 | 1.53 | VQ | | | | |
| 1+ 0 | 0.1163 | 1.69 | Q | | | | |
| 1+ 5 | 0.1305 | 2.07 | V Q | | | | |
| 1+10 | 0.1466 | 2.33 | V Q | | | | |
| 1+15 | 0.1628 | 2.36 | VQ | | | | |
| 1+20 | 0.1782 | 2.24 | QV | | | | |
| 1+25 | 0.1953 | 2.48 | QV | | | | |
| 1+30 | 0.2154 | 2.91 | Q | | | | |
| 1+35 | 0.2348 | 2.82 | QV | | | | |
| 1+40 | 0.2543 | 2.83 | Q V | | | | |
| 1+45 | 0.2775 | 3.37 | QV | | | | |
| 1+50 | 0.3025 | 3.64 | QV | | | | |
| 1+55 | 0.3262 | 3.43 | Q V | | | | |
| 2+ 0 | 0.3493 | 3.36 | Q V | | | | |
| 2+ 5 | 0.3732 | 3.47 | Q V | | | | |
| 2+10 | 0.4022 | 4.21 | Q V | | | | |
| 2+15 | 0.4394 | 5.40 | QV | | | | |
| 2+20 | 0.4742 | 5.05 | Q V | | | | |
| 2+25 | 0.5169 | 6.20 | Q V | | | | |
| 2+30 | 0.5753 | 8.48 | V Q | | | | |
| 2+35 | 0.6411 | 9.55 | V Q | | | | |
| 2+40 | 0.7014 | 8.76 | QV | | | | |
| 2+45 | 0.7358 | 4.99 | Q V | | | | |
| 2+50 | 0.7515 | 2.28 | Q V | | | | |
| 2+55 | 0.7645 | 1.88 | Q V | | | | |
| 3+ 0 | 0.7721 | 1.10 | Q V | | | | |
| 3+ 5 | 0.7736 | 0.23 | Q V | | | | |
| 3+10 | 0.7738 | 0.02 | Q V | | | | |
| 3+15 | 0.7738 | 0.00 | Q V | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA36100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174460 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 3
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

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Drainage Area = 6.00(Ac.) = 0.009 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 6.00(Ac.) = 0.009 Sq. Mi.
Length along longest watercourse = 724.00(Ft.)
Length along longest watercourse measured to centroid = 361.00(Ft.)
Length along longest watercourse = 0.137 Mi.
Length along longest watercourse measured to centroid = 0.068 Mi.
Difference in elevation = 160.00(Ft.)
Slope along watercourse = 1166.8508 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.037 Hr.
Lag time = 2.23 Min.
25% of lag time = 0.56 Min.
40% of lag time = 0.89 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.00 | 1.14 | 6.84 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.00 | 2.50 | 15.00 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.140(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 6.000 | 83.79 | 0.000 |

Total Area Entered = 6.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.8 | 93.3 | 0.087 | 0.000 | 0.087 | 1.000 | 0.087 |
| | | | | | Sum (F) = | 0.087 |

Area averaged mean soil loss (F) (In/Hr) = 0.087

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 223.831 | 46.733 | 2.826 |
| 2 0.167 | 447.663 | 47.686 | 2.884 |
| 3 0.250 | 671.494 | 4.932 | 0.298 |
| 4 0.333 | 895.325 | 0.649 | 0.039 |
| | | Sum = 100.000 Sum= | 6.047 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.087 | ( 0.135) | 0.063 |
| 2 | 0.17 | 0.60 | 0.180 | 0.087 | ( 0.162) | 0.093 |
| 3 | 0.25 | 0.60 | 0.180 | 0.087 | ( 0.162) | 0.093 |
| 4 | 0.33 | 0.60 | 0.180 | 0.087 | ( 0.162) | 0.093 |
| 5 | 0.42 | 0.60 | 0.180 | 0.087 | ( 0.162) | 0.093 |
| 6 | 0.50 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 7 | 0.58 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 8 | 0.67 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 9 | 0.75 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 10 | 0.83 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 11 | 0.92 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 12 | 1.00 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 13 | 1.08 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 14 | 1.17 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 15 | 1.25 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 16 | 1.33 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 17 | 1.42 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 18 | 1.50 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 19 | 1.58 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 20 | 1.67 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 21 | 1.75 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 22 | 1.83 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 23 | 1.92 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 24 | 2.00 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 25 | 2.08 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 26 | 2.17 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 27 | 2.25 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 28 | 2.33 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 29 | 2.42 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 30 | 2.50 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 31 | 2.58 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 32 | 2.67 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 33 | 2.75 | 1.00 | 0.300 | 0.087 | ( 0.270) | 0.213 |
| 34 | 2.83 | 1.00 | 0.300 | 0.087 | ( 0.270) | 0.213 |
| 35 | 2.92 | 1.00 | 0.300 | 0.087 | ( 0.270) | 0.213 |
| 36 | 3.00 | 1.00 | 0.300 | 0.087 | ( 0.270) | 0.213 |
| 37 | 3.08 | 1.00 | 0.300 | 0.087 | ( 0.270) | 0.213 |
| 38 | 3.17 | 1.10 | 0.330 | 0.087 | ( 0.297) | 0.243 |
| 39 | 3.25 | 1.10 | 0.330 | 0.087 | ( 0.297) | 0.243 |
| 40 | 3.33 | 1.10 | 0.330 | 0.087 | ( 0.297) | 0.243 |
| 41 | 3.42 | 1.20 | 0.360 | 0.087 | ( 0.324) | 0.273 |
| 42 | 3.50 | 1.30 | 0.390 | 0.087 | ( 0.351) | 0.303 |
| 43 | 3.58 | 1.40 | 0.420 | 0.087 | ( 0.378) | 0.333 |
| 44 | 3.67 | 1.40 | 0.420 | 0.087 | ( 0.378) | 0.333 |
| 45 | 3.75 | 1.50 | 0.450 | 0.087 | ( 0.405) | 0.363 |
| 46 | 3.83 | 1.50 | 0.450 | 0.087 | ( 0.405) | 0.363 |
| 47 | 3.92 | 1.60 | 0.480 | 0.087 | ( 0.432) | 0.393 |
| 48 | 4.00 | 1.60 | 0.480 | 0.087 | ( 0.432) | 0.393 |
| 49 | 4.08 | 1.70 | 0.510 | 0.087 | ( 0.459) | 0.423 |
| 50 | 4.17 | 1.80 | 0.540 | 0.087 | ( 0.486) | 0.453 |
| 51 | 4.25 | 1.90 | 0.570 | 0.087 | ( 0.513) | 0.483 |
| 52 | 4.33 | 2.00 | 0.600 | 0.087 | ( 0.540) | 0.513 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 53 | 4.42 | 2.10 | 0.630 | 0.087 | ( 0.567) | | 0.543 |
| 54 | 4.50 | 2.10 | 0.630 | 0.087 | ( 0.567) | | 0.543 |
| 55 | 4.58 | 2.20 | 0.660 | 0.087 | ( 0.594) | | 0.573 |
| 56 | 4.67 | 2.30 | 0.690 | 0.087 | ( 0.621) | | 0.603 |
| 57 | 4.75 | 2.40 | 0.720 | 0.087 | ( 0.648) | | 0.633 |
| 58 | 4.83 | 2.40 | 0.720 | 0.087 | ( 0.648) | | 0.633 |
| 59 | 4.92 | 2.50 | 0.750 | 0.087 | ( 0.675) | | 0.663 |
| 60 | 5.00 | 2.60 | 0.780 | 0.087 | ( 0.702) | | 0.693 |
| 61 | 5.08 | 3.10 | 0.930 | 0.087 | ( 0.837) | | 0.843 |
| 62 | 5.17 | 3.60 | 1.080 | 0.087 | ( 0.972) | | 0.993 |
| 63 | 5.25 | 3.90 | 1.170 | 0.087 | ( 1.053) | | 1.083 |
| 64 | 5.33 | 4.20 | 1.260 | 0.087 | ( 1.134) | | 1.173 |
| 65 | 5.42 | 4.70 | 1.410 | 0.087 | ( 1.269) | | 1.323 |
| 66 | 5.50 | 5.60 | 1.680 | 0.087 | ( 1.512) | | 1.593 |
| 67 | 5.58 | 1.90 | 0.570 | 0.087 | ( 0.513) | | 0.483 |
| 68 | 5.67 | 0.90 | 0.270 | 0.087 | ( 0.243) | | 0.183 |
| 69 | 5.75 | 0.60 | 0.180 | 0.087 | ( 0.162) | | 0.093 |
| 70 | 5.83 | 0.50 | 0.150 | 0.087 | ( 0.135) | | 0.063 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.087) | 0.081 | | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.087) | 0.054 | | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.7

Flood volume = Effective rainfall 1.98(In)
times area 6.0(Ac.)/[(In)/(Ft.)] = 1.0(Ac.Ft)
Total soil loss = 0.52(In)
Total soil loss = 0.261(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 43094.9 Cubic Feet
Total soil loss = 11354.0 Cubic Feet

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Peak flow rate of this hydrograph = 8.711(CFS)

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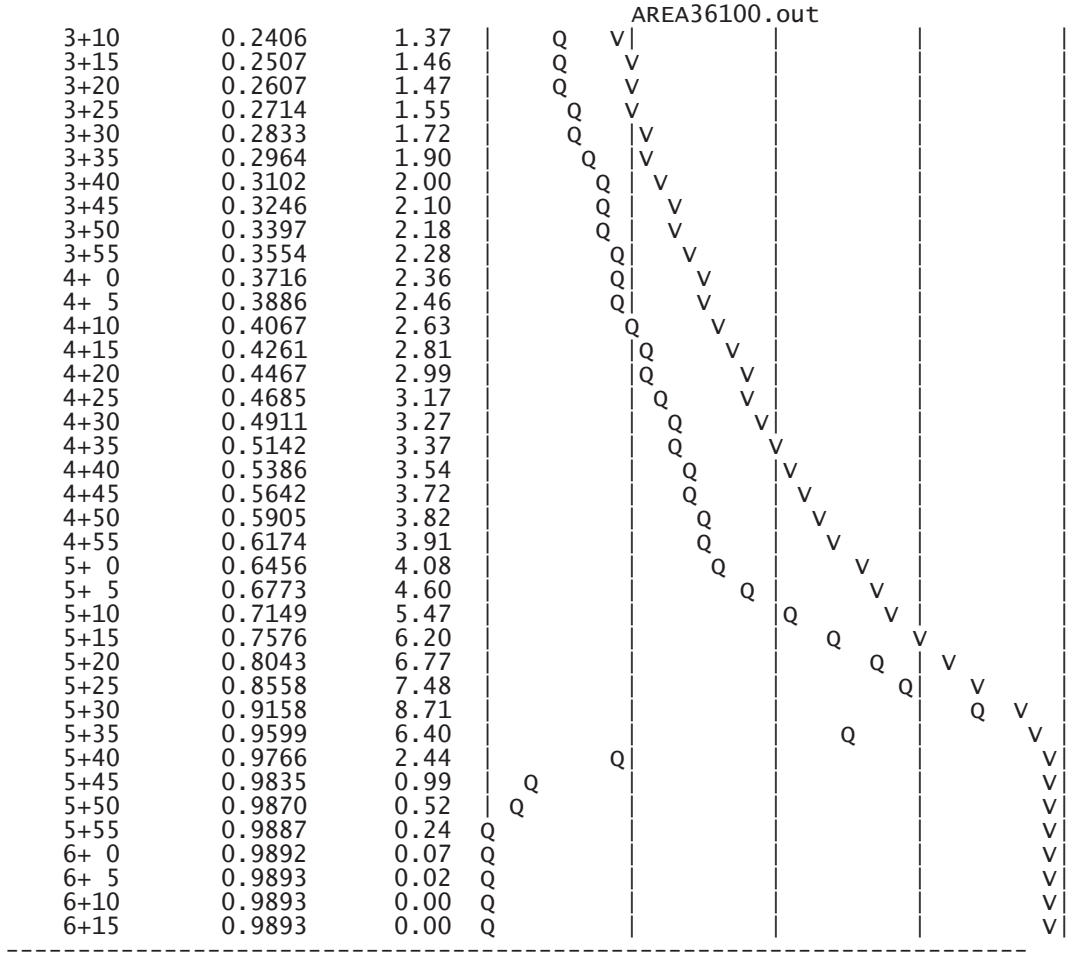
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0012 | 0.18 | Q | \| | \| | \| | \| |
| 0+10 | 0.0043 | 0.44 | VQ | \| | \| | \| | \| |
| 0+15 | 0.0080 | 0.55 | V Q | \| | \| | \| | \| |
| 0+20 | 0.0119 | 0.56 | V Q | \| | \| | \| | \| |
| 0+25 | 0.0157 | 0.56 | V Q | \| | \| | \| | \| |
| 0+30 | 0.0202 | 0.64 | V Q | \| | \| | \| | \| |
| 0+35 | 0.0252 | 0.73 | \|VQ | \| | \| | \| | \| |
| 0+40 | 0.0303 | 0.74 | \|VQ | \| | \| | \| | \| |
| 0+45 | 0.0354 | 0.74 | \|VQ | \| | \| | \| | \| |
| 0+50 | 0.0405 | 0.74 | \|VQ | \| | \| | \| | \| |
| 0+55 | 0.0456 | 0.74 | \|VQ | \| | \| | \| | \| |
| 1+ 0 | 0.0513 | 0.83 | \| VQ | \| | \| | \| | \| |
| 1+ 5 | 0.0576 | 0.91 | \| VQ | \| | \| | \| | \| |
| 1+10 | 0.0640 | 0.92 | \| VQ | \| | \| | \| | \| |
| 1+15 | 0.0703 | 0.92 | \| VQ | \| | \| | \| | \| |
| 1+20 | 0.0767 | 0.92 | \| Q | \| | \| | \| | \| |
| 1+25 | 0.0830 | 0.92 | \| Q | \| | \| | \| | \| |
| 1+30 | 0.0894 | 0.92 | \| Q | \| | \| | \| | \| |
| 1+35 | 0.0957 | 0.92 | \| Q | \| | \| | \| | \| |
| 1+40 | 0.1021 | 0.92 | \| QV | \| | \| | \| | \| |
| 1+45 | 0.1085 | 0.92 | \| QV | \| | \| | \| | \| |
| 1+50 | 0.1148 | 0.92 | \| QV | \| | \| | \| | \| |
| 1+55 | 0.1212 | 0.92 | \| QV | \| | \| | \| | \| |
| 2+ 0 | 0.1281 | 1.01 | \| QV | \| | \| | \| | \| |
| 2+ 5 | 0.1351 | 1.01 | \| QV | \| | \| | \| | \| |
| 2+10 | 0.1421 | 1.02 | \| QV | \| | \| | \| | \| |
| 2+15 | 0.1496 | 1.10 | \| Q V | \| | \| | \| | \| |
| 2+20 | 0.1572 | 1.10 | \| Q V | \| | \| | \| | \| |
| 2+25 | 0.1648 | 1.10 | \| Q V | \| | \| | \| | \| |
| 2+30 | 0.1724 | 1.10 | \| Q V | \| | \| | \| | \| |
| 2+35 | 0.1800 | 1.10 | \| Q V | \| | \| | \| | \| |
| 2+40 | 0.1876 | 1.10 | \| Q V | \| | \| | \| | \| |
| 2+45 | 0.1958 | 1.19 | \| Q V | \| | \| | \| | \| |
| 2+50 | 0.2046 | 1.28 | \| Q V | \| | \| | \| | \| |
| 2+55 | 0.2135 | 1.28 | \| Q V | \| | \| | \| | \| |
| 3+ 0 | 0.2223 | 1.29 | \| Q V | \| | \| | \| | \| |
| 3+ 5 | 0.2312 | 1.29 | \| Q V\| | \| | \| | \| | \| |



| | | | |
|---|---|---|---|
| 3+10 | 0.2406 | 1.37 | |
| 3+15 | 0.2507 | 1.46 | |
| 3+20 | 0.2607 | 1.47 | |
| 3+25 | 0.2714 | 1.55 | |
| 3+30 | 0.2833 | 1.72 | |
| 3+35 | 0.2964 | 1.90 | |
| 3+40 | 0.3102 | 2.00 | |
| 3+45 | 0.3246 | 2.10 | |
| 3+50 | 0.3397 | 2.18 | |
| 3+55 | 0.3554 | 2.28 | |
| 4+ 0 | 0.3716 | 2.36 | |
| 4+ 5 | 0.3886 | 2.46 | |
| 4+10 | 0.4067 | 2.63 | |
| 4+15 | 0.4261 | 2.81 | |
| 4+20 | 0.4467 | 2.99 | |
| 4+25 | 0.4685 | 3.17 | |
| 4+30 | 0.4911 | 3.27 | |
| 4+35 | 0.5142 | 3.37 | |
| 4+40 | 0.5386 | 3.54 | |
| 4+45 | 0.5642 | 3.72 | |
| 4+50 | 0.5905 | 3.82 | |
| 4+55 | 0.6174 | 3.91 | |
| 5+ 0 | 0.6456 | 4.08 | |
| 5+ 5 | 0.6773 | 4.60 | |
| 5+10 | 0.7149 | 5.47 | |
| 5+15 | 0.7576 | 6.20 | |
| 5+20 | 0.8043 | 6.77 | |
| 5+25 | 0.8558 | 7.48 | |
| 5+30 | 0.9158 | 8.71 | |
| 5+35 | 0.9599 | 6.40 | |
| 5+40 | 0.9766 | 2.44 | |
| 5+45 | 0.9835 | 0.99 | |
| 5+50 | 0.9870 | 0.52 | |
| 5+55 | 0.9887 | 0.24 | |
| 6+ 0 | 0.9892 | 0.07 | |
| 6+ 5 | 0.9893 | 0.02 | |
| 6+10 | 0.9893 | 0.00 | |
| 6+15 | 0.9893 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA324100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174460 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 3
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

---

Drainage Area = 6.00(Ac.) = 0.009 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 6.00(Ac.) = 0.009 Sq. Mi.
Length along longest watercourse = 724.00(Ft.)
Length along longest watercourse measured to centroid = 361.00(Ft.)
Length along longest watercourse = 0.137 Mi.
Length along longest watercourse measured to centroid = 0.068 Mi.
Difference in elevation = 160.00(Ft.)
Slope along watercourse = 1166.8508 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.037 Hr.
Lag time = 2.23 Min.
25% of lag time = 0.56 Min.
40% of lag time = 0.89 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.00 | 1.80 | 10.80 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.00 | 4.65 | 27.90 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.650(In)

Point rain (area averaged) = 4.650(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.650(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 6.000 | 83.79 | 0.000 |

Total Area Entered = 6.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.8 | 93.3 | 0.087 | 0.000 | 0.087 | 1.000 | 0.087 |
| | | | | | Sum (F) = | 0.087 |

Area averaged mean soil loss (F) (In/Hr) = 0.087

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 223.831 | 46.733 | 2.826 |
| 2 0.167 | 447.663 | 47.686 | 2.884 |
| 3 0.250 | 671.494 | 4.932 | 0.298 |
| 4 0.333 | 895.325 | 0.649 | 0.039 |
| | | Sum = 100.000 Sum= | 6.047 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.037 | ( 0.155) | 0.033 | 0.004 |
| 2 | 0.17 | 0.07 | 0.037 | ( 0.154) | 0.033 | 0.004 |
| 3 | 0.25 | 0.07 | 0.037 | ( 0.154) | 0.033 | 0.004 |
| 4 | 0.33 | 0.10 | 0.056 | ( 0.153) | 0.050 | 0.006 |
| 5 | 0.42 | 0.10 | 0.056 | ( 0.153) | 0.050 | 0.006 |
| 6 | 0.50 | 0.10 | 0.056 | ( 0.152) | 0.050 | 0.006 |
| 7 | 0.58 | 0.10 | 0.056 | ( 0.151) | 0.050 | 0.006 |
| 8 | 0.67 | 0.10 | 0.056 | ( 0.151) | 0.050 | 0.006 |
| 9 | 0.75 | 0.10 | 0.056 | ( 0.150) | 0.050 | 0.006 |
| 10 | 0.83 | 0.13 | 0.074 | ( 0.150) | 0.067 | 0.007 |
| 11 | 0.92 | 0.13 | 0.074 | ( 0.149) | 0.067 | 0.007 |
| 12 | 1.00 | 0.13 | 0.074 | ( 0.148) | 0.067 | 0.007 |
| 13 | 1.08 | 0.10 | 0.056 | ( 0.148) | 0.050 | 0.006 |
| 14 | 1.17 | 0.10 | 0.056 | ( 0.147) | 0.050 | 0.006 |
| 15 | 1.25 | 0.10 | 0.056 | ( 0.147) | 0.050 | 0.006 |
| 16 | 1.33 | 0.10 | 0.056 | ( 0.146) | 0.050 | 0.006 |
| 17 | 1.42 | 0.10 | 0.056 | ( 0.146) | 0.050 | 0.006 |
| 18 | 1.50 | 0.10 | 0.056 | ( 0.145) | 0.050 | 0.006 |
| 19 | 1.58 | 0.10 | 0.056 | ( 0.144) | 0.050 | 0.006 |
| 20 | 1.67 | 0.10 | 0.056 | ( 0.144) | 0.050 | 0.006 |
| 21 | 1.75 | 0.10 | 0.056 | ( 0.143) | 0.050 | 0.006 |
| 22 | 1.83 | 0.13 | 0.074 | ( 0.143) | 0.067 | 0.007 |
| 23 | 1.92 | 0.13 | 0.074 | ( 0.142) | 0.067 | 0.007 |
| 24 | 2.00 | 0.13 | 0.074 | ( 0.142) | 0.067 | 0.007 |
| 25 | 2.08 | 0.13 | 0.074 | ( 0.141) | 0.067 | 0.007 |
| 26 | 2.17 | 0.13 | 0.074 | ( 0.140) | 0.067 | 0.007 |
| 27 | 2.25 | 0.13 | 0.074 | ( 0.140) | 0.067 | 0.007 |
| 28 | 2.33 | 0.13 | 0.074 | ( 0.139) | 0.067 | 0.007 |
| 29 | 2.42 | 0.13 | 0.074 | ( 0.139) | 0.067 | 0.007 |
| 30 | 2.50 | 0.13 | 0.074 | ( 0.138) | 0.067 | 0.007 |
| 31 | 2.58 | 0.17 | 0.093 | ( 0.138) | 0.084 | 0.009 |
| 32 | 2.67 | 0.17 | 0.093 | ( 0.137) | 0.084 | 0.009 |
| 33 | 2.75 | 0.17 | 0.093 | ( 0.136) | 0.084 | 0.009 |
| 34 | 2.83 | 0.17 | 0.093 | ( 0.136) | 0.084 | 0.009 |
| 35 | 2.92 | 0.17 | 0.093 | ( 0.135) | 0.084 | 0.009 |
| 36 | 3.00 | 0.17 | 0.093 | ( 0.135) | 0.084 | 0.009 |
| 37 | 3.08 | 0.17 | 0.093 | ( 0.134) | 0.084 | 0.009 |
| 38 | 3.17 | 0.17 | 0.093 | ( 0.134) | 0.084 | 0.009 |
| 39 | 3.25 | 0.17 | 0.093 | ( 0.133) | 0.084 | 0.009 |
| 40 | 3.33 | 0.17 | 0.093 | ( 0.132) | 0.084 | 0.009 |
| 41 | 3.42 | 0.17 | 0.093 | ( 0.132) | 0.084 | 0.009 |
| 42 | 3.50 | 0.17 | 0.093 | ( 0.131) | 0.084 | 0.009 |
| 43 | 3.58 | 0.17 | 0.093 | ( 0.131) | 0.084 | 0.009 |
| 44 | 3.67 | 0.17 | 0.093 | ( 0.130) | 0.084 | 0.009 |
| 45 | 3.75 | 0.17 | 0.093 | ( 0.130) | 0.084 | 0.009 |
| 46 | 3.83 | 0.20 | 0.112 | ( 0.129) | 0.100 | 0.011 |
| 47 | 3.92 | 0.20 | 0.112 | ( 0.129) | 0.100 | 0.011 |
| 48 | 4.00 | 0.20 | 0.112 | ( 0.128) | 0.100 | 0.011 |
| 49 | 4.08 | 0.20 | 0.112 | ( 0.128) | 0.100 | 0.011 |
| 50 | 4.17 | 0.20 | 0.112 | ( 0.127) | 0.100 | 0.011 |
| 51 | 4.25 | 0.20 | 0.112 | ( 0.126) | 0.100 | 0.011 |
| 52 | 4.33 | 0.23 | 0.130 | ( 0.126) | 0.117 | 0.013 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 53 | 4.42 | 0.23 | 0.130 | ( | 0.125) | 0.117 | | 0.013 |
| 54 | 4.50 | 0.23 | 0.130 | ( | 0.125) | 0.117 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.130 | ( | 0.124) | 0.117 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.130 | ( | 0.124) | 0.117 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.130 | ( | 0.123) | 0.117 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.149 | | 0.123 | ( | 0.134) | 0.026 |
| 59 | 4.92 | 0.27 | 0.149 | | 0.122 | ( | 0.134) | 0.027 |
| 60 | 5.00 | 0.27 | 0.149 | | 0.122 | ( | 0.134) | 0.027 |
| 61 | 5.08 | 0.20 | 0.112 | ( | 0.121) | 0.100 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.112 | ( | 0.121) | 0.100 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.112 | ( | 0.120) | 0.100 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.130 | ( | 0.120) | 0.117 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.130 | ( | 0.119) | 0.117 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.130 | ( | 0.119) | 0.117 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.149 | | 0.118 | ( | 0.134) | 0.031 |
| 68 | 5.67 | 0.27 | 0.149 | | 0.117 | ( | 0.134) | 0.031 |
| 69 | 5.75 | 0.27 | 0.149 | | 0.117 | ( | 0.134) | 0.032 |
| 70 | 5.83 | 0.27 | 0.149 | | 0.116 | ( | 0.134) | 0.032 |
| 71 | 5.92 | 0.27 | 0.149 | | 0.116 | ( | 0.134) | 0.033 |
| 72 | 6.00 | 0.27 | 0.149 | | 0.115 | ( | 0.134) | 0.033 |
| 73 | 6.08 | 0.30 | 0.167 | | 0.115 | ( | 0.151) | 0.052 |
| 74 | 6.17 | 0.30 | 0.167 | | 0.114 | ( | 0.151) | 0.053 |
| 75 | 6.25 | 0.30 | 0.167 | | 0.114 | ( | 0.151) | 0.054 |
| 76 | 6.33 | 0.30 | 0.167 | | 0.113 | ( | 0.151) | 0.054 |
| 77 | 6.42 | 0.30 | 0.167 | | 0.113 | ( | 0.151) | 0.055 |
| 78 | 6.50 | 0.30 | 0.167 | | 0.112 | ( | 0.151) | 0.055 |
| 79 | 6.58 | 0.33 | 0.186 | | 0.112 | ( | 0.167) | 0.074 |
| 80 | 6.67 | 0.33 | 0.186 | | 0.111 | ( | 0.167) | 0.075 |
| 81 | 6.75 | 0.33 | 0.186 | | 0.111 | ( | 0.167) | 0.075 |
| 82 | 6.83 | 0.33 | 0.186 | | 0.110 | ( | 0.167) | 0.076 |
| 83 | 6.92 | 0.33 | 0.186 | | 0.110 | ( | 0.167) | 0.076 |
| 84 | 7.00 | 0.33 | 0.186 | | 0.109 | ( | 0.167) | 0.077 |
| 85 | 7.08 | 0.33 | 0.186 | | 0.109 | ( | 0.167) | 0.077 |
| 86 | 7.17 | 0.33 | 0.186 | | 0.108 | ( | 0.167) | 0.078 |
| 87 | 7.25 | 0.33 | 0.186 | | 0.108 | ( | 0.167) | 0.078 |
| 88 | 7.33 | 0.37 | 0.205 | | 0.107 | ( | 0.184) | 0.097 |
| 89 | 7.42 | 0.37 | 0.205 | | 0.107 | ( | 0.184) | 0.098 |
| 90 | 7.50 | 0.37 | 0.205 | | 0.106 | ( | 0.184) | 0.098 |
| 91 | 7.58 | 0.40 | 0.223 | | 0.106 | ( | 0.201) | 0.117 |
| 92 | 7.67 | 0.40 | 0.223 | | 0.105 | ( | 0.201) | 0.118 |
| 93 | 7.75 | 0.40 | 0.223 | | 0.105 | ( | 0.201) | 0.118 |
| 94 | 7.83 | 0.43 | 0.242 | | 0.104 | ( | 0.218) | 0.137 |
| 95 | 7.92 | 0.43 | 0.242 | | 0.104 | ( | 0.218) | 0.138 |
| 96 | 8.00 | 0.43 | 0.242 | | 0.103 | ( | 0.218) | 0.138 |
| 97 | 8.08 | 0.50 | 0.279 | | 0.103 | ( | 0.251) | 0.176 |
| 98 | 8.17 | 0.50 | 0.279 | | 0.103 | ( | 0.251) | 0.176 |
| 99 | 8.25 | 0.50 | 0.279 | | 0.102 | ( | 0.251) | 0.177 |
| 100 | 8.33 | 0.50 | 0.279 | | 0.102 | ( | 0.251) | 0.177 |
| 101 | 8.42 | 0.50 | 0.279 | | 0.101 | ( | 0.251) | 0.178 |
| 102 | 8.50 | 0.50 | 0.279 | | 0.101 | ( | 0.251) | 0.178 |
| 103 | 8.58 | 0.53 | 0.298 | | 0.100 | ( | 0.268) | 0.197 |
| 104 | 8.67 | 0.53 | 0.298 | | 0.100 | ( | 0.268) | 0.198 |
| 105 | 8.75 | 0.53 | 0.298 | | 0.099 | ( | 0.268) | 0.198 |
| 106 | 8.83 | 0.57 | 0.316 | | 0.099 | ( | 0.285) | 0.217 |
| 107 | 8.92 | 0.57 | 0.316 | | 0.098 | ( | 0.285) | 0.218 |
| 108 | 9.00 | 0.57 | 0.316 | | 0.098 | ( | 0.285) | 0.218 |
| 109 | 9.08 | 0.63 | 0.353 | | 0.097 | ( | 0.318) | 0.256 |
| 110 | 9.17 | 0.63 | 0.353 | | 0.097 | ( | 0.318) | 0.257 |
| 111 | 9.25 | 0.63 | 0.353 | | 0.096 | ( | 0.318) | 0.257 |
| 112 | 9.33 | 0.67 | 0.372 | | 0.096 | ( | 0.335) | 0.276 |
| 113 | 9.42 | 0.67 | 0.372 | | 0.096 | ( | 0.335) | 0.276 |
| 114 | 9.50 | 0.67 | 0.372 | | 0.095 | ( | 0.335) | 0.277 |
| 115 | 9.58 | 0.70 | 0.391 | | 0.095 | ( | 0.352) | 0.296 |
| 116 | 9.67 | 0.70 | 0.391 | | 0.094 | ( | 0.352) | 0.296 |
| 117 | 9.75 | 0.70 | 0.391 | | 0.094 | ( | 0.352) | 0.297 |
| 118 | 9.83 | 0.73 | 0.409 | | 0.093 | ( | 0.368) | 0.316 |
| 119 | 9.92 | 0.73 | 0.409 | | 0.093 | ( | 0.368) | 0.316 |
| 120 | 10.00 | 0.73 | 0.409 | | 0.092 | ( | 0.368) | 0.317 |
| 121 | 10.08 | 0.50 | 0.279 | | 0.092 | ( | 0.251) | 0.187 |
| 122 | 10.17 | 0.50 | 0.279 | | 0.091 | ( | 0.251) | 0.188 |
| 123 | 10.25 | 0.50 | 0.279 | | 0.091 | ( | 0.251) | 0.188 |
| 124 | 10.33 | 0.50 | 0.279 | | 0.091 | ( | 0.251) | 0.188 |
| 125 | 10.42 | 0.50 | 0.279 | | 0.090 | ( | 0.251) | 0.189 |
| 126 | 10.50 | 0.50 | 0.279 | | 0.090 | ( | 0.251) | 0.189 |
| 127 | 10.58 | 0.67 | 0.372 | | 0.089 | ( | 0.335) | 0.283 |
| 128 | 10.67 | 0.67 | 0.372 | | 0.089 | ( | 0.335) | 0.283 |
| 129 | 10.75 | 0.67 | 0.372 | | 0.088 | ( | 0.335) | 0.284 |
| 130 | 10.83 | 0.67 | 0.372 | | 0.088 | ( | 0.335) | 0.284 |

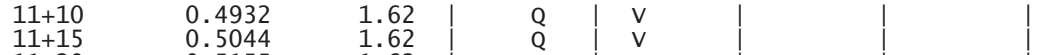
| | | | | | | |
|---|---|---|---|---|---|---|
| 131 | 10.92 | 0.67 | 0.372 | 0.088 | ( 0.335) | 0.284 |
| 132 | 11.00 | 0.67 | 0.372 | 0.087 | ( 0.335) | 0.285 |
| 133 | 11.08 | 0.63 | 0.353 | 0.087 | ( 0.318) | 0.267 |
| 134 | 11.17 | 0.63 | 0.353 | 0.086 | ( 0.318) | 0.267 |
| 135 | 11.25 | 0.63 | 0.353 | 0.086 | ( 0.318) | 0.268 |
| 136 | 11.33 | 0.63 | 0.353 | 0.085 | ( 0.318) | 0.268 |
| 137 | 11.42 | 0.63 | 0.353 | 0.085 | ( 0.318) | 0.268 |
| 138 | 11.50 | 0.63 | 0.353 | 0.085 | ( 0.318) | 0.269 |
| 139 | 11.58 | 0.57 | 0.316 | 0.084 | ( 0.285) | 0.232 |
| 140 | 11.67 | 0.57 | 0.316 | 0.084 | ( 0.285) | 0.233 |
| 141 | 11.75 | 0.57 | 0.316 | 0.083 | ( 0.285) | 0.233 |
| 142 | 11.83 | 0.60 | 0.335 | 0.083 | ( 0.301) | 0.252 |
| 143 | 11.92 | 0.60 | 0.335 | 0.082 | ( 0.301) | 0.252 |
| 144 | 12.00 | 0.60 | 0.335 | 0.082 | ( 0.301) | 0.253 |
| 145 | 12.08 | 0.83 | 0.465 | 0.082 | ( 0.418) | 0.383 |
| 146 | 12.17 | 0.83 | 0.465 | 0.081 | ( 0.418) | 0.384 |
| 147 | 12.25 | 0.83 | 0.465 | 0.081 | ( 0.418) | 0.384 |
| 148 | 12.33 | 0.87 | 0.484 | 0.080 | ( 0.435) | 0.403 |
| 149 | 12.42 | 0.87 | 0.484 | 0.080 | ( 0.435) | 0.404 |
| 150 | 12.50 | 0.87 | 0.484 | 0.080 | ( 0.435) | 0.404 |
| 151 | 12.58 | 0.93 | 0.521 | 0.079 | ( 0.469) | 0.442 |
| 152 | 12.67 | 0.93 | 0.521 | 0.079 | ( 0.469) | 0.442 |
| 153 | 12.75 | 0.93 | 0.521 | 0.078 | ( 0.469) | 0.442 |
| 154 | 12.83 | 0.97 | 0.539 | 0.078 | ( 0.485) | 0.461 |
| 155 | 12.92 | 0.97 | 0.539 | 0.078 | ( 0.485) | 0.462 |
| 156 | 13.00 | 0.97 | 0.539 | 0.077 | ( 0.485) | 0.462 |
| 157 | 13.08 | 1.13 | 0.632 | 0.077 | ( 0.569) | 0.556 |
| 158 | 13.17 | 1.13 | 0.632 | 0.076 | ( 0.569) | 0.556 |
| 159 | 13.25 | 1.13 | 0.632 | 0.076 | ( 0.569) | 0.556 |
| 160 | 13.33 | 1.13 | 0.632 | 0.076 | ( 0.569) | 0.557 |
| 161 | 13.42 | 1.13 | 0.632 | 0.075 | ( 0.569) | 0.557 |
| 162 | 13.50 | 1.13 | 0.632 | 0.075 | ( 0.569) | 0.558 |
| 163 | 13.58 | 0.77 | 0.428 | 0.075 | ( 0.385) | 0.353 |
| 164 | 13.67 | 0.77 | 0.428 | 0.074 | ( 0.385) | 0.354 |
| 165 | 13.75 | 0.77 | 0.428 | 0.074 | ( 0.385) | 0.354 |
| 166 | 13.83 | 0.77 | 0.428 | 0.073 | ( 0.385) | 0.354 |
| 167 | 13.92 | 0.77 | 0.428 | 0.073 | ( 0.385) | 0.355 |
| 168 | 14.00 | 0.77 | 0.428 | 0.073 | ( 0.385) | 0.355 |
| 169 | 14.08 | 0.90 | 0.502 | 0.072 | ( 0.452) | 0.430 |
| 170 | 14.17 | 0.90 | 0.502 | 0.072 | ( 0.452) | 0.430 |
| 171 | 14.25 | 0.90 | 0.502 | 0.072 | ( 0.452) | 0.431 |
| 172 | 14.33 | 0.87 | 0.484 | 0.071 | ( 0.435) | 0.412 |
| 173 | 14.42 | 0.87 | 0.484 | 0.071 | ( 0.435) | 0.413 |
| 174 | 14.50 | 0.87 | 0.484 | 0.070 | ( 0.435) | 0.413 |
| 175 | 14.58 | 0.87 | 0.484 | 0.070 | ( 0.435) | 0.414 |
| 176 | 14.67 | 0.87 | 0.484 | 0.070 | ( 0.435) | 0.414 |
| 177 | 14.75 | 0.87 | 0.484 | 0.069 | ( 0.435) | 0.414 |
| 178 | 14.83 | 0.83 | 0.465 | 0.069 | ( 0.418) | 0.396 |
| 179 | 14.92 | 0.83 | 0.465 | 0.069 | ( 0.418) | 0.396 |
| 180 | 15.00 | 0.83 | 0.465 | 0.068 | ( 0.418) | 0.397 |
| 181 | 15.08 | 0.80 | 0.446 | 0.068 | ( 0.402) | 0.378 |
| 182 | 15.17 | 0.80 | 0.446 | 0.068 | ( 0.402) | 0.379 |
| 183 | 15.25 | 0.80 | 0.446 | 0.067 | ( 0.402) | 0.379 |
| 184 | 15.33 | 0.77 | 0.428 | 0.067 | ( 0.385) | 0.361 |
| 185 | 15.42 | 0.77 | 0.428 | 0.067 | ( 0.385) | 0.361 |
| 186 | 15.50 | 0.77 | 0.428 | 0.066 | ( 0.385) | 0.362 |
| 187 | 15.58 | 0.63 | 0.353 | 0.066 | ( 0.318) | 0.288 |
| 188 | 15.67 | 0.63 | 0.353 | 0.066 | ( 0.318) | 0.288 |
| 189 | 15.75 | 0.63 | 0.353 | 0.065 | ( 0.318) | 0.288 |
| 190 | 15.83 | 0.63 | 0.353 | 0.065 | ( 0.318) | 0.289 |
| 191 | 15.92 | 0.63 | 0.353 | 0.065 | ( 0.318) | 0.289 |
| 192 | 16.00 | 0.63 | 0.353 | 0.064 | ( 0.318) | 0.289 |
| 193 | 16.08 | 0.13 | 0.074 | 0.064 | ( 0.067) | 0.011 |
| 194 | 16.17 | 0.13 | 0.074 | 0.064 | ( 0.067) | 0.011 |
| 195 | 16.25 | 0.13 | 0.074 | 0.063 | ( 0.067) | 0.011 |
| 196 | 16.33 | 0.13 | 0.074 | 0.063 | ( 0.067) | 0.011 |
| 197 | 16.42 | 0.13 | 0.074 | 0.063 | ( 0.067) | 0.012 |
| 198 | 16.50 | 0.13 | 0.074 | 0.062 | ( 0.067) | 0.012 |
| 199 | 16.58 | 0.10 | 0.056 | ( 0.062) | 0.050 | 0.006 |
| 200 | 16.67 | 0.10 | 0.056 | ( 0.062) | 0.050 | 0.006 |
| 201 | 16.75 | 0.10 | 0.056 | ( 0.061) | 0.050 | 0.006 |
| 202 | 16.83 | 0.10 | 0.056 | ( 0.061) | 0.050 | 0.006 |
| 203 | 16.92 | 0.10 | 0.056 | ( 0.061) | 0.050 | 0.006 |
| 204 | 17.00 | 0.10 | 0.056 | ( 0.060) | 0.050 | 0.006 |
| 205 | 17.08 | 0.17 | 0.093 | 0.060 | ( 0.084) | 0.033 |
| 206 | 17.17 | 0.17 | 0.093 | 0.060 | ( 0.084) | 0.033 |
| 207 | 17.25 | 0.17 | 0.093 | 0.059 | ( 0.084) | 0.034 |
| 208 | 17.33 | 0.17 | 0.093 | 0.059 | ( 0.084) | 0.034 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 209 | 17.42 | 0.17 | 0.093 | 0.059 | ( 0.084) | 0.034 |
| 210 | 17.50 | 0.17 | 0.093 | 0.059 | ( 0.084) | 0.034 |
| 211 | 17.58 | 0.17 | 0.093 | 0.058 | ( 0.084) | 0.035 |
| 212 | 17.67 | 0.17 | 0.093 | 0.058 | ( 0.084) | 0.035 |
| 213 | 17.75 | 0.17 | 0.093 | 0.058 | ( 0.084) | 0.035 |
| 214 | 17.83 | 0.13 | 0.074 | 0.057 | ( 0.067) | 0.017 |
| 215 | 17.92 | 0.13 | 0.074 | 0.057 | ( 0.067) | 0.017 |
| 216 | 18.00 | 0.13 | 0.074 | 0.057 | ( 0.067) | 0.018 |
| 217 | 18.08 | 0.13 | 0.074 | 0.057 | ( 0.067) | 0.018 |
| 218 | 18.17 | 0.13 | 0.074 | 0.056 | ( 0.067) | 0.018 |
| 219 | 18.25 | 0.13 | 0.074 | 0.056 | ( 0.067) | 0.018 |
| 220 | 18.33 | 0.13 | 0.074 | 0.056 | ( 0.067) | 0.019 |
| 221 | 18.42 | 0.13 | 0.074 | 0.055 | ( 0.067) | 0.019 |
| 222 | 18.50 | 0.13 | 0.074 | 0.055 | ( 0.067) | 0.019 |
| 223 | 18.58 | 0.10 | 0.056 | ( 0.055) | 0.050 | 0.006 |
| 224 | 18.67 | 0.10 | 0.056 | ( 0.055) | 0.050 | 0.006 |
| 225 | 18.75 | 0.10 | 0.056 | ( 0.054) | 0.050 | 0.006 |
| 226 | 18.83 | 0.07 | 0.037 | ( 0.054) | 0.033 | 0.004 |
| 227 | 18.92 | 0.07 | 0.037 | ( 0.054) | 0.033 | 0.004 |
| 228 | 19.00 | 0.07 | 0.037 | ( 0.054) | 0.033 | 0.004 |
| 229 | 19.08 | 0.10 | 0.056 | ( 0.053) | 0.050 | 0.006 |
| 230 | 19.17 | 0.10 | 0.056 | ( 0.053) | 0.050 | 0.006 |
| 231 | 19.25 | 0.10 | 0.056 | ( 0.053) | 0.050 | 0.006 |
| 232 | 19.33 | 0.13 | 0.074 | 0.053 | ( 0.067) | 0.022 |
| 233 | 19.42 | 0.13 | 0.074 | 0.052 | ( 0.067) | 0.022 |
| 234 | 19.50 | 0.13 | 0.074 | 0.052 | ( 0.067) | 0.022 |
| 235 | 19.58 | 0.10 | 0.056 | ( 0.052) | 0.050 | 0.006 |
| 236 | 19.67 | 0.10 | 0.056 | ( 0.052) | 0.050 | 0.006 |
| 237 | 19.75 | 0.10 | 0.056 | ( 0.051) | 0.050 | 0.006 |
| 238 | 19.83 | 0.07 | 0.037 | ( 0.051) | 0.033 | 0.004 |
| 239 | 19.92 | 0.07 | 0.037 | ( 0.051) | 0.033 | 0.004 |
| 240 | 20.00 | 0.07 | 0.037 | ( 0.051) | 0.033 | 0.004 |
| 241 | 20.08 | 0.10 | 0.056 | ( 0.051) | 0.050 | 0.006 |
| 242 | 20.17 | 0.10 | 0.056 | ( 0.050) | 0.050 | 0.006 |
| 243 | 20.25 | 0.10 | 0.056 | 0.050 | ( 0.050) | 0.006 |
| 244 | 20.33 | 0.10 | 0.056 | 0.050 | ( 0.050) | 0.006 |
| 245 | 20.42 | 0.10 | 0.056 | 0.050 | ( 0.050) | 0.006 |
| 246 | 20.50 | 0.10 | 0.056 | 0.049 | ( 0.050) | 0.006 |
| 247 | 20.58 | 0.10 | 0.056 | 0.049 | ( 0.050) | 0.007 |
| 248 | 20.67 | 0.10 | 0.056 | 0.049 | ( 0.050) | 0.007 |
| 249 | 20.75 | 0.10 | 0.056 | 0.049 | ( 0.050) | 0.007 |
| 250 | 20.83 | 0.07 | 0.037 | ( 0.049) | 0.033 | 0.004 |
| 251 | 20.92 | 0.07 | 0.037 | ( 0.048) | 0.033 | 0.004 |
| 252 | 21.00 | 0.07 | 0.037 | ( 0.048) | 0.033 | 0.004 |
| 253 | 21.08 | 0.10 | 0.056 | 0.048 | ( 0.050) | 0.008 |
| 254 | 21.17 | 0.10 | 0.056 | 0.048 | ( 0.050) | 0.008 |
| 255 | 21.25 | 0.10 | 0.056 | 0.048 | ( 0.050) | 0.008 |
| 256 | 21.33 | 0.07 | 0.037 | ( 0.048) | 0.033 | 0.004 |
| 257 | 21.42 | 0.07 | 0.037 | ( 0.047) | 0.033 | 0.004 |
| 258 | 21.50 | 0.07 | 0.037 | ( 0.047) | 0.033 | 0.004 |
| 259 | 21.58 | 0.10 | 0.056 | 0.047 | ( 0.050) | 0.009 |
| 260 | 21.67 | 0.10 | 0.056 | 0.047 | ( 0.050) | 0.009 |
| 261 | 21.75 | 0.10 | 0.056 | 0.047 | ( 0.050) | 0.009 |
| 262 | 21.83 | 0.07 | 0.037 | ( 0.046) | 0.033 | 0.004 |
| 263 | 21.92 | 0.07 | 0.037 | ( 0.046) | 0.033 | 0.004 |
| 264 | 22.00 | 0.07 | 0.037 | ( 0.046) | 0.033 | 0.004 |
| 265 | 22.08 | 0.10 | 0.056 | 0.046 | ( 0.050) | 0.010 |
| 266 | 22.17 | 0.10 | 0.056 | 0.046 | ( 0.050) | 0.010 |
| 267 | 22.25 | 0.10 | 0.056 | 0.046 | ( 0.050) | 0.010 |
| 268 | 22.33 | 0.07 | 0.037 | ( 0.046) | 0.033 | 0.004 |
| 269 | 22.42 | 0.07 | 0.037 | ( 0.045) | 0.033 | 0.004 |
| 270 | 22.50 | 0.07 | 0.037 | ( 0.045) | 0.033 | 0.004 |
| 271 | 22.58 | 0.07 | 0.037 | ( 0.045) | 0.033 | 0.004 |
| 272 | 22.67 | 0.07 | 0.037 | ( 0.045) | 0.033 | 0.004 |
| 273 | 22.75 | 0.07 | 0.037 | ( 0.045) | 0.033 | 0.004 |
| 274 | 22.83 | 0.07 | 0.037 | ( 0.045) | 0.033 | 0.004 |
| 275 | 22.92 | 0.07 | 0.037 | ( 0.045) | 0.033 | 0.004 |
| 276 | 23.00 | 0.07 | 0.037 | ( 0.045) | 0.033 | 0.004 |
| 277 | 23.08 | 0.07 | 0.037 | ( 0.044) | 0.033 | 0.004 |
| 278 | 23.17 | 0.07 | 0.037 | ( 0.044) | 0.033 | 0.004 |
| 279 | 23.25 | 0.07 | 0.037 | ( 0.044) | 0.033 | 0.004 |
| 280 | 23.33 | 0.07 | 0.037 | ( 0.044) | 0.033 | 0.004 |
| 281 | 23.42 | 0.07 | 0.037 | ( 0.044) | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.037 | ( 0.044) | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.037 | ( 0.044) | 0.033 | 0.004 |
| 284 | 23.67 | 0.07 | 0.037 | ( 0.044) | 0.033 | 0.004 |
| 285 | 23.75 | 0.07 | 0.037 | ( 0.044) | 0.033 | 0.004 |
| 286 | 23.83 | 0.07 | 0.037 | ( 0.044) | 0.033 | 0.004 |

```
287  23.92     0.07      0.037       (  0.044)       0.033        0.004
288  24.00     0.07      0.037       (  0.044)       0.033        0.004
               (Loss Rate Not Used)
    Sum =     100.0                                   Sum =    34.9
       Flood volume = Effective rainfall      2.91(In)
        times area       6.0(Ac.)/[(In)/(Ft.)] =       1.5(Ac.Ft)
       Total soil loss =      1.74(In)
       Total soil loss =     0.870(Ac.Ft)
       Total rainfall =      4.65(In)
       Flood volume =       63396.2 Cubic Feet
       Total soil loss =       37879.6 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =      3.371(CFS)
       ---------------------------------------------------------------------
       +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
       ---------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))

       ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ----------------------------------------------------------------------
   0+ 5       0.0001      0.01  Q          |         |         |         |
   0+10       0.0002      0.02  Q          |         |         |         |
   0+15       0.0004      0.02  Q          |         |         |         |
   0+20       0.0006      0.03  Q          |         |         |         |
   0+25       0.0008      0.03  Q          |         |         |         |
   0+30       0.0010      0.03  Q          |         |         |         |
   0+35       0.0013      0.03  Q          |         |         |         |
   0+40       0.0015      0.03  Q          |         |         |         |
   0+45       0.0017      0.03  Q          |         |         |         |
   0+50       0.0020      0.04  Q          |         |         |         |
   0+55       0.0023      0.04  Q          |         |         |         |
   1+ 0       0.0026      0.04  Q          |         |         |         |
   1+ 5       0.0029      0.04  Q          |         |         |         |
   1+10       0.0031      0.03  Q          |         |         |         |
   1+15       0.0033      0.03  Q          |         |         |         |
   1+20       0.0036      0.03  Q          |         |         |         |
   1+25       0.0038      0.03  Q          |         |         |         |
   1+30       0.0040      0.03  Q          |         |         |         |
   1+35       0.0043      0.03  Q          |         |         |         |
   1+40       0.0045      0.03  Q          |         |         |         |
   1+45       0.0047      0.03  Q          |         |         |         |
   1+50       0.0050      0.04  Q          |         |         |         |
   1+55       0.0053      0.04  Q          |         |         |         |
   2+ 0       0.0056      0.04  Q          |         |         |         |
   2+ 5       0.0059      0.05  Q          |         |         |         |
   2+10       0.0062      0.05  Q          |         |         |         |
   2+15       0.0066      0.05  Q          |         |         |         |
   2+20       0.0069      0.05  Q          |         |         |         |
   2+25       0.0072      0.05  Q          |         |         |         |
   2+30       0.0075      0.05  Q          |         |         |         |
   2+35       0.0078      0.05  Q          |         |         |         |
   2+40       0.0082      0.06  Q          |         |         |         |
   2+45       0.0086      0.06  Q          |         |         |         |
   2+50       0.0090      0.06  Q          |         |         |         |
   2+55       0.0094      0.06  Q          |         |         |         |
   3+ 0       0.0098      0.06  Q          |         |         |         |
   3+ 5       0.0102      0.06  Q          |         |         |         |
   3+10       0.0105      0.06  Q          |         |         |         |
   3+15       0.0109      0.06  Q          |         |         |         |
   3+20       0.0113      0.06  Q          |         |         |         |
   3+25       0.0117      0.06  Q          |         |         |         |
   3+30       0.0121      0.06  Q          |         |         |         |
   3+35       0.0125      0.06  Q          |         |         |         |
   3+40       0.0129      0.06  Q          |         |         |         |
   3+45       0.0133      0.06  Q          |         |         |         |
   3+50       0.0137      0.06  Q          |         |         |         |
   3+55       0.0141      0.07  Q          |         |         |         |
   4+ 0       0.0146      0.07  Q          |         |         |         |
   4+ 5       0.0151      0.07  Q          |         |         |         |
   4+10       0.0155      0.07  Q          |         |         |         |
   4+15       0.0160      0.07  Q          |         |         |         |
   4+20       0.0165      0.07  Q          |         |         |         |
   4+25       0.0170      0.08  Q          |         |         |         |
   4+30       0.0176      0.08  Q          |         |         |         |
   4+35       0.0181      0.08  Q          |         |         |         |
```

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 4+40 | 0.0187 | 0.08 | Q | \| | \| | \| | \| |
| 4+45 | 0.0192 | 0.08 | Q | \| | \| | \| | \| |
| 4+50 | 0.0200 | 0.12 | Q | \| | \| | \| | \| |
| 4+55 | 0.0211 | 0.15 | Q | \| | \| | \| | \| |
| 5+ 0 | 0.0222 | 0.16 | Q | \| | \| | \| | \| |
| 5+ 5 | 0.0230 | 0.12 | Q | \| | \| | \| | \| |
| 5+10 | 0.0235 | 0.07 | Q | \| | \| | \| | \| |
| 5+15 | 0.0240 | 0.07 | Q | \| | \| | \| | \| |
| 5+20 | 0.0245 | 0.07 | Q | \| | \| | \| | \| |
| 5+25 | 0.0250 | 0.08 | Q | \| | \| | \| | \| |
| 5+30 | 0.0256 | 0.08 | Q | \| | \| | \| | \| |
| 5+35 | 0.0264 | 0.13 | Q | \| | \| | \| | \| |
| 5+40 | 0.0277 | 0.18 | Q | \| | \| | \| | \| |
| 5+45 | 0.0290 | 0.19 | Q | \| | \| | \| | \| |
| 5+50 | 0.0303 | 0.19 | Q | \| | \| | \| | \| |
| 5+55 | 0.0317 | 0.20 | Q | \| | \| | \| | \| |
| 6+ 0 | 0.0331 | 0.20 | Q | \| | \| | \| | \| |
| 6+ 5 | 0.0348 | 0.26 | VQ | \| | \| | \| | \| |
| 6+10 | 0.0370 | 0.31 | \|Q | \| | \| | \| | \| |
| 6+15 | 0.0392 | 0.32 | \|Q | \| | \| | \| | \| |
| 6+20 | 0.0414 | 0.33 | \|Q | \| | \| | \| | \| |
| 6+25 | 0.0437 | 0.33 | \|Q | \| | \| | \| | \| |
| 6+30 | 0.0460 | 0.33 | \|Q | \| | \| | \| | \| |
| 6+35 | 0.0486 | 0.39 | \|Q | \| | \| | \| | \| |
| 6+40 | 0.0517 | 0.44 | \|Q | \| | \| | \| | \| |
| 6+45 | 0.0548 | 0.45 | \|Q | \| | \| | \| | \| |
| 6+50 | 0.0580 | 0.46 | \|Q | \| | \| | \| | \| |
| 6+55 | 0.0611 | 0.46 | \|Q | \| | \| | \| | \| |
| 7+ 0 | 0.0643 | 0.46 | \|Q | \| | \| | \| | \| |
| 7+ 5 | 0.0675 | 0.46 | \|Q | \| | \| | \| | \| |
| 7+10 | 0.0707 | 0.47 | \|Q | \| | \| | \| | \| |
| 7+15 | 0.0740 | 0.47 | \|QV | \| | \| | \| | \| |
| 7+20 | 0.0776 | 0.53 | \| Q | \| | \| | \| | \| |
| 7+25 | 0.0816 | 0.58 | \| Q | \| | \| | \| | \| |
| 7+30 | 0.0857 | 0.59 | \| Q | \| | \| | \| | \| |
| 7+35 | 0.0901 | 0.65 | \| Q | \| | \| | \| | \| |
| 7+40 | 0.0950 | 0.70 | \| Q | \| | \| | \| | \| |
| 7+45 | 0.0999 | 0.71 | \| Q | \| | \| | \| | \| |
| 7+50 | 0.1052 | 0.77 | \| VQ | \| | \| | \| | \| |
| 7+55 | 0.1109 | 0.83 | \|  Q | \| | \| | \| | \| |
| 8+ 0 | 0.1166 | 0.83 | \|  Q | \| | \| | \| | \| |
| 8+ 5 | 0.1231 | 0.94 | \|  Q | \| | \| | \| | \| |
| 8+10 | 0.1304 | 1.05 | \|  VQ | \| | \| | \| | \| |
| 8+15 | 0.1377 | 1.07 | \|  VQ | \| | \| | \| | \| |
| 8+20 | 0.1451 | 1.07 | \|  VQ | \| | \| | \| | \| |
| 8+25 | 0.1525 | 1.07 | \|   Q | \| | \| | \| | \| |
| 8+30 | 0.1599 | 1.08 | \|   Q | \| | \| | \| | \| |
| 8+35 | 0.1677 | 1.13 | \|   Q | \| | \| | \| | \| |
| 8+40 | 0.1759 | 1.19 | \|   Q | \| | \| | \| | \| |
| 8+45 | 0.1842 | 1.20 | \|   QV | \| | \| | \| | \| |
| 8+50 | 0.1928 | 1.25 | \|    Q | \| | \| | \| | \| |
| 8+55 | 0.2018 | 1.31 | \|    Q | \| | \| | \| | \| |
| 9+ 0 | 0.2109 | 1.32 | \|    Q | \| | \| | \| | \| |
| 9+ 5 | 0.2208 | 1.43 | \|    QV | \| | \| | \| | \| |
| 9+10 | 0.2314 | 1.54 | \|     Q | \| | \| | \| | \| |
| 9+15 | 0.2420 | 1.55 | \|     Q | \| | \| | \| | \| |
| 9+20 | 0.2531 | 1.61 | \|     Q | \| | \| | \| | \| |
| 9+25 | 0.2646 | 1.66 | \|     QV | \| | \| | \| | \| |
| 9+30 | 0.2761 | 1.67 | \|     QV | \| | \| | \| | \| |
| 9+35 | 0.2880 | 1.73 | \|     QV | \| | \| | \| | \| |
| 9+40 | 0.3003 | 1.79 | \|      QV | \| | \| | \| | \| |
| 9+45 | 0.3127 | 1.79 | \|      QV | \| | \| | \| | \| |
| 9+50 | 0.3254 | 1.85 | \|      QV | \| | \| | \| | \| |
| 9+55 | 0.3385 | 1.91 | \|      Q V| \| | \| | \| | \| |
| 10+ 0 | 0.3517 | 1.91 | \|      Q V| \| | \| | \| | \| |
| 10+ 5 | 0.3624 | 1.55 | \|     Q  V| \| | \| | \| | \| |
| 10+10 | 0.3705 | 1.18 | \|   Q     V | \| | \| | \| | \| |
| 10+15 | 0.3784 | 1.14 | \|   Q     V | \| | \| | \| | \| |
| 10+20 | 0.3862 | 1.14 | \|   Q     V | \| | \| | \| | \| |
| 10+25 | 0.3941 | 1.14 | \|   Q     V | \| | \| | \| | \| |
| 10+30 | 0.4019 | 1.14 | \|   Q     \|V | \| | \| | \| | \| |
| 10+35 | 0.4116 | 1.41 | \|    Q    \|V | \| | \| | \| | \| |
| 10+40 | 0.4232 | 1.68 | \|     Q   \|V | \| | \| | \| | \| |
| 10+45 | 0.4350 | 1.71 | \|     Q   \|V | \| | \| | \| | \| |
| 10+50 | 0.4468 | 1.72 | \|     Q   \| V | \| | \| | \| | \| |
| 10+55 | 0.4587 | 1.72 | \|     Q   \| V | \| | \| | \| | \| |
| 11+ 0 | 0.4705 | 1.72 | \|     Q   \| V | \| | \| | \| | \| |
| 11+ 5 | 0.4820 | 1.67 | \|     Q   \|  V | \| | \| | \| | \| |

| | | | |
|---|---|---|---|
| 11+10 | 0.4932 | 1.62 |  |
| 11+15 | 0.5044 | 1.62 | |
| 11+20 | 0.5155 | 1.62 | |
| 11+25 | 0.5267 | 1.62 | |
| 11+30 | 0.5379 | 1.63 | |
| 11+35 | 0.5484 | 1.52 | |
| 11+40 | 0.5581 | 1.42 | |
| 11+45 | 0.5678 | 1.41 | |
| 11+50 | 0.5779 | 1.46 | |
| 11+55 | 0.5884 | 1.52 | |
| 12+ 0 | 0.5989 | 1.53 | |
| 12+ 5 | 0.6120 | 1.90 | |
| 12+10 | 0.6276 | 2.28 | |
| 12+15 | 0.6436 | 2.32 | |
| 12+20 | 0.6600 | 2.38 | |
| 12+25 | 0.6767 | 2.43 | |
| 12+30 | 0.6936 | 2.44 | |
| 12+35 | 0.7111 | 2.55 | |
| 12+40 | 0.7294 | 2.66 | |
| 12+45 | 0.7479 | 2.67 | |
| 12+50 | 0.7667 | 2.73 | |
| 12+55 | 0.7858 | 2.79 | |
| 13+ 0 | 0.8051 | 2.79 | |
| 13+ 5 | 0.8262 | 3.06 | |
| 13+10 | 0.8491 | 3.33 | |
| 13+15 | 0.8723 | 3.36 | |
| 13+20 | 0.8954 | 3.37 | |
| 13+25 | 0.9186 | 3.37 | |
| 13+30 | 0.9419 | 3.37 | |
| 13+35 | 0.9611 | 2.80 | |
| 13+40 | 0.9763 | 2.21 | |
| 13+45 | 0.9911 | 2.15 | |
| 13+50 | 1.0059 | 2.14 | |
| 13+55 | 1.0206 | 2.15 | |
| 14+ 0 | 1.0354 | 2.15 | |
| 14+ 5 | 1.0517 | 2.36 | |
| 14+10 | 1.0694 | 2.58 | |
| 14+15 | 1.0874 | 2.60 | |
| 14+20 | 1.1049 | 2.55 | |
| 14+25 | 1.1222 | 2.50 | |
| 14+30 | 1.1394 | 2.50 | |
| 14+35 | 1.1566 | 2.50 | |
| 14+40 | 1.1738 | 2.50 | |
| 14+45 | 1.1911 | 2.50 | |
| 14+50 | 1.2080 | 2.45 | |
| 14+55 | 1.2245 | 2.40 | |
| 15+ 0 | 1.2411 | 2.40 | |
| 15+ 5 | 1.2572 | 2.35 | |
| 15+10 | 1.2731 | 2.30 | |
| 15+15 | 1.2889 | 2.29 | |
| 15+20 | 1.3043 | 2.24 | |
| 15+25 | 1.3194 | 2.19 | |
| 15+30 | 1.3344 | 2.19 | |
| 15+35 | 1.3481 | 1.98 | |
| 15+40 | 1.3602 | 1.77 | |
| 15+45 | 1.3722 | 1.75 | |
| 15+50 | 1.3843 | 1.74 | |
| 15+55 | 1.3963 | 1.75 | |
| 16+ 0 | 1.4083 | 1.75 | |
| 16+ 5 | 1.4150 | 0.96 | |
| 16+10 | 1.4160 | 0.16 | |
| 16+15 | 1.4166 | 0.08 | |
| 16+20 | 1.4170 | 0.07 | |
| 16+25 | 1.4175 | 0.07 | |
| 16+30 | 1.4180 | 0.07 | |
| 16+35 | 1.4184 | 0.05 | |
| 16+40 | 1.4187 | 0.04 | |
| 16+45 | 1.4189 | 0.03 | |
| 16+50 | 1.4191 | 0.03 | |
| 16+55 | 1.4194 | 0.03 | |
| 17+ 0 | 1.4196 | 0.03 | |
| 17+ 5 | 1.4204 | 0.11 | |
| 17+10 | 1.4217 | 0.19 | |
| 17+15 | 1.4230 | 0.20 | |
| 17+20 | 1.4244 | 0.20 | |
| 17+25 | 1.4259 | 0.21 | |
| 17+30 | 1.4273 | 0.21 | |
| 17+35 | 1.4287 | 0.21 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+40 | 1.4302 | 0.21 | Q | \| | \| | \| | V\| |
| 17+45 | 1.4316 | 0.21 | Q | \| | \| | \| | V\| |
| 17+50 | 1.4328 | 0.16 | Q | \| | \| | \| | V\| |
| 17+55 | 1.4335 | 0.11 | Q | \| | \| | \| | V\| |
| 18+ 0 | 1.4342 | 0.11 | Q | \| | \| | \| | V\| |
| 18+ 5 | 1.4350 | 0.11 | Q | \| | \| | \| | V\| |
| 18+10 | 1.4357 | 0.11 | Q | \| | \| | \| | V\| |
| 18+15 | 1.4365 | 0.11 | Q | \| | \| | \| | V\| |
| 18+20 | 1.4372 | 0.11 | Q | \| | \| | \| | V\| |
| 18+25 | 1.4380 | 0.11 | Q | \| | \| | \| | V\| |
| 18+30 | 1.4388 | 0.12 | Q | \| | \| | \| | V\| |
| 18+35 | 1.4394 | 0.08 | Q | \| | \| | \| | V\| |
| 18+40 | 1.4396 | 0.04 | Q | \| | \| | \| | V\| |
| 18+45 | 1.4399 | 0.03 | Q | \| | \| | \| | V\| |
| 18+50 | 1.4400 | 0.03 | Q | \| | \| | \| | V\| |
| 18+55 | 1.4402 | 0.02 | Q | \| | \| | \| | V\| |
| 19+ 0 | 1.4404 | 0.02 | Q | \| | \| | \| | V\| |
| 19+ 5 | 1.4406 | 0.03 | Q | \| | \| | \| | V\| |
| 19+10 | 1.4408 | 0.03 | Q | \| | \| | \| | V\| |
| 19+15 | 1.4410 | 0.03 | Q | \| | \| | \| | V\| |
| 19+20 | 1.4416 | 0.08 | Q | \| | \| | \| | V\| |
| 19+25 | 1.4424 | 0.13 | Q | \| | \| | \| | V\| |
| 19+30 | 1.4433 | 0.13 | Q | \| | \| | \| | V\| |
| 19+35 | 1.4440 | 0.09 | Q | \| | \| | \| | V\| |
| 19+40 | 1.4442 | 0.04 | Q | \| | \| | \| | V\| |
| 19+45 | 1.4445 | 0.03 | Q | \| | \| | \| | V\| |
| 19+50 | 1.4447 | 0.03 | Q | \| | \| | \| | V\| |
| 19+55 | 1.4448 | 0.02 | Q | \| | \| | \| | V\| |
| 20+ 0 | 1.4450 | 0.02 | Q | \| | \| | \| | V\| |
| 20+ 5 | 1.4452 | 0.03 | Q | \| | \| | \| | V\| |
| 20+10 | 1.4454 | 0.03 | Q | \| | \| | \| | V\| |
| 20+15 | 1.4456 | 0.03 | Q | \| | \| | \| | V\| |
| 20+20 | 1.4459 | 0.04 | Q | \| | \| | \| | V\| |
| 20+25 | 1.4461 | 0.04 | Q | \| | \| | \| | V\| |
| 20+30 | 1.4464 | 0.04 | Q | \| | \| | \| | V\| |
| 20+35 | 1.4466 | 0.04 | Q | \| | \| | \| | V\| |
| 20+40 | 1.4469 | 0.04 | Q | \| | \| | \| | V\| |
| 20+45 | 1.4472 | 0.04 | Q | \| | \| | \| | V\| |
| 20+50 | 1.4474 | 0.03 | Q | \| | \| | \| | V\| |
| 20+55 | 1.4476 | 0.02 | Q | \| | \| | \| | V\| |
| 21+ 0 | 1.4477 | 0.02 | Q | \| | \| | \| | V\| |
| 21+ 5 | 1.4480 | 0.03 | Q | \| | \| | \| | V\| |
| 21+10 | 1.4483 | 0.05 | Q | \| | \| | \| | V\| |
| 21+15 | 1.4486 | 0.05 | Q | \| | \| | \| | V\| |
| 21+20 | 1.4489 | 0.04 | Q | \| | \| | \| | V\| |
| 21+25 | 1.4490 | 0.02 | Q | \| | \| | \| | V\| |
| 21+30 | 1.4492 | 0.02 | Q | \| | \| | \| | V\| |
| 21+35 | 1.4495 | 0.04 | Q | \| | \| | \| | V\| |
| 21+40 | 1.4498 | 0.05 | Q | \| | \| | \| | V\| |
| 21+45 | 1.4502 | 0.05 | Q | \| | \| | \| | V\| |
| 21+50 | 1.4505 | 0.04 | Q | \| | \| | \| | V\| |
| 21+55 | 1.4506 | 0.02 | Q | \| | \| | \| | V\| |
| 22+ 0 | 1.4508 | 0.02 | Q | \| | \| | \| | V\| |
| 22+ 5 | 1.4511 | 0.04 | Q | \| | \| | \| | V\| |
| 22+10 | 1.4515 | 0.06 | Q | \| | \| | \| | V\| |
| 22+15 | 1.4519 | 0.06 | Q | \| | \| | \| | V\| |
| 22+20 | 1.4522 | 0.04 | Q | \| | \| | \| | V\| |
| 22+25 | 1.4523 | 0.02 | Q | \| | \| | \| | V\| |
| 22+30 | 1.4525 | 0.02 | Q | \| | \| | \| | V\| |
| 22+35 | 1.4526 | 0.02 | Q | \| | \| | \| | V\| |
| 22+40 | 1.4528 | 0.02 | Q | \| | \| | \| | V\| |
| 22+45 | 1.4530 | 0.02 | Q | \| | \| | \| | V\| |
| 22+50 | 1.4531 | 0.02 | Q | \| | \| | \| | V\| |
| 22+55 | 1.4533 | 0.02 | Q | \| | \| | \| | V\| |
| 23+ 0 | 1.4534 | 0.02 | Q | \| | \| | \| | V\| |
| 23+ 5 | 1.4536 | 0.02 | Q | \| | \| | \| | V\| |
| 23+10 | 1.4537 | 0.02 | Q | \| | \| | \| | V\| |
| 23+15 | 1.4539 | 0.02 | Q | \| | \| | \| | V\| |
| 23+20 | 1.4540 | 0.02 | Q | \| | \| | \| | V\| |
| 23+25 | 1.4542 | 0.02 | Q | \| | \| | \| | V\| |
| 23+30 | 1.4544 | 0.02 | Q | \| | \| | \| | V\| |
| 23+35 | 1.4545 | 0.02 | Q | \| | \| | \| | V\| |
| 23+40 | 1.4547 | 0.02 | Q | \| | \| | \| | V\| |
| 23+45 | 1.4548 | 0.02 | Q | \| | \| | \| | V\| |
| 23+50 | 1.4550 | 0.02 | Q | \| | \| | \| | V\| |
| 23+55 | 1.4551 | 0.02 | Q | \| | \| | \| | V\| |
| 24+ 0 | 1.4553 | 0.02 | Q | \| | \| | \| | V\| |
| 24+ 5 | 1.4554 | 0.01 | Q | \| | \| | \| | V\| |

```
   24+10       1.4554      0.00  Q         |          |          |        V|
   24+15       1.4554      0.00  Q         |          |          |         V
-------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014, Version 9.0
Study date 03/29/18 File: AREA41100.out

++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
----------------------------------------------------------------------

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 4
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

---

Drainage Area = 5.90(Ac.) = 0.009 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 5.90(Ac.) = 0.009 Sq. Mi.
Length along longest watercourse = 610.00(Ft.)
Length along longest watercourse measured to centroid = 202.00(Ft.)
Length along longest watercourse = 0.116 Mi.
Length along longest watercourse measured to centroid = 0.038 Mi.
Difference in elevation = 100.00(Ft.)
Slope along watercourse = 865.5738 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.030 Hr.
Lag time = 1.78 Min.
25% of lag time = 0.44 Min.
40% of lag time = 0.71 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 5.90 | 0.50 | 2.95 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 5.90 | 1.20 | 7.08 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 5.900 | 83.79 | 0.000 |

Total Area Entered = 5.90(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.8 | 93.3 | 0.087 | 0.000 | 0.087 | 1.000 | 0.087 |
| | | | | | Sum (F) = | 0.087 |

Area averaged mean soil loss (F) (In/Hr) = 0.087

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

---

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 281.430 | 55.405 | 3.294 |
| 2 0.167 | 562.860 | 41.971 | 2.496 |
| 3 0.250 | 844.290 | 2.624 | 0.156 |
| | | Sum = 100.000 Sum= | 5.946 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 4.20 | 0.605 | 0.087 | ( 0.544) | 0.517 |
| 2 0.17 | 4.30 | 0.619 | 0.087 | ( 0.557) | 0.532 |
| 3 0.25 | 5.00 | 0.720 | 0.087 | ( 0.648) | 0.633 |
| 4 0.33 | 5.00 | 0.720 | 0.087 | ( 0.648) | 0.633 |
| 5 0.42 | 5.80 | 0.835 | 0.087 | ( 0.752) | 0.748 |
| 6 0.50 | 6.50 | 0.936 | 0.087 | ( 0.842) | 0.849 |
| 7 0.58 | 7.40 | 1.066 | 0.087 | ( 0.959) | 0.978 |
| 8 0.67 | 8.60 | 1.238 | 0.087 | ( 1.115) | 1.151 |
| 9 0.75 | 12.30 | 1.771 | 0.087 | ( 1.594) | 1.684 |
| 10 0.83 | 29.10 | 4.190 | 0.087 | ( 3.771) | 4.103 |
| 11 0.92 | 6.80 | 0.979 | 0.087 | ( 0.881) | 0.892 |
| 12 1.00 | 5.00 | 0.720 | 0.087 | ( 0.648) | 0.633 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 13.3 |

Flood volume = Effective rainfall 1.11(In)
times area 5.9(Ac.)/[(In)/(Ft.)] = 0.5(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.043(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 23826.4 Cubic Feet
Total soil loss = 1872.7 Cubic Feet

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Peak flow rate of this hydrograph = 17.907(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 5.0 10.0 15.0 20.0 |
|---|---|---|---|
| 0+ 5 | 0.0117 | 1.71 | V Q |
| 0+10 | 0.0327 | 3.04 | V Q |
| 0+15 | 0.0568 | 3.49 | V Q |
| 0+20 | 0.0826 | 3.75 | VQ |
| 0+25 | 0.1111 | 4.14 | Q |
| 0+30 | 0.1439 | 4.76 | QV |
| 0+35 | 0.1815 | 5.46 | Q V |
| 0+40 | 0.2254 | 6.37 | Q V |
| 0+45 | 0.2844 | 8.58 | Q V |
| 0+50 | 0.4078 | 17.91 | V Q |
| 0+55 | 0.5004 | 13.45 | Q V |
| 1+ 0 | 0.5345 | 4.95 | Q V |
| 1+ 5 | 0.5463 | 1.72 | Q V |
| 1+10 | 0.5470 | 0.10 | Q V |

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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 03/29/18 File: AREA43100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 4
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

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Drainage Area = 5.90(Ac.) = 0.009 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 5.90(Ac.) = 0.009 Sq. Mi.
Length along longest watercourse = 610.00(Ft.)
Length along longest watercourse measured to centroid = 202.00(Ft.)
Length along longest watercourse = 0.116 Mi.
Length along longest watercourse measured to centroid = 0.038 Mi.
Difference in elevation = 100.00(Ft.)
Slope along watercourse = 865.5738 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.030 Hr.
Lag time = 1.78 Min.
25% of lag time = 0.44 Min.
40% of lag time = 0.71 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 5.90 | 0.81 | 4.78 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 5.90 | 1.81 | 10.68 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.810(In)
Area Averaged 100-Year Rainfall = 1.810(In)

Point rain (area averaged) = 1.810(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.810(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 5.900 | 83.79 | 0.000 |

Total Area Entered = 5.90(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.8 | 93.3 | 0.087 | 0.000 | 0.087 | 1.000 | 0.087 |
| | | | | | Sum (F) = | 0.087 |

Area averaged mean soil loss (F) (In/Hr) = 0.087

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 281.430 | 55.405 | 3.294 |
| 2 | 0.167 | 562.860 | 41.971 | 2.496 |
| 3 | 0.250 | 844.290 | 2.624 | 0.156 |
| | | | Sum = 100.000 Sum= | 5.946 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.282 | 0.087 | ( 0.254) | 0.195 |
| 2 | 0.17 | 1.30 | 0.282 | 0.087 | ( 0.254) | 0.195 |
| 3 | 0.25 | 1.10 | 0.239 | 0.087 | ( 0.215) | 0.151 |
| 4 | 0.33 | 1.50 | 0.326 | 0.087 | ( 0.293) | 0.238 |
| 5 | 0.42 | 1.50 | 0.326 | 0.087 | ( 0.293) | 0.238 |
| 6 | 0.50 | 1.80 | 0.391 | 0.087 | ( 0.352) | 0.304 |
| 7 | 0.58 | 1.50 | 0.326 | 0.087 | ( 0.293) | 0.238 |
| 8 | 0.67 | 1.80 | 0.391 | 0.087 | ( 0.352) | 0.304 |
| 9 | 0.75 | 1.80 | 0.391 | 0.087 | ( 0.352) | 0.304 |
| 10 | 0.83 | 1.50 | 0.326 | 0.087 | ( 0.293) | 0.238 |
| 11 | 0.92 | 1.60 | 0.348 | 0.087 | ( 0.313) | 0.260 |
| 12 | 1.00 | 1.80 | 0.391 | 0.087 | ( 0.352) | 0.304 |
| 13 | 1.08 | 2.20 | 0.478 | 0.087 | ( 0.430) | 0.390 |
| 14 | 1.17 | 2.20 | 0.478 | 0.087 | ( 0.430) | 0.390 |
| 15 | 1.25 | 2.20 | 0.478 | 0.087 | ( 0.430) | 0.390 |
| 16 | 1.33 | 2.00 | 0.434 | 0.087 | ( 0.391) | 0.347 |
| 17 | 1.42 | 2.60 | 0.565 | 0.087 | ( 0.508) | 0.477 |
| 18 | 1.50 | 2.70 | 0.586 | 0.087 | ( 0.528) | 0.499 |
| 19 | 1.58 | 2.40 | 0.521 | 0.087 | ( 0.469) | 0.434 |
| 20 | 1.67 | 2.70 | 0.586 | 0.087 | ( 0.528) | 0.499 |
| 21 | 1.75 | 3.30 | 0.717 | 0.087 | ( 0.645) | 0.629 |
| 22 | 1.83 | 3.10 | 0.673 | 0.087 | ( 0.606) | 0.586 |
| 23 | 1.92 | 2.90 | 0.630 | 0.087 | ( 0.567) | 0.542 |
| 24 | 2.00 | 3.00 | 0.652 | 0.087 | ( 0.586) | 0.564 |
| 25 | 2.08 | 3.10 | 0.673 | 0.087 | ( 0.606) | 0.586 |
| 26 | 2.17 | 4.20 | 0.912 | 0.087 | ( 0.821) | 0.825 |
| 27 | 2.25 | 5.00 | 1.086 | 0.087 | ( 0.977) | 0.999 |
| 28 | 2.33 | 3.50 | 0.760 | 0.087 | ( 0.684) | 0.673 |
| 29 | 2.42 | 6.80 | 1.477 | 0.087 | ( 1.329) | 1.389 |
| 30 | 2.50 | 7.30 | 1.586 | 0.087 | ( 1.427) | 1.498 |
| 31 | 2.58 | 8.20 | 1.781 | 0.087 | ( 1.603) | 1.694 |
| 32 | 2.67 | 5.90 | 1.281 | 0.087 | ( 1.153) | 1.194 |
| 33 | 2.75 | 2.00 | 0.434 | 0.087 | ( 0.391) | 0.347 |
| 34 | 2.83 | 1.80 | 0.391 | 0.087 | ( 0.352) | 0.304 |
| 35 | 2.92 | 1.80 | 0.391 | 0.087 | ( 0.352) | 0.304 |
| 36 | 3.00 | 0.60 | 0.130 | 0.087 | ( 0.117) | 0.043 |
| | | (Loss Rate Not Used) | | | |
| Sum = | | 100.0 | | | Sum = 18.6 |

Flood volume = Effective rainfall 1.55(In)
times area 5.9(Ac.)/[(In)/(Ft.)] = 0.8(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.129(Ac.Ft)
Total rainfall = 1.81(In)
Flood volume = 33145.8 Cubic Feet
Total soil loss = 5618.0 Cubic Feet

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Peak flow rate of this hydrograph = 9.540(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0044 | 0.64 | V Q | | | | |
| 0+10 | 0.0122 | 1.13 | V Q | | | | |
| 0+15 | 0.0192 | 1.02 | V Q | | | | |
| 0+20 | 0.0274 | 1.19 | V Q | | | | |
| 0+25 | 0.0371 | 1.40 | V Q | | | | |
| 0+30 | 0.0483 | 1.63 | V Q | | | | |
| 0+35 | 0.0592 | 1.58 | V Q | | | | |
| 0+40 | 0.0705 | 1.64 | V Q | | | | |
| 0+45 | 0.0829 | 1.80 | V Q | | | | |
| 0+50 | 0.0939 | 1.59 | V Q | | | | |
| 0+55 | 0.1042 | 1.50 | Q | | | | |
| 1+ 0 | 0.1158 | 1.69 | Q | | | | |
| 1+ 5 | 0.1302 | 2.09 | V Q | | | | |
| 1+10 | 0.1461 | 2.31 | V Q | | | | |
| 1+15 | 0.1621 | 2.32 | VQ | | | | |
| 1+20 | 0.1771 | 2.18 | QV | | | | |
| 1+25 | 0.1943 | 2.50 | Q | | | | |
| 1+30 | 0.2142 | 2.89 | Q | | | | |
| 1+35 | 0.2332 | 2.75 | QV | | | | |
| 1+40 | 0.2525 | 2.81 | Q V | | | | |
| 1+45 | 0.2758 | 3.39 | QV | | | | |
| 1+50 | 0.3005 | 3.58 | QV | | | | |
| 1+55 | 0.3235 | 3.35 | Q V | | | | |
| 2+ 0 | 0.3463 | 3.31 | Q V | | | | |
| 2+ 5 | 0.3699 | 3.42 | Q V | | | | |
| 2+10 | 0.3993 | 4.27 | Q V | | | | |
| 2+15 | 0.4368 | 5.44 | QV | | | | |
| 2+20 | 0.4701 | 4.84 | Q V | | | | |
| 2+25 | 0.5143 | 6.42 | Q V | | | | |
| 2+30 | 0.5729 | 8.51 | V Q | | | | |
| 2+35 | 0.6386 | 9.54 | V Q | | | | |
| 2+40 | 0.6964 | 8.40 | Q V | | | | |
| 2+45 | 0.7267 | 4.39 | Q V | | | | |
| 2+50 | 0.7408 | 2.05 | Q V | | | | |
| 2+55 | 0.7533 | 1.81 | Q V | | | | |
| 3+ 0 | 0.7598 | 0.95 | Q V | | | | |
| 3+ 5 | 0.7609 | 0.15 | Q V | | | | |
| 3+10 | 0.7609 | 0.01 | Q V | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 03/29/18 File: AREA46100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 4
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

---

Drainage Area = 5.90(Ac.) = 0.009 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 5.90(Ac.) = 0.009 Sq. Mi.
Length along longest watercourse = 610.00(Ft.)
Length along longest watercourse measured to centroid = 202.00(Ft.)
Length along longest watercourse = 0.116 Mi.
Length along longest watercourse measured to centroid = 0.038 Mi.
Difference in elevation = 100.00(Ft.)
Slope along watercourse = 865.5738 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.030 Hr.
Lag time = 1.78 Min.
25% of lag time = 0.44 Min.
40% of lag time = 0.71 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 5.90 | 1.14 | 6.73 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 5.90 | 2.50 | 14.75 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.140(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 5.900 | 83.79 | 0.000 |

Total Area Entered = 5.90(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.8 | 93.3 | 0.087 | 0.000 | 0.087 | 1.000 | 0.087 |
| | | | | | Sum (F) = | 0.087 |

Area averaged mean soil loss (F) (In/Hr) = 0.087

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 281.430 | 55.405 | 3.294 |
| 2 0.167 | 562.860 | 41.971 | 2.496 |
| 3 0.250 | 844.290 | 2.624 | 0.156 |
| | | Sum = 100.000 | Sum= 5.946 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.087 | ( 0.135) | 0.063 |
| 2 | 0.17 | 0.60 | 0.180 | 0.087 | ( 0.162) | 0.093 |
| 3 | 0.25 | 0.60 | 0.180 | 0.087 | ( 0.162) | 0.093 |
| 4 | 0.33 | 0.60 | 0.180 | 0.087 | ( 0.162) | 0.093 |
| 5 | 0.42 | 0.60 | 0.180 | 0.087 | ( 0.162) | 0.093 |
| 6 | 0.50 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 7 | 0.58 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 8 | 0.67 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 9 | 0.75 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 10 | 0.83 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 11 | 0.92 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 12 | 1.00 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 13 | 1.08 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 14 | 1.17 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 15 | 1.25 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 16 | 1.33 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 17 | 1.42 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 18 | 1.50 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 19 | 1.58 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 20 | 1.67 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 21 | 1.75 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 22 | 1.83 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 23 | 1.92 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 24 | 2.00 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 25 | 2.08 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 26 | 2.17 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 27 | 2.25 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 28 | 2.33 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 29 | 2.42 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 30 | 2.50 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 31 | 2.58 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 32 | 2.67 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 33 | 2.75 | 1.00 | 0.300 | 0.087 | ( 0.270) | 0.213 |
| 34 | 2.83 | 1.00 | 0.300 | 0.087 | ( 0.270) | 0.213 |
| 35 | 2.92 | 1.00 | 0.300 | 0.087 | ( 0.270) | 0.213 |
| 36 | 3.00 | 1.00 | 0.300 | 0.087 | ( 0.270) | 0.213 |
| 37 | 3.08 | 1.00 | 0.300 | 0.087 | ( 0.270) | 0.213 |
| 38 | 3.17 | 1.10 | 0.330 | 0.087 | ( 0.297) | 0.243 |
| 39 | 3.25 | 1.10 | 0.330 | 0.087 | ( 0.297) | 0.243 |
| 40 | 3.33 | 1.10 | 0.330 | 0.087 | ( 0.297) | 0.243 |
| 41 | 3.42 | 1.20 | 0.360 | 0.087 | ( 0.324) | 0.273 |
| 42 | 3.50 | 1.30 | 0.390 | 0.087 | ( 0.351) | 0.303 |
| 43 | 3.58 | 1.40 | 0.420 | 0.087 | ( 0.378) | 0.333 |
| 44 | 3.67 | 1.40 | 0.420 | 0.087 | ( 0.378) | 0.333 |
| 45 | 3.75 | 1.50 | 0.450 | 0.087 | ( 0.405) | 0.363 |
| 46 | 3.83 | 1.50 | 0.450 | 0.087 | ( 0.405) | 0.363 |
| 47 | 3.92 | 1.60 | 0.480 | 0.087 | ( 0.432) | 0.393 |
| 48 | 4.00 | 1.60 | 0.480 | 0.087 | ( 0.432) | 0.393 |
| 49 | 4.08 | 1.70 | 0.510 | 0.087 | ( 0.459) | 0.423 |
| 50 | 4.17 | 1.80 | 0.540 | 0.087 | ( 0.486) | 0.453 |
| 51 | 4.25 | 1.90 | 0.570 | 0.087 | ( 0.513) | 0.483 |
| 52 | 4.33 | 2.00 | 0.600 | 0.087 | ( 0.540) | 0.513 |
| 53 | 4.42 | 2.10 | 0.630 | 0.087 | ( 0.567) | 0.543 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 54 | 4.50 | 2.10 | 0.630 | 0.087 | ( 0.567) | 0.543 |
| 55 | 4.58 | 2.20 | 0.660 | 0.087 | ( 0.594) | 0.573 |
| 56 | 4.67 | 2.30 | 0.690 | 0.087 | ( 0.621) | 0.603 |
| 57 | 4.75 | 2.40 | 0.720 | 0.087 | ( 0.648) | 0.633 |
| 58 | 4.83 | 2.40 | 0.720 | 0.087 | ( 0.648) | 0.633 |
| 59 | 4.92 | 2.50 | 0.750 | 0.087 | ( 0.675) | 0.663 |
| 60 | 5.00 | 2.60 | 0.780 | 0.087 | ( 0.702) | 0.693 |
| 61 | 5.08 | 3.10 | 0.930 | 0.087 | ( 0.837) | 0.843 |
| 62 | 5.17 | 3.60 | 1.080 | 0.087 | ( 0.972) | 0.993 |
| 63 | 5.25 | 3.90 | 1.170 | 0.087 | ( 1.053) | 1.083 |
| 64 | 5.33 | 4.20 | 1.260 | 0.087 | ( 1.134) | 1.173 |
| 65 | 5.42 | 4.70 | 1.410 | 0.087 | ( 1.269) | 1.323 |
| 66 | 5.50 | 5.60 | 1.680 | 0.087 | ( 1.512) | 1.593 |
| 67 | 5.58 | 1.90 | 0.570 | 0.087 | ( 0.513) | 0.483 |
| 68 | 5.67 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 69 | 5.75 | 0.60 | 0.180 | 0.087 | ( 0.162) | 0.093 |
| 70 | 5.83 | 0.50 | 0.150 | 0.087 | ( 0.135) | 0.063 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.087) | 0.081 | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.087) | 0.054 | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.7

Flood volume = Effective rainfall 1.98(In)
times area 5.9(Ac.)/[(In)/(Ft.)] = 1.0(Ac.Ft)
Total soil loss = 0.52(In)
Total soil loss = 0.256(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 42376.6 Cubic Feet
Total soil loss = 11164.8 Cubic Feet

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Peak flow rate of this hydrograph = 8.734(CFS)

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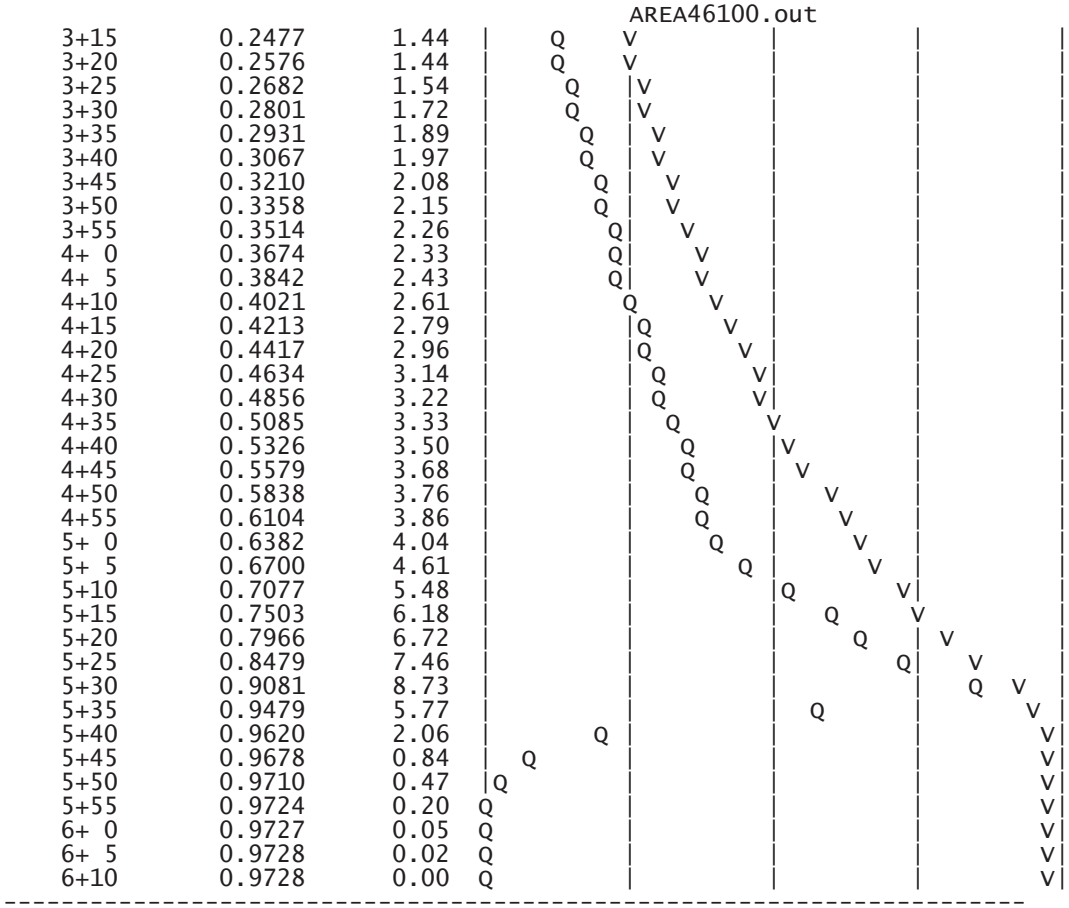
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0014 | 0.21 | Q | | | | |
| 0+10 | 0.0046 | 0.46 | VQ | | | | |
| 0+15 | 0.0084 | 0.55 | V Q | | | | |
| 0+20 | 0.0121 | 0.55 | V Q | | | | |
| 0+25 | 0.0159 | 0.55 | V Q | | | | |
| 0+30 | 0.0204 | 0.65 | V Q | | | | |
| 0+35 | 0.0254 | 0.72 | \|VQ | | | | |
| 0+40 | 0.0304 | 0.73 | \|VQ | | | | |
| 0+45 | 0.0354 | 0.73 | \|VQ | | | | |
| 0+50 | 0.0405 | 0.73 | \|VQ | | | | |
| 0+55 | 0.0455 | 0.73 | \|VQ | | | | |
| 1+ 0 | 0.0512 | 0.83 | \| VQ | | | | |
| 1+ 5 | 0.0574 | 0.90 | \| VQ | | | | |
| 1+10 | 0.0637 | 0.91 | \| VQ | | | | |
| 1+15 | 0.0699 | 0.91 | \| VQ | | | | |
| 1+20 | 0.0762 | 0.91 | \| Q | | | | |
| 1+25 | 0.0824 | 0.91 | \| Q | | | | |
| 1+30 | 0.0887 | 0.91 | \| Q | | | | |
| 1+35 | 0.0949 | 0.91 | \| Q | | | | |
| 1+40 | 0.1012 | 0.91 | \| QV | | | | |
| 1+45 | 0.1074 | 0.91 | \| QV | | | | |
| 1+50 | 0.1137 | 0.91 | \| QV | | | | |
| 1+55 | 0.1199 | 0.91 | \| QV | | | | |
| 2+ 0 | 0.1268 | 1.01 | \| QV | | | | |
| 2+ 5 | 0.1336 | 0.98 | \| Q V | | | | |
| 2+10 | 0.1406 | 1.01 | \| QV | | | | |
| 2+15 | 0.1480 | 1.08 | \| Q V | | | | |
| 2+20 | 0.1555 | 1.09 | \| Q V | | | | |
| 2+25 | 0.1630 | 1.09 | \| Q V | | | | |
| 2+30 | 0.1705 | 1.09 | \| Q V | | | | |
| 2+35 | 0.1779 | 1.09 | \| Q V | | | | |
| 2+40 | 0.1854 | 1.09 | \| Q V | | | | |
| 2+45 | 0.1936 | 1.18 | \| Q V | | | | |
| 2+50 | 0.2023 | 1.26 | \| Q V | | | | |
| 2+55 | 0.2110 | 1.26 | \| Q V | | | | |
| 3+ 0 | 0.2197 | 1.26 | \| Q V | | | | |
| 3+ 5 | 0.2284 | 1.26 | \| Q V | | | | |
| 3+10 | 0.2378 | 1.36 | \| Q V | | | | |



| | | | |
|---|---|---|---|
| 3+15 | 0.2477 | 1.44 | |
| 3+20 | 0.2576 | 1.44 | |
| 3+25 | 0.2682 | 1.54 | |
| 3+30 | 0.2801 | 1.72 | |
| 3+35 | 0.2931 | 1.89 | |
| 3+40 | 0.3067 | 1.97 | |
| 3+45 | 0.3210 | 2.08 | |
| 3+50 | 0.3358 | 2.15 | |
| 3+55 | 0.3514 | 2.26 | |
| 4+ 0 | 0.3674 | 2.33 | |
| 4+ 5 | 0.3842 | 2.43 | |
| 4+10 | 0.4021 | 2.61 | |
| 4+15 | 0.4213 | 2.79 | |
| 4+20 | 0.4417 | 2.96 | |
| 4+25 | 0.4634 | 3.14 | |
| 4+30 | 0.4856 | 3.22 | |
| 4+35 | 0.5085 | 3.33 | |
| 4+40 | 0.5326 | 3.50 | |
| 4+45 | 0.5579 | 3.68 | |
| 4+50 | 0.5838 | 3.76 | |
| 4+55 | 0.6104 | 3.86 | |
| 5+ 0 | 0.6382 | 4.04 | |
| 5+ 5 | 0.6700 | 4.61 | |
| 5+10 | 0.7077 | 5.48 | |
| 5+15 | 0.7503 | 6.18 | |
| 5+20 | 0.7966 | 6.72 | |
| 5+25 | 0.8479 | 7.46 | |
| 5+30 | 0.9081 | 8.73 | |
| 5+35 | 0.9479 | 5.77 | |
| 5+40 | 0.9620 | 2.06 | |
| 5+45 | 0.9678 | 0.84 | |
| 5+50 | 0.9710 | 0.47 | |
| 5+55 | 0.9724 | 0.20 | |
| 6+ 0 | 0.9727 | 0.05 | |
| 6+ 5 | 0.9728 | 0.02 | |
| 6+10 | 0.9728 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 03/29/18 File: AREA424100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 4
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

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Drainage Area = 5.90(Ac.) = 0.009 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 5.90(Ac.) = 0.009 Sq. Mi.
Length along longest watercourse = 610.00(Ft.)
Length along longest watercourse measured to centroid = 202.00(Ft.)
Length along longest watercourse = 0.116 Mi.
Length along longest watercourse measured to centroid = 0.038 Mi.
Difference in elevation = 100.00(Ft.)
Slope along watercourse = 865.5738 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.030 Hr.
Lag time = 1.78 Min.
25% of lag time = 0.44 Min.
40% of lag time = 0.71 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 5.90 | 1.80 | 10.62 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 5.90 | 4.63 | 27.32 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.630(In)

Point rain (area averaged) = 4.630(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.630(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 5.900 | 83.79 | 0.000 |

Total Area Entered = 5.90(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.8 | 93.3 | 0.087 | 0.000 | 0.087 | 1.000 | 0.087 |
| | | | | | Sum (F) = | 0.087 |

Area averaged mean soil loss (F) (In/Hr) = 0.087

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 281.430 | 55.405 | 3.294 |
| 2 0.167 | 562.860 | 41.971 | 2.496 |
| 3 0.250 | 844.290 | 2.624 | 0.156 |
| | | Sum = 100.000 | Sum= 5.946 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.037 | ( 0.155) | 0.033 | 0.004 |
| 2 | 0.17 | 0.07 | 0.037 | ( 0.154) | 0.033 | 0.004 |
| 3 | 0.25 | 0.07 | 0.037 | ( 0.154) | 0.033 | 0.004 |
| 4 | 0.33 | 0.10 | 0.056 | ( 0.153) | 0.050 | 0.006 |
| 5 | 0.42 | 0.10 | 0.056 | ( 0.153) | 0.050 | 0.006 |
| 6 | 0.50 | 0.10 | 0.056 | ( 0.152) | 0.050 | 0.006 |
| 7 | 0.58 | 0.10 | 0.056 | ( 0.151) | 0.050 | 0.006 |
| 8 | 0.67 | 0.10 | 0.056 | ( 0.151) | 0.050 | 0.006 |
| 9 | 0.75 | 0.10 | 0.056 | ( 0.150) | 0.050 | 0.006 |
| 10 | 0.83 | 0.13 | 0.074 | ( 0.150) | 0.067 | 0.007 |
| 11 | 0.92 | 0.13 | 0.074 | ( 0.149) | 0.067 | 0.007 |
| 12 | 1.00 | 0.13 | 0.074 | ( 0.148) | 0.067 | 0.007 |
| 13 | 1.08 | 0.10 | 0.056 | ( 0.148) | 0.050 | 0.006 |
| 14 | 1.17 | 0.10 | 0.056 | ( 0.147) | 0.050 | 0.006 |
| 15 | 1.25 | 0.10 | 0.056 | ( 0.147) | 0.050 | 0.006 |
| 16 | 1.33 | 0.10 | 0.056 | ( 0.146) | 0.050 | 0.006 |
| 17 | 1.42 | 0.10 | 0.056 | ( 0.146) | 0.050 | 0.006 |
| 18 | 1.50 | 0.10 | 0.056 | ( 0.145) | 0.050 | 0.006 |
| 19 | 1.58 | 0.10 | 0.056 | ( 0.144) | 0.050 | 0.006 |
| 20 | 1.67 | 0.10 | 0.056 | ( 0.144) | 0.050 | 0.006 |
| 21 | 1.75 | 0.10 | 0.056 | ( 0.143) | 0.050 | 0.006 |
| 22 | 1.83 | 0.13 | 0.074 | ( 0.143) | 0.067 | 0.007 |
| 23 | 1.92 | 0.13 | 0.074 | ( 0.142) | 0.067 | 0.007 |
| 24 | 2.00 | 0.13 | 0.074 | ( 0.142) | 0.067 | 0.007 |
| 25 | 2.08 | 0.13 | 0.074 | ( 0.141) | 0.067 | 0.007 |
| 26 | 2.17 | 0.13 | 0.074 | ( 0.140) | 0.067 | 0.007 |
| 27 | 2.25 | 0.13 | 0.074 | ( 0.140) | 0.067 | 0.007 |
| 28 | 2.33 | 0.13 | 0.074 | ( 0.139) | 0.067 | 0.007 |
| 29 | 2.42 | 0.13 | 0.074 | ( 0.139) | 0.067 | 0.007 |
| 30 | 2.50 | 0.13 | 0.074 | ( 0.138) | 0.067 | 0.007 |
| 31 | 2.58 | 0.17 | 0.093 | ( 0.138) | 0.083 | 0.009 |
| 32 | 2.67 | 0.17 | 0.093 | ( 0.137) | 0.083 | 0.009 |
| 33 | 2.75 | 0.17 | 0.093 | ( 0.136) | 0.083 | 0.009 |
| 34 | 2.83 | 0.17 | 0.093 | ( 0.136) | 0.083 | 0.009 |
| 35 | 2.92 | 0.17 | 0.093 | ( 0.135) | 0.083 | 0.009 |
| 36 | 3.00 | 0.17 | 0.093 | ( 0.135) | 0.083 | 0.009 |
| 37 | 3.08 | 0.17 | 0.093 | ( 0.134) | 0.083 | 0.009 |
| 38 | 3.17 | 0.17 | 0.093 | ( 0.134) | 0.083 | 0.009 |
| 39 | 3.25 | 0.17 | 0.093 | ( 0.133) | 0.083 | 0.009 |
| 40 | 3.33 | 0.17 | 0.093 | ( 0.132) | 0.083 | 0.009 |
| 41 | 3.42 | 0.17 | 0.093 | ( 0.132) | 0.083 | 0.009 |
| 42 | 3.50 | 0.17 | 0.093 | ( 0.131) | 0.083 | 0.009 |
| 43 | 3.58 | 0.17 | 0.093 | ( 0.131) | 0.083 | 0.009 |
| 44 | 3.67 | 0.17 | 0.093 | ( 0.130) | 0.083 | 0.009 |
| 45 | 3.75 | 0.17 | 0.093 | ( 0.130) | 0.083 | 0.009 |
| 46 | 3.83 | 0.20 | 0.111 | ( 0.129) | 0.100 | 0.011 |
| 47 | 3.92 | 0.20 | 0.111 | ( 0.129) | 0.100 | 0.011 |
| 48 | 4.00 | 0.20 | 0.111 | ( 0.128) | 0.100 | 0.011 |
| 49 | 4.08 | 0.20 | 0.111 | ( 0.128) | 0.100 | 0.011 |
| 50 | 4.17 | 0.20 | 0.111 | ( 0.127) | 0.100 | 0.011 |
| 51 | 4.25 | 0.20 | 0.111 | ( 0.126) | 0.100 | 0.011 |
| 52 | 4.33 | 0.23 | 0.130 | ( 0.126) | 0.117 | 0.013 |
| 53 | 4.42 | 0.23 | 0.130 | ( 0.125) | 0.117 | 0.013 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 54 | 4.50 | 0.23 | 0.130 | ( 0.125) | 0.117 | 0.013 |
| 55 | 4.58 | 0.23 | 0.130 | ( 0.124) | 0.117 | 0.013 |
| 56 | 4.67 | 0.23 | 0.130 | ( 0.124) | 0.117 | 0.013 |
| 57 | 4.75 | 0.23 | 0.130 | ( 0.123) | 0.117 | 0.013 |
| 58 | 4.83 | 0.27 | 0.148 | 0.123 | ( 0.133) | 0.025 |
| 59 | 4.92 | 0.27 | 0.148 | 0.122 | ( 0.133) | 0.026 |
| 60 | 5.00 | 0.27 | 0.148 | 0.122 | ( 0.133) | 0.026 |
| 61 | 5.08 | 0.20 | 0.111 | ( 0.121) | 0.100 | 0.011 |
| 62 | 5.17 | 0.20 | 0.111 | ( 0.121) | 0.100 | 0.011 |
| 63 | 5.25 | 0.20 | 0.111 | ( 0.120) | 0.100 | 0.011 |
| 64 | 5.33 | 0.23 | 0.130 | ( 0.120) | 0.117 | 0.013 |
| 65 | 5.42 | 0.23 | 0.130 | ( 0.119) | 0.117 | 0.013 |
| 66 | 5.50 | 0.23 | 0.130 | ( 0.119) | 0.117 | 0.013 |
| 67 | 5.58 | 0.27 | 0.148 | 0.118 | ( 0.133) | 0.030 |
| 68 | 5.67 | 0.27 | 0.148 | 0.117 | ( 0.133) | 0.031 |
| 69 | 5.75 | 0.27 | 0.148 | 0.117 | ( 0.133) | 0.031 |
| 70 | 5.83 | 0.27 | 0.148 | 0.116 | ( 0.133) | 0.032 |
| 71 | 5.92 | 0.27 | 0.148 | 0.116 | ( 0.133) | 0.032 |
| 72 | 6.00 | 0.27 | 0.148 | 0.115 | ( 0.133) | 0.033 |
| 73 | 6.08 | 0.30 | 0.167 | 0.115 | ( 0.150) | 0.052 |
| 74 | 6.17 | 0.30 | 0.167 | 0.114 | ( 0.150) | 0.052 |
| 75 | 6.25 | 0.30 | 0.167 | 0.114 | ( 0.150) | 0.053 |
| 76 | 6.33 | 0.30 | 0.167 | 0.113 | ( 0.150) | 0.053 |
| 77 | 6.42 | 0.30 | 0.167 | 0.113 | ( 0.150) | 0.054 |
| 78 | 6.50 | 0.30 | 0.167 | 0.112 | ( 0.150) | 0.054 |
| 79 | 6.58 | 0.33 | 0.185 | 0.112 | ( 0.167) | 0.073 |
| 80 | 6.67 | 0.33 | 0.185 | 0.111 | ( 0.167) | 0.074 |
| 81 | 6.75 | 0.33 | 0.185 | 0.111 | ( 0.167) | 0.074 |
| 82 | 6.83 | 0.33 | 0.185 | 0.110 | ( 0.167) | 0.075 |
| 83 | 6.92 | 0.33 | 0.185 | 0.110 | ( 0.167) | 0.075 |
| 84 | 7.00 | 0.33 | 0.185 | 0.109 | ( 0.167) | 0.076 |
| 85 | 7.08 | 0.33 | 0.185 | 0.109 | ( 0.167) | 0.076 |
| 86 | 7.17 | 0.33 | 0.185 | 0.108 | ( 0.167) | 0.077 |
| 87 | 7.25 | 0.33 | 0.185 | 0.108 | ( 0.167) | 0.077 |
| 88 | 7.33 | 0.37 | 0.204 | 0.107 | ( 0.183) | 0.096 |
| 89 | 7.42 | 0.37 | 0.204 | 0.107 | ( 0.183) | 0.097 |
| 90 | 7.50 | 0.37 | 0.204 | 0.106 | ( 0.183) | 0.097 |
| 91 | 7.58 | 0.40 | 0.222 | 0.106 | ( 0.200) | 0.116 |
| 92 | 7.67 | 0.40 | 0.222 | 0.105 | ( 0.200) | 0.117 |
| 93 | 7.75 | 0.40 | 0.222 | 0.105 | ( 0.200) | 0.117 |
| 94 | 7.83 | 0.43 | 0.241 | 0.104 | ( 0.217) | 0.136 |
| 95 | 7.92 | 0.43 | 0.241 | 0.104 | ( 0.217) | 0.137 |
| 96 | 8.00 | 0.43 | 0.241 | 0.103 | ( 0.217) | 0.137 |
| 97 | 8.08 | 0.50 | 0.278 | 0.103 | ( 0.250) | 0.175 |
| 98 | 8.17 | 0.50 | 0.278 | 0.103 | ( 0.250) | 0.175 |
| 99 | 8.25 | 0.50 | 0.278 | 0.102 | ( 0.250) | 0.176 |
| 100 | 8.33 | 0.50 | 0.278 | 0.102 | ( 0.250) | 0.176 |
| 101 | 8.42 | 0.50 | 0.278 | 0.101 | ( 0.250) | 0.177 |
| 102 | 8.50 | 0.50 | 0.278 | 0.101 | ( 0.250) | 0.177 |
| 103 | 8.58 | 0.53 | 0.296 | 0.100 | ( 0.267) | 0.196 |
| 104 | 8.67 | 0.53 | 0.296 | 0.100 | ( 0.267) | 0.197 |
| 105 | 8.75 | 0.53 | 0.296 | 0.099 | ( 0.267) | 0.197 |
| 106 | 8.83 | 0.57 | 0.315 | 0.099 | ( 0.283) | 0.216 |
| 107 | 8.92 | 0.57 | 0.315 | 0.098 | ( 0.283) | 0.217 |
| 108 | 9.00 | 0.57 | 0.315 | 0.098 | ( 0.283) | 0.217 |
| 109 | 9.08 | 0.63 | 0.352 | 0.097 | ( 0.317) | 0.255 |
| 110 | 9.17 | 0.63 | 0.352 | 0.097 | ( 0.317) | 0.255 |
| 111 | 9.25 | 0.63 | 0.352 | 0.096 | ( 0.317) | 0.255 |
| 112 | 9.33 | 0.67 | 0.370 | 0.096 | ( 0.333) | 0.274 |
| 113 | 9.42 | 0.67 | 0.370 | 0.096 | ( 0.333) | 0.275 |
| 114 | 9.50 | 0.67 | 0.370 | 0.095 | ( 0.333) | 0.275 |
| 115 | 9.58 | 0.70 | 0.389 | 0.095 | ( 0.350) | 0.294 |
| 116 | 9.67 | 0.70 | 0.389 | 0.094 | ( 0.350) | 0.295 |
| 117 | 9.75 | 0.70 | 0.389 | 0.094 | ( 0.350) | 0.295 |
| 118 | 9.83 | 0.73 | 0.407 | 0.093 | ( 0.367) | 0.314 |
| 119 | 9.92 | 0.73 | 0.407 | 0.093 | ( 0.367) | 0.315 |
| 120 | 10.00 | 0.73 | 0.407 | 0.092 | ( 0.367) | 0.315 |
| 121 | 10.08 | 0.50 | 0.278 | 0.092 | ( 0.250) | 0.186 |
| 122 | 10.17 | 0.50 | 0.278 | 0.091 | ( 0.250) | 0.186 |
| 123 | 10.25 | 0.50 | 0.278 | 0.091 | ( 0.250) | 0.187 |
| 124 | 10.33 | 0.50 | 0.278 | 0.091 | ( 0.250) | 0.187 |
| 125 | 10.42 | 0.50 | 0.278 | 0.090 | ( 0.250) | 0.188 |
| 126 | 10.50 | 0.50 | 0.278 | 0.090 | ( 0.250) | 0.188 |
| 127 | 10.58 | 0.67 | 0.370 | 0.089 | ( 0.333) | 0.281 |
| 128 | 10.67 | 0.67 | 0.370 | 0.089 | ( 0.333) | 0.282 |
| 129 | 10.75 | 0.67 | 0.370 | 0.088 | ( 0.333) | 0.282 |
| 130 | 10.83 | 0.67 | 0.370 | 0.088 | ( 0.333) | 0.282 |
| 131 | 10.92 | 0.67 | 0.370 | 0.088 | ( 0.333) | 0.283 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 132 | 11.00 | 0.67 | 0.370 | 0.087 | ( 0.333) | 0.283 |
| 133 | 11.08 | 0.63 | 0.352 | 0.087 | ( 0.317) | 0.265 |
| 134 | 11.17 | 0.63 | 0.352 | 0.086 | ( 0.317) | 0.266 |
| 135 | 11.25 | 0.63 | 0.352 | 0.086 | ( 0.317) | 0.266 |
| 136 | 11.33 | 0.63 | 0.352 | 0.085 | ( 0.317) | 0.267 |
| 137 | 11.42 | 0.63 | 0.352 | 0.085 | ( 0.317) | 0.267 |
| 138 | 11.50 | 0.63 | 0.352 | 0.085 | ( 0.317) | 0.267 |
| 139 | 11.58 | 0.57 | 0.315 | 0.084 | ( 0.283) | 0.231 |
| 140 | 11.67 | 0.57 | 0.315 | 0.084 | ( 0.283) | 0.231 |
| 141 | 11.75 | 0.57 | 0.315 | 0.083 | ( 0.283) | 0.232 |
| 142 | 11.83 | 0.60 | 0.333 | 0.083 | ( 0.300) | 0.250 |
| 143 | 11.92 | 0.60 | 0.333 | 0.082 | ( 0.300) | 0.251 |
| 144 | 12.00 | 0.60 | 0.333 | 0.082 | ( 0.300) | 0.251 |
| 145 | 12.08 | 0.83 | 0.463 | 0.082 | ( 0.417) | 0.381 |
| 146 | 12.17 | 0.83 | 0.463 | 0.081 | ( 0.417) | 0.382 |
| 147 | 12.25 | 0.83 | 0.463 | 0.081 | ( 0.417) | 0.382 |
| 148 | 12.33 | 0.87 | 0.482 | 0.080 | ( 0.433) | 0.401 |
| 149 | 12.42 | 0.87 | 0.482 | 0.080 | ( 0.433) | 0.402 |
| 150 | 12.50 | 0.87 | 0.482 | 0.080 | ( 0.433) | 0.402 |
| 151 | 12.58 | 0.93 | 0.519 | 0.079 | ( 0.467) | 0.439 |
| 152 | 12.67 | 0.93 | 0.519 | 0.079 | ( 0.467) | 0.440 |
| 153 | 12.75 | 0.93 | 0.519 | 0.078 | ( 0.467) | 0.440 |
| 154 | 12.83 | 0.97 | 0.537 | 0.078 | ( 0.483) | 0.459 |
| 155 | 12.92 | 0.97 | 0.537 | 0.078 | ( 0.483) | 0.459 |
| 156 | 13.00 | 0.97 | 0.537 | 0.077 | ( 0.483) | 0.460 |
| 157 | 13.08 | 1.13 | 0.630 | 0.077 | ( 0.567) | 0.553 |
| 158 | 13.17 | 1.13 | 0.630 | 0.076 | ( 0.567) | 0.553 |
| 159 | 13.25 | 1.13 | 0.630 | 0.076 | ( 0.567) | 0.554 |
| 160 | 13.33 | 1.13 | 0.630 | 0.076 | ( 0.567) | 0.554 |
| 161 | 13.42 | 1.13 | 0.630 | 0.075 | ( 0.567) | 0.554 |
| 162 | 13.50 | 1.13 | 0.630 | 0.075 | ( 0.567) | 0.555 |
| 163 | 13.58 | 0.77 | 0.426 | 0.075 | ( 0.383) | 0.351 |
| 164 | 13.67 | 0.77 | 0.426 | 0.074 | ( 0.383) | 0.352 |
| 165 | 13.75 | 0.77 | 0.426 | 0.074 | ( 0.383) | 0.352 |
| 166 | 13.83 | 0.77 | 0.426 | 0.073 | ( 0.383) | 0.353 |
| 167 | 13.92 | 0.77 | 0.426 | 0.073 | ( 0.383) | 0.353 |
| 168 | 14.00 | 0.77 | 0.426 | 0.073 | ( 0.383) | 0.353 |
| 169 | 14.08 | 0.90 | 0.500 | 0.072 | ( 0.450) | 0.428 |
| 170 | 14.17 | 0.90 | 0.500 | 0.072 | ( 0.450) | 0.428 |
| 171 | 14.25 | 0.90 | 0.500 | 0.072 | ( 0.450) | 0.429 |
| 172 | 14.33 | 0.87 | 0.482 | 0.071 | ( 0.433) | 0.410 |
| 173 | 14.42 | 0.87 | 0.482 | 0.071 | ( 0.433) | 0.411 |
| 174 | 14.50 | 0.87 | 0.482 | 0.070 | ( 0.433) | 0.411 |
| 175 | 14.58 | 0.87 | 0.482 | 0.070 | ( 0.433) | 0.411 |
| 176 | 14.67 | 0.87 | 0.482 | 0.070 | ( 0.433) | 0.412 |
| 177 | 14.75 | 0.87 | 0.482 | 0.069 | ( 0.433) | 0.412 |
| 178 | 14.83 | 0.83 | 0.463 | 0.069 | ( 0.417) | 0.394 |
| 179 | 14.92 | 0.83 | 0.463 | 0.069 | ( 0.417) | 0.394 |
| 180 | 15.00 | 0.83 | 0.463 | 0.068 | ( 0.417) | 0.395 |
| 181 | 15.08 | 0.80 | 0.444 | 0.068 | ( 0.400) | 0.377 |
| 182 | 15.17 | 0.80 | 0.444 | 0.068 | ( 0.400) | 0.377 |
| 183 | 15.25 | 0.80 | 0.444 | 0.067 | ( 0.400) | 0.377 |
| 184 | 15.33 | 0.77 | 0.426 | 0.067 | ( 0.383) | 0.359 |
| 185 | 15.42 | 0.77 | 0.426 | 0.067 | ( 0.383) | 0.359 |
| 186 | 15.50 | 0.77 | 0.426 | 0.066 | ( 0.383) | 0.360 |
| 187 | 15.58 | 0.63 | 0.352 | 0.066 | ( 0.317) | 0.286 |
| 188 | 15.67 | 0.63 | 0.352 | 0.066 | ( 0.317) | 0.286 |
| 189 | 15.75 | 0.63 | 0.352 | 0.065 | ( 0.317) | 0.287 |
| 190 | 15.83 | 0.63 | 0.352 | 0.065 | ( 0.317) | 0.287 |
| 191 | 15.92 | 0.63 | 0.352 | 0.065 | ( 0.317) | 0.287 |
| 192 | 16.00 | 0.63 | 0.352 | 0.064 | ( 0.317) | 0.288 |
| 193 | 16.08 | 0.13 | 0.074 | 0.064 | ( 0.067) | 0.010 |
| 194 | 16.17 | 0.13 | 0.074 | 0.064 | ( 0.067) | 0.011 |
| 195 | 16.25 | 0.13 | 0.074 | 0.063 | ( 0.067) | 0.011 |
| 196 | 16.33 | 0.13 | 0.074 | 0.063 | ( 0.067) | 0.011 |
| 197 | 16.42 | 0.13 | 0.074 | 0.063 | ( 0.067) | 0.011 |
| 198 | 16.50 | 0.13 | 0.074 | 0.062 | ( 0.067) | 0.012 |
| 199 | 16.58 | 0.10 | 0.056 | ( 0.062) | 0.050 | 0.006 |
| 200 | 16.67 | 0.10 | 0.056 | ( 0.062) | 0.050 | 0.006 |
| 201 | 16.75 | 0.10 | 0.056 | ( 0.061) | 0.050 | 0.006 |
| 202 | 16.83 | 0.10 | 0.056 | ( 0.061) | 0.050 | 0.006 |
| 203 | 16.92 | 0.10 | 0.056 | ( 0.061) | 0.050 | 0.006 |
| 204 | 17.00 | 0.10 | 0.056 | ( 0.060) | 0.050 | 0.006 |
| 205 | 17.08 | 0.17 | 0.093 | 0.060 | ( 0.083) | 0.033 |
| 206 | 17.17 | 0.17 | 0.093 | 0.060 | ( 0.083) | 0.033 |
| 207 | 17.25 | 0.17 | 0.093 | 0.059 | ( 0.083) | 0.033 |
| 208 | 17.33 | 0.17 | 0.093 | 0.059 | ( 0.083) | 0.033 |
| 209 | 17.42 | 0.17 | 0.093 | 0.059 | ( 0.083) | 0.034 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 210 | 17.50 | 0.17 | 0.093 | 0.059 | ( 0.083) | 0.034 |
| 211 | 17.58 | 0.17 | 0.093 | 0.058 | ( 0.083) | 0.034 |
| 212 | 17.67 | 0.17 | 0.093 | 0.058 | ( 0.083) | 0.035 |
| 213 | 17.75 | 0.17 | 0.093 | 0.058 | ( 0.083) | 0.035 |
| 214 | 17.83 | 0.13 | 0.074 | 0.057 | ( 0.067) | 0.017 |
| 215 | 17.92 | 0.13 | 0.074 | 0.057 | ( 0.067) | 0.017 |
| 216 | 18.00 | 0.13 | 0.074 | 0.057 | ( 0.067) | 0.017 |
| 217 | 18.08 | 0.13 | 0.074 | 0.057 | ( 0.067) | 0.017 |
| 218 | 18.17 | 0.13 | 0.074 | 0.056 | ( 0.067) | 0.018 |
| 219 | 18.25 | 0.13 | 0.074 | 0.056 | ( 0.067) | 0.018 |
| 220 | 18.33 | 0.13 | 0.074 | 0.056 | ( 0.067) | 0.018 |
| 221 | 18.42 | 0.13 | 0.074 | 0.055 | ( 0.067) | 0.019 |
| 222 | 18.50 | 0.13 | 0.074 | 0.055 | ( 0.067) | 0.019 |
| 223 | 18.58 | 0.10 | 0.056 | ( 0.055) | 0.050 | 0.006 |
| 224 | 18.67 | 0.10 | 0.056 | ( 0.055) | 0.050 | 0.006 |
| 225 | 18.75 | 0.10 | 0.056 | ( 0.054) | 0.050 | 0.006 |
| 226 | 18.83 | 0.07 | 0.037 | ( 0.054) | 0.033 | 0.004 |
| 227 | 18.92 | 0.07 | 0.037 | ( 0.054) | 0.033 | 0.004 |
| 228 | 19.00 | 0.07 | 0.037 | ( 0.054) | 0.033 | 0.004 |
| 229 | 19.08 | 0.10 | 0.056 | ( 0.053) | 0.050 | 0.006 |
| 230 | 19.17 | 0.10 | 0.056 | ( 0.053) | 0.050 | 0.006 |
| 231 | 19.25 | 0.10 | 0.056 | ( 0.053) | 0.050 | 0.006 |
| 232 | 19.33 | 0.13 | 0.074 | 0.053 | ( 0.067) | 0.021 |
| 233 | 19.42 | 0.13 | 0.074 | 0.052 | ( 0.067) | 0.022 |
| 234 | 19.50 | 0.13 | 0.074 | 0.052 | ( 0.067) | 0.022 |
| 235 | 19.58 | 0.10 | 0.056 | ( 0.052) | 0.050 | 0.006 |
| 236 | 19.67 | 0.10 | 0.056 | ( 0.052) | 0.050 | 0.006 |
| 237 | 19.75 | 0.10 | 0.056 | ( 0.051) | 0.050 | 0.006 |
| 238 | 19.83 | 0.07 | 0.037 | ( 0.051) | 0.033 | 0.004 |
| 239 | 19.92 | 0.07 | 0.037 | ( 0.051) | 0.033 | 0.004 |
| 240 | 20.00 | 0.07 | 0.037 | ( 0.051) | 0.033 | 0.004 |
| 241 | 20.08 | 0.10 | 0.056 | ( 0.051) | 0.050 | 0.006 |
| 242 | 20.17 | 0.10 | 0.056 | ( 0.050) | 0.050 | 0.006 |
| 243 | 20.25 | 0.10 | 0.056 | ( 0.050) | 0.050 | 0.006 |
| 244 | 20.33 | 0.10 | 0.056 | 0.050 | ( 0.050) | 0.006 |
| 245 | 20.42 | 0.10 | 0.056 | 0.050 | ( 0.050) | 0.006 |
| 246 | 20.50 | 0.10 | 0.056 | 0.049 | ( 0.050) | 0.006 |
| 247 | 20.58 | 0.10 | 0.056 | 0.049 | ( 0.050) | 0.006 |
| 248 | 20.67 | 0.10 | 0.056 | 0.049 | ( 0.050) | 0.007 |
| 249 | 20.75 | 0.10 | 0.056 | 0.049 | ( 0.050) | 0.007 |
| 250 | 20.83 | 0.07 | 0.037 | ( 0.049) | 0.033 | 0.004 |
| 251 | 20.92 | 0.07 | 0.037 | ( 0.048) | 0.033 | 0.004 |
| 252 | 21.00 | 0.07 | 0.037 | ( 0.048) | 0.033 | 0.004 |
| 253 | 21.08 | 0.10 | 0.056 | 0.048 | ( 0.050) | 0.007 |
| 254 | 21.17 | 0.10 | 0.056 | 0.048 | ( 0.050) | 0.008 |
| 255 | 21.25 | 0.10 | 0.056 | 0.048 | ( 0.050) | 0.008 |
| 256 | 21.33 | 0.07 | 0.037 | ( 0.048) | 0.033 | 0.004 |
| 257 | 21.42 | 0.07 | 0.037 | ( 0.047) | 0.033 | 0.004 |
| 258 | 21.50 | 0.07 | 0.037 | ( 0.047) | 0.033 | 0.004 |
| 259 | 21.58 | 0.10 | 0.056 | 0.047 | ( 0.050) | 0.009 |
| 260 | 21.67 | 0.10 | 0.056 | 0.047 | ( 0.050) | 0.009 |
| 261 | 21.75 | 0.10 | 0.056 | 0.047 | ( 0.050) | 0.009 |
| 262 | 21.83 | 0.07 | 0.037 | ( 0.046) | 0.033 | 0.004 |
| 263 | 21.92 | 0.07 | 0.037 | ( 0.046) | 0.033 | 0.004 |
| 264 | 22.00 | 0.07 | 0.037 | ( 0.046) | 0.033 | 0.004 |
| 265 | 22.08 | 0.10 | 0.056 | 0.046 | ( 0.050) | 0.010 |
| 266 | 22.17 | 0.10 | 0.056 | 0.046 | ( 0.050) | 0.010 |
| 267 | 22.25 | 0.10 | 0.056 | 0.046 | ( 0.050) | 0.010 |
| 268 | 22.33 | 0.07 | 0.037 | ( 0.046) | 0.033 | 0.004 |
| 269 | 22.42 | 0.07 | 0.037 | ( 0.045) | 0.033 | 0.004 |
| 270 | 22.50 | 0.07 | 0.037 | ( 0.045) | 0.033 | 0.004 |
| 271 | 22.58 | 0.07 | 0.037 | ( 0.045) | 0.033 | 0.004 |
| 272 | 22.67 | 0.07 | 0.037 | ( 0.045) | 0.033 | 0.004 |
| 273 | 22.75 | 0.07 | 0.037 | ( 0.045) | 0.033 | 0.004 |
| 274 | 22.83 | 0.07 | 0.037 | ( 0.045) | 0.033 | 0.004 |
| 275 | 22.92 | 0.07 | 0.037 | ( 0.045) | 0.033 | 0.004 |
| 276 | 23.00 | 0.07 | 0.037 | ( 0.045) | 0.033 | 0.004 |
| 277 | 23.08 | 0.07 | 0.037 | ( 0.044) | 0.033 | 0.004 |
| 278 | 23.17 | 0.07 | 0.037 | ( 0.044) | 0.033 | 0.004 |
| 279 | 23.25 | 0.07 | 0.037 | ( 0.044) | 0.033 | 0.004 |
| 280 | 23.33 | 0.07 | 0.037 | ( 0.044) | 0.033 | 0.004 |
| 281 | 23.42 | 0.07 | 0.037 | ( 0.044) | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.037 | ( 0.044) | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.037 | ( 0.044) | 0.033 | 0.004 |
| 284 | 23.67 | 0.07 | 0.037 | ( 0.044) | 0.033 | 0.004 |
| 285 | 23.75 | 0.07 | 0.037 | ( 0.044) | 0.033 | 0.004 |
| 286 | 23.83 | 0.07 | 0.037 | ( 0.044) | 0.033 | 0.004 |
| 287 | 23.92 | 0.07 | 0.037 | ( 0.044) | 0.033 | 0.004 |

288 24.00 0.07 0.037 ( 0.044) 0.033 0.004
(Loss Rate Not Used)
Sum = 100.0 Sum = 34.7
Flood volume = Effective rainfall 2.89(In)
times area 5.9(Ac.)/[(In)/(Ft.)] = 1.4(Ac.Ft)
Total soil loss = 1.74(In)
Total soil loss = 0.854(Ac.Ft)
Total rainfall = 4.63(In)
Flood volume = 61964.7 Cubic Feet
Total soil loss = 37194.9 Cubic Feet

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Peak flow rate of this hydrograph = 3.299(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0001 | 0.01 | Q | | | | |
| 0+10 | 0.0002 | 0.02 | Q | | | | |
| 0+15 | 0.0004 | 0.02 | Q | | | | |
| 0+20 | 0.0006 | 0.03 | Q | | | | |
| 0+25 | 0.0008 | 0.03 | Q | | | | |
| 0+30 | 0.0010 | 0.03 | Q | | | | |
| 0+35 | 0.0013 | 0.03 | Q | | | | |
| 0+40 | 0.0015 | 0.03 | Q | | | | |
| 0+45 | 0.0017 | 0.03 | Q | | | | |
| 0+50 | 0.0020 | 0.04 | Q | | | | |
| 0+55 | 0.0023 | 0.04 | Q | | | | |
| 1+ 0 | 0.0026 | 0.04 | Q | | | | |
| 1+ 5 | 0.0028 | 0.04 | Q | | | | |
| 1+10 | 0.0031 | 0.03 | Q | | | | |
| 1+15 | 0.0033 | 0.03 | Q | | | | |
| 1+20 | 0.0035 | 0.03 | Q | | | | |
| 1+25 | 0.0038 | 0.03 | Q | | | | |
| 1+30 | 0.0040 | 0.03 | Q | | | | |
| 1+35 | 0.0042 | 0.03 | Q | | | | |
| 1+40 | 0.0044 | 0.03 | Q | | | | |
| 1+45 | 0.0047 | 0.03 | Q | | | | |
| 1+50 | 0.0049 | 0.04 | Q | | | | |
| 1+55 | 0.0052 | 0.04 | Q | | | | |
| 2+ 0 | 0.0055 | 0.04 | Q | | | | |
| 2+ 5 | 0.0059 | 0.04 | Q | | | | |
| 2+10 | 0.0062 | 0.04 | Q | | | | |
| 2+15 | 0.0065 | 0.04 | Q | | | | |
| 2+20 | 0.0068 | 0.04 | Q | | | | |
| 2+25 | 0.0071 | 0.04 | Q | | | | |
| 2+30 | 0.0074 | 0.04 | Q | | | | |
| 2+35 | 0.0077 | 0.05 | Q | | | | |
| 2+40 | 0.0081 | 0.05 | Q | | | | |
| 2+45 | 0.0085 | 0.06 | Q | | | | |
| 2+50 | 0.0089 | 0.06 | Q | | | | |
| 2+55 | 0.0092 | 0.06 | Q | | | | |
| 3+ 0 | 0.0096 | 0.06 | Q | | | | |
| 3+ 5 | 0.0100 | 0.06 | Q | | | | |
| 3+10 | 0.0104 | 0.06 | Q | | | | |
| 3+15 | 0.0107 | 0.06 | Q | | | | |
| 3+20 | 0.0111 | 0.06 | Q | | | | |
| 3+25 | 0.0115 | 0.06 | Q | | | | |
| 3+30 | 0.0119 | 0.06 | Q | | | | |
| 3+35 | 0.0123 | 0.06 | Q | | | | |
| 3+40 | 0.0126 | 0.06 | Q | | | | |
| 3+45 | 0.0130 | 0.06 | Q | | | | |
| 3+50 | 0.0134 | 0.06 | Q | | | | |
| 3+55 | 0.0139 | 0.07 | Q | | | | |
| 4+ 0 | 0.0144 | 0.07 | Q | | | | |
| 4+ 5 | 0.0148 | 0.07 | Q | | | | |
| 4+10 | 0.0153 | 0.07 | Q | | | | |
| 4+15 | 0.0157 | 0.07 | Q | | | | |
| 4+20 | 0.0162 | 0.07 | Q | | | | |
| 4+25 | 0.0167 | 0.08 | Q | | | | |
| 4+30 | 0.0173 | 0.08 | Q | | | | |
| 4+35 | 0.0178 | 0.08 | Q | | | | |
| 4+40 | 0.0183 | 0.08 | Q | | | | |

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 4+45       0.0189      0.08  Q          |          |          |          |
 4+50       0.0197      0.12  Q          |          |          |          |
 4+55       0.0207      0.15  Q          |          |          |          |
 5+ 0       0.0218      0.16  Q          |          |          |          |
 5+ 5       0.0225      0.11  Q          |          |          |          |
 5+10       0.0230      0.07  Q          |          |          |          |
 5+15       0.0235      0.07  Q          |          |          |          |
 5+20       0.0240      0.07  Q          |          |          |          |
 5+25       0.0245      0.08  Q          |          |          |          |
 5+30       0.0250      0.08  Q          |          |          |          |
 5+35       0.0259      0.13  Q          |          |          |          |
 5+40       0.0272      0.18  Q          |          |          |          |
 5+45       0.0284      0.18  Q          |          |          |          |
 5+50       0.0297      0.19  Q          |          |          |          |
 5+55       0.0310      0.19  Q          |          |          |          |
 6+ 0       0.0324      0.19  Q          |          |          |          |
 6+ 5       0.0341      0.26  VQ         |          |          |          |
 6+10       0.0363      0.31  |Q         |          |          |          |
 6+15       0.0384      0.31  |Q         |          |          |          |
 6+20       0.0406      0.32  |Q         |          |          |          |
 6+25       0.0428      0.32  |Q         |          |          |          |
 6+30       0.0450      0.32  |Q         |          |          |          |
 6+35       0.0477      0.39  |Q         |          |          |          |
 6+40       0.0506      0.44  |Q         |          |          |          |
 6+45       0.0537      0.44  |Q         |          |          |          |
 6+50       0.0567      0.44  |Q         |          |          |          |
 6+55       0.0598      0.45  |Q         |          |          |          |
 7+ 0       0.0629      0.45  |Q         |          |          |          |
 7+ 5       0.0660      0.45  |Q         |          |          |          |
 7+10       0.0692      0.46  |Q         |          |          |          |
 7+15       0.0723      0.46  |QV        |          |          |          |
 7+20       0.0759      0.52  | Q        |          |          |          |
 7+25       0.0799      0.57  | Q        |          |          |          |
 7+30       0.0838      0.58  | Q        |          |          |          |
 7+35       0.0883      0.64  | Q        |          |          |          |
 7+40       0.0930      0.69  | Q        |          |          |          |
 7+45       0.0978      0.70  | Q        |          |          |          |
 7+50       0.1031      0.76  | VQ       |          |          |          |
 7+55       0.1086      0.81  |  Q       |          |          |          |
 8+ 0       0.1142      0.82  |  Q       |          |          |          |
 8+ 5       0.1207      0.94  |  Q       |          |          |          |
 8+10       0.1279      1.04  |  VQ      |          |          |          |
 8+15       0.1350      1.04  |  VQ      |          |          |          |
 8+20       0.1423      1.05  |   Q      |          |          |          |
 8+25       0.1495      1.05  |   Q      |          |          |          |
 8+30       0.1567      1.05  |   Q      |          |          |          |
 8+35       0.1644      1.12  |   Q      |          |          |          |
 8+40       0.1725      1.17  |   Q      |          |          |          |
 8+45       0.1805      1.17  |   QV     |          |          |          |
 8+50       0.1890      1.24  |   QV     |          |          |          |
 8+55       0.1979      1.28  |    Q     |          |          |          |
 9+ 0       0.2068      1.29  |    Q     |          |          |          |
 9+ 5       0.2165      1.41  |    QV    |          |          |          |
 9+10       0.2269      1.51  |     Q    |          |          |          |
 9+15       0.2374      1.52  |     Q    |          |          |          |
 9+20       0.2483      1.58  |     Q    |          |          |          |
 9+25       0.2595      1.63  |     QV   |          |          |          |
 9+30       0.2708      1.64  |     QV   |          |          |          |
 9+35       0.2825      1.70  |     QV   |          |          |          |
 9+40       0.2945      1.75  |     Q V  |          |          |          |
 9+45       0.3066      1.76  |      QV  |          |          |          |
 9+50       0.3191      1.82  |      QV  |          |          |          |
 9+55       0.3320      1.87  |      Q V |          |          |          |
10+ 0       0.3449      1.87  |      Q V |          |          |          |
10+ 5       0.3549      1.45  |    Q   V |          |          |          |
10+10       0.3626      1.13  |   Q     V          |          |          |
10+15       0.3703      1.11  |   Q     V          |          |          |
10+20       0.3780      1.11  |   Q     V          |          |          |
10+25       0.3856      1.12  |   Q     V          |          |          |
10+30       0.3933      1.12  |   Q     |V         |          |          |
10+35       0.4032      1.43  |    Q    |V         |          |          |
10+40       0.4146      1.66  |     Q   |V         |          |          |
10+45       0.4261      1.68  |     Q   |V         |          |          |
10+50       0.4377      1.68  |     Q   | V        |          |          |
10+55       0.4493      1.68  |     Q   | V        |          |          |
11+ 0       0.4609      1.68  |     Q   | V        |          |          |
11+ 5       0.4721      1.63  |     Q   |  V       |          |          |
11+10       0.4830      1.58  |     Q   |  V       |          |          |
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| | | | |
|---|---|---|---|
| 11+15 | 0.4939 | 1.58 | Q V |
| 11+20 | 0.5048 | 1.58 | Q V |
| 11+25 | 0.5157 | 1.59 | Q V |
| 11+30 | 0.5267 | 1.59 | Q V |
| 11+35 | 0.5368 | 1.47 | Q V |
| 11+40 | 0.5463 | 1.38 | Q V |
| 11+45 | 0.5558 | 1.38 | Q V |
| 11+50 | 0.5657 | 1.44 | Q V |
| 11+55 | 0.5759 | 1.49 | Q V |
| 12+ 0 | 0.5862 | 1.49 | Q V |
| 12+ 5 | 0.5995 | 1.92 | Q V |
| 12+10 | 0.6150 | 2.25 | Q V |
| 12+15 | 0.6306 | 2.27 | Q V |
| 12+20 | 0.6467 | 2.34 | Q V |
| 12+25 | 0.6631 | 2.38 | Q V |
| 12+30 | 0.6796 | 2.39 | Q V |
| 12+35 | 0.6969 | 2.51 | Q V |
| 12+40 | 0.7149 | 2.61 | Q V |
| 12+45 | 0.7329 | 2.62 | Q V |
| 12+50 | 0.7514 | 2.68 | Q V |
| 12+55 | 0.7702 | 2.73 | Q V |
| 13+ 0 | 0.7890 | 2.73 | Q V |
| 13+ 5 | 0.8099 | 3.04 | Q V |
| 13+10 | 0.8325 | 3.28 | Q V |
| 13+15 | 0.8552 | 3.29 | Q V |
| 13+20 | 0.8779 | 3.29 | Q V |
| 13+25 | 0.9006 | 3.30 | Q V |
| 13+30 | 0.9233 | 3.30 | Q V |
| 13+35 | 0.9414 | 2.63 | Q V |
| 13+40 | 0.9560 | 2.12 | Q V |
| 13+45 | 0.9705 | 2.09 | Q V |
| 13+50 | 0.9849 | 2.10 | Q V |
| 13+55 | 0.9994 | 2.10 | Q V |
| 14+ 0 | 1.0138 | 2.10 | Q V |
| 14+ 5 | 1.0300 | 2.35 | Q V |
| 14+10 | 1.0474 | 2.53 | Q V |
| 14+15 | 1.0650 | 2.55 | Q V |
| 14+20 | 1.0821 | 2.49 | Q V |
| 14+25 | 1.0990 | 2.45 | Q V |
| 14+30 | 1.1158 | 2.44 | Q V |
| 14+35 | 1.1327 | 2.45 | Q V |
| 14+40 | 1.1495 | 2.45 | Q V |
| 14+45 | 1.1664 | 2.45 | Q V |
| 14+50 | 1.1829 | 2.39 | Q V |
| 14+55 | 1.1991 | 2.35 | Q V |
| 15+ 0 | 1.2152 | 2.35 | Q V |
| 15+ 5 | 1.2310 | 2.29 | Q V |
| 15+10 | 1.2464 | 2.24 | Q V |
| 15+15 | 1.2619 | 2.24 | Q V |
| 15+20 | 1.2769 | 2.18 | Q V |
| 15+25 | 1.2917 | 2.14 | Q V |
| 15+30 | 1.3064 | 2.14 | Q V |
| 15+35 | 1.3195 | 1.90 | Q V |
| 15+40 | 1.3313 | 1.71 | Q V |
| 15+45 | 1.3430 | 1.70 | Q V |
| 15+50 | 1.3548 | 1.71 | Q V |
| 15+55 | 1.3665 | 1.71 | Q V |
| 16+ 0 | 1.3783 | 1.71 | Q V |
| 16+ 5 | 1.3838 | 0.80 | Q V |
| 16+10 | 1.3845 | 0.11 | Q V |
| 16+15 | 1.3850 | 0.06 | Q V |
| 16+20 | 1.3854 | 0.07 | Q V |
| 16+25 | 1.3859 | 0.07 | Q V |
| 16+30 | 1.3864 | 0.07 | Q V |
| 16+35 | 1.3867 | 0.05 | Q V |
| 16+40 | 1.3869 | 0.03 | Q V |
| 16+45 | 1.3872 | 0.03 | Q V |
| 16+50 | 1.3874 | 0.03 | Q V |
| 16+55 | 1.3876 | 0.03 | Q V |
| 17+ 0 | 1.3878 | 0.03 | Q V |
| 17+ 5 | 1.3887 | 0.12 | Q V |
| 17+10 | 1.3900 | 0.19 | Q V |
| 17+15 | 1.3913 | 0.20 | Q V |
| 17+20 | 1.3927 | 0.20 | Q V |
| 17+25 | 1.3941 | 0.20 | Q V |
| 17+30 | 1.3955 | 0.20 | Q V |
| 17+35 | 1.3969 | 0.20 | Q V |
| 17+40 | 1.3983 | 0.20 | Q V |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+45 | 1.3997 | 0.21 | Q | \| | \| | \| | V\| |
| 17+50 | 1.4007 | 0.15 | Q | \| | \| | \| | V\| |
| 17+55 | 1.4014 | 0.10 | Q | \| | \| | \| | V\| |
| 18+ 0 | 1.4021 | 0.10 | Q | \| | \| | \| | V\| |
| 18+ 5 | 1.4028 | 0.10 | Q | \| | \| | \| | V\| |
| 18+10 | 1.4036 | 0.10 | Q | \| | \| | \| | V\| |
| 18+15 | 1.4043 | 0.11 | Q | \| | \| | \| | V\| |
| 18+20 | 1.4050 | 0.11 | Q | \| | \| | \| | V\| |
| 18+25 | 1.4058 | 0.11 | Q | \| | \| | \| | V\| |
| 18+30 | 1.4066 | 0.11 | Q | \| | \| | \| | V\| |
| 18+35 | 1.4070 | 0.07 | Q | \| | \| | \| | V\| |
| 18+40 | 1.4073 | 0.04 | Q | \| | \| | \| | V\| |
| 18+45 | 1.4075 | 0.03 | Q | \| | \| | \| | V\| |
| 18+50 | 1.4077 | 0.03 | Q | \| | \| | \| | V\| |
| 18+55 | 1.4078 | 0.02 | Q | \| | \| | \| | V\| |
| 19+ 0 | 1.4080 | 0.02 | Q | \| | \| | \| | V\| |
| 19+ 5 | 1.4082 | 0.03 | Q | \| | \| | \| | V\| |
| 19+10 | 1.4084 | 0.03 | Q | \| | \| | \| | V\| |
| 19+15 | 1.4086 | 0.03 | Q | \| | \| | \| | V\| |
| 19+20 | 1.4092 | 0.09 | Q | \| | \| | \| | V\| |
| 19+25 | 1.4101 | 0.13 | Q | \| | \| | \| | V\| |
| 19+30 | 1.4110 | 0.13 | Q | \| | \| | \| | V\| |
| 19+35 | 1.4115 | 0.08 | Q | \| | \| | \| | V\| |
| 19+40 | 1.4118 | 0.04 | Q | \| | \| | \| | V\| |
| 19+45 | 1.4120 | 0.03 | Q | \| | \| | \| | V\| |
| 19+50 | 1.4122 | 0.03 | Q | \| | \| | \| | V\| |
| 19+55 | 1.4123 | 0.02 | Q | \| | \| | \| | V\| |
| 20+ 0 | 1.4125 | 0.02 | Q | \| | \| | \| | V\| |
| 20+ 5 | 1.4127 | 0.03 | Q | \| | \| | \| | V\| |
| 20+10 | 1.4129 | 0.03 | Q | \| | \| | \| | V\| |
| 20+15 | 1.4131 | 0.03 | Q | \| | \| | \| | V\| |
| 20+20 | 1.4134 | 0.03 | Q | \| | \| | \| | V\| |
| 20+25 | 1.4136 | 0.03 | Q | \| | \| | \| | V\| |
| 20+30 | 1.4138 | 0.04 | Q | \| | \| | \| | V\| |
| 20+35 | 1.4141 | 0.04 | Q | \| | \| | \| | V\| |
| 20+40 | 1.4143 | 0.04 | Q | \| | \| | \| | V\| |
| 20+45 | 1.4146 | 0.04 | Q | \| | \| | \| | V\| |
| 20+50 | 1.4148 | 0.03 | Q | \| | \| | \| | V\| |
| 20+55 | 1.4150 | 0.02 | Q | \| | \| | \| | V\| |
| 21+ 0 | 1.4151 | 0.02 | Q | \| | \| | \| | V\| |
| 21+ 5 | 1.4154 | 0.03 | Q | \| | \| | \| | V\| |
| 21+10 | 1.4157 | 0.04 | Q | \| | \| | \| | V\| |
| 21+15 | 1.4160 | 0.05 | Q | \| | \| | \| | V\| |
| 21+20 | 1.4162 | 0.03 | Q | \| | \| | \| | V\| |
| 21+25 | 1.4164 | 0.02 | Q | \| | \| | \| | V\| |
| 21+30 | 1.4165 | 0.02 | Q | \| | \| | \| | V\| |
| 21+35 | 1.4168 | 0.04 | Q | \| | \| | \| | V\| |
| 21+40 | 1.4171 | 0.05 | Q | \| | \| | \| | V\| |
| 21+45 | 1.4175 | 0.05 | Q | \| | \| | \| | V\| |
| 21+50 | 1.4178 | 0.04 | Q | \| | \| | \| | V\| |
| 21+55 | 1.4179 | 0.02 | Q | \| | \| | \| | V\| |
| 22+ 0 | 1.4181 | 0.02 | Q | \| | \| | \| | V\| |
| 22+ 5 | 1.4183 | 0.04 | Q | \| | \| | \| | V\| |
| 22+10 | 1.4187 | 0.06 | Q | \| | \| | \| | V\| |
| 22+15 | 1.4191 | 0.06 | Q | \| | \| | \| | V\| |
| 22+20 | 1.4194 | 0.04 | Q | \| | \| | \| | V\| |
| 22+25 | 1.4196 | 0.02 | Q | \| | \| | \| | V\| |
| 22+30 | 1.4197 | 0.02 | Q | \| | \| | \| | V\| |
| 22+35 | 1.4199 | 0.02 | Q | \| | \| | \| | V\| |
| 22+40 | 1.4200 | 0.02 | Q | \| | \| | \| | V\| |
| 22+45 | 1.4202 | 0.02 | Q | \| | \| | \| | V\| |
| 22+50 | 1.4203 | 0.02 | Q | \| | \| | \| | V\| |
| 22+55 | 1.4205 | 0.02 | Q | \| | \| | \| | V\| |
| 23+ 0 | 1.4206 | 0.02 | Q | \| | \| | \| | V\| |
| 23+ 5 | 1.4208 | 0.02 | Q | \| | \| | \| | V\| |
| 23+10 | 1.4209 | 0.02 | Q | \| | \| | \| | V\| |
| 23+15 | 1.4211 | 0.02 | Q | \| | \| | \| | V\| |
| 23+20 | 1.4212 | 0.02 | Q | \| | \| | \| | V\| |
| 23+25 | 1.4214 | 0.02 | Q | \| | \| | \| | V\| |
| 23+30 | 1.4215 | 0.02 | Q | \| | \| | \| | V\| |
| 23+35 | 1.4217 | 0.02 | Q | \| | \| | \| | V\| |
| 23+40 | 1.4218 | 0.02 | Q | \| | \| | \| | V\| |
| 23+45 | 1.4220 | 0.02 | Q | \| | \| | \| | V\| |
| 23+50 | 1.4221 | 0.02 | Q | \| | \| | \| | V\| |
| 23+55 | 1.4223 | 0.02 | Q | \| | \| | \| | V\| |
| 24+ 0 | 1.4224 | 0.02 | Q | \| | \| | \| | V\| |
| 24+ 5 | 1.4225 | 0.01 | Q | \| | \| | \| | V\| |
| 24+10 | 1.4225 | 0.00 | Q | \| | \| | \| | V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA51100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRING - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 5
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

---

Drainage Area = 99.90(Ac.) = 0.156 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 99.90(Ac.) = 0.156 Sq. Mi.
Length along longest watercourse = 4783.00(Ft.)
Length along longest watercourse measured to centroid = 2378.00(Ft.)
Length along longest watercourse = 0.906 Mi.
Length along longest watercourse measured to centroid = 0.450 Mi.
Difference in elevation = 635.00(Ft.)
Slope along watercourse = 700.9826 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.172 Hr.
Lag time = 10.32 Min.
25% of lag time = 2.58 Min.
40% of lag time = 4.13 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 99.90 | 0.50 | 49.95 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 99.90 | 1.20 | 119.88 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.91 %
Adjusted average point rain = 1.199(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 99.900 | 83.70 | 0.000 |

Total Area Entered = 99.90(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.7 | 93.2 | 0.088 | 0.000 | 0.088 | 1.000 | 0.088 |
| | | | | | Sum (F) = | 0.088 |

Area averaged mean soil loss (F) (In/Hr) = 0.088

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

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| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 48.437 | 4.093 | 4.121 |
| 2 | 0.167 | 96.874 | 18.488 | 18.614 |
| 3 | 0.250 | 145.312 | 38.448 | 38.710 |
| 4 | 0.333 | 193.749 | 15.279 | 15.383 |
| 5 | 0.417 | 242.186 | 8.590 | 8.648 |
| 6 | 0.500 | 290.623 | 5.621 | 5.660 |
| 7 | 0.583 | 339.060 | 3.783 | 3.809 |
| 8 | 0.667 | 387.498 | 2.399 | 2.416 |
| 9 | 0.750 | 435.935 | 1.313 | 1.322 |
| 10 | 0.833 | 484.372 | 0.583 | 0.587 |
| 11 | 0.917 | 532.809 | 0.444 | 0.447 |
| 12 | 1.000 | 581.246 | 0.321 | 0.323 |
| 13 | 1.083 | 629.684 | 0.345 | 0.347 |
| 14 | 1.167 | 678.121 | 0.192 | 0.193 |
| 15 | 1.250 | 726.558 | 0.101 | 0.101 |
| | | Sum = 100.000 | Sum= | 100.680 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.604 | 0.088 | ( 0.544) | 0.516 |
| 2 | 0.17 | 4.30 | 0.619 | 0.088 | ( 0.557) | 0.530 |
| 3 | 0.25 | 5.00 | 0.719 | 0.088 | ( 0.647) | 0.631 |
| 4 | 0.33 | 5.00 | 0.719 | 0.088 | ( 0.647) | 0.631 |
| 5 | 0.42 | 5.80 | 0.834 | 0.088 | ( 0.751) | 0.746 |
| 6 | 0.50 | 6.50 | 0.935 | 0.088 | ( 0.842) | 0.847 |
| 7 | 0.58 | 7.40 | 1.065 | 0.088 | ( 0.958) | 0.976 |
| 8 | 0.67 | 8.60 | 1.237 | 0.088 | ( 1.114) | 1.149 |
| 9 | 0.75 | 12.30 | 1.770 | 0.088 | ( 1.593) | 1.681 |
| 10 | 0.83 | 29.10 | 4.187 | 0.088 | ( 3.768) | 4.098 |
| 11 | 0.92 | 6.80 | 0.978 | 0.088 | ( 0.880) | 0.890 |
| 12 | 1.00 | 5.00 | 0.719 | 0.088 | ( 0.647) | 0.631 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | | Sum = | 13.3 |

Flood volume = Effective rainfall 1.11(In)
times area 99.9(Ac.)/[(In)/(Ft.)] = 9.2(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.734(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 402807.6 Cubic Feet
Total soil loss = 31962.8 Cubic Feet

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Peak flow rate of this hydrograph = 225.906(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 75.0 | 150.0 | 225.0 | 300.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0147 | 2.13 | Q | | | | |
| 0+10 | 0.0959 | 11.80 | VQ | | | | |
| 0+15 | 0.3195 | 32.47 | \|V Q | | | | |
| 0+20 | 0.6146 | 42.85 | \| V Q | | | | |
| 0+25 | 0.9721 | 51.91 | \| V Q | | | | |
| 0+30 | 1.3789 | 59.07 | \| V Q | | | | |

```
    0+35       1.8531     68.85  |        VQ|          |          |          |
    0+40       2.4008     79.52  |          Q          |          |          |
    0+45       3.0453     93.59  |          | QV       |          |          |
    0+50       3.9010    124.24  |          |     Q    |          |          |
    0+55       5.1530    181.80  |          |          | V Q      |          |
    1+ 0       6.7089    225.91  |          |          |        VQ           |
    1+ 5       7.6601    138.13  |          |        Q |          |  V       |
    1+10       8.2951     92.20  |          | Q        |          |    V     |
    1+15       8.6568     52.51  |        Q |          |          |      V   |
    1+20       8.8861     33.29  |    Q     |          |          |        V |
    1+25       9.0302     20.93  |  Q       |          |          |          V|
    1+30       9.1149     12.30  |Q         |          |          |          V|
    1+35       9.1618      6.81  Q          |          |          |          V|
    1+40       9.1921      4.41  Q          |          |          |          V|
    1+45       9.2128      3.00  Q          |          |          |          V|
    1+50       9.2296      2.44  Q          |          |          |          V|
    1+55       9.2397      1.48  Q          |          |          |          V|
    2+ 0       9.2453      0.81  Q          |          |          |          V|
    2+ 5       9.2467      0.21  Q          |          |          |          V|
    2+10       9.2472      0.06  Q          |          |          |           V
-------------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA53100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRING - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 5
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

---

Drainage Area = 99.90(Ac.) = 0.156 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 99.90(Ac.) = 0.156 Sq. Mi.
Length along longest watercourse = 4783.00(Ft.)
Length along longest watercourse measured to centroid = 2378.00(Ft.)
Length along longest watercourse = 0.906 Mi.
Length along longest watercourse measured to centroid = 0.450 Mi.
Difference in elevation = 635.00(Ft.)
Slope along watercourse = 700.9826 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.172 Hr.
Lag time = 10.32 Min.
25% of lag time = 2.58 Min.
40% of lag time = 4.13 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 99.90 | 0.81 | 80.92 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 99.90 | 1.81 | 180.82 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.810(In)
Area Averaged 100-Year Rainfall = 1.810(In)

Point rain (area averaged) = 1.810(In)
Areal adjustment factor = 99.96 %
Adjusted average point rain = 1.809(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 99.900 | 83.70 | 0.000 |

Total Area Entered = 99.90(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.7 | 93.2 | 0.088 | 0.000 | 0.088 | 1.000 | 0.088 |
| | | | | | Sum (F) = | 0.088 |

Area averaged mean soil loss (F) (In/Hr) = 0.088

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 48.437 | 4.093 | 4.121 |
| 2 0.167 | 96.874 | 18.488 | 18.614 |
| 3 0.250 | 145.312 | 38.448 | 38.710 |
| 4 0.333 | 193.749 | 15.279 | 15.383 |
| 5 0.417 | 242.186 | 8.590 | 8.648 |
| 6 0.500 | 290.623 | 5.621 | 5.660 |
| 7 0.583 | 339.060 | 3.783 | 3.809 |
| 8 0.667 | 387.498 | 2.399 | 2.416 |
| 9 0.750 | 435.935 | 1.313 | 1.322 |
| 10 0.833 | 484.372 | 0.583 | 0.587 |
| 11 0.917 | 532.809 | 0.444 | 0.447 |
| 12 1.000 | 581.246 | 0.321 | 0.323 |
| 13 1.083 | 629.684 | 0.345 | 0.347 |
| 14 1.167 | 678.121 | 0.192 | 0.193 |
| 15 1.250 | 726.558 | 0.101 | 0.101 |
| | | Sum = 100.000 | Sum= 100.680 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.282 | 0.088 | ( 0.254) | 0.194 |
| 2 | 0.17 | 1.30 | 0.282 | 0.088 | ( 0.254) | 0.194 |
| 3 | 0.25 | 1.10 | 0.239 | 0.088 | ( 0.215) | 0.151 |
| 4 | 0.33 | 1.50 | 0.326 | 0.088 | ( 0.293) | 0.238 |
| 5 | 0.42 | 1.50 | 0.326 | 0.088 | ( 0.293) | 0.238 |
| 6 | 0.50 | 1.80 | 0.391 | 0.088 | ( 0.352) | 0.303 |
| 7 | 0.58 | 1.50 | 0.326 | 0.088 | ( 0.293) | 0.238 |
| 8 | 0.67 | 1.80 | 0.391 | 0.088 | ( 0.352) | 0.303 |
| 9 | 0.75 | 1.80 | 0.391 | 0.088 | ( 0.352) | 0.303 |
| 10 | 0.83 | 1.50 | 0.326 | 0.088 | ( 0.293) | 0.238 |
| 11 | 0.92 | 1.60 | 0.347 | 0.088 | ( 0.313) | 0.259 |
| 12 | 1.00 | 1.80 | 0.391 | 0.088 | ( 0.352) | 0.303 |
| 13 | 1.08 | 2.20 | 0.478 | 0.088 | ( 0.430) | 0.389 |
| 14 | 1.17 | 2.20 | 0.478 | 0.088 | ( 0.430) | 0.389 |
| 15 | 1.25 | 2.20 | 0.478 | 0.088 | ( 0.430) | 0.389 |
| 16 | 1.33 | 2.00 | 0.434 | 0.088 | ( 0.391) | 0.346 |
| 17 | 1.42 | 2.60 | 0.564 | 0.088 | ( 0.508) | 0.476 |
| 18 | 1.50 | 2.70 | 0.586 | 0.088 | ( 0.528) | 0.498 |
| 19 | 1.58 | 2.40 | 0.521 | 0.088 | ( 0.469) | 0.433 |
| 20 | 1.67 | 2.70 | 0.586 | 0.088 | ( 0.528) | 0.498 |
| 21 | 1.75 | 3.30 | 0.716 | 0.088 | ( 0.645) | 0.628 |
| 22 | 1.83 | 3.10 | 0.673 | 0.088 | ( 0.606) | 0.585 |
| 23 | 1.92 | 2.90 | 0.630 | 0.088 | ( 0.567) | 0.541 |
| 24 | 2.00 | 3.00 | 0.651 | 0.088 | ( 0.586) | 0.563 |
| 25 | 2.08 | 3.10 | 0.673 | 0.088 | ( 0.606) | 0.585 |
| 26 | 2.17 | 4.20 | 0.912 | 0.088 | ( 0.821) | 0.824 |
| 27 | 2.25 | 5.00 | 1.086 | 0.088 | ( 0.977) | 0.997 |
| 28 | 2.33 | 3.50 | 0.760 | 0.088 | ( 0.684) | 0.672 |
| 29 | 2.42 | 6.80 | 1.476 | 0.088 | ( 1.329) | 1.388 |
| 30 | 2.50 | 7.30 | 1.585 | 0.088 | ( 1.426) | 1.497 |
| 31 | 2.58 | 8.20 | 1.780 | 0.088 | ( 1.602) | 1.692 |
| 32 | 2.67 | 5.90 | 1.281 | 0.088 | ( 1.153) | 1.193 |
| 33 | 2.75 | 2.00 | 0.434 | 0.088 | ( 0.391) | 0.346 |
| 34 | 2.83 | 1.80 | 0.391 | 0.088 | ( 0.352) | 0.303 |
| 35 | 2.92 | 1.80 | 0.391 | 0.088 | ( 0.352) | 0.303 |
| 36 | 3.00 | 0.60 | 0.130 | 0.088 | ( 0.117) | 0.042 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 18.5 |

Flood volume = Effective rainfall 1.54(In)
times area 99.9(Ac.)/[(In)/(Ft.)] = 12.9(Ac.Ft)
Total soil loss = 0.26(In)

Total soil loss = 2.201(Ac.Ft)
Total rainfall = 1.81(In)
Flood volume = 560197.6 Cubic Feet
Total soil loss = 95888.5 Cubic Feet

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Peak flow rate of this hydrograph = 135.713(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 50.0 100.0 150.0 200.0 |
|---|---|---|---|
| 0+ 5 | 0.0055 | 0.80 | Q |
| 0+10 | 0.0359 | 4.42 | Q |
| 0+15 | 0.1169 | 11.75 | V Q |
| 0+20 | 0.2153 | 14.29 | V Q |
| 0+25 | 0.3248 | 15.91 | \|V Q |
| 0+30 | 0.4623 | 19.97 | \|V Q |
| 0+35 | 0.6181 | 22.61 | \|V Q |
| 0+40 | 0.7914 | 25.17 | \| V Q |
| 0+45 | 0.9666 | 25.44 | \| V Q |
| 0+50 | 1.1567 | 27.60 | \| V Q |
| 0+55 | 1.3462 | 27.52 | \| VQ |
| 1+ 0 | 1.5265 | 26.18 | \| VQ |
| 1+ 5 | 1.7163 | 27.56 | \| Q |
| 1+10 | 1.9288 | 30.87 | \| VQ |
| 1+15 | 2.1689 | 34.86 | \| Q |
| 1+20 | 2.4194 | 36.37 | \| Q |
| 1+25 | 2.6746 | 37.06 | \| QV |
| 1+30 | 2.9402 | 38.56 | \| Q V\| |
| 1+35 | 3.2398 | 43.51 | \| Q V |
| 1+40 | 3.5518 | 45.30 | \| Q\|V |
| 1+45 | 3.8677 | 45.88 | \| Q\| V |
| 1+50 | 4.2153 | 50.47 | \| Q V |
| 1+55 | 4.5977 | 55.52 | \| \|Q V |
| 2+ 0 | 4.9813 | 55.70 | \| \|Q V |
| 2+ 5 | 5.3624 | 55.34 | \| \|Q V \| |
| 2+10 | 5.7582 | 57.46 | \| \|Q V \| |
| 2+15 | 6.1976 | 63.81 | \| \| Q V\| |
| 2+20 | 6.7173 | 75.46 | \| \| Q V |
| 2+25 | 7.2890 | 83.02 | \| \| Q \| V |
| 2+30 | 7.9026 | 89.09 | \| \| Q \| V |
| 2+35 | 8.7128 | 117.63 | \| \| \| Q V |
| 2+40 | 9.6329 | 133.61 | \| \| \| Q V\| |
| 2+45 | 10.5676 | 135.71 | \| \| \| Q \| V |
| 2+50 | 11.3111 | 107.95 | \| \| Q \| V |
| 2+55 | 11.8020 | 71.29 | \| Q \| V |
| 3+ 0 | 12.1754 | 54.21 | \| Q \| V |
| 3+ 5 | 12.4528 | 40.29 | \| Q \| V |
| 3+10 | 12.6138 | 23.38 | \| Q \| V |
| 3+15 | 12.7082 | 13.70 | \| Q \| V |
| 3+20 | 12.7651 | 8.27 | \|Q \| V |
| 3+25 | 12.8012 | 5.24 | \|Q \| V |
| 3+30 | 12.8248 | 3.43 | Q \| V |
| 3+35 | 12.8402 | 2.24 | Q \| V |
| 3+40 | 12.8497 | 1.37 | Q \| V |
| 3+45 | 12.8551 | 0.78 | Q \| V |
| 3+50 | 12.8579 | 0.41 | Q \| V |
| 3+55 | 12.8594 | 0.21 | Q \| V |
| 4+ 0 | 12.8601 | 0.10 | Q \| V |
| 4+ 5 | 12.8603 | 0.04 | Q \| V |
| 4+10 | 12.8604 | 0.00 | Q \| V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA56100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRING - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 5
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

---

Drainage Area = 99.90(Ac.) = 0.156 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 99.90(Ac.) = 0.156 Sq. Mi.
Length along longest watercourse = 4783.00(Ft.)
Length along longest watercourse measured to centroid = 2378.00(Ft.)
Length along longest watercourse = 0.906 Mi.
Length along longest watercourse measured to centroid = 0.450 Mi.
Difference in elevation = 635.00(Ft.)
Slope along watercourse = 700.9826 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.172 Hr.
Lag time = 10.32 Min.
25% of lag time = 2.58 Min.
40% of lag time = 4.13 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 99.90 | 1.14 | 113.89 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 99.90 | 2.50 | 249.75 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.140(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 99.97 %
Adjusted average point rain = 2.499(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 99.900 | 83.70 | 0.000 |

Total Area Entered = 99.90(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.7 | 93.2 | 0.088 | 0.000 | 0.088 | 1.000 | 0.088 |
| | | | | | Sum (F) = | 0.088 |

Area averaged mean soil loss (F) (In/Hr) = 0.088

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 48.437 | 4.093 | 4.121 |
| 2 0.167 | 96.874 | 18.488 | 18.614 |
| 3 0.250 | 145.312 | 38.448 | 38.710 |
| 4 0.333 | 193.749 | 15.279 | 15.383 |
| 5 0.417 | 242.186 | 8.590 | 8.648 |
| 6 0.500 | 290.623 | 5.621 | 5.660 |
| 7 0.583 | 339.060 | 3.783 | 3.809 |
| 8 0.667 | 387.498 | 2.399 | 2.416 |
| 9 0.750 | 435.935 | 1.313 | 1.322 |
| 10 0.833 | 484.372 | 0.583 | 0.587 |
| 11 0.917 | 532.809 | 0.444 | 0.447 |
| 12 1.000 | 581.246 | 0.321 | 0.323 |
| 13 1.083 | 629.684 | 0.345 | 0.347 |
| 14 1.167 | 678.121 | 0.192 | 0.193 |
| 15 1.250 | 726.558 | 0.101 | 0.101 |
| | | Sum = 100.000 | Sum= 100.680 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.088 | ( 0.135) | 0.062 |
| 2 | 0.17 | 0.60 | 0.180 | 0.088 | ( 0.162) | 0.092 |
| 3 | 0.25 | 0.60 | 0.180 | 0.088 | ( 0.162) | 0.092 |
| 4 | 0.33 | 0.60 | 0.180 | 0.088 | ( 0.162) | 0.092 |
| 5 | 0.42 | 0.60 | 0.180 | 0.088 | ( 0.162) | 0.092 |
| 6 | 0.50 | 0.70 | 0.210 | 0.088 | ( 0.189) | 0.122 |
| 7 | 0.58 | 0.70 | 0.210 | 0.088 | ( 0.189) | 0.122 |
| 8 | 0.67 | 0.70 | 0.210 | 0.088 | ( 0.189) | 0.122 |
| 9 | 0.75 | 0.70 | 0.210 | 0.088 | ( 0.189) | 0.122 |
| 10 | 0.83 | 0.70 | 0.210 | 0.088 | ( 0.189) | 0.122 |
| 11 | 0.92 | 0.70 | 0.210 | 0.088 | ( 0.189) | 0.122 |
| 12 | 1.00 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 13 | 1.08 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 14 | 1.17 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 15 | 1.25 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 16 | 1.33 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 17 | 1.42 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 18 | 1.50 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 19 | 1.58 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 20 | 1.67 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 21 | 1.75 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 22 | 1.83 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 23 | 1.92 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 24 | 2.00 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 25 | 2.08 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 26 | 2.17 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 27 | 2.25 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 28 | 2.33 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 29 | 2.42 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 30 | 2.50 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 31 | 2.58 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 32 | 2.67 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 33 | 2.75 | 1.00 | 0.300 | 0.088 | ( 0.270) | 0.212 |
| 34 | 2.83 | 1.00 | 0.300 | 0.088 | ( 0.270) | 0.212 |
| 35 | 2.92 | 1.00 | 0.300 | 0.088 | ( 0.270) | 0.212 |
| 36 | 3.00 | 1.00 | 0.300 | 0.088 | ( 0.270) | 0.212 |
| 37 | 3.08 | 1.00 | 0.300 | 0.088 | ( 0.270) | 0.212 |
| 38 | 3.17 | 1.10 | 0.330 | 0.088 | ( 0.297) | 0.242 |
| 39 | 3.25 | 1.10 | 0.330 | 0.088 | ( 0.297) | 0.242 |
| 40 | 3.33 | 1.10 | 0.330 | 0.088 | ( 0.297) | 0.242 |
| 41 | 3.42 | 1.20 | 0.360 | 0.088 | ( 0.324) | 0.272 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 42 | 3.50 | 1.30 | 0.390 | 0.088 | ( 0.351) | 0.302 | |
| 43 | 3.58 | 1.40 | 0.420 | 0.088 | ( 0.378) | 0.332 | |
| 44 | 3.67 | 1.40 | 0.420 | 0.088 | ( 0.378) | 0.332 | |
| 45 | 3.75 | 1.50 | 0.450 | 0.088 | ( 0.405) | 0.362 | |
| 46 | 3.83 | 1.50 | 0.450 | 0.088 | ( 0.405) | 0.362 | |
| 47 | 3.92 | 1.60 | 0.480 | 0.088 | ( 0.432) | 0.392 | |
| 48 | 4.00 | 1.60 | 0.480 | 0.088 | ( 0.432) | 0.392 | |
| 49 | 4.08 | 1.70 | 0.510 | 0.088 | ( 0.459) | 0.422 | |
| 50 | 4.17 | 1.80 | 0.540 | 0.088 | ( 0.486) | 0.452 | |
| 51 | 4.25 | 1.90 | 0.570 | 0.088 | ( 0.513) | 0.482 | |
| 52 | 4.33 | 2.00 | 0.600 | 0.088 | ( 0.540) | 0.512 | |
| 53 | 4.42 | 2.10 | 0.630 | 0.088 | ( 0.567) | 0.542 | |
| 54 | 4.50 | 2.10 | 0.630 | 0.088 | ( 0.567) | 0.542 | |
| 55 | 4.58 | 2.20 | 0.660 | 0.088 | ( 0.594) | 0.572 | |
| 56 | 4.67 | 2.30 | 0.690 | 0.088 | ( 0.621) | 0.602 | |
| 57 | 4.75 | 2.40 | 0.720 | 0.088 | ( 0.648) | 0.632 | |
| 58 | 4.83 | 2.40 | 0.720 | 0.088 | ( 0.648) | 0.632 | |
| 59 | 4.92 | 2.50 | 0.750 | 0.088 | ( 0.675) | 0.662 | |
| 60 | 5.00 | 2.60 | 0.780 | 0.088 | ( 0.702) | 0.692 | |
| 61 | 5.08 | 3.10 | 0.930 | 0.088 | ( 0.837) | 0.842 | |
| 62 | 5.17 | 3.60 | 1.080 | 0.088 | ( 0.972) | 0.991 | |
| 63 | 5.25 | 3.90 | 1.170 | 0.088 | ( 1.053) | 1.081 | |
| 64 | 5.33 | 4.20 | 1.260 | 0.088 | ( 1.134) | 1.171 | |
| 65 | 5.42 | 4.70 | 1.410 | 0.088 | ( 1.269) | 1.321 | |
| 66 | 5.50 | 5.60 | 1.679 | 0.088 | ( 1.511) | 1.591 | |
| 67 | 5.58 | 1.90 | 0.570 | 0.088 | ( 0.513) | 0.482 | |
| 68 | 5.67 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 | |
| 69 | 5.75 | 0.60 | 0.180 | 0.088 | ( 0.162) | 0.092 | |
| 70 | 5.83 | 0.50 | 0.150 | 0.088 | ( 0.135) | 0.062 | |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.088) | 0.081 | 0.009 | |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.088) | 0.054 | 0.006 | |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.7

Flood volume = Effective rainfall 1.97(In)
times area 99.9(Ac.)/[(In)/(Ft.)] = 16.4(Ac.Ft)
Total soil loss = 0.53(In)
Total soil loss = 4.374(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 715753.1 Cubic Feet
Total soil loss = 190528.1 Cubic Feet

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Peak flow rate of this hydrograph = 122.758(CFS)

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6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 50.0 | 100.0 | 150.0 | 200.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0018 | 0.25 | Q | | | | |
| 0+10 | 0.0123 | 1.53 | Q | | | | |
| 0+15 | 0.0432 | 4.48 | Q | | | | |
| 0+20 | 0.0886 | 6.59 | VQ | | | | |
| 0+25 | 0.1409 | 7.59 | VQ | | | | |
| 0+30 | 0.1982 | 8.32 | VQ | | | | |
| 0+35 | 0.2622 | 9.29 | VQ | | | | |
| 0+40 | 0.3359 | 10.71 | V Q | | | | |
| 0+45 | 0.4140 | 11.33 | \|VQ | | | | |
| 0+50 | 0.4943 | 11.66 | \|VQ | | | | |
| 0+55 | 0.5761 | 11.88 | \|VQ | | | | |
| 1+ 0 | 0.6598 | 12.15 | \|VQ | | | | |
| 1+ 5 | 0.7480 | 12.81 | \|VQ | | | | |
| 1+10 | 0.8447 | 14.04 | \| Q | | | | |
| 1+15 | 0.9448 | 14.53 | \| Q | | | | |
| 1+20 | 1.0467 | 14.80 | \| Q | | | | |
| 1+25 | 1.1499 | 14.98 | \| Q | | | | |
| 1+30 | 1.2540 | 15.11 | \| Q | | | | |
| 1+35 | 1.3585 | 15.19 | \| Q | | | | |
| 1+40 | 1.4634 | 15.23 | \| Q | | | | |
| 1+45 | 1.5684 | 15.25 | \| Q | | | | |
| 1+50 | 1.6735 | 15.26 | \| QV | | | | |
| 1+55 | 1.7787 | 15.27 | \| QV | | | | |
| 2+ 0 | 1.8848 | 15.40 | \| QV | | | | |
| 2+ 5 | 1.9939 | 15.84 | \| QV | | | | |
| 2+10 | 2.1080 | 16.57 | \| Q V | | | | |

| | | | |
|---|---|---|---|
| 2+15 | 2.2212 | 16.43 | Q V |
| 2+20 | 2.3410 | 17.39 | Q V |
| 2+25 | 2.4633 | 17.76 | Q V |
| 2+30 | 2.5871 | 17.97 | Q V |
| 2+35 | 2.7117 | 18.10 | Q V |
| 2+40 | 2.8369 | 18.18 | Q V |
| 2+45 | 2.9633 | 18.35 | Q V |
| 2+50 | 3.0938 | 18.95 | Q V |
| 2+55 | 3.2323 | 20.12 | Q V |
| 3+ 0 | 3.3742 | 20.60 | Q V |
| 3+ 5 | 3.5179 | 20.86 | Q V |
| 3+10 | 3.6636 | 21.16 | Q V |
| 3+15 | 3.8140 | 21.84 | Q V |
| 3+20 | 3.9729 | 23.07 | Q V |
| 3+25 | 4.1361 | 23.70 | Q V |
| 3+30 | 4.3060 | 24.66 | Q V |
| 3+35 | 4.4898 | 26.69 | Q V |
| 3+40 | 4.6894 | 28.99 | Q V |
| 3+45 | 4.9035 | 31.08 | Q V |
| 3+50 | 5.1278 | 32.58 | Q V |
| 3+55 | 5.3649 | 34.42 | Q V |
| 4+ 0 | 5.6116 | 35.81 | Q V |
| 4+ 5 | 5.8705 | 37.60 | Q V |
| 4+10 | 6.1394 | 39.05 | Q V |
| 4+15 | 6.4242 | 41.34 | Q V |
| 4+20 | 6.7267 | 43.93 | Q V |
| 4+25 | 7.0483 | 46.69 | Q V |
| 4+30 | 7.3886 | 49.41 | Q V |
| 4+35 | 7.7452 | 51.78 | Q V |
| 4+40 | 8.1141 | 53.57 | Q V |
| 4+45 | 8.5005 | 56.10 | Q V |
| 4+50 | 8.9048 | 58.71 | Q V |
| 4+55 | 9.3248 | 60.99 | Q V |
| 5+ 0 | 9.7568 | 62.72 | Q V |
| 5+ 5 | 10.2092 | 65.69 | Q V |
| 5+10 | 10.6992 | 71.14 | Q V |
| 5+15 | 11.2577 | 81.10 | Q V |
| 5+20 | 11.8903 | 91.85 | Q V |
| 5+25 | 12.5901 | 101.61 | Q V |
| 5+30 | 13.3667 | 112.77 | Q V |
| 5+35 | 14.2122 | 122.76 | Q V |
| 5+40 | 15.0105 | 115.92 | Q V |
| 5+45 | 15.5195 | 73.91 | Q V |
| 5+50 | 15.8465 | 47.48 | Q V |
| 5+55 | 16.0643 | 31.61 | Q V |
| 6+ 0 | 16.2081 | 20.89 | Q V |
| 6+ 5 | 16.2952 | 12.65 | Q V |
| 6+10 | 16.3477 | 7.61 | Q V |
| 6+15 | 16.3787 | 4.50 | Q V |
| 6+20 | 16.3989 | 2.94 | Q V |
| 6+25 | 16.4125 | 1.97 | Q V |
| 6+30 | 16.4217 | 1.34 | Q V |
| 6+35 | 16.4271 | 0.77 | Q V |
| 6+40 | 16.4297 | 0.39 | Q V |
| 6+45 | 16.4307 | 0.14 | Q V |
| 6+50 | 16.4312 | 0.06 | Q V |
| 6+55 | 16.4313 | 0.03 | Q V |
| 7+ 0 | 16.4314 | 0.01 | Q V |
| 7+ 5 | 16.4314 | 0.00 | Q V |
| 7+10 | 16.4314 | 0.00 | Q V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRING - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 5
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

---

Drainage Area = 99.90(Ac.) = 0.156 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 99.90(Ac.) = 0.156 Sq. Mi.
Length along longest watercourse = 4783.00(Ft.)
Length along longest watercourse measured to centroid = 2378.00(Ft.)
Length along longest watercourse = 0.906 Mi.
Length along longest watercourse measured to centroid = 0.450 Mi.
Difference in elevation = 635.00(Ft.)
Slope along watercourse = 700.9826 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.172 Hr.
Lag time = 10.32 Min.
25% of lag time = 2.58 Min.
40% of lag time = 4.13 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 99.90 | 1.80 | 179.82 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 99.90 | 4.69 | 468.53 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.690(In)

Point rain (area averaged) = 4.690(In)
Areal adjustment factor = 99.98 %
Adjusted average point rain = 4.689(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 99.900 | 83.70 | 0.000 |

Total Area Entered = 99.90(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.7 | 93.2 | 0.088 | 0.000 | 0.088 | 1.000 | 0.088 |
| | | | | | Sum (F) = | 0.088 |

Area averaged mean soil loss (F) (In/Hr) = 0.088

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 48.437 | 4.093 | 4.121 |
| 2 0.167 | 96.874 | 18.488 | 18.614 |
| 3 0.250 | 145.312 | 38.448 | 38.710 |
| 4 0.333 | 193.749 | 15.279 | 15.383 |
| 5 0.417 | 242.186 | 8.590 | 8.648 |
| 6 0.500 | 290.623 | 5.621 | 5.660 |
| 7 0.583 | 339.060 | 3.783 | 3.809 |
| 8 0.667 | 387.498 | 2.399 | 2.416 |
| 9 0.750 | 435.935 | 1.313 | 1.322 |
| 10 0.833 | 484.372 | 0.583 | 0.587 |
| 11 0.917 | 532.809 | 0.444 | 0.447 |
| 12 1.000 | 581.246 | 0.321 | 0.323 |
| 13 1.083 | 629.684 | 0.345 | 0.347 |
| 14 1.167 | 678.121 | 0.192 | 0.193 |
| 15 1.250 | 726.558 | 0.101 | 0.101 |
| | | Sum = 100.000 | Sum= 100.680 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.038 | ( 0.156) | 0.034 | 0.004 |
| 2 | 0.17 | 0.07 | 0.038 | ( 0.156) | 0.034 | 0.004 |
| 3 | 0.25 | 0.07 | 0.038 | ( 0.155) | 0.034 | 0.004 |
| 4 | 0.33 | 0.10 | 0.056 | ( 0.154) | 0.051 | 0.006 |
| 5 | 0.42 | 0.10 | 0.056 | ( 0.154) | 0.051 | 0.006 |
| 6 | 0.50 | 0.10 | 0.056 | ( 0.153) | 0.051 | 0.006 |
| 7 | 0.58 | 0.10 | 0.056 | ( 0.153) | 0.051 | 0.006 |
| 8 | 0.67 | 0.10 | 0.056 | ( 0.152) | 0.051 | 0.006 |
| 9 | 0.75 | 0.10 | 0.056 | ( 0.151) | 0.051 | 0.006 |
| 10 | 0.83 | 0.13 | 0.075 | ( 0.151) | 0.068 | 0.008 |
| 11 | 0.92 | 0.13 | 0.075 | ( 0.150) | 0.068 | 0.008 |
| 12 | 1.00 | 0.13 | 0.075 | ( 0.150) | 0.068 | 0.008 |
| 13 | 1.08 | 0.10 | 0.056 | ( 0.149) | 0.051 | 0.006 |
| 14 | 1.17 | 0.10 | 0.056 | ( 0.148) | 0.051 | 0.006 |
| 15 | 1.25 | 0.10 | 0.056 | ( 0.148) | 0.051 | 0.006 |
| 16 | 1.33 | 0.10 | 0.056 | ( 0.147) | 0.051 | 0.006 |
| 17 | 1.42 | 0.10 | 0.056 | ( 0.147) | 0.051 | 0.006 |
| 18 | 1.50 | 0.10 | 0.056 | ( 0.146) | 0.051 | 0.006 |
| 19 | 1.58 | 0.10 | 0.056 | ( 0.146) | 0.051 | 0.006 |
| 20 | 1.67 | 0.10 | 0.056 | ( 0.145) | 0.051 | 0.006 |
| 21 | 1.75 | 0.10 | 0.056 | ( 0.144) | 0.051 | 0.006 |
| 22 | 1.83 | 0.13 | 0.075 | ( 0.144) | 0.068 | 0.008 |
| 23 | 1.92 | 0.13 | 0.075 | ( 0.143) | 0.068 | 0.008 |
| 24 | 2.00 | 0.13 | 0.075 | ( 0.143) | 0.068 | 0.008 |
| 25 | 2.08 | 0.13 | 0.075 | ( 0.142) | 0.068 | 0.008 |
| 26 | 2.17 | 0.13 | 0.075 | ( 0.141) | 0.068 | 0.008 |
| 27 | 2.25 | 0.13 | 0.075 | ( 0.141) | 0.068 | 0.008 |
| 28 | 2.33 | 0.13 | 0.075 | ( 0.140) | 0.068 | 0.008 |
| 29 | 2.42 | 0.13 | 0.075 | ( 0.140) | 0.068 | 0.008 |
| 30 | 2.50 | 0.13 | 0.075 | ( 0.139) | 0.068 | 0.008 |
| 31 | 2.58 | 0.17 | 0.094 | ( 0.139) | 0.084 | 0.009 |
| 32 | 2.67 | 0.17 | 0.094 | ( 0.138) | 0.084 | 0.009 |
| 33 | 2.75 | 0.17 | 0.094 | ( 0.137) | 0.084 | 0.009 |
| 34 | 2.83 | 0.17 | 0.094 | ( 0.137) | 0.084 | 0.009 |
| 35 | 2.92 | 0.17 | 0.094 | ( 0.136) | 0.084 | 0.009 |
| 36 | 3.00 | 0.17 | 0.094 | ( 0.136) | 0.084 | 0.009 |
| 37 | 3.08 | 0.17 | 0.094 | ( 0.135) | 0.084 | 0.009 |
| 38 | 3.17 | 0.17 | 0.094 | ( 0.135) | 0.084 | 0.009 |
| 39 | 3.25 | 0.17 | 0.094 | ( 0.134) | 0.084 | 0.009 |
| 40 | 3.33 | 0.17 | 0.094 | ( 0.134) | 0.084 | 0.009 |
| 41 | 3.42 | 0.17 | 0.094 | ( 0.133) | 0.084 | 0.009 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 42 | 3.50 | 0.17 | 0.094 | ( 0.132) | 0.084 | 0.009 |
| 43 | 3.58 | 0.17 | 0.094 | ( 0.132) | 0.084 | 0.009 |
| 44 | 3.67 | 0.17 | 0.094 | ( 0.131) | 0.084 | 0.009 |
| 45 | 3.75 | 0.17 | 0.094 | ( 0.131) | 0.084 | 0.009 |
| 46 | 3.83 | 0.20 | 0.113 | ( 0.130) | 0.101 | 0.011 |
| 47 | 3.92 | 0.20 | 0.113 | ( 0.130) | 0.101 | 0.011 |
| 48 | 4.00 | 0.20 | 0.113 | ( 0.129) | 0.101 | 0.011 |
| 49 | 4.08 | 0.20 | 0.113 | ( 0.129) | 0.101 | 0.011 |
| 50 | 4.17 | 0.20 | 0.113 | ( 0.128) | 0.101 | 0.011 |
| 51 | 4.25 | 0.20 | 0.113 | ( 0.127) | 0.101 | 0.011 |
| 52 | 4.33 | 0.23 | 0.131 | ( 0.127) | 0.118 | 0.013 |
| 53 | 4.42 | 0.23 | 0.131 | ( 0.126) | 0.118 | 0.013 |
| 54 | 4.50 | 0.23 | 0.131 | ( 0.126) | 0.118 | 0.013 |
| 55 | 4.58 | 0.23 | 0.131 | ( 0.125) | 0.118 | 0.013 |
| 56 | 4.67 | 0.23 | 0.131 | ( 0.125) | 0.118 | 0.013 |
| 57 | 4.75 | 0.23 | 0.131 | ( 0.124) | 0.118 | 0.013 |
| 58 | 4.83 | 0.27 | 0.150 | 0.124 | ( 0.135) | 0.026 |
| 59 | 4.92 | 0.27 | 0.150 | 0.123 | ( 0.135) | 0.027 |
| 60 | 5.00 | 0.27 | 0.150 | 0.123 | ( 0.135) | 0.027 |
| 61 | 5.08 | 0.20 | 0.113 | ( 0.122) | 0.101 | 0.011 |
| 62 | 5.17 | 0.20 | 0.113 | ( 0.122) | 0.101 | 0.011 |
| 63 | 5.25 | 0.20 | 0.113 | ( 0.121) | 0.101 | 0.011 |
| 64 | 5.33 | 0.23 | 0.131 | ( 0.121) | 0.118 | 0.013 |
| 65 | 5.42 | 0.23 | 0.131 | ( 0.120) | 0.118 | 0.013 |
| 66 | 5.50 | 0.23 | 0.131 | ( 0.119) | 0.118 | 0.013 |
| 67 | 5.58 | 0.27 | 0.150 | 0.119 | ( 0.135) | 0.031 |
| 68 | 5.67 | 0.27 | 0.150 | 0.118 | ( 0.135) | 0.032 |
| 69 | 5.75 | 0.27 | 0.150 | 0.118 | ( 0.135) | 0.032 |
| 70 | 5.83 | 0.27 | 0.150 | 0.117 | ( 0.135) | 0.033 |
| 71 | 5.92 | 0.27 | 0.150 | 0.117 | ( 0.135) | 0.033 |
| 72 | 6.00 | 0.27 | 0.150 | 0.116 | ( 0.135) | 0.034 |
| 73 | 6.08 | 0.30 | 0.169 | 0.116 | ( 0.152) | 0.053 |
| 74 | 6.17 | 0.30 | 0.169 | 0.115 | ( 0.152) | 0.053 |
| 75 | 6.25 | 0.30 | 0.169 | 0.115 | ( 0.152) | 0.054 |
| 76 | 6.33 | 0.30 | 0.169 | 0.114 | ( 0.152) | 0.055 |
| 77 | 6.42 | 0.30 | 0.169 | 0.114 | ( 0.152) | 0.055 |
| 78 | 6.50 | 0.30 | 0.169 | 0.113 | ( 0.152) | 0.056 |
| 79 | 6.58 | 0.33 | 0.188 | 0.113 | ( 0.169) | 0.075 |
| 80 | 6.67 | 0.33 | 0.188 | 0.112 | ( 0.169) | 0.075 |
| 81 | 6.75 | 0.33 | 0.188 | 0.112 | ( 0.169) | 0.076 |
| 82 | 6.83 | 0.33 | 0.188 | 0.111 | ( 0.169) | 0.076 |
| 83 | 6.92 | 0.33 | 0.188 | 0.111 | ( 0.169) | 0.077 |
| 84 | 7.00 | 0.33 | 0.188 | 0.110 | ( 0.169) | 0.077 |
| 85 | 7.08 | 0.33 | 0.188 | 0.110 | ( 0.169) | 0.078 |
| 86 | 7.17 | 0.33 | 0.188 | 0.109 | ( 0.169) | 0.078 |
| 87 | 7.25 | 0.33 | 0.188 | 0.109 | ( 0.169) | 0.079 |
| 88 | 7.33 | 0.37 | 0.206 | 0.108 | ( 0.186) | 0.098 |
| 89 | 7.42 | 0.37 | 0.206 | 0.108 | ( 0.186) | 0.099 |
| 90 | 7.50 | 0.37 | 0.206 | 0.107 | ( 0.186) | 0.099 |
| 91 | 7.58 | 0.40 | 0.225 | 0.107 | ( 0.203) | 0.118 |
| 92 | 7.67 | 0.40 | 0.225 | 0.106 | ( 0.203) | 0.119 |
| 93 | 7.75 | 0.40 | 0.225 | 0.106 | ( 0.203) | 0.119 |
| 94 | 7.83 | 0.43 | 0.244 | 0.105 | ( 0.219) | 0.139 |
| 95 | 7.92 | 0.43 | 0.244 | 0.105 | ( 0.219) | 0.139 |
| 96 | 8.00 | 0.43 | 0.244 | 0.104 | ( 0.219) | 0.140 |
| 97 | 8.08 | 0.50 | 0.281 | 0.104 | ( 0.253) | 0.178 |
| 98 | 8.17 | 0.50 | 0.281 | 0.103 | ( 0.253) | 0.178 |
| 99 | 8.25 | 0.50 | 0.281 | 0.103 | ( 0.253) | 0.178 |
| 100 | 8.33 | 0.50 | 0.281 | 0.102 | ( 0.253) | 0.179 |
| 101 | 8.42 | 0.50 | 0.281 | 0.102 | ( 0.253) | 0.179 |
| 102 | 8.50 | 0.50 | 0.281 | 0.101 | ( 0.253) | 0.180 |
| 103 | 8.58 | 0.53 | 0.300 | 0.101 | ( 0.270) | 0.199 |
| 104 | 8.67 | 0.53 | 0.300 | 0.100 | ( 0.270) | 0.200 |
| 105 | 8.75 | 0.53 | 0.300 | 0.100 | ( 0.270) | 0.200 |
| 106 | 8.83 | 0.57 | 0.319 | 0.100 | ( 0.287) | 0.219 |
| 107 | 8.92 | 0.57 | 0.319 | 0.099 | ( 0.287) | 0.220 |
| 108 | 9.00 | 0.57 | 0.319 | 0.099 | ( 0.287) | 0.220 |
| 109 | 9.08 | 0.63 | 0.356 | 0.098 | ( 0.321) | 0.258 |
| 110 | 9.17 | 0.63 | 0.356 | 0.098 | ( 0.321) | 0.259 |
| 111 | 9.25 | 0.63 | 0.356 | 0.097 | ( 0.321) | 0.259 |
| 112 | 9.33 | 0.67 | 0.375 | 0.097 | ( 0.338) | 0.278 |
| 113 | 9.42 | 0.67 | 0.375 | 0.096 | ( 0.338) | 0.279 |
| 114 | 9.50 | 0.67 | 0.375 | 0.096 | ( 0.338) | 0.279 |
| 115 | 9.58 | 0.70 | 0.394 | 0.095 | ( 0.354) | 0.299 |
| 116 | 9.67 | 0.70 | 0.394 | 0.095 | ( 0.354) | 0.299 |
| 117 | 9.75 | 0.70 | 0.394 | 0.094 | ( 0.354) | 0.299 |
| 118 | 9.83 | 0.73 | 0.413 | 0.094 | ( 0.371) | 0.319 |
| 119 | 9.92 | 0.73 | 0.413 | 0.094 | ( 0.371) | 0.319 |

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|---|---|---|---|---|---|---|
| 120 | 10.00 | 0.73 | 0.413 | 0.093 | ( 0.371) | 0.320 |
| 121 | 10.08 | 0.50 | 0.281 | 0.093 | ( 0.253) | 0.189 |
| 122 | 10.17 | 0.50 | 0.281 | 0.092 | ( 0.253) | 0.189 |
| 123 | 10.25 | 0.50 | 0.281 | 0.092 | ( 0.253) | 0.190 |
| 124 | 10.33 | 0.50 | 0.281 | 0.091 | ( 0.253) | 0.190 |
| 125 | 10.42 | 0.50 | 0.281 | 0.091 | ( 0.253) | 0.191 |
| 126 | 10.50 | 0.50 | 0.281 | 0.090 | ( 0.253) | 0.191 |
| 127 | 10.58 | 0.67 | 0.375 | 0.090 | ( 0.338) | 0.285 |
| 128 | 10.67 | 0.67 | 0.375 | 0.090 | ( 0.338) | 0.286 |
| 129 | 10.75 | 0.67 | 0.375 | 0.089 | ( 0.338) | 0.286 |
| 130 | 10.83 | 0.67 | 0.375 | 0.089 | ( 0.338) | 0.286 |
| 131 | 10.92 | 0.67 | 0.375 | 0.088 | ( 0.338) | 0.287 |
| 132 | 11.00 | 0.67 | 0.375 | 0.088 | ( 0.338) | 0.287 |
| 133 | 11.08 | 0.63 | 0.356 | 0.087 | ( 0.321) | 0.269 |
| 134 | 11.17 | 0.63 | 0.356 | 0.087 | ( 0.321) | 0.269 |
| 135 | 11.25 | 0.63 | 0.356 | 0.086 | ( 0.321) | 0.270 |
| 136 | 11.33 | 0.63 | 0.356 | 0.086 | ( 0.321) | 0.270 |
| 137 | 11.42 | 0.63 | 0.356 | 0.086 | ( 0.321) | 0.271 |
| 138 | 11.50 | 0.63 | 0.356 | 0.085 | ( 0.321) | 0.271 |
| 139 | 11.58 | 0.57 | 0.319 | 0.085 | ( 0.287) | 0.234 |
| 140 | 11.67 | 0.57 | 0.319 | 0.084 | ( 0.287) | 0.234 |
| 141 | 11.75 | 0.57 | 0.319 | 0.084 | ( 0.287) | 0.235 |
| 142 | 11.83 | 0.60 | 0.338 | 0.084 | ( 0.304) | 0.254 |
| 143 | 11.92 | 0.60 | 0.338 | 0.083 | ( 0.304) | 0.255 |
| 144 | 12.00 | 0.60 | 0.338 | 0.083 | ( 0.304) | 0.255 |
| 145 | 12.08 | 0.83 | 0.469 | 0.082 | ( 0.422) | 0.387 |
| 146 | 12.17 | 0.83 | 0.469 | 0.082 | ( 0.422) | 0.387 |
| 147 | 12.25 | 0.83 | 0.469 | 0.081 | ( 0.422) | 0.387 |
| 148 | 12.33 | 0.87 | 0.488 | 0.081 | ( 0.439) | 0.407 |
| 149 | 12.42 | 0.87 | 0.488 | 0.081 | ( 0.439) | 0.407 |
| 150 | 12.50 | 0.87 | 0.488 | 0.080 | ( 0.439) | 0.407 |
| 151 | 12.58 | 0.93 | 0.525 | 0.080 | ( 0.473) | 0.445 |
| 152 | 12.67 | 0.93 | 0.525 | 0.079 | ( 0.473) | 0.446 |
| 153 | 12.75 | 0.93 | 0.525 | 0.079 | ( 0.473) | 0.446 |
| 154 | 12.83 | 0.97 | 0.544 | 0.079 | ( 0.490) | 0.465 |
| 155 | 12.92 | 0.97 | 0.544 | 0.078 | ( 0.490) | 0.466 |
| 156 | 13.00 | 0.97 | 0.544 | 0.078 | ( 0.490) | 0.466 |
| 157 | 13.08 | 1.13 | 0.638 | 0.077 | ( 0.574) | 0.560 |
| 158 | 13.17 | 1.13 | 0.638 | 0.077 | ( 0.574) | 0.561 |
| 159 | 13.25 | 1.13 | 0.638 | 0.077 | ( 0.574) | 0.561 |
| 160 | 13.33 | 1.13 | 0.638 | 0.076 | ( 0.574) | 0.561 |
| 161 | 13.42 | 1.13 | 0.638 | 0.076 | ( 0.574) | 0.562 |
| 162 | 13.50 | 1.13 | 0.638 | 0.075 | ( 0.574) | 0.562 |
| 163 | 13.58 | 0.77 | 0.431 | 0.075 | ( 0.388) | 0.356 |
| 164 | 13.67 | 0.77 | 0.431 | 0.075 | ( 0.388) | 0.357 |
| 165 | 13.75 | 0.77 | 0.431 | 0.074 | ( 0.388) | 0.357 |
| 166 | 13.83 | 0.77 | 0.431 | 0.074 | ( 0.388) | 0.357 |
| 167 | 13.92 | 0.77 | 0.431 | 0.074 | ( 0.388) | 0.358 |
| 168 | 14.00 | 0.77 | 0.431 | 0.073 | ( 0.388) | 0.358 |
| 169 | 14.08 | 0.90 | 0.506 | 0.073 | ( 0.456) | 0.434 |
| 170 | 14.17 | 0.90 | 0.506 | 0.072 | ( 0.456) | 0.434 |
| 171 | 14.25 | 0.90 | 0.506 | 0.072 | ( 0.456) | 0.434 |
| 172 | 14.33 | 0.87 | 0.488 | 0.072 | ( 0.439) | 0.416 |
| 173 | 14.42 | 0.87 | 0.488 | 0.071 | ( 0.439) | 0.416 |
| 174 | 14.50 | 0.87 | 0.488 | 0.071 | ( 0.439) | 0.417 |
| 175 | 14.58 | 0.87 | 0.488 | 0.071 | ( 0.439) | 0.417 |
| 176 | 14.67 | 0.87 | 0.488 | 0.070 | ( 0.439) | 0.417 |
| 177 | 14.75 | 0.87 | 0.488 | 0.070 | ( 0.439) | 0.418 |
| 178 | 14.83 | 0.83 | 0.469 | 0.070 | ( 0.422) | 0.399 |
| 179 | 14.92 | 0.83 | 0.469 | 0.069 | ( 0.422) | 0.400 |
| 180 | 15.00 | 0.83 | 0.469 | 0.069 | ( 0.422) | 0.400 |
| 181 | 15.08 | 0.80 | 0.450 | 0.068 | ( 0.405) | 0.382 |
| 182 | 15.17 | 0.80 | 0.450 | 0.068 | ( 0.405) | 0.382 |
| 183 | 15.25 | 0.80 | 0.450 | 0.068 | ( 0.405) | 0.382 |
| 184 | 15.33 | 0.77 | 0.431 | 0.067 | ( 0.388) | 0.364 |
| 185 | 15.42 | 0.77 | 0.431 | 0.067 | ( 0.388) | 0.364 |
| 186 | 15.50 | 0.77 | 0.431 | 0.067 | ( 0.388) | 0.365 |
| 187 | 15.58 | 0.63 | 0.356 | 0.066 | ( 0.321) | 0.290 |
| 188 | 15.67 | 0.63 | 0.356 | 0.066 | ( 0.321) | 0.290 |
| 189 | 15.75 | 0.63 | 0.356 | 0.066 | ( 0.321) | 0.291 |
| 190 | 15.83 | 0.63 | 0.356 | 0.065 | ( 0.321) | 0.291 |
| 191 | 15.92 | 0.63 | 0.356 | 0.065 | ( 0.321) | 0.291 |
| 192 | 16.00 | 0.63 | 0.356 | 0.065 | ( 0.321) | 0.292 |
| 193 | 16.08 | 0.13 | 0.075 | 0.064 | ( 0.068) | 0.011 |
| 194 | 16.17 | 0.13 | 0.075 | 0.064 | ( 0.068) | 0.011 |
| 195 | 16.25 | 0.13 | 0.075 | 0.064 | ( 0.068) | 0.011 |
| 196 | 16.33 | 0.13 | 0.075 | 0.063 | ( 0.068) | 0.012 |
| 197 | 16.42 | 0.13 | 0.075 | 0.063 | ( 0.068) | 0.012 |

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| 198 | 16.50 | 0.13 | 0.075 | 0.063 | ( 0.068) | 0.012 |
| 199 | 16.58 | 0.10 | 0.056 | ( 0.062) | 0.051 | 0.006 |
| 200 | 16.67 | 0.10 | 0.056 | ( 0.062) | 0.051 | 0.006 |
| 201 | 16.75 | 0.10 | 0.056 | ( 0.062) | 0.051 | 0.006 |
| 202 | 16.83 | 0.10 | 0.056 | ( 0.062) | 0.051 | 0.006 |
| 203 | 16.92 | 0.10 | 0.056 | ( 0.061) | 0.051 | 0.006 |
| 204 | 17.00 | 0.10 | 0.056 | ( 0.061) | 0.051 | 0.006 |
| 205 | 17.08 | 0.17 | 0.094 | 0.061 | ( 0.084) | 0.033 |
| 206 | 17.17 | 0.17 | 0.094 | 0.060 | ( 0.084) | 0.034 |
| 207 | 17.25 | 0.17 | 0.094 | 0.060 | ( 0.084) | 0.034 |
| 208 | 17.33 | 0.17 | 0.094 | 0.060 | ( 0.084) | 0.034 |
| 209 | 17.42 | 0.17 | 0.094 | 0.059 | ( 0.084) | 0.034 |
| 210 | 17.50 | 0.17 | 0.094 | 0.059 | ( 0.084) | 0.035 |
| 211 | 17.58 | 0.17 | 0.094 | 0.059 | ( 0.084) | 0.035 |
| 212 | 17.67 | 0.17 | 0.094 | 0.058 | ( 0.084) | 0.035 |
| 213 | 17.75 | 0.17 | 0.094 | 0.058 | ( 0.084) | 0.036 |
| 214 | 17.83 | 0.13 | 0.075 | 0.058 | ( 0.068) | 0.017 |
| 215 | 17.92 | 0.13 | 0.075 | 0.058 | ( 0.068) | 0.017 |
| 216 | 18.00 | 0.13 | 0.075 | 0.057 | ( 0.068) | 0.018 |
| 217 | 18.08 | 0.13 | 0.075 | 0.057 | ( 0.068) | 0.018 |
| 218 | 18.17 | 0.13 | 0.075 | 0.057 | ( 0.068) | 0.018 |
| 219 | 18.25 | 0.13 | 0.075 | 0.056 | ( 0.068) | 0.019 |
| 220 | 18.33 | 0.13 | 0.075 | 0.056 | ( 0.068) | 0.019 |
| 221 | 18.42 | 0.13 | 0.075 | 0.056 | ( 0.068) | 0.019 |
| 222 | 18.50 | 0.13 | 0.075 | 0.056 | ( 0.068) | 0.019 |
| 223 | 18.58 | 0.10 | 0.056 | ( 0.055) | 0.051 | 0.006 |
| 224 | 18.67 | 0.10 | 0.056 | ( 0.055) | 0.051 | 0.006 |
| 225 | 18.75 | 0.10 | 0.056 | ( 0.055) | 0.051 | 0.006 |
| 226 | 18.83 | 0.07 | 0.038 | ( 0.055) | 0.034 | 0.004 |
| 227 | 18.92 | 0.07 | 0.038 | ( 0.054) | 0.034 | 0.004 |
| 228 | 19.00 | 0.07 | 0.038 | ( 0.054) | 0.034 | 0.004 |
| 229 | 19.08 | 0.10 | 0.056 | ( 0.054) | 0.051 | 0.006 |
| 230 | 19.17 | 0.10 | 0.056 | ( 0.054) | 0.051 | 0.006 |
| 231 | 19.25 | 0.10 | 0.056 | ( 0.053) | 0.051 | 0.006 |
| 232 | 19.33 | 0.13 | 0.075 | 0.053 | ( 0.068) | 0.022 |
| 233 | 19.42 | 0.13 | 0.075 | 0.053 | ( 0.068) | 0.022 |
| 234 | 19.50 | 0.13 | 0.075 | 0.053 | ( 0.068) | 0.022 |
| 235 | 19.58 | 0.10 | 0.056 | ( 0.052) | 0.051 | 0.006 |
| 236 | 19.67 | 0.10 | 0.056 | ( 0.052) | 0.051 | 0.006 |
| 237 | 19.75 | 0.10 | 0.056 | ( 0.052) | 0.051 | 0.006 |
| 238 | 19.83 | 0.07 | 0.038 | ( 0.052) | 0.034 | 0.004 |
| 239 | 19.92 | 0.07 | 0.038 | ( 0.051) | 0.034 | 0.004 |
| 240 | 20.00 | 0.07 | 0.038 | ( 0.051) | 0.034 | 0.004 |
| 241 | 20.08 | 0.10 | 0.056 | ( 0.051) | 0.051 | 0.006 |
| 242 | 20.17 | 0.10 | 0.056 | ( 0.051) | 0.051 | 0.006 |
| 243 | 20.25 | 0.10 | 0.056 | 0.051 | ( 0.051) | 0.006 |
| 244 | 20.33 | 0.10 | 0.056 | 0.050 | ( 0.051) | 0.006 |
| 245 | 20.42 | 0.10 | 0.056 | 0.050 | ( 0.051) | 0.006 |
| 246 | 20.50 | 0.10 | 0.056 | 0.050 | ( 0.051) | 0.006 |
| 247 | 20.58 | 0.10 | 0.056 | 0.050 | ( 0.051) | 0.007 |
| 248 | 20.67 | 0.10 | 0.056 | 0.049 | ( 0.051) | 0.007 |
| 249 | 20.75 | 0.10 | 0.056 | 0.049 | ( 0.051) | 0.007 |
| 250 | 20.83 | 0.07 | 0.038 | ( 0.049) | 0.034 | 0.004 |
| 251 | 20.92 | 0.07 | 0.038 | ( 0.049) | 0.034 | 0.004 |
| 252 | 21.00 | 0.07 | 0.038 | ( 0.049) | 0.034 | 0.004 |
| 253 | 21.08 | 0.10 | 0.056 | 0.048 | ( 0.051) | 0.008 |
| 254 | 21.17 | 0.10 | 0.056 | 0.048 | ( 0.051) | 0.008 |
| 255 | 21.25 | 0.10 | 0.056 | 0.048 | ( 0.051) | 0.008 |
| 256 | 21.33 | 0.07 | 0.038 | ( 0.048) | 0.034 | 0.004 |
| 257 | 21.42 | 0.07 | 0.038 | ( 0.048) | 0.034 | 0.004 |
| 258 | 21.50 | 0.07 | 0.038 | ( 0.048) | 0.034 | 0.004 |
| 259 | 21.58 | 0.10 | 0.056 | 0.047 | ( 0.051) | 0.009 |
| 260 | 21.67 | 0.10 | 0.056 | 0.047 | ( 0.051) | 0.009 |
| 261 | 21.75 | 0.10 | 0.056 | 0.047 | ( 0.051) | 0.009 |
| 262 | 21.83 | 0.07 | 0.038 | ( 0.047) | 0.034 | 0.004 |
| 263 | 21.92 | 0.07 | 0.038 | ( 0.047) | 0.034 | 0.004 |
| 264 | 22.00 | 0.07 | 0.038 | ( 0.047) | 0.034 | 0.004 |
| 265 | 22.08 | 0.10 | 0.056 | 0.046 | ( 0.051) | 0.010 |
| 266 | 22.17 | 0.10 | 0.056 | 0.046 | ( 0.051) | 0.010 |
| 267 | 22.25 | 0.10 | 0.056 | 0.046 | ( 0.051) | 0.010 |
| 268 | 22.33 | 0.07 | 0.038 | ( 0.046) | 0.034 | 0.004 |
| 269 | 22.42 | 0.07 | 0.038 | ( 0.046) | 0.034 | 0.004 |
| 270 | 22.50 | 0.07 | 0.038 | ( 0.046) | 0.034 | 0.004 |
| 271 | 22.58 | 0.07 | 0.038 | ( 0.046) | 0.034 | 0.004 |
| 272 | 22.67 | 0.07 | 0.038 | ( 0.045) | 0.034 | 0.004 |
| 273 | 22.75 | 0.07 | 0.038 | ( 0.045) | 0.034 | 0.004 |
| 274 | 22.83 | 0.07 | 0.038 | ( 0.045) | 0.034 | 0.004 |
| 275 | 22.92 | 0.07 | 0.038 | ( 0.045) | 0.034 | 0.004 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 276 | 23.00 | 0.07 | 0.038 | ( 0.045) | 0.034 | 0.004 |
| 277 | 23.08 | 0.07 | 0.038 | ( 0.045) | 0.034 | 0.004 |
| 278 | 23.17 | 0.07 | 0.038 | ( 0.045) | 0.034 | 0.004 |
| 279 | 23.25 | 0.07 | 0.038 | ( 0.045) | 0.034 | 0.004 |
| 280 | 23.33 | 0.07 | 0.038 | ( 0.045) | 0.034 | 0.004 |
| 281 | 23.42 | 0.07 | 0.038 | ( 0.044) | 0.034 | 0.004 |
| 282 | 23.50 | 0.07 | 0.038 | ( 0.044) | 0.034 | 0.004 |
| 283 | 23.58 | 0.07 | 0.038 | ( 0.044) | 0.034 | 0.004 |
| 284 | 23.67 | 0.07 | 0.038 | ( 0.044) | 0.034 | 0.004 |
| 285 | 23.75 | 0.07 | 0.038 | ( 0.044) | 0.034 | 0.004 |
| 286 | 23.83 | 0.07 | 0.038 | ( 0.044) | 0.034 | 0.004 |
| 287 | 23.92 | 0.07 | 0.038 | ( 0.044) | 0.034 | 0.004 |
| 288 | 24.00 | 0.07 | 0.038 | ( 0.044) | 0.034 | 0.004 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 35.2

Flood volume = Effective rainfall 2.94(In)
times area 99.9(Ac.)/[(In)/(Ft.)] = 24.4(Ac.Ft)
Total soil loss = 1.75(In)
Total soil loss = 14.597(Ac.Ft)
Total rainfall = 4.69(In)
Flood volume = 1064595.3 Cubic Feet
Total soil loss = 635840.4 Cubic Feet

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Peak flow rate of this hydrograph = 55.569(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

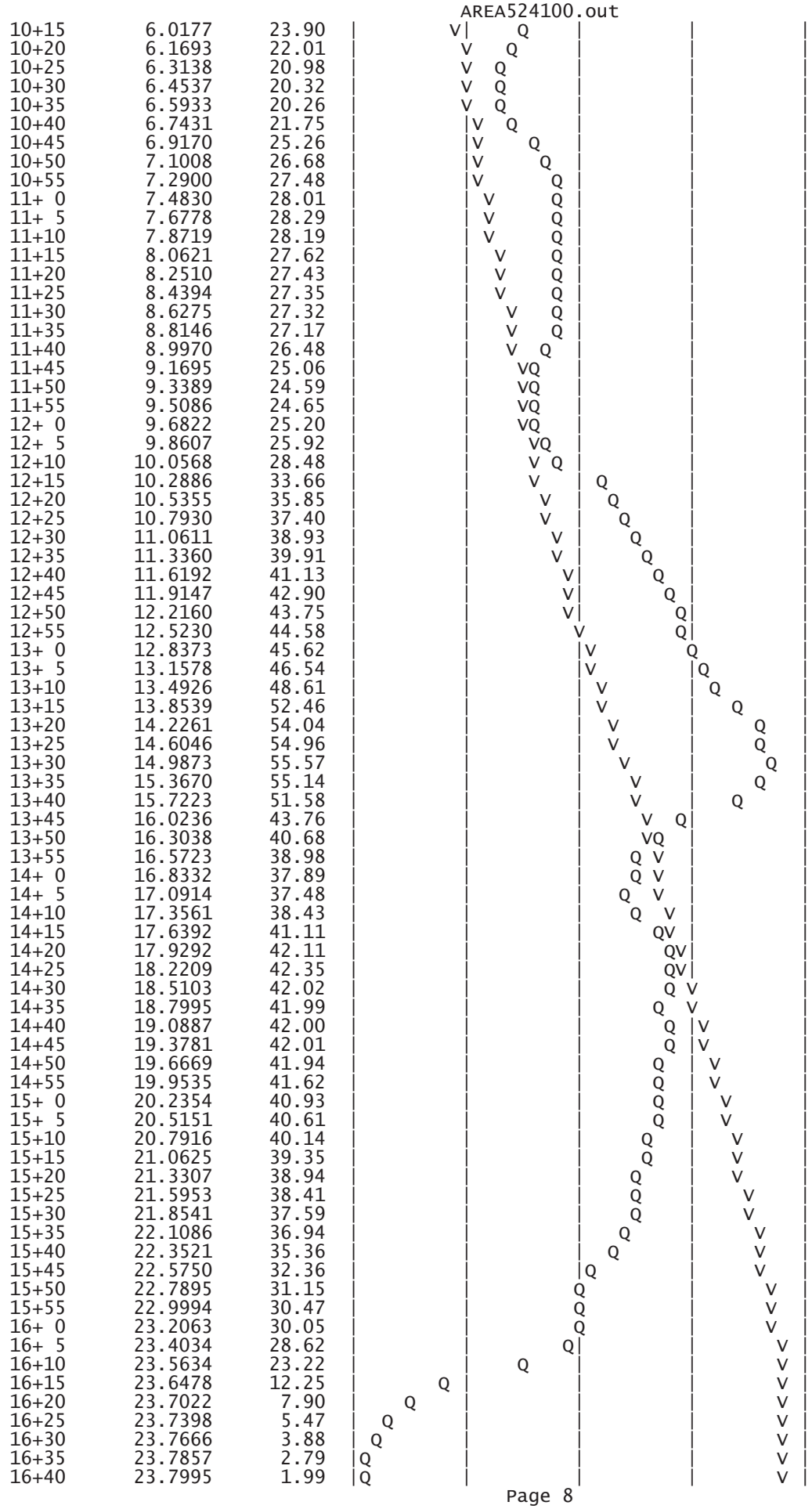
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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 15.0 | 30.0 | 45.0 | 60.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0001 | 0.02 | Q | | | | |
| 0+10 | 0.0007 | 0.09 | Q | | | | |
| 0+15 | 0.0023 | 0.23 | Q | | | | |
| 0+20 | 0.0043 | 0.30 | Q | | | | |
| 0+25 | 0.0068 | 0.36 | Q | | | | |
| 0+30 | 0.0100 | 0.46 | Q | | | | |
| 0+35 | 0.0134 | 0.50 | Q | | | | |
| 0+40 | 0.0170 | 0.53 | Q | | | | |
| 0+45 | 0.0208 | 0.54 | Q | | | | |
| 0+50 | 0.0246 | 0.56 | Q | | | | |
| 0+55 | 0.0287 | 0.60 | Q | | | | |
| 1+ 0 | 0.0334 | 0.68 | Q | | | | |
| 1+ 5 | 0.0382 | 0.70 | Q | | | | |
| 1+10 | 0.0429 | 0.68 | Q | | | | |
| 1+15 | 0.0472 | 0.62 | Q | | | | |
| 1+20 | 0.0513 | 0.60 | Q | | | | |
| 1+25 | 0.0554 | 0.59 | Q | | | | |
| 1+30 | 0.0594 | 0.58 | Q | | | | |
| 1+35 | 0.0633 | 0.57 | Q | | | | |
| 1+40 | 0.0673 | 0.57 | Q | | | | |
| 1+45 | 0.0712 | 0.57 | Q | | | | |
| 1+50 | 0.0752 | 0.58 | Q | | | | |
| 1+55 | 0.0794 | 0.61 | Q | | | | |
| 2+ 0 | 0.0841 | 0.68 | Q | | | | |
| 2+ 5 | 0.0890 | 0.71 | Q | | | | |
| 2+10 | 0.0940 | 0.73 | Q | | | | |
| 2+15 | 0.0991 | 0.74 | Q | | | | |
| 2+20 | 0.1042 | 0.74 | Q | | | | |
| 2+25 | 0.1094 | 0.75 | Q | | | | |
| 2+30 | 0.1146 | 0.75 | Q | | | | |
| 2+35 | 0.1198 | 0.76 | Q | | | | |
| 2+40 | 0.1253 | 0.80 | Q | | | | |
| 2+45 | 0.1313 | 0.87 | Q | | | | |
| 2+50 | 0.1375 | 0.90 | Q | | | | |
| 2+55 | 0.1438 | 0.92 | Q | | | | |
| 3+ 0 | 0.1502 | 0.93 | Q | | | | |
| 3+ 5 | 0.1566 | 0.93 | Q | | | | |
| 3+10 | 0.1631 | 0.94 | Q | | | | |
| 3+15 | 0.1695 | 0.94 | Q | | | | |
| 3+20 | 0.1760 | 0.94 | Q | | | | |
| 3+25 | 0.1825 | 0.94 | Q | | | | |
| 3+30 | 0.1890 | 0.94 | Q | | | | |
| 3+35 | 0.1955 | 0.94 | Q | | | | |
| 3+40 | 0.2020 | 0.94 | Q | | | | |

```
 3+45       0.2085      0.94  Q          |          |          |          |
 3+50       0.2151      0.95  Q          |          |          |          |
 3+55       0.2219      0.99  Q          |          |          |          |
 4+ 0       0.2292      1.06  Q          |          |          |          |
 4+ 5       0.2367      1.09  Q          |          |          |          |
 4+10       0.2443      1.11  Q          |          |          |          |
 4+15       0.2520      1.12  Q          |          |          |          |
 4+20       0.2598      1.13  Q          |          |          |          |
 4+25       0.2678      1.17  Q          |          |          |          |
 4+30       0.2764      1.25  Q          |          |          |          |
 4+35       0.2852      1.28  Q          |          |          |          |
 4+40       0.2941      1.29  Q          |          |          |          |
 4+45       0.3031      1.30  Q          |          |          |          |
 4+50       0.3125      1.37  Q          |          |          |          |
 4+55       0.3236      1.62  VQ         |          |          |          |
 5+ 0       0.3384      2.15  VQ         |          |          |          |
 5+ 5       0.3543      2.31  VQ         |          |          |          |
 5+10       0.3692      2.16  VQ         |          |          |          |
 5+15       0.3803      1.62  VQ         |          |          |          |
 5+20       0.3902      1.44  Q          |          |          |          |
 5+25       0.3997      1.37  Q          |          |          |          |
 5+30       0.4091      1.37  Q          |          |          |          |
 5+35       0.4189      1.42  Q          |          |          |          |
 5+40       0.4309      1.74  VQ         |          |          |          |
 5+45       0.4478      2.45  VQ         |          |          |          |
 5+50       0.4668      2.76  VQ         |          |          |          |
 5+55       0.4871      2.95  VQ         |          |          |          |
 6+ 0       0.5084      3.10  V Q        |          |          |          |
 6+ 5       0.5311      3.29  V Q        |          |          |          |
 6+10       0.5568      3.73  V Q        |          |          |          |
 6+15       0.5879      4.53  V  Q       |          |          |          |
 6+20       0.6215      4.88  |V Q       |          |          |          |
 6+25       0.6566      5.10  |V Q       |          |          |          |
 6+30       0.6929      5.26  |V Q       |          |          |          |
 6+35       0.7306      5.47  |V Q       |          |          |          |
 6+40       0.7713      5.92  |V Q       |          |          |          |
 6+45       0.8176      6.72  |V  Q      |          |          |          |
 6+50       0.8663      7.07  |V  Q      |          |          |          |
 6+55       0.9166      7.30  |V  Q      |          |          |          |
 7+ 0       0.9680      7.46  |V  Q      |          |          |          |
 7+ 5       1.0202      7.59  |V   Q     |          |          |          |
 7+10       1.0732      7.69  |V   Q     |          |          |          |
 7+15       1.1266      7.76  |V   Q     |          |          |          |
 7+20       1.1811      7.90  |V   Q     |          |          |          |
 7+25       1.2383      8.31  | V  Q     |          |          |          |
 7+30       1.3010      9.09  | V   Q    |          |          |          |
 7+35       1.3665      9.52  | V   Q    |          |          |          |
 7+40       1.4359     10.08  | V   Q    |          |          |          |
 7+45       1.5115     10.97  | V    Q   |          |          |          |
 7+50       1.5903     11.45  | V    Q   |          |          |          |
 7+55       1.6734     12.06  | V     Q  |          |          |          |
 8+ 0       1.7627     12.97  | V     Q  |          |          |          |
 8+ 5       1.8560     13.54  |  V     Q |          |          |          |
 8+10       1.9558     14.51  |  V     Q |          |          |          |
 8+15       2.0670     16.14  |  V      Q|          |          |          |
 8+20       2.1831     16.86  |  V       |Q         |          |          |
 8+25       2.3022     17.29  |  V       |Q         |          |          |
 8+30       2.4233     17.58  |  V       |Q         |          |          |
 8+35       2.5464     17.87  |   V      |Q         |          |          |
 8+40       2.6729     18.37  |   V      | Q        |          |          |
 8+45       2.8051     19.20  |   V      | Q        |          |          |
 8+50       2.9404     19.64  |   V      |  Q       |          |          |
 8+55       3.0797     20.22  |    V     |  Q       |          |          |
 9+ 0       3.2251     21.12  |    V     |   Q      |          |          |
 9+ 5       3.3745     21.69  |    V     |   Q      |          |          |
 9+10       3.5306     22.65  |    V     |    Q     |          |          |
 9+15       3.6979     24.29  |     V    |     Q    |          |          |
 9+20       3.8705     25.07  |     V    |     Q    |          |          |
 9+25       4.0485     25.85  |     V    |      Q   |          |          |
 9+30       4.2336     26.86  |     V    |      Q   |          |          |
 9+35       4.4225     27.44  |      V   |       Q  |          |          |
 9+40       4.6160     28.10  |      V   |       Q  |          |          |
 9+45       4.8160     29.03  |      V   |        Q |          |          |
 9+50       5.0195     29.55  |       V  |        Q |          |          |
 9+55       5.2273     30.17  |       V  |         Q|          |          |
10+ 0       5.4414     31.09  |       V  |         Q|          |          |
10+ 5       5.6547     30.98  |        V |         Q|          |          |
10+10       5.8531     28.80  |        V |        Q |          |          |
```



| | | | |
|---|---|---|---|
| 10+15 | 6.0177 | 23.90 | |
| 10+20 | 6.1693 | 22.01 | |
| 10+25 | 6.3138 | 20.98 | |
| 10+30 | 6.4537 | 20.32 | |
| 10+35 | 6.5933 | 20.26 | |
| 10+40 | 6.7431 | 21.75 | |
| 10+45 | 6.9170 | 25.26 | |
| 10+50 | 7.1008 | 26.68 | |
| 10+55 | 7.2900 | 27.48 | |
| 11+ 0 | 7.4830 | 28.01 | |
| 11+ 5 | 7.6778 | 28.29 | |
| 11+10 | 7.8719 | 28.19 | |
| 11+15 | 8.0621 | 27.62 | |
| 11+20 | 8.2510 | 27.43 | |
| 11+25 | 8.4394 | 27.35 | |
| 11+30 | 8.6275 | 27.32 | |
| 11+35 | 8.8146 | 27.17 | |
| 11+40 | 8.9970 | 26.48 | |
| 11+45 | 9.1695 | 25.06 | |
| 11+50 | 9.3389 | 24.59 | |
| 11+55 | 9.5086 | 24.65 | |
| 12+ 0 | 9.6822 | 25.20 | |
| 12+ 5 | 9.8607 | 25.92 | |
| 12+10 | 10.0568 | 28.48 | |
| 12+15 | 10.2886 | 33.66 | |
| 12+20 | 10.5355 | 35.85 | |
| 12+25 | 10.7930 | 37.40 | |
| 12+30 | 11.0611 | 38.93 | |
| 12+35 | 11.3360 | 39.91 | |
| 12+40 | 11.6192 | 41.13 | |
| 12+45 | 11.9147 | 42.90 | |
| 12+50 | 12.2160 | 43.75 | |
| 12+55 | 12.5230 | 44.58 | |
| 13+ 0 | 12.8373 | 45.62 | |
| 13+ 5 | 13.1578 | 46.54 | |
| 13+10 | 13.4926 | 48.61 | |
| 13+15 | 13.8539 | 52.46 | |
| 13+20 | 14.2261 | 54.04 | |
| 13+25 | 14.6046 | 54.96 | |
| 13+30 | 14.9873 | 55.57 | |
| 13+35 | 15.3670 | 55.14 | |
| 13+40 | 15.7223 | 51.58 | |
| 13+45 | 16.0236 | 43.76 | |
| 13+50 | 16.3038 | 40.68 | |
| 13+55 | 16.5723 | 38.98 | |
| 14+ 0 | 16.8332 | 37.89 | |
| 14+ 5 | 17.0914 | 37.48 | |
| 14+10 | 17.3561 | 38.43 | |
| 14+15 | 17.6392 | 41.11 | |
| 14+20 | 17.9292 | 42.11 | |
| 14+25 | 18.2209 | 42.35 | |
| 14+30 | 18.5103 | 42.02 | |
| 14+35 | 18.7995 | 41.99 | |
| 14+40 | 19.0887 | 42.00 | |
| 14+45 | 19.3781 | 42.01 | |
| 14+50 | 19.6669 | 41.94 | |
| 14+55 | 19.9535 | 41.62 | |
| 15+ 0 | 20.2354 | 40.93 | |
| 15+ 5 | 20.5151 | 40.61 | |
| 15+10 | 20.7916 | 40.14 | |
| 15+15 | 21.0625 | 39.35 | |
| 15+20 | 21.3307 | 38.94 | |
| 15+25 | 21.5953 | 38.41 | |
| 15+30 | 21.8541 | 37.59 | |
| 15+35 | 22.1086 | 36.94 | |
| 15+40 | 22.3521 | 35.36 | |
| 15+45 | 22.5750 | 32.36 | |
| 15+50 | 22.7895 | 31.15 | |
| 15+55 | 22.9994 | 30.47 | |
| 16+ 0 | 23.2063 | 30.05 | |
| 16+ 5 | 23.4034 | 28.62 | |
| 16+10 | 23.5634 | 23.22 | |
| 16+15 | 23.6478 | 12.25 | |
| 16+20 | 23.7022 | 7.90 | |
| 16+25 | 23.7398 | 5.47 | |
| 16+30 | 23.7666 | 3.88 | |
| 16+35 | 23.7857 | 2.79 | |
| 16+40 | 23.7995 | 1.99 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 16+45 | 23.8089 | 1.37 | Q | \| | \| | \| | V \| |
| 16+50 | 23.8165 | 1.11 | Q | \| | \| | \| | V \| |
| 16+55 | 23.8230 | 0.93 | Q | \| | \| | \| | V \| |
| 17+ 0 | 23.8285 | 0.81 | Q | \| | \| | \| | V \| |
| 17+ 5 | 23.8340 | 0.80 | Q | \| | \| | \| | V\| |
| 17+10 | 23.8426 | 1.24 | Q | \| | \| | \| | V\| |
| 17+15 | 23.8583 | 2.28 | \|Q | \| | \| | \| | V\| |
| 17+20 | 23.8770 | 2.72 | \|Q | \| | \| | \| | V\| |
| 17+25 | 23.8976 | 2.98 | \|Q | \| | \| | \| | V\| |
| 17+30 | 23.9194 | 3.16 | \| Q | \| | \| | \| | V\| |
| 17+35 | 23.9420 | 3.29 | \| Q | \| | \| | \| | V\| |
| 17+40 | 23.9653 | 3.39 | \| Q | \| | \| | \| | V\| |
| 17+45 | 23.9891 | 3.45 | \| Q | \| | \| | \| | V\| |
| 17+50 | 24.0126 | 3.42 | \| Q | \| | \| | \| | V\| |
| 17+55 | 24.0341 | 3.11 | \| Q | \| | \| | \| | V\| |
| 18+ 0 | 24.0507 | 2.42 | \|Q | \| | \| | \| | V\| |
| 18+ 5 | 24.0657 | 2.17 | \|Q | \| | \| | \| | V\| |
| 18+10 | 24.0798 | 2.04 | \|Q | \| | \| | \| | V\| |
| 18+15 | 24.0933 | 1.97 | \|Q | \| | \| | \| | V\| |
| 18+20 | 24.1066 | 1.93 | \|Q | \| | \| | \| | V\| |
| 18+25 | 24.1197 | 1.91 | \|Q | \| | \| | \| | V\| |
| 18+30 | 24.1329 | 1.91 | \|Q | \| | \| | \| | V\| |
| 18+35 | 24.1458 | 1.87 | \|Q | \| | \| | \| | V\| |
| 18+40 | 24.1570 | 1.63 | \|Q | \| | \| | \| | V\| |
| 18+45 | 24.1646 | 1.10 | Q | \| | \| | \| | V\| |
| 18+50 | 24.1706 | 0.88 | Q | \| | \| | \| | V\| |
| 18+55 | 24.1756 | 0.73 | Q | \| | \| | \| | V\| |
| 19+ 0 | 24.1796 | 0.58 | Q | \| | \| | \| | V\| |
| 19+ 5 | 24.1831 | 0.51 | Q | \| | \| | \| | V\| |
| 19+10 | 24.1865 | 0.49 | Q | \| | \| | \| | V\| |
| 19+15 | 24.1902 | 0.54 | Q | \| | \| | \| | V\| |
| 19+20 | 24.1945 | 0.62 | Q | \| | \| | \| | V\| |
| 19+25 | 24.2009 | 0.93 | Q | \| | \| | \| | V\| |
| 19+30 | 24.2117 | 1.57 | \|Q | \| | \| | \| | V\| |
| 19+35 | 24.2239 | 1.77 | \|Q | \| | \| | \| | V\| |
| 19+40 | 24.2350 | 1.61 | \|Q | \| | \| | \| | V\| |
| 19+45 | 24.2423 | 1.06 | Q | \| | \| | \| | V\| |
| 19+50 | 24.2482 | 0.86 | Q | \| | \| | \| | V\| |
| 19+55 | 24.2531 | 0.72 | Q | \| | \| | \| | V\| |
| 20+ 0 | 24.2571 | 0.58 | Q | \| | \| | \| | V\| |
| 20+ 5 | 24.2606 | 0.50 | Q | \| | \| | \| | V\| |
| 20+10 | 24.2639 | 0.49 | Q | \| | \| | \| | V\| |
| 20+15 | 24.2676 | 0.53 | Q | \| | \| | \| | V\| |
| 20+20 | 24.2714 | 0.56 | Q | \| | \| | \| | V\| |
| 20+25 | 24.2754 | 0.57 | Q | \| | \| | \| | V\| |
| 20+30 | 24.2795 | 0.59 | Q | \| | \| | \| | V\| |
| 20+35 | 24.2837 | 0.61 | Q | \| | \| | \| | V\| |
| 20+40 | 24.2880 | 0.63 | Q | \| | \| | \| | V\| |
| 20+45 | 24.2925 | 0.65 | Q | \| | \| | \| | V\| |
| 20+50 | 24.2970 | 0.66 | Q | \| | \| | \| | V\| |
| 20+55 | 24.3012 | 0.61 | Q | \| | \| | \| | V\| |
| 21+ 0 | 24.3046 | 0.49 | Q | \| | \| | \| | V\| |
| 21+ 5 | 24.3078 | 0.46 | Q | \| | \| | \| | V\| |
| 21+10 | 24.3114 | 0.52 | Q | \| | \| | \| | V\| |
| 21+15 | 24.3159 | 0.66 | Q | \| | \| | \| | V\| |
| 21+20 | 24.3208 | 0.70 | Q | \| | \| | \| | V\| |
| 21+25 | 24.3253 | 0.66 | Q | \| | \| | \| | V\| |
| 21+30 | 24.3288 | 0.51 | Q | \| | \| | \| | V\| |
| 21+35 | 24.3321 | 0.48 | Q | \| | \| | \| | V\| |
| 21+40 | 24.3359 | 0.55 | Q | \| | \| | \| | V\| |
| 21+45 | 24.3410 | 0.73 | Q | \| | \| | \| | V\| |
| 21+50 | 24.3464 | 0.79 | Q | \| | \| | \| | V\| |
| 21+55 | 24.3514 | 0.73 | Q | \| | \| | \| | V\| |
| 22+ 0 | 24.3552 | 0.54 | Q | \| | \| | \| | V\| |
| 22+ 5 | 24.3586 | 0.51 | Q | \| | \| | \| | V\| |
| 22+10 | 24.3627 | 0.59 | Q | \| | \| | \| | V\| |
| 22+15 | 24.3682 | 0.80 | Q | \| | \| | \| | V\| |
| 22+20 | 24.3741 | 0.86 | Q | \| | \| | \| | V\| |
| 22+25 | 24.3796 | 0.79 | Q | \| | \| | \| | V\| |
| 22+30 | 24.3835 | 0.57 | Q | \| | \| | \| | V\| |
| 22+35 | 24.3869 | 0.50 | Q | \| | \| | \| | V\| |
| 22+40 | 24.3901 | 0.46 | Q | \| | \| | \| | V\| |
| 22+45 | 24.3931 | 0.43 | Q | \| | \| | \| | V\| |
| 22+50 | 24.3959 | 0.41 | Q | \| | \| | \| | V\| |
| 22+55 | 24.3986 | 0.39 | Q | \| | \| | \| | V\| |
| 23+ 0 | 24.4012 | 0.39 | Q | \| | \| | \| | V\| |
| 23+ 5 | 24.4039 | 0.38 | Q | \| | \| | \| | V\| |
| 23+10 | 24.4065 | 0.38 | Q | \| | \| | \| | V\| |

```
   23+15      24.4091      0.38  Q          |          |          |         V|
   23+20      24.4118      0.38  Q          |          |          |         V|
   23+25      24.4144      0.38  Q          |          |          |         V|
   23+30      24.4170      0.38  Q          |          |          |         V|
   23+35      24.4196      0.38  Q          |          |          |         V|
   23+40      24.4222      0.38  Q          |          |          |         V|
   23+45      24.4248      0.38  Q          |          |          |         V|
   23+50      24.4274      0.38  Q          |          |          |         V|
   23+55      24.4300      0.38  Q          |          |          |         V|
   24+ 0      24.4326      0.38  Q          |          |          |         V|
   24+ 5      24.4351      0.36  Q          |          |          |         V|
   24+10      24.4371      0.29  Q          |          |          |         V|
   24+15      24.4381      0.15  Q          |          |          |         V|
   24+20      24.4387      0.09  Q          |          |          |         V|
   24+25      24.4391      0.06  Q          |          |          |         V|
   24+30      24.4394      0.04  Q          |          |          |         V|
   24+35      24.4395      0.02  Q          |          |          |         V|
   24+40      24.4396      0.01  Q          |          |          |         V|
   24+45      24.4397      0.01  Q          |          |          |         V|
   24+50      24.4397      0.01  Q          |          |          |         V|
   24+55      24.4397      0.00  Q          |          |          |         V|
   25+ 0      24.4397      0.00  Q          |          |          |         V|
   25+ 5      24.4397      0.00  Q          |          |          |         V|
   25+10      24.4397      0.00  Q          |          |          |          V
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA61100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 6
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

---

Drainage Area = 116.30(Ac.) = 0.182 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 116.30(Ac.) = 0.182 Sq. Mi.
Length along longest watercourse = 3722.00(Ft.)
Length along longest watercourse measured to centroid = 1850.00(Ft.)
Length along longest watercourse = 0.705 Mi.
Length along longest watercourse measured to centroid = 0.350 Mi.
Difference in elevation = 620.00(Ft.)
Slope along watercourse = 879.5271 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.136 Hr.
Lag time = 8.17 Min.
25% of lag time = 2.04 Min.
40% of lag time = 3.27 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 116.30 | 0.50 | 58.15 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 116.30 | 1.20 | 139.56 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.89 %
Adjusted average point rain = 1.199(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 116.300 | 83.54 | 0.000 |

Total Area Entered = 116.30(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.5 | 93.1 | 0.089 | 0.000 | 0.089 | 1.000 | 0.089 |
| | | | | | Sum (F) = | 0.089 |

Area averaged mean soil loss (F) (In/Hr) = 0.089

Minimum soil loss rate ((In/Hr)) = 0.045
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 61.197 | 5.762 | 6.754 |
| 2 | 0.167 | 122.393 | 32.870 | 38.526 |
| 3 | 0.250 | 183.590 | 33.457 | 39.214 |
| 4 | 0.333 | 244.787 | 12.190 | 14.287 |
| 5 | 0.417 | 305.984 | 7.023 | 8.232 |
| 6 | 0.500 | 367.180 | 4.188 | 4.909 |
| 7 | 0.583 | 428.377 | 2.237 | 2.622 |
| 8 | 0.667 | 489.574 | 0.856 | 1.003 |
| 9 | 0.750 | 550.771 | 0.535 | 0.628 |
| 10 | 0.833 | 611.967 | 0.429 | 0.503 |
| 11 | 0.917 | 673.164 | 0.315 | 0.369 |
| 12 | 1.000 | 734.361 | 0.139 | 0.162 |
| | | Sum = 100.000 | Sum= 117.209 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.604 | 0.089 | ( 0.544) | 0.515 |
| 2 | 0.17 | 4.30 | 0.619 | 0.089 | ( 0.557) | 0.529 |
| 3 | 0.25 | 5.00 | 0.719 | 0.089 | ( 0.647) | 0.630 |
| 4 | 0.33 | 5.00 | 0.719 | 0.089 | ( 0.647) | 0.630 |
| 5 | 0.42 | 5.80 | 0.834 | 0.089 | ( 0.751) | 0.745 |
| 6 | 0.50 | 6.50 | 0.935 | 0.089 | ( 0.842) | 0.846 |
| 7 | 0.58 | 7.40 | 1.064 | 0.089 | ( 0.958) | 0.975 |
| 8 | 0.67 | 8.60 | 1.237 | 0.089 | ( 1.113) | 1.148 |
| 9 | 0.75 | 12.30 | 1.769 | 0.089 | ( 1.592) | 1.680 |
| 10 | 0.83 | 29.10 | 4.186 | 0.089 | ( 3.767) | 4.097 |
| 11 | 0.92 | 6.80 | 0.978 | 0.089 | ( 0.880) | 0.889 |
| 12 | 1.00 | 5.00 | 0.719 | 0.089 | ( 0.647) | 0.630 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | | Sum = 13.3 |

Flood volume = Effective rainfall 1.11(In)
times area 116.3(Ac.)/[(In)/(Ft.)] = 10.8(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.866(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 468332.0 Cubic Feet
Total soil loss = 37736.8 Cubic Feet

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Peak flow rate of this hydrograph = 261.853(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 75.0 | 150.0 | 225.0 | 300.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0240 | 3.48 | Q | | | | |
| 0+10 | 0.1852 | 23.42 | V Q | | | | |
| 0+15 | 0.4941 | 44.85 | V Q | | | | |
| 0+20 | 0.8843 | 56.65 | V Q | | | | |
| 0+25 | 1.3377 | 65.83 | V Q | | | | |
| 0+30 | 1.8544 | 75.03 | V Q | | | | |
| 0+35 | 2.4505 | 86.55 | V Q | | | | |
| 0+40 | 3.1347 | 99.35 | V Q | | | | |
| 0+45 | 3.9451 | 117.67 | VQ | | | | |

```
    0+50       5.0808    164.90  |          |        V |Q         |          |
    0+55       6.8842    261.85  |          |          |    V     |   Q      |
    1+ 0       8.5472    241.46  |          |          |          |VQ        |
    1+ 5       9.5230    141.69  |          |        Q |          |    V     |
    1+10      10.1059     84.64  |          |Q         |          |       V  |
    1+15      10.4049     43.42  |     Q    |          |          |        V |
    1+20      10.5676     23.63  |  Q       |          |          |         V|
    1+25      10.6480     11.66  |Q         |          |          |         V|
    1+30      10.6930      6.54  Q          |          |          |         V|
    1+35      10.7210      4.06  Q          |          |          |         V|
    1+40      10.7391      2.63  Q          |          |          |         V|
    1+45      10.7481      1.31  Q          |          |          |         V|
    1+50      10.7507      0.38  Q          |          |          |         V|
    1+55      10.7514      0.10  Q          |          |          |         V|
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA63100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 6
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

---

Drainage Area = 116.30(Ac.) = 0.182 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 116.30(Ac.) = 0.182 Sq. Mi.
Length along longest watercourse = 3722.00(Ft.)
Length along longest watercourse measured to centroid = 1850.00(Ft.)
Length along longest watercourse = 0.705 Mi.
Length along longest watercourse measured to centroid = 0.350 Mi.
Difference in elevation = 620.00(Ft.)
Slope along watercourse = 879.5271 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.136 Hr.
Lag time = 8.17 Min.
25% of lag time = 2.04 Min.
40% of lag time = 3.27 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 116.30 | 0.80 | 93.04 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 116.30 | 1.81 | 210.50 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.810(In)

Point rain (area averaged) = 1.810(In)
Areal adjustment factor = 99.95 %
Adjusted average point rain = 1.809(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 116.300 | 83.54 | 0.000 |

Total Area Entered = 116.30(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.5 | 93.1 | 0.089 | 0.000 | 0.089 | 1.000 | 0.089 |
| | | | | | Sum (F) = | 0.089 |

Area averaged mean soil loss (F) (In/Hr) = 0.089

Minimum soil loss rate ((In/Hr)) = 0.045
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 61.197 | 5.762 | 6.754 |
| 2 0.167 | 122.393 | 32.870 | 38.526 |
| 3 0.250 | 183.590 | 33.457 | 39.214 |
| 4 0.333 | 244.787 | 12.190 | 14.287 |
| 5 0.417 | 305.984 | 7.023 | 8.232 |
| 6 0.500 | 367.180 | 4.188 | 4.909 |
| 7 0.583 | 428.377 | 2.237 | 2.622 |
| 8 0.667 | 489.574 | 0.856 | 1.003 |
| 9 0.750 | 550.771 | 0.535 | 0.628 |
| 10 0.833 | 611.967 | 0.429 | 0.503 |
| 11 0.917 | 673.164 | 0.315 | 0.369 |
| 12 1.000 | 734.361 | 0.139 | 0.162 |
| | | Sum = 100.000 | Sum= 117.209 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 1.30 | 0.282 | 0.089 | ( 0.254) | 0.193 |
| 2 0.17 | 1.30 | 0.282 | 0.089 | ( 0.254) | 0.193 |
| 3 0.25 | 1.10 | 0.239 | 0.089 | ( 0.215) | 0.149 |
| 4 0.33 | 1.50 | 0.326 | 0.089 | ( 0.293) | 0.236 |
| 5 0.42 | 1.50 | 0.326 | 0.089 | ( 0.293) | 0.236 |
| 6 0.50 | 1.80 | 0.391 | 0.089 | ( 0.352) | 0.301 |
| 7 0.58 | 1.50 | 0.326 | 0.089 | ( 0.293) | 0.236 |
| 8 0.67 | 1.80 | 0.391 | 0.089 | ( 0.352) | 0.301 |
| 9 0.75 | 1.80 | 0.391 | 0.089 | ( 0.352) | 0.301 |
| 10 0.83 | 1.50 | 0.326 | 0.089 | ( 0.293) | 0.236 |
| 11 0.92 | 1.60 | 0.347 | 0.089 | ( 0.313) | 0.258 |
| 12 1.00 | 1.80 | 0.391 | 0.089 | ( 0.352) | 0.301 |
| 13 1.08 | 2.20 | 0.478 | 0.089 | ( 0.430) | 0.388 |
| 14 1.17 | 2.20 | 0.478 | 0.089 | ( 0.430) | 0.388 |
| 15 1.25 | 2.20 | 0.478 | 0.089 | ( 0.430) | 0.388 |
| 16 1.33 | 2.00 | 0.434 | 0.089 | ( 0.391) | 0.345 |
| 17 1.42 | 2.60 | 0.564 | 0.089 | ( 0.508) | 0.475 |
| 18 1.50 | 2.70 | 0.586 | 0.089 | ( 0.528) | 0.497 |
| 19 1.58 | 2.40 | 0.521 | 0.089 | ( 0.469) | 0.432 |
| 20 1.67 | 2.70 | 0.586 | 0.089 | ( 0.528) | 0.497 |
| 21 1.75 | 3.30 | 0.716 | 0.089 | ( 0.645) | 0.627 |
| 22 1.83 | 3.10 | 0.673 | 0.089 | ( 0.606) | 0.584 |
| 23 1.92 | 2.90 | 0.630 | 0.089 | ( 0.567) | 0.540 |
| 24 2.00 | 3.00 | 0.651 | 0.089 | ( 0.586) | 0.562 |
| 25 2.08 | 3.10 | 0.673 | 0.089 | ( 0.606) | 0.584 |
| 26 2.17 | 4.20 | 0.912 | 0.089 | ( 0.821) | 0.822 |
| 27 2.25 | 5.00 | 1.085 | 0.089 | ( 0.977) | 0.996 |
| 28 2.33 | 3.50 | 0.760 | 0.089 | ( 0.684) | 0.670 |
| 29 2.42 | 6.80 | 1.476 | 0.089 | ( 1.329) | 1.387 |
| 30 2.50 | 7.30 | 1.585 | 0.089 | ( 1.426) | 1.495 |
| 31 2.58 | 8.20 | 1.780 | 0.089 | ( 1.602) | 1.691 |
| 32 2.67 | 5.90 | 1.281 | 0.089 | ( 1.153) | 1.191 |
| 33 2.75 | 2.00 | 0.434 | 0.089 | ( 0.391) | 0.345 |
| 34 2.83 | 1.80 | 0.391 | 0.089 | ( 0.352) | 0.301 |
| 35 2.92 | 1.80 | 0.391 | 0.089 | ( 0.352) | 0.301 |
| 36 3.00 | 0.60 | 0.130 | 0.089 | ( 0.117) | 0.041 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 18.5 |

Flood volume = Effective rainfall 1.54(In)
times area 116.3(Ac.)/[(In)/(Ft.)] = 14.9(Ac.Ft)
Total soil loss = 0.27(In)
Total soil loss = 2.599(Ac.Ft)
Total rainfall = 1.81(In)
Flood volume = 650526.6 Cubic Feet

Total soil loss = 113210.5 Cubic Feet

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Peak flow rate of this hydrograph = 165.815(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 50.0 100.0 150.0 200.0 |
|---|---|---|---|
| 0+ 5 | 0.0090 | 1.30 | Q |
| 0+10 | 0.0691 | 8.74 | VQ |
| 0+15 | 0.1794 | 16.01 | V Q |
| 0+20 | 0.3011 | 17.68 | V Q |
| 0+25 | 0.4451 | 20.91 | V Q |
| 0+30 | 0.6179 | 25.08 | V Q |
| 0+35 | 0.8145 | 28.54 | V Q |
| 0+40 | 1.0192 | 29.72 | V Q |
| 0+45 | 1.2330 | 31.04 | V Q |
| 0+50 | 1.4605 | 33.04 | V Q |
| 0+55 | 1.6777 | 31.53 | V Q |
| 1+ 0 | 1.8881 | 30.55 | VQ |
| 1+ 5 | 2.1152 | 32.98 | VQ |
| 1+10 | 2.3767 | 37.97 | VQ |
| 1+15 | 2.6655 | 41.93 | VQ |
| 1+20 | 2.9630 | 43.20 | VQ |
| 1+25 | 3.2616 | 43.35 | Q |
| 1+30 | 3.5876 | 47.35 | Q |
| 1+35 | 3.9492 | 52.50 | Q |
| 1+40 | 4.3134 | 52.88 | QV |
| 1+45 | 4.6919 | 54.96 | Q V |
| 1+50 | 5.1195 | 62.08 | QV |
| 1+55 | 5.5745 | 66.06 | QV |
| 2+ 0 | 6.0228 | 65.09 | Q V |
| 2+ 5 | 6.4708 | 65.05 | Q V |
| 2+10 | 6.9403 | 68.18 | Q V |
| 2+15 | 7.4883 | 79.57 | Q V |
| 2+20 | 8.1341 | 93.76 | Q V |
| 2+25 | 8.7987 | 96.50 | Q V |
| 2+30 | 9.6024 | 116.69 | Q V |
| 2+35 | 10.6240 | 148.34 | VQ |
| 2+40 | 11.7660 | 165.81 | V Q |
| 2+45 | 12.8339 | 155.06 | Q V |
| 2+50 | 13.5862 | 109.23 | Q V |
| 2+55 | 14.0761 | 71.14 | Q V |
| 3+ 0 | 14.4439 | 53.40 | Q V |
| 3+ 5 | 14.6783 | 34.04 | Q V |
| 3+10 | 14.7951 | 16.95 | Q V |
| 3+15 | 14.8576 | 9.08 | Q V |
| 3+20 | 14.8943 | 5.33 | Q V |
| 3+25 | 14.9148 | 2.98 | Q V |
| 3+30 | 14.9251 | 1.49 | Q V |
| 3+35 | 14.9299 | 0.70 | Q V |
| 3+40 | 14.9323 | 0.34 | Q V |
| 3+45 | 14.9335 | 0.18 | Q V |
| 3+50 | 14.9340 | 0.06 | Q V |
| 3+55 | 14.9340 | 0.01 | Q V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA66100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 6
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

---

Drainage Area = 116.30(Ac.) = 0.182 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 116.30(Ac.) = 0.182 Sq. Mi.
Length along longest watercourse = 3722.00(Ft.)
Length along longest watercourse measured to centroid = 1850.00(Ft.)
Length along longest watercourse = 0.705 Mi.
Length along longest watercourse measured to centroid = 0.350 Mi.
Difference in elevation = 620.00(Ft.)
Slope along watercourse = 879.5271 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.136 Hr.
Lag time = 8.17 Min.
25% of lag time = 2.04 Min.
40% of lag time = 3.27 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 116.30 | 1.13 | 131.42 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 116.30 | 2.50 | 290.75 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.130(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 99.96 %
Adjusted average point rain = 2.499(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 116.300 | 83.54 | 0.000 |

Total Area Entered = 116.30(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.5 | 93.1 | 0.089 | 0.000 | 0.089 | 1.000 | 0.089 |
| | | | | | Sum (F) = | 0.089 |

Area averaged mean soil loss (F) (In/Hr) = 0.089

Minimum soil loss rate ((In/Hr)) = 0.045
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 61.197 | 5.762 | 6.754 |
| 2 | 0.167 | 122.393 | 32.870 | 38.526 |
| 3 | 0.250 | 183.590 | 33.457 | 39.214 |
| 4 | 0.333 | 244.787 | 12.190 | 14.287 |
| 5 | 0.417 | 305.984 | 7.023 | 8.232 |
| 6 | 0.500 | 367.180 | 4.188 | 4.909 |
| 7 | 0.583 | 428.377 | 2.237 | 2.622 |
| 8 | 0.667 | 489.574 | 0.856 | 1.003 |
| 9 | 0.750 | 550.771 | 0.535 | 0.628 |
| 10 | 0.833 | 611.967 | 0.429 | 0.503 |
| 11 | 0.917 | 673.164 | 0.315 | 0.369 |
| 12 | 1.000 | 734.361 | 0.139 | 0.162 |
| | | Sum = 100.000 | Sum= | 117.209 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.089 | ( 0.135) | 0.061 |
| 2 | 0.17 | 0.60 | 0.180 | 0.089 | ( 0.162) | 0.091 |
| 3 | 0.25 | 0.60 | 0.180 | 0.089 | ( 0.162) | 0.091 |
| 4 | 0.33 | 0.60 | 0.180 | 0.089 | ( 0.162) | 0.091 |
| 5 | 0.42 | 0.60 | 0.180 | 0.089 | ( 0.162) | 0.091 |
| 6 | 0.50 | 0.70 | 0.210 | 0.089 | ( 0.189) | 0.121 |
| 7 | 0.58 | 0.70 | 0.210 | 0.089 | ( 0.189) | 0.121 |
| 8 | 0.67 | 0.70 | 0.210 | 0.089 | ( 0.189) | 0.121 |
| 9 | 0.75 | 0.70 | 0.210 | 0.089 | ( 0.189) | 0.121 |
| 10 | 0.83 | 0.70 | 0.210 | 0.089 | ( 0.189) | 0.121 |
| 11 | 0.92 | 0.70 | 0.210 | 0.089 | ( 0.189) | 0.121 |
| 12 | 1.00 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 13 | 1.08 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 14 | 1.17 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 15 | 1.25 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 16 | 1.33 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 17 | 1.42 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 18 | 1.50 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 19 | 1.58 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 20 | 1.67 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 21 | 1.75 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 22 | 1.83 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 23 | 1.92 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 24 | 2.00 | 0.90 | 0.270 | 0.089 | ( 0.243) | 0.181 |
| 25 | 2.08 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 26 | 2.17 | 0.90 | 0.270 | 0.089 | ( 0.243) | 0.181 |
| 27 | 2.25 | 0.90 | 0.270 | 0.089 | ( 0.243) | 0.181 |
| 28 | 2.33 | 0.90 | 0.270 | 0.089 | ( 0.243) | 0.181 |
| 29 | 2.42 | 0.90 | 0.270 | 0.089 | ( 0.243) | 0.181 |
| 30 | 2.50 | 0.90 | 0.270 | 0.089 | ( 0.243) | 0.181 |
| 31 | 2.58 | 0.90 | 0.270 | 0.089 | ( 0.243) | 0.181 |
| 32 | 2.67 | 0.90 | 0.270 | 0.089 | ( 0.243) | 0.181 |
| 33 | 2.75 | 1.00 | 0.300 | 0.089 | ( 0.270) | 0.210 |
| 34 | 2.83 | 1.00 | 0.300 | 0.089 | ( 0.270) | 0.210 |
| 35 | 2.92 | 1.00 | 0.300 | 0.089 | ( 0.270) | 0.210 |
| 36 | 3.00 | 1.00 | 0.300 | 0.089 | ( 0.270) | 0.210 |
| 37 | 3.08 | 1.00 | 0.300 | 0.089 | ( 0.270) | 0.210 |
| 38 | 3.17 | 1.10 | 0.330 | 0.089 | ( 0.297) | 0.240 |
| 39 | 3.25 | 1.10 | 0.330 | 0.089 | ( 0.297) | 0.240 |
| 40 | 3.33 | 1.10 | 0.330 | 0.089 | ( 0.297) | 0.240 |
| 41 | 3.42 | 1.20 | 0.360 | 0.089 | ( 0.324) | 0.270 |
| 42 | 3.50 | 1.30 | 0.390 | 0.089 | ( 0.351) | 0.300 |
| 43 | 3.58 | 1.40 | 0.420 | 0.089 | ( 0.378) | 0.330 |
| 44 | 3.67 | 1.40 | 0.420 | 0.089 | ( 0.378) | 0.330 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 45 | 3.75 | 1.50 | 0.450 | 0.089 | ( 0.405) | 0.360 | |
| 46 | 3.83 | 1.50 | 0.450 | 0.089 | ( 0.405) | 0.360 | |
| 47 | 3.92 | 1.60 | 0.480 | 0.089 | ( 0.432) | 0.390 | |
| 48 | 4.00 | 1.60 | 0.480 | 0.089 | ( 0.432) | 0.390 | |
| 49 | 4.08 | 1.70 | 0.510 | 0.089 | ( 0.459) | 0.420 | |
| 50 | 4.17 | 1.80 | 0.540 | 0.089 | ( 0.486) | 0.450 | |
| 51 | 4.25 | 1.90 | 0.570 | 0.089 | ( 0.513) | 0.480 | |
| 52 | 4.33 | 2.00 | 0.600 | 0.089 | ( 0.540) | 0.510 | |
| 53 | 4.42 | 2.10 | 0.630 | 0.089 | ( 0.567) | 0.540 | |
| 54 | 4.50 | 2.10 | 0.630 | 0.089 | ( 0.567) | 0.540 | |
| 55 | 4.58 | 2.20 | 0.660 | 0.089 | ( 0.594) | 0.570 | |
| 56 | 4.67 | 2.30 | 0.690 | 0.089 | ( 0.621) | 0.600 | |
| 57 | 4.75 | 2.40 | 0.720 | 0.089 | ( 0.648) | 0.630 | |
| 58 | 4.83 | 2.40 | 0.720 | 0.089 | ( 0.648) | 0.630 | |
| 59 | 4.92 | 2.50 | 0.750 | 0.089 | ( 0.675) | 0.660 | |
| 60 | 5.00 | 2.60 | 0.780 | 0.089 | ( 0.702) | 0.690 | |
| 61 | 5.08 | 3.10 | 0.930 | 0.089 | ( 0.837) | 0.840 | |
| 62 | 5.17 | 3.60 | 1.080 | 0.089 | ( 0.972) | 0.990 | |
| 63 | 5.25 | 3.90 | 1.170 | 0.089 | ( 1.053) | 1.080 | |
| 64 | 5.33 | 4.20 | 1.259 | 0.089 | ( 1.134) | 1.170 | |
| 65 | 5.42 | 4.70 | 1.409 | 0.089 | ( 1.268) | 1.320 | |
| 66 | 5.50 | 5.60 | 1.679 | 0.089 | ( 1.511) | 1.590 | |
| 67 | 5.58 | 1.90 | 0.570 | 0.089 | ( 0.513) | 0.480 | |
| 68 | 5.67 | 0.90 | 0.270 | 0.089 | ( 0.243) | 0.181 | |
| 69 | 5.75 | 0.60 | 0.180 | 0.089 | ( 0.162) | 0.091 | |
| 70 | 5.83 | 0.50 | 0.150 | 0.089 | ( 0.135) | 0.061 | |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.089) | 0.081 | 0.009 | |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.089) | 0.054 | 0.006 | |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.6

Flood volume = Effective rainfall 1.97(In)
times area 116.3(Ac.)/[(In)/(Ft.)] = 19.1(Ac.Ft)
Total soil loss = 0.53(In)
Total soil loss = 5.163(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 830121.5 Cubic Feet
Total soil loss = 224879.1 Cubic Feet

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Peak flow rate of this hydrograph = 150.768(CFS)

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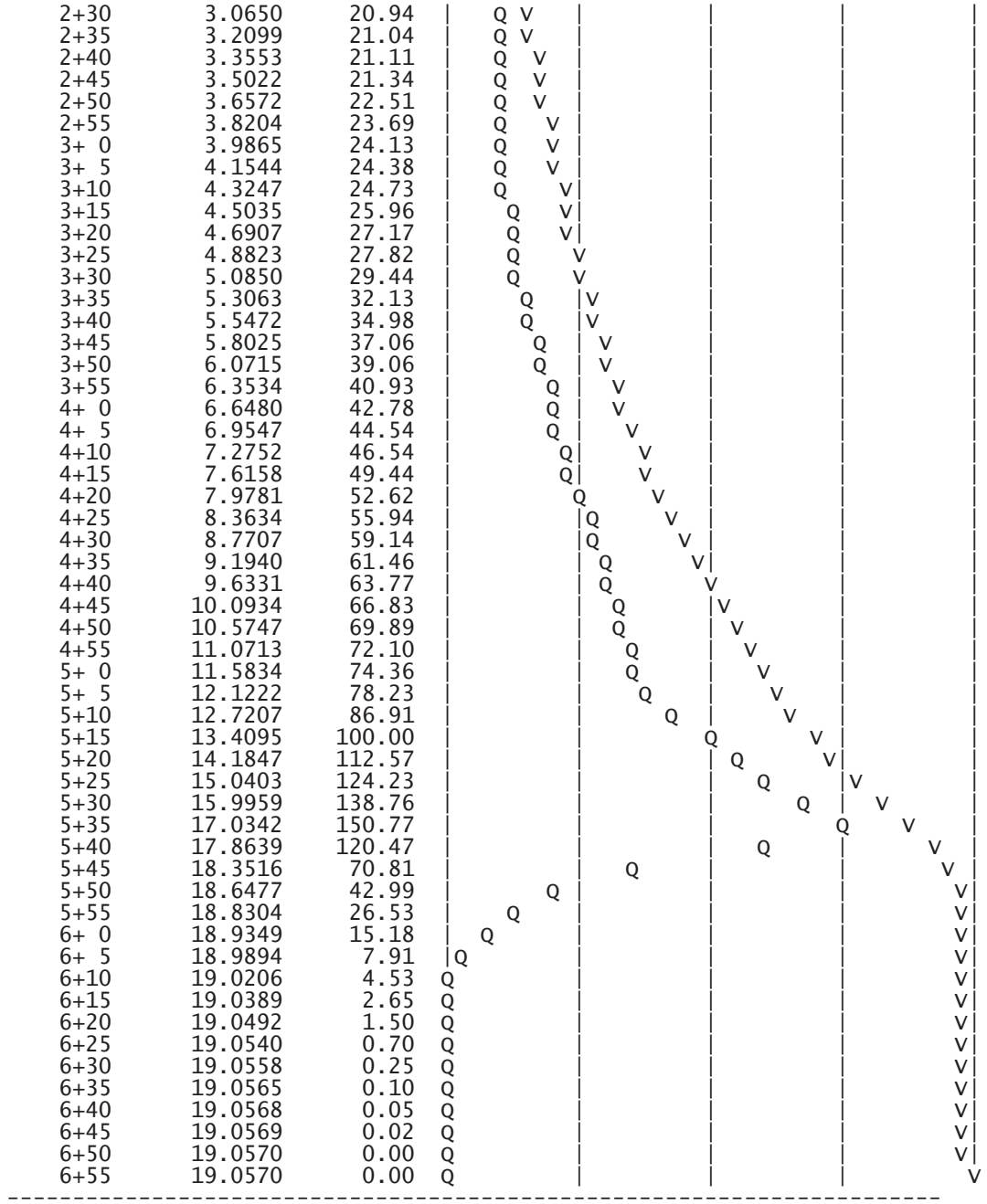
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 50.0 | 100.0 | 150.0 | 200.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0028 | 0.41 | Q | | | | |
| 0+10 | 0.0231 | 2.95 | Q | | | | |
| 0+15 | 0.0677 | 6.48 | VQ | | | | |
| 0+20 | 0.1264 | 8.52 | VQ | | | | |
| 0+25 | 0.1915 | 9.45 | VQ | | | | |
| 0+30 | 0.2617 | 10.19 | V Q | | | | |
| 0+35 | 0.3419 | 11.66 | V Q | | | | |
| 0+40 | 0.4313 | 12.97 | V Q | | | | |
| 0+45 | 0.5240 | 13.47 | \|VQ | | | | |
| 0+50 | 0.6188 | 13.77 | \|VQ | | | | |
| 0+55 | 0.7149 | 13.95 | \|VQ | | | | |
| 1+ 0 | 0.8131 | 14.25 | \|VQ | | | | |
| 1+ 5 | 0.9194 | 15.44 | \|V Q | | | | |
| 1+10 | 1.0340 | 16.64 | \| VQ | | | | |
| 1+15 | 1.1517 | 17.08 | \| VQ | | | | |
| 1+20 | 1.2711 | 17.34 | \| VQ | | | | |
| 1+25 | 1.3915 | 17.49 | \| VQ | | | | |
| 1+30 | 1.5126 | 17.57 | \| Q | | | | |
| 1+35 | 1.6338 | 17.60 | \| Q | | | | |
| 1+40 | 1.7551 | 17.62 | \| Q | | | | |
| 1+45 | 1.8766 | 17.63 | \| Q | | | | |
| 1+50 | 1.9981 | 17.65 | \| QV | | | | |
| 1+55 | 2.1197 | 17.65 | \| QV | | | | |
| 2+ 0 | 2.2426 | 17.85 | \| QV | | | | |
| 2+ 5 | 2.3722 | 18.81 | \| QV | | | | |
| 2+10 | 2.5032 | 19.03 | \| Q V | | | | |
| 2+15 | 2.6371 | 19.44 | \| Q V | | | | |
| 2+20 | 2.7778 | 20.43 | \| QV | | | | |
| 2+25 | 2.9208 | 20.76 | \| Q V | | | | |



| | | | |
|---|---|---|---|
| 2+30 | 3.0650 | 20.94 | |
| 2+35 | 3.2099 | 21.04 | |
| 2+40 | 3.3553 | 21.11 | |
| 2+45 | 3.5022 | 21.34 | |
| 2+50 | 3.6572 | 22.51 | |
| 2+55 | 3.8204 | 23.69 | |
| 3+ 0 | 3.9865 | 24.13 | |
| 3+ 5 | 4.1544 | 24.38 | |
| 3+10 | 4.3247 | 24.73 | |
| 3+15 | 4.5035 | 25.96 | |
| 3+20 | 4.6907 | 27.17 | |
| 3+25 | 4.8823 | 27.82 | |
| 3+30 | 5.0850 | 29.44 | |
| 3+35 | 5.3063 | 32.13 | |
| 3+40 | 5.5472 | 34.98 | |
| 3+45 | 5.8025 | 37.06 | |
| 3+50 | 6.0715 | 39.06 | |
| 3+55 | 6.3534 | 40.93 | |
| 4+ 0 | 6.6480 | 42.78 | |
| 4+ 5 | 6.9547 | 44.54 | |
| 4+10 | 7.2752 | 46.54 | |
| 4+15 | 7.6158 | 49.44 | |
| 4+20 | 7.9781 | 52.62 | |
| 4+25 | 8.3634 | 55.94 | |
| 4+30 | 8.7707 | 59.14 | |
| 4+35 | 9.1940 | 61.46 | |
| 4+40 | 9.6331 | 63.77 | |
| 4+45 | 10.0934 | 66.83 | |
| 4+50 | 10.5747 | 69.89 | |
| 4+55 | 11.0713 | 72.10 | |
| 5+ 0 | 11.5834 | 74.36 | |
| 5+ 5 | 12.1222 | 78.23 | |
| 5+10 | 12.7207 | 86.91 | |
| 5+15 | 13.4095 | 100.00 | |
| 5+20 | 14.1847 | 112.57 | |
| 5+25 | 15.0403 | 124.23 | |
| 5+30 | 15.9959 | 138.76 | |
| 5+35 | 17.0342 | 150.77 | |
| 5+40 | 17.8639 | 120.47 | |
| 5+45 | 18.3516 | 70.81 | |
| 5+50 | 18.6477 | 42.99 | |
| 5+55 | 18.8304 | 26.53 | |
| 6+ 0 | 18.9349 | 15.18 | |
| 6+ 5 | 18.9894 | 7.91 | |
| 6+10 | 19.0206 | 4.53 | |
| 6+15 | 19.0389 | 2.65 | |
| 6+20 | 19.0492 | 1.50 | |
| 6+25 | 19.0540 | 0.70 | |
| 6+30 | 19.0558 | 0.25 | |
| 6+35 | 19.0565 | 0.10 | |
| 6+40 | 19.0568 | 0.05 | |
| 6+45 | 19.0569 | 0.02 | |
| 6+50 | 19.0570 | 0.00 | |
| 6+55 | 19.0570 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA624100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 6
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

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Drainage Area = 116.30(Ac.) = 0.182 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 116.30(Ac.) = 0.182 Sq. Mi.
Length along longest watercourse = 3722.00(Ft.)
Length along longest watercourse measured to centroid = 1850.00(Ft.)
Length along longest watercourse = 0.705 Mi.
Length along longest watercourse measured to centroid = 0.350 Mi.
Difference in elevation = 620.00(Ft.)
Slope along watercourse = 879.5271 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.136 Hr.
Lag time = 8.17 Min.
25% of lag time = 2.04 Min.
40% of lag time = 3.27 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 116.30 | 1.80 | 209.34 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 116.30 | 4.64 | 539.63 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.640(In)

Point rain (area averaged) = 4.640(In)
Areal adjustment factor = 99.98 %
Adjusted average point rain = 4.639(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 116.300 | 83.54 | 0.000 |

Total Area Entered = 116.30(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.5 | 93.1 | 0.089 | 0.000 | 0.089 | 1.000 | 0.089 |
| | | | | | Sum (F) = | 0.089 |

Area averaged mean soil loss (F) (In/Hr) = 0.089

Minimum soil loss rate ((In/Hr)) = 0.045
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 61.197 | 5.762 | 6.754 |
| 2 | 0.167 | 122.393 | 32.870 | 38.526 |
| 3 | 0.250 | 183.590 | 33.457 | 39.214 |
| 4 | 0.333 | 244.787 | 12.190 | 14.287 |
| 5 | 0.417 | 305.984 | 7.023 | 8.232 |
| 6 | 0.500 | 367.180 | 4.188 | 4.909 |
| 7 | 0.583 | 428.377 | 2.237 | 2.622 |
| 8 | 0.667 | 489.574 | 0.856 | 1.003 |
| 9 | 0.750 | 550.771 | 0.535 | 0.628 |
| 10 | 0.833 | 611.967 | 0.429 | 0.503 |
| 11 | 0.917 | 673.164 | 0.315 | 0.369 |
| 12 | 1.000 | 734.361 | 0.139 | 0.162 |
| | | | Sum = 100.000 | Sum= 117.209 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.037 | ( 0.158) | 0.033 | 0.004 |
| 2 | 0.17 | 0.07 | 0.037 | ( 0.158) | 0.033 | 0.004 |
| 3 | 0.25 | 0.07 | 0.037 | ( 0.157) | 0.033 | 0.004 |
| 4 | 0.33 | 0.10 | 0.056 | ( 0.157) | 0.050 | 0.006 |
| 5 | 0.42 | 0.10 | 0.056 | ( 0.156) | 0.050 | 0.006 |
| 6 | 0.50 | 0.10 | 0.056 | ( 0.155) | 0.050 | 0.006 |
| 7 | 0.58 | 0.10 | 0.056 | ( 0.155) | 0.050 | 0.006 |
| 8 | 0.67 | 0.10 | 0.056 | ( 0.154) | 0.050 | 0.006 |
| 9 | 0.75 | 0.10 | 0.056 | ( 0.154) | 0.050 | 0.006 |
| 10 | 0.83 | 0.13 | 0.074 | ( 0.153) | 0.067 | 0.007 |
| 11 | 0.92 | 0.13 | 0.074 | ( 0.152) | 0.067 | 0.007 |
| 12 | 1.00 | 0.13 | 0.074 | ( 0.152) | 0.067 | 0.007 |
| 13 | 1.08 | 0.10 | 0.056 | ( 0.151) | 0.050 | 0.006 |
| 14 | 1.17 | 0.10 | 0.056 | ( 0.151) | 0.050 | 0.006 |
| 15 | 1.25 | 0.10 | 0.056 | ( 0.150) | 0.050 | 0.006 |
| 16 | 1.33 | 0.10 | 0.056 | ( 0.149) | 0.050 | 0.006 |
| 17 | 1.42 | 0.10 | 0.056 | ( 0.149) | 0.050 | 0.006 |
| 18 | 1.50 | 0.10 | 0.056 | ( 0.148) | 0.050 | 0.006 |
| 19 | 1.58 | 0.10 | 0.056 | ( 0.148) | 0.050 | 0.006 |
| 20 | 1.67 | 0.10 | 0.056 | ( 0.147) | 0.050 | 0.006 |
| 21 | 1.75 | 0.10 | 0.056 | ( 0.146) | 0.050 | 0.006 |
| 22 | 1.83 | 0.13 | 0.074 | ( 0.146) | 0.067 | 0.007 |
| 23 | 1.92 | 0.13 | 0.074 | ( 0.145) | 0.067 | 0.007 |
| 24 | 2.00 | 0.13 | 0.074 | ( 0.145) | 0.067 | 0.007 |
| 25 | 2.08 | 0.13 | 0.074 | ( 0.144) | 0.067 | 0.007 |
| 26 | 2.17 | 0.13 | 0.074 | ( 0.143) | 0.067 | 0.007 |
| 27 | 2.25 | 0.13 | 0.074 | ( 0.143) | 0.067 | 0.007 |
| 28 | 2.33 | 0.13 | 0.074 | ( 0.142) | 0.067 | 0.007 |
| 29 | 2.42 | 0.13 | 0.074 | ( 0.142) | 0.067 | 0.007 |
| 30 | 2.50 | 0.13 | 0.074 | ( 0.141) | 0.067 | 0.007 |
| 31 | 2.58 | 0.17 | 0.093 | ( 0.141) | 0.084 | 0.009 |
| 32 | 2.67 | 0.17 | 0.093 | ( 0.140) | 0.084 | 0.009 |
| 33 | 2.75 | 0.17 | 0.093 | ( 0.139) | 0.084 | 0.009 |
| 34 | 2.83 | 0.17 | 0.093 | ( 0.139) | 0.084 | 0.009 |
| 35 | 2.92 | 0.17 | 0.093 | ( 0.138) | 0.084 | 0.009 |
| 36 | 3.00 | 0.17 | 0.093 | ( 0.138) | 0.084 | 0.009 |
| 37 | 3.08 | 0.17 | 0.093 | ( 0.137) | 0.084 | 0.009 |
| 38 | 3.17 | 0.17 | 0.093 | ( 0.137) | 0.084 | 0.009 |
| 39 | 3.25 | 0.17 | 0.093 | ( 0.136) | 0.084 | 0.009 |
| 40 | 3.33 | 0.17 | 0.093 | ( 0.135) | 0.084 | 0.009 |
| 41 | 3.42 | 0.17 | 0.093 | ( 0.135) | 0.084 | 0.009 |
| 42 | 3.50 | 0.17 | 0.093 | ( 0.134) | 0.084 | 0.009 |
| 43 | 3.58 | 0.17 | 0.093 | ( 0.134) | 0.084 | 0.009 |
| 44 | 3.67 | 0.17 | 0.093 | ( 0.133) | 0.084 | 0.009 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 45 | 3.75 | 0.17 | 0.093 | ( 0.133) | 0.084 | 0.009 |
| 46 | 3.83 | 0.20 | 0.111 | ( 0.132) | 0.100 | 0.011 |
| 47 | 3.92 | 0.20 | 0.111 | ( 0.132) | 0.100 | 0.011 |
| 48 | 4.00 | 0.20 | 0.111 | ( 0.131) | 0.100 | 0.011 |
| 49 | 4.08 | 0.20 | 0.111 | ( 0.130) | 0.100 | 0.011 |
| 50 | 4.17 | 0.20 | 0.111 | ( 0.130) | 0.100 | 0.011 |
| 51 | 4.25 | 0.20 | 0.111 | ( 0.129) | 0.100 | 0.011 |
| 52 | 4.33 | 0.23 | 0.130 | ( 0.129) | 0.117 | 0.013 |
| 53 | 4.42 | 0.23 | 0.130 | ( 0.128) | 0.117 | 0.013 |
| 54 | 4.50 | 0.23 | 0.130 | ( 0.128) | 0.117 | 0.013 |
| 55 | 4.58 | 0.23 | 0.130 | ( 0.127) | 0.117 | 0.013 |
| 56 | 4.67 | 0.23 | 0.130 | ( 0.127) | 0.117 | 0.013 |
| 57 | 4.75 | 0.23 | 0.130 | ( 0.126) | 0.117 | 0.013 |
| 58 | 4.83 | 0.27 | 0.148 | 0.125 | ( 0.134) | 0.023 |
| 59 | 4.92 | 0.27 | 0.148 | 0.125 | ( 0.134) | 0.024 |
| 60 | 5.00 | 0.27 | 0.148 | 0.124 | ( 0.134) | 0.024 |
| 61 | 5.08 | 0.20 | 0.111 | ( 0.124) | 0.100 | 0.011 |
| 62 | 5.17 | 0.20 | 0.111 | ( 0.123) | 0.100 | 0.011 |
| 63 | 5.25 | 0.20 | 0.111 | ( 0.123) | 0.100 | 0.011 |
| 64 | 5.33 | 0.23 | 0.130 | ( 0.122) | 0.117 | 0.013 |
| 65 | 5.42 | 0.23 | 0.130 | ( 0.122) | 0.117 | 0.013 |
| 66 | 5.50 | 0.23 | 0.130 | ( 0.121) | 0.117 | 0.013 |
| 67 | 5.58 | 0.27 | 0.148 | 0.121 | ( 0.134) | 0.028 |
| 68 | 5.67 | 0.27 | 0.148 | 0.120 | ( 0.134) | 0.028 |
| 69 | 5.75 | 0.27 | 0.148 | 0.120 | ( 0.134) | 0.029 |
| 70 | 5.83 | 0.27 | 0.148 | 0.119 | ( 0.134) | 0.029 |
| 71 | 5.92 | 0.27 | 0.148 | 0.119 | ( 0.134) | 0.030 |
| 72 | 6.00 | 0.27 | 0.148 | 0.118 | ( 0.134) | 0.030 |
| 73 | 6.08 | 0.30 | 0.167 | 0.117 | ( 0.150) | 0.050 |
| 74 | 6.17 | 0.30 | 0.167 | 0.117 | ( 0.150) | 0.050 |
| 75 | 6.25 | 0.30 | 0.167 | 0.116 | ( 0.150) | 0.051 |
| 76 | 6.33 | 0.30 | 0.167 | 0.116 | ( 0.150) | 0.051 |
| 77 | 6.42 | 0.30 | 0.167 | 0.115 | ( 0.150) | 0.052 |
| 78 | 6.50 | 0.30 | 0.167 | 0.115 | ( 0.150) | 0.052 |
| 79 | 6.58 | 0.33 | 0.186 | 0.114 | ( 0.167) | 0.071 |
| 80 | 6.67 | 0.33 | 0.186 | 0.114 | ( 0.167) | 0.072 |
| 81 | 6.75 | 0.33 | 0.186 | 0.113 | ( 0.167) | 0.072 |
| 82 | 6.83 | 0.33 | 0.186 | 0.113 | ( 0.167) | 0.073 |
| 83 | 6.92 | 0.33 | 0.186 | 0.112 | ( 0.167) | 0.073 |
| 84 | 7.00 | 0.33 | 0.186 | 0.112 | ( 0.167) | 0.074 |
| 85 | 7.08 | 0.33 | 0.186 | 0.111 | ( 0.167) | 0.074 |
| 86 | 7.17 | 0.33 | 0.186 | 0.111 | ( 0.167) | 0.075 |
| 87 | 7.25 | 0.33 | 0.186 | 0.110 | ( 0.167) | 0.075 |
| 88 | 7.33 | 0.37 | 0.204 | 0.110 | ( 0.184) | 0.094 |
| 89 | 7.42 | 0.37 | 0.204 | 0.109 | ( 0.184) | 0.095 |
| 90 | 7.50 | 0.37 | 0.204 | 0.109 | ( 0.184) | 0.095 |
| 91 | 7.58 | 0.40 | 0.223 | 0.108 | ( 0.200) | 0.114 |
| 92 | 7.67 | 0.40 | 0.223 | 0.108 | ( 0.200) | 0.115 |
| 93 | 7.75 | 0.40 | 0.223 | 0.107 | ( 0.200) | 0.115 |
| 94 | 7.83 | 0.43 | 0.241 | 0.107 | ( 0.217) | 0.134 |
| 95 | 7.92 | 0.43 | 0.241 | 0.106 | ( 0.217) | 0.135 |
| 96 | 8.00 | 0.43 | 0.241 | 0.106 | ( 0.217) | 0.135 |
| 97 | 8.08 | 0.50 | 0.278 | 0.105 | ( 0.251) | 0.173 |
| 98 | 8.17 | 0.50 | 0.278 | 0.105 | ( 0.251) | 0.174 |
| 99 | 8.25 | 0.50 | 0.278 | 0.104 | ( 0.251) | 0.174 |
| 100 | 8.33 | 0.50 | 0.278 | 0.104 | ( 0.251) | 0.175 |
| 101 | 8.42 | 0.50 | 0.278 | 0.103 | ( 0.251) | 0.175 |
| 102 | 8.50 | 0.50 | 0.278 | 0.103 | ( 0.251) | 0.175 |
| 103 | 8.58 | 0.53 | 0.297 | 0.102 | ( 0.267) | 0.195 |
| 104 | 8.67 | 0.53 | 0.297 | 0.102 | ( 0.267) | 0.195 |
| 105 | 8.75 | 0.53 | 0.297 | 0.101 | ( 0.267) | 0.195 |
| 106 | 8.83 | 0.57 | 0.315 | 0.101 | ( 0.284) | 0.215 |
| 107 | 8.92 | 0.57 | 0.315 | 0.100 | ( 0.284) | 0.215 |
| 108 | 9.00 | 0.57 | 0.315 | 0.100 | ( 0.284) | 0.215 |
| 109 | 9.08 | 0.63 | 0.353 | 0.100 | ( 0.317) | 0.253 |
| 110 | 9.17 | 0.63 | 0.353 | 0.099 | ( 0.317) | 0.254 |
| 111 | 9.25 | 0.63 | 0.353 | 0.099 | ( 0.317) | 0.254 |
| 112 | 9.33 | 0.67 | 0.371 | 0.098 | ( 0.334) | 0.273 |
| 113 | 9.42 | 0.67 | 0.371 | 0.098 | ( 0.334) | 0.273 |
| 114 | 9.50 | 0.67 | 0.371 | 0.097 | ( 0.334) | 0.274 |
| 115 | 9.58 | 0.70 | 0.390 | 0.097 | ( 0.351) | 0.293 |
| 116 | 9.67 | 0.70 | 0.390 | 0.096 | ( 0.351) | 0.293 |
| 117 | 9.75 | 0.70 | 0.390 | 0.096 | ( 0.351) | 0.294 |
| 118 | 9.83 | 0.73 | 0.408 | 0.095 | ( 0.367) | 0.313 |
| 119 | 9.92 | 0.73 | 0.408 | 0.095 | ( 0.367) | 0.313 |
| 120 | 10.00 | 0.73 | 0.408 | 0.094 | ( 0.367) | 0.314 |
| 121 | 10.08 | 0.50 | 0.278 | 0.094 | ( 0.251) | 0.184 |
| 122 | 10.17 | 0.50 | 0.278 | 0.093 | ( 0.251) | 0.185 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 123 | 10.25 | 0.50 | 0.278 | 0.093 | ( 0.251) | 0.185 |
| 124 | 10.33 | 0.50 | 0.278 | 0.093 | ( 0.251) | 0.186 |
| 125 | 10.42 | 0.50 | 0.278 | 0.092 | ( 0.251) | 0.186 |
| 126 | 10.50 | 0.50 | 0.278 | 0.092 | ( 0.251) | 0.187 |
| 127 | 10.58 | 0.67 | 0.371 | 0.091 | ( 0.334) | 0.280 |
| 128 | 10.67 | 0.67 | 0.371 | 0.091 | ( 0.334) | 0.280 |
| 129 | 10.75 | 0.67 | 0.371 | 0.090 | ( 0.334) | 0.281 |
| 130 | 10.83 | 0.67 | 0.371 | 0.090 | ( 0.334) | 0.281 |
| 131 | 10.92 | 0.67 | 0.371 | 0.089 | ( 0.334) | 0.282 |
| 132 | 11.00 | 0.67 | 0.371 | 0.089 | ( 0.334) | 0.282 |
| 133 | 11.08 | 0.63 | 0.353 | 0.089 | ( 0.317) | 0.264 |
| 134 | 11.17 | 0.63 | 0.353 | 0.088 | ( 0.317) | 0.264 |
| 135 | 11.25 | 0.63 | 0.353 | 0.088 | ( 0.317) | 0.265 |
| 136 | 11.33 | 0.63 | 0.353 | 0.087 | ( 0.317) | 0.265 |
| 137 | 11.42 | 0.63 | 0.353 | 0.087 | ( 0.317) | 0.266 |
| 138 | 11.50 | 0.63 | 0.353 | 0.086 | ( 0.317) | 0.266 |
| 139 | 11.58 | 0.57 | 0.315 | 0.086 | ( 0.284) | 0.229 |
| 140 | 11.67 | 0.57 | 0.315 | 0.086 | ( 0.284) | 0.230 |
| 141 | 11.75 | 0.57 | 0.315 | 0.085 | ( 0.284) | 0.230 |
| 142 | 11.83 | 0.60 | 0.334 | 0.085 | ( 0.301) | 0.249 |
| 143 | 11.92 | 0.60 | 0.334 | 0.084 | ( 0.301) | 0.250 |
| 144 | 12.00 | 0.60 | 0.334 | 0.084 | ( 0.301) | 0.250 |
| 145 | 12.08 | 0.83 | 0.464 | 0.083 | ( 0.418) | 0.380 |
| 146 | 12.17 | 0.83 | 0.464 | 0.083 | ( 0.418) | 0.381 |
| 147 | 12.25 | 0.83 | 0.464 | 0.083 | ( 0.418) | 0.381 |
| 148 | 12.33 | 0.87 | 0.482 | 0.082 | ( 0.434) | 0.400 |
| 149 | 12.42 | 0.87 | 0.482 | 0.082 | ( 0.434) | 0.401 |
| 150 | 12.50 | 0.87 | 0.482 | 0.081 | ( 0.434) | 0.401 |
| 151 | 12.58 | 0.93 | 0.520 | 0.081 | ( 0.468) | 0.439 |
| 152 | 12.67 | 0.93 | 0.520 | 0.081 | ( 0.468) | 0.439 |
| 153 | 12.75 | 0.93 | 0.520 | 0.080 | ( 0.468) | 0.439 |
| 154 | 12.83 | 0.97 | 0.538 | 0.080 | ( 0.484) | 0.458 |
| 155 | 12.92 | 0.97 | 0.538 | 0.079 | ( 0.484) | 0.459 |
| 156 | 13.00 | 0.97 | 0.538 | 0.079 | ( 0.484) | 0.459 |
| 157 | 13.08 | 1.13 | 0.631 | 0.079 | ( 0.568) | 0.552 |
| 158 | 13.17 | 1.13 | 0.631 | 0.078 | ( 0.568) | 0.553 |
| 159 | 13.25 | 1.13 | 0.631 | 0.078 | ( 0.568) | 0.553 |
| 160 | 13.33 | 1.13 | 0.631 | 0.077 | ( 0.568) | 0.554 |
| 161 | 13.42 | 1.13 | 0.631 | 0.077 | ( 0.568) | 0.554 |
| 162 | 13.50 | 1.13 | 0.631 | 0.077 | ( 0.568) | 0.554 |
| 163 | 13.58 | 0.77 | 0.427 | 0.076 | ( 0.384) | 0.351 |
| 164 | 13.67 | 0.77 | 0.427 | 0.076 | ( 0.384) | 0.351 |
| 165 | 13.75 | 0.77 | 0.427 | 0.075 | ( 0.384) | 0.351 |
| 166 | 13.83 | 0.77 | 0.427 | 0.075 | ( 0.384) | 0.352 |
| 167 | 13.92 | 0.77 | 0.427 | 0.075 | ( 0.384) | 0.352 |
| 168 | 14.00 | 0.77 | 0.427 | 0.074 | ( 0.384) | 0.353 |
| 169 | 14.08 | 0.90 | 0.501 | 0.074 | ( 0.451) | 0.427 |
| 170 | 14.17 | 0.90 | 0.501 | 0.073 | ( 0.451) | 0.428 |
| 171 | 14.25 | 0.90 | 0.501 | 0.073 | ( 0.451) | 0.428 |
| 172 | 14.33 | 0.87 | 0.482 | 0.073 | ( 0.434) | 0.410 |
| 173 | 14.42 | 0.87 | 0.482 | 0.072 | ( 0.434) | 0.410 |
| 174 | 14.50 | 0.87 | 0.482 | 0.072 | ( 0.434) | 0.410 |
| 175 | 14.58 | 0.87 | 0.482 | 0.072 | ( 0.434) | 0.411 |
| 176 | 14.67 | 0.87 | 0.482 | 0.071 | ( 0.434) | 0.411 |
| 177 | 14.75 | 0.87 | 0.482 | 0.071 | ( 0.434) | 0.412 |
| 178 | 14.83 | 0.83 | 0.464 | 0.071 | ( 0.418) | 0.393 |
| 179 | 14.92 | 0.83 | 0.464 | 0.070 | ( 0.418) | 0.394 |
| 180 | 15.00 | 0.83 | 0.464 | 0.070 | ( 0.418) | 0.394 |
| 181 | 15.08 | 0.80 | 0.445 | 0.069 | ( 0.401) | 0.376 |
| 182 | 15.17 | 0.80 | 0.445 | 0.069 | ( 0.401) | 0.376 |
| 183 | 15.25 | 0.80 | 0.445 | 0.069 | ( 0.401) | 0.377 |
| 184 | 15.33 | 0.77 | 0.427 | 0.068 | ( 0.384) | 0.358 |
| 185 | 15.42 | 0.77 | 0.427 | 0.068 | ( 0.384) | 0.359 |
| 186 | 15.50 | 0.77 | 0.427 | 0.068 | ( 0.384) | 0.359 |
| 187 | 15.58 | 0.63 | 0.353 | 0.067 | ( 0.317) | 0.285 |
| 188 | 15.67 | 0.63 | 0.353 | 0.067 | ( 0.317) | 0.286 |
| 189 | 15.75 | 0.63 | 0.353 | 0.067 | ( 0.317) | 0.286 |
| 190 | 15.83 | 0.63 | 0.353 | 0.066 | ( 0.317) | 0.286 |
| 191 | 15.92 | 0.63 | 0.353 | 0.066 | ( 0.317) | 0.287 |
| 192 | 16.00 | 0.63 | 0.353 | 0.066 | ( 0.317) | 0.287 |
| 193 | 16.08 | 0.13 | 0.074 | 0.065 | ( 0.067) | 0.009 |
| 194 | 16.17 | 0.13 | 0.074 | 0.065 | ( 0.067) | 0.009 |
| 195 | 16.25 | 0.13 | 0.074 | 0.065 | ( 0.067) | 0.010 |
| 196 | 16.33 | 0.13 | 0.074 | 0.064 | ( 0.067) | 0.010 |
| 197 | 16.42 | 0.13 | 0.074 | 0.064 | ( 0.067) | 0.010 |
| 198 | 16.50 | 0.13 | 0.074 | 0.064 | ( 0.067) | 0.011 |
| 199 | 16.58 | 0.10 | 0.056 | ( 0.063) | 0.050 | 0.006 |
| 200 | 16.67 | 0.10 | 0.056 | ( 0.063) | 0.050 | 0.006 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 201 | 16.75 | 0.10 | 0.056 | ( | 0.063) | 0.050 | | 0.006 |
| 202 | 16.83 | 0.10 | 0.056 | ( | 0.062) | 0.050 | | 0.006 |
| 203 | 16.92 | 0.10 | 0.056 | ( | 0.062) | 0.050 | | 0.006 |
| 204 | 17.00 | 0.10 | 0.056 | ( | 0.062) | 0.050 | | 0.006 |
| 205 | 17.08 | 0.17 | 0.093 | | 0.061 | ( | 0.084) | 0.031 |
| 206 | 17.17 | 0.17 | 0.093 | | 0.061 | ( | 0.084) | 0.032 |
| 207 | 17.25 | 0.17 | 0.093 | | 0.061 | ( | 0.084) | 0.032 |
| 208 | 17.33 | 0.17 | 0.093 | | 0.061 | ( | 0.084) | 0.032 |
| 209 | 17.42 | 0.17 | 0.093 | | 0.060 | ( | 0.084) | 0.033 |
| 210 | 17.50 | 0.17 | 0.093 | | 0.060 | ( | 0.084) | 0.033 |
| 211 | 17.58 | 0.17 | 0.093 | | 0.060 | ( | 0.084) | 0.033 |
| 212 | 17.67 | 0.17 | 0.093 | | 0.059 | ( | 0.084) | 0.033 |
| 213 | 17.75 | 0.17 | 0.093 | | 0.059 | ( | 0.084) | 0.034 |
| 214 | 17.83 | 0.13 | 0.074 | | 0.059 | ( | 0.067) | 0.016 |
| 215 | 17.92 | 0.13 | 0.074 | | 0.058 | ( | 0.067) | 0.016 |
| 216 | 18.00 | 0.13 | 0.074 | | 0.058 | ( | 0.067) | 0.016 |
| 217 | 18.08 | 0.13 | 0.074 | | 0.058 | ( | 0.067) | 0.016 |
| 218 | 18.17 | 0.13 | 0.074 | | 0.058 | ( | 0.067) | 0.017 |
| 219 | 18.25 | 0.13 | 0.074 | | 0.057 | ( | 0.067) | 0.017 |
| 220 | 18.33 | 0.13 | 0.074 | | 0.057 | ( | 0.067) | 0.017 |
| 221 | 18.42 | 0.13 | 0.074 | | 0.057 | ( | 0.067) | 0.017 |
| 222 | 18.50 | 0.13 | 0.074 | | 0.056 | ( | 0.067) | 0.018 |
| 223 | 18.58 | 0.10 | 0.056 | ( | 0.056) | 0.050 | | 0.006 |
| 224 | 18.67 | 0.10 | 0.056 | ( | 0.056) | 0.050 | | 0.006 |
| 225 | 18.75 | 0.10 | 0.056 | ( | 0.056) | 0.050 | | 0.006 |
| 226 | 18.83 | 0.07 | 0.037 | ( | 0.055) | 0.033 | | 0.004 |
| 227 | 18.92 | 0.07 | 0.037 | ( | 0.055) | 0.033 | | 0.004 |
| 228 | 19.00 | 0.07 | 0.037 | ( | 0.055) | 0.033 | | 0.004 |
| 229 | 19.08 | 0.10 | 0.056 | ( | 0.055) | 0.050 | | 0.006 |
| 230 | 19.17 | 0.10 | 0.056 | ( | 0.054) | 0.050 | | 0.006 |
| 231 | 19.25 | 0.10 | 0.056 | ( | 0.054) | 0.050 | | 0.006 |
| 232 | 19.33 | 0.13 | 0.074 | | 0.054 | ( | 0.067) | 0.020 |
| 233 | 19.42 | 0.13 | 0.074 | | 0.054 | ( | 0.067) | 0.021 |
| 234 | 19.50 | 0.13 | 0.074 | | 0.053 | ( | 0.067) | 0.021 |
| 235 | 19.58 | 0.10 | 0.056 | ( | 0.053) | 0.050 | | 0.006 |
| 236 | 19.67 | 0.10 | 0.056 | ( | 0.053) | 0.050 | | 0.006 |
| 237 | 19.75 | 0.10 | 0.056 | ( | 0.053) | 0.050 | | 0.006 |
| 238 | 19.83 | 0.07 | 0.037 | ( | 0.052) | 0.033 | | 0.004 |
| 239 | 19.92 | 0.07 | 0.037 | ( | 0.052) | 0.033 | | 0.004 |
| 240 | 20.00 | 0.07 | 0.037 | ( | 0.052) | 0.033 | | 0.004 |
| 241 | 20.08 | 0.10 | 0.056 | ( | 0.052) | 0.050 | | 0.006 |
| 242 | 20.17 | 0.10 | 0.056 | ( | 0.051) | 0.050 | | 0.006 |
| 243 | 20.25 | 0.10 | 0.056 | ( | 0.051) | 0.050 | | 0.006 |
| 244 | 20.33 | 0.10 | 0.056 | ( | 0.051) | 0.050 | | 0.006 |
| 245 | 20.42 | 0.10 | 0.056 | ( | 0.051) | 0.050 | | 0.006 |
| 246 | 20.50 | 0.10 | 0.056 | ( | 0.051) | 0.050 | | 0.006 |
| 247 | 20.58 | 0.10 | 0.056 | ( | 0.050) | 0.050 | | 0.006 |
| 248 | 20.67 | 0.10 | 0.056 | ( | 0.050) | 0.050 | | 0.006 |
| 249 | 20.75 | 0.10 | 0.056 | | 0.050 | ( | 0.050) | 0.006 |
| 250 | 20.83 | 0.07 | 0.037 | ( | 0.050) | 0.033 | | 0.004 |
| 251 | 20.92 | 0.07 | 0.037 | ( | 0.050) | 0.033 | | 0.004 |
| 252 | 21.00 | 0.07 | 0.037 | ( | 0.049) | 0.033 | | 0.004 |
| 253 | 21.08 | 0.10 | 0.056 | | 0.049 | ( | 0.050) | 0.007 |
| 254 | 21.17 | 0.10 | 0.056 | | 0.049 | ( | 0.050) | 0.007 |
| 255 | 21.25 | 0.10 | 0.056 | | 0.049 | ( | 0.050) | 0.007 |
| 256 | 21.33 | 0.07 | 0.037 | ( | 0.049) | 0.033 | | 0.004 |
| 257 | 21.42 | 0.07 | 0.037 | ( | 0.048) | 0.033 | | 0.004 |
| 258 | 21.50 | 0.07 | 0.037 | ( | 0.048) | 0.033 | | 0.004 |
| 259 | 21.58 | 0.10 | 0.056 | | 0.048 | ( | 0.050) | 0.008 |
| 260 | 21.67 | 0.10 | 0.056 | | 0.048 | ( | 0.050) | 0.008 |
| 261 | 21.75 | 0.10 | 0.056 | | 0.048 | ( | 0.050) | 0.008 |
| 262 | 21.83 | 0.07 | 0.037 | ( | 0.048) | 0.033 | | 0.004 |
| 263 | 21.92 | 0.07 | 0.037 | ( | 0.047) | 0.033 | | 0.004 |
| 264 | 22.00 | 0.07 | 0.037 | ( | 0.047) | 0.033 | | 0.004 |
| 265 | 22.08 | 0.10 | 0.056 | | 0.047 | ( | 0.050) | 0.009 |
| 266 | 22.17 | 0.10 | 0.056 | | 0.047 | ( | 0.050) | 0.009 |
| 267 | 22.25 | 0.10 | 0.056 | | 0.047 | ( | 0.050) | 0.009 |
| 268 | 22.33 | 0.07 | 0.037 | ( | 0.047) | 0.033 | | 0.004 |
| 269 | 22.42 | 0.07 | 0.037 | ( | 0.046) | 0.033 | | 0.004 |
| 270 | 22.50 | 0.07 | 0.037 | ( | 0.046) | 0.033 | | 0.004 |
| 271 | 22.58 | 0.07 | 0.037 | ( | 0.046) | 0.033 | | 0.004 |
| 272 | 22.67 | 0.07 | 0.037 | ( | 0.046) | 0.033 | | 0.004 |
| 273 | 22.75 | 0.07 | 0.037 | ( | 0.046) | 0.033 | | 0.004 |
| 274 | 22.83 | 0.07 | 0.037 | ( | 0.046) | 0.033 | | 0.004 |
| 275 | 22.92 | 0.07 | 0.037 | ( | 0.046) | 0.033 | | 0.004 |
| 276 | 23.00 | 0.07 | 0.037 | ( | 0.046) | 0.033 | | 0.004 |
| 277 | 23.08 | 0.07 | 0.037 | ( | 0.045) | 0.033 | | 0.004 |
| 278 | 23.17 | 0.07 | 0.037 | ( | 0.045) | 0.033 | | 0.004 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 279 | 23.25 | 0.07 | 0.037 | ( 0.045) | 0.033 | 0.004 |
| 280 | 23.33 | 0.07 | 0.037 | ( 0.045) | 0.033 | 0.004 |
| 281 | 23.42 | 0.07 | 0.037 | ( 0.045) | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.037 | ( 0.045) | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.037 | ( 0.045) | 0.033 | 0.004 |
| 284 | 23.67 | 0.07 | 0.037 | ( 0.045) | 0.033 | 0.004 |
| 285 | 23.75 | 0.07 | 0.037 | ( 0.045) | 0.033 | 0.004 |
| 286 | 23.83 | 0.07 | 0.037 | ( 0.045) | 0.033 | 0.004 |
| 287 | 23.92 | 0.07 | 0.037 | ( 0.045) | 0.033 | 0.004 |
| 288 | 24.00 | 0.07 | 0.037 | ( 0.045) | 0.033 | 0.004 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 34.5

Flood volume = Effective rainfall 2.88(In)
times area 116.3(Ac.)/[(In)/(Ft.)] = 27.9(Ac.Ft)
Total soil loss = 1.76(In)
Total soil loss = 17.091(Ac.Ft)
Total rainfall = 4.64(In)
Flood volume = 1213948.5 Cubic Feet
Total soil loss = 744470.7 Cubic Feet

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Peak flow rate of this hydrograph = 64.396(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

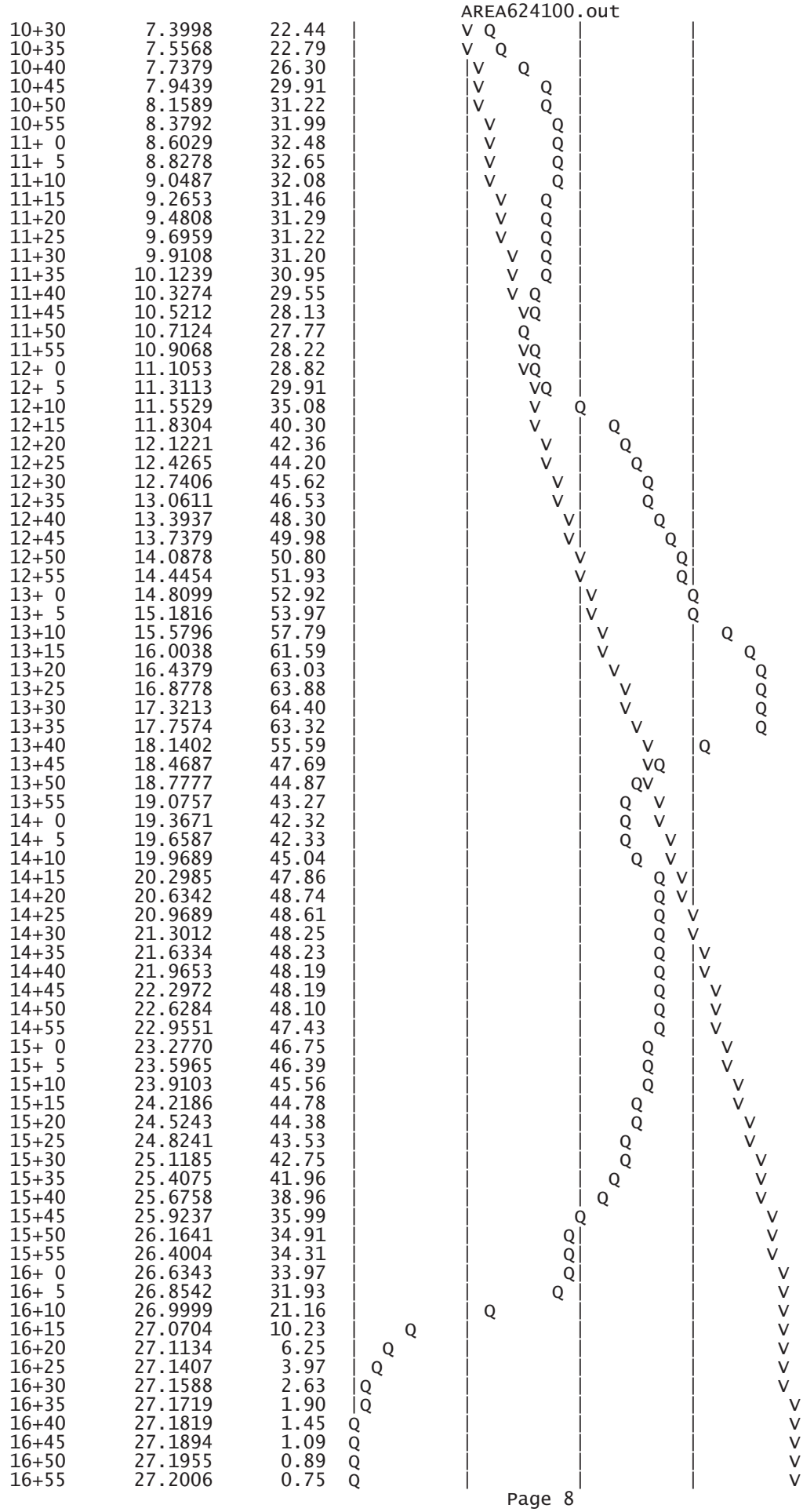
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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 17.5 | 35.0 | 52.5 | 70.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0002 | 0.03 | Q | | | | |
| 0+10 | 0.0013 | 0.17 | Q | | | | |
| 0+15 | 0.0035 | 0.31 | Q | | | | |
| 0+20 | 0.0061 | 0.38 | Q | | | | |
| 0+25 | 0.0094 | 0.48 | Q | | | | |
| 0+30 | 0.0134 | 0.57 | Q | | | | |
| 0+35 | 0.0176 | 0.61 | Q | | | | |
| 0+40 | 0.0219 | 0.63 | Q | | | | |
| 0+45 | 0.0263 | 0.64 | Q | | | | |
| 0+50 | 0.0308 | 0.66 | Q | | | | |
| 0+55 | 0.0359 | 0.73 | Q | | | | |
| 1+ 0 | 0.0414 | 0.81 | Q | | | | |
| 1+ 5 | 0.0471 | 0.82 | Q | | | | |
| 1+10 | 0.0524 | 0.77 | Q | | | | |
| 1+15 | 0.0572 | 0.70 | Q | | | | |
| 1+20 | 0.0619 | 0.68 | Q | | | | |
| 1+25 | 0.0665 | 0.67 | Q | | | | |
| 1+30 | 0.0711 | 0.66 | Q | | | | |
| 1+35 | 0.0756 | 0.66 | Q | | | | |
| 1+40 | 0.0801 | 0.66 | Q | | | | |
| 1+45 | 0.0846 | 0.65 | Q | | | | |
| 1+50 | 0.0892 | 0.67 | Q | | | | |
| 1+55 | 0.0943 | 0.74 | Q | | | | |
| 2+ 0 | 0.0999 | 0.81 | Q | | | | |
| 2+ 5 | 0.1056 | 0.84 | Q | | | | |
| 2+10 | 0.1115 | 0.85 | Q | | | | |
| 2+15 | 0.1174 | 0.86 | Q | | | | |
| 2+20 | 0.1234 | 0.87 | Q | | | | |
| 2+25 | 0.1293 | 0.87 | Q | | | | |
| 2+30 | 0.1353 | 0.87 | Q | | | | |
| 2+35 | 0.1414 | 0.88 | Q | | | | |
| 2+40 | 0.1480 | 0.95 | Q | | | | |
| 2+45 | 0.1550 | 1.03 | Q | | | | |
| 2+50 | 0.1623 | 1.05 | Q | | | | |
| 2+55 | 0.1697 | 1.07 | Q | | | | |
| 3+ 0 | 0.1771 | 1.08 | Q | | | | |
| 3+ 5 | 0.1846 | 1.08 | Q | | | | |
| 3+10 | 0.1920 | 1.08 | Q | | | | |
| 3+15 | 0.1995 | 1.09 | Q | | | | |
| 3+20 | 0.2070 | 1.09 | Q | | | | |
| 3+25 | 0.2145 | 1.09 | Q | | | | |
| 3+30 | 0.2220 | 1.09 | Q | | | | |
| 3+35 | 0.2295 | 1.09 | Q | | | | |
| 3+40 | 0.2370 | 1.09 | Q | | | | |
| 3+45 | 0.2445 | 1.09 | Q | | | | |
| 3+50 | 0.2520 | 1.10 | Q | | | | |
| 3+55 | 0.2601 | 1.17 | Q | | | | |

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 4+ 0       0.2687      1.24  Q          |          |          |          |
 4+ 5       0.2774      1.27  Q          |          |          |          |
 4+10       0.2863      1.29  Q          |          |          |          |
 4+15       0.2952      1.30  Q          |          |          |          |
 4+20       0.3043      1.31  Q          |          |          |          |
 4+25       0.3138      1.39  Q          |          |          |          |
 4+30       0.3239      1.46  Q          |          |          |          |
 4+35       0.3341      1.49  Q          |          |          |          |
 4+40       0.3445      1.50  Q          |          |          |          |
 4+45       0.3549      1.51  Q          |          |          |          |
 4+50       0.3658      1.59  Q          |          |          |          |
 4+55       0.3794      1.98  VQ         |          |          |          |
 5+ 0       0.3959      2.39  VQ         |          |          |          |
 5+ 5       0.4131      2.49  VQ         |          |          |          |
 5+10       0.4276      2.11  VQ         |          |          |          |
 5+15       0.4390      1.66  Q          |          |          |          |
 5+20       0.4495      1.52  Q          |          |          |          |
 5+25       0.4598      1.50  Q          |          |          |          |
 5+30       0.4703      1.52  Q          |          |          |          |
 5+35       0.4814      1.62  Q          |          |          |          |
 5+40       0.4966      2.20  VQ         |          |          |          |
 5+45       0.5159      2.81  VQ         |          |          |          |
 5+50       0.5370      3.06  VQ         |          |          |          |
 5+55       0.5593      3.23  VQ         |          |          |          |
 6+ 0       0.5824      3.36  VQ         |          |          |          |
 6+ 5       0.6071      3.59  V Q        |          |          |          |
 6+10       0.6373      4.38  V Q        |          |          |          |
 6+15       0.6729      5.18  V Q        |          |          |          |
 6+20       0.7109      5.51  |V Q        |          |          |          |
 6+25       0.7503      5.73  |V Q        |          |          |          |
 6+30       0.7909      5.88  |V Q        |          |          |          |
 6+35       0.8330      6.12  |V Q        |          |          |          |
 6+40       0.8806      6.91  |V Q        |          |          |          |
 6+45       0.9337      7.71  |V  Q       |          |          |          |
 6+50       0.9892      8.05  |V  Q       |          |          |          |
 6+55       1.0461      8.27  |V  Q       |          |          |          |
 7+ 0       1.1041      8.42  |V  Q       |          |          |          |
 7+ 5       1.1629      8.53  |V  Q       |          |          |          |
 7+10       1.2221      8.61  |V  Q       |          |          |          |
 7+15       1.2819      8.68  |V  Q       |          |          |          |
 7+20       1.3430      8.87  |V   Q      |          |          |          |
 7+25       1.4095      9.66  | V  Q      |          |          |          |
 7+30       1.4815     10.45  | V  Q      |          |          |          |
 7+35       1.5565     10.90  | V   Q     |          |          |          |
 7+40       1.6379     11.82  | V   Q     |          |          |          |
 7+45       1.7254     12.70  | V    Q    |          |          |          |
 7+50       1.8163     13.20  | V    Q    |          |          |          |
 7+55       1.9137     14.14  | V     Q   |          |          |          |
 8+ 0       2.0172     15.03  | V     Q   |          |          |          |
 8+ 5       2.1251     15.66  |  V    Q   |          |          |          |
 8+10       2.2445     17.33  |  V     Q  |          |          |          |
 8+15       2.3750     18.95  |  V      Q  |          |          |          |
 8+20       2.5099     19.60  |  V      |Q |          |          |          |
 8+25       2.6476     19.98  |  V      |Q |          |          |          |
 8+30       2.7870     20.24  |   V     |Q |          |          |          |
 8+35       2.9283     20.53  |   V     |Q |          |          |          |
 8+40       3.0753     21.34  |   V     | Q|          |          |          |
 8+45       3.2279     22.15  |   V     | Q|          |          |          |
 8+50       3.3837     22.62  |   V     | Q|          |          |          |
 8+55       3.5459     23.56  |    V    |  Q          |          |          |
 9+ 0       3.7143     24.44  |    V    |  Q          |          |          |
 9+ 5       3.8869     25.06  |    V    |   Q         |          |          |
 9+10       4.0709     26.72  |    V    |    Q        |          |          |
 9+15       4.2660     28.33  |     V   |     Q       |          |          |
 9+20       4.4664     29.10  |     V   |     Q       |          |          |
 9+25       4.6744     30.20  |     V   |      Q      |          |          |
 9+30       4.8892     31.18  |      V  |      Q      |          |          |
 9+35       5.1078     31.74  |      V  |       Q     |          |          |
 9+40       5.3330     32.70  |      V  |       Q     |          |          |
 9+45       5.5644     33.60  |      V  |        Q    |          |          |
 9+50       5.7994     34.12  |       V |        Q    |          |          |
 9+55       6.0409     35.07  |       V |         Q   |          |          |
10+ 0       6.2886     35.96  |        V|         Q   |          |          |
10+ 5       6.5328     35.46  |        V|         Q   |          |          |
10+10       6.7441     30.69  |        V|       Q     |          |          |
10+15       6.9214     25.75  |        V|   Q         |          |          |
10+20       7.0868     24.00  |         V  Q        |          |          |
10+25       7.2452     23.01  |         V  Q        |          |          |
```



| | | | |
|---|---|---|---|
| 10+30 | 7.3998 | 22.44 | V Q |
| 10+35 | 7.5568 | 22.79 | V Q |
| 10+40 | 7.7379 | 26.30 | V Q |
| 10+45 | 7.9439 | 29.91 | V Q |
| 10+50 | 8.1589 | 31.22 | V Q |
| 10+55 | 8.3792 | 31.99 | V Q |
| 11+ 0 | 8.6029 | 32.48 | V Q |
| 11+ 5 | 8.8278 | 32.65 | V Q |
| 11+10 | 9.0487 | 32.08 | V Q |
| 11+15 | 9.2653 | 31.46 | V Q |
| 11+20 | 9.4808 | 31.29 | V Q |
| 11+25 | 9.6959 | 31.22 | V Q |
| 11+30 | 9.9108 | 31.20 | V Q |
| 11+35 | 10.1239 | 30.95 | V Q |
| 11+40 | 10.3274 | 29.55 | V Q |
| 11+45 | 10.5212 | 28.13 | VQ |
| 11+50 | 10.7124 | 27.77 | Q |
| 11+55 | 10.9068 | 28.22 | VQ |
| 12+ 0 | 11.1053 | 28.82 | VQ |
| 12+ 5 | 11.3113 | 29.91 | VQ |
| 12+10 | 11.5529 | 35.08 | V Q |
| 12+15 | 11.8304 | 40.30 | V Q |
| 12+20 | 12.1221 | 42.36 | V Q |
| 12+25 | 12.4265 | 44.20 | V Q |
| 12+30 | 12.7406 | 45.62 | V Q |
| 12+35 | 13.0611 | 46.53 | V Q |
| 12+40 | 13.3937 | 48.30 | V Q |
| 12+45 | 13.7379 | 49.98 | V Q |
| 12+50 | 14.0878 | 50.80 | V Q |
| 12+55 | 14.4454 | 51.93 | V Q |
| 13+ 0 | 14.8099 | 52.92 | V Q |
| 13+ 5 | 15.1816 | 53.97 | V Q |
| 13+10 | 15.5796 | 57.79 | V Q |
| 13+15 | 16.0038 | 61.59 | V Q |
| 13+20 | 16.4379 | 63.03 | V Q |
| 13+25 | 16.8778 | 63.88 | V Q |
| 13+30 | 17.3213 | 64.40 | V Q |
| 13+35 | 17.7574 | 63.32 | V Q |
| 13+40 | 18.1402 | 55.59 | V Q |
| 13+45 | 18.4687 | 47.69 | VQ |
| 13+50 | 18.7777 | 44.87 | QV |
| 13+55 | 19.0757 | 43.27 | Q V |
| 14+ 0 | 19.3671 | 42.32 | Q V |
| 14+ 5 | 19.6587 | 42.33 | Q V |
| 14+10 | 19.9689 | 45.04 | Q V |
| 14+15 | 20.2985 | 47.86 | Q V |
| 14+20 | 20.6342 | 48.74 | Q V |
| 14+25 | 20.9689 | 48.61 | Q V |
| 14+30 | 21.3012 | 48.25 | Q V |
| 14+35 | 21.6334 | 48.23 | Q V |
| 14+40 | 21.9653 | 48.19 | Q V |
| 14+45 | 22.2972 | 48.19 | Q V |
| 14+50 | 22.6284 | 48.10 | Q V |
| 14+55 | 22.9551 | 47.43 | Q V |
| 15+ 0 | 23.2770 | 46.75 | Q V |
| 15+ 5 | 23.5965 | 46.39 | Q V |
| 15+10 | 23.9103 | 45.56 | Q V |
| 15+15 | 24.2186 | 44.78 | Q V |
| 15+20 | 24.5243 | 44.38 | Q V |
| 15+25 | 24.8241 | 43.53 | Q V |
| 15+30 | 25.1185 | 42.75 | Q V |
| 15+35 | 25.4075 | 41.96 | Q V |
| 15+40 | 25.6758 | 38.96 | Q V |
| 15+45 | 25.9237 | 35.99 | Q V |
| 15+50 | 26.1641 | 34.91 | Q V |
| 15+55 | 26.4004 | 34.31 | Q V |
| 16+ 0 | 26.6343 | 33.97 | Q V |
| 16+ 5 | 26.8542 | 31.93 | Q V |
| 16+10 | 26.9999 | 21.16 | Q V |
| 16+15 | 27.0704 | 10.23 | Q V |
| 16+20 | 27.1134 | 6.25 | Q V |
| 16+25 | 27.1407 | 3.97 | Q V |
| 16+30 | 27.1588 | 2.63 | Q V |
| 16+35 | 27.1719 | 1.90 | Q V |
| 16+40 | 27.1819 | 1.45 | Q V |
| 16+45 | 27.1894 | 1.09 | Q V |
| 16+50 | 27.1955 | 0.89 | Q V |
| 16+55 | 27.2006 | 0.75 | Q V |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+ 0 | 27.2053 | 0.68 | Q | \| | \| | \| | V\| |
| 17+ 5 | 27.2111 | 0.84 | Q | \| | \| | \| | V\| |
| 17+10 | 27.2237 | 1.83 | \|Q | \| | \| | \| | V\| |
| 17+15 | 27.2433 | 2.85 | \|Q | \| | \| | \| | V\| |
| 17+20 | 27.2657 | 3.25 | \|Q | \| | \| | \| | V\| |
| 17+25 | 27.2897 | 3.49 | \|Q | \| | \| | \| | V\| |
| 17+30 | 27.3148 | 3.64 | \| Q | \| | \| | \| | V\| |
| 17+35 | 27.3406 | 3.75 | \| Q | \| | \| | \| | V\| |
| 17+40 | 27.3668 | 3.81 | \| Q | \| | \| | \| | V\| |
| 17+45 | 27.3934 | 3.86 | \| Q | \| | \| | \| | V\| |
| 17+50 | 27.4194 | 3.78 | \| Q | \| | \| | \| | V\| |
| 17+55 | 27.4408 | 3.11 | \|Q | \| | \| | \| | V\| |
| 18+ 0 | 27.4575 | 2.42 | \|Q | \| | \| | \| | V\| |
| 18+ 5 | 27.4726 | 2.19 | \|Q | \| | \| | \| | V\| |
| 18+10 | 27.4868 | 2.07 | \|Q | \| | \| | \| | V\| |
| 18+15 | 27.5007 | 2.01 | \|Q | \| | \| | \| | V\| |
| 18+20 | 27.5144 | 2.00 | \|Q | \| | \| | \| | V\| |
| 18+25 | 27.5283 | 2.01 | \|Q | \| | \| | \| | V\| |
| 18+30 | 27.5422 | 2.03 | \|Q | \| | \| | \| | V\| |
| 18+35 | 27.5558 | 1.97 | \|Q | \| | \| | \| | V\| |
| 18+40 | 27.5662 | 1.51 | Q | \| | \| | \| | V\| |
| 18+45 | 27.5734 | 1.04 | Q | \| | \| | \| | V\| |
| 18+50 | 27.5793 | 0.86 | Q | \| | \| | \| | V\| |
| 18+55 | 27.5841 | 0.69 | Q | \| | \| | \| | V\| |
| 19+ 0 | 27.5879 | 0.56 | Q | \| | \| | \| | V\| |
| 19+ 5 | 27.5915 | 0.51 | Q | \| | \| | \| | V\| |
| 19+10 | 27.5953 | 0.56 | Q | \| | \| | \| | V\| |
| 19+15 | 27.5995 | 0.61 | Q | \| | \| | \| | V\| |
| 19+20 | 27.6046 | 0.73 | Q | \| | \| | \| | V\| |
| 19+25 | 27.6136 | 1.31 | Q | \| | \| | \| | V\| |
| 19+30 | 27.6268 | 1.91 | \|Q | \| | \| | \| | V\| |
| 19+35 | 27.6408 | 2.04 | \|Q | \| | \| | \| | V\| |
| 19+40 | 27.6518 | 1.59 | Q | \| | \| | \| | V\| |
| 19+45 | 27.6591 | 1.07 | Q | \| | \| | \| | V\| |
| 19+50 | 27.6652 | 0.88 | Q | \| | \| | \| | V\| |
| 19+55 | 27.6700 | 0.70 | Q | \| | \| | \| | V\| |
| 20+ 0 | 27.6738 | 0.56 | Q | \| | \| | \| | V\| |
| 20+ 5 | 27.6774 | 0.51 | Q | \| | \| | \| | V\| |
| 20+10 | 27.6813 | 0.56 | Q | \| | \| | \| | V\| |
| 20+15 | 27.6855 | 0.62 | Q | \| | \| | \| | V\| |
| 20+20 | 27.6899 | 0.63 | Q | \| | \| | \| | V\| |
| 20+25 | 27.6943 | 0.64 | Q | \| | \| | \| | V\| |
| 20+30 | 27.6987 | 0.64 | Q | \| | \| | \| | V\| |
| 20+35 | 27.7032 | 0.65 | Q | \| | \| | \| | V\| |
| 20+40 | 27.7076 | 0.65 | Q | \| | \| | \| | V\| |
| 20+45 | 27.7121 | 0.65 | Q | \| | \| | \| | V\| |
| 20+50 | 27.7166 | 0.65 | Q | \| | \| | \| | V\| |
| 20+55 | 27.7205 | 0.57 | Q | \| | \| | \| | V\| |
| 21+ 0 | 27.7240 | 0.50 | Q | \| | \| | \| | V\| |
| 21+ 5 | 27.7273 | 0.49 | Q | \| | \| | \| | V\| |
| 21+10 | 27.7314 | 0.58 | Q | \| | \| | \| | V\| |
| 21+15 | 27.7361 | 0.69 | Q | \| | \| | \| | V\| |
| 21+20 | 27.7411 | 0.72 | Q | \| | \| | \| | V\| |
| 21+25 | 27.7455 | 0.63 | Q | \| | \| | \| | V\| |
| 21+30 | 27.7490 | 0.52 | Q | \| | \| | \| | V\| |
| 21+35 | 27.7526 | 0.51 | Q | \| | \| | \| | V\| |
| 21+40 | 27.7570 | 0.64 | Q | \| | \| | \| | V\| |
| 21+45 | 27.7624 | 0.79 | Q | \| | \| | \| | V\| |
| 21+50 | 27.7681 | 0.82 | Q | \| | \| | \| | V\| |
| 21+55 | 27.7729 | 0.70 | Q | \| | \| | \| | V\| |
| 22+ 0 | 27.7767 | 0.55 | Q | \| | \| | \| | V\| |
| 22+ 5 | 27.7804 | 0.54 | Q | \| | \| | \| | V\| |
| 22+10 | 27.7852 | 0.70 | Q | \| | \| | \| | V\| |
| 22+15 | 27.7912 | 0.88 | Q | \| | \| | \| | V\| |
| 22+20 | 27.7975 | 0.91 | Q | \| | \| | \| | V\| |
| 22+25 | 27.8027 | 0.76 | Q | \| | \| | \| | V\| |
| 22+30 | 27.8067 | 0.58 | Q | \| | \| | \| | V\| |
| 22+35 | 27.8103 | 0.52 | Q | \| | \| | \| | V\| |
| 22+40 | 27.8136 | 0.48 | Q | \| | \| | \| | V\| |
| 22+45 | 27.8168 | 0.46 | Q | \| | \| | \| | V\| |
| 22+50 | 27.8198 | 0.45 | Q | \| | \| | \| | V\| |
| 22+55 | 27.8229 | 0.44 | Q | \| | \| | \| | V\| |
| 23+ 0 | 27.8259 | 0.44 | Q | \| | \| | \| | V\| |
| 23+ 5 | 27.8289 | 0.44 | Q | \| | \| | \| | V\| |
| 23+10 | 27.8319 | 0.44 | Q | \| | \| | \| | V\| |
| 23+15 | 27.8349 | 0.44 | Q | \| | \| | \| | V\| |
| 23+20 | 27.8379 | 0.44 | Q | \| | \| | \| | V\| |
| 23+25 | 27.8409 | 0.44 | Q | \| | \| | \| | V\| |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 23+30 | 27.8439 | 0.44 | Q | \| | \| | \| | V\| |
| 23+35 | 27.8469 | 0.44 | Q | \| | \| | \| | V\| |
| 23+40 | 27.8499 | 0.44 | Q | \| | \| | \| | V\| |
| 23+45 | 27.8529 | 0.44 | Q | \| | \| | \| | V\| |
| 23+50 | 27.8559 | 0.44 | Q | \| | \| | \| | V\| |
| 23+55 | 27.8589 | 0.44 | Q | \| | \| | \| | V\| |
| 24+ 0 | 27.8619 | 0.44 | Q | \| | \| | \| | V\| |
| 24+ 5 | 27.8647 | 0.41 | Q | \| | \| | \| | V\| |
| 24+10 | 27.8666 | 0.27 | Q | \| | \| | \| | V\| |
| 24+15 | 27.8674 | 0.12 | Q | \| | \| | \| | V\| |
| 24+20 | 27.8679 | 0.07 | Q | \| | \| | \| | V\| |
| 24+25 | 27.8681 | 0.04 | Q | \| | \| | \| | V\| |
| 24+30 | 27.8683 | 0.02 | Q | \| | \| | \| | V\| |
| 24+35 | 27.8683 | 0.01 | Q | \| | \| | \| | V\| |
| 24+40 | 27.8684 | 0.01 | Q | \| | \| | \| | V\| |
| 24+45 | 27.8684 | 0.00 | Q | \| | \| | \| | V\| |
| 24+50 | 27.8684 | 0.00 | Q | \| | \| | \| | V\| |
| 24+55 | 27.8684 | 0.00 | Q | \| | \| | \| | V\| |

U n i t  H y d r o g r a p h  A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 7
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

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Drainage Area = 25.30(Ac.) = 0.040 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 25.30(Ac.) = 0.040 Sq. Mi.
Length along longest watercourse = 1388.00(Ft.)
Length along longest watercourse measured to centroid = 969.00(Ft.)
Length along longest watercourse = 0.263 Mi.
Length along longest watercourse measured to centroid = 0.184 Mi.
Difference in elevation = 400.00(Ft.)
Slope along watercourse = 1521.6138 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.066 Hr.
Lag time = 3.96 Min.
25% of lag time = 0.99 Min.
40% of lag time = 1.58 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 25.30 | 0.49 | 12.40 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 25.30 | 1.20 | 30.36 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.490(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.98 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 25.300 | 83.98 | 0.000 |

Total Area Entered = 25.30(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 126.319 | 23.480 | 5.987 |
| 2 | 0.167 | 252.638 | 55.823 | 14.233 |
| 3 | 0.250 | 378.956 | 14.723 | 3.754 |
| 4 | 0.333 | 505.275 | 4.327 | 1.103 |
| 5 | 0.417 | 631.594 | 1.095 | 0.279 |
| 6 | 0.500 | 757.913 | 0.552 | 0.141 |
| | | Sum = 100.000 | Sum= | 25.498 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.086 | ( 0.544) | 0.519 |
| 2 | 0.17 | 4.30 | 0.619 | 0.086 | ( 0.557) | 0.533 |
| 3 | 0.25 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 4 | 0.33 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 5 | 0.42 | 5.80 | 0.835 | 0.086 | ( 0.752) | 0.749 |
| 6 | 0.50 | 6.50 | 0.936 | 0.086 | ( 0.842) | 0.850 |
| 7 | 0.58 | 7.40 | 1.065 | 0.086 | ( 0.959) | 0.979 |
| 8 | 0.67 | 8.60 | 1.238 | 0.086 | ( 1.114) | 1.152 |
| 9 | 0.75 | 12.30 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 10 | 0.83 | 29.10 | 4.189 | 0.086 | ( 3.770) | 4.103 |
| 11 | 0.92 | 6.80 | 0.979 | 0.086 | ( 0.881) | 0.893 |
| 12 | 1.00 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | | Sum = 13.4 |

Flood volume = Effective rainfall 1.11(In)
times area 25.3(Ac.)/[(In)/(Ft.)] = 2.3(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.181(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 102287.4 Cubic Feet
Total soil loss = 7894.1 Cubic Feet

---

Peak flow rate of this hydrograph = 71.779(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 20.0 | 40.0 | 60.0 | 80.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0214 | 3.11 | VQ | | | | |
| 0+10 | 0.0943 | 10.58 | V Q | | | | |
| 0+15 | 0.1861 | 13.34 | V Q | | | | |
| 0+20 | 0.2922 | 15.40 | V Q | | | | |
| 0+25 | 0.4067 | 16.63 | V Q | | | | |
| 0+30 | 0.5380 | 19.06 | Q | | | | |
| 0+35 | 0.6876 | 21.73 | QV | | | | |
| 0+40 | 0.8607 | 25.13 | Q V | | | | |
| 0+45 | 1.0771 | 31.41 | Q V | | | | |
| 0+50 | 1.4512 | 54.32 | V Q | | | | |
| 0+55 | 1.9456 | 71.78 | V Q | | | | |
| 1+ 0 | 2.1814 | 34.25 | Q | | | V | |
| 1+ 5 | 2.3023 | 17.54 | Q | | | | V |
| 1+10 | 2.3350 | 4.75 | Q | | | | V |
| 1+15 | 2.3455 | 1.53 | Q | | | | V |

```
    1+20       2.3476      0.30  Q          |          |          |        V|
    1+25       2.3482      0.09  Q          |          |          |         V
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U n i t  H y d r o g r a p h  A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 7
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

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Drainage Area = 25.30(Ac.) = 0.040 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 25.30(Ac.) = 0.040 Sq. Mi.
Length along longest watercourse = 1388.00(Ft.)
Length along longest watercourse measured to centroid = 969.00(Ft.)
Length along longest watercourse = 0.263 Mi.
Length along longest watercourse measured to centroid = 0.184 Mi.
Difference in elevation = 400.00(Ft.)
Slope along watercourse = 1521.6138 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.066 Hr.
Lag time = 3.96 Min.
25% of lag time = 0.99 Min.
40% of lag time = 1.58 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 25.30 | 0.80 | 20.24 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 25.30 | 1.80 | 45.54 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 25.300 | 83.98 | 0.000 |

Total Area Entered = 25.30(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 126.319 | 23.480 | 5.987 |
| 2 | 0.167 | 252.638 | 55.823 | 14.233 |
| 3 | 0.250 | 378.956 | 14.723 | 3.754 |
| 4 | 0.333 | 505.275 | 4.327 | 1.103 |
| 5 | 0.417 | 631.594 | 1.095 | 0.279 |
| 6 | 0.500 | 757.913 | 0.552 | 0.141 |
| | | | Sum = 100.000 | Sum= 25.498 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.281 | 0.086 | ( | 0.253) | 0.195 |
| 2 | 0.17 | 1.30 | 0.281 | 0.086 | ( | 0.253) | 0.195 |
| 3 | 0.25 | 1.10 | 0.238 | 0.086 | ( | 0.214) | 0.152 |
| 4 | 0.33 | 1.50 | 0.324 | 0.086 | ( | 0.292) | 0.238 |
| 5 | 0.42 | 1.50 | 0.324 | 0.086 | ( | 0.292) | 0.238 |
| 6 | 0.50 | 1.80 | 0.389 | 0.086 | ( | 0.350) | 0.303 |
| 7 | 0.58 | 1.50 | 0.324 | 0.086 | ( | 0.292) | 0.238 |
| 8 | 0.67 | 1.80 | 0.389 | 0.086 | ( | 0.350) | 0.303 |
| 9 | 0.75 | 1.80 | 0.389 | 0.086 | ( | 0.350) | 0.303 |
| 10 | 0.83 | 1.50 | 0.324 | 0.086 | ( | 0.292) | 0.238 |
| 11 | 0.92 | 1.60 | 0.346 | 0.086 | ( | 0.311) | 0.260 |
| 12 | 1.00 | 1.80 | 0.389 | 0.086 | ( | 0.350) | 0.303 |
| 13 | 1.08 | 2.20 | 0.475 | 0.086 | ( | 0.428) | 0.389 |
| 14 | 1.17 | 2.20 | 0.475 | 0.086 | ( | 0.428) | 0.389 |
| 15 | 1.25 | 2.20 | 0.475 | 0.086 | ( | 0.428) | 0.389 |
| 16 | 1.33 | 2.00 | 0.432 | 0.086 | ( | 0.389) | 0.346 |
| 17 | 1.42 | 2.60 | 0.562 | 0.086 | ( | 0.505) | 0.476 |
| 18 | 1.50 | 2.70 | 0.583 | 0.086 | ( | 0.525) | 0.497 |
| 19 | 1.58 | 2.40 | 0.518 | 0.086 | ( | 0.467) | 0.432 |
| 20 | 1.67 | 2.70 | 0.583 | 0.086 | ( | 0.525) | 0.497 |
| 21 | 1.75 | 3.30 | 0.713 | 0.086 | ( | 0.641) | 0.627 |
| 22 | 1.83 | 3.10 | 0.670 | 0.086 | ( | 0.603) | 0.584 |
| 23 | 1.92 | 2.90 | 0.626 | 0.086 | ( | 0.564) | 0.540 |
| 24 | 2.00 | 3.00 | 0.648 | 0.086 | ( | 0.583) | 0.562 |
| 25 | 2.08 | 3.10 | 0.670 | 0.086 | ( | 0.603) | 0.584 |
| 26 | 2.17 | 4.20 | 0.907 | 0.086 | ( | 0.816) | 0.821 |
| 27 | 2.25 | 5.00 | 1.080 | 0.086 | ( | 0.972) | 0.994 |
| 28 | 2.33 | 3.50 | 0.756 | 0.086 | ( | 0.680) | 0.670 |
| 29 | 2.42 | 6.80 | 1.469 | 0.086 | ( | 1.322) | 1.383 |
| 30 | 2.50 | 7.30 | 1.577 | 0.086 | ( | 1.419) | 1.491 |
| 31 | 2.58 | 8.20 | 1.771 | 0.086 | ( | 1.594) | 1.685 |
| 32 | 2.67 | 5.90 | 1.274 | 0.086 | ( | 1.147) | 1.188 |
| 33 | 2.75 | 2.00 | 0.432 | 0.086 | ( | 0.389) | 0.346 |
| 34 | 2.83 | 1.80 | 0.389 | 0.086 | ( | 0.350) | 0.303 |
| 35 | 2.92 | 1.80 | 0.389 | 0.086 | ( | 0.350) | 0.303 |
| 36 | 3.00 | 0.60 | 0.130 | 0.086 | ( | 0.117) | 0.044 |
| | | (Loss Rate Not Used) | | | | | |
| Sum = | | 100.0 | | | | Sum = | 18.5 |

Flood volume = Effective rainfall 1.54(In)
times area 25.3(Ac.)/[(In)/(Ft.)] = 3.3(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.544(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 141609.6 Cubic Feet
Total soil loss = 23682.3 Cubic Feet

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Peak flow rate of this hydrograph = 38.567(CFS)

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3 - H O U R S T O R M

R u n o f f  H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 10.0 20.0 30.0 40.0 |
|---|---|---|---|
| 0+ 5 | 0.0080 | 1.17 | VQ |
| 0+10 | 0.0352 | 3.94 | V Q |
| 0+15 | 0.0656 | 4.41 | V Q |
| 0+20 | 0.0968 | 4.53 | V Q |
| 0+25 | 0.1357 | 5.65 | V Q |
| 0+30 | 0.1794 | 6.35 | V Q |
| 0+35 | 0.2274 | 6.96 | V Q |
| 0+40 | 0.2735 | 6.69 | V Q |
| 0+45 | 0.3248 | 7.45 | V Q |
| 0+50 | 0.3748 | 7.26 | V Q |
| 0+55 | 0.4197 | 6.53 | VQ |
| 1+ 0 | 0.4670 | 6.86 | VQ |
| 1+ 5 | 0.5221 | 8.01 | V Q |
| 1+10 | 0.5869 | 9.41 | V Q |
| 1+15 | 0.6542 | 9.78 | VQ |
| 1+20 | 0.7205 | 9.63 | VQ |
| 1+25 | 0.7881 | 9.82 | Q |
| 1+30 | 0.8683 | 11.64 | VQ |
| 1+35 | 0.9510 | 12.00 | VQ |
| 1+40 | 1.0314 | 11.68 | QV |
| 1+45 | 1.1223 | 13.19 | Q |
| 1+50 | 1.2254 | 14.97 | QV |
| 1+55 | 1.3262 | 14.64 | Q V |
| 2+ 0 | 1.4236 | 14.15 | Q V |
| 2+ 5 | 1.5229 | 14.42 | Q V |
| 2+10 | 1.6344 | 16.19 | Q V |
| 2+15 | 1.7769 | 20.69 | QV |
| 2+20 | 1.9293 | 22.13 | QV |
| 2+25 | 2.0857 | 22.70 | Q V |
| 2+30 | 2.3098 | 32.54 | V Q |
| 2+35 | 2.5691 | 37.65 | V Q |
| 2+40 | 2.8347 | 38.57 | V Q |
| 2+45 | 3.0238 | 27.45 | Q V |
| 2+50 | 3.1180 | 13.68 | Q V |
| 2+55 | 3.1828 | 9.42 | Q V |
| 3+ 0 | 3.2287 | 6.66 | Q V |
| 3+ 5 | 3.2449 | 2.36 | Q V |
| 3+10 | 3.2493 | 0.63 | Q V |
| 3+15 | 3.2505 | 0.18 | Q V |
| 3+20 | 3.2509 | 0.05 | Q V |
| 3+25 | 3.2509 | 0.01 | Q V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA76100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 7
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

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Drainage Area = 25.30(Ac.) = 0.040 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 25.30(Ac.) = 0.040 Sq. Mi.
Length along longest watercourse = 1388.00(Ft.)
Length along longest watercourse measured to centroid = 969.00(Ft.)
Length along longest watercourse = 0.263 Mi.
Length along longest watercourse measured to centroid = 0.184 Mi.
Difference in elevation = 400.00(Ft.)
Slope along watercourse = 1521.6138 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.066 Hr.
Lag time = 3.96 Min.
25% of lag time = 0.99 Min.
40% of lag time = 1.58 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 25.30 | 1.12 | 28.34 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 25.30 | 2.50 | 63.25 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.120(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 25.300 | 83.98 | 0.000 |

Total Area Entered = 25.30(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 126.319 | 23.480 | 5.987 |
| 2 | 0.167 | 252.638 | 55.823 | 14.233 |
| 3 | 0.250 | 378.956 | 14.723 | 3.754 |
| 4 | 0.333 | 505.275 | 4.327 | 1.103 |
| 5 | 0.417 | 631.594 | 1.095 | 0.279 |
| 6 | 0.500 | 757.913 | 0.552 | 0.141 |
| | | | Sum = 100.000 | Sum= 25.498 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.086 | ( 0.135) | 0.064 |
| 2 | 0.17 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 3 | 0.25 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 4 | 0.33 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 5 | 0.42 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 6 | 0.50 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 7 | 0.58 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 8 | 0.67 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 9 | 0.75 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 10 | 0.83 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 11 | 0.92 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 12 | 1.00 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 13 | 1.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 14 | 1.17 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 15 | 1.25 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 16 | 1.33 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 17 | 1.42 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 18 | 1.50 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 19 | 1.58 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 20 | 1.67 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 21 | 1.75 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 22 | 1.83 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 23 | 1.92 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 24 | 2.00 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 25 | 2.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 26 | 2.17 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 27 | 2.25 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 28 | 2.33 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 29 | 2.42 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 30 | 2.50 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 31 | 2.58 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 32 | 2.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 33 | 2.75 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 34 | 2.83 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 35 | 2.92 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 36 | 3.00 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 37 | 3.08 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 38 | 3.17 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 39 | 3.25 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 40 | 3.33 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 41 | 3.42 | 1.20 | 0.360 | 0.086 | ( 0.324) | 0.274 |
| 42 | 3.50 | 1.30 | 0.390 | 0.086 | ( 0.351) | 0.304 |
| 43 | 3.58 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 44 | 3.67 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 45 | 3.75 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 46 | 3.83 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 47 | 3.92 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 48 | 4.00 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 49 | 4.08 | 1.70 | 0.510 | 0.086 | ( 0.459) | 0.424 |
| 50 | 4.17 | 1.80 | 0.540 | 0.086 | ( 0.486) | 0.454 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 51 | 4.25 | 1.90 | 0.570 | 0.086 | ( 0.513) | 0.484 | |
| 52 | 4.33 | 2.00 | 0.600 | 0.086 | ( 0.540) | 0.514 | |
| 53 | 4.42 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 | |
| 54 | 4.50 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 | |
| 55 | 4.58 | 2.20 | 0.660 | 0.086 | ( 0.594) | 0.574 | |
| 56 | 4.67 | 2.30 | 0.690 | 0.086 | ( 0.621) | 0.604 | |
| 57 | 4.75 | 2.40 | 0.720 | 0.086 | ( 0.648) | 0.634 | |
| 58 | 4.83 | 2.40 | 0.720 | 0.086 | ( 0.648) | 0.634 | |
| 59 | 4.92 | 2.50 | 0.750 | 0.086 | ( 0.675) | 0.664 | |
| 60 | 5.00 | 2.60 | 0.780 | 0.086 | ( 0.702) | 0.694 | |
| 61 | 5.08 | 3.10 | 0.930 | 0.086 | ( 0.837) | 0.844 | |
| 62 | 5.17 | 3.60 | 1.080 | 0.086 | ( 0.972) | 0.994 | |
| 63 | 5.25 | 3.90 | 1.170 | 0.086 | ( 1.053) | 1.084 | |
| 64 | 5.33 | 4.20 | 1.260 | 0.086 | ( 1.134) | 1.174 | |
| 65 | 5.42 | 4.70 | 1.410 | 0.086 | ( 1.269) | 1.324 | |
| 66 | 5.50 | 5.60 | 1.680 | 0.086 | ( 1.512) | 1.594 | |
| 67 | 5.58 | 1.90 | 0.570 | 0.086 | ( 0.513) | 0.484 | |
| 68 | 5.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 | |
| 69 | 5.75 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 | |
| 70 | 5.83 | 0.50 | 0.150 | 0.086 | ( 0.135) | 0.064 | |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.086) | 0.081 | 0.009 | |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.086) | 0.054 | 0.006 | |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.8

Flood volume = Effective rainfall 1.99(In)
times area 25.3(Ac.)/[(In)/(Ft.)] = 4.2(Ac.Ft)
Total soil loss = 0.51(In)
Total soil loss = 1.081(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 182495.4 Cubic Feet
Total soil loss = 47082.1 Cubic Feet

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Peak flow rate of this hydrograph = 34.403(CFS)

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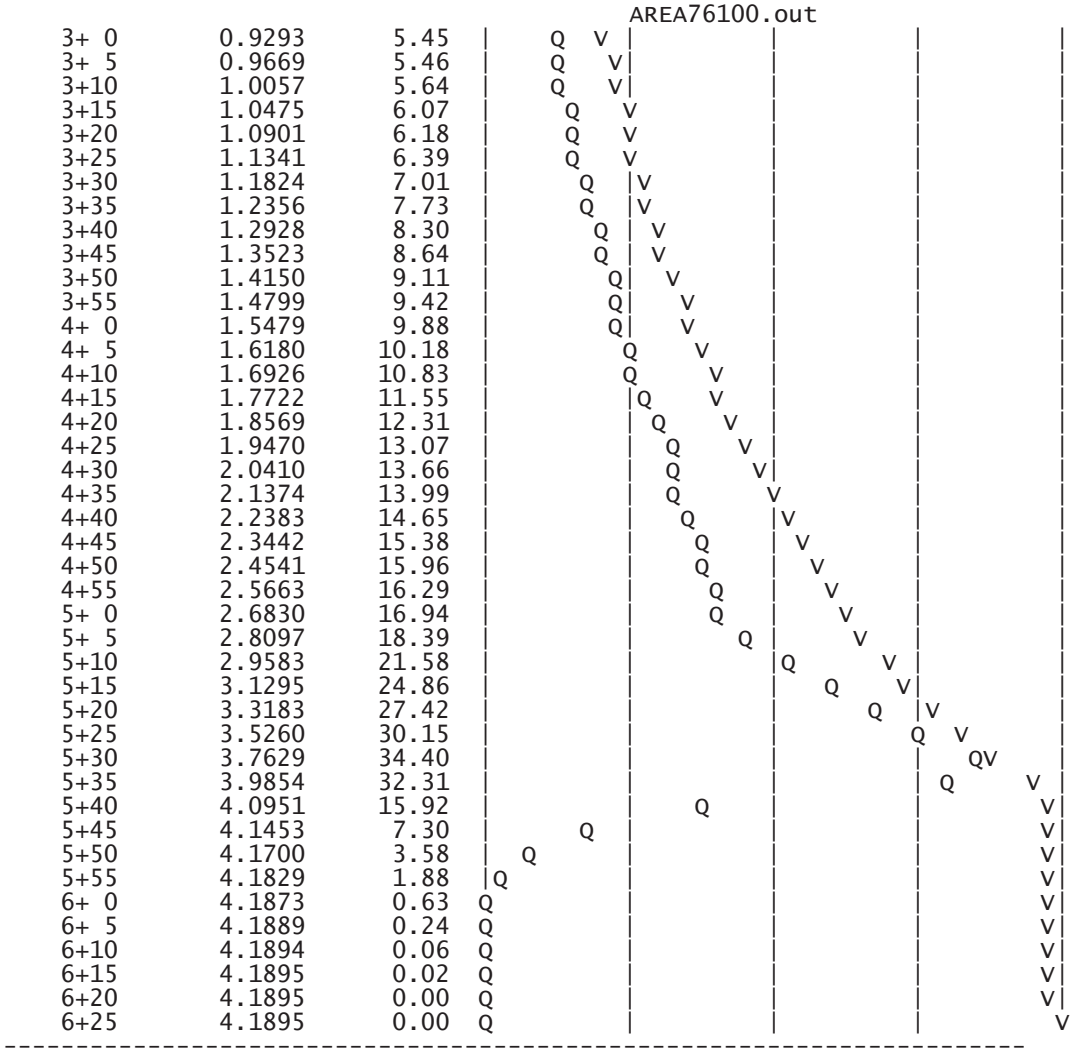
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 10.0 | 20.0 | 30.0 | 40.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0026 | 0.38 | Q | | | | |
| 0+10 | 0.0128 | 1.48 | VQ | | | | |
| 0+15 | 0.0276 | 2.14 | V Q | | | | |
| 0+20 | 0.0436 | 2.33 | V Q | | | | |
| 0+25 | 0.0599 | 2.38 | V Q | | | | |
| 0+30 | 0.0777 | 2.57 | V Q | | | | |
| 0+35 | 0.0984 | 3.01 | V Q | | | | |
| 0+40 | 0.1199 | 3.12 | \|V Q | | | | |
| 0+45 | 0.1416 | 3.15 | \|V Q | | | | |
| 0+50 | 0.1633 | 3.16 | \|V Q | | | | |
| 0+55 | 0.1851 | 3.16 | \|V Q | | | | |
| 1+ 0 | 0.2081 | 3.34 | \|V Q | | | | |
| 1+ 5 | 0.2341 | 3.77 | \| VQ | | | | |
| 1+10 | 0.2609 | 3.88 | \| VQ | | | | |
| 1+15 | 0.2878 | 3.92 | \| VQ | | | | |
| 1+20 | 0.3149 | 3.93 | \| Q | | | | |
| 1+25 | 0.3419 | 3.93 | \| Q | | | | |
| 1+30 | 0.3690 | 3.93 | \| Q | | | | |
| 1+35 | 0.3960 | 3.93 | \| Q | | | | |
| 1+40 | 0.4231 | 3.93 | \| QV | | | | |
| 1+45 | 0.4502 | 3.93 | \| QV | | | | |
| 1+50 | 0.4772 | 3.93 | \| QV | | | | |
| 1+55 | 0.5043 | 3.93 | \| QV | | | | |
| 2+ 0 | 0.5326 | 4.11 | \| QV | | | | |
| 2+ 5 | 0.5626 | 4.36 | \| QV | | | | |
| 2+10 | 0.5917 | 4.22 | \| QV | | | | |
| 2+15 | 0.6231 | 4.57 | \| QV | | | | |
| 2+20 | 0.6552 | 4.66 | \| Q V | | | | |
| 2+25 | 0.6875 | 4.69 | \| Q V | | | | |
| 2+30 | 0.7198 | 4.69 | \| Q V | | | | |
| 2+35 | 0.7521 | 4.69 | \| Q V | | | | |
| 2+40 | 0.7844 | 4.69 | \| Q V | | | | |
| 2+45 | 0.8180 | 4.87 | \| Q V | | | | |
| 2+50 | 0.8545 | 5.30 | \| Q V | | | | |
| 2+55 | 0.8918 | 5.41 | \| Q V | | | | |


3+ 0 0.9293 5.45
3+ 5 0.9669 5.46
3+10 1.0057 5.64
3+15 1.0475 6.07
3+20 1.0901 6.18
3+25 1.1341 6.39
3+30 1.1824 7.01
3+35 1.2356 7.73
3+40 1.2928 8.30
3+45 1.3523 8.64
3+50 1.4150 9.11
3+55 1.4799 9.42
4+ 0 1.5479 9.88
4+ 5 1.6180 10.18
4+10 1.6926 10.83
4+15 1.7722 11.55
4+20 1.8569 12.31
4+25 1.9470 13.07
4+30 2.0410 13.66
4+35 2.1374 13.99
4+40 2.2383 14.65
4+45 2.3442 15.38
4+50 2.4541 15.96
4+55 2.5663 16.29
5+ 0 2.6830 16.94
5+ 5 2.8097 18.39
5+10 2.9583 21.58
5+15 3.1295 24.86
5+20 3.3183 27.42
5+25 3.5260 30.15
5+30 3.7629 34.40
5+35 3.9854 32.31
5+40 4.0951 15.92
5+45 4.1453 7.30
5+50 4.1700 3.58
5+55 4.1829 1.88
6+ 0 4.1873 0.63
6+ 5 4.1889 0.24
6+10 4.1894 0.06
6+15 4.1895 0.02
6+20 4.1895 0.00
6+25 4.1895 0.00

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA724100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 7
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

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Drainage Area = 25.30(Ac.) = 0.040 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 25.30(Ac.) = 0.040 Sq. Mi.
Length along longest watercourse = 1388.00(Ft.)
Length along longest watercourse measured to centroid = 969.00(Ft.)
Length along longest watercourse = 0.263 Mi.
Length along longest watercourse measured to centroid = 0.184 Mi.
Difference in elevation = 400.00(Ft.)
Slope along watercourse = 1521.6138 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.066 Hr.
Lag time = 3.96 Min.
25% of lag time = 0.99 Min.
40% of lag time = 1.58 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 25.30 | 1.80 | 45.54 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 25.30 | 4.54 | 114.86 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.540(In)

Point rain (area averaged) = 4.540(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.540(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 25.300 | 83.98 | 0.000 |

Total Area Entered = 25.30(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 126.319 | 23.480 | 5.987 |
| 2 | 0.167 | 252.638 | 55.823 | 14.233 |
| 3 | 0.250 | 378.956 | 14.723 | 3.754 |
| 4 | 0.333 | 505.275 | 4.327 | 1.103 |
| 5 | 0.417 | 631.594 | 1.095 | 0.279 |
| 6 | 0.500 | 757.913 | 0.552 | 0.141 |
| | | | Sum = 100.000 | Sum= 25.498 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.036 | ( 0.152) | 0.033 | 0.004 |
| 2 | 0.17 | 0.07 | 0.036 | ( 0.152) | 0.033 | 0.004 |
| 3 | 0.25 | 0.07 | 0.036 | ( 0.151) | 0.033 | 0.004 |
| 4 | 0.33 | 0.10 | 0.054 | ( 0.151) | 0.049 | 0.005 |
| 5 | 0.42 | 0.10 | 0.054 | ( 0.150) | 0.049 | 0.005 |
| 6 | 0.50 | 0.10 | 0.054 | ( 0.149) | 0.049 | 0.005 |
| 7 | 0.58 | 0.10 | 0.054 | ( 0.149) | 0.049 | 0.005 |
| 8 | 0.67 | 0.10 | 0.054 | ( 0.148) | 0.049 | 0.005 |
| 9 | 0.75 | 0.10 | 0.054 | ( 0.148) | 0.049 | 0.005 |
| 10 | 0.83 | 0.13 | 0.073 | ( 0.147) | 0.065 | 0.007 |
| 11 | 0.92 | 0.13 | 0.073 | ( 0.147) | 0.065 | 0.007 |
| 12 | 1.00 | 0.13 | 0.073 | ( 0.146) | 0.065 | 0.007 |
| 13 | 1.08 | 0.10 | 0.054 | ( 0.145) | 0.049 | 0.005 |
| 14 | 1.17 | 0.10 | 0.054 | ( 0.145) | 0.049 | 0.005 |
| 15 | 1.25 | 0.10 | 0.054 | ( 0.144) | 0.049 | 0.005 |
| 16 | 1.33 | 0.10 | 0.054 | ( 0.144) | 0.049 | 0.005 |
| 17 | 1.42 | 0.10 | 0.054 | ( 0.143) | 0.049 | 0.005 |
| 18 | 1.50 | 0.10 | 0.054 | ( 0.143) | 0.049 | 0.005 |
| 19 | 1.58 | 0.10 | 0.054 | ( 0.142) | 0.049 | 0.005 |
| 20 | 1.67 | 0.10 | 0.054 | ( 0.141) | 0.049 | 0.005 |
| 21 | 1.75 | 0.10 | 0.054 | ( 0.141) | 0.049 | 0.005 |
| 22 | 1.83 | 0.13 | 0.073 | ( 0.140) | 0.065 | 0.007 |
| 23 | 1.92 | 0.13 | 0.073 | ( 0.140) | 0.065 | 0.007 |
| 24 | 2.00 | 0.13 | 0.073 | ( 0.139) | 0.065 | 0.007 |
| 25 | 2.08 | 0.13 | 0.073 | ( 0.139) | 0.065 | 0.007 |
| 26 | 2.17 | 0.13 | 0.073 | ( 0.138) | 0.065 | 0.007 |
| 27 | 2.25 | 0.13 | 0.073 | ( 0.137) | 0.065 | 0.007 |
| 28 | 2.33 | 0.13 | 0.073 | ( 0.137) | 0.065 | 0.007 |
| 29 | 2.42 | 0.13 | 0.073 | ( 0.136) | 0.065 | 0.007 |
| 30 | 2.50 | 0.13 | 0.073 | ( 0.136) | 0.065 | 0.007 |
| 31 | 2.58 | 0.17 | 0.091 | ( 0.135) | 0.082 | 0.009 |
| 32 | 2.67 | 0.17 | 0.091 | ( 0.135) | 0.082 | 0.009 |
| 33 | 2.75 | 0.17 | 0.091 | ( 0.134) | 0.082 | 0.009 |
| 34 | 2.83 | 0.17 | 0.091 | ( 0.134) | 0.082 | 0.009 |
| 35 | 2.92 | 0.17 | 0.091 | ( 0.133) | 0.082 | 0.009 |
| 36 | 3.00 | 0.17 | 0.091 | ( 0.132) | 0.082 | 0.009 |
| 37 | 3.08 | 0.17 | 0.091 | ( 0.132) | 0.082 | 0.009 |
| 38 | 3.17 | 0.17 | 0.091 | ( 0.131) | 0.082 | 0.009 |
| 39 | 3.25 | 0.17 | 0.091 | ( 0.131) | 0.082 | 0.009 |
| 40 | 3.33 | 0.17 | 0.091 | ( 0.130) | 0.082 | 0.009 |
| 41 | 3.42 | 0.17 | 0.091 | ( 0.130) | 0.082 | 0.009 |
| 42 | 3.50 | 0.17 | 0.091 | ( 0.129) | 0.082 | 0.009 |
| 43 | 3.58 | 0.17 | 0.091 | ( 0.129) | 0.082 | 0.009 |
| 44 | 3.67 | 0.17 | 0.091 | ( 0.128) | 0.082 | 0.009 |
| 45 | 3.75 | 0.17 | 0.091 | ( 0.128) | 0.082 | 0.009 |
| 46 | 3.83 | 0.20 | 0.109 | ( 0.127) | 0.098 | 0.011 |
| 47 | 3.92 | 0.20 | 0.109 | ( 0.126) | 0.098 | 0.011 |
| 48 | 4.00 | 0.20 | 0.109 | ( 0.126) | 0.098 | 0.011 |
| 49 | 4.08 | 0.20 | 0.109 | ( 0.125) | 0.098 | 0.011 |
| 50 | 4.17 | 0.20 | 0.109 | ( 0.125) | 0.098 | 0.011 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 51 | 4.25 | 0.20 | 0.109 | ( | 0.124) | 0.098 | | 0.011 |
| 52 | 4.33 | 0.23 | 0.127 | ( | 0.124) | 0.114 | | 0.013 |
| 53 | 4.42 | 0.23 | 0.127 | ( | 0.123) | 0.114 | | 0.013 |
| 54 | 4.50 | 0.23 | 0.127 | ( | 0.123) | 0.114 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.127 | ( | 0.122) | 0.114 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.127 | ( | 0.122) | 0.114 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.127 | ( | 0.121) | 0.114 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.145 | | 0.121 | ( | 0.131) | 0.025 |
| 59 | 4.92 | 0.27 | 0.145 | | 0.120 | ( | 0.131) | 0.025 |
| 60 | 5.00 | 0.27 | 0.145 | | 0.120 | ( | 0.131) | 0.026 |
| 61 | 5.08 | 0.20 | 0.109 | ( | 0.119) | 0.098 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.109 | ( | 0.119) | 0.098 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.109 | ( | 0.118) | 0.098 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.127 | ( | 0.118) | 0.114 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.127 | ( | 0.117) | 0.114 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.127 | ( | 0.117) | 0.114 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.145 | | 0.116 | ( | 0.131) | 0.029 |
| 68 | 5.67 | 0.27 | 0.145 | | 0.115 | ( | 0.131) | 0.030 |
| 69 | 5.75 | 0.27 | 0.145 | | 0.115 | ( | 0.131) | 0.030 |
| 70 | 5.83 | 0.27 | 0.145 | | 0.114 | ( | 0.131) | 0.031 |
| 71 | 5.92 | 0.27 | 0.145 | | 0.114 | ( | 0.131) | 0.031 |
| 72 | 6.00 | 0.27 | 0.145 | | 0.113 | ( | 0.131) | 0.032 |
| 73 | 6.08 | 0.30 | 0.163 | | 0.113 | ( | 0.147) | 0.050 |
| 74 | 6.17 | 0.30 | 0.163 | | 0.112 | ( | 0.147) | 0.051 |
| 75 | 6.25 | 0.30 | 0.163 | | 0.112 | ( | 0.147) | 0.051 |
| 76 | 6.33 | 0.30 | 0.163 | | 0.111 | ( | 0.147) | 0.052 |
| 77 | 6.42 | 0.30 | 0.163 | | 0.111 | ( | 0.147) | 0.052 |
| 78 | 6.50 | 0.30 | 0.163 | | 0.110 | ( | 0.147) | 0.053 |
| 79 | 6.58 | 0.33 | 0.182 | | 0.110 | ( | 0.163) | 0.072 |
| 80 | 6.67 | 0.33 | 0.182 | | 0.109 | ( | 0.163) | 0.072 |
| 81 | 6.75 | 0.33 | 0.182 | | 0.109 | ( | 0.163) | 0.073 |
| 82 | 6.83 | 0.33 | 0.182 | | 0.108 | ( | 0.163) | 0.073 |
| 83 | 6.92 | 0.33 | 0.182 | | 0.108 | ( | 0.163) | 0.074 |
| 84 | 7.00 | 0.33 | 0.182 | | 0.107 | ( | 0.163) | 0.074 |
| 85 | 7.08 | 0.33 | 0.182 | | 0.107 | ( | 0.163) | 0.075 |
| 86 | 7.17 | 0.33 | 0.182 | | 0.107 | ( | 0.163) | 0.075 |
| 87 | 7.25 | 0.33 | 0.182 | | 0.106 | ( | 0.163) | 0.076 |
| 88 | 7.33 | 0.37 | 0.200 | | 0.106 | ( | 0.180) | 0.094 |
| 89 | 7.42 | 0.37 | 0.200 | | 0.105 | ( | 0.180) | 0.095 |
| 90 | 7.50 | 0.37 | 0.200 | | 0.105 | ( | 0.180) | 0.095 |
| 91 | 7.58 | 0.40 | 0.218 | | 0.104 | ( | 0.196) | 0.114 |
| 92 | 7.67 | 0.40 | 0.218 | | 0.104 | ( | 0.196) | 0.114 |
| 93 | 7.75 | 0.40 | 0.218 | | 0.103 | ( | 0.196) | 0.115 |
| 94 | 7.83 | 0.43 | 0.236 | | 0.103 | ( | 0.212) | 0.133 |
| 95 | 7.92 | 0.43 | 0.236 | | 0.102 | ( | 0.212) | 0.134 |
| 96 | 8.00 | 0.43 | 0.236 | | 0.102 | ( | 0.212) | 0.134 |
| 97 | 8.08 | 0.50 | 0.272 | | 0.101 | ( | 0.245) | 0.171 |
| 98 | 8.17 | 0.50 | 0.272 | | 0.101 | ( | 0.245) | 0.172 |
| 99 | 8.25 | 0.50 | 0.272 | | 0.100 | ( | 0.245) | 0.172 |
| 100 | 8.33 | 0.50 | 0.272 | | 0.100 | ( | 0.245) | 0.173 |
| 101 | 8.42 | 0.50 | 0.272 | | 0.099 | ( | 0.245) | 0.173 |
| 102 | 8.50 | 0.50 | 0.272 | | 0.099 | ( | 0.245) | 0.173 |
| 103 | 8.58 | 0.53 | 0.291 | | 0.098 | ( | 0.261) | 0.192 |
| 104 | 8.67 | 0.53 | 0.291 | | 0.098 | ( | 0.261) | 0.193 |
| 105 | 8.75 | 0.53 | 0.291 | | 0.098 | ( | 0.261) | 0.193 |
| 106 | 8.83 | 0.57 | 0.309 | | 0.097 | ( | 0.278) | 0.212 |
| 107 | 8.92 | 0.57 | 0.309 | | 0.097 | ( | 0.278) | 0.212 |
| 108 | 9.00 | 0.57 | 0.309 | | 0.096 | ( | 0.278) | 0.213 |
| 109 | 9.08 | 0.63 | 0.345 | | 0.096 | ( | 0.311) | 0.249 |
| 110 | 9.17 | 0.63 | 0.345 | | 0.095 | ( | 0.311) | 0.250 |
| 111 | 9.25 | 0.63 | 0.345 | | 0.095 | ( | 0.311) | 0.250 |
| 112 | 9.33 | 0.67 | 0.363 | | 0.094 | ( | 0.327) | 0.269 |
| 113 | 9.42 | 0.67 | 0.363 | | 0.094 | ( | 0.327) | 0.269 |
| 114 | 9.50 | 0.67 | 0.363 | | 0.093 | ( | 0.327) | 0.270 |
| 115 | 9.58 | 0.70 | 0.381 | | 0.093 | ( | 0.343) | 0.288 |
| 116 | 9.67 | 0.70 | 0.381 | | 0.093 | ( | 0.343) | 0.289 |
| 117 | 9.75 | 0.70 | 0.381 | | 0.092 | ( | 0.343) | 0.289 |
| 118 | 9.83 | 0.73 | 0.400 | | 0.092 | ( | 0.360) | 0.308 |
| 119 | 9.92 | 0.73 | 0.400 | | 0.091 | ( | 0.360) | 0.308 |
| 120 | 10.00 | 0.73 | 0.400 | | 0.091 | ( | 0.360) | 0.309 |
| 121 | 10.08 | 0.50 | 0.272 | | 0.090 | ( | 0.245) | 0.182 |
| 122 | 10.17 | 0.50 | 0.272 | | 0.090 | ( | 0.245) | 0.182 |
| 123 | 10.25 | 0.50 | 0.272 | | 0.089 | ( | 0.245) | 0.183 |
| 124 | 10.33 | 0.50 | 0.272 | | 0.089 | ( | 0.245) | 0.183 |
| 125 | 10.42 | 0.50 | 0.272 | | 0.089 | ( | 0.245) | 0.184 |
| 126 | 10.50 | 0.50 | 0.272 | | 0.088 | ( | 0.245) | 0.184 |
| 127 | 10.58 | 0.67 | 0.363 | | 0.088 | ( | 0.327) | 0.275 |
| 128 | 10.67 | 0.67 | 0.363 | | 0.087 | ( | 0.327) | 0.276 |

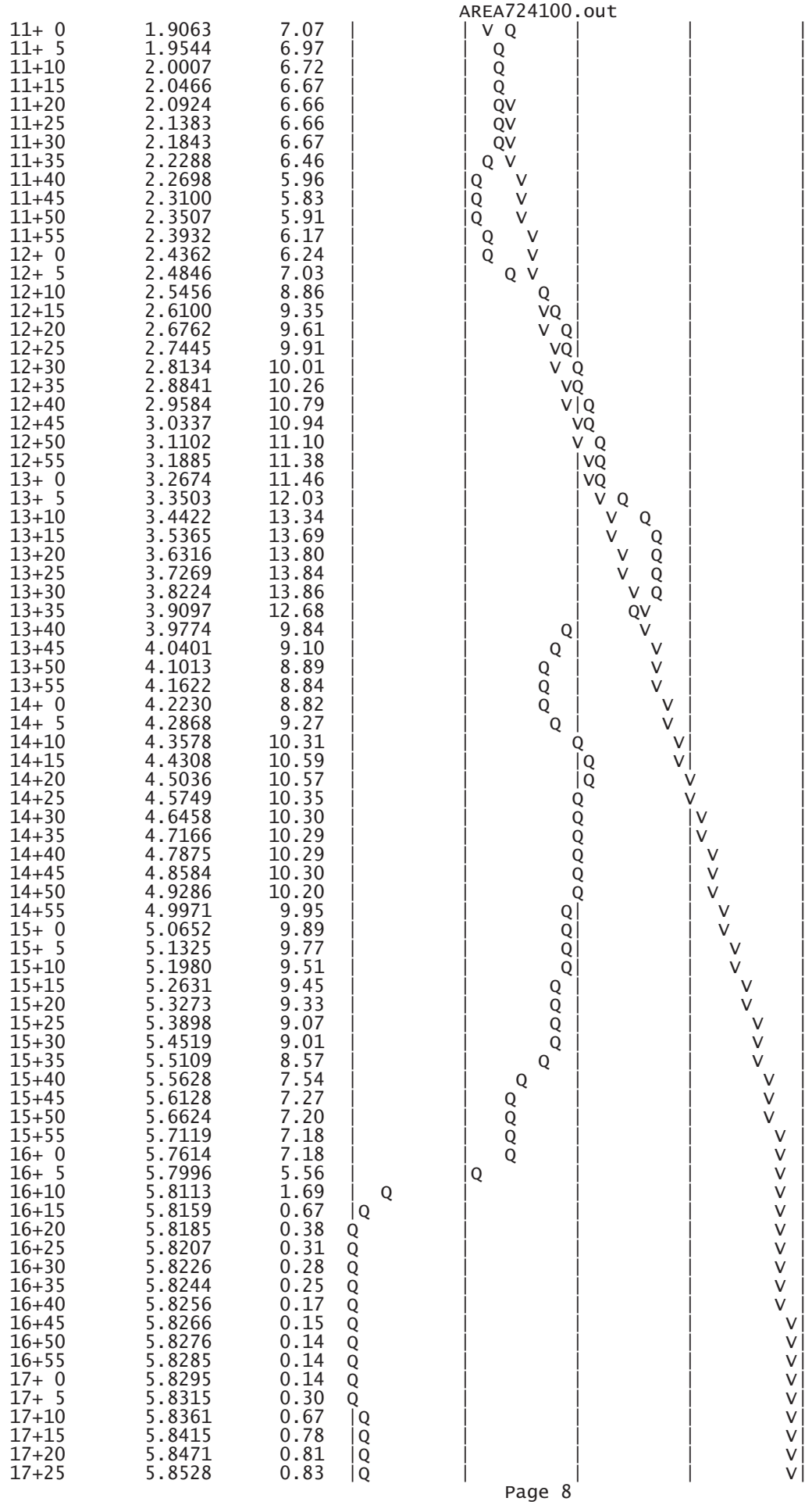
| | | | | | | |
|---|---|---|---|---|---|---|
| 129 | 10.75 | 0.67 | 0.363 | 0.087 | ( 0.327) | 0.276 |
| 130 | 10.83 | 0.67 | 0.363 | 0.086 | ( 0.327) | 0.277 |
| 131 | 10.92 | 0.67 | 0.363 | 0.086 | ( 0.327) | 0.277 |
| 132 | 11.00 | 0.67 | 0.363 | 0.086 | ( 0.327) | 0.278 |
| 133 | 11.08 | 0.63 | 0.345 | 0.085 | ( 0.311) | 0.260 |
| 134 | 11.17 | 0.63 | 0.345 | 0.085 | ( 0.311) | 0.260 |
| 135 | 11.25 | 0.63 | 0.345 | 0.084 | ( 0.311) | 0.261 |
| 136 | 11.33 | 0.63 | 0.345 | 0.084 | ( 0.311) | 0.261 |
| 137 | 11.42 | 0.63 | 0.345 | 0.084 | ( 0.311) | 0.262 |
| 138 | 11.50 | 0.63 | 0.345 | 0.083 | ( 0.311) | 0.262 |
| 139 | 11.58 | 0.57 | 0.309 | 0.083 | ( 0.278) | 0.226 |
| 140 | 11.67 | 0.57 | 0.309 | 0.082 | ( 0.278) | 0.226 |
| 141 | 11.75 | 0.57 | 0.309 | 0.082 | ( 0.278) | 0.227 |
| 142 | 11.83 | 0.60 | 0.327 | 0.081 | ( 0.294) | 0.245 |
| 143 | 11.92 | 0.60 | 0.327 | 0.081 | ( 0.294) | 0.246 |
| 144 | 12.00 | 0.60 | 0.327 | 0.081 | ( 0.294) | 0.246 |
| 145 | 12.08 | 0.83 | 0.454 | 0.080 | ( 0.409) | 0.374 |
| 146 | 12.17 | 0.83 | 0.454 | 0.080 | ( 0.409) | 0.374 |
| 147 | 12.25 | 0.83 | 0.454 | 0.079 | ( 0.409) | 0.375 |
| 148 | 12.33 | 0.87 | 0.472 | 0.079 | ( 0.425) | 0.393 |
| 149 | 12.42 | 0.87 | 0.472 | 0.079 | ( 0.425) | 0.393 |
| 150 | 12.50 | 0.87 | 0.472 | 0.078 | ( 0.425) | 0.394 |
| 151 | 12.58 | 0.93 | 0.508 | 0.078 | ( 0.458) | 0.431 |
| 152 | 12.67 | 0.93 | 0.508 | 0.077 | ( 0.458) | 0.431 |
| 153 | 12.75 | 0.93 | 0.508 | 0.077 | ( 0.458) | 0.431 |
| 154 | 12.83 | 0.97 | 0.527 | 0.077 | ( 0.474) | 0.450 |
| 155 | 12.92 | 0.97 | 0.527 | 0.076 | ( 0.474) | 0.450 |
| 156 | 13.00 | 0.97 | 0.527 | 0.076 | ( 0.474) | 0.451 |
| 157 | 13.08 | 1.13 | 0.617 | 0.076 | ( 0.556) | 0.542 |
| 158 | 13.17 | 1.13 | 0.617 | 0.075 | ( 0.556) | 0.542 |
| 159 | 13.25 | 1.13 | 0.617 | 0.075 | ( 0.556) | 0.543 |
| 160 | 13.33 | 1.13 | 0.617 | 0.074 | ( 0.556) | 0.543 |
| 161 | 13.42 | 1.13 | 0.617 | 0.074 | ( 0.556) | 0.543 |
| 162 | 13.50 | 1.13 | 0.617 | 0.074 | ( 0.556) | 0.544 |
| 163 | 13.58 | 0.77 | 0.418 | 0.073 | ( 0.376) | 0.344 |
| 164 | 13.67 | 0.77 | 0.418 | 0.073 | ( 0.376) | 0.345 |
| 165 | 13.75 | 0.77 | 0.418 | 0.073 | ( 0.376) | 0.345 |
| 166 | 13.83 | 0.77 | 0.418 | 0.072 | ( 0.376) | 0.346 |
| 167 | 13.92 | 0.77 | 0.418 | 0.072 | ( 0.376) | 0.346 |
| 168 | 14.00 | 0.77 | 0.418 | 0.071 | ( 0.376) | 0.346 |
| 169 | 14.08 | 0.90 | 0.490 | 0.071 | ( 0.441) | 0.419 |
| 170 | 14.17 | 0.90 | 0.490 | 0.071 | ( 0.441) | 0.420 |
| 171 | 14.25 | 0.90 | 0.490 | 0.070 | ( 0.441) | 0.420 |
| 172 | 14.33 | 0.87 | 0.472 | 0.070 | ( 0.425) | 0.402 |
| 173 | 14.42 | 0.87 | 0.472 | 0.070 | ( 0.425) | 0.403 |
| 174 | 14.50 | 0.87 | 0.472 | 0.069 | ( 0.425) | 0.403 |
| 175 | 14.58 | 0.87 | 0.472 | 0.069 | ( 0.425) | 0.403 |
| 176 | 14.67 | 0.87 | 0.472 | 0.069 | ( 0.425) | 0.404 |
| 177 | 14.75 | 0.87 | 0.472 | 0.068 | ( 0.425) | 0.404 |
| 178 | 14.83 | 0.83 | 0.454 | 0.068 | ( 0.409) | 0.386 |
| 179 | 14.92 | 0.83 | 0.454 | 0.067 | ( 0.409) | 0.386 |
| 180 | 15.00 | 0.83 | 0.454 | 0.067 | ( 0.409) | 0.387 |
| 181 | 15.08 | 0.80 | 0.436 | 0.067 | ( 0.392) | 0.369 |
| 182 | 15.17 | 0.80 | 0.436 | 0.066 | ( 0.392) | 0.369 |
| 183 | 15.25 | 0.80 | 0.436 | 0.066 | ( 0.392) | 0.370 |
| 184 | 15.33 | 0.77 | 0.418 | 0.066 | ( 0.376) | 0.352 |
| 185 | 15.42 | 0.77 | 0.418 | 0.065 | ( 0.376) | 0.352 |
| 186 | 15.50 | 0.77 | 0.418 | 0.065 | ( 0.376) | 0.353 |
| 187 | 15.58 | 0.63 | 0.345 | 0.065 | ( 0.311) | 0.280 |
| 188 | 15.67 | 0.63 | 0.345 | 0.064 | ( 0.311) | 0.281 |
| 189 | 15.75 | 0.63 | 0.345 | 0.064 | ( 0.311) | 0.281 |
| 190 | 15.83 | 0.63 | 0.345 | 0.064 | ( 0.311) | 0.281 |
| 191 | 15.92 | 0.63 | 0.345 | 0.063 | ( 0.311) | 0.282 |
| 192 | 16.00 | 0.63 | 0.345 | 0.063 | ( 0.311) | 0.282 |
| 193 | 16.08 | 0.13 | 0.073 | 0.063 | ( 0.065) | 0.010 |
| 194 | 16.17 | 0.13 | 0.073 | 0.062 | ( 0.065) | 0.010 |
| 195 | 16.25 | 0.13 | 0.073 | 0.062 | ( 0.065) | 0.010 |
| 196 | 16.33 | 0.13 | 0.073 | 0.062 | ( 0.065) | 0.011 |
| 197 | 16.42 | 0.13 | 0.073 | 0.062 | ( 0.065) | 0.011 |
| 198 | 16.50 | 0.13 | 0.073 | 0.061 | ( 0.065) | 0.011 |
| 199 | 16.58 | 0.10 | 0.054 | ( 0.061) | 0.049 | 0.005 |
| 200 | 16.67 | 0.10 | 0.054 | ( 0.061) | 0.049 | 0.005 |
| 201 | 16.75 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 202 | 16.83 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 203 | 16.92 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 204 | 17.00 | 0.10 | 0.054 | ( 0.059) | 0.049 | 0.005 |
| 205 | 17.08 | 0.17 | 0.091 | 0.059 | ( 0.082) | 0.032 |
| 206 | 17.17 | 0.17 | 0.091 | 0.059 | ( 0.082) | 0.032 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 207 | 17.25 | 0.17 | 0.091 | | 0.058 | ( | 0.082) | 0.032 |
| 208 | 17.33 | 0.17 | 0.091 | | 0.058 | ( | 0.082) | 0.033 |
| 209 | 17.42 | 0.17 | 0.091 | | 0.058 | ( | 0.082) | 0.033 |
| 210 | 17.50 | 0.17 | 0.091 | | 0.058 | ( | 0.082) | 0.033 |
| 211 | 17.58 | 0.17 | 0.091 | | 0.057 | ( | 0.082) | 0.033 |
| 212 | 17.67 | 0.17 | 0.091 | | 0.057 | ( | 0.082) | 0.034 |
| 213 | 17.75 | 0.17 | 0.091 | | 0.057 | ( | 0.082) | 0.034 |
| 214 | 17.83 | 0.13 | 0.073 | | 0.056 | ( | 0.065) | 0.016 |
| 215 | 17.92 | 0.13 | 0.073 | | 0.056 | ( | 0.065) | 0.016 |
| 216 | 18.00 | 0.13 | 0.073 | | 0.056 | ( | 0.065) | 0.017 |
| 217 | 18.08 | 0.13 | 0.073 | | 0.056 | ( | 0.065) | 0.017 |
| 218 | 18.17 | 0.13 | 0.073 | | 0.055 | ( | 0.065) | 0.017 |
| 219 | 18.25 | 0.13 | 0.073 | | 0.055 | ( | 0.065) | 0.018 |
| 220 | 18.33 | 0.13 | 0.073 | | 0.055 | ( | 0.065) | 0.018 |
| 221 | 18.42 | 0.13 | 0.073 | | 0.055 | ( | 0.065) | 0.018 |
| 222 | 18.50 | 0.13 | 0.073 | | 0.054 | ( | 0.065) | 0.018 |
| 223 | 18.58 | 0.10 | 0.054 | ( | 0.054) | | 0.049 | 0.005 |
| 224 | 18.67 | 0.10 | 0.054 | ( | 0.054) | | 0.049 | 0.005 |
| 225 | 18.75 | 0.10 | 0.054 | ( | 0.054) | | 0.049 | 0.005 |
| 226 | 18.83 | 0.07 | 0.036 | ( | 0.053) | | 0.033 | 0.004 |
| 227 | 18.92 | 0.07 | 0.036 | ( | 0.053) | | 0.033 | 0.004 |
| 228 | 19.00 | 0.07 | 0.036 | ( | 0.053) | | 0.033 | 0.004 |
| 229 | 19.08 | 0.10 | 0.054 | ( | 0.052) | | 0.049 | 0.005 |
| 230 | 19.17 | 0.10 | 0.054 | ( | 0.052) | | 0.049 | 0.005 |
| 231 | 19.25 | 0.10 | 0.054 | ( | 0.052) | | 0.049 | 0.005 |
| 232 | 19.33 | 0.13 | 0.073 | | 0.052 | ( | 0.065) | 0.021 |
| 233 | 19.42 | 0.13 | 0.073 | | 0.052 | ( | 0.065) | 0.021 |
| 234 | 19.50 | 0.13 | 0.073 | | 0.051 | ( | 0.065) | 0.021 |
| 235 | 19.58 | 0.10 | 0.054 | ( | 0.051) | | 0.049 | 0.005 |
| 236 | 19.67 | 0.10 | 0.054 | ( | 0.051) | | 0.049 | 0.005 |
| 237 | 19.75 | 0.10 | 0.054 | ( | 0.051) | | 0.049 | 0.005 |
| 238 | 19.83 | 0.07 | 0.036 | ( | 0.050) | | 0.033 | 0.004 |
| 239 | 19.92 | 0.07 | 0.036 | ( | 0.050) | | 0.033 | 0.004 |
| 240 | 20.00 | 0.07 | 0.036 | ( | 0.050) | | 0.033 | 0.004 |
| 241 | 20.08 | 0.10 | 0.054 | ( | 0.050) | | 0.049 | 0.005 |
| 242 | 20.17 | 0.10 | 0.054 | ( | 0.049) | | 0.049 | 0.005 |
| 243 | 20.25 | 0.10 | 0.054 | ( | 0.049) | | 0.049 | 0.005 |
| 244 | 20.33 | 0.10 | 0.054 | ( | 0.049) | | 0.049 | 0.005 |
| 245 | 20.42 | 0.10 | 0.054 | | 0.049 | ( | 0.049) | 0.006 |
| 246 | 20.50 | 0.10 | 0.054 | | 0.049 | ( | 0.049) | 0.006 |
| 247 | 20.58 | 0.10 | 0.054 | | 0.048 | ( | 0.049) | 0.006 |
| 248 | 20.67 | 0.10 | 0.054 | | 0.048 | ( | 0.049) | 0.006 |
| 249 | 20.75 | 0.10 | 0.054 | | 0.048 | ( | 0.049) | 0.006 |
| 250 | 20.83 | 0.07 | 0.036 | ( | 0.048) | | 0.033 | 0.004 |
| 251 | 20.92 | 0.07 | 0.036 | ( | 0.048) | | 0.033 | 0.004 |
| 252 | 21.00 | 0.07 | 0.036 | ( | 0.047) | | 0.033 | 0.004 |
| 253 | 21.08 | 0.10 | 0.054 | | 0.047 | ( | 0.049) | 0.007 |
| 254 | 21.17 | 0.10 | 0.054 | | 0.047 | ( | 0.049) | 0.007 |
| 255 | 21.25 | 0.10 | 0.054 | | 0.047 | ( | 0.049) | 0.008 |
| 256 | 21.33 | 0.07 | 0.036 | ( | 0.047) | | 0.033 | 0.004 |
| 257 | 21.42 | 0.07 | 0.036 | ( | 0.047) | | 0.033 | 0.004 |
| 258 | 21.50 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 259 | 21.58 | 0.10 | 0.054 | | 0.046 | ( | 0.049) | 0.008 |
| 260 | 21.67 | 0.10 | 0.054 | | 0.046 | ( | 0.049) | 0.008 |
| 261 | 21.75 | 0.10 | 0.054 | | 0.046 | ( | 0.049) | 0.009 |
| 262 | 21.83 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 263 | 21.92 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 264 | 22.00 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 265 | 22.08 | 0.10 | 0.054 | | 0.045 | ( | 0.049) | 0.009 |
| 266 | 22.17 | 0.10 | 0.054 | | 0.045 | ( | 0.049) | 0.009 |
| 267 | 22.25 | 0.10 | 0.054 | | 0.045 | ( | 0.049) | 0.010 |
| 268 | 22.33 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 269 | 22.42 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 270 | 22.50 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 271 | 22.58 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 272 | 22.67 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 273 | 22.75 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 274 | 22.83 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 275 | 22.92 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 276 | 23.00 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 277 | 23.08 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 278 | 23.17 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 279 | 23.25 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 280 | 23.33 | 0.07 | 0.036 | ( | 0.043) | | 0.033 | 0.004 |
| 281 | 23.42 | 0.07 | 0.036 | ( | 0.043) | | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.036 | ( | 0.043) | | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.036 | ( | 0.043) | | 0.033 | 0.004 |
| 284 | 23.67 | 0.07 | 0.036 | ( | 0.043) | | 0.033 | 0.004 |

```
285  23.75     0.07      0.036       (  0.043)       0.033        0.004
286  23.83     0.07      0.036       (  0.043)       0.033        0.004
287  23.92     0.07      0.036       (  0.043)       0.033        0.004
288  24.00     0.07      0.036       (  0.043)       0.033        0.004
              (Loss Rate Not Used)
    Sum =     100.0                                    Sum =    34.0
       Flood volume = Effective rainfall      2.83(In)
        times area      25.3(Ac.)/[(In)/(Ft.)] =       6.0(Ac.Ft)
       Total soil loss =      1.71(In)
       Total soil loss =     3.596(Ac.Ft)
       Total rainfall =      4.54(In)
       Flood volume =      260269.6 Cubic Feet
       Total soil loss =      156658.9 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =     13.862(CFS)
       ---------------------------------------------------------------------
       +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
       ---------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))

       ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        5.0      10.0      15.0      20.0
 ------------------------------------------------------------------------
   0+ 5       0.0001      0.02  Q          |          |          |          |
   0+10       0.0007      0.07  Q          |          |          |          |
   0+15       0.0013      0.09  Q          |          |          |          |
   0+20       0.0020      0.10  Q          |          |          |          |
   0+25       0.0028      0.13  Q          |          |          |          |
   0+30       0.0038      0.14  Q          |          |          |          |
   0+35       0.0047      0.14  Q          |          |          |          |
   0+40       0.0057      0.14  Q          |          |          |          |
   0+45       0.0066      0.14  Q          |          |          |          |
   0+50       0.0077      0.15  Q          |          |          |          |
   0+55       0.0089      0.18  Q          |          |          |          |
   1+ 0       0.0101      0.18  Q          |          |          |          |
   1+ 5       0.0113      0.17  Q          |          |          |          |
   1+10       0.0124      0.15  Q          |          |          |          |
   1+15       0.0133      0.14  Q          |          |          |          |
   1+20       0.0143      0.14  Q          |          |          |          |
   1+25       0.0153      0.14  Q          |          |          |          |
   1+30       0.0162      0.14  Q          |          |          |          |
   1+35       0.0172      0.14  Q          |          |          |          |
   1+40       0.0181      0.14  Q          |          |          |          |
   1+45       0.0191      0.14  Q          |          |          |          |
   1+50       0.0201      0.15  Q          |          |          |          |
   1+55       0.0213      0.18  Q          |          |          |          |
   2+ 0       0.0226      0.18  Q          |          |          |          |
   2+ 5       0.0239      0.18  Q          |          |          |          |
   2+10       0.0251      0.19  Q          |          |          |          |
   2+15       0.0264      0.19  Q          |          |          |          |
   2+20       0.0277      0.19  Q          |          |          |          |
   2+25       0.0290      0.19  Q          |          |          |          |
   2+30       0.0302      0.19  Q          |          |          |          |
   2+35       0.0316      0.20  Q          |          |          |          |
   2+40       0.0331      0.22  Q          |          |          |          |
   2+45       0.0347      0.23  Q          |          |          |          |
   2+50       0.0363      0.23  Q          |          |          |          |
   2+55       0.0379      0.23  Q          |          |          |          |
   3+ 0       0.0395      0.23  Q          |          |          |          |
   3+ 5       0.0411      0.23  Q          |          |          |          |
   3+10       0.0427      0.23  Q          |          |          |          |
   3+15       0.0443      0.23  Q          |          |          |          |
   3+20       0.0459      0.23  Q          |          |          |          |
   3+25       0.0475      0.23  Q          |          |          |          |
   3+30       0.0490      0.23  Q          |          |          |          |
   3+35       0.0506      0.23  Q          |          |          |          |
   3+40       0.0522      0.23  Q          |          |          |          |
   3+45       0.0538      0.23  Q          |          |          |          |
   3+50       0.0555      0.24  Q          |          |          |          |
   3+55       0.0574      0.27  Q          |          |          |          |
   4+ 0       0.0592      0.28  Q          |          |          |          |
   4+ 5       0.0612      0.28  Q          |          |          |          |
   4+10       0.0631      0.28  Q          |          |          |          |
   4+15       0.0650      0.28  Q          |          |          |          |
   4+20       0.0670      0.29  Q          |          |          |          |
   4+25       0.0691      0.31  Q          |          |          |          |
```

```
 4+30       0.0714      0.32  Q          |          |          |          |
 4+35       0.0736      0.32  Q          |          |          |          |
 4+40       0.0758      0.32  Q          |          |          |          |
 4+45       0.0780      0.32  Q          |          |          |          |
 4+50       0.0808      0.40  Q          |          |          |          |
 4+55       0.0847      0.57  VQ         |          |          |          |
 5+ 0       0.0890      0.62  VQ         |          |          |          |
 5+ 5       0.0928      0.56  VQ         |          |          |          |
 5+10       0.0953      0.35  Q          |          |          |          |
 5+15       0.0973      0.30  Q          |          |          |          |
 5+20       0.0994      0.29  Q          |          |          |          |
 5+25       0.1015      0.32  Q          |          |          |          |
 5+30       0.1037      0.32  Q          |          |          |          |
 5+35       0.1067      0.42  Q          |          |          |          |
 5+40       0.1112      0.66  VQ         |          |          |          |
 5+45       0.1163      0.73  VQ         |          |          |          |
 5+50       0.1216      0.77  VQ         |          |          |          |
 5+55       0.1269      0.78  VQ         |          |          |          |
 6+ 0       0.1324      0.80  VQ         |          |          |          |
 6+ 5       0.1388      0.92  VQ         |          |          |          |
 6+10       0.1470      1.19  V Q        |          |          |          |
 6+15       0.1557      1.27  |VQ        |          |          |          |
 6+20       0.1647      1.30  |VQ        |          |          |          |
 6+25       0.1738      1.32  |VQ        |          |          |          |
 6+30       0.1831      1.34  |VQ        |          |          |          |
 6+35       0.1931      1.46  |VQ        |          |          |          |
 6+40       0.2050      1.73  |V Q       |          |          |          |
 6+45       0.2175      1.81  |V Q       |          |          |          |
 6+50       0.2302      1.84  |V Q       |          |          |          |
 6+55       0.2430      1.86  |V Q       |          |          |          |
 7+ 0       0.2560      1.88  |V Q       |          |          |          |
 7+ 5       0.2690      1.89  |V Q       |          |          |          |
 7+10       0.2821      1.90  |V Q       |          |          |          |
 7+15       0.2952      1.91  |V Q       |          |          |          |
 7+20       0.3093      2.04  | V Q      |          |          |          |
 7+25       0.3252      2.31  | V Q      |          |          |          |
 7+30       0.3416      2.39  | V Q      |          |          |          |
 7+35       0.3590      2.53  | V  Q     |          |          |          |
 7+40       0.3783      2.80  | V  Q     |          |          |          |
 7+45       0.3982      2.89  | V  Q     |          |          |          |
 7+50       0.4191      3.03  | V   Q    |          |          |          |
 7+55       0.4418      3.30  | V   Q    |          |          |          |
 8+ 0       0.4651      3.39  |  V  Q    |          |          |          |
 8+ 5       0.4902      3.64  |  V   Q   |          |          |          |
 8+10       0.5189      4.17  |  V    Q  |          |          |          |
 8+15       0.5487      4.32  |  V    Q  |          |          |          |
 8+20       0.5788      4.37  |  V    Q  |          |          |          |
 8+25       0.6091      4.40  |   V   Q  |          |          |          |
 8+30       0.6395      4.41  |   V   Q  |          |          |          |
 8+35       0.6707      4.53  |   V    Q |          |          |          |
 8+40       0.7038      4.80  |   V    Q |          |          |          |
 8+45       0.7374      4.88  |   V    Q |          |          |          |
 8+50       0.7720      5.02  |    V    Q          |          |          |
 8+55       0.8085      5.30  |    V    Q          |          |          |
 9+ 0       0.8456      5.38  |    V    Q          |          |          |
 9+ 5       0.8844      5.63  |    V    |Q         |          |          |
 9+10       0.9268      6.17  |     V   | Q        |          |          |
 9+15       0.9703      6.32  |     V   | Q        |          |          |
 9+20       1.0149      6.48  |     V   | Q        |          |          |
 9+25       1.0615      6.76  |      V  |  Q       |          |          |
 9+30       1.1086      6.84  |      V  |  Q       |          |          |
 9+35       1.1567      6.98  |      V  |  Q       |          |          |
 9+40       1.2067      7.26  |       V |   Q      |          |          |
 9+45       1.2572      7.34  |       V |   Q      |          |          |
 9+50       1.3087      7.48  |       V |   Q      |          |          |
 9+55       1.3621      7.75  |        V|    Q     |          |          |
10+ 0       1.4161      7.84  |        V|    Q     |          |          |
10+ 5       1.4650      7.11  |        V|   Q      |          |          |
10+10       1.5016      5.31  |         Q          |          |          |
10+15       1.5350      4.85  |         QV         |          |          |
10+20       1.5675      4.72  |         QV         |          |          |
10+25       1.5998      4.70  |         QV         |          |          |
10+30       1.6321      4.69  |         QV         |          |          |
10+35       1.6682      5.24  |          QV        |          |          |
10+40       1.7133      6.55  |          |V Q      |          |          |
10+45       1.7608      6.90  |          |V Q      |          |          |
10+50       1.8091      7.01  |          | V Q     |          |          |
10+55       1.8577      7.05  |          | V Q     |          |          |
```



| | | | |
|---|---|---|---|
| 11+ 0 | 1.9063 | 7.07 | |
| 11+ 5 | 1.9544 | 6.97 | |
| 11+10 | 2.0007 | 6.72 | |
| 11+15 | 2.0466 | 6.67 | |
| 11+20 | 2.0924 | 6.66 | |
| 11+25 | 2.1383 | 6.66 | |
| 11+30 | 2.1843 | 6.67 | |
| 11+35 | 2.2288 | 6.46 | |
| 11+40 | 2.2698 | 5.96 | |
| 11+45 | 2.3100 | 5.83 | |
| 11+50 | 2.3507 | 5.91 | |
| 11+55 | 2.3932 | 6.17 | |
| 12+ 0 | 2.4362 | 6.24 | |
| 12+ 5 | 2.4846 | 7.03 | |
| 12+10 | 2.5456 | 8.86 | |
| 12+15 | 2.6100 | 9.35 | |
| 12+20 | 2.6762 | 9.61 | |
| 12+25 | 2.7445 | 9.91 | |
| 12+30 | 2.8134 | 10.01 | |
| 12+35 | 2.8841 | 10.26 | |
| 12+40 | 2.9584 | 10.79 | |
| 12+45 | 3.0337 | 10.94 | |
| 12+50 | 3.1102 | 11.10 | |
| 12+55 | 3.1885 | 11.38 | |
| 13+ 0 | 3.2674 | 11.46 | |
| 13+ 5 | 3.3503 | 12.03 | |
| 13+10 | 3.4422 | 13.34 | |
| 13+15 | 3.5365 | 13.69 | |
| 13+20 | 3.6316 | 13.80 | |
| 13+25 | 3.7269 | 13.84 | |
| 13+30 | 3.8224 | 13.86 | |
| 13+35 | 3.9097 | 12.68 | |
| 13+40 | 3.9774 | 9.84 | |
| 13+45 | 4.0401 | 9.10 | |
| 13+50 | 4.1013 | 8.89 | |
| 13+55 | 4.1622 | 8.84 | |
| 14+ 0 | 4.2230 | 8.82 | |
| 14+ 5 | 4.2868 | 9.27 | |
| 14+10 | 4.3578 | 10.31 | |
| 14+15 | 4.4308 | 10.59 | |
| 14+20 | 4.5036 | 10.57 | |
| 14+25 | 4.5749 | 10.35 | |
| 14+30 | 4.6458 | 10.30 | |
| 14+35 | 4.7166 | 10.29 | |
| 14+40 | 4.7875 | 10.29 | |
| 14+45 | 4.8584 | 10.30 | |
| 14+50 | 4.9286 | 10.20 | |
| 14+55 | 4.9971 | 9.95 | |
| 15+ 0 | 5.0652 | 9.89 | |
| 15+ 5 | 5.1325 | 9.77 | |
| 15+10 | 5.1980 | 9.51 | |
| 15+15 | 5.2631 | 9.45 | |
| 15+20 | 5.3273 | 9.33 | |
| 15+25 | 5.3898 | 9.07 | |
| 15+30 | 5.4519 | 9.01 | |
| 15+35 | 5.5109 | 8.57 | |
| 15+40 | 5.5628 | 7.54 | |
| 15+45 | 5.6128 | 7.27 | |
| 15+50 | 5.6624 | 7.20 | |
| 15+55 | 5.7119 | 7.18 | |
| 16+ 0 | 5.7614 | 7.18 | |
| 16+ 5 | 5.7996 | 5.56 | |
| 16+10 | 5.8113 | 1.69 | |
| 16+15 | 5.8159 | 0.67 | |
| 16+20 | 5.8185 | 0.38 | |
| 16+25 | 5.8207 | 0.31 | |
| 16+30 | 5.8226 | 0.28 | |
| 16+35 | 5.8244 | 0.25 | |
| 16+40 | 5.8256 | 0.17 | |
| 16+45 | 5.8266 | 0.15 | |
| 16+50 | 5.8276 | 0.14 | |
| 16+55 | 5.8285 | 0.14 | |
| 17+ 0 | 5.8295 | 0.14 | |
| 17+ 5 | 5.8315 | 0.30 | |
| 17+10 | 5.8361 | 0.67 | |
| 17+15 | 5.8415 | 0.78 | |
| 17+20 | 5.8471 | 0.81 | |
| 17+25 | 5.8528 | 0.83 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+30 | 5.8586 | 0.84 | \|Q | \| | \| | \| | V\| |
| 17+35 | 5.8644 | 0.85 | \|Q | \| | \| | \| | V\| |
| 17+40 | 5.8703 | 0.85 | \|Q | \| | \| | \| | V\| |
| 17+45 | 5.8762 | 0.86 | \|Q | \| | \| | \| | V\| |
| 17+50 | 5.8814 | 0.76 | \|Q | \| | \| | \| | V\| |
| 17+55 | 5.8849 | 0.51 | \|Q | \| | \| | \| | V\| |
| 18+ 0 | 5.8880 | 0.45 | Q | \| | \| | \| | V\| |
| 18+ 5 | 5.8910 | 0.43 | Q | \| | \| | \| | V\| |
| 18+10 | 5.8940 | 0.44 | Q | \| | \| | \| | V\| |
| 18+15 | 5.8970 | 0.44 | Q | \| | \| | \| | V\| |
| 18+20 | 5.9001 | 0.45 | Q | \| | \| | \| | V\| |
| 18+25 | 5.9032 | 0.45 | Q | \| | \| | \| | V\| |
| 18+30 | 5.9064 | 0.46 | Q | \| | \| | \| | V\| |
| 18+35 | 5.9091 | 0.39 | Q | \| | \| | \| | V\| |
| 18+40 | 5.9105 | 0.21 | Q | \| | \| | \| | V\| |
| 18+45 | 5.9116 | 0.16 | Q | \| | \| | \| | V\| |
| 18+50 | 5.9125 | 0.13 | Q | \| | \| | \| | V\| |
| 18+55 | 5.9132 | 0.10 | Q | \| | \| | \| | V\| |
| 19+ 0 | 5.9139 | 0.10 | Q | \| | \| | \| | V\| |
| 19+ 5 | 5.9146 | 0.10 | Q | \| | \| | \| | V\| |
| 19+10 | 5.9155 | 0.13 | Q | \| | \| | \| | V\| |
| 19+15 | 5.9165 | 0.14 | Q | \| | \| | \| | V\| |
| 19+20 | 5.9180 | 0.23 | Q | \| | \| | \| | V\| |
| 19+25 | 5.9212 | 0.45 | Q | \| | \| | \| | V\| |
| 19+30 | 5.9247 | 0.52 | \|Q | \| | \| | \| | V\| |
| 19+35 | 5.9277 | 0.44 | Q | \| | \| | \| | V\| |
| 19+40 | 5.9293 | 0.22 | Q | \| | \| | \| | V\| |
| 19+45 | 5.9304 | 0.16 | Q | \| | \| | \| | V\| |
| 19+50 | 5.9313 | 0.13 | Q | \| | \| | \| | V\| |
| 19+55 | 5.9320 | 0.10 | Q | \| | \| | \| | V\| |
| 20+ 0 | 5.9327 | 0.10 | Q | \| | \| | \| | V\| |
| 20+ 5 | 5.9334 | 0.10 | Q | \| | \| | \| | V\| |
| 20+10 | 5.9343 | 0.13 | Q | \| | \| | \| | V\| |
| 20+15 | 5.9352 | 0.14 | Q | \| | \| | \| | V\| |
| 20+20 | 5.9362 | 0.14 | Q | \| | \| | \| | V\| |
| 20+25 | 5.9372 | 0.14 | Q | \| | \| | \| | V\| |
| 20+30 | 5.9381 | 0.14 | Q | \| | \| | \| | V\| |
| 20+35 | 5.9392 | 0.15 | Q | \| | \| | \| | V\| |
| 20+40 | 5.9402 | 0.15 | Q | \| | \| | \| | V\| |
| 20+45 | 5.9413 | 0.16 | Q | \| | \| | \| | V\| |
| 20+50 | 5.9423 | 0.15 | Q | \| | \| | \| | V\| |
| 20+55 | 5.9431 | 0.11 | Q | \| | \| | \| | V\| |
| 21+ 0 | 5.9437 | 0.10 | Q | \| | \| | \| | V\| |
| 21+ 5 | 5.9445 | 0.12 | Q | \| | \| | \| | V\| |
| 21+10 | 5.9457 | 0.17 | Q | \| | \| | \| | V\| |
| 21+15 | 5.9470 | 0.18 | Q | \| | \| | \| | V\| |
| 21+20 | 5.9481 | 0.17 | Q | \| | \| | \| | V\| |
| 21+25 | 5.9489 | 0.11 | Q | \| | \| | \| | V\| |
| 21+30 | 5.9496 | 0.10 | Q | \| | \| | \| | V\| |
| 21+35 | 5.9504 | 0.12 | Q | \| | \| | \| | V\| |
| 21+40 | 5.9517 | 0.19 | Q | \| | \| | \| | V\| |
| 21+45 | 5.9531 | 0.21 | Q | \| | \| | \| | V\| |
| 21+50 | 5.9544 | 0.19 | Q | \| | \| | \| | V\| |
| 21+55 | 5.9552 | 0.12 | Q | \| | \| | \| | V\| |
| 22+ 0 | 5.9559 | 0.10 | Q | \| | \| | \| | V\| |
| 22+ 5 | 5.9568 | 0.13 | Q | \| | \| | \| | V\| |
| 22+10 | 5.9582 | 0.21 | Q | \| | \| | \| | V\| |
| 22+15 | 5.9598 | 0.23 | Q | \| | \| | \| | V\| |
| 22+20 | 5.9612 | 0.20 | Q | \| | \| | \| | V\| |
| 22+25 | 5.9621 | 0.12 | Q | \| | \| | \| | V\| |
| 22+30 | 5.9628 | 0.10 | Q | \| | \| | \| | V\| |
| 22+35 | 5.9634 | 0.10 | Q | \| | \| | \| | V\| |
| 22+40 | 5.9641 | 0.09 | Q | \| | \| | \| | V\| |
| 22+45 | 5.9647 | 0.09 | Q | \| | \| | \| | V\| |
| 22+50 | 5.9654 | 0.09 | Q | \| | \| | \| | V\| |
| 22+55 | 5.9660 | 0.09 | Q | \| | \| | \| | V\| |
| 23+ 0 | 5.9666 | 0.09 | Q | \| | \| | \| | V\| |
| 23+ 5 | 5.9673 | 0.09 | Q | \| | \| | \| | V\| |
| 23+10 | 5.9679 | 0.09 | Q | \| | \| | \| | V\| |
| 23+15 | 5.9686 | 0.09 | Q | \| | \| | \| | V\| |
| 23+20 | 5.9692 | 0.09 | Q | \| | \| | \| | V\| |
| 23+25 | 5.9698 | 0.09 | Q | \| | \| | \| | V\| |
| 23+30 | 5.9705 | 0.09 | Q | \| | \| | \| | V\| |
| 23+35 | 5.9711 | 0.09 | Q | \| | \| | \| | V\| |
| 23+40 | 5.9717 | 0.09 | Q | \| | \| | \| | V\| |
| 23+45 | 5.9724 | 0.09 | Q | \| | \| | \| | V\| |
| 23+50 | 5.9730 | 0.09 | Q | \| | \| | \| | V\| |
| 23+55 | 5.9737 | 0.09 | Q | \| | \| | \| | V\| |

| | | | | | | |
|---|---|---|---|---|---|---|
| 24+ 0 | 5.9743 | 0.09 | Q | \| | \| | V\| |
| 24+ 5 | 5.9748 | 0.07 | Q | \| | \| | V\| |
| 24+10 | 5.9749 | 0.02 | Q | \| | \| | V\| |
| 24+15 | 5.9750 | 0.01 | Q | \| | \| | V\| |
| 24+20 | 5.9750 | 0.00 | Q | \| | \| | V\| |
| 24+25 | 5.9750 | 0.00 | Q | \| | \| | V\| |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA81100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 8
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

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Drainage Area = 22.10(Ac.) = 0.035 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 22.10(Ac.) = 0.035 Sq. Mi.
Length along longest watercourse = 1834.00(Ft.)
Length along longest watercourse measured to centroid = 844.00(Ft.)
Length along longest watercourse = 0.347 Mi.
Length along longest watercourse measured to centroid = 0.160 Mi.
Difference in elevation = 410.00(Ft.)
Slope along watercourse = 1180.3708 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.073 Hr.
Lag time = 4.38 Min.
25% of lag time = 1.10 Min.
40% of lag time = 1.75 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 22.10 | 0.49 | 10.83 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 22.10 | 1.20 | 26.52 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.490(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.98 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 22.100 | 83.90 | 0.000 |

Total Area Entered = 22.10(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.9 | 93.3 | 0.087 | 0.000 | 0.087 | 1.000 | 0.087 |
| | | | | | Sum (F) = | 0.087 |

Area averaged mean soil loss (F) (In/Hr) = 0.087

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

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| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 114.110 | 19.402 | 4.321 |
| 2 | 0.167 | 228.220 | 56.177 | 12.512 |
| 3 | 0.250 | 342.329 | 16.293 | 3.629 |
| 4 | 0.333 | 456.439 | 5.729 | 1.276 |
| 5 | 0.417 | 570.549 | 1.451 | 0.323 |
| 6 | 0.500 | 684.659 | 0.733 | 0.163 |
| 7 | 0.583 | 798.768 | 0.215 | 0.048 |
| | | Sum = 100.000 | Sum= | 22.273 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.087 | ( | 0.544) | 0.518 |
| 2 | 0.17 | 4.30 | 0.619 | 0.087 | ( | 0.557) | 0.532 |
| 3 | 0.25 | 5.00 | 0.720 | 0.087 | ( | 0.648) | 0.633 |
| 4 | 0.33 | 5.00 | 0.720 | 0.087 | ( | 0.648) | 0.633 |
| 5 | 0.42 | 5.80 | 0.835 | 0.087 | ( | 0.752) | 0.748 |
| 6 | 0.50 | 6.50 | 0.936 | 0.087 | ( | 0.842) | 0.849 |
| 7 | 0.58 | 7.40 | 1.065 | 0.087 | ( | 0.959) | 0.979 |
| 8 | 0.67 | 8.60 | 1.238 | 0.087 | ( | 1.114) | 1.152 |
| 9 | 0.75 | 12.30 | 1.771 | 0.087 | ( | 1.594) | 1.684 |
| 10 | 0.83 | 29.10 | 4.190 | 0.087 | ( | 3.771) | 4.103 |
| 11 | 0.92 | 6.80 | 0.979 | 0.087 | ( | 0.881) | 0.892 |
| 12 | 1.00 | 5.00 | 0.720 | 0.087 | ( | 0.648) | 0.633 |
| | | (Loss Rate Not Used) | | | | | |
| Sum = | | 100.0 | | | | Sum = | 13.4 |

Flood volume = Effective rainfall 1.11(In)
times area 22.1(Ac.)/[(In)/(Ft.)] = 2.1(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.159(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 89302.6 Cubic Feet
Total soil loss = 6945.7 Cubic Feet

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Peak flow rate of this hydrograph = 63.298(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 17.5 | 35.0 | 52.5 | 70.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0154 | 2.24 | VQ | | | | |
| 0+10 | 0.0760 | 8.79 | \|V Q | | | | |
| 0+15 | 0.1537 | 11.29 | \| V Q | | | | |
| 0+20 | 0.2450 | 13.26 | \| V Q | | | | |
| 0+25 | 0.3436 | 14.31 | \| V Q | | | | |
| 0+30 | 0.4565 | 16.41 | \| VQ | | | | |
| 0+35 | 0.5854 | 18.71 | \| QV | | | | |
| 0+40 | 0.7342 | 21.60 | \| Q V | | | | |
| 0+45 | 0.9181 | 26.71 | \| Q V | | | | |
| 0+50 | 1.2259 | 44.68 | \| V Q | | | | |
| 0+55 | 1.6618 | 63.30 | \| V Q | | | | |
| 1+ 0 | 1.8789 | 31.53 | \| Q | | | V | |
| 1+ 5 | 1.9973 | 17.19 | \| Q | | | V | |
| 1+10 | 2.0324 | 5.10 | \| Q | | | V | |

```
    1+15       2.0451      1.85  |Q        |          |          |        V|
    1+20       2.0489      0.55  Q         |          |          |        V|
    1+25       2.0499      0.15  Q         |          |          |        V|
    1+30       2.0501      0.03  Q         |          |          |         V
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA83100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 8
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

---

Drainage Area = 22.10(Ac.) = 0.035 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 22.10(Ac.) = 0.035 Sq. Mi.
Length along longest watercourse = 1834.00(Ft.)
Length along longest watercourse measured to centroid = 844.00(Ft.)
Length along longest watercourse = 0.347 Mi.
Length along longest watercourse measured to centroid = 0.160 Mi.
Difference in elevation = 410.00(Ft.)
Slope along watercourse = 1180.3708 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.073 Hr.
Lag time = 4.38 Min.
25% of lag time = 1.10 Min.
40% of lag time = 1.75 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 22.10 | 0.80 | 17.68 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 22.10 | 1.80 | 39.78 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 22.100 | 83.90 | 0.000 |

Total Area Entered = 22.10(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.9 | 93.3 | 0.087 | 0.000 | 0.087 | 1.000 | 0.087 |
| | | | | | Sum (F) = | 0.087 |

Area averaged mean soil loss (F) (In/Hr) = 0.087

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 114.110 | 19.402 | 4.321 |
| 2 0.167 | 228.220 | 56.177 | 12.512 |
| 3 0.250 | 342.329 | 16.293 | 3.629 |
| 4 0.333 | 456.439 | 5.729 | 1.276 |
| 5 0.417 | 570.549 | 1.451 | 0.323 |
| 6 0.500 | 684.659 | 0.733 | 0.163 |
| 7 0.583 | 798.768 | 0.215 | 0.048 |
| | Sum = 100.000 | Sum= | 22.273 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.281 | 0.087 | ( 0.253) | 0.194 |
| 2 | 0.17 | 1.30 | 0.281 | 0.087 | ( 0.253) | 0.194 |
| 3 | 0.25 | 1.10 | 0.238 | 0.087 | ( 0.214) | 0.151 |
| 4 | 0.33 | 1.50 | 0.324 | 0.087 | ( 0.292) | 0.237 |
| 5 | 0.42 | 1.50 | 0.324 | 0.087 | ( 0.292) | 0.237 |
| 6 | 0.50 | 1.80 | 0.389 | 0.087 | ( 0.350) | 0.302 |
| 7 | 0.58 | 1.50 | 0.324 | 0.087 | ( 0.292) | 0.237 |
| 8 | 0.67 | 1.80 | 0.389 | 0.087 | ( 0.350) | 0.302 |
| 9 | 0.75 | 1.80 | 0.389 | 0.087 | ( 0.350) | 0.302 |
| 10 | 0.83 | 1.50 | 0.324 | 0.087 | ( 0.292) | 0.237 |
| 11 | 0.92 | 1.60 | 0.346 | 0.087 | ( 0.311) | 0.259 |
| 12 | 1.00 | 1.80 | 0.389 | 0.087 | ( 0.350) | 0.302 |
| 13 | 1.08 | 2.20 | 0.475 | 0.087 | ( 0.428) | 0.389 |
| 14 | 1.17 | 2.20 | 0.475 | 0.087 | ( 0.428) | 0.389 |
| 15 | 1.25 | 2.20 | 0.475 | 0.087 | ( 0.428) | 0.389 |
| 16 | 1.33 | 2.00 | 0.432 | 0.087 | ( 0.389) | 0.345 |
| 17 | 1.42 | 2.60 | 0.562 | 0.087 | ( 0.505) | 0.475 |
| 18 | 1.50 | 2.70 | 0.583 | 0.087 | ( 0.525) | 0.497 |
| 19 | 1.58 | 2.40 | 0.518 | 0.087 | ( 0.467) | 0.432 |
| 20 | 1.67 | 2.70 | 0.583 | 0.087 | ( 0.525) | 0.497 |
| 21 | 1.75 | 3.30 | 0.713 | 0.087 | ( 0.641) | 0.626 |
| 22 | 1.83 | 3.10 | 0.670 | 0.087 | ( 0.603) | 0.583 |
| 23 | 1.92 | 2.90 | 0.626 | 0.087 | ( 0.564) | 0.540 |
| 24 | 2.00 | 3.00 | 0.648 | 0.087 | ( 0.583) | 0.561 |
| 25 | 2.08 | 3.10 | 0.670 | 0.087 | ( 0.603) | 0.583 |
| 26 | 2.17 | 4.20 | 0.907 | 0.087 | ( 0.816) | 0.821 |
| 27 | 2.25 | 5.00 | 1.080 | 0.087 | ( 0.972) | 0.993 |
| 28 | 2.33 | 3.50 | 0.756 | 0.087 | ( 0.680) | 0.669 |
| 29 | 2.42 | 6.80 | 1.469 | 0.087 | ( 1.322) | 1.382 |
| 30 | 2.50 | 7.30 | 1.577 | 0.087 | ( 1.419) | 1.490 |
| 31 | 2.58 | 8.20 | 1.771 | 0.087 | ( 1.594) | 1.684 |
| 32 | 2.67 | 5.90 | 1.274 | 0.087 | ( 1.147) | 1.188 |
| 33 | 2.75 | 2.00 | 0.432 | 0.087 | ( 0.389) | 0.345 |
| 34 | 2.83 | 1.80 | 0.389 | 0.087 | ( 0.350) | 0.302 |
| 35 | 2.92 | 1.80 | 0.389 | 0.087 | ( 0.350) | 0.302 |
| 36 | 3.00 | 0.60 | 0.130 | 0.087 | ( 0.117) | 0.043 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 18.5 |

Flood volume = Effective rainfall 1.54(In)
times area 22.1(Ac.)/[(In)/(Ft.)] = 2.8(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.478(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 123550.3 Cubic Feet
Total soil loss = 20837.1 Cubic Feet

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Peak flow rate of this hydrograph = 33.814(CFS)

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3 - H O U R  S T O R M
R u n o f f  H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 10.0 | 20.0 | 30.0 | 40.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0058 | 0.84 | Q | | | | |
| 0+10 | 0.0283 | 3.27 | V Q | | | | |
| 0+15 | 0.0544 | 3.79 | V Q | | | | |
| 0+20 | 0.0811 | 3.87 | V Q | | | | |
| 0+25 | 0.1145 | 4.86 | V Q | | | | |
| 0+30 | 0.1519 | 5.43 | V Q | | | | |
| 0+35 | 0.1936 | 6.06 | V Q | | | | |
| 0+40 | 0.2335 | 5.79 | V Q | | | | |
| 0+45 | 0.2780 | 6.46 | V Q | | | | |
| 0+50 | 0.3218 | 6.36 | V Q | | | | |
| 0+55 | 0.3611 | 5.71 | Q | | | | |
| 1+ 0 | 0.4021 | 5.95 | Q | | | | |
| 1+ 5 | 0.4494 | 6.86 | Q | | | | |
| 1+10 | 0.5052 | 8.11 | VQ | | | | |
| 1+15 | 0.5636 | 8.48 | VQ | | | | |
| 1+20 | 0.6216 | 8.42 | Q | | | | |
| 1+25 | 0.6799 | 8.47 | QV | | | | |
| 1+30 | 0.7491 | 10.05 | Q | | | | |
| 1+35 | 0.8211 | 10.46 | QV | | | | |
| 1+40 | 0.8911 | 10.16 | Q V | | | | |
| 1+45 | 0.9693 | 11.35 | Q V | | | | |
| 1+50 | 1.0586 | 12.97 | Q V | | | | |
| 1+55 | 1.1466 | 12.78 | Q V | | | | |
| 2+ 0 | 1.2317 | 12.35 | Q V | | | | |
| 2+ 5 | 1.3182 | 12.56 | Q V | | | | |
| 2+10 | 1.4138 | 13.89 | Q V | | | | |
| 2+15 | 1.5357 | 17.70 | Q V | | | | |
| 2+20 | 1.6690 | 19.35 | Q V | | | | |
| 2+25 | 1.8020 | 19.31 | Q V | | | | |
| 2+30 | 1.9937 | 27.83 | QV | | | | |
| 2+35 | 2.2161 | 32.29 | VQ | | | | |
| 2+40 | 2.4489 | 33.81 | QV | | | | |
| 2+45 | 2.6210 | 24.98 | Q V | | | | |
| 2+50 | 2.7094 | 12.83 | Q V | | | | |
| 2+55 | 2.7694 | 8.71 | Q V | | | | |
| 3+ 0 | 2.8124 | 6.24 | Q V | | | | |
| 3+ 5 | 2.8289 | 2.41 | Q V | | | | |
| 3+10 | 2.8341 | 0.75 | Q V | | | | |
| 3+15 | 2.8356 | 0.22 | Q V | | | | |
| 3+20 | 2.8362 | 0.08 | Q V | | | | |
| 3+25 | 2.8363 | 0.02 | Q V | | | | |
| 3+30 | 2.8363 | 0.00 | Q V | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA86100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 8
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

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Drainage Area = 22.10(Ac.) = 0.035 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 22.10(Ac.) = 0.035 Sq. Mi.
Length along longest watercourse = 1834.00(Ft.)
Length along longest watercourse measured to centroid = 844.00(Ft.)
Length along longest watercourse = 0.347 Mi.
Length along longest watercourse measured to centroid = 0.160 Mi.
Difference in elevation = 410.00(Ft.)
Slope along watercourse = 1180.3708 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.073 Hr.
Lag time = 4.38 Min.
25% of lag time = 1.10 Min.
40% of lag time = 1.75 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 22.10 | 1.12 | 24.75 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 22.10 | 2.50 | 55.25 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.120(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 22.100 | 83.90 | 0.000 |

Total Area Entered = 22.10(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.9 | 93.3 | 0.087 | 0.000 | 0.087 | 1.000 | 0.087 |
| | | | | | Sum (F) = | 0.087 |

Area averaged mean soil loss (F) (In/Hr) = 0.087

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 114.110 | 19.402 | 4.321 |
| 2 | 0.167 | 228.220 | 56.177 | 12.512 |
| 3 | 0.250 | 342.329 | 16.293 | 3.629 |
| 4 | 0.333 | 456.439 | 5.729 | 1.276 |
| 5 | 0.417 | 570.549 | 1.451 | 0.323 |
| 6 | 0.500 | 684.659 | 0.733 | 0.163 |
| 7 | 0.583 | 798.768 | 0.215 | 0.048 |
| | | | Sum = 100.000 | Sum= 22.273 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.087 | ( 0.135) | 0.063 |
| 2 | 0.17 | 0.60 | 0.180 | 0.087 | ( 0.162) | 0.093 |
| 3 | 0.25 | 0.60 | 0.180 | 0.087 | ( 0.162) | 0.093 |
| 4 | 0.33 | 0.60 | 0.180 | 0.087 | ( 0.162) | 0.093 |
| 5 | 0.42 | 0.60 | 0.180 | 0.087 | ( 0.162) | 0.093 |
| 6 | 0.50 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 7 | 0.58 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 8 | 0.67 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 9 | 0.75 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 10 | 0.83 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 11 | 0.92 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 12 | 1.00 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 13 | 1.08 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 14 | 1.17 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 15 | 1.25 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 16 | 1.33 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 17 | 1.42 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 18 | 1.50 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 19 | 1.58 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 20 | 1.67 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 21 | 1.75 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 22 | 1.83 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 23 | 1.92 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 24 | 2.00 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 25 | 2.08 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 26 | 2.17 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 27 | 2.25 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 28 | 2.33 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 29 | 2.42 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 30 | 2.50 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 31 | 2.58 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 32 | 2.67 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 33 | 2.75 | 1.00 | 0.300 | 0.087 | ( 0.270) | 0.213 |
| 34 | 2.83 | 1.00 | 0.300 | 0.087 | ( 0.270) | 0.213 |
| 35 | 2.92 | 1.00 | 0.300 | 0.087 | ( 0.270) | 0.213 |
| 36 | 3.00 | 1.00 | 0.300 | 0.087 | ( 0.270) | 0.213 |
| 37 | 3.08 | 1.00 | 0.300 | 0.087 | ( 0.270) | 0.213 |
| 38 | 3.17 | 1.10 | 0.330 | 0.087 | ( 0.297) | 0.243 |
| 39 | 3.25 | 1.10 | 0.330 | 0.087 | ( 0.297) | 0.243 |
| 40 | 3.33 | 1.10 | 0.330 | 0.087 | ( 0.297) | 0.243 |
| 41 | 3.42 | 1.20 | 0.360 | 0.087 | ( 0.324) | 0.273 |
| 42 | 3.50 | 1.30 | 0.390 | 0.087 | ( 0.351) | 0.303 |
| 43 | 3.58 | 1.40 | 0.420 | 0.087 | ( 0.378) | 0.333 |
| 44 | 3.67 | 1.40 | 0.420 | 0.087 | ( 0.378) | 0.333 |
| 45 | 3.75 | 1.50 | 0.450 | 0.087 | ( 0.405) | 0.363 |
| 46 | 3.83 | 1.50 | 0.450 | 0.087 | ( 0.405) | 0.363 |
| 47 | 3.92 | 1.60 | 0.480 | 0.087 | ( 0.432) | 0.393 |
| 48 | 4.00 | 1.60 | 0.480 | 0.087 | ( 0.432) | 0.393 |
| 49 | 4.08 | 1.70 | 0.510 | 0.087 | ( 0.459) | 0.423 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 50 | 4.17 | 1.80 | 0.540 | 0.087 | ( 0.486) | 0.453 | |
| 51 | 4.25 | 1.90 | 0.570 | 0.087 | ( 0.513) | 0.483 | |
| 52 | 4.33 | 2.00 | 0.600 | 0.087 | ( 0.540) | 0.513 | |
| 53 | 4.42 | 2.10 | 0.630 | 0.087 | ( 0.567) | 0.543 | |
| 54 | 4.50 | 2.10 | 0.630 | 0.087 | ( 0.567) | 0.543 | |
| 55 | 4.58 | 2.20 | 0.660 | 0.087 | ( 0.594) | 0.573 | |
| 56 | 4.67 | 2.30 | 0.690 | 0.087 | ( 0.621) | 0.603 | |
| 57 | 4.75 | 2.40 | 0.720 | 0.087 | ( 0.648) | 0.633 | |
| 58 | 4.83 | 2.40 | 0.720 | 0.087 | ( 0.648) | 0.633 | |
| 59 | 4.92 | 2.50 | 0.750 | 0.087 | ( 0.675) | 0.663 | |
| 60 | 5.00 | 2.60 | 0.780 | 0.087 | ( 0.702) | 0.693 | |
| 61 | 5.08 | 3.10 | 0.930 | 0.087 | ( 0.837) | 0.843 | |
| 62 | 5.17 | 3.60 | 1.080 | 0.087 | ( 0.972) | 0.993 | |
| 63 | 5.25 | 3.90 | 1.170 | 0.087 | ( 1.053) | 1.083 | |
| 64 | 5.33 | 4.20 | 1.260 | 0.087 | ( 1.134) | 1.173 | |
| 65 | 5.42 | 4.70 | 1.410 | 0.087 | ( 1.269) | 1.323 | |
| 66 | 5.50 | 5.60 | 1.680 | 0.087 | ( 1.512) | 1.593 | |
| 67 | 5.58 | 1.90 | 0.570 | 0.087 | ( 0.513) | 0.483 | |
| 68 | 5.67 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 | |
| 69 | 5.75 | 0.60 | 0.180 | 0.087 | ( 0.162) | 0.093 | |
| 70 | 5.83 | 0.50 | 0.150 | 0.087 | ( 0.135) | 0.063 | |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.087) | 0.081 | 0.009 | |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.087) | 0.054 | 0.006 | |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.8

Flood volume = Effective rainfall 1.98(In)
times area 22.1(Ac.)/[(In)/(Ft.)] = 3.7(Ac.Ft)
Total soil loss = 0.52(In)
Total soil loss = 0.951(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 159123.2 Cubic Feet
Total soil loss = 41419.1 Cubic Feet

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Peak flow rate of this hydrograph = 29.590(CFS)

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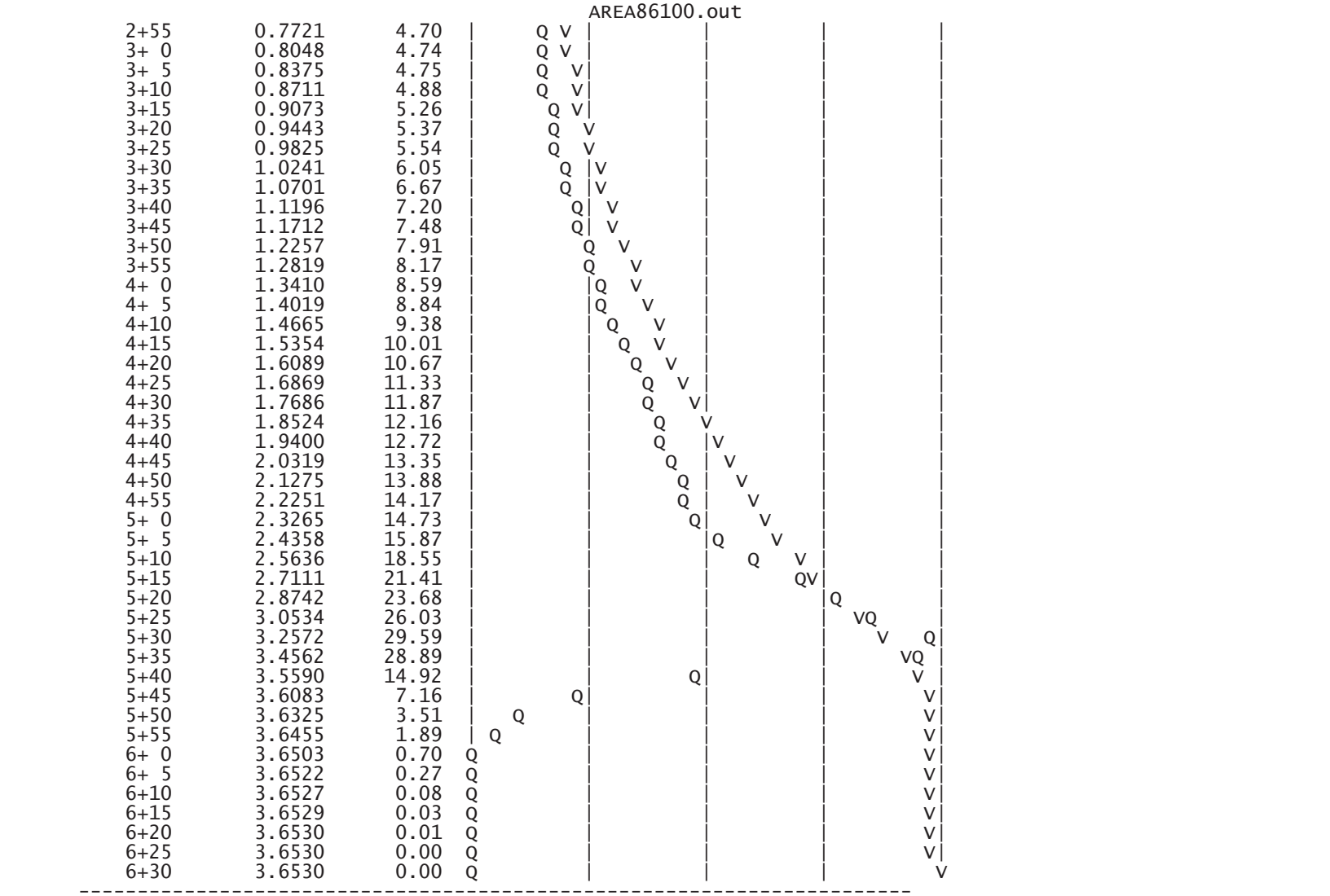
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 7.5 | 15.0 | 22.5 | 30.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0019 | 0.27 | Q | | | | |
| 0+10 | 0.0101 | 1.20 | VQ | | | | |
| 0+15 | 0.0226 | 1.80 | V Q | | | | |
| 0+20 | 0.0363 | 1.99 | V Q | | | | |
| 0+25 | 0.0504 | 2.05 | V Q | | | | |
| 0+30 | 0.0656 | 2.20 | V Q | | | | |
| 0+35 | 0.0834 | 2.59 | V Q | | | | |
| 0+40 | 0.1020 | 2.70 | \|V Q | | | | |
| 0+45 | 0.1208 | 2.73 | \|V Q | | | | |
| 0+50 | 0.1397 | 2.74 | \|V Q | | | | |
| 0+55 | 0.1586 | 2.75 | \|V Q | | | | |
| 1+ 0 | 0.1784 | 2.88 | \|V Q | | | | |
| 1+ 5 | 0.2009 | 3.26 | \| V Q | | | | |
| 1+10 | 0.2240 | 3.36 | \| V Q | | | | |
| 1+15 | 0.2475 | 3.40 | \| V Q | | | | |
| 1+20 | 0.2710 | 3.41 | \| V Q | | | | |
| 1+25 | 0.2945 | 3.42 | \| VQ | | | | |
| 1+30 | 0.3180 | 3.42 | \| VQ | | | | |
| 1+35 | 0.3416 | 3.42 | \| VQ | | | | |
| 1+40 | 0.3651 | 3.42 | \| VQ | | | | |
| 1+45 | 0.3887 | 3.42 | \| Q | | | | |
| 1+50 | 0.4122 | 3.42 | \| Q | | | | |
| 1+55 | 0.4357 | 3.42 | \| Q | | | | |
| 2+ 0 | 0.4602 | 3.55 | \| QV | | | | |
| 2+ 5 | 0.4863 | 3.79 | \| Q | | | | |
| 2+10 | 0.5115 | 3.66 | \| QV | | | | |
| 2+15 | 0.5388 | 3.96 | \| Q | | | | |
| 2+20 | 0.5666 | 4.04 | \| QV | | | | |
| 2+25 | 0.5947 | 4.08 | \| QV | | | | |
| 2+30 | 0.6228 | 4.08 | \| QV | | | | |
| 2+35 | 0.6509 | 4.09 | \| Q V | | | | |
| 2+40 | 0.6791 | 4.09 | \| Q V | | | | |
| 2+45 | 0.7081 | 4.22 | \| Q V | | | | |
| 2+50 | 0.7398 | 4.59 | \| Q V | | | | |



| | | | |
|---|---|---|---|
| 2+55 | 0.7721 | 4.70 | |
| 3+ 0 | 0.8048 | 4.74 | |
| 3+ 5 | 0.8375 | 4.75 | |
| 3+10 | 0.8711 | 4.88 | |
| 3+15 | 0.9073 | 5.26 | |
| 3+20 | 0.9443 | 5.37 | |
| 3+25 | 0.9825 | 5.54 | |
| 3+30 | 1.0241 | 6.05 | |
| 3+35 | 1.0701 | 6.67 | |
| 3+40 | 1.1196 | 7.20 | |
| 3+45 | 1.1712 | 7.48 | |
| 3+50 | 1.2257 | 7.91 | |
| 3+55 | 1.2819 | 8.17 | |
| 4+ 0 | 1.3410 | 8.59 | |
| 4+ 5 | 1.4019 | 8.84 | |
| 4+10 | 1.4665 | 9.38 | |
| 4+15 | 1.5354 | 10.01 | |
| 4+20 | 1.6089 | 10.67 | |
| 4+25 | 1.6869 | 11.33 | |
| 4+30 | 1.7686 | 11.87 | |
| 4+35 | 1.8524 | 12.16 | |
| 4+40 | 1.9400 | 12.72 | |
| 4+45 | 2.0319 | 13.35 | |
| 4+50 | 2.1275 | 13.88 | |
| 4+55 | 2.2251 | 14.17 | |
| 5+ 0 | 2.3265 | 14.73 | |
| 5+ 5 | 2.4358 | 15.87 | |
| 5+10 | 2.5636 | 18.55 | |
| 5+15 | 2.7111 | 21.41 | |
| 5+20 | 2.8742 | 23.68 | |
| 5+25 | 3.0534 | 26.03 | |
| 5+30 | 3.2572 | 29.59 | |
| 5+35 | 3.4562 | 28.89 | |
| 5+40 | 3.5590 | 14.92 | |
| 5+45 | 3.6083 | 7.16 | |
| 5+50 | 3.6325 | 3.51 | |
| 5+55 | 3.6455 | 1.89 | |
| 6+ 0 | 3.6503 | 0.70 | |
| 6+ 5 | 3.6522 | 0.27 | |
| 6+10 | 3.6527 | 0.08 | |
| 6+15 | 3.6529 | 0.03 | |
| 6+20 | 3.6530 | 0.01 | |
| 6+25 | 3.6530 | 0.00 | |
| 6+30 | 3.6530 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA824100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 8
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

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Drainage Area = 22.10(Ac.) = 0.035 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 22.10(Ac.) = 0.035 Sq. Mi.
Length along longest watercourse = 1834.00(Ft.)
Length along longest watercourse measured to centroid = 844.00(Ft.)
Length along longest watercourse = 0.347 Mi.
Length along longest watercourse measured to centroid = 0.160 Mi.
Difference in elevation = 410.00(Ft.)
Slope along watercourse = 1180.3708 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.073 Hr.
Lag time = 4.38 Min.
25% of lag time = 1.10 Min.
40% of lag time = 1.75 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 22.10 | 1.80 | 39.78 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 22.10 | 4.53 | 100.11 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.530(In)

Point rain (area averaged) = 4.530(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.530(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 22.100 | 83.90 | 0.000 |

Total Area Entered = 22.10(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.9 | 93.3 | 0.087 | 0.000 | 0.087 | 1.000 | 0.087 |
| | | | | | Sum (F) = | 0.087 |

Area averaged mean soil loss (F) (In/Hr) = 0.087

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 114.110 | 19.402 | 4.321 |
| 2 0.167 | 228.220 | 56.177 | 12.512 |
| 3 0.250 | 342.329 | 16.293 | 3.629 |
| 4 0.333 | 456.439 | 5.729 | 1.276 |
| 5 0.417 | 570.549 | 1.451 | 0.323 |
| 6 0.500 | 684.659 | 0.733 | 0.163 |
| 7 0.583 | 798.768 | 0.215 | 0.048 |
| | | Sum = 100.000 | Sum= 22.273 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.036 | ( 0.153) | 0.033 | 0.004 |
| 2 | 0.17 | 0.07 | 0.036 | ( 0.153) | 0.033 | 0.004 |
| 3 | 0.25 | 0.07 | 0.036 | ( 0.152) | 0.033 | 0.004 |
| 4 | 0.33 | 0.10 | 0.054 | ( 0.152) | 0.049 | 0.005 |
| 5 | 0.42 | 0.10 | 0.054 | ( 0.151) | 0.049 | 0.005 |
| 6 | 0.50 | 0.10 | 0.054 | ( 0.151) | 0.049 | 0.005 |
| 7 | 0.58 | 0.10 | 0.054 | ( 0.150) | 0.049 | 0.005 |
| 8 | 0.67 | 0.10 | 0.054 | ( 0.149) | 0.049 | 0.005 |
| 9 | 0.75 | 0.10 | 0.054 | ( 0.149) | 0.049 | 0.005 |
| 10 | 0.83 | 0.13 | 0.072 | ( 0.148) | 0.065 | 0.007 |
| 11 | 0.92 | 0.13 | 0.072 | ( 0.148) | 0.065 | 0.007 |
| 12 | 1.00 | 0.13 | 0.072 | ( 0.147) | 0.065 | 0.007 |
| 13 | 1.08 | 0.10 | 0.054 | ( 0.146) | 0.049 | 0.005 |
| 14 | 1.17 | 0.10 | 0.054 | ( 0.146) | 0.049 | 0.005 |
| 15 | 1.25 | 0.10 | 0.054 | ( 0.145) | 0.049 | 0.005 |
| 16 | 1.33 | 0.10 | 0.054 | ( 0.145) | 0.049 | 0.005 |
| 17 | 1.42 | 0.10 | 0.054 | ( 0.144) | 0.049 | 0.005 |
| 18 | 1.50 | 0.10 | 0.054 | ( 0.144) | 0.049 | 0.005 |
| 19 | 1.58 | 0.10 | 0.054 | ( 0.143) | 0.049 | 0.005 |
| 20 | 1.67 | 0.10 | 0.054 | ( 0.142) | 0.049 | 0.005 |
| 21 | 1.75 | 0.10 | 0.054 | ( 0.142) | 0.049 | 0.005 |
| 22 | 1.83 | 0.13 | 0.072 | ( 0.141) | 0.065 | 0.007 |
| 23 | 1.92 | 0.13 | 0.072 | ( 0.141) | 0.065 | 0.007 |
| 24 | 2.00 | 0.13 | 0.072 | ( 0.140) | 0.065 | 0.007 |
| 25 | 2.08 | 0.13 | 0.072 | ( 0.140) | 0.065 | 0.007 |
| 26 | 2.17 | 0.13 | 0.072 | ( 0.139) | 0.065 | 0.007 |
| 27 | 2.25 | 0.13 | 0.072 | ( 0.138) | 0.065 | 0.007 |
| 28 | 2.33 | 0.13 | 0.072 | ( 0.138) | 0.065 | 0.007 |
| 29 | 2.42 | 0.13 | 0.072 | ( 0.137) | 0.065 | 0.007 |
| 30 | 2.50 | 0.13 | 0.072 | ( 0.137) | 0.065 | 0.007 |
| 31 | 2.58 | 0.17 | 0.091 | ( 0.136) | 0.082 | 0.009 |
| 32 | 2.67 | 0.17 | 0.091 | ( 0.136) | 0.082 | 0.009 |
| 33 | 2.75 | 0.17 | 0.091 | ( 0.135) | 0.082 | 0.009 |
| 34 | 2.83 | 0.17 | 0.091 | ( 0.135) | 0.082 | 0.009 |
| 35 | 2.92 | 0.17 | 0.091 | ( 0.134) | 0.082 | 0.009 |
| 36 | 3.00 | 0.17 | 0.091 | ( 0.133) | 0.082 | 0.009 |
| 37 | 3.08 | 0.17 | 0.091 | ( 0.133) | 0.082 | 0.009 |
| 38 | 3.17 | 0.17 | 0.091 | ( 0.132) | 0.082 | 0.009 |
| 39 | 3.25 | 0.17 | 0.091 | ( 0.132) | 0.082 | 0.009 |
| 40 | 3.33 | 0.17 | 0.091 | ( 0.131) | 0.082 | 0.009 |
| 41 | 3.42 | 0.17 | 0.091 | ( 0.131) | 0.082 | 0.009 |
| 42 | 3.50 | 0.17 | 0.091 | ( 0.130) | 0.082 | 0.009 |
| 43 | 3.58 | 0.17 | 0.091 | ( 0.130) | 0.082 | 0.009 |
| 44 | 3.67 | 0.17 | 0.091 | ( 0.129) | 0.082 | 0.009 |
| 45 | 3.75 | 0.17 | 0.091 | ( 0.128) | 0.082 | 0.009 |
| 46 | 3.83 | 0.20 | 0.109 | ( 0.128) | 0.098 | 0.011 |
| 47 | 3.92 | 0.20 | 0.109 | ( 0.127) | 0.098 | 0.011 |
| 48 | 4.00 | 0.20 | 0.109 | ( 0.127) | 0.098 | 0.011 |
| 49 | 4.08 | 0.20 | 0.109 | ( 0.126) | 0.098 | 0.011 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 50 | 4.17 | 0.20 | 0.109 | ( 0.126) | 0.098 | 0.011 |
| 51 | 4.25 | 0.20 | 0.109 | ( 0.125) | 0.098 | 0.011 |
| 52 | 4.33 | 0.23 | 0.127 | ( 0.125) | 0.114 | 0.013 |
| 53 | 4.42 | 0.23 | 0.127 | ( 0.124) | 0.114 | 0.013 |
| 54 | 4.50 | 0.23 | 0.127 | ( 0.124) | 0.114 | 0.013 |
| 55 | 4.58 | 0.23 | 0.127 | ( 0.123) | 0.114 | 0.013 |
| 56 | 4.67 | 0.23 | 0.127 | ( 0.123) | 0.114 | 0.013 |
| 57 | 4.75 | 0.23 | 0.127 | ( 0.122) | 0.114 | 0.013 |
| 58 | 4.83 | 0.27 | 0.145 | 0.122 | ( 0.130) | 0.023 |
| 59 | 4.92 | 0.27 | 0.145 | 0.121 | ( 0.130) | 0.024 |
| 60 | 5.00 | 0.27 | 0.145 | 0.120 | ( 0.130) | 0.024 |
| 61 | 5.08 | 0.20 | 0.109 | ( 0.120) | 0.098 | 0.011 |
| 62 | 5.17 | 0.20 | 0.109 | ( 0.119) | 0.098 | 0.011 |
| 63 | 5.25 | 0.20 | 0.109 | ( 0.119) | 0.098 | 0.011 |
| 64 | 5.33 | 0.23 | 0.127 | ( 0.118) | 0.114 | 0.013 |
| 65 | 5.42 | 0.23 | 0.127 | ( 0.118) | 0.114 | 0.013 |
| 66 | 5.50 | 0.23 | 0.127 | ( 0.117) | 0.114 | 0.013 |
| 67 | 5.58 | 0.27 | 0.145 | 0.117 | ( 0.130) | 0.028 |
| 68 | 5.67 | 0.27 | 0.145 | 0.116 | ( 0.130) | 0.029 |
| 69 | 5.75 | 0.27 | 0.145 | 0.116 | ( 0.130) | 0.029 |
| 70 | 5.83 | 0.27 | 0.145 | 0.115 | ( 0.130) | 0.030 |
| 71 | 5.92 | 0.27 | 0.145 | 0.115 | ( 0.130) | 0.030 |
| 72 | 6.00 | 0.27 | 0.145 | 0.114 | ( 0.130) | 0.031 |
| 73 | 6.08 | 0.30 | 0.163 | 0.114 | ( 0.147) | 0.049 |
| 74 | 6.17 | 0.30 | 0.163 | 0.113 | ( 0.147) | 0.050 |
| 75 | 6.25 | 0.30 | 0.163 | 0.113 | ( 0.147) | 0.050 |
| 76 | 6.33 | 0.30 | 0.163 | 0.112 | ( 0.147) | 0.051 |
| 77 | 6.42 | 0.30 | 0.163 | 0.112 | ( 0.147) | 0.051 |
| 78 | 6.50 | 0.30 | 0.163 | 0.111 | ( 0.147) | 0.052 |
| 79 | 6.58 | 0.33 | 0.181 | 0.111 | ( 0.163) | 0.070 |
| 80 | 6.67 | 0.33 | 0.181 | 0.110 | ( 0.163) | 0.071 |
| 81 | 6.75 | 0.33 | 0.181 | 0.110 | ( 0.163) | 0.071 |
| 82 | 6.83 | 0.33 | 0.181 | 0.109 | ( 0.163) | 0.072 |
| 83 | 6.92 | 0.33 | 0.181 | 0.109 | ( 0.163) | 0.072 |
| 84 | 7.00 | 0.33 | 0.181 | 0.108 | ( 0.163) | 0.073 |
| 85 | 7.08 | 0.33 | 0.181 | 0.108 | ( 0.163) | 0.073 |
| 86 | 7.17 | 0.33 | 0.181 | 0.107 | ( 0.163) | 0.074 |
| 87 | 7.25 | 0.33 | 0.181 | 0.107 | ( 0.163) | 0.074 |
| 88 | 7.33 | 0.37 | 0.199 | 0.106 | ( 0.179) | 0.093 |
| 89 | 7.42 | 0.37 | 0.199 | 0.106 | ( 0.179) | 0.093 |
| 90 | 7.50 | 0.37 | 0.199 | 0.105 | ( 0.179) | 0.094 |
| 91 | 7.58 | 0.40 | 0.217 | 0.105 | ( 0.196) | 0.113 |
| 92 | 7.67 | 0.40 | 0.217 | 0.104 | ( 0.196) | 0.113 |
| 93 | 7.75 | 0.40 | 0.217 | 0.104 | ( 0.196) | 0.114 |
| 94 | 7.83 | 0.43 | 0.236 | 0.103 | ( 0.212) | 0.132 |
| 95 | 7.92 | 0.43 | 0.236 | 0.103 | ( 0.212) | 0.133 |
| 96 | 8.00 | 0.43 | 0.236 | 0.102 | ( 0.212) | 0.133 |
| 97 | 8.08 | 0.50 | 0.272 | 0.102 | ( 0.245) | 0.170 |
| 98 | 8.17 | 0.50 | 0.272 | 0.102 | ( 0.245) | 0.170 |
| 99 | 8.25 | 0.50 | 0.272 | 0.101 | ( 0.245) | 0.171 |
| 100 | 8.33 | 0.50 | 0.272 | 0.101 | ( 0.245) | 0.171 |
| 101 | 8.42 | 0.50 | 0.272 | 0.100 | ( 0.245) | 0.172 |
| 102 | 8.50 | 0.50 | 0.272 | 0.100 | ( 0.245) | 0.172 |
| 103 | 8.58 | 0.53 | 0.290 | 0.099 | ( 0.261) | 0.191 |
| 104 | 8.67 | 0.53 | 0.290 | 0.099 | ( 0.261) | 0.191 |
| 105 | 8.75 | 0.53 | 0.290 | 0.098 | ( 0.261) | 0.192 |
| 106 | 8.83 | 0.57 | 0.308 | 0.098 | ( 0.277) | 0.210 |
| 107 | 8.92 | 0.57 | 0.308 | 0.097 | ( 0.277) | 0.211 |
| 108 | 9.00 | 0.57 | 0.308 | 0.097 | ( 0.277) | 0.211 |
| 109 | 9.08 | 0.63 | 0.344 | 0.096 | ( 0.310) | 0.248 |
| 110 | 9.17 | 0.63 | 0.344 | 0.096 | ( 0.310) | 0.248 |
| 111 | 9.25 | 0.63 | 0.344 | 0.095 | ( 0.310) | 0.249 |
| 112 | 9.33 | 0.67 | 0.362 | 0.095 | ( 0.326) | 0.267 |
| 113 | 9.42 | 0.67 | 0.362 | 0.095 | ( 0.326) | 0.268 |
| 114 | 9.50 | 0.67 | 0.362 | 0.094 | ( 0.326) | 0.268 |
| 115 | 9.58 | 0.70 | 0.381 | 0.094 | ( 0.342) | 0.287 |
| 116 | 9.67 | 0.70 | 0.381 | 0.093 | ( 0.342) | 0.287 |
| 117 | 9.75 | 0.70 | 0.381 | 0.093 | ( 0.342) | 0.288 |
| 118 | 9.83 | 0.73 | 0.399 | 0.092 | ( 0.359) | 0.306 |
| 119 | 9.92 | 0.73 | 0.399 | 0.092 | ( 0.359) | 0.307 |
| 120 | 10.00 | 0.73 | 0.399 | 0.091 | ( 0.359) | 0.307 |
| 121 | 10.08 | 0.50 | 0.272 | 0.091 | ( 0.245) | 0.181 |
| 122 | 10.17 | 0.50 | 0.272 | 0.091 | ( 0.245) | 0.181 |
| 123 | 10.25 | 0.50 | 0.272 | 0.090 | ( 0.245) | 0.182 |
| 124 | 10.33 | 0.50 | 0.272 | 0.090 | ( 0.245) | 0.182 |
| 125 | 10.42 | 0.50 | 0.272 | 0.089 | ( 0.245) | 0.183 |
| 126 | 10.50 | 0.50 | 0.272 | 0.089 | ( 0.245) | 0.183 |
| 127 | 10.58 | 0.67 | 0.362 | 0.088 | ( 0.326) | 0.274 |

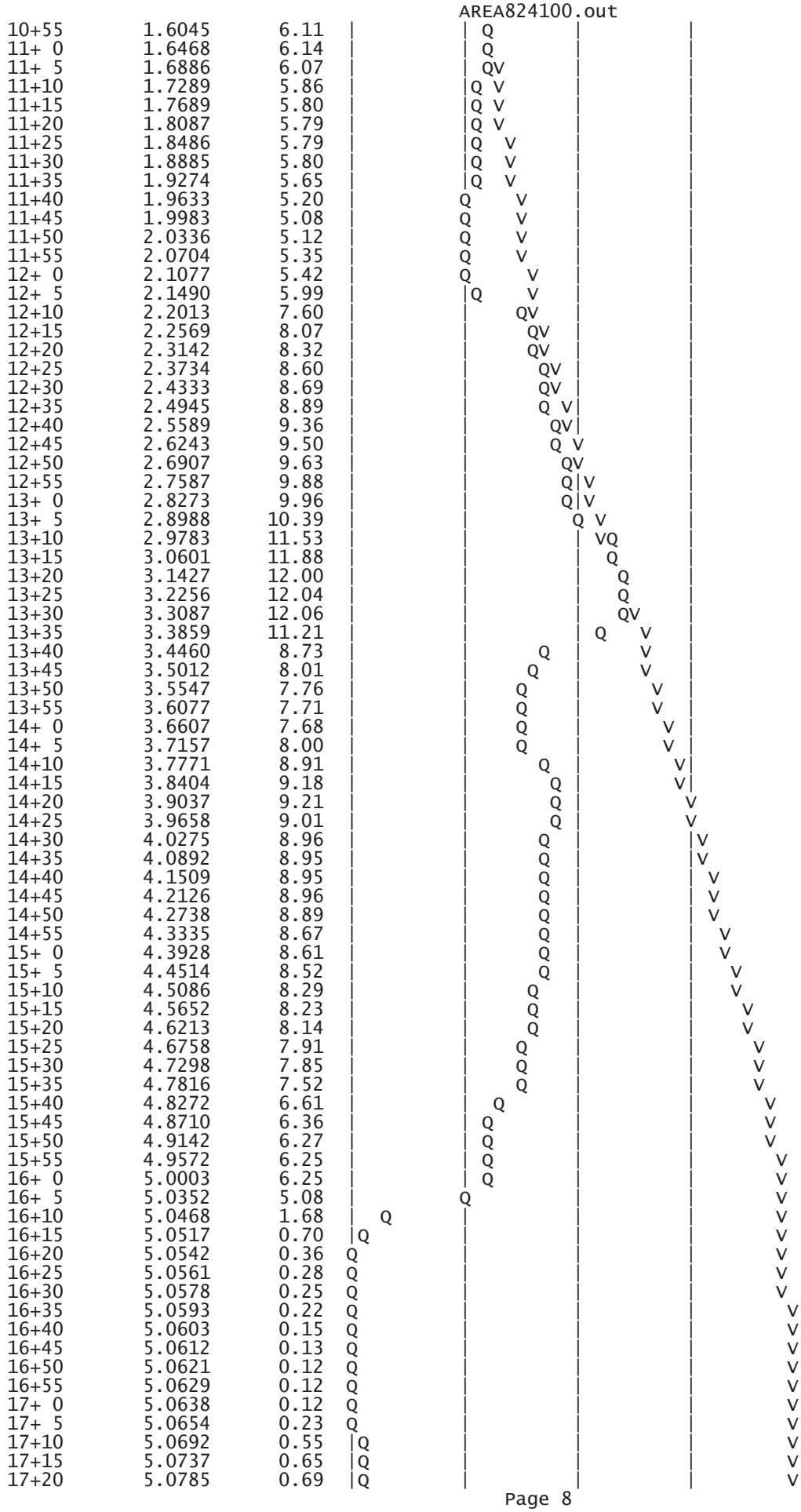
| | | | | | | |
|---|---|---|---|---|---|---|
| 128 | 10.67 | 0.67 | 0.362 | 0.088 | ( 0.326) | 0.274 |
| 129 | 10.75 | 0.67 | 0.362 | 0.088 | ( 0.326) | 0.275 |
| 130 | 10.83 | 0.67 | 0.362 | 0.087 | ( 0.326) | 0.275 |
| 131 | 10.92 | 0.67 | 0.362 | 0.087 | ( 0.326) | 0.276 |
| 132 | 11.00 | 0.67 | 0.362 | 0.086 | ( 0.326) | 0.276 |
| 133 | 11.08 | 0.63 | 0.344 | 0.086 | ( 0.310) | 0.258 |
| 134 | 11.17 | 0.63 | 0.344 | 0.085 | ( 0.310) | 0.259 |
| 135 | 11.25 | 0.63 | 0.344 | 0.085 | ( 0.310) | 0.259 |
| 136 | 11.33 | 0.63 | 0.344 | 0.085 | ( 0.310) | 0.260 |
| 137 | 11.42 | 0.63 | 0.344 | 0.084 | ( 0.310) | 0.260 |
| 138 | 11.50 | 0.63 | 0.344 | 0.084 | ( 0.310) | 0.261 |
| 139 | 11.58 | 0.57 | 0.308 | 0.083 | ( 0.277) | 0.225 |
| 140 | 11.67 | 0.57 | 0.308 | 0.083 | ( 0.277) | 0.225 |
| 141 | 11.75 | 0.57 | 0.308 | 0.082 | ( 0.277) | 0.226 |
| 142 | 11.83 | 0.60 | 0.326 | 0.082 | ( 0.294) | 0.244 |
| 143 | 11.92 | 0.60 | 0.326 | 0.082 | ( 0.294) | 0.245 |
| 144 | 12.00 | 0.60 | 0.326 | 0.081 | ( 0.294) | 0.245 |
| 145 | 12.08 | 0.83 | 0.453 | 0.081 | ( 0.408) | 0.372 |
| 146 | 12.17 | 0.83 | 0.453 | 0.080 | ( 0.408) | 0.373 |
| 147 | 12.25 | 0.83 | 0.453 | 0.080 | ( 0.408) | 0.373 |
| 148 | 12.33 | 0.87 | 0.471 | 0.080 | ( 0.424) | 0.391 |
| 149 | 12.42 | 0.87 | 0.471 | 0.079 | ( 0.424) | 0.392 |
| 150 | 12.50 | 0.87 | 0.471 | 0.079 | ( 0.424) | 0.392 |
| 151 | 12.58 | 0.93 | 0.507 | 0.078 | ( 0.457) | 0.429 |
| 152 | 12.67 | 0.93 | 0.507 | 0.078 | ( 0.457) | 0.429 |
| 153 | 12.75 | 0.93 | 0.507 | 0.078 | ( 0.457) | 0.430 |
| 154 | 12.83 | 0.97 | 0.525 | 0.077 | ( 0.473) | 0.448 |
| 155 | 12.92 | 0.97 | 0.525 | 0.077 | ( 0.473) | 0.449 |
| 156 | 13.00 | 0.97 | 0.525 | 0.076 | ( 0.473) | 0.449 |
| 157 | 13.08 | 1.13 | 0.616 | 0.076 | ( 0.554) | 0.540 |
| 158 | 13.17 | 1.13 | 0.616 | 0.076 | ( 0.554) | 0.540 |
| 159 | 13.25 | 1.13 | 0.616 | 0.075 | ( 0.554) | 0.541 |
| 160 | 13.33 | 1.13 | 0.616 | 0.075 | ( 0.554) | 0.541 |
| 161 | 13.42 | 1.13 | 0.616 | 0.075 | ( 0.554) | 0.542 |
| 162 | 13.50 | 1.13 | 0.616 | 0.074 | ( 0.554) | 0.542 |
| 163 | 13.58 | 0.77 | 0.417 | 0.074 | ( 0.375) | 0.343 |
| 164 | 13.67 | 0.77 | 0.417 | 0.073 | ( 0.375) | 0.343 |
| 165 | 13.75 | 0.77 | 0.417 | 0.073 | ( 0.375) | 0.344 |
| 166 | 13.83 | 0.77 | 0.417 | 0.073 | ( 0.375) | 0.344 |
| 167 | 13.92 | 0.77 | 0.417 | 0.072 | ( 0.375) | 0.344 |
| 168 | 14.00 | 0.77 | 0.417 | 0.072 | ( 0.375) | 0.345 |
| 169 | 14.08 | 0.90 | 0.489 | 0.072 | ( 0.440) | 0.418 |
| 170 | 14.17 | 0.90 | 0.489 | 0.071 | ( 0.440) | 0.418 |
| 171 | 14.25 | 0.90 | 0.489 | 0.071 | ( 0.440) | 0.418 |
| 172 | 14.33 | 0.87 | 0.471 | 0.070 | ( 0.424) | 0.401 |
| 173 | 14.42 | 0.87 | 0.471 | 0.070 | ( 0.424) | 0.401 |
| 174 | 14.50 | 0.87 | 0.471 | 0.070 | ( 0.424) | 0.401 |
| 175 | 14.58 | 0.87 | 0.471 | 0.069 | ( 0.424) | 0.402 |
| 176 | 14.67 | 0.87 | 0.471 | 0.069 | ( 0.424) | 0.402 |
| 177 | 14.75 | 0.87 | 0.471 | 0.069 | ( 0.424) | 0.402 |
| 178 | 14.83 | 0.83 | 0.453 | 0.068 | ( 0.408) | 0.385 |
| 179 | 14.92 | 0.83 | 0.453 | 0.068 | ( 0.408) | 0.385 |
| 180 | 15.00 | 0.83 | 0.453 | 0.068 | ( 0.408) | 0.385 |
| 181 | 15.08 | 0.80 | 0.435 | 0.067 | ( 0.391) | 0.368 |
| 182 | 15.17 | 0.80 | 0.435 | 0.067 | ( 0.391) | 0.368 |
| 183 | 15.25 | 0.80 | 0.435 | 0.067 | ( 0.391) | 0.368 |
| 184 | 15.33 | 0.77 | 0.417 | 0.066 | ( 0.375) | 0.350 |
| 185 | 15.42 | 0.77 | 0.417 | 0.066 | ( 0.375) | 0.351 |
| 186 | 15.50 | 0.77 | 0.417 | 0.066 | ( 0.375) | 0.351 |
| 187 | 15.58 | 0.63 | 0.344 | 0.065 | ( 0.310) | 0.279 |
| 188 | 15.67 | 0.63 | 0.344 | 0.065 | ( 0.310) | 0.279 |
| 189 | 15.75 | 0.63 | 0.344 | 0.065 | ( 0.310) | 0.280 |
| 190 | 15.83 | 0.63 | 0.344 | 0.064 | ( 0.310) | 0.280 |
| 191 | 15.92 | 0.63 | 0.344 | 0.064 | ( 0.310) | 0.280 |
| 192 | 16.00 | 0.63 | 0.344 | 0.064 | ( 0.310) | 0.281 |
| 193 | 16.08 | 0.13 | 0.072 | 0.063 | ( 0.065) | 0.009 |
| 194 | 16.17 | 0.13 | 0.072 | 0.063 | ( 0.065) | 0.010 |
| 195 | 16.25 | 0.13 | 0.072 | 0.063 | ( 0.065) | 0.010 |
| 196 | 16.33 | 0.13 | 0.072 | 0.062 | ( 0.065) | 0.010 |
| 197 | 16.42 | 0.13 | 0.072 | 0.062 | ( 0.065) | 0.011 |
| 198 | 16.50 | 0.13 | 0.072 | 0.062 | ( 0.065) | 0.011 |
| 199 | 16.58 | 0.10 | 0.054 | ( 0.061) | 0.049 | 0.005 |
| 200 | 16.67 | 0.10 | 0.054 | ( 0.061) | 0.049 | 0.005 |
| 201 | 16.75 | 0.10 | 0.054 | ( 0.061) | 0.049 | 0.005 |
| 202 | 16.83 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 203 | 16.92 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 204 | 17.00 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 205 | 17.08 | 0.17 | 0.091 | 0.060 | ( 0.082) | 0.031 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 206 | 17.17 | 0.17 | 0.091 | | 0.059 | ( | 0.082) | 0.031 |
| 207 | 17.25 | 0.17 | 0.091 | | 0.059 | ( | 0.082) | 0.032 |
| 208 | 17.33 | 0.17 | 0.091 | | 0.059 | ( | 0.082) | 0.032 |
| 209 | 17.42 | 0.17 | 0.091 | | 0.058 | ( | 0.082) | 0.032 |
| 210 | 17.50 | 0.17 | 0.091 | | 0.058 | ( | 0.082) | 0.033 |
| 211 | 17.58 | 0.17 | 0.091 | | 0.058 | ( | 0.082) | 0.033 |
| 212 | 17.67 | 0.17 | 0.091 | | 0.057 | ( | 0.082) | 0.033 |
| 213 | 17.75 | 0.17 | 0.091 | | 0.057 | ( | 0.082) | 0.033 |
| 214 | 17.83 | 0.13 | 0.072 | | 0.057 | ( | 0.065) | 0.016 |
| 215 | 17.92 | 0.13 | 0.072 | | 0.057 | ( | 0.065) | 0.016 |
| 216 | 18.00 | 0.13 | 0.072 | | 0.056 | ( | 0.065) | 0.016 |
| 217 | 18.08 | 0.13 | 0.072 | | 0.056 | ( | 0.065) | 0.016 |
| 218 | 18.17 | 0.13 | 0.072 | | 0.056 | ( | 0.065) | 0.017 |
| 219 | 18.25 | 0.13 | 0.072 | | 0.055 | ( | 0.065) | 0.017 |
| 220 | 18.33 | 0.13 | 0.072 | | 0.055 | ( | 0.065) | 0.017 |
| 221 | 18.42 | 0.13 | 0.072 | | 0.055 | ( | 0.065) | 0.018 |
| 222 | 18.50 | 0.13 | 0.072 | | 0.055 | ( | 0.065) | 0.018 |
| 223 | 18.58 | 0.10 | 0.054 | ( | 0.054) | | 0.049 | 0.005 |
| 224 | 18.67 | 0.10 | 0.054 | ( | 0.054) | | 0.049 | 0.005 |
| 225 | 18.75 | 0.10 | 0.054 | ( | 0.054) | | 0.049 | 0.005 |
| 226 | 18.83 | 0.07 | 0.036 | ( | 0.054) | | 0.033 | 0.004 |
| 227 | 18.92 | 0.07 | 0.036 | ( | 0.053) | | 0.033 | 0.004 |
| 228 | 19.00 | 0.07 | 0.036 | ( | 0.053) | | 0.033 | 0.004 |
| 229 | 19.08 | 0.10 | 0.054 | ( | 0.053) | | 0.049 | 0.005 |
| 230 | 19.17 | 0.10 | 0.054 | ( | 0.053) | | 0.049 | 0.005 |
| 231 | 19.25 | 0.10 | 0.054 | ( | 0.052) | | 0.049 | 0.005 |
| 232 | 19.33 | 0.13 | 0.072 | | 0.052 | ( | 0.065) | 0.020 |
| 233 | 19.42 | 0.13 | 0.072 | | 0.052 | ( | 0.065) | 0.021 |
| 234 | 19.50 | 0.13 | 0.072 | | 0.052 | ( | 0.065) | 0.021 |
| 235 | 19.58 | 0.10 | 0.054 | ( | 0.051) | | 0.049 | 0.005 |
| 236 | 19.67 | 0.10 | 0.054 | ( | 0.051) | | 0.049 | 0.005 |
| 237 | 19.75 | 0.10 | 0.054 | ( | 0.051) | | 0.049 | 0.005 |
| 238 | 19.83 | 0.07 | 0.036 | ( | 0.051) | | 0.033 | 0.004 |
| 239 | 19.92 | 0.07 | 0.036 | ( | 0.050) | | 0.033 | 0.004 |
| 240 | 20.00 | 0.07 | 0.036 | ( | 0.050) | | 0.033 | 0.004 |
| 241 | 20.08 | 0.10 | 0.054 | ( | 0.050) | | 0.049 | 0.005 |
| 242 | 20.17 | 0.10 | 0.054 | ( | 0.050) | | 0.049 | 0.005 |
| 243 | 20.25 | 0.10 | 0.054 | ( | 0.050) | | 0.049 | 0.005 |
| 244 | 20.33 | 0.10 | 0.054 | ( | 0.049) | | 0.049 | 0.005 |
| 245 | 20.42 | 0.10 | 0.054 | ( | 0.049) | | 0.049 | 0.005 |
| 246 | 20.50 | 0.10 | 0.054 | ( | 0.049) | | 0.049 | 0.005 |
| 247 | 20.58 | 0.10 | 0.054 | | 0.049 | ( | 0.049) | 0.006 |
| 248 | 20.67 | 0.10 | 0.054 | | 0.049 | ( | 0.049) | 0.006 |
| 249 | 20.75 | 0.10 | 0.054 | | 0.048 | ( | 0.049) | 0.006 |
| 250 | 20.83 | 0.07 | 0.036 | ( | 0.048) | | 0.033 | 0.004 |
| 251 | 20.92 | 0.07 | 0.036 | ( | 0.048) | | 0.033 | 0.004 |
| 252 | 21.00 | 0.07 | 0.036 | ( | 0.048) | | 0.033 | 0.004 |
| 253 | 21.08 | 0.10 | 0.054 | | 0.048 | ( | 0.049) | 0.007 |
| 254 | 21.17 | 0.10 | 0.054 | | 0.047 | ( | 0.049) | 0.007 |
| 255 | 21.25 | 0.10 | 0.054 | | 0.047 | ( | 0.049) | 0.007 |
| 256 | 21.33 | 0.07 | 0.036 | ( | 0.047) | | 0.033 | 0.004 |
| 257 | 21.42 | 0.07 | 0.036 | ( | 0.047) | | 0.033 | 0.004 |
| 258 | 21.50 | 0.07 | 0.036 | ( | 0.047) | | 0.033 | 0.004 |
| 259 | 21.58 | 0.10 | 0.054 | | 0.047 | ( | 0.049) | 0.008 |
| 260 | 21.67 | 0.10 | 0.054 | | 0.046 | ( | 0.049) | 0.008 |
| 261 | 21.75 | 0.10 | 0.054 | | 0.046 | ( | 0.049) | 0.008 |
| 262 | 21.83 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 263 | 21.92 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 264 | 22.00 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 265 | 22.08 | 0.10 | 0.054 | | 0.046 | ( | 0.049) | 0.009 |
| 266 | 22.17 | 0.10 | 0.054 | | 0.045 | ( | 0.049) | 0.009 |
| 267 | 22.25 | 0.10 | 0.054 | | 0.045 | ( | 0.049) | 0.009 |
| 268 | 22.33 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 269 | 22.42 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 270 | 22.50 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 271 | 22.58 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 272 | 22.67 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 273 | 22.75 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 274 | 22.83 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 275 | 22.92 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 276 | 23.00 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 277 | 23.08 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 278 | 23.17 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 279 | 23.25 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 280 | 23.33 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 281 | 23.42 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |

```
284  23.67     0.07      0.036       (  0.043)       0.033        0.004
285  23.75     0.07      0.036       (  0.043)       0.033        0.004
286  23.83     0.07      0.036       (  0.043)       0.033        0.004
287  23.92     0.07      0.036       (  0.043)       0.033        0.004
288  24.00     0.07      0.036       (  0.043)       0.033        0.004
              (Loss Rate Not Used)
    Sum =     100.0                                   Sum =    33.8
       Flood volume = Effective rainfall      2.82(In)
        times area      22.1(Ac.)/[(In)/(Ft.)] =       5.2(Ac.Ft)
       Total soil loss =      1.71(In)
       Total soil loss =     3.154(Ac.Ft)
       Total rainfall =      4.53(In)
       Flood volume =      225992.9 Cubic Feet
       Total soil loss =      137401.6 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =     12.061(CFS)
       ---------------------------------------------------------------------
       +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
       ---------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))

       ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        5.0      10.0      15.0       20.0
 ------------------------------------------------------------------------
   0+ 5       0.0001      0.02  Q          |          |          |          |
   0+10       0.0005      0.06  Q          |          |          |          |
   0+15       0.0010      0.07  Q          |          |          |          |
   0+20       0.0016      0.09  Q          |          |          |          |
   0+25       0.0024      0.11  Q          |          |          |          |
   0+30       0.0032      0.12  Q          |          |          |          |
   0+35       0.0040      0.12  Q          |          |          |          |
   0+40       0.0049      0.12  Q          |          |          |          |
   0+45       0.0057      0.12  Q          |          |          |          |
   0+50       0.0066      0.13  Q          |          |          |          |
   0+55       0.0076      0.15  Q          |          |          |          |
   1+ 0       0.0087      0.16  Q          |          |          |          |
   1+ 5       0.0098      0.15  Q          |          |          |          |
   1+10       0.0107      0.13  Q          |          |          |          |
   1+15       0.0115      0.12  Q          |          |          |          |
   1+20       0.0124      0.12  Q          |          |          |          |
   1+25       0.0132      0.12  Q          |          |          |          |
   1+30       0.0140      0.12  Q          |          |          |          |
   1+35       0.0149      0.12  Q          |          |          |          |
   1+40       0.0157      0.12  Q          |          |          |          |
   1+45       0.0165      0.12  Q          |          |          |          |
   1+50       0.0174      0.13  Q          |          |          |          |
   1+55       0.0185      0.15  Q          |          |          |          |
   2+ 0       0.0196      0.16  Q          |          |          |          |
   2+ 5       0.0207      0.16  Q          |          |          |          |
   2+10       0.0218      0.16  Q          |          |          |          |
   2+15       0.0229      0.16  Q          |          |          |          |
   2+20       0.0240      0.16  Q          |          |          |          |
   2+25       0.0251      0.16  Q          |          |          |          |
   2+30       0.0262      0.16  Q          |          |          |          |
   2+35       0.0274      0.17  Q          |          |          |          |
   2+40       0.0287      0.19  Q          |          |          |          |
   2+45       0.0301      0.20  Q          |          |          |          |
   2+50       0.0315      0.20  Q          |          |          |          |
   2+55       0.0329      0.20  Q          |          |          |          |
   3+ 0       0.0342      0.20  Q          |          |          |          |
   3+ 5       0.0356      0.20  Q          |          |          |          |
   3+10       0.0370      0.20  Q          |          |          |          |
   3+15       0.0384      0.20  Q          |          |          |          |
   3+20       0.0398      0.20  Q          |          |          |          |
   3+25       0.0412      0.20  Q          |          |          |          |
   3+30       0.0426      0.20  Q          |          |          |          |
   3+35       0.0440      0.20  Q          |          |          |          |
   3+40       0.0454      0.20  Q          |          |          |          |
   3+45       0.0468      0.20  Q          |          |          |          |
   3+50       0.0482      0.21  Q          |          |          |          |
   3+55       0.0498      0.23  Q          |          |          |          |
   4+ 0       0.0515      0.24  Q          |          |          |          |
   4+ 5       0.0531      0.24  Q          |          |          |          |
   4+10       0.0548      0.24  Q          |          |          |          |
   4+15       0.0564      0.24  Q          |          |          |          |
   4+20       0.0582      0.25  Q          |          |          |          |
```

```
 4+25       0.0601      0.27  Q          |          |          |          |
 4+30       0.0620      0.28  Q          |          |          |          |
 4+35       0.0639      0.28  Q          |          |          |          |
 4+40       0.0659      0.28  Q          |          |          |          |
 4+45       0.0678      0.28  Q          |          |          |          |
 4+50       0.0701      0.33  Q          |          |          |          |
 4+55       0.0733      0.47  Q          |          |          |          |
 5+ 0       0.0768      0.51  VQ         |          |          |          |
 5+ 5       0.0801      0.48  Q          |          |          |          |
 5+10       0.0823      0.31  Q          |          |          |          |
 5+15       0.0841      0.27  Q          |          |          |          |
 5+20       0.0859      0.26  Q          |          |          |          |
 5+25       0.0878      0.28  Q          |          |          |          |
 5+30       0.0897      0.28  Q          |          |          |          |
 5+35       0.0921      0.35  Q          |          |          |          |
 5+40       0.0958      0.54  VQ         |          |          |          |
 5+45       0.1000      0.61  VQ         |          |          |          |
 5+50       0.1044      0.64  VQ         |          |          |          |
 5+55       0.1090      0.66  VQ         |          |          |          |
 6+ 0       0.1136      0.67  VQ         |          |          |          |
 6+ 5       0.1188      0.76  VQ         |          |          |          |
 6+10       0.1257      1.00  VQ         |          |          |          |
 6+15       0.1331      1.08  |VQ        |          |          |          |
 6+20       0.1407      1.11  |VQ        |          |          |          |
 6+25       0.1485      1.13  |VQ        |          |          |          |
 6+30       0.1563      1.14  |VQ        |          |          |          |
 6+35       0.1648      1.23  |VQ        |          |          |          |
 6+40       0.1749      1.47  |VQ        |          |          |          |
 6+45       0.1856      1.55  |V Q       |          |          |          |
 6+50       0.1965      1.58  |V Q       |          |          |          |
 6+55       0.2075      1.60  |V Q       |          |          |          |
 7+ 0       0.2186      1.61  |V Q       |          |          |          |
 7+ 5       0.2297      1.62  |V Q       |          |          |          |
 7+10       0.2410      1.63  |V Q       |          |          |          |
 7+15       0.2523      1.64  |V Q       |          |          |          |
 7+20       0.2643      1.73  | VQ       |          |          |          |
 7+25       0.2778      1.97  | VQ       |          |          |          |
 7+30       0.2919      2.05  | V Q      |          |          |          |
 7+35       0.3068      2.16  | V Q      |          |          |          |
 7+40       0.3234      2.40  | V Q      |          |          |          |
 7+45       0.3405      2.48  | V Q      |          |          |          |
 7+50       0.3584      2.60  | V  Q     |          |          |          |
 7+55       0.3779      2.84  | V  Q     |          |          |          |
 8+ 0       0.3980      2.92  |  V Q     |          |          |          |
 8+ 5       0.4195      3.11  |  V  Q    |          |          |          |
 8+10       0.4441      3.58  |  V   Q   |          |          |          |
 8+15       0.4698      3.73  |  V   Q   |          |          |          |
 8+20       0.4958      3.78  |  V   Q   |          |          |          |
 8+25       0.5221      3.81  |   V  Q   |          |          |          |
 8+30       0.5484      3.82  |   V  Q   |          |          |          |
 8+35       0.5753      3.91  |   V  Q   |          |          |          |
 8+40       0.6039      4.15  |   V   Q  |          |          |          |
 8+45       0.6330      4.23  |   V   Q  |          |          |          |
 8+50       0.6629      4.34  |    V  Q  |          |          |          |
 8+55       0.6945      4.58  |    V   Q|          |          |          |
 9+ 0       0.7266      4.66  |    V   Q|          |          |          |
 9+ 5       0.7600      4.85  |    V   Q|          |          |          |
 9+10       0.7966      5.32  |     V   Q          |          |          |
 9+15       0.8343      5.47  |     V   Q          |          |          |
 9+20       0.8728      5.60  |     V   |Q         |          |          |
 9+25       0.9131      5.85  |      V  |Q         |          |          |
 9+30       0.9540      5.93  |      V  |Q         |          |          |
 9+35       0.9956      6.05  |      V  | Q        |          |          |
 9+40       1.0389      6.29  |       V | Q        |          |          |
 9+45       1.0828      6.37  |       V | Q        |          |          |
 9+50       1.1274      6.48  |       V | Q        |          |          |
 9+55       1.1737      6.72  |        V|  Q       |          |          |
10+ 0       1.2205      6.80  |        V|  Q       |          |          |
10+ 5       1.2638      6.29  |        V| Q        |          |          |
10+10       1.2963      4.71  |        Q|          |          |          |
10+15       1.3256      4.27  |       Q V          |          |          |
10+20       1.3540      4.11  |       Q V          |          |          |
10+25       1.3821      4.08  |       Q V          |          |          |
10+30       1.4102      4.07  |       Q V          |          |          |
10+35       1.4409      4.47  |       Q |V         |          |          |
10+40       1.4796      5.61  |         |Q         |          |          |
10+45       1.5205      5.95  |         |Q         |          |          |
10+50       1.5624      6.08  |         | Q        |          |          |
```



| | | | |
|---|---|---|---|
| 10+55 | 1.6045 | 6.11 | |
| 11+ 0 | 1.6468 | 6.14 | |
| 11+ 5 | 1.6886 | 6.07 | |
| 11+10 | 1.7289 | 5.86 | |
| 11+15 | 1.7689 | 5.80 | |
| 11+20 | 1.8087 | 5.79 | |
| 11+25 | 1.8486 | 5.79 | |
| 11+30 | 1.8885 | 5.80 | |
| 11+35 | 1.9274 | 5.65 | |
| 11+40 | 1.9633 | 5.20 | |
| 11+45 | 1.9983 | 5.08 | |
| 11+50 | 2.0336 | 5.12 | |
| 11+55 | 2.0704 | 5.35 | |
| 12+ 0 | 2.1077 | 5.42 | |
| 12+ 5 | 2.1490 | 5.99 | |
| 12+10 | 2.2013 | 7.60 | |
| 12+15 | 2.2569 | 8.07 | |
| 12+20 | 2.3142 | 8.32 | |
| 12+25 | 2.3734 | 8.60 | |
| 12+30 | 2.4333 | 8.69 | |
| 12+35 | 2.4945 | 8.89 | |
| 12+40 | 2.5589 | 9.36 | |
| 12+45 | 2.6243 | 9.50 | |
| 12+50 | 2.6907 | 9.63 | |
| 12+55 | 2.7587 | 9.88 | |
| 13+ 0 | 2.8273 | 9.96 | |
| 13+ 5 | 2.8988 | 10.39 | |
| 13+10 | 2.9783 | 11.53 | |
| 13+15 | 3.0601 | 11.88 | |
| 13+20 | 3.1427 | 12.00 | |
| 13+25 | 3.2256 | 12.04 | |
| 13+30 | 3.3087 | 12.06 | |
| 13+35 | 3.3859 | 11.21 | |
| 13+40 | 3.4460 | 8.73 | |
| 13+45 | 3.5012 | 8.01 | |
| 13+50 | 3.5547 | 7.76 | |
| 13+55 | 3.6077 | 7.71 | |
| 14+ 0 | 3.6607 | 7.68 | |
| 14+ 5 | 3.7157 | 8.00 | |
| 14+10 | 3.7771 | 8.91 | |
| 14+15 | 3.8404 | 9.18 | |
| 14+20 | 3.9037 | 9.21 | |
| 14+25 | 3.9658 | 9.01 | |
| 14+30 | 4.0275 | 8.96 | |
| 14+35 | 4.0892 | 8.95 | |
| 14+40 | 4.1509 | 8.95 | |
| 14+45 | 4.2126 | 8.96 | |
| 14+50 | 4.2738 | 8.89 | |
| 14+55 | 4.3335 | 8.67 | |
| 15+ 0 | 4.3928 | 8.61 | |
| 15+ 5 | 4.4514 | 8.52 | |
| 15+10 | 4.5086 | 8.29 | |
| 15+15 | 4.5652 | 8.23 | |
| 15+20 | 4.6213 | 8.14 | |
| 15+25 | 4.6758 | 7.91 | |
| 15+30 | 4.7298 | 7.85 | |
| 15+35 | 4.7816 | 7.52 | |
| 15+40 | 4.8272 | 6.61 | |
| 15+45 | 4.8710 | 6.36 | |
| 15+50 | 4.9142 | 6.27 | |
| 15+55 | 4.9572 | 6.25 | |
| 16+ 0 | 5.0003 | 6.25 | |
| 16+ 5 | 5.0352 | 5.08 | |
| 16+10 | 5.0468 | 1.68 | |
| 16+15 | 5.0517 | 0.70 | |
| 16+20 | 5.0542 | 0.36 | |
| 16+25 | 5.0561 | 0.28 | |
| 16+30 | 5.0578 | 0.25 | |
| 16+35 | 5.0593 | 0.22 | |
| 16+40 | 5.0603 | 0.15 | |
| 16+45 | 5.0612 | 0.13 | |
| 16+50 | 5.0621 | 0.12 | |
| 16+55 | 5.0629 | 0.12 | |
| 17+ 0 | 5.0638 | 0.12 | |
| 17+ 5 | 5.0654 | 0.23 | |
| 17+10 | 5.0692 | 0.55 | |
| 17+15 | 5.0737 | 0.65 | |
| 17+20 | 5.0785 | 0.69 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+25 | 5.0833 | 0.71 | \|Q | \| | \| | \| | V\| |
| 17+30 | 5.0883 | 0.72 | \|Q | \| | \| | \| | V\| |
| 17+35 | 5.0933 | 0.72 | \|Q | \| | \| | \| | V\| |
| 17+40 | 5.0983 | 0.73 | \|Q | \| | \| | \| | V\| |
| 17+45 | 5.1034 | 0.74 | \|Q | \| | \| | \| | V\| |
| 17+50 | 5.1080 | 0.67 | \|Q | \| | \| | \| | V\| |
| 17+55 | 5.1110 | 0.45 | Q | \| | \| | \| | V\| |
| 18+ 0 | 5.1137 | 0.39 | Q | \| | \| | \| | V\| |
| 18+ 5 | 5.1162 | 0.37 | Q | \| | \| | \| | V\| |
| 18+10 | 5.1188 | 0.37 | Q | \| | \| | \| | V\| |
| 18+15 | 5.1213 | 0.37 | Q | \| | \| | \| | V\| |
| 18+20 | 5.1239 | 0.38 | Q | \| | \| | \| | V\| |
| 18+25 | 5.1266 | 0.38 | Q | \| | \| | \| | V\| |
| 18+30 | 5.1292 | 0.39 | Q | \| | \| | \| | V\| |
| 18+35 | 5.1316 | 0.34 | Q | \| | \| | \| | V\| |
| 18+40 | 5.1329 | 0.19 | Q | \| | \| | \| | V\| |
| 18+45 | 5.1339 | 0.14 | Q | \| | \| | \| | V\| |
| 18+50 | 5.1347 | 0.12 | Q | \| | \| | \| | V\| |
| 18+55 | 5.1353 | 0.09 | Q | \| | \| | \| | V\| |
| 19+ 0 | 5.1359 | 0.08 | Q | \| | \| | \| | V\| |
| 19+ 5 | 5.1365 | 0.09 | Q | \| | \| | \| | V\| |
| 19+10 | 5.1373 | 0.11 | Q | \| | \| | \| | V\| |
| 19+15 | 5.1381 | 0.12 | Q | \| | \| | \| | V\| |
| 19+20 | 5.1394 | 0.18 | Q | \| | \| | \| | V\| |
| 19+25 | 5.1420 | 0.37 | Q | \| | \| | \| | V\| |
| 19+30 | 5.1449 | 0.43 | Q | \| | \| | \| | V\| |
| 19+35 | 5.1476 | 0.39 | Q | \| | \| | \| | V\| |
| 19+40 | 5.1490 | 0.20 | Q | \| | \| | \| | V\| |
| 19+45 | 5.1500 | 0.15 | Q | \| | \| | \| | V\| |
| 19+50 | 5.1508 | 0.12 | Q | \| | \| | \| | V\| |
| 19+55 | 5.1515 | 0.09 | Q | \| | \| | \| | V\| |
| 20+ 0 | 5.1521 | 0.08 | Q | \| | \| | \| | V\| |
| 20+ 5 | 5.1527 | 0.09 | Q | \| | \| | \| | V\| |
| 20+10 | 5.1535 | 0.11 | Q | \| | \| | \| | V\| |
| 20+15 | 5.1543 | 0.12 | Q | \| | \| | \| | V\| |
| 20+20 | 5.1551 | 0.12 | Q | \| | \| | \| | V\| |
| 20+25 | 5.1559 | 0.12 | Q | \| | \| | \| | V\| |
| 20+30 | 5.1568 | 0.12 | Q | \| | \| | \| | V\| |
| 20+35 | 5.1576 | 0.12 | Q | \| | \| | \| | V\| |
| 20+40 | 5.1585 | 0.12 | Q | \| | \| | \| | V\| |
| 20+45 | 5.1593 | 0.13 | Q | \| | \| | \| | V\| |
| 20+50 | 5.1602 | 0.12 | Q | \| | \| | \| | V\| |
| 20+55 | 5.1608 | 0.09 | Q | \| | \| | \| | V\| |
| 21+ 0 | 5.1614 | 0.08 | Q | \| | \| | \| | V\| |
| 21+ 5 | 5.1621 | 0.10 | Q | \| | \| | \| | V\| |
| 21+10 | 5.1630 | 0.13 | Q | \| | \| | \| | V\| |
| 21+15 | 5.1640 | 0.15 | Q | \| | \| | \| | V\| |
| 21+20 | 5.1650 | 0.14 | Q | \| | \| | \| | V\| |
| 21+25 | 5.1657 | 0.10 | Q | \| | \| | \| | V\| |
| 21+30 | 5.1663 | 0.09 | Q | \| | \| | \| | V\| |
| 21+35 | 5.1670 | 0.10 | Q | \| | \| | \| | V\| |
| 21+40 | 5.1680 | 0.15 | Q | \| | \| | \| | V\| |
| 21+45 | 5.1692 | 0.17 | Q | \| | \| | \| | V\| |
| 21+50 | 5.1703 | 0.16 | Q | \| | \| | \| | V\| |
| 21+55 | 5.1710 | 0.10 | Q | \| | \| | \| | V\| |
| 22+ 0 | 5.1716 | 0.09 | Q | \| | \| | \| | V\| |
| 22+ 5 | 5.1723 | 0.11 | Q | \| | \| | \| | V\| |
| 22+10 | 5.1735 | 0.17 | Q | \| | \| | \| | V\| |
| 22+15 | 5.1748 | 0.19 | Q | \| | \| | \| | V\| |
| 22+20 | 5.1760 | 0.18 | Q | \| | \| | \| | V\| |
| 22+25 | 5.1768 | 0.11 | Q | \| | \| | \| | V\| |
| 22+30 | 5.1774 | 0.09 | Q | \| | \| | \| | V\| |
| 22+35 | 5.1780 | 0.08 | Q | \| | \| | \| | V\| |
| 22+40 | 5.1785 | 0.08 | Q | \| | \| | \| | V\| |
| 22+45 | 5.1791 | 0.08 | Q | \| | \| | \| | V\| |
| 22+50 | 5.1796 | 0.08 | Q | \| | \| | \| | V\| |
| 22+55 | 5.1802 | 0.08 | Q | \| | \| | \| | V\| |
| 23+ 0 | 5.1808 | 0.08 | Q | \| | \| | \| | V\| |
| 23+ 5 | 5.1813 | 0.08 | Q | \| | \| | \| | V\| |
| 23+10 | 5.1819 | 0.08 | Q | \| | \| | \| | V\| |
| 23+15 | 5.1824 | 0.08 | Q | \| | \| | \| | V\| |
| 23+20 | 5.1830 | 0.08 | Q | \| | \| | \| | V\| |
| 23+25 | 5.1835 | 0.08 | Q | \| | \| | \| | V\| |
| 23+30 | 5.1841 | 0.08 | Q | \| | \| | \| | V\| |
| 23+35 | 5.1847 | 0.08 | Q | \| | \| | \| | V\| |
| 23+40 | 5.1852 | 0.08 | Q | \| | \| | \| | V\| |
| 23+45 | 5.1858 | 0.08 | Q | \| | \| | \| | V\| |
| 23+50 | 5.1863 | 0.08 | Q | \| | \| | \| | V\| |

```
   23+55       5.1869      0.08  Q          |          |          |         V|
   24+ 0       5.1874      0.08  Q          |          |          |         V|
   24+ 5       5.1879      0.07  Q          |          |          |         V|
   24+10       5.1880      0.02  Q          |          |          |         V|
   24+15       5.1881      0.01  Q          |          |          |         V|
   24+20       5.1881      0.00  Q          |          |          |         V|
   24+25       5.1881      0.00  Q          |          |          |         V|
   24+30       5.1881      0.00  Q          |          |          |          V
-------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014, Version 9.0
Study date 01/25/18 File: AREA91100.out

++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
----------------------------------------------------------------------

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 9
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

---

Drainage Area = 50.70(Ac.) = 0.079 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 50.70(Ac.) = 0.079 Sq. Mi.
Length along longest watercourse = 2932.00(Ft.)
Length along longest watercourse measured to centroid = 1472.00(Ft.)
Length along longest watercourse = 0.555 Mi.
Length along longest watercourse measured to centroid = 0.279 Mi.
Difference in elevation = 575.00(Ft.)
Slope along watercourse = 1035.4707 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.111 Hr.
Lag time = 6.63 Min.
25% of lag time = 1.66 Min.
40% of lag time = 2.65 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 50.70 | 0.49 | 24.84 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 50.70 | 1.20 | 60.84 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.490(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.95 %
Adjusted average point rain = 1.199(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 50.700 | 83.91 | 0.000 |

Total Area Entered = 50.70(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.9 | 93.3 | 0.087 | 0.000 | 0.087 | 1.000 | 0.087 |
| | | | | | Sum (F) = | 0.087 |

Area averaged mean soil loss (F) (In/Hr) = 0.087

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

---

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 75.386 | 8.114 | 4.146 |
| 2 | 0.167 | 150.772 | 45.290 | 23.141 |
| 3 | 0.250 | 226.158 | 26.490 | 13.535 |
| 4 | 0.333 | 301.544 | 10.271 | 5.248 |
| 5 | 0.417 | 376.930 | 5.422 | 2.770 |
| 6 | 0.500 | 452.315 | 2.433 | 1.243 |
| 7 | 0.583 | 527.701 | 0.861 | 0.440 |
| 8 | 0.667 | 603.087 | 0.550 | 0.281 |
| 9 | 0.750 | 678.473 | 0.423 | 0.216 |
| 10 | 0.833 | 753.859 | 0.148 | 0.075 |
| | | | Sum = 100.000 | Sum= 51.096 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.087 | ( 0.544) | 0.518 |
| 2 | 0.17 | 4.30 | 0.619 | 0.087 | ( 0.557) | 0.532 |
| 3 | 0.25 | 5.00 | 0.720 | 0.087 | ( 0.648) | 0.633 |
| 4 | 0.33 | 5.00 | 0.720 | 0.087 | ( 0.648) | 0.633 |
| 5 | 0.42 | 5.80 | 0.835 | 0.087 | ( 0.751) | 0.748 |
| 6 | 0.50 | 6.50 | 0.936 | 0.087 | ( 0.842) | 0.849 |
| 7 | 0.58 | 7.40 | 1.065 | 0.087 | ( 0.959) | 0.979 |
| 8 | 0.67 | 8.60 | 1.238 | 0.087 | ( 1.114) | 1.151 |
| 9 | 0.75 | 12.30 | 1.770 | 0.087 | ( 1.593) | 1.684 |
| 10 | 0.83 | 29.10 | 4.188 | 0.087 | ( 3.770) | 4.102 |
| 11 | 0.92 | 6.80 | 0.979 | 0.087 | ( 0.881) | 0.892 |
| 12 | 1.00 | 5.00 | 0.720 | 0.087 | ( 0.648) | 0.633 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 13.4 |

Flood volume = Effective rainfall 1.11(In)
times area 50.7(Ac.)/[(In)/(Ft.)] = 4.7(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.365(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 204827.8 Cubic Feet
Total soil loss = 15919.9 Cubic Feet

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Peak flow rate of this hydrograph = 131.977(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 50.0 | 100.0 | 150.0 | 200.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0148 | 2.15 | Q | | | | |
| 0+10 | 0.1126 | 14.20 | V Q | | | | |
| 0+15 | 0.2639 | 21.97 | \| V Q | | | | |
| 0+20 | 0.4514 | 27.22 | \| V Q | | | | |
| 0+25 | 0.6619 | 30.57 | \| VQ | | | | |
| 0+30 | 0.9020 | 34.87 | \| QV | | | | |
| 0+35 | 1.1763 | 39.82 | \| Q V | | | | |
| 0+40 | 1.4916 | 45.78 | \| Q\| V | | | | |
| 0+45 | 1.8687 | 54.75 | \| Q V | | | | |
| 0+50 | 2.4240 | 80.63 | \| Q V | | | | |
| 0+55 | 3.3329 | 131.98 | \| Q V | | | | |

```
    1+ 0       3.9724     92.85  |          |        Q |          |  V       |
    1+ 5       4.3530     55.26  |          |Q         |          |      V   |
    1+10       4.5440     27.75  |     Q    |          |          |        V |
    1+15       4.6283     12.24  |  Q       |          |          |          V|
    1+20       4.6660      5.47  |Q         |          |          |          V|
    1+25       4.6851      2.78  Q          |          |          |          V|
    1+30       4.6958      1.54  Q          |          |          |          V|
    1+35       4.7005      0.68  Q          |          |          |          V|
    1+40       4.7019      0.20  Q          |          |          |          V|
    1+45       4.7022      0.05  Q          |          |          |           V
-------------------------------------------------------------------------------
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA93100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 9
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

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Drainage Area = 50.70(Ac.) = 0.079 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 50.70(Ac.) = 0.079 Sq. Mi.
Length along longest watercourse = 2932.00(Ft.)
Length along longest watercourse measured to centroid = 1472.00(Ft.)
Length along longest watercourse = 0.555 Mi.
Length along longest watercourse measured to centroid = 0.279 Mi.
Difference in elevation = 575.00(Ft.)
Slope along watercourse = 1035.4707 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.111 Hr.
Lag time = 6.63 Min.
25% of lag time = 1.66 Min.
40% of lag time = 2.65 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 50.70 | 0.80 | 40.56 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 50.70 | 1.80 | 91.26 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 99.98 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 50.700 | 83.91 | 0.000 |

Total Area Entered = 50.70(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.9 | 93.3 | 0.087 | 0.000 | 0.087 | 1.000 | 0.087 |
| | | | | | Sum (F) = | 0.087 |

Area averaged mean soil loss (F) (In/Hr) = 0.087

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 75.386 | 8.114 | 4.146 |
| 2 0.167 | 150.772 | 45.290 | 23.141 |
| 3 0.250 | 226.158 | 26.490 | 13.535 |
| 4 0.333 | 301.544 | 10.271 | 5.248 |
| 5 0.417 | 376.930 | 5.422 | 2.770 |
| 6 0.500 | 452.315 | 2.433 | 1.243 |
| 7 0.583 | 527.701 | 0.861 | 0.440 |
| 8 0.667 | 603.087 | 0.550 | 0.281 |
| 9 0.750 | 678.473 | 0.423 | 0.216 |
| 10 0.833 | 753.859 | 0.148 | 0.075 |
| | | Sum = 100.000 | Sum= 51.096 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.281 | 0.087 | ( 0.253) | 0.194 |
| 2 | 0.17 | 1.30 | 0.281 | 0.087 | ( 0.253) | 0.194 |
| 3 | 0.25 | 1.10 | 0.238 | 0.087 | ( 0.214) | 0.151 |
| 4 | 0.33 | 1.50 | 0.324 | 0.087 | ( 0.292) | 0.237 |
| 5 | 0.42 | 1.50 | 0.324 | 0.087 | ( 0.292) | 0.237 |
| 6 | 0.50 | 1.80 | 0.389 | 0.087 | ( 0.350) | 0.302 |
| 7 | 0.58 | 1.50 | 0.324 | 0.087 | ( 0.292) | 0.237 |
| 8 | 0.67 | 1.80 | 0.389 | 0.087 | ( 0.350) | 0.302 |
| 9 | 0.75 | 1.80 | 0.389 | 0.087 | ( 0.350) | 0.302 |
| 10 | 0.83 | 1.50 | 0.324 | 0.087 | ( 0.292) | 0.237 |
| 11 | 0.92 | 1.60 | 0.346 | 0.087 | ( 0.311) | 0.259 |
| 12 | 1.00 | 1.80 | 0.389 | 0.087 | ( 0.350) | 0.302 |
| 13 | 1.08 | 2.20 | 0.475 | 0.087 | ( 0.428) | 0.389 |
| 14 | 1.17 | 2.20 | 0.475 | 0.087 | ( 0.428) | 0.389 |
| 15 | 1.25 | 2.20 | 0.475 | 0.087 | ( 0.428) | 0.389 |
| 16 | 1.33 | 2.00 | 0.432 | 0.087 | ( 0.389) | 0.345 |
| 17 | 1.42 | 2.60 | 0.561 | 0.087 | ( 0.505) | 0.475 |
| 18 | 1.50 | 2.70 | 0.583 | 0.087 | ( 0.525) | 0.497 |
| 19 | 1.58 | 2.40 | 0.518 | 0.087 | ( 0.466) | 0.432 |
| 20 | 1.67 | 2.70 | 0.583 | 0.087 | ( 0.525) | 0.497 |
| 21 | 1.75 | 3.30 | 0.713 | 0.087 | ( 0.641) | 0.626 |
| 22 | 1.83 | 3.10 | 0.669 | 0.087 | ( 0.603) | 0.583 |
| 23 | 1.92 | 2.90 | 0.626 | 0.087 | ( 0.564) | 0.540 |
| 24 | 2.00 | 3.00 | 0.648 | 0.087 | ( 0.583) | 0.561 |
| 25 | 2.08 | 3.10 | 0.669 | 0.087 | ( 0.603) | 0.583 |
| 26 | 2.17 | 4.20 | 0.907 | 0.087 | ( 0.816) | 0.820 |
| 27 | 2.25 | 5.00 | 1.080 | 0.087 | ( 0.972) | 0.993 |
| 28 | 2.33 | 3.50 | 0.756 | 0.087 | ( 0.680) | 0.669 |
| 29 | 2.42 | 6.80 | 1.468 | 0.087 | ( 1.322) | 1.382 |
| 30 | 2.50 | 7.30 | 1.576 | 0.087 | ( 1.419) | 1.490 |
| 31 | 2.58 | 8.20 | 1.771 | 0.087 | ( 1.594) | 1.684 |
| 32 | 2.67 | 5.90 | 1.274 | 0.087 | ( 1.147) | 1.188 |
| 33 | 2.75 | 2.00 | 0.432 | 0.087 | ( 0.389) | 0.345 |
| 34 | 2.83 | 1.80 | 0.389 | 0.087 | ( 0.350) | 0.302 |
| 35 | 2.92 | 1.80 | 0.389 | 0.087 | ( 0.350) | 0.302 |
| 36 | 3.00 | 0.60 | 0.130 | 0.087 | ( 0.117) | 0.043 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 18.5 |

Flood volume = Effective rainfall 1.54(In)
times area 50.7(Ac.)/[(In)/(Ft.)] = 6.5(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 1.096(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 283440.6 Cubic Feet
Total soil loss = 47759.7 Cubic Feet

Peak flow rate of this hydrograph = 75.134(CFS)

3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 20.0 40.0 60.0 80.0 |
|---|---|---|---|
| 0+ 5 | 0.0055 | 0.81 | Q \| \| \| \| |
| 0+10 | 0.0421 | 5.30 | V Q \| \| \| \| |
| 0+15 | 0.0955 | 7.75 | V Q \| \| \| \| |
| 0+20 | 0.1515 | 8.13 | V Q \| \| \| \| |
| 0+25 | 0.2209 | 10.09 | \|V Q \| \| \| \| |
| 0+30 | 0.3004 | 11.54 | \|V Q \| \| \| \| |
| 0+35 | 0.3913 | 13.19 | \| V Q \| \| \| \| |
| 0+40 | 0.4813 | 13.08 | \| V Q \| \| \| \| |
| 0+45 | 0.5789 | 14.17 | \| V Q \| \| \| \| |
| 0+50 | 0.6798 | 14.66 | \| V Q \| \| \| \| |
| 0+55 | 0.7728 | 13.50 | \| V Q \| \| \| \| |
| 1+ 0 | 0.8655 | 13.45 | \| VQ \| \| \| \| |
| 1+ 5 | 0.9676 | 14.84 | \| V Q \| \| \| \| |
| 1+10 | 1.0873 | 17.38 | \| V Q \| \| \| \| |
| 1+15 | 1.2165 | 18.76 | \| V Q\| \| \| \| |
| 1+20 | 1.3485 | 19.17 | \| VQ\| \| \| \| |
| 1+25 | 1.4793 | 18.99 | \| Q\| \| \| \| |
| 1+30 | 1.6282 | 21.62 | \| Q \| \| \| \| |
| 1+35 | 1.7895 | 23.42 | \| \|Q \| \| \| \| |
| 1+40 | 1.9485 | 23.08 | \| \|Q \| \| \| \| |
| 1+45 | 2.1185 | 24.68 | \| \| QV \| \| \| \| |
| 1+50 | 2.3130 | 28.25 | \| \| Q \| \| \| \| |
| 1+55 | 2.5131 | 29.06 | \| \| QV \| \| \| \| |
| 2+ 0 | 2.7086 | 28.38 | \| \| Q V \| \| \| \| |
| 2+ 5 | 2.9055 | 28.60 | \| \| Q V \| \| \| \| |
| 2+10 | 3.1136 | 30.21 | \| \| Q V\| \| \| \| |
| 2+15 | 3.3666 | 36.73 | \| \| Q V \| \| \| |
| 2+20 | 3.6609 | 42.75 | \| \| \|QV \| \| \| |
| 2+25 | 3.9493 | 41.88 | \| \| Q V \| \| \| |
| 2+30 | 4.3352 | 56.03 | \| \| \| V Q \| \| |
| 2+35 | 4.8040 | 68.06 | \| \| \| V\| Q \| |
| 2+40 | 5.3214 | 75.13 | \| \| \| V Q \| |
| 2+45 | 5.7695 | 65.06 | \| \| \| Q V \| |
| 2+50 | 6.0506 | 40.82 | \| \| Q \| V \| |
| 2+55 | 6.2349 | 26.76 | \| Q \| \| V \| |
| 3+ 0 | 6.3708 | 19.73 | \| Q\| \| \| V\| |
| 3+ 5 | 6.4440 | 10.62 | \| Q \| \| \| V\| |
| 3+10 | 6.4774 | 4.86 | \| Q \| \| \| V\| |
| 3+15 | 6.4940 | 2.40 | \|Q \| \| \| V\| |
| 3+20 | 6.5016 | 1.11 | Q \| \| \| V\| |
| 3+25 | 6.5046 | 0.44 | Q \| \| \| V\| |
| 3+30 | 6.5060 | 0.20 | Q \| \| \| V\| |
| 3+35 | 6.5067 | 0.10 | Q \| \| \| V\| |
| 3+40 | 6.5069 | 0.03 | Q \| \| \| V\| |
| 3+45 | 6.5069 | 0.00 | Q \| \| \| V\| |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA96100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 9
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

---

Drainage Area = 50.70(Ac.) = 0.079 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 50.70(Ac.) = 0.079 Sq. Mi.
Length along longest watercourse = 2932.00(Ft.)
Length along longest watercourse measured to centroid = 1472.00(Ft.)
Length along longest watercourse = 0.555 Mi.
Length along longest watercourse measured to centroid = 0.279 Mi.
Difference in elevation = 575.00(Ft.)
Slope along watercourse = 1035.4707 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.111 Hr.
Lag time = 6.63 Min.
25% of lag time = 1.66 Min.
40% of lag time = 2.65 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 50.70 | 1.12 | 56.78 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 50.70 | 2.50 | 126.75 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.120(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 99.98 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 50.700 | 83.91 | 0.000 |

Total Area Entered = 50.70(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.9 | 93.3 | 0.087 | 0.000 | 0.087 | 1.000 | 0.087 |
| | | | | | Sum (F) = | 0.087 |

Area averaged mean soil loss (F) (In/Hr) = 0.087

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 75.386 | 8.114 | 4.146 |
| 2 | 0.167 | 150.772 | 45.290 | 23.141 |
| 3 | 0.250 | 226.158 | 26.490 | 13.535 |
| 4 | 0.333 | 301.544 | 10.271 | 5.248 |
| 5 | 0.417 | 376.930 | 5.422 | 2.770 |
| 6 | 0.500 | 452.315 | 2.433 | 1.243 |
| 7 | 0.583 | 527.701 | 0.861 | 0.440 |
| 8 | 0.667 | 603.087 | 0.550 | 0.281 |
| 9 | 0.750 | 678.473 | 0.423 | 0.216 |
| 10 | 0.833 | 753.859 | 0.148 | 0.075 |
| | | | Sum = 100.000 Sum= | 51.096 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.087 | ( 0.135) | 0.063 |
| 2 | 0.17 | 0.60 | 0.180 | 0.087 | ( 0.162) | 0.093 |
| 3 | 0.25 | 0.60 | 0.180 | 0.087 | ( 0.162) | 0.093 |
| 4 | 0.33 | 0.60 | 0.180 | 0.087 | ( 0.162) | 0.093 |
| 5 | 0.42 | 0.60 | 0.180 | 0.087 | ( 0.162) | 0.093 |
| 6 | 0.50 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 7 | 0.58 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 8 | 0.67 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 9 | 0.75 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 10 | 0.83 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 11 | 0.92 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 12 | 1.00 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 13 | 1.08 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 14 | 1.17 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 15 | 1.25 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 16 | 1.33 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 17 | 1.42 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 18 | 1.50 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 19 | 1.58 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 20 | 1.67 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 21 | 1.75 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 22 | 1.83 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 23 | 1.92 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 24 | 2.00 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 25 | 2.08 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 26 | 2.17 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 27 | 2.25 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 28 | 2.33 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 29 | 2.42 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 30 | 2.50 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 31 | 2.58 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 32 | 2.67 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 33 | 2.75 | 1.00 | 0.300 | 0.087 | ( 0.270) | 0.213 |
| 34 | 2.83 | 1.00 | 0.300 | 0.087 | ( 0.270) | 0.213 |
| 35 | 2.92 | 1.00 | 0.300 | 0.087 | ( 0.270) | 0.213 |
| 36 | 3.00 | 1.00 | 0.300 | 0.087 | ( 0.270) | 0.213 |
| 37 | 3.08 | 1.00 | 0.300 | 0.087 | ( 0.270) | 0.213 |
| 38 | 3.17 | 1.10 | 0.330 | 0.087 | ( 0.297) | 0.243 |
| 39 | 3.25 | 1.10 | 0.330 | 0.087 | ( 0.297) | 0.243 |
| 40 | 3.33 | 1.10 | 0.330 | 0.087 | ( 0.297) | 0.243 |
| 41 | 3.42 | 1.20 | 0.360 | 0.087 | ( 0.324) | 0.273 |
| 42 | 3.50 | 1.30 | 0.390 | 0.087 | ( 0.351) | 0.303 |
| 43 | 3.58 | 1.40 | 0.420 | 0.087 | ( 0.378) | 0.333 |
| 44 | 3.67 | 1.40 | 0.420 | 0.087 | ( 0.378) | 0.333 |
| 45 | 3.75 | 1.50 | 0.450 | 0.087 | ( 0.405) | 0.363 |
| 46 | 3.83 | 1.50 | 0.450 | 0.087 | ( 0.405) | 0.363 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 47 | 3.92 | 1.60 | 0.480 | 0.087 | ( 0.432) | 0.393 | |
| 48 | 4.00 | 1.60 | 0.480 | 0.087 | ( 0.432) | 0.393 | |
| 49 | 4.08 | 1.70 | 0.510 | 0.087 | ( 0.459) | 0.423 | |
| 50 | 4.17 | 1.80 | 0.540 | 0.087 | ( 0.486) | 0.453 | |
| 51 | 4.25 | 1.90 | 0.570 | 0.087 | ( 0.513) | 0.483 | |
| 52 | 4.33 | 2.00 | 0.600 | 0.087 | ( 0.540) | 0.513 | |
| 53 | 4.42 | 2.10 | 0.630 | 0.087 | ( 0.567) | 0.543 | |
| 54 | 4.50 | 2.10 | 0.630 | 0.087 | ( 0.567) | 0.543 | |
| 55 | 4.58 | 2.20 | 0.660 | 0.087 | ( 0.594) | 0.573 | |
| 56 | 4.67 | 2.30 | 0.690 | 0.087 | ( 0.621) | 0.603 | |
| 57 | 4.75 | 2.40 | 0.720 | 0.087 | ( 0.648) | 0.633 | |
| 58 | 4.83 | 2.40 | 0.720 | 0.087 | ( 0.648) | 0.633 | |
| 59 | 4.92 | 2.50 | 0.750 | 0.087 | ( 0.675) | 0.663 | |
| 60 | 5.00 | 2.60 | 0.780 | 0.087 | ( 0.702) | 0.693 | |
| 61 | 5.08 | 3.10 | 0.930 | 0.087 | ( 0.837) | 0.843 | |
| 62 | 5.17 | 3.60 | 1.080 | 0.087 | ( 0.972) | 0.993 | |
| 63 | 5.25 | 3.90 | 1.170 | 0.087 | ( 1.053) | 1.083 | |
| 64 | 5.33 | 4.20 | 1.260 | 0.087 | ( 1.134) | 1.173 | |
| 65 | 5.42 | 4.70 | 1.410 | 0.087 | ( 1.269) | 1.323 | |
| 66 | 5.50 | 5.60 | 1.680 | 0.087 | ( 1.512) | 1.593 | |
| 67 | 5.58 | 1.90 | 0.570 | 0.087 | ( 0.513) | 0.483 | |
| 68 | 5.67 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 | |
| 69 | 5.75 | 0.60 | 0.180 | 0.087 | ( 0.162) | 0.093 | |
| 70 | 5.83 | 0.50 | 0.150 | 0.087 | ( 0.135) | 0.063 | |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.087) | 0.081 | 0.009 | |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.087) | 0.054 | 0.006 | |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.8

Flood volume = Effective rainfall 1.98(In)
times area 50.7(Ac.)/[(In)/(Ft.)] = 8.4(Ac.Ft)
Total soil loss = 0.52(In)
Total soil loss = 2.179(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 365086.0 Cubic Feet
Total soil loss = 94936.3 Cubic Feet

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Peak flow rate of this hydrograph = 67.969(CFS)

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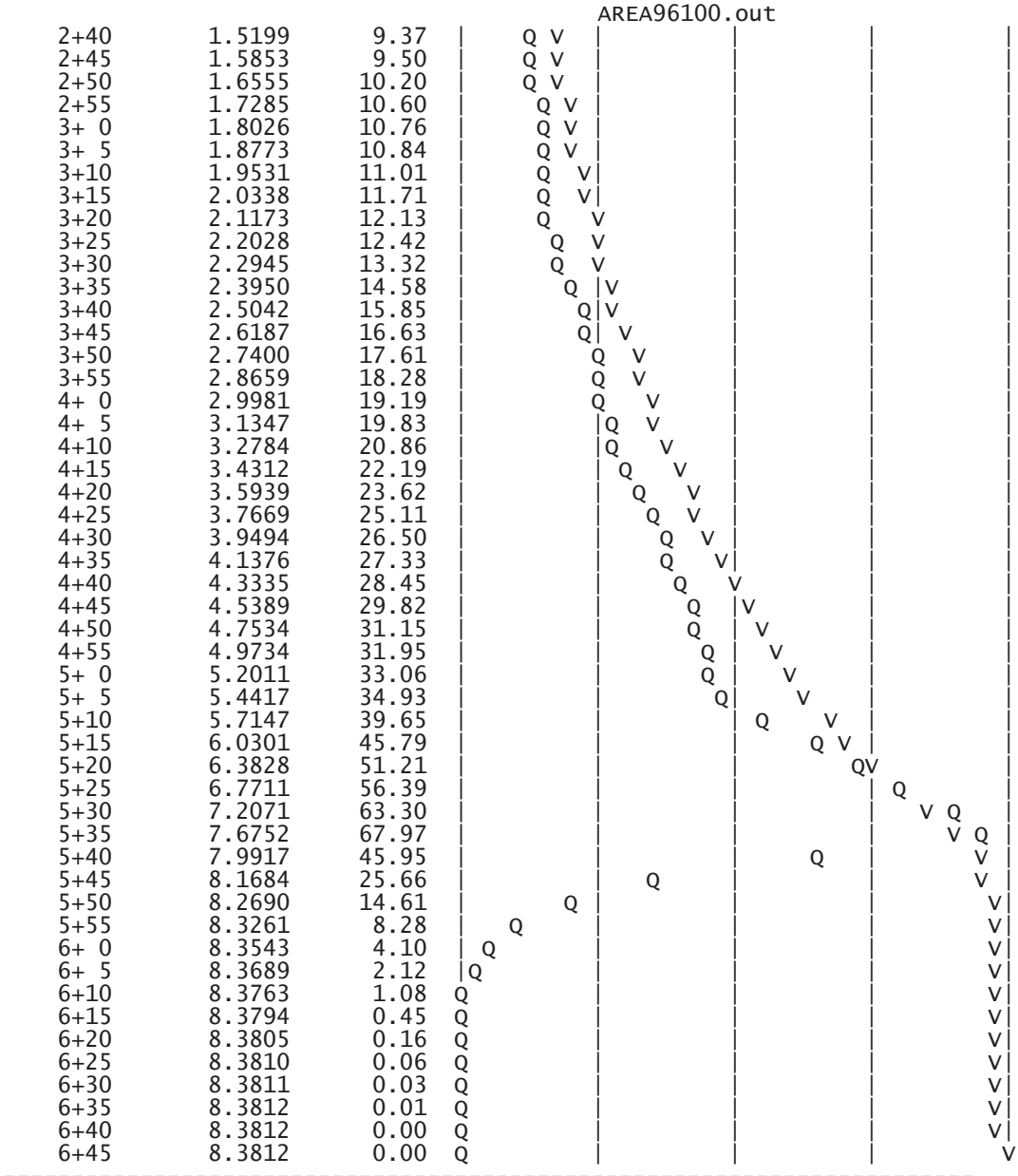
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 17.5 | 35.0 | 52.5 | 70.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0018 | 0.26 | Q | | | | |
| 0+10 | 0.0146 | 1.86 | VQ | | | | |
| 0+15 | 0.0381 | 3.41 | VQ | | | | |
| 0+20 | 0.0667 | 4.15 | V Q | | | | |
| 0+25 | 0.0976 | 4.48 | V Q | | | | |
| 0+30 | 0.1304 | 4.77 | V Q | | | | |
| 0+35 | 0.1685 | 5.53 | V Q | | | | |
| 0+40 | 0.2096 | 5.97 | \|V Q | | | | |
| 0+45 | 0.2519 | 6.15 | \|V Q | | | | |
| 0+50 | 0.2949 | 6.24 | \|V Q | | | | |
| 0+55 | 0.3382 | 6.28 | \|V Q | | | | |
| 1+ 0 | 0.3824 | 6.42 | \|V Q | | | | |
| 1+ 5 | 0.4315 | 7.12 | \| V Q | | | | |
| 1+10 | 0.4833 | 7.53 | \| V Q | | | | |
| 1+15 | 0.5363 | 7.69 | \| V Q | | | | |
| 1+20 | 0.5899 | 7.78 | \| V Q | | | | |
| 1+25 | 0.6437 | 7.81 | \| VQ | | | | |
| 1+30 | 0.6976 | 7.83 | \| VQ | | | | |
| 1+35 | 0.7516 | 7.84 | \| VQ | | | | |
| 1+40 | 0.8056 | 7.84 | \| VQ | | | | |
| 1+45 | 0.8596 | 7.85 | \| Q | | | | |
| 1+50 | 0.9137 | 7.85 | \| Q | | | | |
| 1+55 | 0.9677 | 7.85 | \| Q | | | | |
| 2+ 0 | 1.0226 | 7.97 | \| Q | | | | |
| 2+ 5 | 1.0814 | 8.54 | \| QV | | | | |
| 2+10 | 1.1391 | 8.38 | \| QV | | | | |
| 2+15 | 1.1998 | 8.82 | \| Q | | | | |
| 2+20 | 1.2629 | 9.15 | \| QV | | | | |
| 2+25 | 1.3267 | 9.26 | \| QV | | | | |
| 2+30 | 1.3909 | 9.32 | \| QV | | | | |
| 2+35 | 1.4553 | 9.36 | \| QV | | | | |


2+40 1.5199 9.37
2+45 1.5853 9.50
2+50 1.6555 10.20
2+55 1.7285 10.60
3+ 0 1.8026 10.76
3+ 5 1.8773 10.84
3+10 1.9531 11.01
3+15 2.0338 11.71
3+20 2.1173 12.13
3+25 2.2028 12.42
3+30 2.2945 13.32
3+35 2.3950 14.58
3+40 2.5042 15.85
3+45 2.6187 16.63
3+50 2.7400 17.61
3+55 2.8659 18.28
4+ 0 2.9981 19.19
4+ 5 3.1347 19.83
4+10 3.2784 20.86
4+15 3.4312 22.19
4+20 3.5939 23.62
4+25 3.7669 25.11
4+30 3.9494 26.50
4+35 4.1376 27.33
4+40 4.3335 28.45
4+45 4.5389 29.82
4+50 4.7534 31.15
4+55 4.9734 31.95
5+ 0 5.2011 33.06
5+ 5 5.4417 34.93
5+10 5.7147 39.65
5+15 6.0301 45.79
5+20 6.3828 51.21
5+25 6.7711 56.39
5+30 7.2071 63.30
5+35 7.6752 67.97
5+40 7.9917 45.95
5+45 8.1684 25.66
5+50 8.2690 14.61
5+55 8.3261 8.28
6+ 0 8.3543 4.10
6+ 5 8.3689 2.12
6+10 8.3763 1.08
6+15 8.3794 0.45
6+20 8.3805 0.16
6+25 8.3810 0.06
6+30 8.3811 0.03
6+35 8.3812 0.01
6+40 8.3812 0.00
6+45 8.3812 0.00

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA924100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 9
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

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Drainage Area = 50.70(Ac.) = 0.079 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 50.70(Ac.) = 0.079 Sq. Mi.
Length along longest watercourse = 2932.00(Ft.)
Length along longest watercourse measured to centroid = 1472.00(Ft.)
Length along longest watercourse = 0.555 Mi.
Length along longest watercourse measured to centroid = 0.279 Mi.
Difference in elevation = 575.00(Ft.)
Slope along watercourse = 1035.4707 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.111 Hr.
Lag time = 6.63 Min.
25% of lag time = 1.66 Min.
40% of lag time = 2.65 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 50.70 | 1.80 | 91.26 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 50.70 | 4.55 | 230.69 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.550(In)

Point rain (area averaged) = 4.550(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 4.550(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 50.700 | 83.91 | 0.000 |

Total Area Entered = 50.70(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.9 | 93.3 | 0.087 | 0.000 | 0.087 | 1.000 | 0.087 |
| | | | | | Sum (F) = | 0.087 |

Area averaged mean soil loss (F) (In/Hr) = 0.087

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 75.386 | 8.114 | 4.146 |
| 2 | 0.167 | 150.772 | 45.290 | 23.141 |
| 3 | 0.250 | 226.158 | 26.490 | 13.535 |
| 4 | 0.333 | 301.544 | 10.271 | 5.248 |
| 5 | 0.417 | 376.930 | 5.422 | 2.770 |
| 6 | 0.500 | 452.315 | 2.433 | 1.243 |
| 7 | 0.583 | 527.701 | 0.861 | 0.440 |
| 8 | 0.667 | 603.087 | 0.550 | 0.281 |
| 9 | 0.750 | 678.473 | 0.423 | 0.216 |
| 10 | 0.833 | 753.859 | 0.148 | 0.075 |
| | | | Sum = 100.000 | Sum= 51.096 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.036 | ( 0.153) | 0.033 | 0.004 |
| 2 | 0.17 | 0.07 | 0.036 | ( 0.153) | 0.033 | 0.004 |
| 3 | 0.25 | 0.07 | 0.036 | ( 0.152) | 0.033 | 0.004 |
| 4 | 0.33 | 0.10 | 0.055 | ( 0.152) | 0.049 | 0.005 |
| 5 | 0.42 | 0.10 | 0.055 | ( 0.151) | 0.049 | 0.005 |
| 6 | 0.50 | 0.10 | 0.055 | ( 0.150) | 0.049 | 0.005 |
| 7 | 0.58 | 0.10 | 0.055 | ( 0.150) | 0.049 | 0.005 |
| 8 | 0.67 | 0.10 | 0.055 | ( 0.149) | 0.049 | 0.005 |
| 9 | 0.75 | 0.10 | 0.055 | ( 0.149) | 0.049 | 0.005 |
| 10 | 0.83 | 0.13 | 0.073 | ( 0.148) | 0.066 | 0.007 |
| 11 | 0.92 | 0.13 | 0.073 | ( 0.147) | 0.066 | 0.007 |
| 12 | 1.00 | 0.13 | 0.073 | ( 0.147) | 0.066 | 0.007 |
| 13 | 1.08 | 0.10 | 0.055 | ( 0.146) | 0.049 | 0.005 |
| 14 | 1.17 | 0.10 | 0.055 | ( 0.146) | 0.049 | 0.005 |
| 15 | 1.25 | 0.10 | 0.055 | ( 0.145) | 0.049 | 0.005 |
| 16 | 1.33 | 0.10 | 0.055 | ( 0.145) | 0.049 | 0.005 |
| 17 | 1.42 | 0.10 | 0.055 | ( 0.144) | 0.049 | 0.005 |
| 18 | 1.50 | 0.10 | 0.055 | ( 0.143) | 0.049 | 0.005 |
| 19 | 1.58 | 0.10 | 0.055 | ( 0.143) | 0.049 | 0.005 |
| 20 | 1.67 | 0.10 | 0.055 | ( 0.142) | 0.049 | 0.005 |
| 21 | 1.75 | 0.10 | 0.055 | ( 0.142) | 0.049 | 0.005 |
| 22 | 1.83 | 0.13 | 0.073 | ( 0.141) | 0.066 | 0.007 |
| 23 | 1.92 | 0.13 | 0.073 | ( 0.141) | 0.066 | 0.007 |
| 24 | 2.00 | 0.13 | 0.073 | ( 0.140) | 0.066 | 0.007 |
| 25 | 2.08 | 0.13 | 0.073 | ( 0.139) | 0.066 | 0.007 |
| 26 | 2.17 | 0.13 | 0.073 | ( 0.139) | 0.066 | 0.007 |
| 27 | 2.25 | 0.13 | 0.073 | ( 0.138) | 0.066 | 0.007 |
| 28 | 2.33 | 0.13 | 0.073 | ( 0.138) | 0.066 | 0.007 |
| 29 | 2.42 | 0.13 | 0.073 | ( 0.137) | 0.066 | 0.007 |
| 30 | 2.50 | 0.13 | 0.073 | ( 0.137) | 0.066 | 0.007 |
| 31 | 2.58 | 0.17 | 0.091 | ( 0.136) | 0.082 | 0.009 |
| 32 | 2.67 | 0.17 | 0.091 | ( 0.135) | 0.082 | 0.009 |
| 33 | 2.75 | 0.17 | 0.091 | ( 0.135) | 0.082 | 0.009 |
| 34 | 2.83 | 0.17 | 0.091 | ( 0.134) | 0.082 | 0.009 |
| 35 | 2.92 | 0.17 | 0.091 | ( 0.134) | 0.082 | 0.009 |
| 36 | 3.00 | 0.17 | 0.091 | ( 0.133) | 0.082 | 0.009 |
| 37 | 3.08 | 0.17 | 0.091 | ( 0.133) | 0.082 | 0.009 |
| 38 | 3.17 | 0.17 | 0.091 | ( 0.132) | 0.082 | 0.009 |
| 39 | 3.25 | 0.17 | 0.091 | ( 0.132) | 0.082 | 0.009 |
| 40 | 3.33 | 0.17 | 0.091 | ( 0.131) | 0.082 | 0.009 |
| 41 | 3.42 | 0.17 | 0.091 | ( 0.131) | 0.082 | 0.009 |
| 42 | 3.50 | 0.17 | 0.091 | ( 0.130) | 0.082 | 0.009 |
| 43 | 3.58 | 0.17 | 0.091 | ( 0.129) | 0.082 | 0.009 |
| 44 | 3.67 | 0.17 | 0.091 | ( 0.129) | 0.082 | 0.009 |
| 45 | 3.75 | 0.17 | 0.091 | ( 0.128) | 0.082 | 0.009 |
| 46 | 3.83 | 0.20 | 0.109 | ( 0.128) | 0.098 | 0.011 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 47 | 3.92 | 0.20 | 0.109 | ( 0.127) | 0.098 | 0.011 |
| 48 | 4.00 | 0.20 | 0.109 | ( 0.127) | 0.098 | 0.011 |
| 49 | 4.08 | 0.20 | 0.109 | ( 0.126) | 0.098 | 0.011 |
| 50 | 4.17 | 0.20 | 0.109 | ( 0.126) | 0.098 | 0.011 |
| 51 | 4.25 | 0.20 | 0.109 | ( 0.125) | 0.098 | 0.011 |
| 52 | 4.33 | 0.23 | 0.127 | ( 0.125) | 0.115 | 0.013 |
| 53 | 4.42 | 0.23 | 0.127 | ( 0.124) | 0.115 | 0.013 |
| 54 | 4.50 | 0.23 | 0.127 | ( 0.124) | 0.115 | 0.013 |
| 55 | 4.58 | 0.23 | 0.127 | ( 0.123) | 0.115 | 0.013 |
| 56 | 4.67 | 0.23 | 0.127 | ( 0.122) | 0.115 | 0.013 |
| 57 | 4.75 | 0.23 | 0.127 | ( 0.122) | 0.115 | 0.013 |
| 58 | 4.83 | 0.27 | 0.146 | 0.121 | ( 0.131) | 0.024 |
| 59 | 4.92 | 0.27 | 0.146 | 0.121 | ( 0.131) | 0.025 |
| 60 | 5.00 | 0.27 | 0.146 | 0.120 | ( 0.131) | 0.025 |
| 61 | 5.08 | 0.20 | 0.109 | ( 0.120) | 0.098 | 0.011 |
| 62 | 5.17 | 0.20 | 0.109 | ( 0.119) | 0.098 | 0.011 |
| 63 | 5.25 | 0.20 | 0.109 | ( 0.119) | 0.098 | 0.011 |
| 64 | 5.33 | 0.23 | 0.127 | ( 0.118) | 0.115 | 0.013 |
| 65 | 5.42 | 0.23 | 0.127 | ( 0.118) | 0.115 | 0.013 |
| 66 | 5.50 | 0.23 | 0.127 | ( 0.117) | 0.115 | 0.013 |
| 67 | 5.58 | 0.27 | 0.146 | 0.117 | ( 0.131) | 0.029 |
| 68 | 5.67 | 0.27 | 0.146 | 0.116 | ( 0.131) | 0.029 |
| 69 | 5.75 | 0.27 | 0.146 | 0.116 | ( 0.131) | 0.030 |
| 70 | 5.83 | 0.27 | 0.146 | 0.115 | ( 0.131) | 0.030 |
| 71 | 5.92 | 0.27 | 0.146 | 0.115 | ( 0.131) | 0.031 |
| 72 | 6.00 | 0.27 | 0.146 | 0.114 | ( 0.131) | 0.031 |
| 73 | 6.08 | 0.30 | 0.164 | 0.114 | ( 0.147) | 0.050 |
| 74 | 6.17 | 0.30 | 0.164 | 0.113 | ( 0.147) | 0.051 |
| 75 | 6.25 | 0.30 | 0.164 | 0.113 | ( 0.147) | 0.051 |
| 76 | 6.33 | 0.30 | 0.164 | 0.112 | ( 0.147) | 0.052 |
| 77 | 6.42 | 0.30 | 0.164 | 0.112 | ( 0.147) | 0.052 |
| 78 | 6.50 | 0.30 | 0.164 | 0.111 | ( 0.147) | 0.053 |
| 79 | 6.58 | 0.33 | 0.182 | 0.111 | ( 0.164) | 0.071 |
| 80 | 6.67 | 0.33 | 0.182 | 0.110 | ( 0.164) | 0.072 |
| 81 | 6.75 | 0.33 | 0.182 | 0.110 | ( 0.164) | 0.072 |
| 82 | 6.83 | 0.33 | 0.182 | 0.109 | ( 0.164) | 0.073 |
| 83 | 6.92 | 0.33 | 0.182 | 0.109 | ( 0.164) | 0.073 |
| 84 | 7.00 | 0.33 | 0.182 | 0.108 | ( 0.164) | 0.074 |
| 85 | 7.08 | 0.33 | 0.182 | 0.108 | ( 0.164) | 0.074 |
| 86 | 7.17 | 0.33 | 0.182 | 0.107 | ( 0.164) | 0.075 |
| 87 | 7.25 | 0.33 | 0.182 | 0.107 | ( 0.164) | 0.075 |
| 88 | 7.33 | 0.37 | 0.200 | 0.106 | ( 0.180) | 0.094 |
| 89 | 7.42 | 0.37 | 0.200 | 0.106 | ( 0.180) | 0.094 |
| 90 | 7.50 | 0.37 | 0.200 | 0.105 | ( 0.180) | 0.095 |
| 91 | 7.58 | 0.40 | 0.218 | 0.105 | ( 0.197) | 0.114 |
| 92 | 7.67 | 0.40 | 0.218 | 0.104 | ( 0.197) | 0.114 |
| 93 | 7.75 | 0.40 | 0.218 | 0.104 | ( 0.197) | 0.115 |
| 94 | 7.83 | 0.43 | 0.237 | 0.103 | ( 0.213) | 0.133 |
| 95 | 7.92 | 0.43 | 0.237 | 0.103 | ( 0.213) | 0.134 |
| 96 | 8.00 | 0.43 | 0.237 | 0.102 | ( 0.213) | 0.134 |
| 97 | 8.08 | 0.50 | 0.273 | 0.102 | ( 0.246) | 0.171 |
| 98 | 8.17 | 0.50 | 0.273 | 0.101 | ( 0.246) | 0.172 |
| 99 | 8.25 | 0.50 | 0.273 | 0.101 | ( 0.246) | 0.172 |
| 100 | 8.33 | 0.50 | 0.273 | 0.100 | ( 0.246) | 0.172 |
| 101 | 8.42 | 0.50 | 0.273 | 0.100 | ( 0.246) | 0.173 |
| 102 | 8.50 | 0.50 | 0.273 | 0.100 | ( 0.246) | 0.173 |
| 103 | 8.58 | 0.53 | 0.291 | 0.099 | ( 0.262) | 0.192 |
| 104 | 8.67 | 0.53 | 0.291 | 0.099 | ( 0.262) | 0.193 |
| 105 | 8.75 | 0.53 | 0.291 | 0.098 | ( 0.262) | 0.193 |
| 106 | 8.83 | 0.57 | 0.309 | 0.098 | ( 0.278) | 0.212 |
| 107 | 8.92 | 0.57 | 0.309 | 0.097 | ( 0.278) | 0.212 |
| 108 | 9.00 | 0.57 | 0.309 | 0.097 | ( 0.278) | 0.213 |
| 109 | 9.08 | 0.63 | 0.346 | 0.096 | ( 0.311) | 0.249 |
| 110 | 9.17 | 0.63 | 0.346 | 0.096 | ( 0.311) | 0.250 |
| 111 | 9.25 | 0.63 | 0.346 | 0.095 | ( 0.311) | 0.250 |
| 112 | 9.33 | 0.67 | 0.364 | 0.095 | ( 0.328) | 0.269 |
| 113 | 9.42 | 0.67 | 0.364 | 0.094 | ( 0.328) | 0.269 |
| 114 | 9.50 | 0.67 | 0.364 | 0.094 | ( 0.328) | 0.270 |
| 115 | 9.58 | 0.70 | 0.382 | 0.094 | ( 0.344) | 0.289 |
| 116 | 9.67 | 0.70 | 0.382 | 0.093 | ( 0.344) | 0.289 |
| 117 | 9.75 | 0.70 | 0.382 | 0.093 | ( 0.344) | 0.289 |
| 118 | 9.83 | 0.73 | 0.400 | 0.092 | ( 0.360) | 0.308 |
| 119 | 9.92 | 0.73 | 0.400 | 0.092 | ( 0.360) | 0.309 |
| 120 | 10.00 | 0.73 | 0.400 | 0.091 | ( 0.360) | 0.309 |
| 121 | 10.08 | 0.50 | 0.273 | 0.091 | ( 0.246) | 0.182 |
| 122 | 10.17 | 0.50 | 0.273 | 0.090 | ( 0.246) | 0.183 |
| 123 | 10.25 | 0.50 | 0.273 | 0.090 | ( 0.246) | 0.183 |
| 124 | 10.33 | 0.50 | 0.273 | 0.090 | ( 0.246) | 0.183 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 125 | 10.42 | 0.50 | 0.273 | 0.089 | ( 0.246) | 0.184 |
| 126 | 10.50 | 0.50 | 0.273 | 0.089 | ( 0.246) | 0.184 |
| 127 | 10.58 | 0.67 | 0.364 | 0.088 | ( 0.328) | 0.276 |
| 128 | 10.67 | 0.67 | 0.364 | 0.088 | ( 0.328) | 0.276 |
| 129 | 10.75 | 0.67 | 0.364 | 0.087 | ( 0.328) | 0.277 |
| 130 | 10.83 | 0.67 | 0.364 | 0.087 | ( 0.328) | 0.277 |
| 131 | 10.92 | 0.67 | 0.364 | 0.087 | ( 0.328) | 0.277 |
| 132 | 11.00 | 0.67 | 0.364 | 0.086 | ( 0.328) | 0.278 |
| 133 | 11.08 | 0.63 | 0.346 | 0.086 | ( 0.311) | 0.260 |
| 134 | 11.17 | 0.63 | 0.346 | 0.085 | ( 0.311) | 0.260 |
| 135 | 11.25 | 0.63 | 0.346 | 0.085 | ( 0.311) | 0.261 |
| 136 | 11.33 | 0.63 | 0.346 | 0.084 | ( 0.311) | 0.261 |
| 137 | 11.42 | 0.63 | 0.346 | 0.084 | ( 0.311) | 0.262 |
| 138 | 11.50 | 0.63 | 0.346 | 0.084 | ( 0.311) | 0.262 |
| 139 | 11.58 | 0.57 | 0.309 | 0.083 | ( 0.278) | 0.226 |
| 140 | 11.67 | 0.57 | 0.309 | 0.083 | ( 0.278) | 0.227 |
| 141 | 11.75 | 0.57 | 0.309 | 0.082 | ( 0.278) | 0.227 |
| 142 | 11.83 | 0.60 | 0.328 | 0.082 | ( 0.295) | 0.246 |
| 143 | 11.92 | 0.60 | 0.328 | 0.082 | ( 0.295) | 0.246 |
| 144 | 12.00 | 0.60 | 0.328 | 0.081 | ( 0.295) | 0.246 |
| 145 | 12.08 | 0.83 | 0.455 | 0.081 | ( 0.409) | 0.374 |
| 146 | 12.17 | 0.83 | 0.455 | 0.080 | ( 0.409) | 0.375 |
| 147 | 12.25 | 0.83 | 0.455 | 0.080 | ( 0.409) | 0.375 |
| 148 | 12.33 | 0.87 | 0.473 | 0.080 | ( 0.426) | 0.394 |
| 149 | 12.42 | 0.87 | 0.473 | 0.079 | ( 0.426) | 0.394 |
| 150 | 12.50 | 0.87 | 0.473 | 0.079 | ( 0.426) | 0.394 |
| 151 | 12.58 | 0.93 | 0.510 | 0.078 | ( 0.459) | 0.431 |
| 152 | 12.67 | 0.93 | 0.510 | 0.078 | ( 0.459) | 0.432 |
| 153 | 12.75 | 0.93 | 0.510 | 0.078 | ( 0.459) | 0.432 |
| 154 | 12.83 | 0.97 | 0.528 | 0.077 | ( 0.475) | 0.451 |
| 155 | 12.92 | 0.97 | 0.528 | 0.077 | ( 0.475) | 0.451 |
| 156 | 13.00 | 0.97 | 0.528 | 0.076 | ( 0.475) | 0.451 |
| 157 | 13.08 | 1.13 | 0.619 | 0.076 | ( 0.557) | 0.543 |
| 158 | 13.17 | 1.13 | 0.619 | 0.076 | ( 0.557) | 0.543 |
| 159 | 13.25 | 1.13 | 0.619 | 0.075 | ( 0.557) | 0.544 |
| 160 | 13.33 | 1.13 | 0.619 | 0.075 | ( 0.557) | 0.544 |
| 161 | 13.42 | 1.13 | 0.619 | 0.074 | ( 0.557) | 0.544 |
| 162 | 13.50 | 1.13 | 0.619 | 0.074 | ( 0.557) | 0.545 |
| 163 | 13.58 | 0.77 | 0.419 | 0.074 | ( 0.377) | 0.345 |
| 164 | 13.67 | 0.77 | 0.419 | 0.073 | ( 0.377) | 0.345 |
| 165 | 13.75 | 0.77 | 0.419 | 0.073 | ( 0.377) | 0.346 |
| 166 | 13.83 | 0.77 | 0.419 | 0.073 | ( 0.377) | 0.346 |
| 167 | 13.92 | 0.77 | 0.419 | 0.072 | ( 0.377) | 0.346 |
| 168 | 14.00 | 0.77 | 0.419 | 0.072 | ( 0.377) | 0.347 |
| 169 | 14.08 | 0.90 | 0.491 | 0.071 | ( 0.442) | 0.420 |
| 170 | 14.17 | 0.90 | 0.491 | 0.071 | ( 0.442) | 0.420 |
| 171 | 14.25 | 0.90 | 0.491 | 0.071 | ( 0.442) | 0.421 |
| 172 | 14.33 | 0.87 | 0.473 | 0.070 | ( 0.426) | 0.403 |
| 173 | 14.42 | 0.87 | 0.473 | 0.070 | ( 0.426) | 0.403 |
| 174 | 14.50 | 0.87 | 0.473 | 0.070 | ( 0.426) | 0.403 |
| 175 | 14.58 | 0.87 | 0.473 | 0.069 | ( 0.426) | 0.404 |
| 176 | 14.67 | 0.87 | 0.473 | 0.069 | ( 0.426) | 0.404 |
| 177 | 14.75 | 0.87 | 0.473 | 0.069 | ( 0.426) | 0.405 |
| 178 | 14.83 | 0.83 | 0.455 | 0.068 | ( 0.409) | 0.387 |
| 179 | 14.92 | 0.83 | 0.455 | 0.068 | ( 0.409) | 0.387 |
| 180 | 15.00 | 0.83 | 0.455 | 0.068 | ( 0.409) | 0.387 |
| 181 | 15.08 | 0.80 | 0.437 | 0.067 | ( 0.393) | 0.370 |
| 182 | 15.17 | 0.80 | 0.437 | 0.067 | ( 0.393) | 0.370 |
| 183 | 15.25 | 0.80 | 0.437 | 0.067 | ( 0.393) | 0.370 |
| 184 | 15.33 | 0.77 | 0.419 | 0.066 | ( 0.377) | 0.352 |
| 185 | 15.42 | 0.77 | 0.419 | 0.066 | ( 0.377) | 0.353 |
| 186 | 15.50 | 0.77 | 0.419 | 0.066 | ( 0.377) | 0.353 |
| 187 | 15.58 | 0.63 | 0.346 | 0.065 | ( 0.311) | 0.281 |
| 188 | 15.67 | 0.63 | 0.346 | 0.065 | ( 0.311) | 0.281 |
| 189 | 15.75 | 0.63 | 0.346 | 0.065 | ( 0.311) | 0.281 |
| 190 | 15.83 | 0.63 | 0.346 | 0.064 | ( 0.311) | 0.282 |
| 191 | 15.92 | 0.63 | 0.346 | 0.064 | ( 0.311) | 0.282 |
| 192 | 16.00 | 0.63 | 0.346 | 0.064 | ( 0.311) | 0.282 |
| 193 | 16.08 | 0.13 | 0.073 | 0.063 | ( 0.066) | 0.010 |
| 194 | 16.17 | 0.13 | 0.073 | 0.063 | ( 0.066) | 0.010 |
| 195 | 16.25 | 0.13 | 0.073 | 0.063 | ( 0.066) | 0.010 |
| 196 | 16.33 | 0.13 | 0.073 | 0.062 | ( 0.066) | 0.011 |
| 197 | 16.42 | 0.13 | 0.073 | 0.062 | ( 0.066) | 0.011 |
| 198 | 16.50 | 0.13 | 0.073 | 0.062 | ( 0.066) | 0.011 |
| 199 | 16.58 | 0.10 | 0.055 | ( 0.061) | 0.049 | 0.005 |
| 200 | 16.67 | 0.10 | 0.055 | ( 0.061) | 0.049 | 0.005 |
| 201 | 16.75 | 0.10 | 0.055 | ( 0.061) | 0.049 | 0.005 |
| 202 | 16.83 | 0.10 | 0.055 | ( 0.060) | 0.049 | 0.005 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 203 | 16.92 | 0.10 | 0.055 | ( | 0.060) | 0.049 | | 0.005 |
| 204 | 17.00 | 0.10 | 0.055 | ( | 0.060) | 0.049 | | 0.005 |
| 205 | 17.08 | 0.17 | 0.091 | | 0.059 | ( 0.082) | | 0.032 |
| 206 | 17.17 | 0.17 | 0.091 | | 0.059 | ( 0.082) | | 0.032 |
| 207 | 17.25 | 0.17 | 0.091 | | 0.059 | ( 0.082) | | 0.032 |
| 208 | 17.33 | 0.17 | 0.091 | | 0.059 | ( 0.082) | | 0.032 |
| 209 | 17.42 | 0.17 | 0.091 | | 0.058 | ( 0.082) | | 0.033 |
| 210 | 17.50 | 0.17 | 0.091 | | 0.058 | ( 0.082) | | 0.033 |
| 211 | 17.58 | 0.17 | 0.091 | | 0.058 | ( 0.082) | | 0.033 |
| 212 | 17.67 | 0.17 | 0.091 | | 0.057 | ( 0.082) | | 0.034 |
| 213 | 17.75 | 0.17 | 0.091 | | 0.057 | ( 0.082) | | 0.034 |
| 214 | 17.83 | 0.13 | 0.073 | | 0.057 | ( 0.066) | | 0.016 |
| 215 | 17.92 | 0.13 | 0.073 | | 0.057 | ( 0.066) | | 0.016 |
| 216 | 18.00 | 0.13 | 0.073 | | 0.056 | ( 0.066) | | 0.017 |
| 217 | 18.08 | 0.13 | 0.073 | | 0.056 | ( 0.066) | | 0.017 |
| 218 | 18.17 | 0.13 | 0.073 | | 0.056 | ( 0.066) | | 0.017 |
| 219 | 18.25 | 0.13 | 0.073 | | 0.055 | ( 0.066) | | 0.017 |
| 220 | 18.33 | 0.13 | 0.073 | | 0.055 | ( 0.066) | | 0.018 |
| 221 | 18.42 | 0.13 | 0.073 | | 0.055 | ( 0.066) | | 0.018 |
| 222 | 18.50 | 0.13 | 0.073 | | 0.055 | ( 0.066) | | 0.018 |
| 223 | 18.58 | 0.10 | 0.055 | ( | 0.054) | 0.049 | | 0.005 |
| 224 | 18.67 | 0.10 | 0.055 | ( | 0.054) | 0.049 | | 0.005 |
| 225 | 18.75 | 0.10 | 0.055 | ( | 0.054) | 0.049 | | 0.005 |
| 226 | 18.83 | 0.07 | 0.036 | ( | 0.054) | 0.033 | | 0.004 |
| 227 | 18.92 | 0.07 | 0.036 | ( | 0.053) | 0.033 | | 0.004 |
| 228 | 19.00 | 0.07 | 0.036 | ( | 0.053) | 0.033 | | 0.004 |
| 229 | 19.08 | 0.10 | 0.055 | ( | 0.053) | 0.049 | | 0.005 |
| 230 | 19.17 | 0.10 | 0.055 | ( | 0.053) | 0.049 | | 0.005 |
| 231 | 19.25 | 0.10 | 0.055 | ( | 0.052) | 0.049 | | 0.005 |
| 232 | 19.33 | 0.13 | 0.073 | | 0.052 | ( 0.066) | | 0.021 |
| 233 | 19.42 | 0.13 | 0.073 | | 0.052 | ( 0.066) | | 0.021 |
| 234 | 19.50 | 0.13 | 0.073 | | 0.052 | ( 0.066) | | 0.021 |
| 235 | 19.58 | 0.10 | 0.055 | ( | 0.051) | 0.049 | | 0.005 |
| 236 | 19.67 | 0.10 | 0.055 | ( | 0.051) | 0.049 | | 0.005 |
| 237 | 19.75 | 0.10 | 0.055 | ( | 0.051) | 0.049 | | 0.005 |
| 238 | 19.83 | 0.07 | 0.036 | ( | 0.051) | 0.033 | | 0.004 |
| 239 | 19.92 | 0.07 | 0.036 | ( | 0.050) | 0.033 | | 0.004 |
| 240 | 20.00 | 0.07 | 0.036 | ( | 0.050) | 0.033 | | 0.004 |
| 241 | 20.08 | 0.10 | 0.055 | ( | 0.050) | 0.049 | | 0.005 |
| 242 | 20.17 | 0.10 | 0.055 | ( | 0.050) | 0.049 | | 0.005 |
| 243 | 20.25 | 0.10 | 0.055 | ( | 0.050) | 0.049 | | 0.005 |
| 244 | 20.33 | 0.10 | 0.055 | ( | 0.049) | 0.049 | | 0.005 |
| 245 | 20.42 | 0.10 | 0.055 | ( | 0.049) | 0.049 | | 0.005 |
| 246 | 20.50 | 0.10 | 0.055 | | 0.049 | ( 0.049) | | 0.006 |
| 247 | 20.58 | 0.10 | 0.055 | | 0.049 | ( 0.049) | | 0.006 |
| 248 | 20.67 | 0.10 | 0.055 | | 0.049 | ( 0.049) | | 0.006 |
| 249 | 20.75 | 0.10 | 0.055 | | 0.048 | ( 0.049) | | 0.006 |
| 250 | 20.83 | 0.07 | 0.036 | ( | 0.048) | 0.033 | | 0.004 |
| 251 | 20.92 | 0.07 | 0.036 | ( | 0.048) | 0.033 | | 0.004 |
| 252 | 21.00 | 0.07 | 0.036 | ( | 0.048) | 0.033 | | 0.004 |
| 253 | 21.08 | 0.10 | 0.055 | | 0.048 | ( 0.049) | | 0.007 |
| 254 | 21.17 | 0.10 | 0.055 | | 0.047 | ( 0.049) | | 0.007 |
| 255 | 21.25 | 0.10 | 0.055 | | 0.047 | ( 0.049) | | 0.007 |
| 256 | 21.33 | 0.07 | 0.036 | ( | 0.047) | 0.033 | | 0.004 |
| 257 | 21.42 | 0.07 | 0.036 | ( | 0.047) | 0.033 | | 0.004 |
| 258 | 21.50 | 0.07 | 0.036 | ( | 0.047) | 0.033 | | 0.004 |
| 259 | 21.58 | 0.10 | 0.055 | | 0.046 | ( 0.049) | | 0.008 |
| 260 | 21.67 | 0.10 | 0.055 | | 0.046 | ( 0.049) | | 0.008 |
| 261 | 21.75 | 0.10 | 0.055 | | 0.046 | ( 0.049) | | 0.008 |
| 262 | 21.83 | 0.07 | 0.036 | ( | 0.046) | 0.033 | | 0.004 |
| 263 | 21.92 | 0.07 | 0.036 | ( | 0.046) | 0.033 | | 0.004 |
| 264 | 22.00 | 0.07 | 0.036 | ( | 0.046) | 0.033 | | 0.004 |
| 265 | 22.08 | 0.10 | 0.055 | | 0.046 | ( 0.049) | | 0.009 |
| 266 | 22.17 | 0.10 | 0.055 | | 0.045 | ( 0.049) | | 0.009 |
| 267 | 22.25 | 0.10 | 0.055 | | 0.045 | ( 0.049) | | 0.009 |
| 268 | 22.33 | 0.07 | 0.036 | ( | 0.045) | 0.033 | | 0.004 |
| 269 | 22.42 | 0.07 | 0.036 | ( | 0.045) | 0.033 | | 0.004 |
| 270 | 22.50 | 0.07 | 0.036 | ( | 0.045) | 0.033 | | 0.004 |
| 271 | 22.58 | 0.07 | 0.036 | ( | 0.045) | 0.033 | | 0.004 |
| 272 | 22.67 | 0.07 | 0.036 | ( | 0.045) | 0.033 | | 0.004 |
| 273 | 22.75 | 0.07 | 0.036 | ( | 0.044) | 0.033 | | 0.004 |
| 274 | 22.83 | 0.07 | 0.036 | ( | 0.044) | 0.033 | | 0.004 |
| 275 | 22.92 | 0.07 | 0.036 | ( | 0.044) | 0.033 | | 0.004 |
| 276 | 23.00 | 0.07 | 0.036 | ( | 0.044) | 0.033 | | 0.004 |
| 277 | 23.08 | 0.07 | 0.036 | ( | 0.044) | 0.033 | | 0.004 |
| 278 | 23.17 | 0.07 | 0.036 | ( | 0.044) | 0.033 | | 0.004 |
| 279 | 23.25 | 0.07 | 0.036 | ( | 0.044) | 0.033 | | 0.004 |
| 280 | 23.33 | 0.07 | 0.036 | ( | 0.044) | 0.033 | | 0.004 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 281 | 23.42 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 284 | 23.67 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 285 | 23.75 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 286 | 23.83 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 287 | 23.92 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 288 | 24.00 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 34.0

Flood volume = Effective rainfall 2.84(In)
times area 50.7(Ac.)/[(In)/(Ft.)] = 12.0(Ac.Ft)
Total soil loss = 1.71(In)
Total soil loss = 7.243(Ac.Ft)
Total rainfall = 4.55(In)
Flood volume = 521814.7 Cubic Feet
Total soil loss = 315488.9 Cubic Feet

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Peak flow rate of this hydrograph = 27.716(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

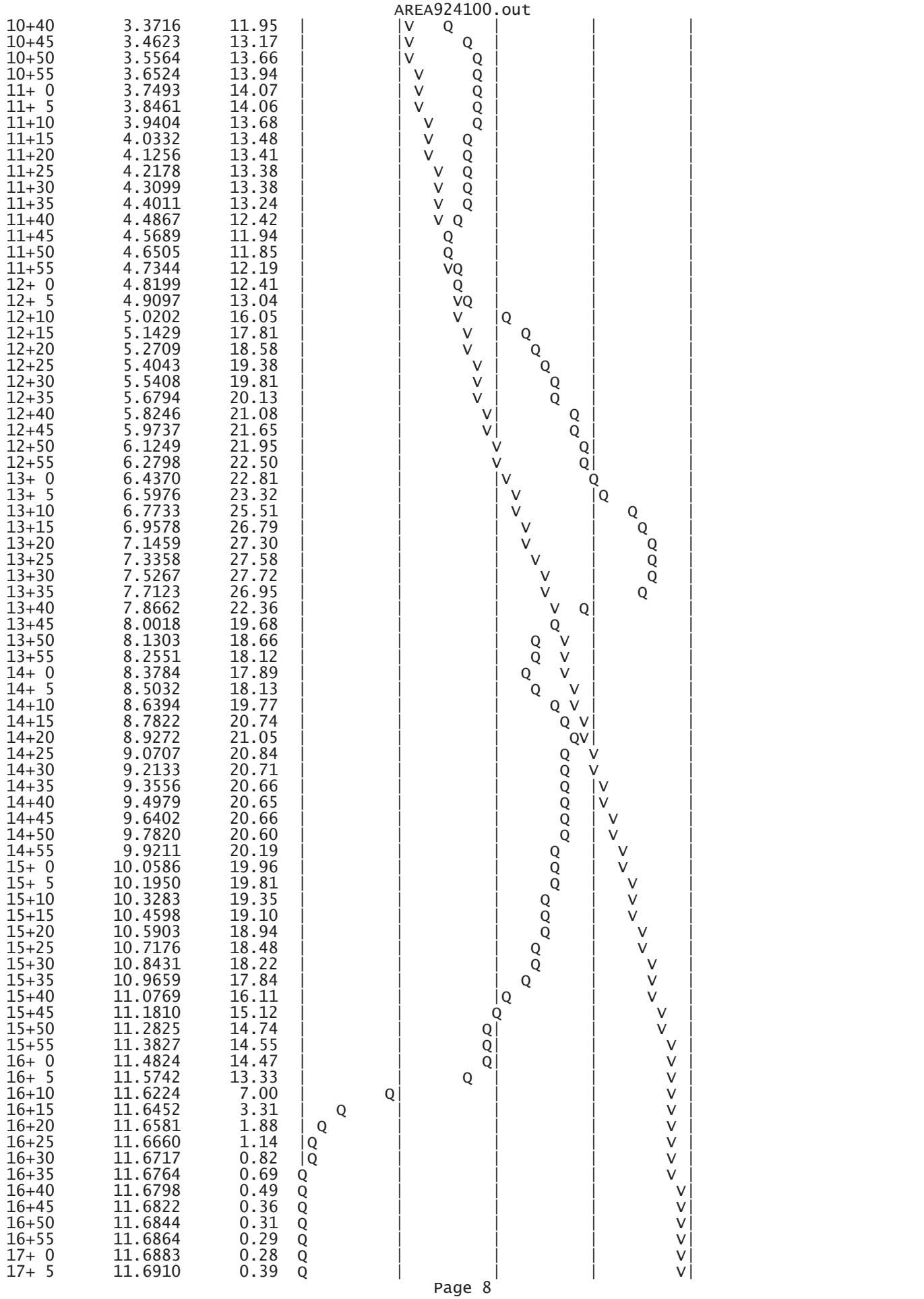
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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 7.5 | 15.0 | 22.5 | 30.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0001 | 0.02 | Q | | | | |
| 0+10 | 0.0008 | 0.10 | Q | | | | |
| 0+15 | 0.0018 | 0.15 | Q | | | | |
| 0+20 | 0.0030 | 0.18 | Q | | | | |
| 0+25 | 0.0046 | 0.23 | Q | | | | |
| 0+30 | 0.0064 | 0.26 | Q | | | | |
| 0+35 | 0.0082 | 0.27 | Q | | | | |
| 0+40 | 0.0101 | 0.27 | Q | | | | |
| 0+45 | 0.0120 | 0.28 | Q | | | | |
| 0+50 | 0.0140 | 0.29 | Q | | | | |
| 0+55 | 0.0162 | 0.33 | Q | | | | |
| 1+ 0 | 0.0187 | 0.35 | Q | | | | |
| 1+ 5 | 0.0211 | 0.36 | Q | | | | |
| 1+10 | 0.0233 | 0.32 | Q | | | | |
| 1+15 | 0.0253 | 0.30 | Q | | | | |
| 1+20 | 0.0273 | 0.29 | Q | | | | |
| 1+25 | 0.0293 | 0.28 | Q | | | | |
| 1+30 | 0.0312 | 0.28 | Q | | | | |
| 1+35 | 0.0331 | 0.28 | Q | | | | |
| 1+40 | 0.0350 | 0.28 | Q | | | | |
| 1+45 | 0.0370 | 0.28 | Q | | | | |
| 1+50 | 0.0389 | 0.29 | Q | | | | |
| 1+55 | 0.0412 | 0.33 | Q | | | | |
| 2+ 0 | 0.0436 | 0.35 | Q | | | | |
| 2+ 5 | 0.0461 | 0.36 | Q | | | | |
| 2+10 | 0.0487 | 0.37 | Q | | | | |
| 2+15 | 0.0512 | 0.37 | Q | | | | |
| 2+20 | 0.0538 | 0.37 | Q | | | | |
| 2+25 | 0.0563 | 0.37 | Q | | | | |
| 2+30 | 0.0589 | 0.37 | Q | | | | |
| 2+35 | 0.0615 | 0.38 | Q | | | | |
| 2+40 | 0.0644 | 0.42 | Q | | | | |
| 2+45 | 0.0675 | 0.45 | Q | | | | |
| 2+50 | 0.0706 | 0.46 | Q | | | | |
| 2+55 | 0.0738 | 0.46 | Q | | | | |
| 3+ 0 | 0.0770 | 0.46 | Q | | | | |
| 3+ 5 | 0.0802 | 0.46 | Q | | | | |
| 3+10 | 0.0834 | 0.46 | Q | | | | |
| 3+15 | 0.0866 | 0.47 | Q | | | | |
| 3+20 | 0.0898 | 0.47 | Q | | | | |
| 3+25 | 0.0930 | 0.47 | Q | | | | |
| 3+30 | 0.0962 | 0.47 | Q | | | | |
| 3+35 | 0.0994 | 0.47 | Q | | | | |
| 3+40 | 0.1026 | 0.47 | Q | | | | |
| 3+45 | 0.1058 | 0.47 | Q | | | | |
| 3+50 | 0.1091 | 0.47 | Q | | | | |
| 3+55 | 0.1126 | 0.51 | Q | | | | |
| 4+ 0 | 0.1163 | 0.54 | Q | | | | |
| 4+ 5 | 0.1201 | 0.55 | Q | | | | |

| | | | |
|---|---|---|---|
| 4+10 | 0.1239 | 0.55 | Q |
| 4+15 | 0.1278 | 0.56 | Q |
| 4+20 | 0.1317 | 0.56 | Q |
| 4+25 | 0.1358 | 0.61 | Q |
| 4+30 | 0.1402 | 0.63 | Q |
| 4+35 | 0.1446 | 0.64 | Q |
| 4+40 | 0.1491 | 0.65 | Q |
| 4+45 | 0.1536 | 0.65 | Q |
| 4+50 | 0.1584 | 0.70 | Q |
| 4+55 | 0.1650 | 0.96 | VQ |
| 5+ 0 | 0.1728 | 1.13 | VQ |
| 5+ 5 | 0.1808 | 1.15 | VQ |
| 5+10 | 0.1867 | 0.87 | VQ |
| 5+15 | 0.1915 | 0.69 | Q |
| 5+20 | 0.1958 | 0.63 | Q |
| 5+25 | 0.2002 | 0.64 | Q |
| 5+30 | 0.2046 | 0.65 | Q |
| 5+35 | 0.2096 | 0.72 | Q |
| 5+40 | 0.2171 | 1.09 | VQ |
| 5+45 | 0.2262 | 1.32 | VQ |
| 5+50 | 0.2361 | 1.43 | VQ |
| 5+55 | 0.2464 | 1.50 | VQ |
| 6+ 0 | 0.2570 | 1.54 | V Q |
| 6+ 5 | 0.2684 | 1.65 | V Q |
| 6+10 | 0.2829 | 2.10 | V Q |
| 6+15 | 0.2993 | 2.38 | V  Q |
| 6+20 | 0.3165 | 2.50 | \|V Q |
| 6+25 | 0.3343 | 2.58 | \|V Q |
| 6+30 | 0.3524 | 2.63 | \|V Q |
| 6+35 | 0.3712 | 2.74 | \|V Q |
| 6+40 | 0.3932 | 3.19 | \|V  Q |
| 6+45 | 0.4170 | 3.46 | \|V  Q |
| 6+50 | 0.4417 | 3.59 | \|V  Q |
| 6+55 | 0.4669 | 3.66 | \|V  Q |
| 7+ 0 | 0.4925 | 3.71 | \|V  Q |
| 7+ 5 | 0.5183 | 3.74 | \|V  Q |
| 7+10 | 0.5442 | 3.77 | \|V   Q |
| 7+15 | 0.5704 | 3.80 | \|V   Q |
| 7+20 | 0.5973 | 3.90 | \|V   Q |
| 7+25 | 0.6273 | 4.35 | \| V  Q |
| 7+30 | 0.6591 | 4.62 | \| V   Q |
| 7+35 | 0.6923 | 4.82 | \| V   Q |
| 7+40 | 0.7289 | 5.31 | \| V    Q |
| 7+45 | 0.7675 | 5.61 | \| V    Q |
| 7+50 | 0.8076 | 5.81 | \| V    Q |
| 7+55 | 0.8510 | 6.31 | \| V     Q |
| 8+ 0 | 0.8966 | 6.61 | \| V     Q |
| 8+ 5 | 0.9440 | 6.89 | \|  V     Q\| |
| 8+10 | 0.9978 | 7.81 | \|  V      Q |
| 8+15 | 1.0554 | 8.36 | \|  V       \|Q |
| 8+20 | 1.1145 | 8.58 | \|  V       \|Q |
| 8+25 | 1.1745 | 8.71 | \|  V       \|Q |
| 8+30 | 1.2350 | 8.79 | \|   V      \|Q |
| 8+35 | 1.2963 | 8.90 | \|   V      \|Q |
| 8+40 | 1.3608 | 9.36 | \|   V      \| Q |
| 8+45 | 1.4271 | 9.64 | \|   V      \| Q |
| 8+50 | 1.4949 | 9.83 | \|   V      \|  Q |
| 8+55 | 1.5660 | 10.33 | \|    V     \|  Q |
| 9+ 0 | 1.6392 | 10.62 | \|    V     \|   Q |
| 9+ 5 | 1.7142 | 10.90 | \|    V     \|   Q |
| 9+10 | 1.7956 | 11.82 | \|    V     \|    Q |
| 9+15 | 1.8808 | 12.36 | \|     V    \|     Q |
| 9+20 | 1.9680 | 12.66 | \|     V    \|     Q |
| 9+25 | 2.0590 | 13.21 | \|     V    \|      Q |
| 9+30 | 2.1522 | 13.53 | \|      V   \|      Q \| |
| 9+35 | 2.2469 | 13.75 | \|      V   \|      Q \| |
| 9+40 | 2.3450 | 14.25 | \|      V   \|       Q\| |
| 9+45 | 2.4453 | 14.55 | \|       V  \|       Q\| |
| 9+50 | 2.5469 | 14.76 | \|       V  \|       Q\| |
| 9+55 | 2.6519 | 15.25 | \|       V  \|        Q |
| 10+ 0 | 2.7590 | 15.55 | \|        V\|        Q |
| 10+ 5 | 2.8634 | 15.15 | \|        V\|        Q |
| 10+10 | 2.9479 | 12.28 | \|        V\|     Q   \| |
| 10+15 | 3.0210 | 10.60 | \|         V   Q    \| |
| 10+20 | 3.0896 | 9.97 | \|         V  Q     \| |
| 10+25 | 3.1560 | 9.64 | \|         V Q      \| |
| 10+30 | 3.2215 | 9.51 | \|         V Q      \| |
| 10+35 | 3.2893 | 9.85 | \|         V  Q     \| |



| | | | |
|---|---|---|---|
| 10+40 | 3.3716 | 11.95 | |
| 10+45 | 3.4623 | 13.17 | |
| 10+50 | 3.5564 | 13.66 | |
| 10+55 | 3.6524 | 13.94 | |
| 11+ 0 | 3.7493 | 14.07 | |
| 11+ 5 | 3.8461 | 14.06 | |
| 11+10 | 3.9404 | 13.68 | |
| 11+15 | 4.0332 | 13.48 | |
| 11+20 | 4.1256 | 13.41 | |
| 11+25 | 4.2178 | 13.38 | |
| 11+30 | 4.3099 | 13.38 | |
| 11+35 | 4.4011 | 13.24 | |
| 11+40 | 4.4867 | 12.42 | |
| 11+45 | 4.5689 | 11.94 | |
| 11+50 | 4.6505 | 11.85 | |
| 11+55 | 4.7344 | 12.19 | |
| 12+ 0 | 4.8199 | 12.41 | |
| 12+ 5 | 4.9097 | 13.04 | |
| 12+10 | 5.0202 | 16.05 | |
| 12+15 | 5.1429 | 17.81 | |
| 12+20 | 5.2709 | 18.58 | |
| 12+25 | 5.4043 | 19.38 | |
| 12+30 | 5.5408 | 19.81 | |
| 12+35 | 5.6794 | 20.13 | |
| 12+40 | 5.8246 | 21.08 | |
| 12+45 | 5.9737 | 21.65 | |
| 12+50 | 6.1249 | 21.95 | |
| 12+55 | 6.2798 | 22.50 | |
| 13+ 0 | 6.4370 | 22.81 | |
| 13+ 5 | 6.5976 | 23.32 | |
| 13+10 | 6.7733 | 25.51 | |
| 13+15 | 6.9578 | 26.79 | |
| 13+20 | 7.1459 | 27.30 | |
| 13+25 | 7.3358 | 27.58 | |
| 13+30 | 7.5267 | 27.72 | |
| 13+35 | 7.7123 | 26.95 | |
| 13+40 | 7.8662 | 22.36 | |
| 13+45 | 8.0018 | 19.68 | |
| 13+50 | 8.1303 | 18.66 | |
| 13+55 | 8.2551 | 18.12 | |
| 14+ 0 | 8.3784 | 17.89 | |
| 14+ 5 | 8.5032 | 18.13 | |
| 14+10 | 8.6394 | 19.77 | |
| 14+15 | 8.7822 | 20.74 | |
| 14+20 | 8.9272 | 21.05 | |
| 14+25 | 9.0707 | 20.84 | |
| 14+30 | 9.2133 | 20.71 | |
| 14+35 | 9.3556 | 20.66 | |
| 14+40 | 9.4979 | 20.65 | |
| 14+45 | 9.6402 | 20.66 | |
| 14+50 | 9.7820 | 20.60 | |
| 14+55 | 9.9211 | 20.19 | |
| 15+ 0 | 10.0586 | 19.96 | |
| 15+ 5 | 10.1950 | 19.81 | |
| 15+10 | 10.3283 | 19.35 | |
| 15+15 | 10.4598 | 19.10 | |
| 15+20 | 10.5903 | 18.94 | |
| 15+25 | 10.7176 | 18.48 | |
| 15+30 | 10.8431 | 18.22 | |
| 15+35 | 10.9659 | 17.84 | |
| 15+40 | 11.0769 | 16.11 | |
| 15+45 | 11.1810 | 15.12 | |
| 15+50 | 11.2825 | 14.74 | |
| 15+55 | 11.3827 | 14.55 | |
| 16+ 0 | 11.4824 | 14.47 | |
| 16+ 5 | 11.5742 | 13.33 | |
| 16+10 | 11.6224 | 7.00 | |
| 16+15 | 11.6452 | 3.31 | |
| 16+20 | 11.6581 | 1.88 | |
| 16+25 | 11.6660 | 1.14 | |
| 16+30 | 11.6717 | 0.82 | |
| 16+35 | 11.6764 | 0.69 | |
| 16+40 | 11.6798 | 0.49 | |
| 16+45 | 11.6822 | 0.36 | |
| 16+50 | 11.6844 | 0.31 | |
| 16+55 | 11.6864 | 0.29 | |
| 17+ 0 | 11.6883 | 0.28 | |
| 17+ 5 | 11.6910 | 0.39 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+10 | 11.6979 | 0.99 | \|Q | \| | \| | \| | V\| |
| 17+15 | 11.7072 | 1.35 | \|Q | \| | \| | \| | V\| |
| 17+20 | 11.7175 | 1.50 | \| Q | \| | \| | \| | V\| |
| 17+25 | 11.7285 | 1.59 | \| Q | \| | \| | \| | V\| |
| 17+30 | 11.7397 | 1.64 | \| Q | \| | \| | \| | V\| |
| 17+35 | 11.7512 | 1.66 | \| Q | \| | \| | \| | V\| |
| 17+40 | 11.7628 | 1.68 | \| Q | \| | \| | \| | V\| |
| 17+45 | 11.7745 | 1.70 | \| Q | \| | \| | \| | V\| |
| 17+50 | 11.7859 | 1.65 | \| Q | \| | \| | \| | V\| |
| 17+55 | 11.7944 | 1.24 | \|Q | \| | \| | \| | V\| |
| 18+ 0 | 11.8013 | 1.01 | \|Q | \| | \| | \| | V\| |
| 18+ 5 | 11.8077 | 0.93 | \|Q | \| | \| | \| | V\| |
| 18+10 | 11.8138 | 0.89 | \|Q | \| | \| | \| | V\| |
| 18+15 | 11.8199 | 0.88 | \|Q | \| | \| | \| | V\| |
| 18+20 | 11.8260 | 0.89 | \|Q | \| | \| | \| | V\| |
| 18+25 | 11.8322 | 0.90 | \|Q | \| | \| | \| | V\| |
| 18+30 | 11.8384 | 0.91 | \|Q | \| | \| | \| | V\| |
| 18+35 | 11.8443 | 0.86 | \|Q | \| | \| | \| | V\| |
| 18+40 | 11.8483 | 0.58 | Q | \| | \| | \| | V\| |
| 18+45 | 11.8511 | 0.41 | Q | \| | \| | \| | V\| |
| 18+50 | 11.8534 | 0.33 | Q | \| | \| | \| | V\| |
| 18+55 | 11.8552 | 0.26 | Q | \| | \| | \| | V\| |
| 19+ 0 | 11.8567 | 0.22 | Q | \| | \| | \| | V\| |
| 19+ 5 | 11.8581 | 0.21 | Q | \| | \| | \| | V\| |
| 19+10 | 11.8598 | 0.24 | Q | \| | \| | \| | V\| |
| 19+15 | 11.8616 | 0.26 | Q | \| | \| | \| | V\| |
| 19+20 | 11.8639 | 0.33 | Q | \| | \| | \| | V\| |
| 19+25 | 11.8687 | 0.69 | Q | \| | \| | \| | V\| |
| 19+30 | 11.8749 | 0.91 | \|Q | \| | \| | \| | V\| |
| 19+35 | 11.8814 | 0.93 | \|Q | \| | \| | \| | V\| |
| 19+40 | 11.8856 | 0.61 | Q | \| | \| | \| | V\| |
| 19+45 | 11.8885 | 0.42 | Q | \| | \| | \| | V\| |
| 19+50 | 11.8909 | 0.34 | Q | \| | \| | \| | V\| |
| 19+55 | 11.8927 | 0.26 | Q | \| | \| | \| | V\| |
| 20+ 0 | 11.8942 | 0.22 | Q | \| | \| | \| | V\| |
| 20+ 5 | 11.8956 | 0.21 | Q | \| | \| | \| | V\| |
| 20+10 | 11.8973 | 0.24 | Q | \| | \| | \| | V\| |
| 20+15 | 11.8991 | 0.26 | Q | \| | \| | \| | V\| |
| 20+20 | 11.9010 | 0.27 | Q | \| | \| | \| | V\| |
| 20+25 | 11.9029 | 0.28 | Q | \| | \| | \| | V\| |
| 20+30 | 11.9048 | 0.28 | Q | \| | \| | \| | V\| |
| 20+35 | 11.9068 | 0.28 | Q | \| | \| | \| | V\| |
| 20+40 | 11.9088 | 0.29 | Q | \| | \| | \| | V\| |
| 20+45 | 11.9109 | 0.30 | Q | \| | \| | \| | V\| |
| 20+50 | 11.9129 | 0.30 | Q | \| | \| | \| | V\| |
| 20+55 | 11.9146 | 0.24 | Q | \| | \| | \| | V\| |
| 21+ 0 | 11.9161 | 0.21 | Q | \| | \| | \| | V\| |
| 21+ 5 | 11.9175 | 0.21 | Q | \| | \| | \| | V\| |
| 21+10 | 11.9195 | 0.29 | Q | \| | \| | \| | V\| |
| 21+15 | 11.9218 | 0.33 | Q | \| | \| | \| | V\| |
| 21+20 | 11.9242 | 0.34 | Q | \| | \| | \| | V\| |
| 21+25 | 11.9260 | 0.27 | Q | \| | \| | \| | V\| |
| 21+30 | 11.9275 | 0.22 | Q | \| | \| | \| | V\| |
| 21+35 | 11.9290 | 0.22 | Q | \| | \| | \| | V\| |
| 21+40 | 11.9312 | 0.32 | Q | \| | \| | \| | V\| |
| 21+45 | 11.9338 | 0.38 | Q | \| | \| | \| | V\| |
| 21+50 | 11.9365 | 0.39 | Q | \| | \| | \| | V\| |
| 21+55 | 11.9384 | 0.29 | Q | \| | \| | \| | V\| |
| 22+ 0 | 11.9400 | 0.23 | Q | \| | \| | \| | V\| |
| 22+ 5 | 11.9416 | 0.23 | Q | \| | \| | \| | V\| |
| 22+10 | 11.9440 | 0.34 | Q | \| | \| | \| | V\| |
| 22+15 | 11.9469 | 0.42 | Q | \| | \| | \| | V\| |
| 22+20 | 11.9498 | 0.43 | Q | \| | \| | \| | V\| |
| 22+25 | 11.9519 | 0.31 | Q | \| | \| | \| | V\| |
| 22+30 | 11.9536 | 0.24 | Q | \| | \| | \| | V\| |
| 22+35 | 11.9550 | 0.21 | Q | \| | \| | \| | V\| |
| 22+40 | 11.9564 | 0.20 | Q | \| | \| | \| | V\| |
| 22+45 | 11.9577 | 0.19 | Q | \| | \| | \| | V\| |
| 22+50 | 11.9590 | 0.19 | Q | \| | \| | \| | V\| |
| 22+55 | 11.9603 | 0.19 | Q | \| | \| | \| | V\| |
| 23+ 0 | 11.9616 | 0.19 | Q | \| | \| | \| | V\| |
| 23+ 5 | 11.9629 | 0.19 | Q | \| | \| | \| | V\| |
| 23+10 | 11.9641 | 0.19 | Q | \| | \| | \| | V\| |
| 23+15 | 11.9654 | 0.19 | Q | \| | \| | \| | V\| |
| 23+20 | 11.9667 | 0.19 | Q | \| | \| | \| | V\| |
| 23+25 | 11.9680 | 0.19 | Q | \| | \| | \| | V\| |
| 23+30 | 11.9693 | 0.19 | Q | \| | \| | \| | V\| |
| 23+35 | 11.9705 | 0.19 | Q | \| | \| | \| | V\| |

```
   23+40      11.9718      0.19  Q          |          |          |         V|
   23+45      11.9731      0.19  Q          |          |          |         V|
   23+50      11.9744      0.19  Q          |          |          |         V|
   23+55      11.9757      0.19  Q          |          |          |         V|
   24+ 0      11.9770      0.19  Q          |          |          |         V|
   24+ 5      11.9781      0.17  Q          |          |          |         V|
   24+10      11.9787      0.09  Q          |          |          |         V|
   24+15      11.9790      0.04  Q          |          |          |         V|
   24+20      11.9791      0.02  Q          |          |          |         V|
   24+25      11.9792      0.01  Q          |          |          |         V|
   24+30      11.9792      0.00  Q          |          |          |         V|
   24+35      11.9792      0.00  Q          |          |          |         V|
   24+40      11.9792      0.00  Q          |          |          |         V|
   24+45      11.9792      0.00  Q          |          |          |          V
-------------------------------------------------------------------------------
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA101100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 10
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

---

Drainage Area = 3.30(Ac.) = 0.005 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 3.30(Ac.) = 0.005 Sq. Mi.
Length along longest watercourse = 709.00(Ft.)
Length along longest watercourse measured to centroid = 382.00(Ft.)
Length along longest watercourse = 0.134 Mi.
Length along longest watercourse measured to centroid = 0.072 Mi.
Difference in elevation = 120.00(Ft.)
Slope along watercourse = 893.6530 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.040 Hr.
Lag time = 2.38 Min.
25% of lag time = 0.60 Min.
40% of lag time = 0.95 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 3.30 | 0.49 | 1.62 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 3.30 | 1.20 | 3.96 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.490(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 3.300 | 75.62 | 0.000 |

Total Area Entered = 3.30(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 75.6 | 88.4 | 0.149 | 0.000 | 0.149 | 1.000 | 0.149 |
| | | | | | Sum (F) = | 0.149 |

Area averaged mean soil loss (F) (In/Hr) = 0.149

Minimum soil loss rate ((In/Hr)) = 0.074
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

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| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 209.910 | 44.207 | 1.470 |
| 2 | 0.167 | 419.821 | 49.061 | 1.632 |
| 3 | 0.250 | 629.731 | 5.837 | 0.194 |
| 4 | 0.333 | 839.641 | 0.895 | 0.030 |
| | | Sum = 100.000 | Sum= | 3.326 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.149 | ( | 0.544) | 0.456 |
| 2 | 0.17 | 4.30 | 0.619 | 0.149 | ( | 0.557) | 0.471 |
| 3 | 0.25 | 5.00 | 0.720 | 0.149 | ( | 0.648) | 0.571 |
| 4 | 0.33 | 5.00 | 0.720 | 0.149 | ( | 0.648) | 0.571 |
| 5 | 0.42 | 5.80 | 0.835 | 0.149 | ( | 0.752) | 0.687 |
| 6 | 0.50 | 6.50 | 0.936 | 0.149 | ( | 0.842) | 0.787 |
| 7 | 0.58 | 7.40 | 1.066 | 0.149 | ( | 0.959) | 0.917 |
| 8 | 0.67 | 8.60 | 1.238 | 0.149 | ( | 1.115) | 1.090 |
| 9 | 0.75 | 12.30 | 1.771 | 0.149 | ( | 1.594) | 1.623 |
| 10 | 0.83 | 29.10 | 4.190 | 0.149 | ( | 3.771) | 4.042 |
| 11 | 0.92 | 6.80 | 0.979 | 0.149 | ( | 0.881) | 0.831 |
| 12 | 1.00 | 5.00 | 0.720 | 0.149 | ( | 0.648) | 0.571 |
| | | (Loss Rate Not Used) | | | | | |
| Sum = | | 100.0 | | | | Sum = | 12.6 |

Flood volume = Effective rainfall 1.05(In)
times area 3.3(Ac.)/[(In)/(Ft.)] = 0.3(Ac.Ft)
Total soil loss = 0.15(In)
Total soil loss = 0.041(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 12594.8 Cubic Feet
Total soil loss = 1779.6 Cubic Feet

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Peak flow rate of this hydrograph = 8.833(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0046 | 0.67 | V Q | | | | |
| 0+10 | 0.0145 | 1.44 | V Q | | | | |
| 0+15 | 0.0262 | 1.70 | V Q | | | | |
| 0+20 | 0.0391 | 1.88 | V Q | | | | |
| 0+25 | 0.0534 | 2.07 | VQ | | | | |
| 0+30 | 0.0700 | 2.41 | Q | | | | |
| 0+35 | 0.0891 | 2.78 | QV | | | | |
| 0+40 | 0.1117 | 3.27 | Q V | | | | |
| 0+45 | 0.1418 | 4.37 | Q V | | | | |
| 0+50 | 0.2026 | 8.83 | | | V | Q | |
| 0+55 | 0.2589 | 8.17 | | | Q V | | |
| 1+ 0 | 0.2797 | 3.03 | Q | | | V | |
| 1+ 5 | 0.2881 | 1.21 | Q | | | V | |
| 1+10 | 0.2890 | 0.14 | Q | | | V | |
| 1+15 | 0.2891 | 0.02 | Q | | | V | |

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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA103100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 10
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

---

Drainage Area = 3.30(Ac.) = 0.005 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 3.30(Ac.) = 0.005 Sq. Mi.
Length along longest watercourse = 709.00(Ft.)
Length along longest watercourse measured to centroid = 382.00(Ft.)
Length along longest watercourse = 0.134 Mi.
Length along longest watercourse measured to centroid = 0.072 Mi.
Difference in elevation = 120.00(Ft.)
Slope along watercourse = 893.6530 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.040 Hr.
Lag time = 2.38 Min.
25% of lag time = 0.60 Min.
40% of lag time = 0.95 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 3.30 | 0.80 | 2.64 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 3.30 | 1.80 | 5.94 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 3.300 | 75.62 | 0.000 |

Total Area Entered = 3.30(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 75.6 | 88.4 | 0.149 | 0.000 | 0.149 | 1.000 | 0.149 |
| | | | | | Sum (F) = | 0.149 |

Area averaged mean soil loss (F) (In/Hr) = 0.149

Minimum soil loss rate ((In/Hr)) = 0.074
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 209.910 | 44.207 | 1.470 |
| 2 | 0.167 | 419.821 | 49.061 | 1.632 |
| 3 | 0.250 | 629.731 | 5.837 | 0.194 |
| 4 | 0.333 | 839.641 | 0.895 | 0.030 |
| | | Sum = 100.000 | Sum= | 3.326 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.281 | 0.149 | ( 0.253) | 0.132 |
| 2 | 0.17 | 1.30 | 0.281 | 0.149 | ( 0.253) | 0.132 |
| 3 | 0.25 | 1.10 | 0.238 | 0.149 | ( 0.214) | 0.089 |
| 4 | 0.33 | 1.50 | 0.324 | 0.149 | ( 0.292) | 0.175 |
| 5 | 0.42 | 1.50 | 0.324 | 0.149 | ( 0.292) | 0.175 |
| 6 | 0.50 | 1.80 | 0.389 | 0.149 | ( 0.350) | 0.240 |
| 7 | 0.58 | 1.50 | 0.324 | 0.149 | ( 0.292) | 0.175 |
| 8 | 0.67 | 1.80 | 0.389 | 0.149 | ( 0.350) | 0.240 |
| 9 | 0.75 | 1.80 | 0.389 | 0.149 | ( 0.350) | 0.240 |
| 10 | 0.83 | 1.50 | 0.324 | 0.149 | ( 0.292) | 0.175 |
| 11 | 0.92 | 1.60 | 0.346 | 0.149 | ( 0.311) | 0.197 |
| 12 | 1.00 | 1.80 | 0.389 | 0.149 | ( 0.350) | 0.240 |
| 13 | 1.08 | 2.20 | 0.475 | 0.149 | ( 0.428) | 0.327 |
| 14 | 1.17 | 2.20 | 0.475 | 0.149 | ( 0.428) | 0.327 |
| 15 | 1.25 | 2.20 | 0.475 | 0.149 | ( 0.428) | 0.327 |
| 16 | 1.33 | 2.00 | 0.432 | 0.149 | ( 0.389) | 0.283 |
| 17 | 1.42 | 2.60 | 0.562 | 0.149 | ( 0.505) | 0.413 |
| 18 | 1.50 | 2.70 | 0.583 | 0.149 | ( 0.525) | 0.435 |
| 19 | 1.58 | 2.40 | 0.518 | 0.149 | ( 0.467) | 0.370 |
| 20 | 1.67 | 2.70 | 0.583 | 0.149 | ( 0.525) | 0.435 |
| 21 | 1.75 | 3.30 | 0.713 | 0.149 | ( 0.642) | 0.564 |
| 22 | 1.83 | 3.10 | 0.670 | 0.149 | ( 0.603) | 0.521 |
| 23 | 1.92 | 2.90 | 0.626 | 0.149 | ( 0.564) | 0.478 |
| 24 | 2.00 | 3.00 | 0.648 | 0.149 | ( 0.583) | 0.499 |
| 25 | 2.08 | 3.10 | 0.670 | 0.149 | ( 0.603) | 0.521 |
| 26 | 2.17 | 4.20 | 0.907 | 0.149 | ( 0.816) | 0.759 |
| 27 | 2.25 | 5.00 | 1.080 | 0.149 | ( 0.972) | 0.931 |
| 28 | 2.33 | 3.50 | 0.756 | 0.149 | ( 0.680) | 0.607 |
| 29 | 2.42 | 6.80 | 1.469 | 0.149 | ( 1.322) | 1.320 |
| 30 | 2.50 | 7.30 | 1.577 | 0.149 | ( 1.419) | 1.428 |
| 31 | 2.58 | 8.20 | 1.771 | 0.149 | ( 1.594) | 1.623 |
| 32 | 2.67 | 5.90 | 1.274 | 0.149 | ( 1.147) | 1.126 |
| 33 | 2.75 | 2.00 | 0.432 | 0.149 | ( 0.389) | 0.283 |
| 34 | 2.83 | 1.80 | 0.389 | 0.149 | ( 0.350) | 0.240 |
| 35 | 2.92 | 1.80 | 0.389 | 0.149 | ( 0.350) | 0.240 |
| 36 | 3.00 | 0.60 | 0.130 | ( 0.149) | 0.117 | 0.013 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 16.3 |

Flood volume = Effective rainfall 1.36(In)
times area 3.3(Ac.)/[(In)/(Ft.)] = 0.4(Ac.Ft)
Total soil loss = 0.44(In)
Total soil loss = 0.122(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 16255.0 Cubic Feet
Total soil loss = 5306.9 Cubic Feet

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Peak flow rate of this hydrograph = 4.993(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0013 | 0.19 | Q | | | | |
| 0+10 | 0.0042 | 0.41 | VQ | | | | |
| 0+15 | 0.0067 | 0.37 | VQ | | | | |
| 0+20 | 0.0097 | 0.43 | \|Q | | | | |
| 0+25 | 0.0136 | 0.57 | \|VQ | | | | |
| 0+30 | 0.0183 | 0.68 | \|VQ | | | | |
| 0+35 | 0.0230 | 0.69 | \| Q | | | | |
| 0+40 | 0.0278 | 0.69 | \| Q | | | | |
| 0+45 | 0.0332 | 0.79 | \| Q | | | | |
| 0+50 | 0.0380 | 0.70 | \| Q V | | | | |
| 0+55 | 0.0424 | 0.63 | \| Q V | | | | |
| 1+ 0 | 0.0473 | 0.72 | \| Q V | | | | |
| 1+ 5 | 0.0536 | 0.92 | \| Q V | | | | |
| 1+10 | 0.0610 | 1.07 | \| Q V | | | | |
| 1+15 | 0.0684 | 1.08 | \| Q V | | | | |
| 1+20 | 0.0755 | 1.02 | \| Q V | | | | |
| 1+25 | 0.0834 | 1.14 | \| Q V | | | | |
| 1+30 | 0.0928 | 1.38 | \| Q V | | | | |
| 1+35 | 0.1021 | 1.34 | \| Q V | | | | |
| 1+40 | 0.1113 | 1.34 | \| Q \|V | | | | |
| 1+45 | 0.1225 | 1.62 | \| Q \| V | | | | |
| 1+50 | 0.1348 | 1.78 | \| Q \| V | | | | |
| 1+55 | 0.1463 | 1.68 | \| Q \| V | | | | |
| 2+ 0 | 0.1576 | 1.63 | \| Q \| V | | | | |
| 2+ 5 | 0.1692 | 1.69 | \| Q \| V | | | | |
| 2+10 | 0.1835 | 2.08 | \| Q \| V | | | | |
| 2+15 | 0.2023 | 2.72 | \| Q \| V | | | | |
| 2+20 | 0.2200 | 2.58 | \| Q \| V | | | | |
| 2+25 | 0.2416 | 3.14 | \| Q \| V | | | | |
| 2+30 | 0.2720 | 4.40 | \| Q \| V | | | | |
| 2+35 | 0.3063 | 4.99 | \| Q \| V | | | | |
| 2+40 | 0.3382 | 4.62 | \| Q \| V | | | | |
| 2+45 | 0.3562 | 2.61 | \| Q \| V | | | | |
| 2+50 | 0.3636 | 1.08 | \| Q \| V | | | | |
| 2+55 | 0.3694 | 0.83 | \| Q \| V | | | | |
| 3+ 0 | 0.3726 | 0.47 | \|Q \| V | | | | |
| 3+ 5 | 0.3731 | 0.07 | Q \| V | | | | |
| 3+10 | 0.3732 | 0.01 | Q \| V | | | | |
| 3+15 | 0.3732 | 0.00 | Q \| V | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 10
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

---

Drainage Area = 3.30(Ac.) = 0.005 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 3.30(Ac.) = 0.005 Sq. Mi.
Length along longest watercourse = 709.00(Ft.)
Length along longest watercourse measured to centroid = 382.00(Ft.)
Length along longest watercourse = 0.134 Mi.
Length along longest watercourse measured to centroid = 0.072 Mi.
Difference in elevation = 120.00(Ft.)
Slope along watercourse = 893.6530 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.040 Hr.
Lag time = 2.38 Min.
25% of lag time = 0.60 Min.
40% of lag time = 0.95 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 3.30 | 1.12 | 3.70 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 3.30 | 2.50 | 8.25 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.120(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 3.300 | 75.62 | 0.000 |

Total Area Entered = 3.30(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 75.6 | 88.4 | 0.149 | 0.000 | 0.149 | 1.000 | 0.149 |
| | | | | | Sum (F) = | 0.149 |

Area averaged mean soil loss (F) (In/Hr) = 0.149

Minimum soil loss rate ((In/Hr)) = 0.074
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 209.910 | 44.207 | 1.470 |
| 2 0.167 | 419.821 | 49.061 | 1.632 |
| 3 0.250 | 629.731 | 5.837 | 0.194 |
| 4 0.333 | 839.641 | 0.895 | 0.030 |
| | Sum = 100.000 | Sum= | 3.326 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | ( 0.149) | 0.135 | 0.015 |
| 2 | 0.17 | 0.60 | 0.180 | 0.149 | ( 0.162) | 0.031 |
| 3 | 0.25 | 0.60 | 0.180 | 0.149 | ( 0.162) | 0.031 |
| 4 | 0.33 | 0.60 | 0.180 | 0.149 | ( 0.162) | 0.031 |
| 5 | 0.42 | 0.60 | 0.180 | 0.149 | ( 0.162) | 0.031 |
| 6 | 0.50 | 0.70 | 0.210 | 0.149 | ( 0.189) | 0.061 |
| 7 | 0.58 | 0.70 | 0.210 | 0.149 | ( 0.189) | 0.061 |
| 8 | 0.67 | 0.70 | 0.210 | 0.149 | ( 0.189) | 0.061 |
| 9 | 0.75 | 0.70 | 0.210 | 0.149 | ( 0.189) | 0.061 |
| 10 | 0.83 | 0.70 | 0.210 | 0.149 | ( 0.189) | 0.061 |
| 11 | 0.92 | 0.70 | 0.210 | 0.149 | ( 0.189) | 0.061 |
| 12 | 1.00 | 0.80 | 0.240 | 0.149 | ( 0.216) | 0.091 |
| 13 | 1.08 | 0.80 | 0.240 | 0.149 | ( 0.216) | 0.091 |
| 14 | 1.17 | 0.80 | 0.240 | 0.149 | ( 0.216) | 0.091 |
| 15 | 1.25 | 0.80 | 0.240 | 0.149 | ( 0.216) | 0.091 |
| 16 | 1.33 | 0.80 | 0.240 | 0.149 | ( 0.216) | 0.091 |
| 17 | 1.42 | 0.80 | 0.240 | 0.149 | ( 0.216) | 0.091 |
| 18 | 1.50 | 0.80 | 0.240 | 0.149 | ( 0.216) | 0.091 |
| 19 | 1.58 | 0.80 | 0.240 | 0.149 | ( 0.216) | 0.091 |
| 20 | 1.67 | 0.80 | 0.240 | 0.149 | ( 0.216) | 0.091 |
| 21 | 1.75 | 0.80 | 0.240 | 0.149 | ( 0.216) | 0.091 |
| 22 | 1.83 | 0.80 | 0.240 | 0.149 | ( 0.216) | 0.091 |
| 23 | 1.92 | 0.80 | 0.240 | 0.149 | ( 0.216) | 0.091 |
| 24 | 2.00 | 0.90 | 0.270 | 0.149 | ( 0.243) | 0.121 |
| 25 | 2.08 | 0.80 | 0.240 | 0.149 | ( 0.216) | 0.091 |
| 26 | 2.17 | 0.90 | 0.270 | 0.149 | ( 0.243) | 0.121 |
| 27 | 2.25 | 0.90 | 0.270 | 0.149 | ( 0.243) | 0.121 |
| 28 | 2.33 | 0.90 | 0.270 | 0.149 | ( 0.243) | 0.121 |
| 29 | 2.42 | 0.90 | 0.270 | 0.149 | ( 0.243) | 0.121 |
| 30 | 2.50 | 0.90 | 0.270 | 0.149 | ( 0.243) | 0.121 |
| 31 | 2.58 | 0.90 | 0.270 | 0.149 | ( 0.243) | 0.121 |
| 32 | 2.67 | 0.90 | 0.270 | 0.149 | ( 0.243) | 0.121 |
| 33 | 2.75 | 1.00 | 0.300 | 0.149 | ( 0.270) | 0.151 |
| 34 | 2.83 | 1.00 | 0.300 | 0.149 | ( 0.270) | 0.151 |
| 35 | 2.92 | 1.00 | 0.300 | 0.149 | ( 0.270) | 0.151 |
| 36 | 3.00 | 1.00 | 0.300 | 0.149 | ( 0.270) | 0.151 |
| 37 | 3.08 | 1.00 | 0.300 | 0.149 | ( 0.270) | 0.151 |
| 38 | 3.17 | 1.10 | 0.330 | 0.149 | ( 0.297) | 0.181 |
| 39 | 3.25 | 1.10 | 0.330 | 0.149 | ( 0.297) | 0.181 |
| 40 | 3.33 | 1.10 | 0.330 | 0.149 | ( 0.297) | 0.181 |
| 41 | 3.42 | 1.20 | 0.360 | 0.149 | ( 0.324) | 0.211 |
| 42 | 3.50 | 1.30 | 0.390 | 0.149 | ( 0.351) | 0.241 |
| 43 | 3.58 | 1.40 | 0.420 | 0.149 | ( 0.378) | 0.271 |
| 44 | 3.67 | 1.40 | 0.420 | 0.149 | ( 0.378) | 0.271 |
| 45 | 3.75 | 1.50 | 0.450 | 0.149 | ( 0.405) | 0.301 |
| 46 | 3.83 | 1.50 | 0.450 | 0.149 | ( 0.405) | 0.301 |
| 47 | 3.92 | 1.60 | 0.480 | 0.149 | ( 0.432) | 0.331 |
| 48 | 4.00 | 1.60 | 0.480 | 0.149 | ( 0.432) | 0.331 |
| 49 | 4.08 | 1.70 | 0.510 | 0.149 | ( 0.459) | 0.361 |
| 50 | 4.17 | 1.80 | 0.540 | 0.149 | ( 0.486) | 0.391 |
| 51 | 4.25 | 1.90 | 0.570 | 0.149 | ( 0.513) | 0.421 |
| 52 | 4.33 | 2.00 | 0.600 | 0.149 | ( 0.540) | 0.451 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 53 | 4.42 | 2.10 | 0.630 | 0.149 | ( 0.567) | 0.481 |
| 54 | 4.50 | 2.10 | 0.630 | 0.149 | ( 0.567) | 0.481 |
| 55 | 4.58 | 2.20 | 0.660 | 0.149 | ( 0.594) | 0.511 |
| 56 | 4.67 | 2.30 | 0.690 | 0.149 | ( 0.621) | 0.541 |
| 57 | 4.75 | 2.40 | 0.720 | 0.149 | ( 0.648) | 0.571 |
| 58 | 4.83 | 2.40 | 0.720 | 0.149 | ( 0.648) | 0.571 |
| 59 | 4.92 | 2.50 | 0.750 | 0.149 | ( 0.675) | 0.601 |
| 60 | 5.00 | 2.60 | 0.780 | 0.149 | ( 0.702) | 0.631 |
| 61 | 5.08 | 3.10 | 0.930 | 0.149 | ( 0.837) | 0.781 |
| 62 | 5.17 | 3.60 | 1.080 | 0.149 | ( 0.972) | 0.931 |
| 63 | 5.25 | 3.90 | 1.170 | 0.149 | ( 1.053) | 1.021 |
| 64 | 5.33 | 4.20 | 1.260 | 0.149 | ( 1.134) | 1.111 |
| 65 | 5.42 | 4.70 | 1.410 | 0.149 | ( 1.269) | 1.261 |
| 66 | 5.50 | 5.60 | 1.680 | 0.149 | ( 1.512) | 1.531 |
| 67 | 5.58 | 1.90 | 0.570 | 0.149 | ( 0.513) | 0.421 |
| 68 | 5.67 | 0.90 | 0.270 | 0.149 | ( 0.243) | 0.121 |
| 69 | 5.75 | 0.60 | 0.180 | 0.149 | ( 0.162) | 0.031 |
| 70 | 5.83 | 0.50 | 0.150 | ( 0.149) | 0.135 | 0.015 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.149) | 0.081 | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.149) | 0.054 | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 19.5

Flood volume = Effective rainfall 1.62(In)
times area 3.3(Ac.)/[(In)/(Ft.)] = 0.4(Ac.Ft)
Total soil loss = 0.88(In)
Total soil loss = 0.241(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 19458.5 Cubic Feet
Total soil loss = 10488.6 Cubic Feet

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Peak flow rate of this hydrograph = 4.558(CFS)

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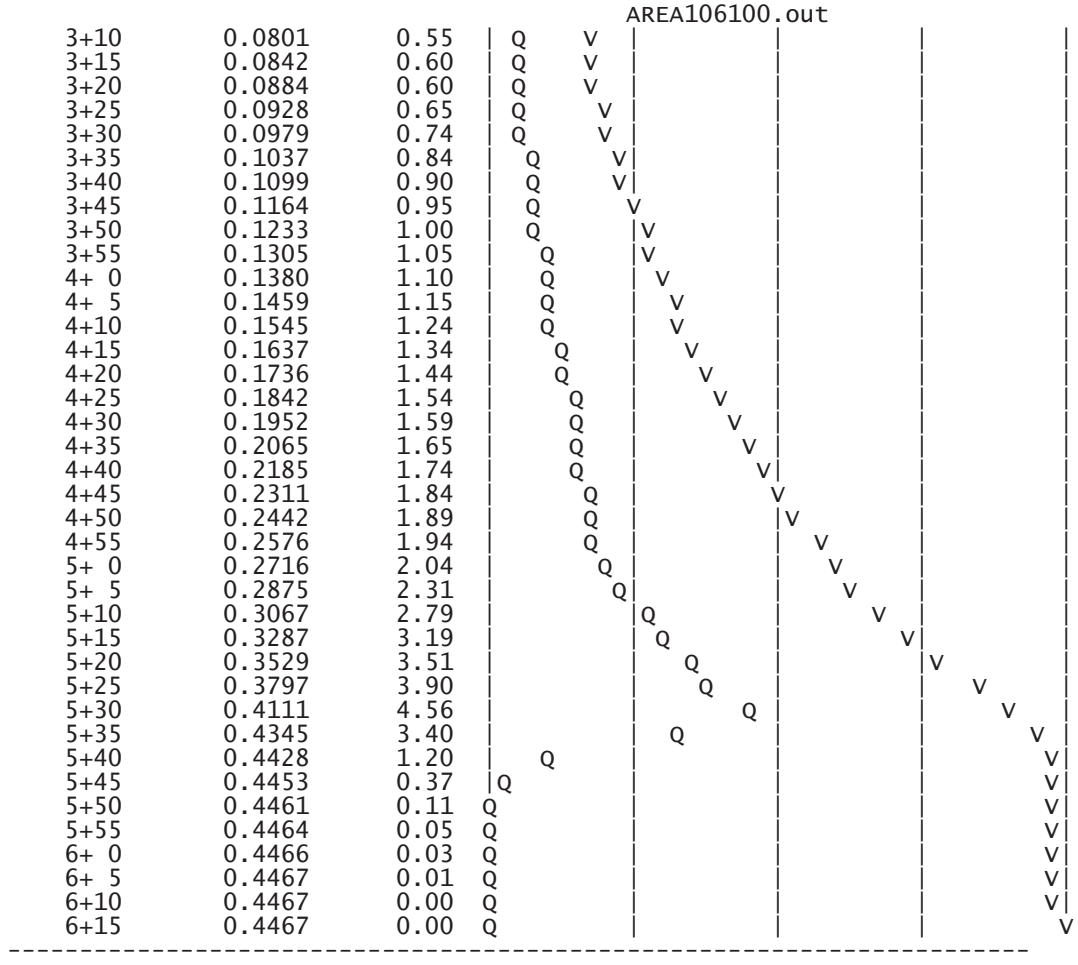
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0002 | 0.02 | Q | | | | |
| 0+10 | 0.0006 | 0.07 | Q | | | | |
| 0+15 | 0.0013 | 0.10 | Q | | | | |
| 0+20 | 0.0020 | 0.10 | Q | | | | |
| 0+25 | 0.0028 | 0.10 | Q | | | | |
| 0+30 | 0.0038 | 0.15 | Q | | | | |
| 0+35 | 0.0052 | 0.20 | Q | | | | |
| 0+40 | 0.0066 | 0.20 | Q | | | | |
| 0+45 | 0.0080 | 0.20 | Q | | | | |
| 0+50 | 0.0094 | 0.20 | Q | | | | |
| 0+55 | 0.0108 | 0.20 | Q | | | | |
| 1+ 0 | 0.0125 | 0.25 | QV | | | | |
| 1+ 5 | 0.0145 | 0.30 | \|Q | | | | |
| 1+10 | 0.0166 | 0.30 | \|Q | | | | |
| 1+15 | 0.0187 | 0.30 | \|Q | | | | |
| 1+20 | 0.0208 | 0.30 | \|Q | | | | |
| 1+25 | 0.0229 | 0.30 | \|QV | | | | |
| 1+30 | 0.0250 | 0.30 | \|QV | | | | |
| 1+35 | 0.0271 | 0.30 | \|QV | | | | |
| 1+40 | 0.0292 | 0.30 | \|QV | | | | |
| 1+45 | 0.0313 | 0.30 | \|QV | | | | |
| 1+50 | 0.0334 | 0.30 | \|QV | | | | |
| 1+55 | 0.0355 | 0.30 | \|Q V | | | | |
| 2+ 0 | 0.0379 | 0.35 | \|Q V | | | | |
| 2+ 5 | 0.0403 | 0.35 | \|Q V | | | | |
| 2+10 | 0.0428 | 0.35 | \|Q V | | | | |
| 2+15 | 0.0455 | 0.40 | \|Q V | | | | |
| 2+20 | 0.0483 | 0.40 | \|Q V | | | | |
| 2+25 | 0.0511 | 0.40 | \|Q V | | | | |
| 2+30 | 0.0538 | 0.40 | \|Q V | | | | |
| 2+35 | 0.0566 | 0.40 | \|Q V | | | | |
| 2+40 | 0.0594 | 0.40 | \|Q V | | | | |
| 2+45 | 0.0625 | 0.45 | \|Q V | | | | |
| 2+50 | 0.0659 | 0.50 | \|Q V | | | | |
| 2+55 | 0.0694 | 0.50 | \| Q V | | | | |
| 3+ 0 | 0.0729 | 0.50 | \| Q V | | | | |
| 3+ 5 | 0.0763 | 0.50 | \| Q V | | | | |


3+10 0.0801 0.55
3+15 0.0842 0.60
3+20 0.0884 0.60
3+25 0.0928 0.65
3+30 0.0979 0.74
3+35 0.1037 0.84
3+40 0.1099 0.90
3+45 0.1164 0.95
3+50 0.1233 1.00
3+55 0.1305 1.05
4+ 0 0.1380 1.10
4+ 5 0.1459 1.15
4+10 0.1545 1.24
4+15 0.1637 1.34
4+20 0.1736 1.44
4+25 0.1842 1.54
4+30 0.1952 1.59
4+35 0.2065 1.65
4+40 0.2185 1.74
4+45 0.2311 1.84
4+50 0.2442 1.89
4+55 0.2576 1.94
5+ 0 0.2716 2.04
5+ 5 0.2875 2.31
5+10 0.3067 2.79
5+15 0.3287 3.19
5+20 0.3529 3.51
5+25 0.3797 3.90
5+30 0.4111 4.56
5+35 0.4345 3.40
5+40 0.4428 1.20
5+45 0.4453 0.37
5+50 0.4461 0.11
5+55 0.4464 0.05
6+ 0 0.4466 0.03
6+ 5 0.4467 0.01
6+10 0.4467 0.00
6+15 0.4467 0.00

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA1024100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 10
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

---

Drainage Area = 3.30(Ac.) = 0.005 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 3.30(Ac.) = 0.005 Sq. Mi.
Length along longest watercourse = 709.00(Ft.)
Length along longest watercourse measured to centroid = 382.00(Ft.)
Length along longest watercourse = 0.134 Mi.
Length along longest watercourse measured to centroid = 0.072 Mi.
Difference in elevation = 120.00(Ft.)
Slope along watercourse = 893.6530 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.040 Hr.
Lag time = 2.38 Min.
25% of lag time = 0.60 Min.
40% of lag time = 0.95 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 3.30 | 1.80 | 5.94 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 3.30 | 4.50 | 14.85 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.500(In)

Point rain (area averaged) = 4.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 3.300 | 75.62 | 0.000 |

Total Area Entered = 3.30(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 75.6 | 88.4 | 0.149 | 0.000 | 0.149 | 1.000 | 0.149 |
| | | | | | Sum (F) = | 0.149 |

Area averaged mean soil loss (F) (In/Hr) = 0.149

Minimum soil loss rate ((In/Hr)) = 0.074
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 209.910 | 44.207 | 1.470 |
| 2 0.167 | 419.821 | 49.061 | 1.632 |
| 3 0.250 | 629.731 | 5.837 | 0.194 |
| 4 0.333 | 839.641 | 0.895 | 0.030 |
| | Sum = 100.000 | Sum= | 3.326 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.036 | ( 0.263) | 0.032 | 0.004 |
| 2 | 0.17 | 0.07 | 0.036 | ( 0.262) | 0.032 | 0.004 |
| 3 | 0.25 | 0.07 | 0.036 | ( 0.261) | 0.032 | 0.004 |
| 4 | 0.33 | 0.10 | 0.054 | ( 0.260) | 0.049 | 0.005 |
| 5 | 0.42 | 0.10 | 0.054 | ( 0.259) | 0.049 | 0.005 |
| 6 | 0.50 | 0.10 | 0.054 | ( 0.258) | 0.049 | 0.005 |
| 7 | 0.58 | 0.10 | 0.054 | ( 0.257) | 0.049 | 0.005 |
| 8 | 0.67 | 0.10 | 0.054 | ( 0.256) | 0.049 | 0.005 |
| 9 | 0.75 | 0.10 | 0.054 | ( 0.255) | 0.049 | 0.005 |
| 10 | 0.83 | 0.13 | 0.072 | ( 0.254) | 0.065 | 0.007 |
| 11 | 0.92 | 0.13 | 0.072 | ( 0.253) | 0.065 | 0.007 |
| 12 | 1.00 | 0.13 | 0.072 | ( 0.252) | 0.065 | 0.007 |
| 13 | 1.08 | 0.10 | 0.054 | ( 0.251) | 0.049 | 0.005 |
| 14 | 1.17 | 0.10 | 0.054 | ( 0.250) | 0.049 | 0.005 |
| 15 | 1.25 | 0.10 | 0.054 | ( 0.249) | 0.049 | 0.005 |
| 16 | 1.33 | 0.10 | 0.054 | ( 0.248) | 0.049 | 0.005 |
| 17 | 1.42 | 0.10 | 0.054 | ( 0.247) | 0.049 | 0.005 |
| 18 | 1.50 | 0.10 | 0.054 | ( 0.246) | 0.049 | 0.005 |
| 19 | 1.58 | 0.10 | 0.054 | ( 0.245) | 0.049 | 0.005 |
| 20 | 1.67 | 0.10 | 0.054 | ( 0.244) | 0.049 | 0.005 |
| 21 | 1.75 | 0.10 | 0.054 | ( 0.243) | 0.049 | 0.005 |
| 22 | 1.83 | 0.13 | 0.072 | ( 0.242) | 0.065 | 0.007 |
| 23 | 1.92 | 0.13 | 0.072 | ( 0.241) | 0.065 | 0.007 |
| 24 | 2.00 | 0.13 | 0.072 | ( 0.240) | 0.065 | 0.007 |
| 25 | 2.08 | 0.13 | 0.072 | ( 0.239) | 0.065 | 0.007 |
| 26 | 2.17 | 0.13 | 0.072 | ( 0.238) | 0.065 | 0.007 |
| 27 | 2.25 | 0.13 | 0.072 | ( 0.238) | 0.065 | 0.007 |
| 28 | 2.33 | 0.13 | 0.072 | ( 0.237) | 0.065 | 0.007 |
| 29 | 2.42 | 0.13 | 0.072 | ( 0.236) | 0.065 | 0.007 |
| 30 | 2.50 | 0.13 | 0.072 | ( 0.235) | 0.065 | 0.007 |
| 31 | 2.58 | 0.17 | 0.090 | ( 0.234) | 0.081 | 0.009 |
| 32 | 2.67 | 0.17 | 0.090 | ( 0.233) | 0.081 | 0.009 |
| 33 | 2.75 | 0.17 | 0.090 | ( 0.232) | 0.081 | 0.009 |
| 34 | 2.83 | 0.17 | 0.090 | ( 0.231) | 0.081 | 0.009 |
| 35 | 2.92 | 0.17 | 0.090 | ( 0.230) | 0.081 | 0.009 |
| 36 | 3.00 | 0.17 | 0.090 | ( 0.229) | 0.081 | 0.009 |
| 37 | 3.08 | 0.17 | 0.090 | ( 0.228) | 0.081 | 0.009 |
| 38 | 3.17 | 0.17 | 0.090 | ( 0.227) | 0.081 | 0.009 |
| 39 | 3.25 | 0.17 | 0.090 | ( 0.226) | 0.081 | 0.009 |
| 40 | 3.33 | 0.17 | 0.090 | ( 0.225) | 0.081 | 0.009 |
| 41 | 3.42 | 0.17 | 0.090 | ( 0.224) | 0.081 | 0.009 |
| 42 | 3.50 | 0.17 | 0.090 | ( 0.223) | 0.081 | 0.009 |
| 43 | 3.58 | 0.17 | 0.090 | ( 0.222) | 0.081 | 0.009 |
| 44 | 3.67 | 0.17 | 0.090 | ( 0.221) | 0.081 | 0.009 |
| 45 | 3.75 | 0.17 | 0.090 | ( 0.220) | 0.081 | 0.009 |
| 46 | 3.83 | 0.20 | 0.108 | ( 0.220) | 0.097 | 0.011 |
| 47 | 3.92 | 0.20 | 0.108 | ( 0.219) | 0.097 | 0.011 |
| 48 | 4.00 | 0.20 | 0.108 | ( 0.218) | 0.097 | 0.011 |
| 49 | 4.08 | 0.20 | 0.108 | ( 0.217) | 0.097 | 0.011 |
| 50 | 4.17 | 0.20 | 0.108 | ( 0.216) | 0.097 | 0.011 |
| 51 | 4.25 | 0.20 | 0.108 | ( 0.215) | 0.097 | 0.011 |
| 52 | 4.33 | 0.23 | 0.126 | ( 0.214) | 0.113 | 0.013 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 53 | 4.42 | 0.23 | 0.126 | ( | 0.213) | 0.113 | | 0.013 |
| 54 | 4.50 | 0.23 | 0.126 | ( | 0.212) | 0.113 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.126 | ( | 0.211) | 0.113 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.126 | ( | 0.210) | 0.113 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.126 | ( | 0.209) | 0.113 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.144 | ( | 0.209) | 0.130 | | 0.014 |
| 59 | 4.92 | 0.27 | 0.144 | ( | 0.208) | 0.130 | | 0.014 |
| 60 | 5.00 | 0.27 | 0.144 | ( | 0.207) | 0.130 | | 0.014 |
| 61 | 5.08 | 0.20 | 0.108 | ( | 0.206) | 0.097 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.108 | ( | 0.205) | 0.097 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.108 | ( | 0.204) | 0.097 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.126 | ( | 0.203) | 0.113 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.126 | ( | 0.202) | 0.113 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.126 | ( | 0.201) | 0.113 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.144 | ( | 0.200) | 0.130 | | 0.014 |
| 68 | 5.67 | 0.27 | 0.144 | ( | 0.200) | 0.130 | | 0.014 |
| 69 | 5.75 | 0.27 | 0.144 | ( | 0.199) | 0.130 | | 0.014 |
| 70 | 5.83 | 0.27 | 0.144 | ( | 0.198) | 0.130 | | 0.014 |
| 71 | 5.92 | 0.27 | 0.144 | ( | 0.197) | 0.130 | | 0.014 |
| 72 | 6.00 | 0.27 | 0.144 | ( | 0.196) | 0.130 | | 0.014 |
| 73 | 6.08 | 0.30 | 0.162 | ( | 0.195) | 0.146 | | 0.016 |
| 74 | 6.17 | 0.30 | 0.162 | ( | 0.194) | 0.146 | | 0.016 |
| 75 | 6.25 | 0.30 | 0.162 | ( | 0.193) | 0.146 | | 0.016 |
| 76 | 6.33 | 0.30 | 0.162 | ( | 0.193) | 0.146 | | 0.016 |
| 77 | 6.42 | 0.30 | 0.162 | ( | 0.192) | 0.146 | | 0.016 |
| 78 | 6.50 | 0.30 | 0.162 | ( | 0.191) | 0.146 | | 0.016 |
| 79 | 6.58 | 0.33 | 0.180 | ( | 0.190) | 0.162 | | 0.018 |
| 80 | 6.67 | 0.33 | 0.180 | ( | 0.189) | 0.162 | | 0.018 |
| 81 | 6.75 | 0.33 | 0.180 | ( | 0.188) | 0.162 | | 0.018 |
| 82 | 6.83 | 0.33 | 0.180 | ( | 0.187) | 0.162 | | 0.018 |
| 83 | 6.92 | 0.33 | 0.180 | ( | 0.187) | 0.162 | | 0.018 |
| 84 | 7.00 | 0.33 | 0.180 | ( | 0.186) | 0.162 | | 0.018 |
| 85 | 7.08 | 0.33 | 0.180 | ( | 0.185) | 0.162 | | 0.018 |
| 86 | 7.17 | 0.33 | 0.180 | ( | 0.184) | 0.162 | | 0.018 |
| 87 | 7.25 | 0.33 | 0.180 | ( | 0.183) | 0.162 | | 0.018 |
| 88 | 7.33 | 0.37 | 0.198 | ( | 0.182) | 0.178 | | 0.020 |
| 89 | 7.42 | 0.37 | 0.198 | ( | 0.182) | 0.178 | | 0.020 |
| 90 | 7.50 | 0.37 | 0.198 | ( | 0.181) | 0.178 | | 0.020 |
| 91 | 7.58 | 0.40 | 0.216 | | 0.180 | ( | 0.194) | 0.036 |
| 92 | 7.67 | 0.40 | 0.216 | | 0.179 | ( | 0.194) | 0.037 |
| 93 | 7.75 | 0.40 | 0.216 | | 0.178 | ( | 0.194) | 0.038 |
| 94 | 7.83 | 0.43 | 0.234 | | 0.177 | ( | 0.211) | 0.057 |
| 95 | 7.92 | 0.43 | 0.234 | | 0.177 | ( | 0.211) | 0.057 |
| 96 | 8.00 | 0.43 | 0.234 | | 0.176 | ( | 0.211) | 0.058 |
| 97 | 8.08 | 0.50 | 0.270 | | 0.175 | ( | 0.243) | 0.095 |
| 98 | 8.17 | 0.50 | 0.270 | | 0.174 | ( | 0.243) | 0.096 |
| 99 | 8.25 | 0.50 | 0.270 | | 0.173 | ( | 0.243) | 0.097 |
| 100 | 8.33 | 0.50 | 0.270 | | 0.173 | ( | 0.243) | 0.097 |
| 101 | 8.42 | 0.50 | 0.270 | | 0.172 | ( | 0.243) | 0.098 |
| 102 | 8.50 | 0.50 | 0.270 | | 0.171 | ( | 0.243) | 0.099 |
| 103 | 8.58 | 0.53 | 0.288 | | 0.170 | ( | 0.259) | 0.118 |
| 104 | 8.67 | 0.53 | 0.288 | | 0.169 | ( | 0.259) | 0.119 |
| 105 | 8.75 | 0.53 | 0.288 | | 0.169 | ( | 0.259) | 0.119 |
| 106 | 8.83 | 0.57 | 0.306 | | 0.168 | ( | 0.275) | 0.138 |
| 107 | 8.92 | 0.57 | 0.306 | | 0.167 | ( | 0.275) | 0.139 |
| 108 | 9.00 | 0.57 | 0.306 | | 0.166 | ( | 0.275) | 0.140 |
| 109 | 9.08 | 0.63 | 0.342 | | 0.165 | ( | 0.308) | 0.177 |
| 110 | 9.17 | 0.63 | 0.342 | | 0.165 | ( | 0.308) | 0.177 |
| 111 | 9.25 | 0.63 | 0.342 | | 0.164 | ( | 0.308) | 0.178 |
| 112 | 9.33 | 0.67 | 0.360 | | 0.163 | ( | 0.324) | 0.197 |
| 113 | 9.42 | 0.67 | 0.360 | | 0.162 | ( | 0.324) | 0.198 |
| 114 | 9.50 | 0.67 | 0.360 | | 0.161 | ( | 0.324) | 0.199 |
| 115 | 9.58 | 0.70 | 0.378 | | 0.161 | ( | 0.340) | 0.217 |
| 116 | 9.67 | 0.70 | 0.378 | | 0.160 | ( | 0.340) | 0.218 |
| 117 | 9.75 | 0.70 | 0.378 | | 0.159 | ( | 0.340) | 0.219 |
| 118 | 9.83 | 0.73 | 0.396 | | 0.158 | ( | 0.356) | 0.238 |
| 119 | 9.92 | 0.73 | 0.396 | | 0.158 | ( | 0.356) | 0.238 |
| 120 | 10.00 | 0.73 | 0.396 | | 0.157 | ( | 0.356) | 0.239 |
| 121 | 10.08 | 0.50 | 0.270 | | 0.156 | ( | 0.243) | 0.114 |
| 122 | 10.17 | 0.50 | 0.270 | | 0.155 | ( | 0.243) | 0.115 |
| 123 | 10.25 | 0.50 | 0.270 | | 0.155 | ( | 0.243) | 0.115 |
| 124 | 10.33 | 0.50 | 0.270 | | 0.154 | ( | 0.243) | 0.116 |
| 125 | 10.42 | 0.50 | 0.270 | | 0.153 | ( | 0.243) | 0.117 |
| 126 | 10.50 | 0.50 | 0.270 | | 0.152 | ( | 0.243) | 0.118 |
| 127 | 10.58 | 0.67 | 0.360 | | 0.152 | ( | 0.324) | 0.208 |
| 128 | 10.67 | 0.67 | 0.360 | | 0.151 | ( | 0.324) | 0.209 |
| 129 | 10.75 | 0.67 | 0.360 | | 0.150 | ( | 0.324) | 0.210 |
| 130 | 10.83 | 0.67 | 0.360 | | 0.149 | ( | 0.324) | 0.211 |

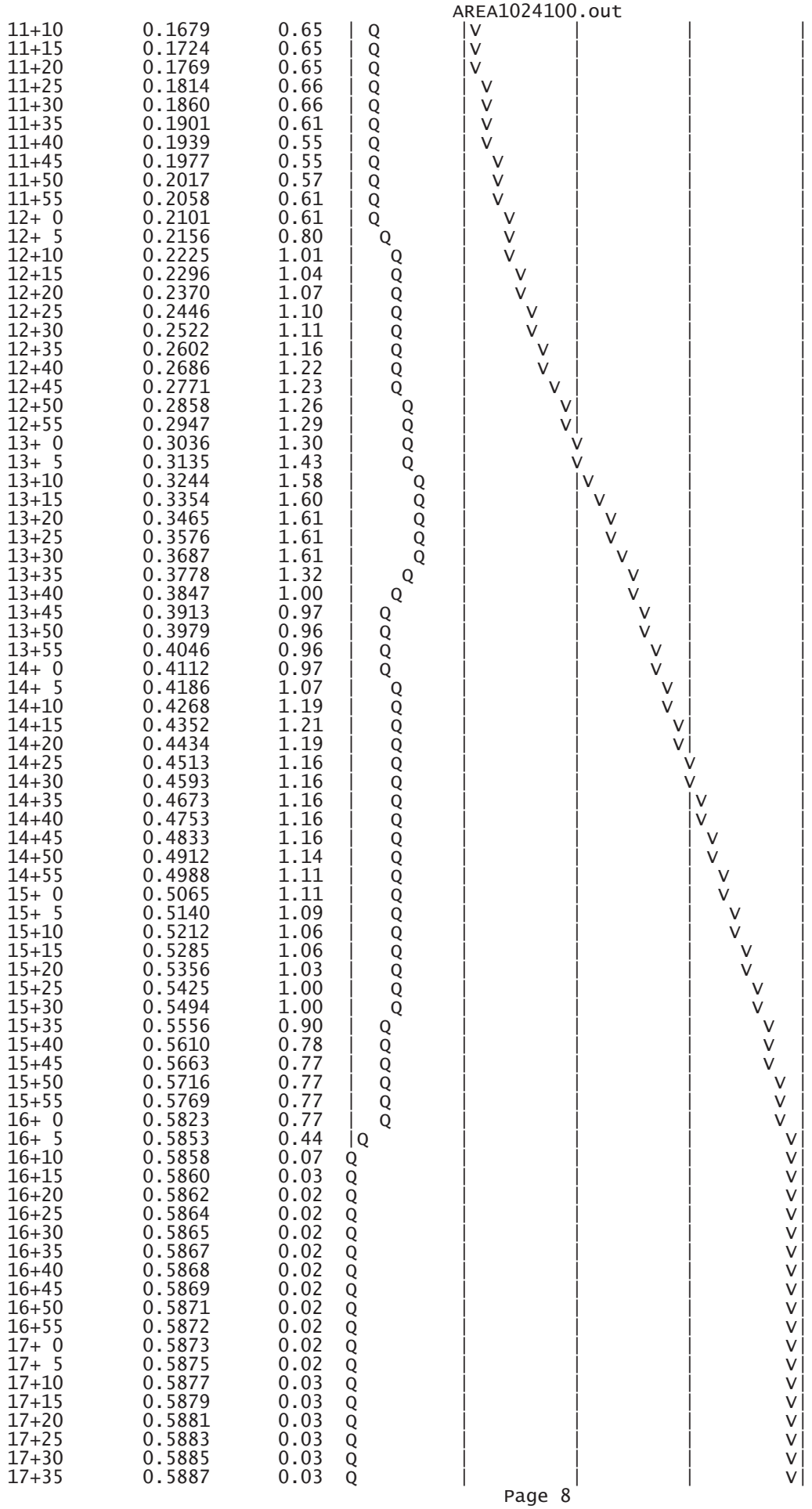
| | | | | | | |
|---|---|---|---|---|---|---|
| 131 | 10.92 | 0.67 | 0.360 | 0.149 | ( 0.324) | 0.211 |
| 132 | 11.00 | 0.67 | 0.360 | 0.148 | ( 0.324) | 0.212 |
| 133 | 11.08 | 0.63 | 0.342 | 0.147 | ( 0.308) | 0.195 |
| 134 | 11.17 | 0.63 | 0.342 | 0.146 | ( 0.308) | 0.196 |
| 135 | 11.25 | 0.63 | 0.342 | 0.146 | ( 0.308) | 0.196 |
| 136 | 11.33 | 0.63 | 0.342 | 0.145 | ( 0.308) | 0.197 |
| 137 | 11.42 | 0.63 | 0.342 | 0.144 | ( 0.308) | 0.198 |
| 138 | 11.50 | 0.63 | 0.342 | 0.144 | ( 0.308) | 0.198 |
| 139 | 11.58 | 0.57 | 0.306 | 0.143 | ( 0.275) | 0.163 |
| 140 | 11.67 | 0.57 | 0.306 | 0.142 | ( 0.275) | 0.164 |
| 141 | 11.75 | 0.57 | 0.306 | 0.141 | ( 0.275) | 0.165 |
| 142 | 11.83 | 0.60 | 0.324 | 0.141 | ( 0.292) | 0.183 |
| 143 | 11.92 | 0.60 | 0.324 | 0.140 | ( 0.292) | 0.184 |
| 144 | 12.00 | 0.60 | 0.324 | 0.139 | ( 0.292) | 0.185 |
| 145 | 12.08 | 0.83 | 0.450 | 0.139 | ( 0.405) | 0.311 |
| 146 | 12.17 | 0.83 | 0.450 | 0.138 | ( 0.405) | 0.312 |
| 147 | 12.25 | 0.83 | 0.450 | 0.137 | ( 0.405) | 0.313 |
| 148 | 12.33 | 0.87 | 0.468 | 0.137 | ( 0.421) | 0.331 |
| 149 | 12.42 | 0.87 | 0.468 | 0.136 | ( 0.421) | 0.332 |
| 150 | 12.50 | 0.87 | 0.468 | 0.135 | ( 0.421) | 0.333 |
| 151 | 12.58 | 0.93 | 0.504 | 0.135 | ( 0.454) | 0.369 |
| 152 | 12.67 | 0.93 | 0.504 | 0.134 | ( 0.454) | 0.370 |
| 153 | 12.75 | 0.93 | 0.504 | 0.133 | ( 0.454) | 0.371 |
| 154 | 12.83 | 0.97 | 0.522 | 0.133 | ( 0.470) | 0.389 |
| 155 | 12.92 | 0.97 | 0.522 | 0.132 | ( 0.470) | 0.390 |
| 156 | 13.00 | 0.97 | 0.522 | 0.131 | ( 0.470) | 0.391 |
| 157 | 13.08 | 1.13 | 0.612 | 0.131 | ( 0.551) | 0.481 |
| 158 | 13.17 | 1.13 | 0.612 | 0.130 | ( 0.551) | 0.482 |
| 159 | 13.25 | 1.13 | 0.612 | 0.129 | ( 0.551) | 0.483 |
| 160 | 13.33 | 1.13 | 0.612 | 0.129 | ( 0.551) | 0.483 |
| 161 | 13.42 | 1.13 | 0.612 | 0.128 | ( 0.551) | 0.484 |
| 162 | 13.50 | 1.13 | 0.612 | 0.127 | ( 0.551) | 0.485 |
| 163 | 13.58 | 0.77 | 0.414 | 0.127 | ( 0.373) | 0.287 |
| 164 | 13.67 | 0.77 | 0.414 | 0.126 | ( 0.373) | 0.288 |
| 165 | 13.75 | 0.77 | 0.414 | 0.125 | ( 0.373) | 0.289 |
| 166 | 13.83 | 0.77 | 0.414 | 0.125 | ( 0.373) | 0.289 |
| 167 | 13.92 | 0.77 | 0.414 | 0.124 | ( 0.373) | 0.290 |
| 168 | 14.00 | 0.77 | 0.414 | 0.123 | ( 0.373) | 0.291 |
| 169 | 14.08 | 0.90 | 0.486 | 0.123 | ( 0.437) | 0.363 |
| 170 | 14.17 | 0.90 | 0.486 | 0.122 | ( 0.437) | 0.364 |
| 171 | 14.25 | 0.90 | 0.486 | 0.122 | ( 0.437) | 0.364 |
| 172 | 14.33 | 0.87 | 0.468 | 0.121 | ( 0.421) | 0.347 |
| 173 | 14.42 | 0.87 | 0.468 | 0.120 | ( 0.421) | 0.348 |
| 174 | 14.50 | 0.87 | 0.468 | 0.120 | ( 0.421) | 0.348 |
| 175 | 14.58 | 0.87 | 0.468 | 0.119 | ( 0.421) | 0.349 |
| 176 | 14.67 | 0.87 | 0.468 | 0.118 | ( 0.421) | 0.350 |
| 177 | 14.75 | 0.87 | 0.468 | 0.118 | ( 0.421) | 0.350 |
| 178 | 14.83 | 0.83 | 0.450 | 0.117 | ( 0.405) | 0.333 |
| 179 | 14.92 | 0.83 | 0.450 | 0.117 | ( 0.405) | 0.333 |
| 180 | 15.00 | 0.83 | 0.450 | 0.116 | ( 0.405) | 0.334 |
| 181 | 15.08 | 0.80 | 0.432 | 0.115 | ( 0.389) | 0.317 |
| 182 | 15.17 | 0.80 | 0.432 | 0.115 | ( 0.389) | 0.317 |
| 183 | 15.25 | 0.80 | 0.432 | 0.114 | ( 0.389) | 0.318 |
| 184 | 15.33 | 0.77 | 0.414 | 0.114 | ( 0.373) | 0.300 |
| 185 | 15.42 | 0.77 | 0.414 | 0.113 | ( 0.373) | 0.301 |
| 186 | 15.50 | 0.77 | 0.414 | 0.113 | ( 0.373) | 0.301 |
| 187 | 15.58 | 0.63 | 0.342 | 0.112 | ( 0.308) | 0.230 |
| 188 | 15.67 | 0.63 | 0.342 | 0.111 | ( 0.308) | 0.231 |
| 189 | 15.75 | 0.63 | 0.342 | 0.111 | ( 0.308) | 0.231 |
| 190 | 15.83 | 0.63 | 0.342 | 0.110 | ( 0.308) | 0.232 |
| 191 | 15.92 | 0.63 | 0.342 | 0.110 | ( 0.308) | 0.232 |
| 192 | 16.00 | 0.63 | 0.342 | 0.109 | ( 0.308) | 0.233 |
| 193 | 16.08 | 0.13 | 0.072 | ( 0.109) | 0.065 | 0.007 |
| 194 | 16.17 | 0.13 | 0.072 | ( 0.108) | 0.065 | 0.007 |
| 195 | 16.25 | 0.13 | 0.072 | ( 0.107) | 0.065 | 0.007 |
| 196 | 16.33 | 0.13 | 0.072 | ( 0.107) | 0.065 | 0.007 |
| 197 | 16.42 | 0.13 | 0.072 | ( 0.106) | 0.065 | 0.007 |
| 198 | 16.50 | 0.13 | 0.072 | ( 0.106) | 0.065 | 0.007 |
| 199 | 16.58 | 0.10 | 0.054 | ( 0.105) | 0.049 | 0.005 |
| 200 | 16.67 | 0.10 | 0.054 | ( 0.105) | 0.049 | 0.005 |
| 201 | 16.75 | 0.10 | 0.054 | ( 0.104) | 0.049 | 0.005 |
| 202 | 16.83 | 0.10 | 0.054 | ( 0.104) | 0.049 | 0.005 |
| 203 | 16.92 | 0.10 | 0.054 | ( 0.103) | 0.049 | 0.005 |
| 204 | 17.00 | 0.10 | 0.054 | ( 0.103) | 0.049 | 0.005 |
| 205 | 17.08 | 0.17 | 0.090 | ( 0.102) | 0.081 | 0.009 |
| 206 | 17.17 | 0.17 | 0.090 | ( 0.102) | 0.081 | 0.009 |
| 207 | 17.25 | 0.17 | 0.090 | ( 0.101) | 0.081 | 0.009 |
| 208 | 17.33 | 0.17 | 0.090 | ( 0.101) | 0.081 | 0.009 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 209 | 17.42 | 0.17 | 0.090 | ( 0.100) | 0.081 | 0.009 |
| 210 | 17.50 | 0.17 | 0.090 | ( 0.100) | 0.081 | 0.009 |
| 211 | 17.58 | 0.17 | 0.090 | ( 0.099) | 0.081 | 0.009 |
| 212 | 17.67 | 0.17 | 0.090 | ( 0.099) | 0.081 | 0.009 |
| 213 | 17.75 | 0.17 | 0.090 | ( 0.098) | 0.081 | 0.009 |
| 214 | 17.83 | 0.13 | 0.072 | ( 0.098) | 0.065 | 0.007 |
| 215 | 17.92 | 0.13 | 0.072 | ( 0.097) | 0.065 | 0.007 |
| 216 | 18.00 | 0.13 | 0.072 | ( 0.097) | 0.065 | 0.007 |
| 217 | 18.08 | 0.13 | 0.072 | ( 0.096) | 0.065 | 0.007 |
| 218 | 18.17 | 0.13 | 0.072 | ( 0.096) | 0.065 | 0.007 |
| 219 | 18.25 | 0.13 | 0.072 | ( 0.095) | 0.065 | 0.007 |
| 220 | 18.33 | 0.13 | 0.072 | ( 0.095) | 0.065 | 0.007 |
| 221 | 18.42 | 0.13 | 0.072 | ( 0.094) | 0.065 | 0.007 |
| 222 | 18.50 | 0.13 | 0.072 | ( 0.094) | 0.065 | 0.007 |
| 223 | 18.58 | 0.10 | 0.054 | ( 0.093) | 0.049 | 0.005 |
| 224 | 18.67 | 0.10 | 0.054 | ( 0.093) | 0.049 | 0.005 |
| 225 | 18.75 | 0.10 | 0.054 | ( 0.092) | 0.049 | 0.005 |
| 226 | 18.83 | 0.07 | 0.036 | ( 0.092) | 0.032 | 0.004 |
| 227 | 18.92 | 0.07 | 0.036 | ( 0.092) | 0.032 | 0.004 |
| 228 | 19.00 | 0.07 | 0.036 | ( 0.091) | 0.032 | 0.004 |
| 229 | 19.08 | 0.10 | 0.054 | ( 0.091) | 0.049 | 0.005 |
| 230 | 19.17 | 0.10 | 0.054 | ( 0.090) | 0.049 | 0.005 |
| 231 | 19.25 | 0.10 | 0.054 | ( 0.090) | 0.049 | 0.005 |
| 232 | 19.33 | 0.13 | 0.072 | ( 0.089) | 0.065 | 0.007 |
| 233 | 19.42 | 0.13 | 0.072 | ( 0.089) | 0.065 | 0.007 |
| 234 | 19.50 | 0.13 | 0.072 | ( 0.089) | 0.065 | 0.007 |
| 235 | 19.58 | 0.10 | 0.054 | ( 0.088) | 0.049 | 0.005 |
| 236 | 19.67 | 0.10 | 0.054 | ( 0.088) | 0.049 | 0.005 |
| 237 | 19.75 | 0.10 | 0.054 | ( 0.087) | 0.049 | 0.005 |
| 238 | 19.83 | 0.07 | 0.036 | ( 0.087) | 0.032 | 0.004 |
| 239 | 19.92 | 0.07 | 0.036 | ( 0.087) | 0.032 | 0.004 |
| 240 | 20.00 | 0.07 | 0.036 | ( 0.086) | 0.032 | 0.004 |
| 241 | 20.08 | 0.10 | 0.054 | ( 0.086) | 0.049 | 0.005 |
| 242 | 20.17 | 0.10 | 0.054 | ( 0.086) | 0.049 | 0.005 |
| 243 | 20.25 | 0.10 | 0.054 | ( 0.085) | 0.049 | 0.005 |
| 244 | 20.33 | 0.10 | 0.054 | ( 0.085) | 0.049 | 0.005 |
| 245 | 20.42 | 0.10 | 0.054 | ( 0.084) | 0.049 | 0.005 |
| 246 | 20.50 | 0.10 | 0.054 | ( 0.084) | 0.049 | 0.005 |
| 247 | 20.58 | 0.10 | 0.054 | ( 0.084) | 0.049 | 0.005 |
| 248 | 20.67 | 0.10 | 0.054 | ( 0.083) | 0.049 | 0.005 |
| 249 | 20.75 | 0.10 | 0.054 | ( 0.083) | 0.049 | 0.005 |
| 250 | 20.83 | 0.07 | 0.036 | ( 0.083) | 0.032 | 0.004 |
| 251 | 20.92 | 0.07 | 0.036 | ( 0.082) | 0.032 | 0.004 |
| 252 | 21.00 | 0.07 | 0.036 | ( 0.082) | 0.032 | 0.004 |
| 253 | 21.08 | 0.10 | 0.054 | ( 0.082) | 0.049 | 0.005 |
| 254 | 21.17 | 0.10 | 0.054 | ( 0.081) | 0.049 | 0.005 |
| 255 | 21.25 | 0.10 | 0.054 | ( 0.081) | 0.049 | 0.005 |
| 256 | 21.33 | 0.07 | 0.036 | ( 0.081) | 0.032 | 0.004 |
| 257 | 21.42 | 0.07 | 0.036 | ( 0.080) | 0.032 | 0.004 |
| 258 | 21.50 | 0.07 | 0.036 | ( 0.080) | 0.032 | 0.004 |
| 259 | 21.58 | 0.10 | 0.054 | ( 0.080) | 0.049 | 0.005 |
| 260 | 21.67 | 0.10 | 0.054 | ( 0.080) | 0.049 | 0.005 |
| 261 | 21.75 | 0.10 | 0.054 | ( 0.079) | 0.049 | 0.005 |
| 262 | 21.83 | 0.07 | 0.036 | ( 0.079) | 0.032 | 0.004 |
| 263 | 21.92 | 0.07 | 0.036 | ( 0.079) | 0.032 | 0.004 |
| 264 | 22.00 | 0.07 | 0.036 | ( 0.078) | 0.032 | 0.004 |
| 265 | 22.08 | 0.10 | 0.054 | ( 0.078) | 0.049 | 0.005 |
| 266 | 22.17 | 0.10 | 0.054 | ( 0.078) | 0.049 | 0.005 |
| 267 | 22.25 | 0.10 | 0.054 | ( 0.078) | 0.049 | 0.005 |
| 268 | 22.33 | 0.07 | 0.036 | ( 0.077) | 0.032 | 0.004 |
| 269 | 22.42 | 0.07 | 0.036 | ( 0.077) | 0.032 | 0.004 |
| 270 | 22.50 | 0.07 | 0.036 | ( 0.077) | 0.032 | 0.004 |
| 271 | 22.58 | 0.07 | 0.036 | ( 0.077) | 0.032 | 0.004 |
| 272 | 22.67 | 0.07 | 0.036 | ( 0.077) | 0.032 | 0.004 |
| 273 | 22.75 | 0.07 | 0.036 | ( 0.076) | 0.032 | 0.004 |
| 274 | 22.83 | 0.07 | 0.036 | ( 0.076) | 0.032 | 0.004 |
| 275 | 22.92 | 0.07 | 0.036 | ( 0.076) | 0.032 | 0.004 |
| 276 | 23.00 | 0.07 | 0.036 | ( 0.076) | 0.032 | 0.004 |
| 277 | 23.08 | 0.07 | 0.036 | ( 0.076) | 0.032 | 0.004 |
| 278 | 23.17 | 0.07 | 0.036 | ( 0.075) | 0.032 | 0.004 |
| 279 | 23.25 | 0.07 | 0.036 | ( 0.075) | 0.032 | 0.004 |
| 280 | 23.33 | 0.07 | 0.036 | ( 0.075) | 0.032 | 0.004 |
| 281 | 23.42 | 0.07 | 0.036 | ( 0.075) | 0.032 | 0.004 |
| 282 | 23.50 | 0.07 | 0.036 | ( 0.075) | 0.032 | 0.004 |
| 283 | 23.58 | 0.07 | 0.036 | ( 0.075) | 0.032 | 0.004 |
| 284 | 23.67 | 0.07 | 0.036 | ( 0.075) | 0.032 | 0.004 |
| 285 | 23.75 | 0.07 | 0.036 | ( 0.074) | 0.032 | 0.004 |
| 286 | 23.83 | 0.07 | 0.036 | ( 0.074) | 0.032 | 0.004 |

```
287  23.92     0.07      0.036       (  0.074)       0.032        0.004
288  24.00     0.07      0.036       (  0.074)       0.032        0.004
               (Loss Rate Not Used)
    Sum =     100.0                                   Sum =    26.1
       Flood volume = Effective rainfall      2.17(In)
        times area       3.3(Ac.)/[(In)/(Ft.)] =       0.6(Ac.Ft)
       Total soil loss =      2.33(In)
       Total soil loss =     0.640(Ac.Ft)
       Total rainfall =      4.50(In)
       Flood volume =       26028.5 Cubic Feet
       Total soil loss =       27876.7 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =      1.612(CFS)
       ---------------------------------------------------------------------
       +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
       ---------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))

       ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ----------------------------------------------------------------------
   0+ 5       0.0000      0.01  Q          |         |         |         |
   0+10       0.0001      0.01  Q          |         |         |         |
   0+15       0.0002      0.01  Q          |         |         |         |
   0+20       0.0003      0.01  Q          |         |         |         |
   0+25       0.0004      0.02  Q          |         |         |         |
   0+30       0.0005      0.02  Q          |         |         |         |
   0+35       0.0007      0.02  Q          |         |         |         |
   0+40       0.0008      0.02  Q          |         |         |         |
   0+45       0.0009      0.02  Q          |         |         |         |
   0+50       0.0011      0.02  Q          |         |         |         |
   0+55       0.0012      0.02  Q          |         |         |         |
   1+ 0       0.0014      0.02  Q          |         |         |         |
   1+ 5       0.0015      0.02  Q          |         |         |         |
   1+10       0.0017      0.02  Q          |         |         |         |
   1+15       0.0018      0.02  Q          |         |         |         |
   1+20       0.0019      0.02  Q          |         |         |         |
   1+25       0.0020      0.02  Q          |         |         |         |
   1+30       0.0021      0.02  Q          |         |         |         |
   1+35       0.0023      0.02  Q          |         |         |         |
   1+40       0.0024      0.02  Q          |         |         |         |
   1+45       0.0025      0.02  Q          |         |         |         |
   1+50       0.0027      0.02  Q          |         |         |         |
   1+55       0.0028      0.02  Q          |         |         |         |
   2+ 0       0.0030      0.02  Q          |         |         |         |
   2+ 5       0.0032      0.02  Q          |         |         |         |
   2+10       0.0033      0.02  Q          |         |         |         |
   2+15       0.0035      0.02  Q          |         |         |         |
   2+20       0.0036      0.02  Q          |         |         |         |
   2+25       0.0038      0.02  Q          |         |         |         |
   2+30       0.0040      0.02  Q          |         |         |         |
   2+35       0.0042      0.03  Q          |         |         |         |
   2+40       0.0044      0.03  Q          |         |         |         |
   2+45       0.0046      0.03  Q          |         |         |         |
   2+50       0.0048      0.03  Q          |         |         |         |
   2+55       0.0050      0.03  Q          |         |         |         |
   3+ 0       0.0052      0.03  Q          |         |         |         |
   3+ 5       0.0054      0.03  Q          |         |         |         |
   3+10       0.0056      0.03  Q          |         |         |         |
   3+15       0.0058      0.03  Q          |         |         |         |
   3+20       0.0060      0.03  Q          |         |         |         |
   3+25       0.0062      0.03  Q          |         |         |         |
   3+30       0.0064      0.03  Q          |         |         |         |
   3+35       0.0066      0.03  Q          |         |         |         |
   3+40       0.0068      0.03  Q          |         |         |         |
   3+45       0.0070      0.03  Q          |         |         |         |
   3+50       0.0073      0.03  Q          |         |         |         |
   3+55       0.0075      0.04  Q          |         |         |         |
   4+ 0       0.0078      0.04  Q          |         |         |         |
   4+ 5       0.0080      0.04  Q          |         |         |         |
   4+10       0.0083      0.04  Q          |         |         |         |
   4+15       0.0085      0.04  Q          |         |         |         |
   4+20       0.0088      0.04  Q          |         |         |         |
   4+25       0.0091      0.04  Q          |         |         |         |
   4+30       0.0093      0.04  Q          |         |         |         |
   4+35       0.0096      0.04  Q          |         |         |         |
```

```
 4+40       0.0099      0.04  Q          |           |           |           |
 4+45       0.0102      0.04  Q          |           |           |           |
 4+50       0.0105      0.04  Q          |           |           |           |
 4+55       0.0108      0.05  Q          |           |           |           |
 5+ 0       0.0112      0.05  Q          |           |           |           |
 5+ 5       0.0115      0.04  Q          |           |           |           |
 5+10       0.0117      0.04  Q          |           |           |           |
 5+15       0.0120      0.04  Q          |           |           |           |
 5+20       0.0122      0.04  Q          |           |           |           |
 5+25       0.0125      0.04  Q          |           |           |           |
 5+30       0.0128      0.04  Q          |           |           |           |
 5+35       0.0131      0.04  Q          |           |           |           |
 5+40       0.0134      0.05  Q          |           |           |           |
 5+45       0.0138      0.05  Q          |           |           |           |
 5+50       0.0141      0.05  Q          |           |           |           |
 5+55       0.0144      0.05  Q          |           |           |           |
 6+ 0       0.0148      0.05  Q          |           |           |           |
 6+ 5       0.0151      0.05  QV         |           |           |           |
 6+10       0.0155      0.05  QV         |           |           |           |
 6+15       0.0159      0.05  QV         |           |           |           |
 6+20       0.0162      0.05  QV         |           |           |           |
 6+25       0.0166      0.05  QV         |           |           |           |
 6+30       0.0170      0.05  QV         |           |           |           |
 6+35       0.0174      0.06  QV         |           |           |           |
 6+40       0.0178      0.06  QV         |           |           |           |
 6+45       0.0182      0.06  QV         |           |           |           |
 6+50       0.0186      0.06  QV         |           |           |           |
 6+55       0.0190      0.06  QV         |           |           |           |
 7+ 0       0.0194      0.06  QV         |           |           |           |
 7+ 5       0.0198      0.06  QV         |           |           |           |
 7+10       0.0202      0.06  QV         |           |           |           |
 7+15       0.0207      0.06  QV         |           |           |           |
 7+20       0.0211      0.06  QV         |           |           |           |
 7+25       0.0215      0.07  QV         |           |           |           |
 7+30       0.0220      0.07  QV         |           |           |           |
 7+35       0.0226      0.09  QV         |           |           |           |
 7+40       0.0234      0.12  QV         |           |           |           |
 7+45       0.0243      0.12  QV         |           |           |           |
 7+50       0.0253      0.15  QV         |           |           |           |
 7+55       0.0266      0.19  QV         |           |           |           |
 8+ 0       0.0279      0.19  QV         |           |           |           |
 8+ 5       0.0296      0.25  QV         |           |           |           |
 8+10       0.0317      0.31  |QV         |           |           |           |
 8+15       0.0339      0.32  |QV         |           |           |           |
 8+20       0.0362      0.32  |QV         |           |           |           |
 8+25       0.0384      0.33  |QV         |           |           |           |
 8+30       0.0407      0.33  |QV         |           |           |           |
 8+35       0.0431      0.36  |QV         |           |           |           |
 8+40       0.0458      0.39  |Q V        |           |           |           |
 8+45       0.0485      0.40  |Q V        |           |           |           |
 8+50       0.0514      0.42  |Q V        |           |           |           |
 8+55       0.0546      0.46  |Q V        |           |           |           |
 9+ 0       0.0578      0.46  |Q V        |           |           |           |
 9+ 5       0.0614      0.52  | Q V       |           |           |           |
 9+10       0.0654      0.58  | Q V       |           |           |           |
 9+15       0.0694      0.59  | Q V       |           |           |           |
 9+20       0.0737      0.62  | Q V       |           |           |           |
 9+25       0.0782      0.65  | Q  V      |           |           |           |
 9+30       0.0827      0.66  | Q  V      |           |           |           |
 9+35       0.0875      0.69  | Q  V      |           |           |           |
 9+40       0.0924      0.72  | Q   V     |           |           |           |
 9+45       0.0974      0.73  | Q   V     |           |           |           |
 9+50       0.1026      0.76  |  Q  V     |           |           |           |
 9+55       0.1080      0.79  |  Q   V    |           |           |           |
10+ 0       0.1135      0.79  |  Q   V    |           |           |           |
10+ 5       0.1177      0.61  | Q    V    |           |           |           |
10+10       0.1205      0.41  |Q      V   |           |           |           |
10+15       0.1232      0.39  |Q      V   |           |           |           |
10+20       0.1258      0.38  |Q      V   |           |           |           |
10+25       0.1285      0.39  |Q      V   |           |           |           |
10+30       0.1312      0.39  |Q      V   |           |           |           |
10+35       0.1348      0.52  | Q      V  |           |           |           |
10+40       0.1394      0.67  | Q      V  |           |           |           |
10+45       0.1442      0.69  | Q      V  |           |           |           |
10+50       0.1490      0.70  | Q      V  |           |           |           |
10+55       0.1539      0.70  | Q       V |           |           |           |
11+ 0       0.1587      0.70  | Q       V |           |           |           |
11+ 5       0.1634      0.68  | Q       V |           |           |           |
```



| | | | |
|---|---|---|---|
| 11+10 | 0.1679 | 0.65 | Q V |
| 11+15 | 0.1724 | 0.65 | Q V |
| 11+20 | 0.1769 | 0.65 | Q V |
| 11+25 | 0.1814 | 0.66 | Q V |
| 11+30 | 0.1860 | 0.66 | Q V |
| 11+35 | 0.1901 | 0.61 | Q V |
| 11+40 | 0.1939 | 0.55 | Q V |
| 11+45 | 0.1977 | 0.55 | Q V |
| 11+50 | 0.2017 | 0.57 | Q V |
| 11+55 | 0.2058 | 0.61 | Q V |
| 12+ 0 | 0.2101 | 0.61 | Q V |
| 12+ 5 | 0.2156 | 0.80 | Q V |
| 12+10 | 0.2225 | 1.01 | Q V |
| 12+15 | 0.2296 | 1.04 | Q V |
| 12+20 | 0.2370 | 1.07 | Q V |
| 12+25 | 0.2446 | 1.10 | Q V |
| 12+30 | 0.2522 | 1.11 | Q V |
| 12+35 | 0.2602 | 1.16 | Q V |
| 12+40 | 0.2686 | 1.22 | Q V |
| 12+45 | 0.2771 | 1.23 | Q V |
| 12+50 | 0.2858 | 1.26 | Q V |
| 12+55 | 0.2947 | 1.29 | Q V |
| 13+ 0 | 0.3036 | 1.30 | Q V |
| 13+ 5 | 0.3135 | 1.43 | Q V |
| 13+10 | 0.3244 | 1.58 | Q V |
| 13+15 | 0.3354 | 1.60 | Q V |
| 13+20 | 0.3465 | 1.61 | Q V |
| 13+25 | 0.3576 | 1.61 | Q V |
| 13+30 | 0.3687 | 1.61 | Q V |
| 13+35 | 0.3778 | 1.32 | Q V |
| 13+40 | 0.3847 | 1.00 | Q V |
| 13+45 | 0.3913 | 0.97 | Q V |
| 13+50 | 0.3979 | 0.96 | Q V |
| 13+55 | 0.4046 | 0.96 | Q V |
| 14+ 0 | 0.4112 | 0.97 | Q V |
| 14+ 5 | 0.4186 | 1.07 | Q V |
| 14+10 | 0.4268 | 1.19 | Q V |
| 14+15 | 0.4352 | 1.21 | Q V |
| 14+20 | 0.4434 | 1.19 | Q V |
| 14+25 | 0.4513 | 1.16 | Q V |
| 14+30 | 0.4593 | 1.16 | Q V |
| 14+35 | 0.4673 | 1.16 | Q V |
| 14+40 | 0.4753 | 1.16 | Q V |
| 14+45 | 0.4833 | 1.16 | Q V |
| 14+50 | 0.4912 | 1.14 | Q V |
| 14+55 | 0.4988 | 1.11 | Q V |
| 15+ 0 | 0.5065 | 1.11 | Q V |
| 15+ 5 | 0.5140 | 1.09 | Q V |
| 15+10 | 0.5212 | 1.06 | Q V |
| 15+15 | 0.5285 | 1.06 | Q V |
| 15+20 | 0.5356 | 1.03 | Q V |
| 15+25 | 0.5425 | 1.00 | Q V |
| 15+30 | 0.5494 | 1.00 | Q V |
| 15+35 | 0.5556 | 0.90 | Q V |
| 15+40 | 0.5610 | 0.78 | Q V |
| 15+45 | 0.5663 | 0.77 | Q V |
| 15+50 | 0.5716 | 0.77 | Q V |
| 15+55 | 0.5769 | 0.77 | Q V |
| 16+ 0 | 0.5823 | 0.77 | Q V |
| 16+ 5 | 0.5853 | 0.44 | Q V |
| 16+10 | 0.5858 | 0.07 | Q V |
| 16+15 | 0.5860 | 0.03 | Q V |
| 16+20 | 0.5862 | 0.02 | Q V |
| 16+25 | 0.5864 | 0.02 | Q V |
| 16+30 | 0.5865 | 0.02 | Q V |
| 16+35 | 0.5867 | 0.02 | Q V |
| 16+40 | 0.5868 | 0.02 | Q V |
| 16+45 | 0.5869 | 0.02 | Q V |
| 16+50 | 0.5871 | 0.02 | Q V |
| 16+55 | 0.5872 | 0.02 | Q V |
| 17+ 0 | 0.5873 | 0.02 | Q V |
| 17+ 5 | 0.5875 | 0.02 | Q V |
| 17+10 | 0.5877 | 0.03 | Q V |
| 17+15 | 0.5879 | 0.03 | Q V |
| 17+20 | 0.5881 | 0.03 | Q V |
| 17+25 | 0.5883 | 0.03 | Q V |
| 17+30 | 0.5885 | 0.03 | Q V |
| 17+35 | 0.5887 | 0.03 | Q V |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+40 | 0.5889 | 0.03 | Q | \| | \| | \| | V\| |
| 17+45 | 0.5891 | 0.03 | Q | \| | \| | \| | V\| |
| 17+50 | 0.5893 | 0.03 | Q | \| | \| | \| | V\| |
| 17+55 | 0.5895 | 0.02 | Q | \| | \| | \| | V\| |
| 18+ 0 | 0.5896 | 0.02 | Q | \| | \| | \| | V\| |
| 18+ 5 | 0.5898 | 0.02 | Q | \| | \| | \| | V\| |
| 18+10 | 0.5900 | 0.02 | Q | \| | \| | \| | V\| |
| 18+15 | 0.5901 | 0.02 | Q | \| | \| | \| | V\| |
| 18+20 | 0.5903 | 0.02 | Q | \| | \| | \| | V\| |
| 18+25 | 0.5905 | 0.02 | Q | \| | \| | \| | V\| |
| 18+30 | 0.5906 | 0.02 | Q | \| | \| | \| | V\| |
| 18+35 | 0.5908 | 0.02 | Q | \| | \| | \| | V\| |
| 18+40 | 0.5909 | 0.02 | Q | \| | \| | \| | V\| |
| 18+45 | 0.5910 | 0.02 | Q | \| | \| | \| | V\| |
| 18+50 | 0.5911 | 0.02 | Q | \| | \| | \| | V\| |
| 18+55 | 0.5912 | 0.01 | Q | \| | \| | \| | V\| |
| 19+ 0 | 0.5913 | 0.01 | Q | \| | \| | \| | V\| |
| 19+ 5 | 0.5914 | 0.01 | Q | \| | \| | \| | V\| |
| 19+10 | 0.5915 | 0.02 | Q | \| | \| | \| | V\| |
| 19+15 | 0.5916 | 0.02 | Q | \| | \| | \| | V\| |
| 19+20 | 0.5918 | 0.02 | Q | \| | \| | \| | V\| |
| 19+25 | 0.5919 | 0.02 | Q | \| | \| | \| | V\| |
| 19+30 | 0.5921 | 0.02 | Q | \| | \| | \| | V\| |
| 19+35 | 0.5923 | 0.02 | Q | \| | \| | \| | V\| |
| 19+40 | 0.5924 | 0.02 | Q | \| | \| | \| | V\| |
| 19+45 | 0.5925 | 0.02 | Q | \| | \| | \| | V\| |
| 19+50 | 0.5926 | 0.02 | Q | \| | \| | \| | V\| |
| 19+55 | 0.5927 | 0.01 | Q | \| | \| | \| | V\| |
| 20+ 0 | 0.5928 | 0.01 | Q | \| | \| | \| | V\| |
| 20+ 5 | 0.5929 | 0.01 | Q | \| | \| | \| | V\| |
| 20+10 | 0.5930 | 0.02 | Q | \| | \| | \| | V\| |
| 20+15 | 0.5931 | 0.02 | Q | \| | \| | \| | V\| |
| 20+20 | 0.5932 | 0.02 | Q | \| | \| | \| | V\| |
| 20+25 | 0.5934 | 0.02 | Q | \| | \| | \| | V\| |
| 20+30 | 0.5935 | 0.02 | Q | \| | \| | \| | V\| |
| 20+35 | 0.5936 | 0.02 | Q | \| | \| | \| | V\| |
| 20+40 | 0.5937 | 0.02 | Q | \| | \| | \| | V\| |
| 20+45 | 0.5939 | 0.02 | Q | \| | \| | \| | V\| |
| 20+50 | 0.5940 | 0.02 | Q | \| | \| | \| | V\| |
| 20+55 | 0.5941 | 0.01 | Q | \| | \| | \| | V\| |
| 21+ 0 | 0.5941 | 0.01 | Q | \| | \| | \| | V\| |
| 21+ 5 | 0.5942 | 0.01 | Q | \| | \| | \| | V\| |
| 21+10 | 0.5944 | 0.02 | Q | \| | \| | \| | V\| |
| 21+15 | 0.5945 | 0.02 | Q | \| | \| | \| | V\| |
| 21+20 | 0.5946 | 0.02 | Q | \| | \| | \| | V\| |
| 21+25 | 0.5947 | 0.01 | Q | \| | \| | \| | V\| |
| 21+30 | 0.5948 | 0.01 | Q | \| | \| | \| | V\| |
| 21+35 | 0.5949 | 0.01 | Q | \| | \| | \| | V\| |
| 21+40 | 0.5950 | 0.02 | Q | \| | \| | \| | V\| |
| 21+45 | 0.5951 | 0.02 | Q | \| | \| | \| | V\| |
| 21+50 | 0.5952 | 0.02 | Q | \| | \| | \| | V\| |
| 21+55 | 0.5953 | 0.01 | Q | \| | \| | \| | V\| |
| 22+ 0 | 0.5954 | 0.01 | Q | \| | \| | \| | V\| |
| 22+ 5 | 0.5955 | 0.01 | Q | \| | \| | \| | V\| |
| 22+10 | 0.5956 | 0.02 | Q | \| | \| | \| | V\| |
| 22+15 | 0.5957 | 0.02 | Q | \| | \| | \| | V\| |
| 22+20 | 0.5958 | 0.02 | Q | \| | \| | \| | V\| |
| 22+25 | 0.5959 | 0.01 | Q | \| | \| | \| | V\| |
| 22+30 | 0.5960 | 0.01 | Q | \| | \| | \| | V\| |
| 22+35 | 0.5961 | 0.01 | Q | \| | \| | \| | V\| |
| 22+40 | 0.5962 | 0.01 | Q | \| | \| | \| | V\| |
| 22+45 | 0.5962 | 0.01 | Q | \| | \| | \| | V\| |
| 22+50 | 0.5963 | 0.01 | Q | \| | \| | \| | V\| |
| 22+55 | 0.5964 | 0.01 | Q | \| | \| | \| | V\| |
| 23+ 0 | 0.5965 | 0.01 | Q | \| | \| | \| | V\| |
| 23+ 5 | 0.5966 | 0.01 | Q | \| | \| | \| | V\| |
| 23+10 | 0.5967 | 0.01 | Q | \| | \| | \| | V\| |
| 23+15 | 0.5967 | 0.01 | Q | \| | \| | \| | V\| |
| 23+20 | 0.5968 | 0.01 | Q | \| | \| | \| | V\| |
| 23+25 | 0.5969 | 0.01 | Q | \| | \| | \| | V\| |
| 23+30 | 0.5970 | 0.01 | Q | \| | \| | \| | V\| |
| 23+35 | 0.5971 | 0.01 | Q | \| | \| | \| | V\| |
| 23+40 | 0.5971 | 0.01 | Q | \| | \| | \| | V\| |
| 23+45 | 0.5972 | 0.01 | Q | \| | \| | \| | V\| |
| 23+50 | 0.5973 | 0.01 | Q | \| | \| | \| | V\| |
| 23+55 | 0.5974 | 0.01 | Q | \| | \| | \| | V\| |
| 24+ 0 | 0.5975 | 0.01 | Q | \| | \| | \| | V\| |
| 24+ 5 | 0.5975 | 0.01 | Q | \| | \| | \| | V\| |

```
   24+10       0.5975      0.00  Q          |          |          |        V|
   24+15       0.5975      0.00  Q          |          |          |         V
-------------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014, Version 9.0
Study date 01/25/18 File: AREA111100.out

++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
----------------------------------------------------------------------

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 11
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

---

Drainage Area = 6.50(Ac.) = 0.010 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 6.50(Ac.) = 0.010 Sq. Mi.
Length along longest watercourse = 932.00(Ft.)
Length along longest watercourse measured to centroid = 457.00(Ft.)
Length along longest watercourse = 0.177 Mi.
Length along longest watercourse measured to centroid = 0.087 Mi.
Difference in elevation = 160.00(Ft.)
Slope along watercourse = 906.4378 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.047 Hr.
Lag time = 2.82 Min.
25% of lag time = 0.71 Min.
40% of lag time = 1.13 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.50 | 0.49 | 3.19 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.50 | 1.20 | 7.80 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.490(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 6.500 | 76.05 | 0.000 |

Total Area Entered = 6.50(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 76.0 | 88.6 | 0.146 | 0.000 | 0.146 | 1.000 | 0.146 |
| | | | | | Sum (F) = | 0.146 |

Area averaged mean soil loss (F) (In/Hr) = 0.146

Minimum soil loss rate ((In/Hr)) = 0.073
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

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| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 177.210 | 37.389 | 2.449 |
| 2 | 0.167 | 354.421 | 52.100 | 3.413 |
| 3 | 0.250 | 531.631 | 8.771 | 0.575 |
| 4 | 0.333 | 708.842 | 1.741 | 0.114 |
| | | Sum = 100.000 | Sum= | 6.551 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.146 | ( 0.544) | 0.459 |
| 2 | 0.17 | 4.30 | 0.619 | 0.146 | ( 0.557) | 0.474 |
| 3 | 0.25 | 5.00 | 0.720 | 0.146 | ( 0.648) | 0.574 |
| 4 | 0.33 | 5.00 | 0.720 | 0.146 | ( 0.648) | 0.574 |
| 5 | 0.42 | 5.80 | 0.835 | 0.146 | ( 0.752) | 0.690 |
| 6 | 0.50 | 6.50 | 0.936 | 0.146 | ( 0.842) | 0.790 |
| 7 | 0.58 | 7.40 | 1.066 | 0.146 | ( 0.959) | 0.920 |
| 8 | 0.67 | 8.60 | 1.238 | 0.146 | ( 1.114) | 1.093 |
| 9 | 0.75 | 12.30 | 1.771 | 0.146 | ( 1.594) | 1.625 |
| 10 | 0.83 | 29.10 | 4.190 | 0.146 | ( 3.771) | 4.045 |
| 11 | 0.92 | 6.80 | 0.979 | 0.146 | ( 0.881) | 0.834 |
| 12 | 1.00 | 5.00 | 0.720 | 0.146 | ( 0.648) | 0.574 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 12.7 |

Flood volume = Effective rainfall 1.05(In)
times area 6.5(Ac.)/[(In)/(Ft.)] = 0.6(Ac.Ft)
Total soil loss = 0.15(In)
Total soil loss = 0.079(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 24876.5 Cubic Feet
Total soil loss = 3435.9 Cubic Feet

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Peak flow rate of this hydrograph = 16.913(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 5.0 | 10.0 | 15.0 | 20.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0077 | 1.13 | V Q | | | | |
| 0+10 | 0.0265 | 2.73 | \|V Q | | | | |
| 0+15 | 0.0492 | 3.29 | \| V Q | | | | |
| 0+20 | 0.0746 | 3.69 | \| V Q | | | | |
| 0+25 | 0.1024 | 4.04 | \| VQ | | | | |
| 0+30 | 0.1347 | 4.69 | \| Q\| | | | | |
| 0+35 | 0.1720 | 5.41 | \| Q V | | | | |
| 0+40 | 0.2157 | 6.35 | \| Q V | | | | |
| 0+45 | 0.2731 | 8.33 | \| Q V\| | | | | |
| 0+50 | 0.3847 | 16.19 | \| \| V \| Q | | | | |
| 0+55 | 0.5011 | 16.91 | \| \| \| Q V | | | | |
| 1+ 0 | 0.5477 | 6.76 | \| Q \| V | | | | |
| 1+ 5 | 0.5677 | 2.90 | \| Q \| V | | | | |
| 1+10 | 0.5706 | 0.43 | Q \| V | | | | |
| 1+15 | 0.5711 | 0.07 | Q \| V | | | | |

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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA113100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 11
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

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Drainage Area = 6.50(Ac.) = 0.010 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 6.50(Ac.) = 0.010 Sq. Mi.
Length along longest watercourse = 932.00(Ft.)
Length along longest watercourse measured to centroid = 457.00(Ft.)
Length along longest watercourse = 0.177 Mi.
Length along longest watercourse measured to centroid = 0.087 Mi.
Difference in elevation = 160.00(Ft.)
Slope along watercourse = 906.4378 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.047 Hr.
Lag time = 2.82 Min.
25% of lag time = 0.71 Min.
40% of lag time = 1.13 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.50 | 0.80 | 5.20 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.50 | 1.80 | 11.70 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 6.500 | 76.05 | 0.000 |

Total Area Entered = 6.50(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 76.0 | 88.6 | 0.146 | 0.000 | 0.146 | 1.000 | 0.146 |
| | | | | | Sum (F) = | 0.146 |

Area averaged mean soil loss (F) (In/Hr) = 0.146

Minimum soil loss rate ((In/Hr)) = 0.073
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 177.210 | 37.389 | 2.449 |
| 2 | 0.167 | 354.421 | 52.100 | 3.413 |
| 3 | 0.250 | 531.631 | 8.771 | 0.575 |
| 4 | 0.333 | 708.842 | 1.741 | 0.114 |
| | | Sum = 100.000 | Sum= | 6.551 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.281 | 0.146 | ( 0.253) | 0.135 |
| 2 | 0.17 | 1.30 | 0.281 | 0.146 | ( 0.253) | 0.135 |
| 3 | 0.25 | 1.10 | 0.238 | 0.146 | ( 0.214) | 0.092 |
| 4 | 0.33 | 1.50 | 0.324 | 0.146 | ( 0.292) | 0.178 |
| 5 | 0.42 | 1.50 | 0.324 | 0.146 | ( 0.292) | 0.178 |
| 6 | 0.50 | 1.80 | 0.389 | 0.146 | ( 0.350) | 0.243 |
| 7 | 0.58 | 1.50 | 0.324 | 0.146 | ( 0.292) | 0.178 |
| 8 | 0.67 | 1.80 | 0.389 | 0.146 | ( 0.350) | 0.243 |
| 9 | 0.75 | 1.80 | 0.389 | 0.146 | ( 0.350) | 0.243 |
| 10 | 0.83 | 1.50 | 0.324 | 0.146 | ( 0.292) | 0.178 |
| 11 | 0.92 | 1.60 | 0.346 | 0.146 | ( 0.311) | 0.200 |
| 12 | 1.00 | 1.80 | 0.389 | 0.146 | ( 0.350) | 0.243 |
| 13 | 1.08 | 2.20 | 0.475 | 0.146 | ( 0.428) | 0.330 |
| 14 | 1.17 | 2.20 | 0.475 | 0.146 | ( 0.428) | 0.330 |
| 15 | 1.25 | 2.20 | 0.475 | 0.146 | ( 0.428) | 0.330 |
| 16 | 1.33 | 2.00 | 0.432 | 0.146 | ( 0.389) | 0.286 |
| 17 | 1.42 | 2.60 | 0.562 | 0.146 | ( 0.505) | 0.416 |
| 18 | 1.50 | 2.70 | 0.583 | 0.146 | ( 0.525) | 0.438 |
| 19 | 1.58 | 2.40 | 0.518 | 0.146 | ( 0.467) | 0.373 |
| 20 | 1.67 | 2.70 | 0.583 | 0.146 | ( 0.525) | 0.438 |
| 21 | 1.75 | 3.30 | 0.713 | 0.146 | ( 0.642) | 0.567 |
| 22 | 1.83 | 3.10 | 0.670 | 0.146 | ( 0.603) | 0.524 |
| 23 | 1.92 | 2.90 | 0.626 | 0.146 | ( 0.564) | 0.481 |
| 24 | 2.00 | 3.00 | 0.648 | 0.146 | ( 0.583) | 0.502 |
| 25 | 2.08 | 3.10 | 0.670 | 0.146 | ( 0.603) | 0.524 |
| 26 | 2.17 | 4.20 | 0.907 | 0.146 | ( 0.816) | 0.762 |
| 27 | 2.25 | 5.00 | 1.080 | 0.146 | ( 0.972) | 0.934 |
| 28 | 2.33 | 3.50 | 0.756 | 0.146 | ( 0.680) | 0.610 |
| 29 | 2.42 | 6.80 | 1.469 | 0.146 | ( 1.322) | 1.323 |
| 30 | 2.50 | 7.30 | 1.577 | 0.146 | ( 1.419) | 1.431 |
| 31 | 2.58 | 8.20 | 1.771 | 0.146 | ( 1.594) | 1.626 |
| 32 | 2.67 | 5.90 | 1.274 | 0.146 | ( 1.147) | 1.129 |
| 33 | 2.75 | 2.00 | 0.432 | 0.146 | ( 0.389) | 0.286 |
| 34 | 2.83 | 1.80 | 0.389 | 0.146 | ( 0.350) | 0.243 |
| 35 | 2.92 | 1.80 | 0.389 | 0.146 | ( 0.350) | 0.243 |
| 36 | 3.00 | 0.60 | 0.130 | ( 0.146) | 0.117 | 0.013 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 16.4 |

Flood volume = Effective rainfall 1.37(In)
times area 6.5(Ac.)/[(In)/(Ft.)] = 0.7(Ac.Ft)
Total soil loss = 0.43(In)
Total soil loss = 0.235(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 32219.2 Cubic Feet
Total soil loss = 10250.6 Cubic Feet

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Peak flow rate of this hydrograph = 9.701(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0023 | 0.33 | VQ | | | | |
| 0+10 | 0.0077 | 0.79 | V Q | | | | |
| 0+15 | 0.0130 | 0.76 | V Q | | | | |
| 0+20 | 0.0188 | 0.84 | V Q | | | | |
| 0+25 | 0.0265 | 1.11 | V Q | | | | |
| 0+30 | 0.0356 | 1.32 | V Q | | | | |
| 0+35 | 0.0452 | 1.39 | V Q | | | | |
| 0+40 | 0.0546 | 1.37 | V Q | | | | |
| 0+45 | 0.0653 | 1.56 | V Q | | | | |
| 0+50 | 0.0751 | 1.43 | VQ | | | | |
| 0+55 | 0.0838 | 1.27 | VQ | | | | |
| 1+ 0 | 0.0935 | 1.41 | Q | | | | |
| 1+ 5 | 0.1057 | 1.77 | V Q | | | | |
| 1+10 | 0.1202 | 2.10 | V Q | | | | |
| 1+15 | 0.1350 | 2.15 | VQ | | | | |
| 1+20 | 0.1491 | 2.05 | Q | | | | |
| 1+25 | 0.1645 | 2.22 | Q | | | | |
| 1+30 | 0.1830 | 2.69 | VQ | | | | |
| 1+35 | 0.2015 | 2.68 | Q | | | | |
| 1+40 | 0.2197 | 2.64 | QV | | | | |
| 1+45 | 0.2414 | 3.15 | QV | | | | |
| 1+50 | 0.2656 | 3.51 | Q | | | | |
| 1+55 | 0.2886 | 3.34 | Q V | | | | |
| 2+ 0 | 0.3109 | 3.24 | Q V | | | | |
| 2+ 5 | 0.3339 | 3.34 | Q V | | | | |
| 2+10 | 0.3614 | 4.00 | Q V | | | | |
| 2+15 | 0.3976 | 5.25 | QV | | | | |
| 2+20 | 0.4333 | 5.18 | Q V | | | | |
| 2+25 | 0.4742 | 5.95 | Q V | | | | |
| 2+30 | 0.5327 | 8.48 | V Q | | | | |
| 2+35 | 0.5995 | 9.70 | V Q | | | | |
| 2+40 | 0.6634 | 9.29 | V Q | | | | |
| 2+45 | 0.7024 | 5.65 | Q V | | | | |
| 2+50 | 0.7190 | 2.41 | Q V | | | | |
| 2+55 | 0.7308 | 1.72 | Q V | | | | |
| 3+ 0 | 0.7379 | 1.03 | Q V | | | | |
| 3+ 5 | 0.7394 | 0.21 | Q V | | | | |
| 3+10 | 0.7396 | 0.04 | Q V | | | | |
| 3+15 | 0.7397 | 0.00 | Q V | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA116100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 11
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

---

Drainage Area = 6.50(Ac.) = 0.010 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 6.50(Ac.) = 0.010 Sq. Mi.
Length along longest watercourse = 932.00(Ft.)
Length along longest watercourse measured to centroid = 457.00(Ft.)
Length along longest watercourse = 0.177 Mi.
Length along longest watercourse measured to centroid = 0.087 Mi.
Difference in elevation = 160.00(Ft.)
Slope along watercourse = 906.4378 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.047 Hr.
Lag time = 2.82 Min.
25% of lag time = 0.71 Min.
40% of lag time = 1.13 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.50 | 1.12 | 7.28 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.50 | 2.50 | 16.25 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.120(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 6.500 | 76.05 | 0.000 |

Total Area Entered = 6.50(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 76.0 | 88.6 | 0.146 | 0.000 | 0.146 | 1.000 | 0.146 |
| | | | | | Sum (F) = | 0.146 |

Area averaged mean soil loss (F) (In/Hr) = 0.146

Minimum soil loss rate ((In/Hr)) = 0.073
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 177.210 | 37.389 | 2.449 |
| 2 0.167 | 354.421 | 52.100 | 3.413 |
| 3 0.250 | 531.631 | 8.771 | 0.575 |
| 4 0.333 | 708.842 | 1.741 | 0.114 |
| | Sum = 100.000 | Sum= | 6.551 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | ( 0.146) | 0.135 | 0.015 |
| 2 | 0.17 | 0.60 | 0.180 | 0.146 | ( 0.162) | 0.034 |
| 3 | 0.25 | 0.60 | 0.180 | 0.146 | ( 0.162) | 0.034 |
| 4 | 0.33 | 0.60 | 0.180 | 0.146 | ( 0.162) | 0.034 |
| 5 | 0.42 | 0.60 | 0.180 | 0.146 | ( 0.162) | 0.034 |
| 6 | 0.50 | 0.70 | 0.210 | 0.146 | ( 0.189) | 0.064 |
| 7 | 0.58 | 0.70 | 0.210 | 0.146 | ( 0.189) | 0.064 |
| 8 | 0.67 | 0.70 | 0.210 | 0.146 | ( 0.189) | 0.064 |
| 9 | 0.75 | 0.70 | 0.210 | 0.146 | ( 0.189) | 0.064 |
| 10 | 0.83 | 0.70 | 0.210 | 0.146 | ( 0.189) | 0.064 |
| 11 | 0.92 | 0.70 | 0.210 | 0.146 | ( 0.189) | 0.064 |
| 12 | 1.00 | 0.80 | 0.240 | 0.146 | ( 0.216) | 0.094 |
| 13 | 1.08 | 0.80 | 0.240 | 0.146 | ( 0.216) | 0.094 |
| 14 | 1.17 | 0.80 | 0.240 | 0.146 | ( 0.216) | 0.094 |
| 15 | 1.25 | 0.80 | 0.240 | 0.146 | ( 0.216) | 0.094 |
| 16 | 1.33 | 0.80 | 0.240 | 0.146 | ( 0.216) | 0.094 |
| 17 | 1.42 | 0.80 | 0.240 | 0.146 | ( 0.216) | 0.094 |
| 18 | 1.50 | 0.80 | 0.240 | 0.146 | ( 0.216) | 0.094 |
| 19 | 1.58 | 0.80 | 0.240 | 0.146 | ( 0.216) | 0.094 |
| 20 | 1.67 | 0.80 | 0.240 | 0.146 | ( 0.216) | 0.094 |
| 21 | 1.75 | 0.80 | 0.240 | 0.146 | ( 0.216) | 0.094 |
| 22 | 1.83 | 0.80 | 0.240 | 0.146 | ( 0.216) | 0.094 |
| 23 | 1.92 | 0.80 | 0.240 | 0.146 | ( 0.216) | 0.094 |
| 24 | 2.00 | 0.90 | 0.270 | 0.146 | ( 0.243) | 0.124 |
| 25 | 2.08 | 0.80 | 0.240 | 0.146 | ( 0.216) | 0.094 |
| 26 | 2.17 | 0.90 | 0.270 | 0.146 | ( 0.243) | 0.124 |
| 27 | 2.25 | 0.90 | 0.270 | 0.146 | ( 0.243) | 0.124 |
| 28 | 2.33 | 0.90 | 0.270 | 0.146 | ( 0.243) | 0.124 |
| 29 | 2.42 | 0.90 | 0.270 | 0.146 | ( 0.243) | 0.124 |
| 30 | 2.50 | 0.90 | 0.270 | 0.146 | ( 0.243) | 0.124 |
| 31 | 2.58 | 0.90 | 0.270 | 0.146 | ( 0.243) | 0.124 |
| 32 | 2.67 | 0.90 | 0.270 | 0.146 | ( 0.243) | 0.124 |
| 33 | 2.75 | 1.00 | 0.300 | 0.146 | ( 0.270) | 0.154 |
| 34 | 2.83 | 1.00 | 0.300 | 0.146 | ( 0.270) | 0.154 |
| 35 | 2.92 | 1.00 | 0.300 | 0.146 | ( 0.270) | 0.154 |
| 36 | 3.00 | 1.00 | 0.300 | 0.146 | ( 0.270) | 0.154 |
| 37 | 3.08 | 1.00 | 0.300 | 0.146 | ( 0.270) | 0.154 |
| 38 | 3.17 | 1.10 | 0.330 | 0.146 | ( 0.297) | 0.184 |
| 39 | 3.25 | 1.10 | 0.330 | 0.146 | ( 0.297) | 0.184 |
| 40 | 3.33 | 1.10 | 0.330 | 0.146 | ( 0.297) | 0.184 |
| 41 | 3.42 | 1.20 | 0.360 | 0.146 | ( 0.324) | 0.214 |
| 42 | 3.50 | 1.30 | 0.390 | 0.146 | ( 0.351) | 0.244 |
| 43 | 3.58 | 1.40 | 0.420 | 0.146 | ( 0.378) | 0.274 |
| 44 | 3.67 | 1.40 | 0.420 | 0.146 | ( 0.378) | 0.274 |
| 45 | 3.75 | 1.50 | 0.450 | 0.146 | ( 0.405) | 0.304 |
| 46 | 3.83 | 1.50 | 0.450 | 0.146 | ( 0.405) | 0.304 |
| 47 | 3.92 | 1.60 | 0.480 | 0.146 | ( 0.432) | 0.334 |
| 48 | 4.00 | 1.60 | 0.480 | 0.146 | ( 0.432) | 0.334 |
| 49 | 4.08 | 1.70 | 0.510 | 0.146 | ( 0.459) | 0.364 |
| 50 | 4.17 | 1.80 | 0.540 | 0.146 | ( 0.486) | 0.394 |
| 51 | 4.25 | 1.90 | 0.570 | 0.146 | ( 0.513) | 0.424 |
| 52 | 4.33 | 2.00 | 0.600 | 0.146 | ( 0.540) | 0.454 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 53 | 4.42 | 2.10 | 0.630 | 0.146 | ( 0.567) | | 0.484 |
| 54 | 4.50 | 2.10 | 0.630 | 0.146 | ( 0.567) | | 0.484 |
| 55 | 4.58 | 2.20 | 0.660 | 0.146 | ( 0.594) | | 0.514 |
| 56 | 4.67 | 2.30 | 0.690 | 0.146 | ( 0.621) | | 0.544 |
| 57 | 4.75 | 2.40 | 0.720 | 0.146 | ( 0.648) | | 0.574 |
| 58 | 4.83 | 2.40 | 0.720 | 0.146 | ( 0.648) | | 0.574 |
| 59 | 4.92 | 2.50 | 0.750 | 0.146 | ( 0.675) | | 0.604 |
| 60 | 5.00 | 2.60 | 0.780 | 0.146 | ( 0.702) | | 0.634 |
| 61 | 5.08 | 3.10 | 0.930 | 0.146 | ( 0.837) | | 0.784 |
| 62 | 5.17 | 3.60 | 1.080 | 0.146 | ( 0.972) | | 0.934 |
| 63 | 5.25 | 3.90 | 1.170 | 0.146 | ( 1.053) | | 1.024 |
| 64 | 5.33 | 4.20 | 1.260 | 0.146 | ( 1.134) | | 1.114 |
| 65 | 5.42 | 4.70 | 1.410 | 0.146 | ( 1.269) | | 1.264 |
| 66 | 5.50 | 5.60 | 1.680 | 0.146 | ( 1.512) | | 1.534 |
| 67 | 5.58 | 1.90 | 0.570 | 0.146 | ( 0.513) | | 0.424 |
| 68 | 5.67 | 0.90 | 0.270 | 0.146 | ( 0.243) | | 0.124 |
| 69 | 5.75 | 0.60 | 0.180 | 0.146 | ( 0.162) | | 0.034 |
| 70 | 5.83 | 0.50 | 0.150 | ( 0.146) | 0.135 | | 0.015 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.146) | 0.081 | | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.146) | 0.054 | | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 19.7

Flood volume = Effective rainfall 1.64(In)
times area 6.5(Ac.)/[(In)/(Ft.)] = 0.9(Ac.Ft)
Total soil loss = 0.86(In)
Total soil loss = 0.465(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 38720.0 Cubic Feet
Total soil loss = 20266.2 Cubic Feet

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Peak flow rate of this hydrograph = 8.835(CFS)

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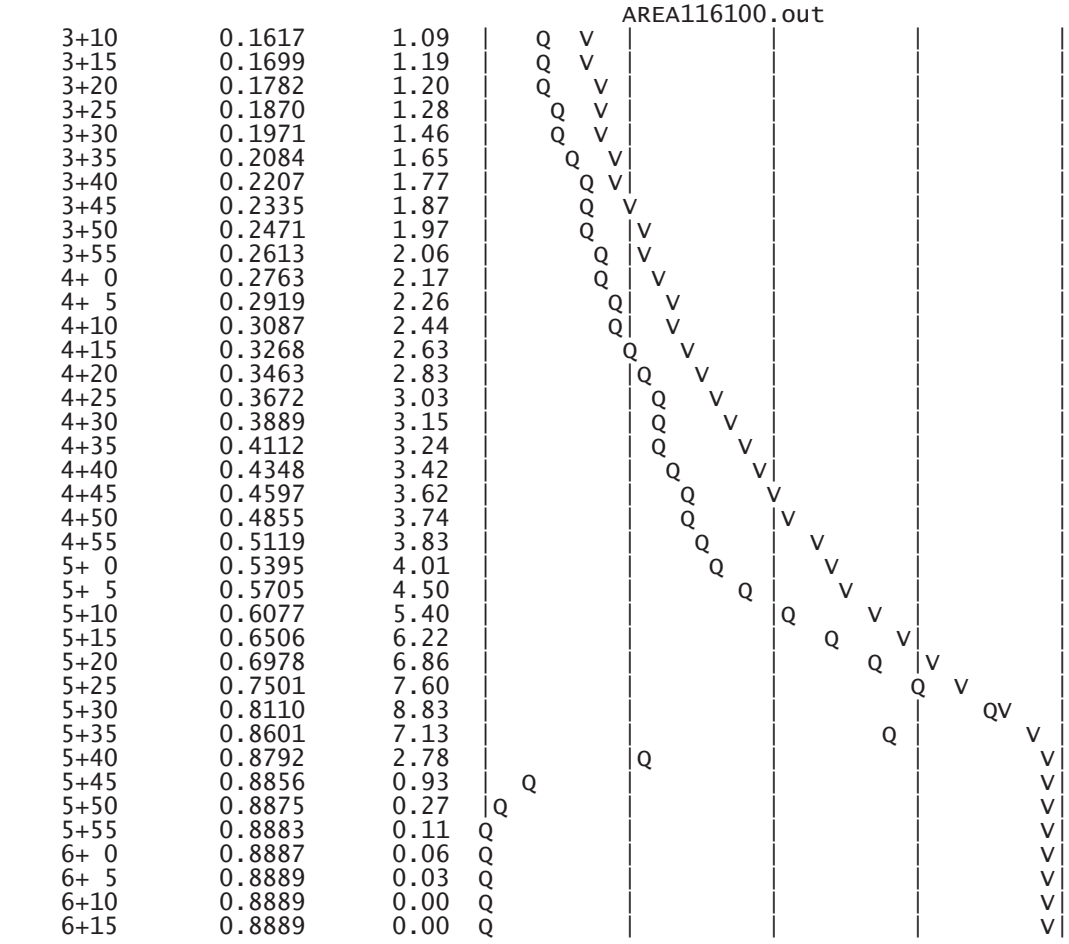
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0003 | 0.04 | Q | | | | |
| 0+10 | 0.0012 | 0.14 | Q | | | | |
| 0+15 | 0.0026 | 0.21 | Q | | | | |
| 0+20 | 0.0042 | 0.22 | Q | | | | |
| 0+25 | 0.0057 | 0.23 | Q | | | | |
| 0+30 | 0.0078 | 0.30 | VQ | | | | |
| 0+35 | 0.0105 | 0.40 | VQ | | | | |
| 0+40 | 0.0134 | 0.42 | VQ | | | | |
| 0+45 | 0.0163 | 0.42 | VQ | | | | |
| 0+50 | 0.0192 | 0.42 | VQ | | | | |
| 0+55 | 0.0221 | 0.42 | VQ | | | | |
| 1+ 0 | 0.0256 | 0.50 | \|Q | | | | |
| 1+ 5 | 0.0297 | 0.60 | \|VQ | | | | |
| 1+10 | 0.0339 | 0.62 | \|VQ | | | | |
| 1+15 | 0.0382 | 0.62 | \|VQ | | | | |
| 1+20 | 0.0424 | 0.62 | \|VQ | | | | |
| 1+25 | 0.0467 | 0.62 | \| Q | | | | |
| 1+30 | 0.0510 | 0.62 | \| Q | | | | |
| 1+35 | 0.0552 | 0.62 | \| Q | | | | |
| 1+40 | 0.0595 | 0.62 | \| Q | | | | |
| 1+45 | 0.0637 | 0.62 | \| Q | | | | |
| 1+50 | 0.0680 | 0.62 | \| QV | | | | |
| 1+55 | 0.0723 | 0.62 | \| QV | | | | |
| 2+ 0 | 0.0770 | 0.69 | \| QV | | | | |
| 2+ 5 | 0.0820 | 0.72 | \| QV | | | | |
| 2+10 | 0.0869 | 0.71 | \| QV | | | | |
| 2+15 | 0.0924 | 0.80 | \| QV | | | | |
| 2+20 | 0.0980 | 0.81 | \| QV | | | | |
| 2+25 | 0.1036 | 0.82 | \| QV | | | | |
| 2+30 | 0.1092 | 0.82 | \| QV | | | | |
| 2+35 | 0.1148 | 0.82 | \| Q V | | | | |
| 2+40 | 0.1204 | 0.82 | \| Q V | | | | |
| 2+45 | 0.1265 | 0.89 | \| Q V | | | | |
| 2+50 | 0.1334 | 0.99 | \| Q V | | | | |
| 2+55 | 0.1403 | 1.01 | \| Q V | | | | |
| 3+ 0 | 0.1473 | 1.01 | \| Q V | | | | |
| 3+ 5 | 0.1542 | 1.01 | \| Q V | | | | |



| | | | |
|---|---|---|---|
| 3+10 | 0.1617 | 1.09 | |
| 3+15 | 0.1699 | 1.19 | |
| 3+20 | 0.1782 | 1.20 | |
| 3+25 | 0.1870 | 1.28 | |
| 3+30 | 0.1971 | 1.46 | |
| 3+35 | 0.2084 | 1.65 | |
| 3+40 | 0.2207 | 1.77 | |
| 3+45 | 0.2335 | 1.87 | |
| 3+50 | 0.2471 | 1.97 | |
| 3+55 | 0.2613 | 2.06 | |
| 4+ 0 | 0.2763 | 2.17 | |
| 4+ 5 | 0.2919 | 2.26 | |
| 4+10 | 0.3087 | 2.44 | |
| 4+15 | 0.3268 | 2.63 | |
| 4+20 | 0.3463 | 2.83 | |
| 4+25 | 0.3672 | 3.03 | |
| 4+30 | 0.3889 | 3.15 | |
| 4+35 | 0.4112 | 3.24 | |
| 4+40 | 0.4348 | 3.42 | |
| 4+45 | 0.4597 | 3.62 | |
| 4+50 | 0.4855 | 3.74 | |
| 4+55 | 0.5119 | 3.83 | |
| 5+ 0 | 0.5395 | 4.01 | |
| 5+ 5 | 0.5705 | 4.50 | |
| 5+10 | 0.6077 | 5.40 | |
| 5+15 | 0.6506 | 6.22 | |
| 5+20 | 0.6978 | 6.86 | |
| 5+25 | 0.7501 | 7.60 | |
| 5+30 | 0.8110 | 8.83 | |
| 5+35 | 0.8601 | 7.13 | |
| 5+40 | 0.8792 | 2.78 | |
| 5+45 | 0.8856 | 0.93 | |
| 5+50 | 0.8875 | 0.27 | |
| 5+55 | 0.8883 | 0.11 | |
| 6+ 0 | 0.8887 | 0.06 | |
| 6+ 5 | 0.8889 | 0.03 | |
| 6+10 | 0.8889 | 0.00 | |
| 6+15 | 0.8889 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA1124100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 11
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

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Drainage Area = 6.50(Ac.) = 0.010 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 6.50(Ac.) = 0.010 Sq. Mi.
Length along longest watercourse = 932.00(Ft.)
Length along longest watercourse measured to centroid = 457.00(Ft.)
Length along longest watercourse = 0.177 Mi.
Length along longest watercourse measured to centroid = 0.087 Mi.
Difference in elevation = 160.00(Ft.)
Slope along watercourse = 906.4378 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.047 Hr.
Lag time = 2.82 Min.
25% of lag time = 0.71 Min.
40% of lag time = 1.13 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.50 | 1.80 | 11.70 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.50 | 4.50 | 29.25 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.500(In)

Point rain (area averaged) = 4.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 6.500 | 76.05 | 0.000 |

Total Area Entered = 6.50(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 76.0 | 88.6 | 0.146 | 0.000 | 0.146 | 1.000 | 0.146 |
| | | | | | Sum (F) = | 0.146 |

Area averaged mean soil loss (F) (In/Hr) = 0.146

Minimum soil loss rate ((In/Hr)) = 0.073
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 177.210 | 37.389 | 2.449 |
| 2 0.167 | 354.421 | 52.100 | 3.413 |
| 3 0.250 | 531.631 | 8.771 | 0.575 |
| 4 0.333 | 708.842 | 1.741 | 0.114 |
| | | Sum = 100.000 Sum= | 6.551 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.036 | ( 0.258) | 0.032 | 0.004 |
| 2 | 0.17 | 0.07 | 0.036 | ( 0.257) | 0.032 | 0.004 |
| 3 | 0.25 | 0.07 | 0.036 | ( 0.256) | 0.032 | 0.004 |
| 4 | 0.33 | 0.10 | 0.054 | ( 0.255) | 0.049 | 0.005 |
| 5 | 0.42 | 0.10 | 0.054 | ( 0.254) | 0.049 | 0.005 |
| 6 | 0.50 | 0.10 | 0.054 | ( 0.253) | 0.049 | 0.005 |
| 7 | 0.58 | 0.10 | 0.054 | ( 0.252) | 0.049 | 0.005 |
| 8 | 0.67 | 0.10 | 0.054 | ( 0.251) | 0.049 | 0.005 |
| 9 | 0.75 | 0.10 | 0.054 | ( 0.250) | 0.049 | 0.005 |
| 10 | 0.83 | 0.13 | 0.072 | ( 0.249) | 0.065 | 0.007 |
| 11 | 0.92 | 0.13 | 0.072 | ( 0.248) | 0.065 | 0.007 |
| 12 | 1.00 | 0.13 | 0.072 | ( 0.247) | 0.065 | 0.007 |
| 13 | 1.08 | 0.10 | 0.054 | ( 0.246) | 0.049 | 0.005 |
| 14 | 1.17 | 0.10 | 0.054 | ( 0.245) | 0.049 | 0.005 |
| 15 | 1.25 | 0.10 | 0.054 | ( 0.244) | 0.049 | 0.005 |
| 16 | 1.33 | 0.10 | 0.054 | ( 0.243) | 0.049 | 0.005 |
| 17 | 1.42 | 0.10 | 0.054 | ( 0.242) | 0.049 | 0.005 |
| 18 | 1.50 | 0.10 | 0.054 | ( 0.241) | 0.049 | 0.005 |
| 19 | 1.58 | 0.10 | 0.054 | ( 0.240) | 0.049 | 0.005 |
| 20 | 1.67 | 0.10 | 0.054 | ( 0.240) | 0.049 | 0.005 |
| 21 | 1.75 | 0.10 | 0.054 | ( 0.239) | 0.049 | 0.005 |
| 22 | 1.83 | 0.13 | 0.072 | ( 0.238) | 0.065 | 0.007 |
| 23 | 1.92 | 0.13 | 0.072 | ( 0.237) | 0.065 | 0.007 |
| 24 | 2.00 | 0.13 | 0.072 | ( 0.236) | 0.065 | 0.007 |
| 25 | 2.08 | 0.13 | 0.072 | ( 0.235) | 0.065 | 0.007 |
| 26 | 2.17 | 0.13 | 0.072 | ( 0.234) | 0.065 | 0.007 |
| 27 | 2.25 | 0.13 | 0.072 | ( 0.233) | 0.065 | 0.007 |
| 28 | 2.33 | 0.13 | 0.072 | ( 0.232) | 0.065 | 0.007 |
| 29 | 2.42 | 0.13 | 0.072 | ( 0.231) | 0.065 | 0.007 |
| 30 | 2.50 | 0.13 | 0.072 | ( 0.230) | 0.065 | 0.007 |
| 31 | 2.58 | 0.17 | 0.090 | ( 0.229) | 0.081 | 0.009 |
| 32 | 2.67 | 0.17 | 0.090 | ( 0.228) | 0.081 | 0.009 |
| 33 | 2.75 | 0.17 | 0.090 | ( 0.227) | 0.081 | 0.009 |
| 34 | 2.83 | 0.17 | 0.090 | ( 0.226) | 0.081 | 0.009 |
| 35 | 2.92 | 0.17 | 0.090 | ( 0.225) | 0.081 | 0.009 |
| 36 | 3.00 | 0.17 | 0.090 | ( 0.224) | 0.081 | 0.009 |
| 37 | 3.08 | 0.17 | 0.090 | ( 0.223) | 0.081 | 0.009 |
| 38 | 3.17 | 0.17 | 0.090 | ( 0.223) | 0.081 | 0.009 |
| 39 | 3.25 | 0.17 | 0.090 | ( 0.222) | 0.081 | 0.009 |
| 40 | 3.33 | 0.17 | 0.090 | ( 0.221) | 0.081 | 0.009 |
| 41 | 3.42 | 0.17 | 0.090 | ( 0.220) | 0.081 | 0.009 |
| 42 | 3.50 | 0.17 | 0.090 | ( 0.219) | 0.081 | 0.009 |
| 43 | 3.58 | 0.17 | 0.090 | ( 0.218) | 0.081 | 0.009 |
| 44 | 3.67 | 0.17 | 0.090 | ( 0.217) | 0.081 | 0.009 |
| 45 | 3.75 | 0.17 | 0.090 | ( 0.216) | 0.081 | 0.009 |
| 46 | 3.83 | 0.20 | 0.108 | ( 0.215) | 0.097 | 0.011 |
| 47 | 3.92 | 0.20 | 0.108 | ( 0.214) | 0.097 | 0.011 |
| 48 | 4.00 | 0.20 | 0.108 | ( 0.213) | 0.097 | 0.011 |
| 49 | 4.08 | 0.20 | 0.108 | ( 0.212) | 0.097 | 0.011 |
| 50 | 4.17 | 0.20 | 0.108 | ( 0.212) | 0.097 | 0.011 |
| 51 | 4.25 | 0.20 | 0.108 | ( 0.211) | 0.097 | 0.011 |
| 52 | 4.33 | 0.23 | 0.126 | ( 0.210) | 0.113 | 0.013 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 53 | 4.42 | 0.23 | 0.126 | ( 0.209) | 0.113 | 0.013 |
| 54 | 4.50 | 0.23 | 0.126 | ( 0.208) | 0.113 | 0.013 |
| 55 | 4.58 | 0.23 | 0.126 | ( 0.207) | 0.113 | 0.013 |
| 56 | 4.67 | 0.23 | 0.126 | ( 0.206) | 0.113 | 0.013 |
| 57 | 4.75 | 0.23 | 0.126 | ( 0.205) | 0.113 | 0.013 |
| 58 | 4.83 | 0.27 | 0.144 | ( 0.204) | 0.130 | 0.014 |
| 59 | 4.92 | 0.27 | 0.144 | ( 0.204) | 0.130 | 0.014 |
| 60 | 5.00 | 0.27 | 0.144 | ( 0.203) | 0.130 | 0.014 |
| 61 | 5.08 | 0.20 | 0.108 | ( 0.202) | 0.097 | 0.011 |
| 62 | 5.17 | 0.20 | 0.108 | ( 0.201) | 0.097 | 0.011 |
| 63 | 5.25 | 0.20 | 0.108 | ( 0.200) | 0.097 | 0.011 |
| 64 | 5.33 | 0.23 | 0.126 | ( 0.199) | 0.113 | 0.013 |
| 65 | 5.42 | 0.23 | 0.126 | ( 0.198) | 0.113 | 0.013 |
| 66 | 5.50 | 0.23 | 0.126 | ( 0.197) | 0.113 | 0.013 |
| 67 | 5.58 | 0.27 | 0.144 | ( 0.197) | 0.130 | 0.014 |
| 68 | 5.67 | 0.27 | 0.144 | ( 0.196) | 0.130 | 0.014 |
| 69 | 5.75 | 0.27 | 0.144 | ( 0.195) | 0.130 | 0.014 |
| 70 | 5.83 | 0.27 | 0.144 | ( 0.194) | 0.130 | 0.014 |
| 71 | 5.92 | 0.27 | 0.144 | ( 0.193) | 0.130 | 0.014 |
| 72 | 6.00 | 0.27 | 0.144 | ( 0.192) | 0.130 | 0.014 |
| 73 | 6.08 | 0.30 | 0.162 | ( 0.191) | 0.146 | 0.016 |
| 74 | 6.17 | 0.30 | 0.162 | ( 0.191) | 0.146 | 0.016 |
| 75 | 6.25 | 0.30 | 0.162 | ( 0.190) | 0.146 | 0.016 |
| 76 | 6.33 | 0.30 | 0.162 | ( 0.189) | 0.146 | 0.016 |
| 77 | 6.42 | 0.30 | 0.162 | ( 0.188) | 0.146 | 0.016 |
| 78 | 6.50 | 0.30 | 0.162 | ( 0.187) | 0.146 | 0.016 |
| 79 | 6.58 | 0.33 | 0.180 | ( 0.186) | 0.162 | 0.018 |
| 80 | 6.67 | 0.33 | 0.180 | ( 0.185) | 0.162 | 0.018 |
| 81 | 6.75 | 0.33 | 0.180 | ( 0.185) | 0.162 | 0.018 |
| 82 | 6.83 | 0.33 | 0.180 | ( 0.184) | 0.162 | 0.018 |
| 83 | 6.92 | 0.33 | 0.180 | ( 0.183) | 0.162 | 0.018 |
| 84 | 7.00 | 0.33 | 0.180 | ( 0.182) | 0.162 | 0.018 |
| 85 | 7.08 | 0.33 | 0.180 | ( 0.181) | 0.162 | 0.018 |
| 86 | 7.17 | 0.33 | 0.180 | ( 0.180) | 0.162 | 0.018 |
| 87 | 7.25 | 0.33 | 0.180 | ( 0.180) | 0.162 | 0.018 |
| 88 | 7.33 | 0.37 | 0.198 | ( 0.179) | 0.178 | 0.020 |
| 89 | 7.42 | 0.37 | 0.198 | 0.178 | ( 0.178) | 0.020 |
| 90 | 7.50 | 0.37 | 0.198 | 0.177 | ( 0.178) | 0.021 |
| 91 | 7.58 | 0.40 | 0.216 | 0.176 | ( 0.194) | 0.040 |
| 92 | 7.67 | 0.40 | 0.216 | 0.176 | ( 0.194) | 0.040 |
| 93 | 7.75 | 0.40 | 0.216 | 0.175 | ( 0.194) | 0.041 |
| 94 | 7.83 | 0.43 | 0.234 | 0.174 | ( 0.211) | 0.060 |
| 95 | 7.92 | 0.43 | 0.234 | 0.173 | ( 0.211) | 0.061 |
| 96 | 8.00 | 0.43 | 0.234 | 0.172 | ( 0.211) | 0.062 |
| 97 | 8.08 | 0.50 | 0.270 | 0.172 | ( 0.243) | 0.098 |
| 98 | 8.17 | 0.50 | 0.270 | 0.171 | ( 0.243) | 0.099 |
| 99 | 8.25 | 0.50 | 0.270 | 0.170 | ( 0.243) | 0.100 |
| 100 | 8.33 | 0.50 | 0.270 | 0.169 | ( 0.243) | 0.101 |
| 101 | 8.42 | 0.50 | 0.270 | 0.168 | ( 0.243) | 0.102 |
| 102 | 8.50 | 0.50 | 0.270 | 0.168 | ( 0.243) | 0.102 |
| 103 | 8.58 | 0.53 | 0.288 | 0.167 | ( 0.259) | 0.121 |
| 104 | 8.67 | 0.53 | 0.288 | 0.166 | ( 0.259) | 0.122 |
| 105 | 8.75 | 0.53 | 0.288 | 0.165 | ( 0.259) | 0.123 |
| 106 | 8.83 | 0.57 | 0.306 | 0.164 | ( 0.275) | 0.142 |
| 107 | 8.92 | 0.57 | 0.306 | 0.164 | ( 0.275) | 0.142 |
| 108 | 9.00 | 0.57 | 0.306 | 0.163 | ( 0.275) | 0.143 |
| 109 | 9.08 | 0.63 | 0.342 | 0.162 | ( 0.308) | 0.180 |
| 110 | 9.17 | 0.63 | 0.342 | 0.161 | ( 0.308) | 0.181 |
| 111 | 9.25 | 0.63 | 0.342 | 0.161 | ( 0.308) | 0.181 |
| 112 | 9.33 | 0.67 | 0.360 | 0.160 | ( 0.324) | 0.200 |
| 113 | 9.42 | 0.67 | 0.360 | 0.159 | ( 0.324) | 0.201 |
| 114 | 9.50 | 0.67 | 0.360 | 0.158 | ( 0.324) | 0.202 |
| 115 | 9.58 | 0.70 | 0.378 | 0.158 | ( 0.340) | 0.220 |
| 116 | 9.67 | 0.70 | 0.378 | 0.157 | ( 0.340) | 0.221 |
| 117 | 9.75 | 0.70 | 0.378 | 0.156 | ( 0.340) | 0.222 |
| 118 | 9.83 | 0.73 | 0.396 | 0.155 | ( 0.356) | 0.241 |
| 119 | 9.92 | 0.73 | 0.396 | 0.155 | ( 0.356) | 0.241 |
| 120 | 10.00 | 0.73 | 0.396 | 0.154 | ( 0.356) | 0.242 |
| 121 | 10.08 | 0.50 | 0.270 | 0.153 | ( 0.243) | 0.117 |
| 122 | 10.17 | 0.50 | 0.270 | 0.152 | ( 0.243) | 0.118 |
| 123 | 10.25 | 0.50 | 0.270 | 0.152 | ( 0.243) | 0.118 |
| 124 | 10.33 | 0.50 | 0.270 | 0.151 | ( 0.243) | 0.119 |
| 125 | 10.42 | 0.50 | 0.270 | 0.150 | ( 0.243) | 0.120 |
| 126 | 10.50 | 0.50 | 0.270 | 0.149 | ( 0.243) | 0.121 |
| 127 | 10.58 | 0.67 | 0.360 | 0.149 | ( 0.324) | 0.211 |
| 128 | 10.67 | 0.67 | 0.360 | 0.148 | ( 0.324) | 0.212 |
| 129 | 10.75 | 0.67 | 0.360 | 0.147 | ( 0.324) | 0.213 |
| 130 | 10.83 | 0.67 | 0.360 | 0.146 | ( 0.324) | 0.214 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 131 | 10.92 | 0.67 | 0.360 | 0.146 | ( 0.324) | 0.214 |
| 132 | 11.00 | 0.67 | 0.360 | 0.145 | ( 0.324) | 0.215 |
| 133 | 11.08 | 0.63 | 0.342 | 0.144 | ( 0.308) | 0.198 |
| 134 | 11.17 | 0.63 | 0.342 | 0.144 | ( 0.308) | 0.198 |
| 135 | 11.25 | 0.63 | 0.342 | 0.143 | ( 0.308) | 0.199 |
| 136 | 11.33 | 0.63 | 0.342 | 0.142 | ( 0.308) | 0.200 |
| 137 | 11.42 | 0.63 | 0.342 | 0.141 | ( 0.308) | 0.201 |
| 138 | 11.50 | 0.63 | 0.342 | 0.141 | ( 0.308) | 0.201 |
| 139 | 11.58 | 0.57 | 0.306 | 0.140 | ( 0.275) | 0.166 |
| 140 | 11.67 | 0.57 | 0.306 | 0.139 | ( 0.275) | 0.167 |
| 141 | 11.75 | 0.57 | 0.306 | 0.139 | ( 0.275) | 0.167 |
| 142 | 11.83 | 0.60 | 0.324 | 0.138 | ( 0.292) | 0.186 |
| 143 | 11.92 | 0.60 | 0.324 | 0.137 | ( 0.292) | 0.187 |
| 144 | 12.00 | 0.60 | 0.324 | 0.137 | ( 0.292) | 0.187 |
| 145 | 12.08 | 0.83 | 0.450 | 0.136 | ( 0.405) | 0.314 |
| 146 | 12.17 | 0.83 | 0.450 | 0.135 | ( 0.405) | 0.315 |
| 147 | 12.25 | 0.83 | 0.450 | 0.135 | ( 0.405) | 0.315 |
| 148 | 12.33 | 0.87 | 0.468 | 0.134 | ( 0.421) | 0.334 |
| 149 | 12.42 | 0.87 | 0.468 | 0.133 | ( 0.421) | 0.335 |
| 150 | 12.50 | 0.87 | 0.468 | 0.133 | ( 0.421) | 0.335 |
| 151 | 12.58 | 0.93 | 0.504 | 0.132 | ( 0.454) | 0.372 |
| 152 | 12.67 | 0.93 | 0.504 | 0.131 | ( 0.454) | 0.373 |
| 153 | 12.75 | 0.93 | 0.504 | 0.131 | ( 0.454) | 0.373 |
| 154 | 12.83 | 0.97 | 0.522 | 0.130 | ( 0.470) | 0.392 |
| 155 | 12.92 | 0.97 | 0.522 | 0.129 | ( 0.470) | 0.393 |
| 156 | 13.00 | 0.97 | 0.522 | 0.129 | ( 0.470) | 0.393 |
| 157 | 13.08 | 1.13 | 0.612 | 0.128 | ( 0.551) | 0.484 |
| 158 | 13.17 | 1.13 | 0.612 | 0.127 | ( 0.551) | 0.485 |
| 159 | 13.25 | 1.13 | 0.612 | 0.127 | ( 0.551) | 0.485 |
| 160 | 13.33 | 1.13 | 0.612 | 0.126 | ( 0.551) | 0.486 |
| 161 | 13.42 | 1.13 | 0.612 | 0.125 | ( 0.551) | 0.487 |
| 162 | 13.50 | 1.13 | 0.612 | 0.125 | ( 0.551) | 0.487 |
| 163 | 13.58 | 0.77 | 0.414 | 0.124 | ( 0.373) | 0.290 |
| 164 | 13.67 | 0.77 | 0.414 | 0.123 | ( 0.373) | 0.291 |
| 165 | 13.75 | 0.77 | 0.414 | 0.123 | ( 0.373) | 0.291 |
| 166 | 13.83 | 0.77 | 0.414 | 0.122 | ( 0.373) | 0.292 |
| 167 | 13.92 | 0.77 | 0.414 | 0.122 | ( 0.373) | 0.292 |
| 168 | 14.00 | 0.77 | 0.414 | 0.121 | ( 0.373) | 0.293 |
| 169 | 14.08 | 0.90 | 0.486 | 0.120 | ( 0.437) | 0.366 |
| 170 | 14.17 | 0.90 | 0.486 | 0.120 | ( 0.437) | 0.366 |
| 171 | 14.25 | 0.90 | 0.486 | 0.119 | ( 0.437) | 0.367 |
| 172 | 14.33 | 0.87 | 0.468 | 0.119 | ( 0.421) | 0.349 |
| 173 | 14.42 | 0.87 | 0.468 | 0.118 | ( 0.421) | 0.350 |
| 174 | 14.50 | 0.87 | 0.468 | 0.117 | ( 0.421) | 0.351 |
| 175 | 14.58 | 0.87 | 0.468 | 0.117 | ( 0.421) | 0.351 |
| 176 | 14.67 | 0.87 | 0.468 | 0.116 | ( 0.421) | 0.352 |
| 177 | 14.75 | 0.87 | 0.468 | 0.116 | ( 0.421) | 0.352 |
| 178 | 14.83 | 0.83 | 0.450 | 0.115 | ( 0.405) | 0.335 |
| 179 | 14.92 | 0.83 | 0.450 | 0.114 | ( 0.405) | 0.336 |
| 180 | 15.00 | 0.83 | 0.450 | 0.114 | ( 0.405) | 0.336 |
| 181 | 15.08 | 0.80 | 0.432 | 0.113 | ( 0.389) | 0.319 |
| 182 | 15.17 | 0.80 | 0.432 | 0.113 | ( 0.389) | 0.319 |
| 183 | 15.25 | 0.80 | 0.432 | 0.112 | ( 0.389) | 0.320 |
| 184 | 15.33 | 0.77 | 0.414 | 0.111 | ( 0.373) | 0.303 |
| 185 | 15.42 | 0.77 | 0.414 | 0.111 | ( 0.373) | 0.303 |
| 186 | 15.50 | 0.77 | 0.414 | 0.110 | ( 0.373) | 0.304 |
| 187 | 15.58 | 0.63 | 0.342 | 0.110 | ( 0.308) | 0.232 |
| 188 | 15.67 | 0.63 | 0.342 | 0.109 | ( 0.308) | 0.233 |
| 189 | 15.75 | 0.63 | 0.342 | 0.109 | ( 0.308) | 0.233 |
| 190 | 15.83 | 0.63 | 0.342 | 0.108 | ( 0.308) | 0.234 |
| 191 | 15.92 | 0.63 | 0.342 | 0.107 | ( 0.308) | 0.235 |
| 192 | 16.00 | 0.63 | 0.342 | 0.107 | ( 0.308) | 0.235 |
| 193 | 16.08 | 0.13 | 0.072 | ( 0.106) | 0.065 | 0.007 |
| 194 | 16.17 | 0.13 | 0.072 | ( 0.106) | 0.065 | 0.007 |
| 195 | 16.25 | 0.13 | 0.072 | ( 0.105) | 0.065 | 0.007 |
| 196 | 16.33 | 0.13 | 0.072 | ( 0.105) | 0.065 | 0.007 |
| 197 | 16.42 | 0.13 | 0.072 | ( 0.104) | 0.065 | 0.007 |
| 198 | 16.50 | 0.13 | 0.072 | ( 0.104) | 0.065 | 0.007 |
| 199 | 16.58 | 0.10 | 0.054 | ( 0.103) | 0.049 | 0.005 |
| 200 | 16.67 | 0.10 | 0.054 | ( 0.103) | 0.049 | 0.005 |
| 201 | 16.75 | 0.10 | 0.054 | ( 0.102) | 0.049 | 0.005 |
| 202 | 16.83 | 0.10 | 0.054 | ( 0.102) | 0.049 | 0.005 |
| 203 | 16.92 | 0.10 | 0.054 | ( 0.101) | 0.049 | 0.005 |
| 204 | 17.00 | 0.10 | 0.054 | ( 0.101) | 0.049 | 0.005 |
| 205 | 17.08 | 0.17 | 0.090 | ( 0.100) | 0.081 | 0.009 |
| 206 | 17.17 | 0.17 | 0.090 | ( 0.100) | 0.081 | 0.009 |
| 207 | 17.25 | 0.17 | 0.090 | ( 0.099) | 0.081 | 0.009 |
| 208 | 17.33 | 0.17 | 0.090 | ( 0.099) | 0.081 | 0.009 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 209 | 17.42 | 0.17 | 0.090 | ( 0.098) | 0.081 | 0.009 |
| 210 | 17.50 | 0.17 | 0.090 | ( 0.098) | 0.081 | 0.009 |
| 211 | 17.58 | 0.17 | 0.090 | ( 0.097) | 0.081 | 0.009 |
| 212 | 17.67 | 0.17 | 0.090 | ( 0.097) | 0.081 | 0.009 |
| 213 | 17.75 | 0.17 | 0.090 | ( 0.096) | 0.081 | 0.009 |
| 214 | 17.83 | 0.13 | 0.072 | ( 0.096) | 0.065 | 0.007 |
| 215 | 17.92 | 0.13 | 0.072 | ( 0.095) | 0.065 | 0.007 |
| 216 | 18.00 | 0.13 | 0.072 | ( 0.095) | 0.065 | 0.007 |
| 217 | 18.08 | 0.13 | 0.072 | ( 0.094) | 0.065 | 0.007 |
| 218 | 18.17 | 0.13 | 0.072 | ( 0.094) | 0.065 | 0.007 |
| 219 | 18.25 | 0.13 | 0.072 | ( 0.093) | 0.065 | 0.007 |
| 220 | 18.33 | 0.13 | 0.072 | ( 0.093) | 0.065 | 0.007 |
| 221 | 18.42 | 0.13 | 0.072 | ( 0.092) | 0.065 | 0.007 |
| 222 | 18.50 | 0.13 | 0.072 | ( 0.092) | 0.065 | 0.007 |
| 223 | 18.58 | 0.10 | 0.054 | ( 0.092) | 0.049 | 0.005 |
| 224 | 18.67 | 0.10 | 0.054 | ( 0.091) | 0.049 | 0.005 |
| 225 | 18.75 | 0.10 | 0.054 | ( 0.091) | 0.049 | 0.005 |
| 226 | 18.83 | 0.07 | 0.036 | ( 0.090) | 0.032 | 0.004 |
| 227 | 18.92 | 0.07 | 0.036 | ( 0.090) | 0.032 | 0.004 |
| 228 | 19.00 | 0.07 | 0.036 | ( 0.089) | 0.032 | 0.004 |
| 229 | 19.08 | 0.10 | 0.054 | ( 0.089) | 0.049 | 0.005 |
| 230 | 19.17 | 0.10 | 0.054 | ( 0.089) | 0.049 | 0.005 |
| 231 | 19.25 | 0.10 | 0.054 | ( 0.088) | 0.049 | 0.005 |
| 232 | 19.33 | 0.13 | 0.072 | ( 0.088) | 0.065 | 0.007 |
| 233 | 19.42 | 0.13 | 0.072 | ( 0.087) | 0.065 | 0.007 |
| 234 | 19.50 | 0.13 | 0.072 | ( 0.087) | 0.065 | 0.007 |
| 235 | 19.58 | 0.10 | 0.054 | ( 0.086) | 0.049 | 0.005 |
| 236 | 19.67 | 0.10 | 0.054 | ( 0.086) | 0.049 | 0.005 |
| 237 | 19.75 | 0.10 | 0.054 | ( 0.086) | 0.049 | 0.005 |
| 238 | 19.83 | 0.07 | 0.036 | ( 0.085) | 0.032 | 0.004 |
| 239 | 19.92 | 0.07 | 0.036 | ( 0.085) | 0.032 | 0.004 |
| 240 | 20.00 | 0.07 | 0.036 | ( 0.085) | 0.032 | 0.004 |
| 241 | 20.08 | 0.10 | 0.054 | ( 0.084) | 0.049 | 0.005 |
| 242 | 20.17 | 0.10 | 0.054 | ( 0.084) | 0.049 | 0.005 |
| 243 | 20.25 | 0.10 | 0.054 | ( 0.083) | 0.049 | 0.005 |
| 244 | 20.33 | 0.10 | 0.054 | ( 0.083) | 0.049 | 0.005 |
| 245 | 20.42 | 0.10 | 0.054 | ( 0.083) | 0.049 | 0.005 |
| 246 | 20.50 | 0.10 | 0.054 | ( 0.082) | 0.049 | 0.005 |
| 247 | 20.58 | 0.10 | 0.054 | ( 0.082) | 0.049 | 0.005 |
| 248 | 20.67 | 0.10 | 0.054 | ( 0.082) | 0.049 | 0.005 |
| 249 | 20.75 | 0.10 | 0.054 | ( 0.081) | 0.049 | 0.005 |
| 250 | 20.83 | 0.07 | 0.036 | ( 0.081) | 0.032 | 0.004 |
| 251 | 20.92 | 0.07 | 0.036 | ( 0.081) | 0.032 | 0.004 |
| 252 | 21.00 | 0.07 | 0.036 | ( 0.080) | 0.032 | 0.004 |
| 253 | 21.08 | 0.10 | 0.054 | ( 0.080) | 0.049 | 0.005 |
| 254 | 21.17 | 0.10 | 0.054 | ( 0.080) | 0.049 | 0.005 |
| 255 | 21.25 | 0.10 | 0.054 | ( 0.079) | 0.049 | 0.005 |
| 256 | 21.33 | 0.07 | 0.036 | ( 0.079) | 0.032 | 0.004 |
| 257 | 21.42 | 0.07 | 0.036 | ( 0.079) | 0.032 | 0.004 |
| 258 | 21.50 | 0.07 | 0.036 | ( 0.079) | 0.032 | 0.004 |
| 259 | 21.58 | 0.10 | 0.054 | ( 0.078) | 0.049 | 0.005 |
| 260 | 21.67 | 0.10 | 0.054 | ( 0.078) | 0.049 | 0.005 |
| 261 | 21.75 | 0.10 | 0.054 | ( 0.078) | 0.049 | 0.005 |
| 262 | 21.83 | 0.07 | 0.036 | ( 0.077) | 0.032 | 0.004 |
| 263 | 21.92 | 0.07 | 0.036 | ( 0.077) | 0.032 | 0.004 |
| 264 | 22.00 | 0.07 | 0.036 | ( 0.077) | 0.032 | 0.004 |
| 265 | 22.08 | 0.10 | 0.054 | ( 0.077) | 0.049 | 0.005 |
| 266 | 22.17 | 0.10 | 0.054 | ( 0.076) | 0.049 | 0.005 |
| 267 | 22.25 | 0.10 | 0.054 | ( 0.076) | 0.049 | 0.005 |
| 268 | 22.33 | 0.07 | 0.036 | ( 0.076) | 0.032 | 0.004 |
| 269 | 22.42 | 0.07 | 0.036 | ( 0.076) | 0.032 | 0.004 |
| 270 | 22.50 | 0.07 | 0.036 | ( 0.075) | 0.032 | 0.004 |
| 271 | 22.58 | 0.07 | 0.036 | ( 0.075) | 0.032 | 0.004 |
| 272 | 22.67 | 0.07 | 0.036 | ( 0.075) | 0.032 | 0.004 |
| 273 | 22.75 | 0.07 | 0.036 | ( 0.075) | 0.032 | 0.004 |
| 274 | 22.83 | 0.07 | 0.036 | ( 0.075) | 0.032 | 0.004 |
| 275 | 22.92 | 0.07 | 0.036 | ( 0.074) | 0.032 | 0.004 |
| 276 | 23.00 | 0.07 | 0.036 | ( 0.074) | 0.032 | 0.004 |
| 277 | 23.08 | 0.07 | 0.036 | ( 0.074) | 0.032 | 0.004 |
| 278 | 23.17 | 0.07 | 0.036 | ( 0.074) | 0.032 | 0.004 |
| 279 | 23.25 | 0.07 | 0.036 | ( 0.074) | 0.032 | 0.004 |
| 280 | 23.33 | 0.07 | 0.036 | ( 0.074) | 0.032 | 0.004 |
| 281 | 23.42 | 0.07 | 0.036 | ( 0.073) | 0.032 | 0.004 |
| 282 | 23.50 | 0.07 | 0.036 | ( 0.073) | 0.032 | 0.004 |
| 283 | 23.58 | 0.07 | 0.036 | ( 0.073) | 0.032 | 0.004 |
| 284 | 23.67 | 0.07 | 0.036 | ( 0.073) | 0.032 | 0.004 |
| 285 | 23.75 | 0.07 | 0.036 | ( 0.073) | 0.032 | 0.004 |
| 286 | 23.83 | 0.07 | 0.036 | ( 0.073) | 0.032 | 0.004 |

287 23.92 0.07 0.036 ( 0.073) 0.032 0.004
288 24.00 0.07 0.036 ( 0.073) 0.032 0.004
(Loss Rate Not Used)
Sum = 100.0 Sum = 26.4
Flood volume = Effective rainfall 2.20(In)
times area 6.5(Ac.)/[(In)/(Ft.)] = 1.2(Ac.Ft)
Total soil loss = 2.30(In)
Total soil loss = 1.248(Ac.Ft)
Total rainfall = 4.50(In)
Flood volume = 51835.0 Cubic Feet
Total soil loss = 54341.2 Cubic Feet

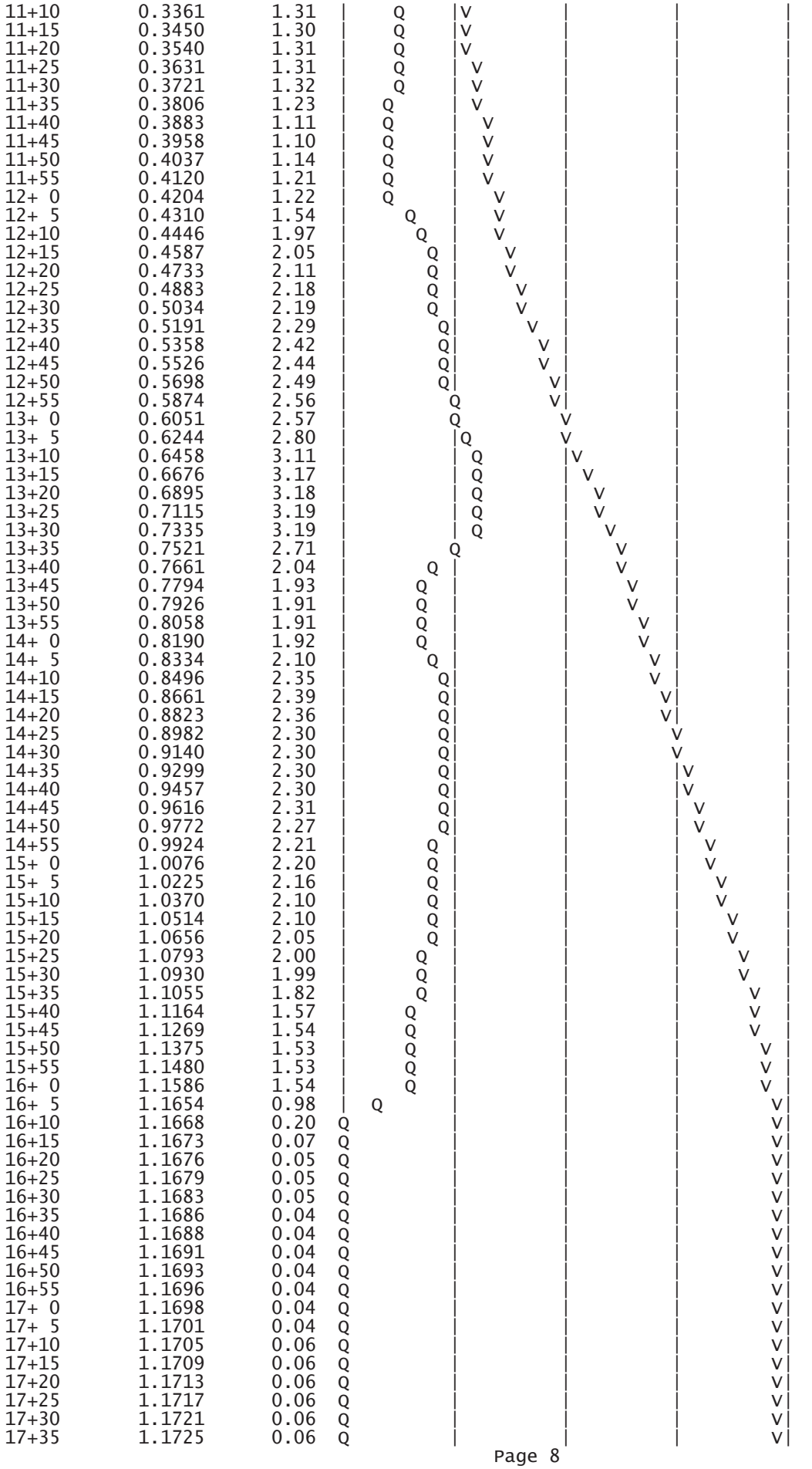
Peak flow rate of this hydrograph = 3.191(CFS)

24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0001 | 0.01 | Q | | | | |
| 0+10 | 0.0002 | 0.02 | Q | | | | |
| 0+15 | 0.0004 | 0.02 | Q | | | | |
| 0+20 | 0.0006 | 0.03 | Q | | | | |
| 0+25 | 0.0008 | 0.03 | Q | | | | |
| 0+30 | 0.0010 | 0.04 | Q | | | | |
| 0+35 | 0.0013 | 0.04 | Q | | | | |
| 0+40 | 0.0015 | 0.04 | Q | | | | |
| 0+45 | 0.0018 | 0.04 | Q | | | | |
| 0+50 | 0.0020 | 0.04 | Q | | | | |
| 0+55 | 0.0024 | 0.05 | Q | | | | |
| 1+ 0 | 0.0027 | 0.05 | Q | | | | |
| 1+ 5 | 0.0030 | 0.04 | Q | | | | |
| 1+10 | 0.0032 | 0.04 | Q | | | | |
| 1+15 | 0.0035 | 0.04 | Q | | | | |
| 1+20 | 0.0037 | 0.04 | Q | | | | |
| 1+25 | 0.0040 | 0.04 | Q | | | | |
| 1+30 | 0.0042 | 0.04 | Q | | | | |
| 1+35 | 0.0044 | 0.04 | Q | | | | |
| 1+40 | 0.0047 | 0.04 | Q | | | | |
| 1+45 | 0.0049 | 0.04 | Q | | | | |
| 1+50 | 0.0052 | 0.04 | Q | | | | |
| 1+55 | 0.0055 | 0.05 | Q | | | | |
| 2+ 0 | 0.0059 | 0.05 | Q | | | | |
| 2+ 5 | 0.0062 | 0.05 | Q | | | | |
| 2+10 | 0.0065 | 0.05 | Q | | | | |
| 2+15 | 0.0068 | 0.05 | Q | | | | |
| 2+20 | 0.0072 | 0.05 | Q | | | | |
| 2+25 | 0.0075 | 0.05 | Q | | | | |
| 2+30 | 0.0078 | 0.05 | Q | | | | |
| 2+35 | 0.0082 | 0.05 | Q | | | | |
| 2+40 | 0.0086 | 0.06 | Q | | | | |
| 2+45 | 0.0090 | 0.06 | Q | | | | |
| 2+50 | 0.0094 | 0.06 | Q | | | | |
| 2+55 | 0.0098 | 0.06 | Q | | | | |
| 3+ 0 | 0.0102 | 0.06 | Q | | | | |
| 3+ 5 | 0.0106 | 0.06 | Q | | | | |
| 3+10 | 0.0110 | 0.06 | Q | | | | |
| 3+15 | 0.0114 | 0.06 | Q | | | | |
| 3+20 | 0.0118 | 0.06 | Q | | | | |
| 3+25 | 0.0122 | 0.06 | Q | | | | |
| 3+30 | 0.0126 | 0.06 | Q | | | | |
| 3+35 | 0.0130 | 0.06 | Q | | | | |
| 3+40 | 0.0134 | 0.06 | Q | | | | |
| 3+45 | 0.0138 | 0.06 | Q | | | | |
| 3+50 | 0.0143 | 0.06 | Q | | | | |
| 3+55 | 0.0147 | 0.07 | Q | | | | |
| 4+ 0 | 0.0152 | 0.07 | Q | | | | |
| 4+ 5 | 0.0157 | 0.07 | Q | | | | |
| 4+10 | 0.0162 | 0.07 | Q | | | | |
| 4+15 | 0.0167 | 0.07 | Q | | | | |
| 4+20 | 0.0172 | 0.08 | Q | | | | |
| 4+25 | 0.0178 | 0.08 | Q | | | | |
| 4+30 | 0.0183 | 0.08 | Q | | | | |
| 4+35 | 0.0189 | 0.08 | Q | | | | |

| | | | |
|---|---|---|---|
| 4+40 | 0.0195 | 0.08 | Q |
| 4+45 | 0.0200 | 0.08 | Q |
| 4+50 | 0.0206 | 0.09 | Q |
| 4+55 | 0.0213 | 0.09 | Q |
| 5+ 0 | 0.0219 | 0.09 | Q |
| 5+ 5 | 0.0225 | 0.09 | Q |
| 5+10 | 0.0230 | 0.07 | Q |
| 5+15 | 0.0235 | 0.07 | Q |
| 5+20 | 0.0240 | 0.08 | Q |
| 5+25 | 0.0246 | 0.08 | Q |
| 5+30 | 0.0252 | 0.08 | Q |
| 5+35 | 0.0258 | 0.09 | Q |
| 5+40 | 0.0264 | 0.09 | Q |
| 5+45 | 0.0271 | 0.09 | Q |
| 5+50 | 0.0277 | 0.09 | Q |
| 5+55 | 0.0284 | 0.09 | Q |
| 6+ 0 | 0.0290 | 0.09 | Q |
| 6+ 5 | 0.0297 | 0.10 | Q |
| 6+10 | 0.0304 | 0.10 | QV |
| 6+15 | 0.0311 | 0.11 | QV |
| 6+20 | 0.0319 | 0.11 | QV |
| 6+25 | 0.0326 | 0.11 | QV |
| 6+30 | 0.0333 | 0.11 | QV |
| 6+35 | 0.0341 | 0.11 | QV |
| 6+40 | 0.0349 | 0.12 | QV |
| 6+45 | 0.0357 | 0.12 | QV |
| 6+50 | 0.0365 | 0.12 | QV |
| 6+55 | 0.0373 | 0.12 | QV |
| 7+ 0 | 0.0381 | 0.12 | QV |
| 7+ 5 | 0.0390 | 0.12 | QV |
| 7+10 | 0.0398 | 0.12 | QV |
| 7+15 | 0.0406 | 0.12 | QV |
| 7+20 | 0.0414 | 0.12 | QV |
| 7+25 | 0.0423 | 0.13 | QV |
| 7+30 | 0.0432 | 0.13 | QV |
| 7+35 | 0.0445 | 0.18 | QV |
| 7+40 | 0.0462 | 0.25 | QV |
| 7+45 | 0.0480 | 0.26 | \|Q |
| 7+50 | 0.0502 | 0.32 | \|Q |
| 7+55 | 0.0528 | 0.38 | \|Q |
| 8+ 0 | 0.0556 | 0.40 | \|Q |
| 8+ 5 | 0.0590 | 0.49 | \|Q |
| 8+10 | 0.0633 | 0.62 | \| Q |
| 8+15 | 0.0677 | 0.65 | \| Q |
| 8+20 | 0.0722 | 0.66 | \| Q |
| 8+25 | 0.0768 | 0.66 | \| Q |
| 8+30 | 0.0814 | 0.67 | \| Q |
| 8+35 | 0.0863 | 0.72 | \| Q |
| 8+40 | 0.0917 | 0.78 | \|  Q |
| 8+45 | 0.0972 | 0.80 | \|  Q |
| 8+50 | 0.1031 | 0.85 | \|  Q |
| 8+55 | 0.1094 | 0.92 | \|  Q |
| 9+ 0 | 0.1158 | 0.93 | \|  Q |
| 9+ 5 | 0.1229 | 1.03 | \|   Q |
| 9+10 | 0.1309 | 1.16 | \|   Q |
| 9+15 | 0.1390 | 1.18 | \|   Q |
| 9+20 | 0.1475 | 1.23 | \|   Q |
| 9+25 | 0.1564 | 1.30 | \|    Q |
| 9+30 | 0.1655 | 1.32 | \|    Q |
| 9+35 | 0.1749 | 1.37 | \|    Q |
| 9+40 | 0.1848 | 1.43 | \|    QV |
| 9+45 | 0.1948 | 1.45 | \|    QV |
| 9+50 | 0.2051 | 1.50 | \|     Q |
| 9+55 | 0.2159 | 1.57 | \|     QV |
| 10+ 0 | 0.2268 | 1.58 | \|     QV |
| 10+ 5 | 0.2356 | 1.28 | \|    Q V |
| 10+10 | 0.2415 | 0.85 | \|  Q    V |
| 10+15 | 0.2469 | 0.79 | \|  Q    V |
| 10+20 | 0.2523 | 0.78 | \|  Q    V |
| 10+25 | 0.2577 | 0.78 | \|  Q    V |
| 10+30 | 0.2631 | 0.79 | \|  Q    V |
| 10+35 | 0.2701 | 1.01 | \|   Q    V\| |
| 10+40 | 0.2792 | 1.32 | \|    Q   V\| |
| 10+45 | 0.2887 | 1.38 | \|    Q   V\| |
| 10+50 | 0.2983 | 1.40 | \|    Q    V |
| 10+55 | 0.3080 | 1.40 | \|    Q    V |
| 11+ 0 | 0.3176 | 1.41 | \|    Q    V |
| 11+ 5 | 0.3270 | 1.37 | \|    Q    V |



| | | | |
|---|---|---|---|
| 11+10 | 0.3361 | 1.31 | |
| 11+15 | 0.3450 | 1.30 | |
| 11+20 | 0.3540 | 1.31 | |
| 11+25 | 0.3631 | 1.31 | |
| 11+30 | 0.3721 | 1.32 | |
| 11+35 | 0.3806 | 1.23 | |
| 11+40 | 0.3883 | 1.11 | |
| 11+45 | 0.3958 | 1.10 | |
| 11+50 | 0.4037 | 1.14 | |
| 11+55 | 0.4120 | 1.21 | |
| 12+ 0 | 0.4204 | 1.22 | |
| 12+ 5 | 0.4310 | 1.54 | |
| 12+10 | 0.4446 | 1.97 | |
| 12+15 | 0.4587 | 2.05 | |
| 12+20 | 0.4733 | 2.11 | |
| 12+25 | 0.4883 | 2.18 | |
| 12+30 | 0.5034 | 2.19 | |
| 12+35 | 0.5191 | 2.29 | |
| 12+40 | 0.5358 | 2.42 | |
| 12+45 | 0.5526 | 2.44 | |
| 12+50 | 0.5698 | 2.49 | |
| 12+55 | 0.5874 | 2.56 | |
| 13+ 0 | 0.6051 | 2.57 | |
| 13+ 5 | 0.6244 | 2.80 | |
| 13+10 | 0.6458 | 3.11 | |
| 13+15 | 0.6676 | 3.17 | |
| 13+20 | 0.6895 | 3.18 | |
| 13+25 | 0.7115 | 3.19 | |
| 13+30 | 0.7335 | 3.19 | |
| 13+35 | 0.7521 | 2.71 | |
| 13+40 | 0.7661 | 2.04 | |
| 13+45 | 0.7794 | 1.93 | |
| 13+50 | 0.7926 | 1.91 | |
| 13+55 | 0.8058 | 1.91 | |
| 14+ 0 | 0.8190 | 1.92 | |
| 14+ 5 | 0.8334 | 2.10 | |
| 14+10 | 0.8496 | 2.35 | |
| 14+15 | 0.8661 | 2.39 | |
| 14+20 | 0.8823 | 2.36 | |
| 14+25 | 0.8982 | 2.30 | |
| 14+30 | 0.9140 | 2.30 | |
| 14+35 | 0.9299 | 2.30 | |
| 14+40 | 0.9457 | 2.30 | |
| 14+45 | 0.9616 | 2.31 | |
| 14+50 | 0.9772 | 2.27 | |
| 14+55 | 0.9924 | 2.21 | |
| 15+ 0 | 1.0076 | 2.20 | |
| 15+ 5 | 1.0225 | 2.16 | |
| 15+10 | 1.0370 | 2.10 | |
| 15+15 | 1.0514 | 2.10 | |
| 15+20 | 1.0656 | 2.05 | |
| 15+25 | 1.0793 | 2.00 | |
| 15+30 | 1.0930 | 1.99 | |
| 15+35 | 1.1055 | 1.82 | |
| 15+40 | 1.1164 | 1.57 | |
| 15+45 | 1.1269 | 1.54 | |
| 15+50 | 1.1375 | 1.53 | |
| 15+55 | 1.1480 | 1.53 | |
| 16+ 0 | 1.1586 | 1.54 | |
| 16+ 5 | 1.1654 | 0.98 | |
| 16+10 | 1.1668 | 0.20 | |
| 16+15 | 1.1673 | 0.07 | |
| 16+20 | 1.1676 | 0.05 | |
| 16+25 | 1.1679 | 0.05 | |
| 16+30 | 1.1683 | 0.05 | |
| 16+35 | 1.1686 | 0.04 | |
| 16+40 | 1.1688 | 0.04 | |
| 16+45 | 1.1691 | 0.04 | |
| 16+50 | 1.1693 | 0.04 | |
| 16+55 | 1.1696 | 0.04 | |
| 17+ 0 | 1.1698 | 0.04 | |
| 17+ 5 | 1.1701 | 0.04 | |
| 17+10 | 1.1705 | 0.06 | |
| 17+15 | 1.1709 | 0.06 | |
| 17+20 | 1.1713 | 0.06 | |
| 17+25 | 1.1717 | 0.06 | |
| 17+30 | 1.1721 | 0.06 | |
| 17+35 | 1.1725 | 0.06 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+40 | 1.1729 | 0.06 | Q | \| | \| | \| | V\| |
| 17+45 | 1.1733 | 0.06 | Q | \| | \| | \| | V\| |
| 17+50 | 1.1737 | 0.05 | Q | \| | \| | \| | V\| |
| 17+55 | 1.1740 | 0.05 | Q | \| | \| | \| | V\| |
| 18+ 0 | 1.1744 | 0.05 | Q | \| | \| | \| | V\| |
| 18+ 5 | 1.1747 | 0.05 | Q | \| | \| | \| | V\| |
| 18+10 | 1.1750 | 0.05 | Q | \| | \| | \| | V\| |
| 18+15 | 1.1753 | 0.05 | Q | \| | \| | \| | V\| |
| 18+20 | 1.1757 | 0.05 | Q | \| | \| | \| | V\| |
| 18+25 | 1.1760 | 0.05 | Q | \| | \| | \| | V\| |
| 18+30 | 1.1763 | 0.05 | Q | \| | \| | \| | V\| |
| 18+35 | 1.1766 | 0.04 | Q | \| | \| | \| | V\| |
| 18+40 | 1.1769 | 0.04 | Q | \| | \| | \| | V\| |
| 18+45 | 1.1771 | 0.04 | Q | \| | \| | \| | V\| |
| 18+50 | 1.1773 | 0.03 | Q | \| | \| | \| | V\| |
| 18+55 | 1.1775 | 0.02 | Q | \| | \| | \| | V\| |
| 19+ 0 | 1.1777 | 0.02 | Q | \| | \| | \| | V\| |
| 19+ 5 | 1.1779 | 0.03 | Q | \| | \| | \| | V\| |
| 19+10 | 1.1781 | 0.03 | Q | \| | \| | \| | V\| |
| 19+15 | 1.1783 | 0.04 | Q | \| | \| | \| | V\| |
| 19+20 | 1.1786 | 0.04 | Q | \| | \| | \| | V\| |
| 19+25 | 1.1789 | 0.05 | Q | \| | \| | \| | V\| |
| 19+30 | 1.1792 | 0.05 | Q | \| | \| | \| | V\| |
| 19+35 | 1.1795 | 0.04 | Q | \| | \| | \| | V\| |
| 19+40 | 1.1798 | 0.04 | Q | \| | \| | \| | V\| |
| 19+45 | 1.1800 | 0.04 | Q | \| | \| | \| | V\| |
| 19+50 | 1.1802 | 0.03 | Q | \| | \| | \| | V\| |
| 19+55 | 1.1804 | 0.02 | Q | \| | \| | \| | V\| |
| 20+ 0 | 1.1806 | 0.02 | Q | \| | \| | \| | V\| |
| 20+ 5 | 1.1808 | 0.03 | Q | \| | \| | \| | V\| |
| 20+10 | 1.1810 | 0.03 | Q | \| | \| | \| | V\| |
| 20+15 | 1.1813 | 0.04 | Q | \| | \| | \| | V\| |
| 20+20 | 1.1815 | 0.04 | Q | \| | \| | \| | V\| |
| 20+25 | 1.1817 | 0.04 | Q | \| | \| | \| | V\| |
| 20+30 | 1.1820 | 0.04 | Q | \| | \| | \| | V\| |
| 20+35 | 1.1822 | 0.04 | Q | \| | \| | \| | V\| |
| 20+40 | 1.1825 | 0.04 | Q | \| | \| | \| | V\| |
| 20+45 | 1.1827 | 0.04 | Q | \| | \| | \| | V\| |
| 20+50 | 1.1829 | 0.03 | Q | \| | \| | \| | V\| |
| 20+55 | 1.1831 | 0.02 | Q | \| | \| | \| | V\| |
| 21+ 0 | 1.1833 | 0.02 | Q | \| | \| | \| | V\| |
| 21+ 5 | 1.1835 | 0.03 | Q | \| | \| | \| | V\| |
| 21+10 | 1.1837 | 0.03 | Q | \| | \| | \| | V\| |
| 21+15 | 1.1839 | 0.04 | Q | \| | \| | \| | V\| |
| 21+20 | 1.1841 | 0.03 | Q | \| | \| | \| | V\| |
| 21+25 | 1.1843 | 0.02 | Q | \| | \| | \| | V\| |
| 21+30 | 1.1845 | 0.02 | Q | \| | \| | \| | V\| |
| 21+35 | 1.1847 | 0.03 | Q | \| | \| | \| | V\| |
| 21+40 | 1.1849 | 0.03 | Q | \| | \| | \| | V\| |
| 21+45 | 1.1852 | 0.04 | Q | \| | \| | \| | V\| |
| 21+50 | 1.1854 | 0.03 | Q | \| | \| | \| | V\| |
| 21+55 | 1.1855 | 0.02 | Q | \| | \| | \| | V\| |
| 22+ 0 | 1.1857 | 0.02 | Q | \| | \| | \| | V\| |
| 22+ 5 | 1.1859 | 0.03 | Q | \| | \| | \| | V\| |
| 22+10 | 1.1861 | 0.03 | Q | \| | \| | \| | V\| |
| 22+15 | 1.1864 | 0.04 | Q | \| | \| | \| | V\| |
| 22+20 | 1.1866 | 0.03 | Q | \| | \| | \| | V\| |
| 22+25 | 1.1868 | 0.02 | Q | \| | \| | \| | V\| |
| 22+30 | 1.1869 | 0.02 | Q | \| | \| | \| | V\| |
| 22+35 | 1.1871 | 0.02 | Q | \| | \| | \| | V\| |
| 22+40 | 1.1872 | 0.02 | Q | \| | \| | \| | V\| |
| 22+45 | 1.1874 | 0.02 | Q | \| | \| | \| | V\| |
| 22+50 | 1.1876 | 0.02 | Q | \| | \| | \| | V\| |
| 22+55 | 1.1877 | 0.02 | Q | \| | \| | \| | V\| |
| 23+ 0 | 1.1879 | 0.02 | Q | \| | \| | \| | V\| |
| 23+ 5 | 1.1881 | 0.02 | Q | \| | \| | \| | V\| |
| 23+10 | 1.1882 | 0.02 | Q | \| | \| | \| | V\| |
| 23+15 | 1.1884 | 0.02 | Q | \| | \| | \| | V\| |
| 23+20 | 1.1885 | 0.02 | Q | \| | \| | \| | V\| |
| 23+25 | 1.1887 | 0.02 | Q | \| | \| | \| | V\| |
| 23+30 | 1.1889 | 0.02 | Q | \| | \| | \| | V\| |
| 23+35 | 1.1890 | 0.02 | Q | \| | \| | \| | V\| |
| 23+40 | 1.1892 | 0.02 | Q | \| | \| | \| | V\| |
| 23+45 | 1.1894 | 0.02 | Q | \| | \| | \| | V\| |
| 23+50 | 1.1895 | 0.02 | Q | \| | \| | \| | V\| |
| 23+55 | 1.1897 | 0.02 | Q | \| | \| | \| | V\| |
| 24+ 0 | 1.1898 | 0.02 | Q | \| | \| | \| | V\| |
| 24+ 5 | 1.1899 | 0.01 | Q | \| | \| | \| | V\| |

| | | | | | | |
|---|---|---|---|---|---|---|
| 24+10 | 1.1900 | 0.00 | Q | \| | \| | V\| |
| 24+15 | 1.1900 | 0.00 | Q | \| | \| | V\| |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA121100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 12
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

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Drainage Area = 26.10(Ac.) = 0.041 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 26.10(Ac.) = 0.041 Sq. Mi.
Length along longest watercourse = 2119.00(Ft.)
Length along longest watercourse measured to centroid = 665.00(Ft.)
Length along longest watercourse = 0.401 Mi.
Length along longest watercourse measured to centroid = 0.126 Mi.
Difference in elevation = 535.00(Ft.)
Slope along watercourse = 1333.0816 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.069 Hr.
Lag time = 4.13 Min.
25% of lag time = 1.03 Min.
40% of lag time = 1.65 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 26.10 | 0.49 | 12.79 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 26.10 | 1.20 | 31.32 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.490(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.98 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 26.100 | 82.63 | 0.000 |

Total Area Entered = 26.10(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 82.6 | 92.6 | 0.096 | 0.000 | 0.096 | 1.000 | 0.096 |
| | | | | | Sum (F) = | 0.096 |

Area averaged mean soil loss (F) (In/Hr) = 0.096

Minimum soil loss rate ((In/Hr)) = 0.048
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 121.021 | 21.742 | 5.719 |
| 2 0.167 | 242.043 | 56.033 | 14.739 |
| 3 0.250 | 363.064 | 15.386 | 4.047 |
| 4 0.333 | 484.085 | 4.914 | 1.293 |
| 5 0.417 | 605.107 | 1.212 | 0.319 |
| 6 0.500 | 726.128 | 0.712 | 0.187 |
| | Sum = 100.000 | Sum= | 26.304 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 4.20 | 0.605 | 0.096 | ( 0.544) | 0.508 |
| 2 0.17 | 4.30 | 0.619 | 0.096 | ( 0.557) | 0.523 |
| 3 0.25 | 5.00 | 0.720 | 0.096 | ( 0.648) | 0.623 |
| 4 0.33 | 5.00 | 0.720 | 0.096 | ( 0.648) | 0.623 |
| 5 0.42 | 5.80 | 0.835 | 0.096 | ( 0.752) | 0.739 |
| 6 0.50 | 6.50 | 0.936 | 0.096 | ( 0.842) | 0.839 |
| 7 0.58 | 7.40 | 1.065 | 0.096 | ( 0.959) | 0.969 |
| 8 0.67 | 8.60 | 1.238 | 0.096 | ( 1.114) | 1.142 |
| 9 0.75 | 12.30 | 1.771 | 0.096 | ( 1.594) | 1.674 |
| 10 0.83 | 29.10 | 4.189 | 0.096 | ( 3.770) | 4.093 |
| 11 0.92 | 6.80 | 0.979 | 0.096 | ( 0.881) | 0.882 |
| 12 1.00 | 5.00 | 0.720 | 0.096 | ( 0.648) | 0.623 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 13.2 |

Flood volume = Effective rainfall 1.10(In)
times area 26.1(Ac.)/[(In)/(Ft.)] = 2.4(Ac.Ft)
Total soil loss = 0.10(In)
Total soil loss = 0.210(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 104523.3 Cubic Feet
Total soil loss = 9141.4 Cubic Feet

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Peak flow rate of this hydrograph = 74.129(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 20.0 | 40.0 | 60.0 | 80.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0200 | 2.91 | VQ | | | | |
| 0+10 | 0.0922 | 10.48 | V Q | | | | |
| 0+15 | 0.1840 | 13.33 | V Q | | | | |
| 0+20 | 0.2910 | 15.53 | V Q | | | | |
| 0+25 | 0.4066 | 16.78 | V Q | | | | |
| 0+30 | 0.5394 | 19.29 | VQ | | | | |
| 0+35 | 0.6910 | 22.01 | Q | | | | |
| 0+40 | 0.8665 | 25.49 | Q V | | | | |
| 0+45 | 1.0854 | 31.78 | Q V | | | | |
| 0+50 | 1.4600 | 54.39 | V Q | | | | |
| 0+55 | 1.9705 | 74.13 | V Q | | | | |
| 1+ 0 | 2.2175 | 35.86 | Q V | | | | |
| 1+ 5 | 2.3470 | 18.81 | Q | | | | V |
| 1+10 | 2.3834 | 5.28 | Q | | | | V |
| 1+15 | 2.3962 | 1.85 | Q | | | | V |

```
    1+20       2.3987      0.36  Q          |          |          |        V|
    1+25       2.3995      0.12  Q          |          |          |         V
-------------------------------------------------------------------------------
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA123100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 12
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

---

Drainage Area = 26.10(Ac.) = 0.041 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 26.10(Ac.) = 0.041 Sq. Mi.
Length along longest watercourse = 2119.00(Ft.)
Length along longest watercourse measured to centroid = 665.00(Ft.)
Length along longest watercourse = 0.401 Mi.
Length along longest watercourse measured to centroid = 0.126 Mi.
Difference in elevation = 535.00(Ft.)
Slope along watercourse = 1333.0816 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.069 Hr.
Lag time = 4.13 Min.
25% of lag time = 1.03 Min.
40% of lag time = 1.65 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 26.10 | 0.80 | 20.88 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 26.10 | 1.80 | 46.98 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 26.100 | 82.63 | 0.000 |

Total Area Entered = 26.10(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 82.6 | 92.6 | 0.096 | 0.000 | 0.096 | 1.000 | 0.096 |
| | | | | | Sum (F) = | 0.096 |

Area averaged mean soil loss (F) (In/Hr) = 0.096

Minimum soil loss rate ((In/Hr)) = 0.048
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 121.021 | 21.742 | 5.719 |
| 2 | 0.167 | 242.043 | 56.033 | 14.739 |
| 3 | 0.250 | 363.064 | 15.386 | 4.047 |
| 4 | 0.333 | 484.085 | 4.914 | 1.293 |
| 5 | 0.417 | 605.107 | 1.212 | 0.319 |
| 6 | 0.500 | 726.128 | 0.712 | 0.187 |
| | | | Sum = 100.000 | Sum= 26.304 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.281 | 0.096 | ( | 0.253) | 0.184 |
| 2 | 0.17 | 1.30 | 0.281 | 0.096 | ( | 0.253) | 0.184 |
| 3 | 0.25 | 1.10 | 0.238 | 0.096 | ( | 0.214) | 0.141 |
| 4 | 0.33 | 1.50 | 0.324 | 0.096 | ( | 0.292) | 0.227 |
| 5 | 0.42 | 1.50 | 0.324 | 0.096 | ( | 0.292) | 0.227 |
| 6 | 0.50 | 1.80 | 0.389 | 0.096 | ( | 0.350) | 0.292 |
| 7 | 0.58 | 1.50 | 0.324 | 0.096 | ( | 0.292) | 0.227 |
| 8 | 0.67 | 1.80 | 0.389 | 0.096 | ( | 0.350) | 0.292 |
| 9 | 0.75 | 1.80 | 0.389 | 0.096 | ( | 0.350) | 0.292 |
| 10 | 0.83 | 1.50 | 0.324 | 0.096 | ( | 0.292) | 0.227 |
| 11 | 0.92 | 1.60 | 0.346 | 0.096 | ( | 0.311) | 0.249 |
| 12 | 1.00 | 1.80 | 0.389 | 0.096 | ( | 0.350) | 0.292 |
| 13 | 1.08 | 2.20 | 0.475 | 0.096 | ( | 0.428) | 0.379 |
| 14 | 1.17 | 2.20 | 0.475 | 0.096 | ( | 0.428) | 0.379 |
| 15 | 1.25 | 2.20 | 0.475 | 0.096 | ( | 0.428) | 0.379 |
| 16 | 1.33 | 2.00 | 0.432 | 0.096 | ( | 0.389) | 0.335 |
| 17 | 1.42 | 2.60 | 0.562 | 0.096 | ( | 0.505) | 0.465 |
| 18 | 1.50 | 2.70 | 0.583 | 0.096 | ( | 0.525) | 0.487 |
| 19 | 1.58 | 2.40 | 0.518 | 0.096 | ( | 0.467) | 0.422 |
| 20 | 1.67 | 2.70 | 0.583 | 0.096 | ( | 0.525) | 0.487 |
| 21 | 1.75 | 3.30 | 0.713 | 0.096 | ( | 0.641) | 0.616 |
| 22 | 1.83 | 3.10 | 0.670 | 0.096 | ( | 0.603) | 0.573 |
| 23 | 1.92 | 2.90 | 0.626 | 0.096 | ( | 0.564) | 0.530 |
| 24 | 2.00 | 3.00 | 0.648 | 0.096 | ( | 0.583) | 0.551 |
| 25 | 2.08 | 3.10 | 0.670 | 0.096 | ( | 0.603) | 0.573 |
| 26 | 2.17 | 4.20 | 0.907 | 0.096 | ( | 0.816) | 0.811 |
| 27 | 2.25 | 5.00 | 1.080 | 0.096 | ( | 0.972) | 0.983 |
| 28 | 2.33 | 3.50 | 0.756 | 0.096 | ( | 0.680) | 0.659 |
| 29 | 2.42 | 6.80 | 1.469 | 0.096 | ( | 1.322) | 1.372 |
| 30 | 2.50 | 7.30 | 1.577 | 0.096 | ( | 1.419) | 1.480 |
| 31 | 2.58 | 8.20 | 1.771 | 0.096 | ( | 1.594) | 1.675 |
| 32 | 2.67 | 5.90 | 1.274 | 0.096 | ( | 1.147) | 1.178 |
| 33 | 2.75 | 2.00 | 0.432 | 0.096 | ( | 0.389) | 0.335 |
| 34 | 2.83 | 1.80 | 0.389 | 0.096 | ( | 0.350) | 0.292 |
| 35 | 2.92 | 1.80 | 0.389 | 0.096 | ( | 0.350) | 0.292 |
| 36 | 3.00 | 0.60 | 0.130 | 0.096 | ( | 0.117) | 0.033 |
| | | (Loss Rate Not Used) | | | | | |
| Sum = | | 100.0 | | | | Sum = | 18.1 |

Flood volume = Effective rainfall 1.51(In)
times area 26.1(Ac.)/[(In)/(Ft.)] = 3.3(Ac.Ft)
Total soil loss = 0.29(In)
Total soil loss = 0.630(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 143093.8 Cubic Feet
Total soil loss = 27424.1 Cubic Feet

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Peak flow rate of this hydrograph = 39.595(CFS)

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3 - H O U R S T O R M

R u n o f f  H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 10.0 20.0 30.0 40.0 |
|---|---|---|---|
| 0+ 5 | 0.0073 | 1.05 | VQ |
| 0+10 | 0.0332 | 3.77 | V Q |
| 0+15 | 0.0627 | 4.27 | V Q |
| 0+20 | 0.0927 | 4.37 | V Q |
| 0+25 | 0.1308 | 5.52 | V Q |
| 0+30 | 0.1736 | 6.22 | V Q |
| 0+35 | 0.2212 | 6.91 | V Q |
| 0+40 | 0.2667 | 6.60 | V Q |
| 0+45 | 0.3176 | 7.40 | V Q |
| 0+50 | 0.3674 | 7.23 | V Q |
| 0+55 | 0.4119 | 6.47 | VQ |
| 1+ 0 | 0.4586 | 6.78 | VQ |
| 1+ 5 | 0.5132 | 7.93 | VQ |
| 1+10 | 0.5779 | 9.38 | V Q |
| 1+15 | 0.6452 | 9.78 | V Q |
| 1+20 | 0.7118 | 9.67 | VQ |
| 1+25 | 0.7793 | 9.81 | Q |
| 1+30 | 0.8598 | 11.68 | VQ |
| 1+35 | 0.9431 | 12.10 | VQ |
| 1+40 | 1.0241 | 11.76 | QV |
| 1+45 | 1.1154 | 13.25 | Q |
| 1+50 | 1.2195 | 15.12 | VQ |
| 1+55 | 1.3217 | 14.83 | Q V |
| 2+ 0 | 1.4203 | 14.32 | Q V |
| 2+ 5 | 1.5207 | 14.59 | Q V |
| 2+10 | 1.6330 | 16.31 | Q V |
| 2+15 | 1.7769 | 20.89 | QV |
| 2+20 | 1.9324 | 22.57 | QV |
| 2+25 | 2.0900 | 22.89 | Q V |
| 2+30 | 2.3174 | 33.01 | V Q |
| 2+35 | 2.5810 | 38.28 | V Q |
| 2+40 | 2.8537 | 39.60 | V Q |
| 2+45 | 3.0503 | 28.54 | Q V |
| 2+50 | 3.1487 | 14.28 | Q V |
| 2+55 | 3.2153 | 9.68 | Q V |
| 3+ 0 | 3.2622 | 6.81 | Q V |
| 3+ 5 | 3.2786 | 2.38 | Q V |
| 3+10 | 3.2832 | 0.67 | Q V |
| 3+15 | 3.2845 | 0.19 | Q V |
| 3+20 | 3.2849 | 0.07 | Q V |
| 3+25 | 3.2850 | 0.01 | Q V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 12
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

---

Drainage Area = 26.10(Ac.) = 0.041 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 26.10(Ac.) = 0.041 Sq. Mi.
Length along longest watercourse = 2119.00(Ft.)
Length along longest watercourse measured to centroid = 665.00(Ft.)
Length along longest watercourse = 0.401 Mi.
Length along longest watercourse measured to centroid = 0.126 Mi.
Difference in elevation = 535.00(Ft.)
Slope along watercourse = 1333.0816 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.069 Hr.
Lag time = 4.13 Min.
25% of lag time = 1.03 Min.
40% of lag time = 1.65 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 26.10 | 1.12 | 29.23 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 26.10 | 2.50 | 65.25 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.120(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 26.100 | 82.63 | 0.000 |

Total Area Entered = 26.10(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 82.6 | 92.6 | 0.096 | 0.000 | 0.096 | 1.000 | 0.096 |
| | | | | | Sum (F) = | 0.096 |

Area averaged mean soil loss (F) (In/Hr) = 0.096

Minimum soil loss rate ((In/Hr)) = 0.048
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 121.021 | 21.742 | 5.719 |
| 2 | 0.167 | 242.043 | 56.033 | 14.739 |
| 3 | 0.250 | 363.064 | 15.386 | 4.047 |
| 4 | 0.333 | 484.085 | 4.914 | 1.293 |
| 5 | 0.417 | 605.107 | 1.212 | 0.319 |
| 6 | 0.500 | 726.128 | 0.712 | 0.187 |
| | | | Sum = 100.000 | Sum= 26.304 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.096 | ( | 0.135) | 0.054 |
| 2 | 0.17 | 0.60 | 0.180 | 0.096 | ( | 0.162) | 0.083 |
| 3 | 0.25 | 0.60 | 0.180 | 0.096 | ( | 0.162) | 0.083 |
| 4 | 0.33 | 0.60 | 0.180 | 0.096 | ( | 0.162) | 0.083 |
| 5 | 0.42 | 0.60 | 0.180 | 0.096 | ( | 0.162) | 0.083 |
| 6 | 0.50 | 0.70 | 0.210 | 0.096 | ( | 0.189) | 0.113 |
| 7 | 0.58 | 0.70 | 0.210 | 0.096 | ( | 0.189) | 0.113 |
| 8 | 0.67 | 0.70 | 0.210 | 0.096 | ( | 0.189) | 0.113 |
| 9 | 0.75 | 0.70 | 0.210 | 0.096 | ( | 0.189) | 0.113 |
| 10 | 0.83 | 0.70 | 0.210 | 0.096 | ( | 0.189) | 0.113 |
| 11 | 0.92 | 0.70 | 0.210 | 0.096 | ( | 0.189) | 0.113 |
| 12 | 1.00 | 0.80 | 0.240 | 0.096 | ( | 0.216) | 0.143 |
| 13 | 1.08 | 0.80 | 0.240 | 0.096 | ( | 0.216) | 0.143 |
| 14 | 1.17 | 0.80 | 0.240 | 0.096 | ( | 0.216) | 0.143 |
| 15 | 1.25 | 0.80 | 0.240 | 0.096 | ( | 0.216) | 0.143 |
| 16 | 1.33 | 0.80 | 0.240 | 0.096 | ( | 0.216) | 0.143 |
| 17 | 1.42 | 0.80 | 0.240 | 0.096 | ( | 0.216) | 0.143 |
| 18 | 1.50 | 0.80 | 0.240 | 0.096 | ( | 0.216) | 0.143 |
| 19 | 1.58 | 0.80 | 0.240 | 0.096 | ( | 0.216) | 0.143 |
| 20 | 1.67 | 0.80 | 0.240 | 0.096 | ( | 0.216) | 0.143 |
| 21 | 1.75 | 0.80 | 0.240 | 0.096 | ( | 0.216) | 0.143 |
| 22 | 1.83 | 0.80 | 0.240 | 0.096 | ( | 0.216) | 0.143 |
| 23 | 1.92 | 0.80 | 0.240 | 0.096 | ( | 0.216) | 0.143 |
| 24 | 2.00 | 0.90 | 0.270 | 0.096 | ( | 0.243) | 0.173 |
| 25 | 2.08 | 0.80 | 0.240 | 0.096 | ( | 0.216) | 0.143 |
| 26 | 2.17 | 0.90 | 0.270 | 0.096 | ( | 0.243) | 0.173 |
| 27 | 2.25 | 0.90 | 0.270 | 0.096 | ( | 0.243) | 0.173 |
| 28 | 2.33 | 0.90 | 0.270 | 0.096 | ( | 0.243) | 0.173 |
| 29 | 2.42 | 0.90 | 0.270 | 0.096 | ( | 0.243) | 0.173 |
| 30 | 2.50 | 0.90 | 0.270 | 0.096 | ( | 0.243) | 0.173 |
| 31 | 2.58 | 0.90 | 0.270 | 0.096 | ( | 0.243) | 0.173 |
| 32 | 2.67 | 0.90 | 0.270 | 0.096 | ( | 0.243) | 0.173 |
| 33 | 2.75 | 1.00 | 0.300 | 0.096 | ( | 0.270) | 0.203 |
| 34 | 2.83 | 1.00 | 0.300 | 0.096 | ( | 0.270) | 0.203 |
| 35 | 2.92 | 1.00 | 0.300 | 0.096 | ( | 0.270) | 0.203 |
| 36 | 3.00 | 1.00 | 0.300 | 0.096 | ( | 0.270) | 0.203 |
| 37 | 3.08 | 1.00 | 0.300 | 0.096 | ( | 0.270) | 0.203 |
| 38 | 3.17 | 1.10 | 0.330 | 0.096 | ( | 0.297) | 0.233 |
| 39 | 3.25 | 1.10 | 0.330 | 0.096 | ( | 0.297) | 0.233 |
| 40 | 3.33 | 1.10 | 0.330 | 0.096 | ( | 0.297) | 0.233 |
| 41 | 3.42 | 1.20 | 0.360 | 0.096 | ( | 0.324) | 0.263 |
| 42 | 3.50 | 1.30 | 0.390 | 0.096 | ( | 0.351) | 0.293 |
| 43 | 3.58 | 1.40 | 0.420 | 0.096 | ( | 0.378) | 0.323 |
| 44 | 3.67 | 1.40 | 0.420 | 0.096 | ( | 0.378) | 0.323 |
| 45 | 3.75 | 1.50 | 0.450 | 0.096 | ( | 0.405) | 0.353 |
| 46 | 3.83 | 1.50 | 0.450 | 0.096 | ( | 0.405) | 0.353 |
| 47 | 3.92 | 1.60 | 0.480 | 0.096 | ( | 0.432) | 0.383 |
| 48 | 4.00 | 1.60 | 0.480 | 0.096 | ( | 0.432) | 0.383 |
| 49 | 4.08 | 1.70 | 0.510 | 0.096 | ( | 0.459) | 0.413 |
| 50 | 4.17 | 1.80 | 0.540 | 0.096 | ( | 0.486) | 0.443 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 51 | 4.25 | 1.90 | 0.570 | 0.096 | ( 0.513) | 0.473 | |
| 52 | 4.33 | 2.00 | 0.600 | 0.096 | ( 0.540) | 0.503 | |
| 53 | 4.42 | 2.10 | 0.630 | 0.096 | ( 0.567) | 0.533 | |
| 54 | 4.50 | 2.10 | 0.630 | 0.096 | ( 0.567) | 0.533 | |
| 55 | 4.58 | 2.20 | 0.660 | 0.096 | ( 0.594) | 0.563 | |
| 56 | 4.67 | 2.30 | 0.690 | 0.096 | ( 0.621) | 0.593 | |
| 57 | 4.75 | 2.40 | 0.720 | 0.096 | ( 0.648) | 0.623 | |
| 58 | 4.83 | 2.40 | 0.720 | 0.096 | ( 0.648) | 0.623 | |
| 59 | 4.92 | 2.50 | 0.750 | 0.096 | ( 0.675) | 0.653 | |
| 60 | 5.00 | 2.60 | 0.780 | 0.096 | ( 0.702) | 0.683 | |
| 61 | 5.08 | 3.10 | 0.930 | 0.096 | ( 0.837) | 0.833 | |
| 62 | 5.17 | 3.60 | 1.080 | 0.096 | ( 0.972) | 0.983 | |
| 63 | 5.25 | 3.90 | 1.170 | 0.096 | ( 1.053) | 1.073 | |
| 64 | 5.33 | 4.20 | 1.260 | 0.096 | ( 1.134) | 1.163 | |
| 65 | 5.42 | 4.70 | 1.410 | 0.096 | ( 1.269) | 1.313 | |
| 66 | 5.50 | 5.60 | 1.680 | 0.096 | ( 1.512) | 1.583 | |
| 67 | 5.58 | 1.90 | 0.570 | 0.096 | ( 0.513) | 0.473 | |
| 68 | 5.67 | 0.90 | 0.270 | 0.096 | ( 0.243) | 0.173 | |
| 69 | 5.75 | 0.60 | 0.180 | 0.096 | ( 0.162) | 0.083 | |
| 70 | 5.83 | 0.50 | 0.150 | 0.096 | ( 0.135) | 0.054 | |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.096) | 0.081 | 0.009 | |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.096) | 0.054 | 0.006 | |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.1

Flood volume = Effective rainfall 1.93(In)
times area 26.1(Ac.)/[(In)/(Ft.)] = 4.2(Ac.Ft)
Total soil loss = 0.57(In)
Total soil loss = 1.249(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 182445.8 Cubic Feet
Total soil loss = 54390.4 Cubic Feet

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Peak flow rate of this hydrograph = 34.997(CFS)

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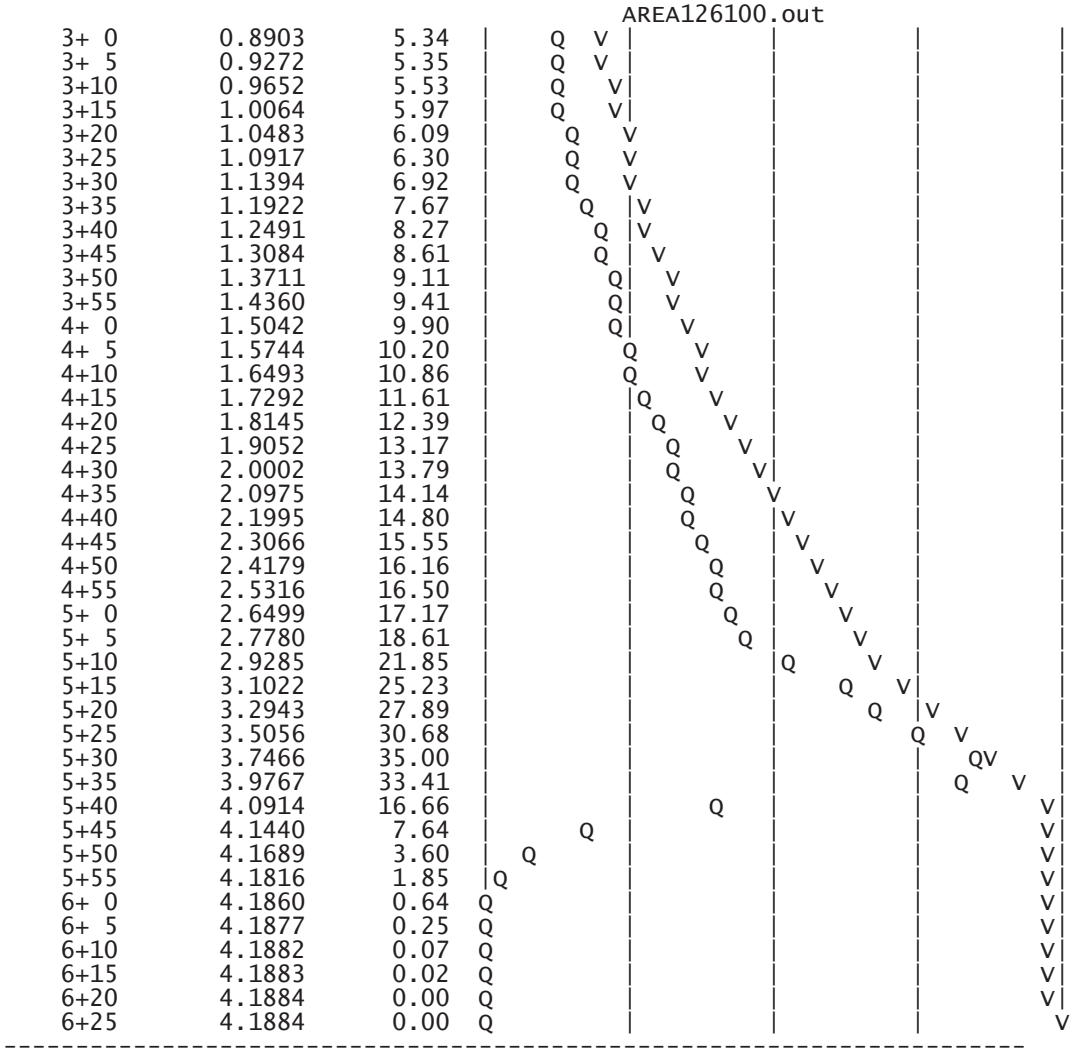
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 10.0 | 20.0 | 30.0 | 40.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0021 | 0.31 | Q | | | | |
| 0+10 | 0.0108 | 1.27 | VQ | | | | |
| 0+15 | 0.0241 | 1.93 | VQ | | | | |
| 0+20 | 0.0387 | 2.12 | V Q | | | | |
| 0+25 | 0.0536 | 2.17 | V Q | | | | |
| 0+30 | 0.0699 | 2.36 | V Q | | | | |
| 0+35 | 0.0893 | 2.81 | V Q | | | | |
| 0+40 | 0.1095 | 2.93 | \|VQ | | | | |
| 0+45 | 0.1299 | 2.97 | \|VQ | | | | |
| 0+50 | 0.1505 | 2.98 | \|VQ | | | | |
| 0+55 | 0.1710 | 2.99 | \|VQ | | | | |
| 1+ 0 | 0.1928 | 3.16 | \|V Q | | | | |
| 1+ 5 | 0.2176 | 3.60 | \| VQ | | | | |
| 1+10 | 0.2432 | 3.72 | \| VQ | | | | |
| 1+15 | 0.2691 | 3.76 | \| VQ | | | | |
| 1+20 | 0.2951 | 3.77 | \| VQ | | | | |
| 1+25 | 0.3211 | 3.78 | \| Q | | | | |
| 1+30 | 0.3471 | 3.78 | \| Q | | | | |
| 1+35 | 0.3731 | 3.78 | \| Q | | | | |
| 1+40 | 0.3991 | 3.78 | \| Q | | | | |
| 1+45 | 0.4251 | 3.78 | \| QV | | | | |
| 1+50 | 0.4511 | 3.78 | \| QV | | | | |
| 1+55 | 0.4772 | 3.78 | \| QV | | | | |
| 2+ 0 | 0.5043 | 3.95 | \| QV | | | | |
| 2+ 5 | 0.5334 | 4.22 | \| QV | | | | |
| 2+10 | 0.5614 | 4.07 | \| QV | | | | |
| 2+15 | 0.5919 | 4.43 | \| QV | | | | |
| 2+20 | 0.6231 | 4.52 | \| QV | | | | |
| 2+25 | 0.6545 | 4.56 | \| Q V | | | | |
| 2+30 | 0.6859 | 4.56 | \| Q V | | | | |
| 2+35 | 0.7173 | 4.57 | \| Q V | | | | |
| 2+40 | 0.7487 | 4.57 | \| Q V | | | | |
| 2+45 | 0.7814 | 4.74 | \| Q V | | | | |
| 2+50 | 0.8170 | 5.18 | \| Q V | | | | |
| 2+55 | 0.8536 | 5.30 | \| Q V \| | | | | |



| | | | |
|---|---|---|---|
| 3+ 0 | 0.8903 | 5.34 | |
| 3+ 5 | 0.9272 | 5.35 | |
| 3+10 | 0.9652 | 5.53 | |
| 3+15 | 1.0064 | 5.97 | |
| 3+20 | 1.0483 | 6.09 | |
| 3+25 | 1.0917 | 6.30 | |
| 3+30 | 1.1394 | 6.92 | |
| 3+35 | 1.1922 | 7.67 | |
| 3+40 | 1.2491 | 8.27 | |
| 3+45 | 1.3084 | 8.61 | |
| 3+50 | 1.3711 | 9.11 | |
| 3+55 | 1.4360 | 9.41 | |
| 4+ 0 | 1.5042 | 9.90 | |
| 4+ 5 | 1.5744 | 10.20 | |
| 4+10 | 1.6493 | 10.86 | |
| 4+15 | 1.7292 | 11.61 | |
| 4+20 | 1.8145 | 12.39 | |
| 4+25 | 1.9052 | 13.17 | |
| 4+30 | 2.0002 | 13.79 | |
| 4+35 | 2.0975 | 14.14 | |
| 4+40 | 2.1995 | 14.80 | |
| 4+45 | 2.3066 | 15.55 | |
| 4+50 | 2.4179 | 16.16 | |
| 4+55 | 2.5316 | 16.50 | |
| 5+ 0 | 2.6499 | 17.17 | |
| 5+ 5 | 2.7780 | 18.61 | |
| 5+10 | 2.9285 | 21.85 | |
| 5+15 | 3.1022 | 25.23 | |
| 5+20 | 3.2943 | 27.89 | |
| 5+25 | 3.5056 | 30.68 | |
| 5+30 | 3.7466 | 35.00 | |
| 5+35 | 3.9767 | 33.41 | |
| 5+40 | 4.0914 | 16.66 | |
| 5+45 | 4.1440 | 7.64 | |
| 5+50 | 4.1689 | 3.60 | |
| 5+55 | 4.1816 | 1.85 | |
| 6+ 0 | 4.1860 | 0.64 | |
| 6+ 5 | 4.1877 | 0.25 | |
| 6+10 | 4.1882 | 0.07 | |
| 6+15 | 4.1883 | 0.02 | |
| 6+20 | 4.1884 | 0.00 | |
| 6+25 | 4.1884 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 12
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

---

Drainage Area = 26.10(Ac.) = 0.041 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 26.10(Ac.) = 0.041 Sq. Mi.
Length along longest watercourse = 2119.00(Ft.)
Length along longest watercourse measured to centroid = 665.00(Ft.)
Length along longest watercourse = 0.401 Mi.
Length along longest watercourse measured to centroid = 0.126 Mi.
Difference in elevation = 535.00(Ft.)
Slope along watercourse = 1333.0816 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.069 Hr.
Lag time = 4.13 Min.
25% of lag time = 1.03 Min.
40% of lag time = 1.65 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 26.10 | 1.80 | 46.98 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 26.10 | 4.55 | 118.76 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.550(In)

Point rain (area averaged) = 4.550(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 4.550(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 26.100 | 82.63 | 0.000 |

Total Area Entered = 26.10(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 82.6 | 92.6 | 0.096 | 0.000 | 0.096 | 1.000 | 0.096 |
| | | | | | Sum (F) = | 0.096 |

Area averaged mean soil loss (F) (In/Hr) = 0.096

Minimum soil loss rate ((In/Hr)) = 0.048
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 121.021 | 21.742 | 5.719 |
| 2 0.167 | 242.043 | 56.033 | 14.739 |
| 3 0.250 | 363.064 | 15.386 | 4.047 |
| 4 0.333 | 484.085 | 4.914 | 1.293 |
| 5 0.417 | 605.107 | 1.212 | 0.319 |
| 6 0.500 | 726.128 | 0.712 | 0.187 |
| | Sum = | 100.000 Sum= | 26.304 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.036 | ( 0.171) | 0.033 | 0.004 |
| 2 | 0.17 | 0.07 | 0.036 | ( 0.170) | 0.033 | 0.004 |
| 3 | 0.25 | 0.07 | 0.036 | ( 0.170) | 0.033 | 0.004 |
| 4 | 0.33 | 0.10 | 0.055 | ( 0.169) | 0.049 | 0.005 |
| 5 | 0.42 | 0.10 | 0.055 | ( 0.168) | 0.049 | 0.005 |
| 6 | 0.50 | 0.10 | 0.055 | ( 0.168) | 0.049 | 0.005 |
| 7 | 0.58 | 0.10 | 0.055 | ( 0.167) | 0.049 | 0.005 |
| 8 | 0.67 | 0.10 | 0.055 | ( 0.166) | 0.049 | 0.005 |
| 9 | 0.75 | 0.10 | 0.055 | ( 0.166) | 0.049 | 0.005 |
| 10 | 0.83 | 0.13 | 0.073 | ( 0.165) | 0.066 | 0.007 |
| 11 | 0.92 | 0.13 | 0.073 | ( 0.164) | 0.066 | 0.007 |
| 12 | 1.00 | 0.13 | 0.073 | ( 0.164) | 0.066 | 0.007 |
| 13 | 1.08 | 0.10 | 0.055 | ( 0.163) | 0.049 | 0.005 |
| 14 | 1.17 | 0.10 | 0.055 | ( 0.163) | 0.049 | 0.005 |
| 15 | 1.25 | 0.10 | 0.055 | ( 0.162) | 0.049 | 0.005 |
| 16 | 1.33 | 0.10 | 0.055 | ( 0.161) | 0.049 | 0.005 |
| 17 | 1.42 | 0.10 | 0.055 | ( 0.161) | 0.049 | 0.005 |
| 18 | 1.50 | 0.10 | 0.055 | ( 0.160) | 0.049 | 0.005 |
| 19 | 1.58 | 0.10 | 0.055 | ( 0.159) | 0.049 | 0.005 |
| 20 | 1.67 | 0.10 | 0.055 | ( 0.159) | 0.049 | 0.005 |
| 21 | 1.75 | 0.10 | 0.055 | ( 0.158) | 0.049 | 0.005 |
| 22 | 1.83 | 0.13 | 0.073 | ( 0.157) | 0.066 | 0.007 |
| 23 | 1.92 | 0.13 | 0.073 | ( 0.157) | 0.066 | 0.007 |
| 24 | 2.00 | 0.13 | 0.073 | ( 0.156) | 0.066 | 0.007 |
| 25 | 2.08 | 0.13 | 0.073 | ( 0.156) | 0.066 | 0.007 |
| 26 | 2.17 | 0.13 | 0.073 | ( 0.155) | 0.066 | 0.007 |
| 27 | 2.25 | 0.13 | 0.073 | ( 0.154) | 0.066 | 0.007 |
| 28 | 2.33 | 0.13 | 0.073 | ( 0.154) | 0.066 | 0.007 |
| 29 | 2.42 | 0.13 | 0.073 | ( 0.153) | 0.066 | 0.007 |
| 30 | 2.50 | 0.13 | 0.073 | ( 0.152) | 0.066 | 0.007 |
| 31 | 2.58 | 0.17 | 0.091 | ( 0.152) | 0.082 | 0.009 |
| 32 | 2.67 | 0.17 | 0.091 | ( 0.151) | 0.082 | 0.009 |
| 33 | 2.75 | 0.17 | 0.091 | ( 0.151) | 0.082 | 0.009 |
| 34 | 2.83 | 0.17 | 0.091 | ( 0.150) | 0.082 | 0.009 |
| 35 | 2.92 | 0.17 | 0.091 | ( 0.149) | 0.082 | 0.009 |
| 36 | 3.00 | 0.17 | 0.091 | ( 0.149) | 0.082 | 0.009 |
| 37 | 3.08 | 0.17 | 0.091 | ( 0.148) | 0.082 | 0.009 |
| 38 | 3.17 | 0.17 | 0.091 | ( 0.147) | 0.082 | 0.009 |
| 39 | 3.25 | 0.17 | 0.091 | ( 0.147) | 0.082 | 0.009 |
| 40 | 3.33 | 0.17 | 0.091 | ( 0.146) | 0.082 | 0.009 |
| 41 | 3.42 | 0.17 | 0.091 | ( 0.146) | 0.082 | 0.009 |
| 42 | 3.50 | 0.17 | 0.091 | ( 0.145) | 0.082 | 0.009 |
| 43 | 3.58 | 0.17 | 0.091 | ( 0.144) | 0.082 | 0.009 |
| 44 | 3.67 | 0.17 | 0.091 | ( 0.144) | 0.082 | 0.009 |
| 45 | 3.75 | 0.17 | 0.091 | ( 0.143) | 0.082 | 0.009 |
| 46 | 3.83 | 0.20 | 0.109 | ( 0.143) | 0.098 | 0.011 |
| 47 | 3.92 | 0.20 | 0.109 | ( 0.142) | 0.098 | 0.011 |
| 48 | 4.00 | 0.20 | 0.109 | ( 0.141) | 0.098 | 0.011 |
| 49 | 4.08 | 0.20 | 0.109 | ( 0.141) | 0.098 | 0.011 |
| 50 | 4.17 | 0.20 | 0.109 | ( 0.140) | 0.098 | 0.011 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 51 | 4.25 | 0.20 | 0.109 | ( | 0.140) | 0.098 | | 0.011 |
| 52 | 4.33 | 0.23 | 0.127 | ( | 0.139) | 0.115 | | 0.013 |
| 53 | 4.42 | 0.23 | 0.127 | ( | 0.138) | 0.115 | | 0.013 |
| 54 | 4.50 | 0.23 | 0.127 | ( | 0.138) | 0.115 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.127 | ( | 0.137) | 0.115 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.127 | ( | 0.137) | 0.115 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.127 | ( | 0.136) | 0.115 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.146 | ( | 0.135) | 0.131 | | 0.015 |
| 59 | 4.92 | 0.27 | 0.146 | ( | 0.135) | 0.131 | | 0.015 |
| 60 | 5.00 | 0.27 | 0.146 | ( | 0.134) | 0.131 | | 0.015 |
| 61 | 5.08 | 0.20 | 0.109 | ( | 0.134) | 0.098 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.109 | ( | 0.133) | 0.098 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.109 | ( | 0.133) | 0.098 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.127 | ( | 0.132) | 0.115 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.127 | ( | 0.131) | 0.115 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.127 | ( | 0.131) | 0.115 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.146 | | 0.130 | ( 0.131) | | 0.015 |
| 68 | 5.67 | 0.27 | 0.146 | | 0.130 | ( 0.131) | | 0.016 |
| 69 | 5.75 | 0.27 | 0.146 | | 0.129 | ( 0.131) | | 0.017 |
| 70 | 5.83 | 0.27 | 0.146 | | 0.128 | ( 0.131) | | 0.017 |
| 71 | 5.92 | 0.27 | 0.146 | | 0.128 | ( 0.131) | | 0.018 |
| 72 | 6.00 | 0.27 | 0.146 | | 0.127 | ( 0.131) | | 0.018 |
| 73 | 6.08 | 0.30 | 0.164 | | 0.127 | ( 0.147) | | 0.037 |
| 74 | 6.17 | 0.30 | 0.164 | | 0.126 | ( 0.147) | | 0.038 |
| 75 | 6.25 | 0.30 | 0.164 | | 0.126 | ( 0.147) | | 0.038 |
| 76 | 6.33 | 0.30 | 0.164 | | 0.125 | ( 0.147) | | 0.039 |
| 77 | 6.42 | 0.30 | 0.164 | | 0.125 | ( 0.147) | | 0.039 |
| 78 | 6.50 | 0.30 | 0.164 | | 0.124 | ( 0.147) | | 0.040 |
| 79 | 6.58 | 0.33 | 0.182 | | 0.123 | ( 0.164) | | 0.059 |
| 80 | 6.67 | 0.33 | 0.182 | | 0.123 | ( 0.164) | | 0.059 |
| 81 | 6.75 | 0.33 | 0.182 | | 0.122 | ( 0.164) | | 0.060 |
| 82 | 6.83 | 0.33 | 0.182 | | 0.122 | ( 0.164) | | 0.060 |
| 83 | 6.92 | 0.33 | 0.182 | | 0.121 | ( 0.164) | | 0.061 |
| 84 | 7.00 | 0.33 | 0.182 | | 0.121 | ( 0.164) | | 0.061 |
| 85 | 7.08 | 0.33 | 0.182 | | 0.120 | ( 0.164) | | 0.062 |
| 86 | 7.17 | 0.33 | 0.182 | | 0.120 | ( 0.164) | | 0.062 |
| 87 | 7.25 | 0.33 | 0.182 | | 0.119 | ( 0.164) | | 0.063 |
| 88 | 7.33 | 0.37 | 0.200 | | 0.118 | ( 0.180) | | 0.082 |
| 89 | 7.42 | 0.37 | 0.200 | | 0.118 | ( 0.180) | | 0.082 |
| 90 | 7.50 | 0.37 | 0.200 | | 0.117 | ( 0.180) | | 0.083 |
| 91 | 7.58 | 0.40 | 0.218 | | 0.117 | ( 0.197) | | 0.102 |
| 92 | 7.67 | 0.40 | 0.218 | | 0.116 | ( 0.197) | | 0.102 |
| 93 | 7.75 | 0.40 | 0.218 | | 0.116 | ( 0.197) | | 0.103 |
| 94 | 7.83 | 0.43 | 0.237 | | 0.115 | ( 0.213) | | 0.121 |
| 95 | 7.92 | 0.43 | 0.237 | | 0.115 | ( 0.213) | | 0.122 |
| 96 | 8.00 | 0.43 | 0.237 | | 0.114 | ( 0.213) | | 0.122 |
| 97 | 8.08 | 0.50 | 0.273 | | 0.114 | ( 0.246) | | 0.159 |
| 98 | 8.17 | 0.50 | 0.273 | | 0.113 | ( 0.246) | | 0.160 |
| 99 | 8.25 | 0.50 | 0.273 | | 0.113 | ( 0.246) | | 0.160 |
| 100 | 8.33 | 0.50 | 0.273 | | 0.112 | ( 0.246) | | 0.161 |
| 101 | 8.42 | 0.50 | 0.273 | | 0.112 | ( 0.246) | | 0.161 |
| 102 | 8.50 | 0.50 | 0.273 | | 0.111 | ( 0.246) | | 0.162 |
| 103 | 8.58 | 0.53 | 0.291 | | 0.111 | ( 0.262) | | 0.181 |
| 104 | 8.67 | 0.53 | 0.291 | | 0.110 | ( 0.262) | | 0.181 |
| 105 | 8.75 | 0.53 | 0.291 | | 0.109 | ( 0.262) | | 0.182 |
| 106 | 8.83 | 0.57 | 0.309 | | 0.109 | ( 0.278) | | 0.200 |
| 107 | 8.92 | 0.57 | 0.309 | | 0.108 | ( 0.278) | | 0.201 |
| 108 | 9.00 | 0.57 | 0.309 | | 0.108 | ( 0.278) | | 0.201 |
| 109 | 9.08 | 0.63 | 0.346 | | 0.107 | ( 0.311) | | 0.238 |
| 110 | 9.17 | 0.63 | 0.346 | | 0.107 | ( 0.311) | | 0.239 |
| 111 | 9.25 | 0.63 | 0.346 | | 0.106 | ( 0.311) | | 0.239 |
| 112 | 9.33 | 0.67 | 0.364 | | 0.106 | ( 0.328) | | 0.258 |
| 113 | 9.42 | 0.67 | 0.364 | | 0.105 | ( 0.328) | | 0.259 |
| 114 | 9.50 | 0.67 | 0.364 | | 0.105 | ( 0.328) | | 0.259 |
| 115 | 9.58 | 0.70 | 0.382 | | 0.104 | ( 0.344) | | 0.278 |
| 116 | 9.67 | 0.70 | 0.382 | | 0.104 | ( 0.344) | | 0.278 |
| 117 | 9.75 | 0.70 | 0.382 | | 0.103 | ( 0.344) | | 0.279 |
| 118 | 9.83 | 0.73 | 0.400 | | 0.103 | ( 0.360) | | 0.298 |
| 119 | 9.92 | 0.73 | 0.400 | | 0.102 | ( 0.360) | | 0.298 |
| 120 | 10.00 | 0.73 | 0.400 | | 0.102 | ( 0.360) | | 0.298 |
| 121 | 10.08 | 0.50 | 0.273 | | 0.101 | ( 0.246) | | 0.172 |
| 122 | 10.17 | 0.50 | 0.273 | | 0.101 | ( 0.246) | | 0.172 |
| 123 | 10.25 | 0.50 | 0.273 | | 0.100 | ( 0.246) | | 0.173 |
| 124 | 10.33 | 0.50 | 0.273 | | 0.100 | ( 0.246) | | 0.173 |
| 125 | 10.42 | 0.50 | 0.273 | | 0.099 | ( 0.246) | | 0.174 |
| 126 | 10.50 | 0.50 | 0.273 | | 0.099 | ( 0.246) | | 0.174 |
| 127 | 10.58 | 0.67 | 0.364 | | 0.098 | ( 0.328) | | 0.266 |
| 128 | 10.67 | 0.67 | 0.364 | | 0.098 | ( 0.328) | | 0.266 |

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|---|---|---|---|---|---|---|
| 129 | 10.75 | 0.67 | 0.364 | 0.098 | ( 0.328) | 0.266 |
| 130 | 10.83 | 0.67 | 0.364 | 0.097 | ( 0.328) | 0.267 |
| 131 | 10.92 | 0.67 | 0.364 | 0.097 | ( 0.328) | 0.267 |
| 132 | 11.00 | 0.67 | 0.364 | 0.096 | ( 0.328) | 0.268 |
| 133 | 11.08 | 0.63 | 0.346 | 0.096 | ( 0.311) | 0.250 |
| 134 | 11.17 | 0.63 | 0.346 | 0.095 | ( 0.311) | 0.251 |
| 135 | 11.25 | 0.63 | 0.346 | 0.095 | ( 0.311) | 0.251 |
| 136 | 11.33 | 0.63 | 0.346 | 0.094 | ( 0.311) | 0.252 |
| 137 | 11.42 | 0.63 | 0.346 | 0.094 | ( 0.311) | 0.252 |
| 138 | 11.50 | 0.63 | 0.346 | 0.093 | ( 0.311) | 0.253 |
| 139 | 11.58 | 0.57 | 0.309 | 0.093 | ( 0.278) | 0.217 |
| 140 | 11.67 | 0.57 | 0.309 | 0.092 | ( 0.278) | 0.217 |
| 141 | 11.75 | 0.57 | 0.309 | 0.092 | ( 0.278) | 0.217 |
| 142 | 11.83 | 0.60 | 0.328 | 0.091 | ( 0.295) | 0.236 |
| 143 | 11.92 | 0.60 | 0.328 | 0.091 | ( 0.295) | 0.237 |
| 144 | 12.00 | 0.60 | 0.328 | 0.091 | ( 0.295) | 0.237 |
| 145 | 12.08 | 0.83 | 0.455 | 0.090 | ( 0.409) | 0.365 |
| 146 | 12.17 | 0.83 | 0.455 | 0.090 | ( 0.409) | 0.365 |
| 147 | 12.25 | 0.83 | 0.455 | 0.089 | ( 0.409) | 0.366 |
| 148 | 12.33 | 0.87 | 0.473 | 0.089 | ( 0.426) | 0.384 |
| 149 | 12.42 | 0.87 | 0.473 | 0.088 | ( 0.426) | 0.385 |
| 150 | 12.50 | 0.87 | 0.473 | 0.088 | ( 0.426) | 0.385 |
| 151 | 12.58 | 0.93 | 0.510 | 0.087 | ( 0.459) | 0.422 |
| 152 | 12.67 | 0.93 | 0.510 | 0.087 | ( 0.459) | 0.423 |
| 153 | 12.75 | 0.93 | 0.510 | 0.087 | ( 0.459) | 0.423 |
| 154 | 12.83 | 0.97 | 0.528 | 0.086 | ( 0.475) | 0.442 |
| 155 | 12.92 | 0.97 | 0.528 | 0.086 | ( 0.475) | 0.442 |
| 156 | 13.00 | 0.97 | 0.528 | 0.085 | ( 0.475) | 0.443 |
| 157 | 13.08 | 1.13 | 0.619 | 0.085 | ( 0.557) | 0.534 |
| 158 | 13.17 | 1.13 | 0.619 | 0.084 | ( 0.557) | 0.534 |
| 159 | 13.25 | 1.13 | 0.619 | 0.084 | ( 0.557) | 0.535 |
| 160 | 13.33 | 1.13 | 0.619 | 0.083 | ( 0.557) | 0.535 |
| 161 | 13.42 | 1.13 | 0.619 | 0.083 | ( 0.557) | 0.536 |
| 162 | 13.50 | 1.13 | 0.619 | 0.083 | ( 0.557) | 0.536 |
| 163 | 13.58 | 0.77 | 0.419 | 0.082 | ( 0.377) | 0.336 |
| 164 | 13.67 | 0.77 | 0.419 | 0.082 | ( 0.377) | 0.337 |
| 165 | 13.75 | 0.77 | 0.419 | 0.081 | ( 0.377) | 0.337 |
| 166 | 13.83 | 0.77 | 0.419 | 0.081 | ( 0.377) | 0.338 |
| 167 | 13.92 | 0.77 | 0.419 | 0.081 | ( 0.377) | 0.338 |
| 168 | 14.00 | 0.77 | 0.419 | 0.080 | ( 0.377) | 0.338 |
| 169 | 14.08 | 0.90 | 0.491 | 0.080 | ( 0.442) | 0.412 |
| 170 | 14.17 | 0.90 | 0.491 | 0.079 | ( 0.442) | 0.412 |
| 171 | 14.25 | 0.90 | 0.491 | 0.079 | ( 0.442) | 0.412 |
| 172 | 14.33 | 0.87 | 0.473 | 0.079 | ( 0.426) | 0.395 |
| 173 | 14.42 | 0.87 | 0.473 | 0.078 | ( 0.426) | 0.395 |
| 174 | 14.50 | 0.87 | 0.473 | 0.078 | ( 0.426) | 0.395 |
| 175 | 14.58 | 0.87 | 0.473 | 0.077 | ( 0.426) | 0.396 |
| 176 | 14.67 | 0.87 | 0.473 | 0.077 | ( 0.426) | 0.396 |
| 177 | 14.75 | 0.87 | 0.473 | 0.077 | ( 0.426) | 0.397 |
| 178 | 14.83 | 0.83 | 0.455 | 0.076 | ( 0.409) | 0.379 |
| 179 | 14.92 | 0.83 | 0.455 | 0.076 | ( 0.409) | 0.379 |
| 180 | 15.00 | 0.83 | 0.455 | 0.075 | ( 0.409) | 0.380 |
| 181 | 15.08 | 0.80 | 0.437 | 0.075 | ( 0.393) | 0.362 |
| 182 | 15.17 | 0.80 | 0.437 | 0.075 | ( 0.393) | 0.362 |
| 183 | 15.25 | 0.80 | 0.437 | 0.074 | ( 0.393) | 0.363 |
| 184 | 15.33 | 0.77 | 0.419 | 0.074 | ( 0.377) | 0.345 |
| 185 | 15.42 | 0.77 | 0.419 | 0.073 | ( 0.377) | 0.345 |
| 186 | 15.50 | 0.77 | 0.419 | 0.073 | ( 0.377) | 0.346 |
| 187 | 15.58 | 0.63 | 0.346 | 0.073 | ( 0.311) | 0.273 |
| 188 | 15.67 | 0.63 | 0.346 | 0.072 | ( 0.311) | 0.273 |
| 189 | 15.75 | 0.63 | 0.346 | 0.072 | ( 0.311) | 0.274 |
| 190 | 15.83 | 0.63 | 0.346 | 0.072 | ( 0.311) | 0.274 |
| 191 | 15.92 | 0.63 | 0.346 | 0.071 | ( 0.311) | 0.275 |
| 192 | 16.00 | 0.63 | 0.346 | 0.071 | ( 0.311) | 0.275 |
| 193 | 16.08 | 0.13 | 0.073 | ( 0.070) | 0.066 | 0.007 |
| 194 | 16.17 | 0.13 | 0.073 | ( 0.070) | 0.066 | 0.007 |
| 195 | 16.25 | 0.13 | 0.073 | ( 0.070) | 0.066 | 0.007 |
| 196 | 16.33 | 0.13 | 0.073 | ( 0.069) | 0.066 | 0.007 |
| 197 | 16.42 | 0.13 | 0.073 | ( 0.069) | 0.066 | 0.007 |
| 198 | 16.50 | 0.13 | 0.073 | ( 0.069) | 0.066 | 0.007 |
| 199 | 16.58 | 0.10 | 0.055 | ( 0.068) | 0.049 | 0.005 |
| 200 | 16.67 | 0.10 | 0.055 | ( 0.068) | 0.049 | 0.005 |
| 201 | 16.75 | 0.10 | 0.055 | ( 0.068) | 0.049 | 0.005 |
| 202 | 16.83 | 0.10 | 0.055 | ( 0.067) | 0.049 | 0.005 |
| 203 | 16.92 | 0.10 | 0.055 | ( 0.067) | 0.049 | 0.005 |
| 204 | 17.00 | 0.10 | 0.055 | ( 0.067) | 0.049 | 0.005 |
| 205 | 17.08 | 0.17 | 0.091 | 0.066 | ( 0.082) | 0.025 |
| 206 | 17.17 | 0.17 | 0.091 | 0.066 | ( 0.082) | 0.025 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 207 | 17.25 | 0.17 | 0.091 | 0.066 | ( 0.082) | 0.025 |
| 208 | 17.33 | 0.17 | 0.091 | 0.065 | ( 0.082) | 0.026 |
| 209 | 17.42 | 0.17 | 0.091 | 0.065 | ( 0.082) | 0.026 |
| 210 | 17.50 | 0.17 | 0.091 | 0.065 | ( 0.082) | 0.026 |
| 211 | 17.58 | 0.17 | 0.091 | 0.064 | ( 0.082) | 0.027 |
| 212 | 17.67 | 0.17 | 0.091 | 0.064 | ( 0.082) | 0.027 |
| 213 | 17.75 | 0.17 | 0.091 | 0.064 | ( 0.082) | 0.027 |
| 214 | 17.83 | 0.13 | 0.073 | 0.063 | ( 0.066) | 0.009 |
| 215 | 17.92 | 0.13 | 0.073 | 0.063 | ( 0.066) | 0.010 |
| 216 | 18.00 | 0.13 | 0.073 | 0.063 | ( 0.066) | 0.010 |
| 217 | 18.08 | 0.13 | 0.073 | 0.062 | ( 0.066) | 0.010 |
| 218 | 18.17 | 0.13 | 0.073 | 0.062 | ( 0.066) | 0.011 |
| 219 | 18.25 | 0.13 | 0.073 | 0.062 | ( 0.066) | 0.011 |
| 220 | 18.33 | 0.13 | 0.073 | 0.062 | ( 0.066) | 0.011 |
| 221 | 18.42 | 0.13 | 0.073 | 0.061 | ( 0.066) | 0.012 |
| 222 | 18.50 | 0.13 | 0.073 | 0.061 | ( 0.066) | 0.012 |
| 223 | 18.58 | 0.10 | 0.055 | ( 0.061) | 0.049 | 0.005 |
| 224 | 18.67 | 0.10 | 0.055 | ( 0.060) | 0.049 | 0.005 |
| 225 | 18.75 | 0.10 | 0.055 | ( 0.060) | 0.049 | 0.005 |
| 226 | 18.83 | 0.07 | 0.036 | ( 0.060) | 0.033 | 0.004 |
| 227 | 18.92 | 0.07 | 0.036 | ( 0.059) | 0.033 | 0.004 |
| 228 | 19.00 | 0.07 | 0.036 | ( 0.059) | 0.033 | 0.004 |
| 229 | 19.08 | 0.10 | 0.055 | ( 0.059) | 0.049 | 0.005 |
| 230 | 19.17 | 0.10 | 0.055 | ( 0.059) | 0.049 | 0.005 |
| 231 | 19.25 | 0.10 | 0.055 | ( 0.058) | 0.049 | 0.005 |
| 232 | 19.33 | 0.13 | 0.073 | 0.058 | ( 0.066) | 0.015 |
| 233 | 19.42 | 0.13 | 0.073 | 0.058 | ( 0.066) | 0.015 |
| 234 | 19.50 | 0.13 | 0.073 | 0.058 | ( 0.066) | 0.015 |
| 235 | 19.58 | 0.10 | 0.055 | ( 0.057) | 0.049 | 0.005 |
| 236 | 19.67 | 0.10 | 0.055 | ( 0.057) | 0.049 | 0.005 |
| 237 | 19.75 | 0.10 | 0.055 | ( 0.057) | 0.049 | 0.005 |
| 238 | 19.83 | 0.07 | 0.036 | ( 0.057) | 0.033 | 0.004 |
| 239 | 19.92 | 0.07 | 0.036 | ( 0.056) | 0.033 | 0.004 |
| 240 | 20.00 | 0.07 | 0.036 | ( 0.056) | 0.033 | 0.004 |
| 241 | 20.08 | 0.10 | 0.055 | ( 0.056) | 0.049 | 0.005 |
| 242 | 20.17 | 0.10 | 0.055 | ( 0.056) | 0.049 | 0.005 |
| 243 | 20.25 | 0.10 | 0.055 | ( 0.055) | 0.049 | 0.005 |
| 244 | 20.33 | 0.10 | 0.055 | ( 0.055) | 0.049 | 0.005 |
| 245 | 20.42 | 0.10 | 0.055 | ( 0.055) | 0.049 | 0.005 |
| 246 | 20.50 | 0.10 | 0.055 | ( 0.055) | 0.049 | 0.005 |
| 247 | 20.58 | 0.10 | 0.055 | ( 0.054) | 0.049 | 0.005 |
| 248 | 20.67 | 0.10 | 0.055 | ( 0.054) | 0.049 | 0.005 |
| 249 | 20.75 | 0.10 | 0.055 | ( 0.054) | 0.049 | 0.005 |
| 250 | 20.83 | 0.07 | 0.036 | ( 0.054) | 0.033 | 0.004 |
| 251 | 20.92 | 0.07 | 0.036 | ( 0.053) | 0.033 | 0.004 |
| 252 | 21.00 | 0.07 | 0.036 | ( 0.053) | 0.033 | 0.004 |
| 253 | 21.08 | 0.10 | 0.055 | ( 0.053) | 0.049 | 0.005 |
| 254 | 21.17 | 0.10 | 0.055 | ( 0.053) | 0.049 | 0.005 |
| 255 | 21.25 | 0.10 | 0.055 | ( 0.053) | 0.049 | 0.005 |
| 256 | 21.33 | 0.07 | 0.036 | ( 0.052) | 0.033 | 0.004 |
| 257 | 21.42 | 0.07 | 0.036 | ( 0.052) | 0.033 | 0.004 |
| 258 | 21.50 | 0.07 | 0.036 | ( 0.052) | 0.033 | 0.004 |
| 259 | 21.58 | 0.10 | 0.055 | ( 0.052) | 0.049 | 0.005 |
| 260 | 21.67 | 0.10 | 0.055 | ( 0.052) | 0.049 | 0.005 |
| 261 | 21.75 | 0.10 | 0.055 | ( 0.051) | 0.049 | 0.005 |
| 262 | 21.83 | 0.07 | 0.036 | ( 0.051) | 0.033 | 0.004 |
| 263 | 21.92 | 0.07 | 0.036 | ( 0.051) | 0.033 | 0.004 |
| 264 | 22.00 | 0.07 | 0.036 | ( 0.051) | 0.033 | 0.004 |
| 265 | 22.08 | 0.10 | 0.055 | ( 0.051) | 0.049 | 0.005 |
| 266 | 22.17 | 0.10 | 0.055 | ( 0.051) | 0.049 | 0.005 |
| 267 | 22.25 | 0.10 | 0.055 | ( 0.050) | 0.049 | 0.005 |
| 268 | 22.33 | 0.07 | 0.036 | ( 0.050) | 0.033 | 0.004 |
| 269 | 22.42 | 0.07 | 0.036 | ( 0.050) | 0.033 | 0.004 |
| 270 | 22.50 | 0.07 | 0.036 | ( 0.050) | 0.033 | 0.004 |
| 271 | 22.58 | 0.07 | 0.036 | ( 0.050) | 0.033 | 0.004 |
| 272 | 22.67 | 0.07 | 0.036 | ( 0.050) | 0.033 | 0.004 |
| 273 | 22.75 | 0.07 | 0.036 | ( 0.050) | 0.033 | 0.004 |
| 274 | 22.83 | 0.07 | 0.036 | ( 0.049) | 0.033 | 0.004 |
| 275 | 22.92 | 0.07 | 0.036 | ( 0.049) | 0.033 | 0.004 |
| 276 | 23.00 | 0.07 | 0.036 | ( 0.049) | 0.033 | 0.004 |
| 277 | 23.08 | 0.07 | 0.036 | ( 0.049) | 0.033 | 0.004 |
| 278 | 23.17 | 0.07 | 0.036 | ( 0.049) | 0.033 | 0.004 |
| 279 | 23.25 | 0.07 | 0.036 | ( 0.049) | 0.033 | 0.004 |
| 280 | 23.33 | 0.07 | 0.036 | ( 0.049) | 0.033 | 0.004 |
| 281 | 23.42 | 0.07 | 0.036 | ( 0.049) | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.036 | ( 0.049) | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.036 | ( 0.049) | 0.033 | 0.004 |
| 284 | 23.67 | 0.07 | 0.036 | ( 0.048) | 0.033 | 0.004 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 285 | 23.75 | 0.07 | 0.036 | ( | 0.048) | 0.033 | 0.004 |
| 286 | 23.83 | 0.07 | 0.036 | ( | 0.048) | 0.033 | 0.004 |
| 287 | 23.92 | 0.07 | 0.036 | ( | 0.048) | 0.033 | 0.004 |
| 288 | 24.00 | 0.07 | 0.036 | ( | 0.048) | 0.033 | 0.004 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 32.5

Flood volume = Effective rainfall 2.71(In)
times area 26.1(Ac.)/[(In)/(Ft.)] = 5.9(Ac.Ft)
Total soil loss = 1.84(In)
Total soil loss = 4.000(Ac.Ft)
Total rainfall = 4.55(In)
Flood volume = 256839.6 Cubic Feet
Total soil loss = 174219.1 Cubic Feet

---

Peak flow rate of this hydrograph = 14.097(CFS)

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++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++

24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

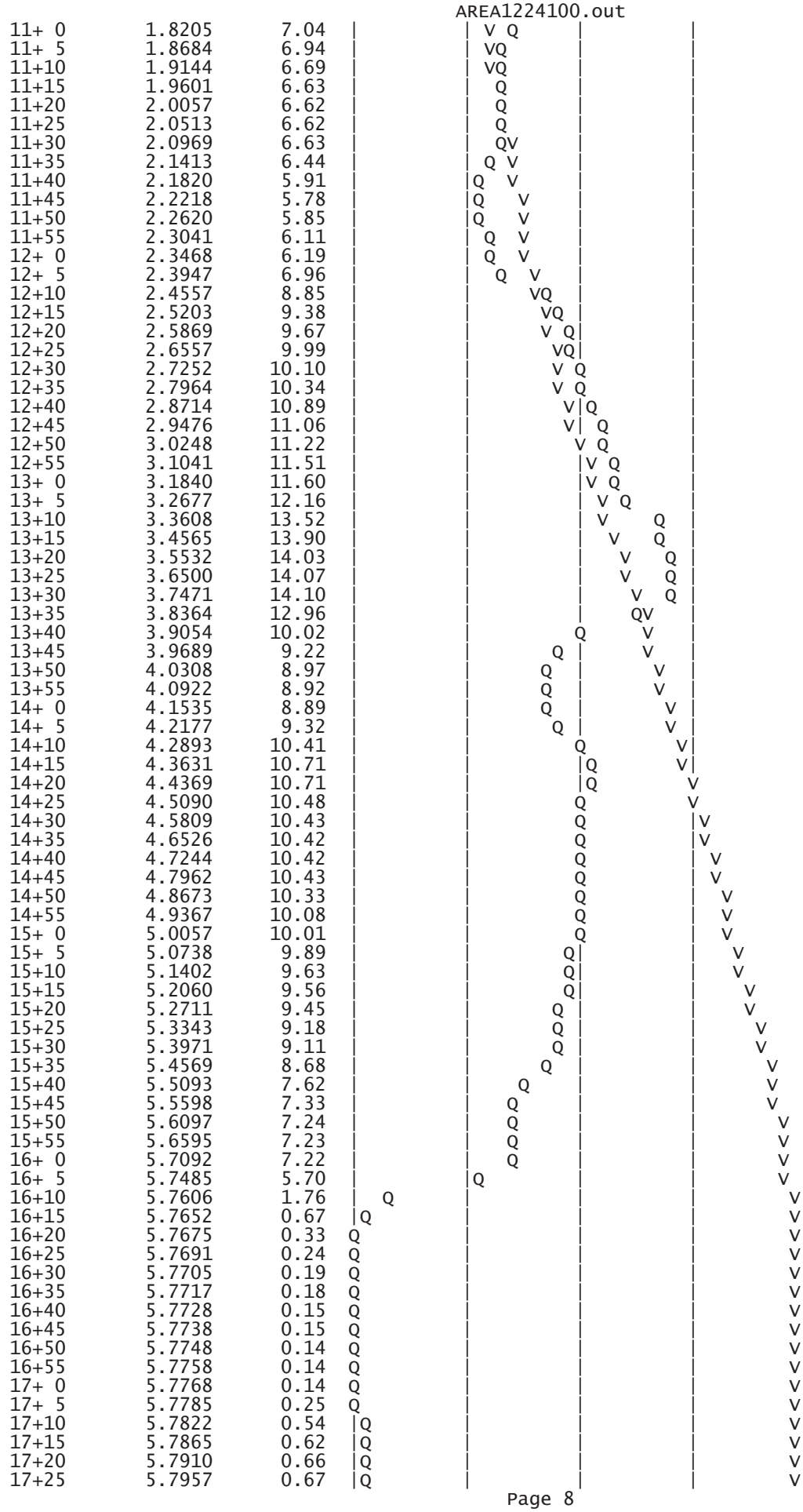
---

Hydrograph in 5 Minute intervals ((CFS))

---

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 5.0 | 10.0 | 15.0 | 20.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0001 | 0.02 | Q | | | | |
| 0+10 | 0.0007 | 0.07 | Q | | | | |
| 0+15 | 0.0013 | 0.09 | Q | | | | |
| 0+20 | 0.0020 | 0.10 | Q | | | | |
| 0+25 | 0.0029 | 0.13 | Q | | | | |
| 0+30 | 0.0039 | 0.14 | Q | | | | |
| 0+35 | 0.0049 | 0.14 | Q | | | | |
| 0+40 | 0.0058 | 0.14 | Q | | | | |
| 0+45 | 0.0068 | 0.14 | Q | | | | |
| 0+50 | 0.0079 | 0.15 | Q | | | | |
| 0+55 | 0.0091 | 0.18 | Q | | | | |
| 1+ 0 | 0.0104 | 0.19 | Q | | | | |
| 1+ 5 | 0.0117 | 0.18 | Q | | | | |
| 1+10 | 0.0127 | 0.15 | Q | | | | |
| 1+15 | 0.0137 | 0.15 | Q | | | | |
| 1+20 | 0.0147 | 0.14 | Q | | | | |
| 1+25 | 0.0157 | 0.14 | Q | | | | |
| 1+30 | 0.0167 | 0.14 | Q | | | | |
| 1+35 | 0.0177 | 0.14 | Q | | | | |
| 1+40 | 0.0187 | 0.14 | Q | | | | |
| 1+45 | 0.0197 | 0.14 | Q | | | | |
| 1+50 | 0.0208 | 0.15 | Q | | | | |
| 1+55 | 0.0220 | 0.18 | Q | | | | |
| 2+ 0 | 0.0233 | 0.19 | Q | | | | |
| 2+ 5 | 0.0246 | 0.19 | Q | | | | |
| 2+10 | 0.0259 | 0.19 | Q | | | | |
| 2+15 | 0.0272 | 0.19 | Q | | | | |
| 2+20 | 0.0286 | 0.19 | Q | | | | |
| 2+25 | 0.0299 | 0.19 | Q | | | | |
| 2+30 | 0.0312 | 0.19 | Q | | | | |
| 2+35 | 0.0326 | 0.20 | Q | | | | |
| 2+40 | 0.0342 | 0.23 | Q | | | | |
| 2+45 | 0.0358 | 0.24 | Q | | | | |
| 2+50 | 0.0374 | 0.24 | Q | | | | |
| 2+55 | 0.0391 | 0.24 | Q | | | | |
| 3+ 0 | 0.0407 | 0.24 | Q | | | | |
| 3+ 5 | 0.0424 | 0.24 | Q | | | | |
| 3+10 | 0.0440 | 0.24 | Q | | | | |
| 3+15 | 0.0457 | 0.24 | Q | | | | |
| 3+20 | 0.0473 | 0.24 | Q | | | | |
| 3+25 | 0.0490 | 0.24 | Q | | | | |
| 3+30 | 0.0506 | 0.24 | Q | | | | |
| 3+35 | 0.0523 | 0.24 | Q | | | | |
| 3+40 | 0.0539 | 0.24 | Q | | | | |
| 3+45 | 0.0556 | 0.24 | Q | | | | |
| 3+50 | 0.0573 | 0.25 | Q | | | | |
| 3+55 | 0.0592 | 0.28 | Q | | | | |
| 4+ 0 | 0.0612 | 0.28 | Q | | | | |
| 4+ 5 | 0.0631 | 0.29 | Q | | | | |
| 4+10 | 0.0651 | 0.29 | Q | | | | |
| 4+15 | 0.0671 | 0.29 | Q | | | | |
| 4+20 | 0.0691 | 0.30 | Q | | | | |
| 4+25 | 0.0714 | 0.32 | Q | | | | |

```
 4+30       0.0737      0.33  Q          |          |          |          |
 4+35       0.0760      0.33  Q          |          |          |          |
 4+40       0.0783      0.33  Q          |          |          |          |
 4+45       0.0806      0.34  Q          |          |          |          |
 4+50       0.0830      0.35  Q          |          |          |          |
 4+55       0.0855      0.37  Q          |          |          |          |
 5+ 0       0.0881      0.38  Q          |          |          |          |
 5+ 5       0.0906      0.36  Q          |          |          |          |
 5+10       0.0928      0.31  Q          |          |          |          |
 5+15       0.0948      0.29  Q          |          |          |          |
 5+20       0.0968      0.30  Q          |          |          |          |
 5+25       0.0991      0.33  Q          |          |          |          |
 5+30       0.1014      0.33  Q          |          |          |          |
 5+35       0.1038      0.35  Q          |          |          |          |
 5+40       0.1065      0.39  Q          |          |          |          |
 5+45       0.1093      0.42  Q          |          |          |          |
 5+50       0.1123      0.43  Q          |          |          |          |
 5+55       0.1154      0.45  Q          |          |          |          |
 6+ 0       0.1186      0.46  Q          |          |          |          |
 6+ 5       0.1226      0.58  VQ         |          |          |          |
 6+10       0.1286      0.87  VQ         |          |          |          |
 6+15       0.1351      0.95  VQ         |          |          |          |
 6+20       0.1420      0.99  VQ         |          |          |          |
 6+25       0.1490      1.01  |VQ        |          |          |          |
 6+30       0.1561      1.03  |VQ        |          |          |          |
 6+35       0.1640      1.15  |VQ        |          |          |          |
 6+40       0.1739      1.43  |VQ        |          |          |          |
 6+45       0.1843      1.52  |V Q       |          |          |          |
 6+50       0.1951      1.56  |V Q       |          |          |          |
 6+55       0.2060      1.58  |V Q       |          |          |          |
 7+ 0       0.2170      1.60  |V Q       |          |          |          |
 7+ 5       0.2281      1.61  |V Q       |          |          |          |
 7+10       0.2393      1.63  |V Q       |          |          |          |
 7+15       0.2506      1.64  |V Q       |          |          |          |
 7+20       0.2627      1.76  |V Q       |          |          |          |
 7+25       0.2768      2.04  |V  Q      |          |          |          |
 7+30       0.2914      2.13  |V  Q      |          |          |          |
 7+35       0.3071      2.27  | V Q      |          |          |          |
 7+40       0.3247      2.56  | V  Q     |          |          |          |
 7+45       0.3430      2.65  | V  Q     |          |          |          |
 7+50       0.3622      2.79  | V  Q     |          |          |          |
 7+55       0.3834      3.08  | V   Q    |          |          |          |
 8+ 0       0.4053      3.17  | V   Q    |          |          |          |
 8+ 5       0.4288      3.42  | V   Q    |          |          |          |
 8+10       0.4562      3.98  |  V   Q   |          |          |          |
 8+15       0.4847      4.14  |  V    Q  |          |          |          |
 8+20       0.5137      4.20  |  V    Q  |          |          |          |
 8+25       0.5428      4.23  |  V    Q  |          |          |          |
 8+30       0.5720      4.25  |  V    Q  |          |          |          |
 8+35       0.6021      4.37  |   V   Q  |          |          |          |
 8+40       0.6341      4.65  |   V    Q |          |          |          |
 8+45       0.6667      4.73  |   V    Q |          |          |          |
 8+50       0.7003      4.88  |   V    Q |          |          |          |
 8+55       0.7358      5.16  |   V     Q|          |          |          |
 9+ 0       0.7720      5.25  |    V    Q|          |          |          |
 9+ 5       0.8099      5.50  |    V    Q|          |          |          |
 9+10       0.8516      6.06  |    V    | Q        |          |          |
 9+15       0.8945      6.22  |     V   | Q        |          |          |
 9+20       0.9384      6.38  |     V   | Q        |          |          |
 9+25       0.9844      6.68  |     V   |  Q       |          |          |
 9+30       1.0310      6.77  |     V   |  Q       |          |          |
 9+35       1.0787      6.91  |      V  |  Q       |          |          |
 9+40       1.1282      7.20  |      V  |   Q      |          |          |
 9+45       1.1785      7.29  |      V  |   Q      |          |          |
 9+50       1.2296      7.43  |       V |   Q      |          |          |
 9+55       1.2828      7.72  |       V |    Q     |          |          |
10+ 0       1.3366      7.81  |        V|    Q     |          |          |
10+ 5       1.3856      7.12  |        V|   Q      |          |          |
10+10       1.4218      5.26  |        VQ          |          |          |
10+15       1.4545      4.76  |        Q|          |          |          |
10+20       1.4862      4.60  |        QV          |          |          |
10+25       1.5178      4.58  |        QV          |          |          |
10+30       1.5492      4.57  |        QV          |          |          |
10+35       1.5843      5.10  |         Q          |          |          |
10+40       1.6288      6.45  |         |VQ        |          |          |
10+45       1.6759      6.84  |         |V Q       |          |          |
10+50       1.7238      6.97  |         |V Q       |          |          |
10+55       1.7721      7.01  |         | V Q     |          |          |
```



| | | | |
|---|---|---|---|
| 11+ 0 | 1.8205 | 7.04 | \| V Q \| \| \| |
| 11+ 5 | 1.8684 | 6.94 | \| VQ \| \| \| |
| 11+10 | 1.9144 | 6.69 | \| VQ \| \| \| |
| 11+15 | 1.9601 | 6.63 | \| Q \| \| \| |
| 11+20 | 2.0057 | 6.62 | \| Q \| \| \| |
| 11+25 | 2.0513 | 6.62 | \| Q \| \| \| |
| 11+30 | 2.0969 | 6.63 | \| QV \| \| \| |
| 11+35 | 2.1413 | 6.44 | \| Q V \| \| \| |
| 11+40 | 2.1820 | 5.91 | \|Q V \| \| \| |
| 11+45 | 2.2218 | 5.78 | \|Q V \| \| \| |
| 11+50 | 2.2620 | 5.85 | \|Q V \| \| \| |
| 11+55 | 2.3041 | 6.11 | \| Q V \| \| \| |
| 12+ 0 | 2.3468 | 6.19 | \| Q V \| \| \| |
| 12+ 5 | 2.3947 | 6.96 | \| Q V \| \| \| |
| 12+10 | 2.4557 | 8.85 | \| VQ \| \| \| |
| 12+15 | 2.5203 | 9.38 | \| VQ \| \| \| |
| 12+20 | 2.5869 | 9.67 | \| V Q\| \| \| |
| 12+25 | 2.6557 | 9.99 | \| VQ\| \| \| |
| 12+30 | 2.7252 | 10.10 | \| V Q \| \| \| |
| 12+35 | 2.7964 | 10.34 | \| V Q \| \| \| |
| 12+40 | 2.8714 | 10.89 | \| V\|Q \| \| \| |
| 12+45 | 2.9476 | 11.06 | \| V\| Q \| \| \| |
| 12+50 | 3.0248 | 11.22 | \| V Q \| \| \| |
| 12+55 | 3.1041 | 11.51 | \| \|V Q \| \| \| |
| 13+ 0 | 3.1840 | 11.60 | \| \|V Q \| \| \| |
| 13+ 5 | 3.2677 | 12.16 | \| \| V Q \| \| \| |
| 13+10 | 3.3608 | 13.52 | \| \| V Q \| \| |
| 13+15 | 3.4565 | 13.90 | \| \| V Q \| \| |
| 13+20 | 3.5532 | 14.03 | \| \| V Q \| \| |
| 13+25 | 3.6500 | 14.07 | \| \| V Q \| \| |
| 13+30 | 3.7471 | 14.10 | \| \| V Q \| \| |
| 13+35 | 3.8364 | 12.96 | \| \| QV \| \| |
| 13+40 | 3.9054 | 10.02 | \| Q V \| \| |
| 13+45 | 3.9689 | 9.22 | \| Q \| V \| \| |
| 13+50 | 4.0308 | 8.97 | \| Q \| V \| \| |
| 13+55 | 4.0922 | 8.92 | \| Q \| V \| \| |
| 14+ 0 | 4.1535 | 8.89 | \| Q \| V \| \| |
| 14+ 5 | 4.2177 | 9.32 | \| Q \| V \| \| |
| 14+10 | 4.2893 | 10.41 | \| Q V\| \| |
| 14+15 | 4.3631 | 10.71 | \| \|Q V\| \| |
| 14+20 | 4.4369 | 10.71 | \| \|Q V \| |
| 14+25 | 4.5090 | 10.48 | \| Q V \| |
| 14+30 | 4.5809 | 10.43 | \| Q \|V \| |
| 14+35 | 4.6526 | 10.42 | \| Q \|V \| |
| 14+40 | 4.7244 | 10.42 | \| Q \| V \| |
| 14+45 | 4.7962 | 10.43 | \| Q \| V \| |
| 14+50 | 4.8673 | 10.33 | \| Q \| V \| |
| 14+55 | 4.9367 | 10.08 | \| Q \| V \| |
| 15+ 0 | 5.0057 | 10.01 | \| Q \| V \| |
| 15+ 5 | 5.0738 | 9.89 | \| Q\| \| V \| |
| 15+10 | 5.1402 | 9.63 | \| Q\| \| V \| |
| 15+15 | 5.2060 | 9.56 | \| Q\| \| V \| |
| 15+20 | 5.2711 | 9.45 | \| Q \| \| V \| |
| 15+25 | 5.3343 | 9.18 | \| Q \| \| V \| |
| 15+30 | 5.3971 | 9.11 | \| Q \| \| V \| |
| 15+35 | 5.4569 | 8.68 | \| Q \| \| V \| |
| 15+40 | 5.5093 | 7.62 | \| Q \| \| V \| |
| 15+45 | 5.5598 | 7.33 | \| Q \| \| V \| |
| 15+50 | 5.6097 | 7.24 | \| Q \| \| V \| |
| 15+55 | 5.6595 | 7.23 | \| Q \| \| V \| |
| 16+ 0 | 5.7092 | 7.22 | \| Q \| \| V \| |
| 16+ 5 | 5.7485 | 5.70 | \|Q \| \| V \| |
| 16+10 | 5.7606 | 1.76 | \| Q \| \| V\| |
| 16+15 | 5.7652 | 0.67 | \|Q \| \| V\| |
| 16+20 | 5.7675 | 0.33 | Q \| \| V\| |
| 16+25 | 5.7691 | 0.24 | Q \| \| V\| |
| 16+30 | 5.7705 | 0.19 | Q \| \| V\| |
| 16+35 | 5.7717 | 0.18 | Q \| \| V\| |
| 16+40 | 5.7728 | 0.15 | Q \| \| V\| |
| 16+45 | 5.7738 | 0.15 | Q \| \| V\| |
| 16+50 | 5.7748 | 0.14 | Q \| \| V\| |
| 16+55 | 5.7758 | 0.14 | Q \| \| V\| |
| 17+ 0 | 5.7768 | 0.14 | Q \| \| V\| |
| 17+ 5 | 5.7785 | 0.25 | Q \| \| V\| |
| 17+10 | 5.7822 | 0.54 | \|Q \| \| V\| |
| 17+15 | 5.7865 | 0.62 | \|Q \| \| V\| |
| 17+20 | 5.7910 | 0.66 | \|Q \| \| V\| |
| 17+25 | 5.7957 | 0.67 | \|Q \| \| V\| |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+30 | 5.8004 | 0.68 | \|Q | \| | \| | \| | V\| |
| 17+35 | 5.8051 | 0.69 | \|Q | \| | \| | \| | V\| |
| 17+40 | 5.8100 | 0.70 | \|Q | \| | \| | \| | V\| |
| 17+45 | 5.8148 | 0.71 | \|Q | \| | \| | \| | V\| |
| 17+50 | 5.8191 | 0.61 | \|Q | \| | \| | \| | V\| |
| 17+55 | 5.8215 | 0.35 | Q | \| | \| | \| | V\| |
| 18+ 0 | 5.8235 | 0.29 | Q | \| | \| | \| | V\| |
| 18+ 5 | 5.8254 | 0.27 | Q | \| | \| | \| | V\| |
| 18+10 | 5.8273 | 0.27 | Q | \| | \| | \| | V\| |
| 18+15 | 5.8292 | 0.28 | Q | \| | \| | \| | V\| |
| 18+20 | 5.8312 | 0.29 | Q | \| | \| | \| | V\| |
| 18+25 | 5.8332 | 0.30 | Q | \| | \| | \| | V\| |
| 18+30 | 5.8353 | 0.30 | Q | \| | \| | \| | V\| |
| 18+35 | 5.8372 | 0.27 | Q | \| | \| | \| | V\| |
| 18+40 | 5.8384 | 0.18 | Q | \| | \| | \| | V\| |
| 18+45 | 5.8395 | 0.15 | Q | \| | \| | \| | V\| |
| 18+50 | 5.8404 | 0.14 | Q | \| | \| | \| | V\| |
| 18+55 | 5.8412 | 0.11 | Q | \| | \| | \| | V\| |
| 19+ 0 | 5.8418 | 0.10 | Q | \| | \| | \| | V\| |
| 19+ 5 | 5.8426 | 0.11 | Q | \| | \| | \| | V\| |
| 19+10 | 5.8435 | 0.13 | Q | \| | \| | \| | V\| |
| 19+15 | 5.8445 | 0.14 | Q | \| | \| | \| | V\| |
| 19+20 | 5.8458 | 0.20 | Q | \| | \| | \| | V\| |
| 19+25 | 5.8481 | 0.33 | Q | \| | \| | \| | V\| |
| 19+30 | 5.8507 | 0.38 | Q | \| | \| | \| | V\| |
| 19+35 | 5.8530 | 0.34 | Q | \| | \| | \| | V\| |
| 19+40 | 5.8544 | 0.20 | Q | \| | \| | \| | V\| |
| 19+45 | 5.8555 | 0.16 | Q | \| | \| | \| | V\| |
| 19+50 | 5.8565 | 0.14 | Q | \| | \| | \| | V\| |
| 19+55 | 5.8572 | 0.11 | Q | \| | \| | \| | V\| |
| 20+ 0 | 5.8579 | 0.10 | Q | \| | \| | \| | V\| |
| 20+ 5 | 5.8586 | 0.11 | Q | \| | \| | \| | V\| |
| 20+10 | 5.8595 | 0.13 | Q | \| | \| | \| | V\| |
| 20+15 | 5.8605 | 0.14 | Q | \| | \| | \| | V\| |
| 20+20 | 5.8615 | 0.14 | Q | \| | \| | \| | V\| |
| 20+25 | 5.8625 | 0.14 | Q | \| | \| | \| | V\| |
| 20+30 | 5.8635 | 0.14 | Q | \| | \| | \| | V\| |
| 20+35 | 5.8645 | 0.14 | Q | \| | \| | \| | V\| |
| 20+40 | 5.8655 | 0.14 | Q | \| | \| | \| | V\| |
| 20+45 | 5.8664 | 0.14 | Q | \| | \| | \| | V\| |
| 20+50 | 5.8674 | 0.13 | Q | \| | \| | \| | V\| |
| 20+55 | 5.8681 | 0.11 | Q | \| | \| | \| | V\| |
| 21+ 0 | 5.8688 | 0.10 | Q | \| | \| | \| | V\| |
| 21+ 5 | 5.8695 | 0.11 | Q | \| | \| | \| | V\| |
| 21+10 | 5.8704 | 0.13 | Q | \| | \| | \| | V\| |
| 21+15 | 5.8714 | 0.14 | Q | \| | \| | \| | V\| |
| 21+20 | 5.8723 | 0.13 | Q | \| | \| | \| | V\| |
| 21+25 | 5.8730 | 0.11 | Q | \| | \| | \| | V\| |
| 21+30 | 5.8737 | 0.10 | Q | \| | \| | \| | V\| |
| 21+35 | 5.8745 | 0.11 | Q | \| | \| | \| | V\| |
| 21+40 | 5.8754 | 0.13 | Q | \| | \| | \| | V\| |
| 21+45 | 5.8763 | 0.14 | Q | \| | \| | \| | V\| |
| 21+50 | 5.8773 | 0.13 | Q | \| | \| | \| | V\| |
| 21+55 | 5.8780 | 0.11 | Q | \| | \| | \| | V\| |
| 22+ 0 | 5.8787 | 0.10 | Q | \| | \| | \| | V\| |
| 22+ 5 | 5.8794 | 0.11 | Q | \| | \| | \| | V\| |
| 22+10 | 5.8803 | 0.13 | Q | \| | \| | \| | V\| |
| 22+15 | 5.8813 | 0.14 | Q | \| | \| | \| | V\| |
| 22+20 | 5.8822 | 0.13 | Q | \| | \| | \| | V\| |
| 22+25 | 5.8829 | 0.11 | Q | \| | \| | \| | V\| |
| 22+30 | 5.8836 | 0.10 | Q | \| | \| | \| | V\| |
| 22+35 | 5.8843 | 0.10 | Q | \| | \| | \| | V\| |
| 22+40 | 5.8849 | 0.10 | Q | \| | \| | \| | V\| |
| 22+45 | 5.8856 | 0.10 | Q | \| | \| | \| | V\| |
| 22+50 | 5.8863 | 0.10 | Q | \| | \| | \| | V\| |
| 22+55 | 5.8869 | 0.10 | Q | \| | \| | \| | V\| |
| 23+ 0 | 5.8876 | 0.10 | Q | \| | \| | \| | V\| |
| 23+ 5 | 5.8882 | 0.10 | Q | \| | \| | \| | V\| |
| 23+10 | 5.8889 | 0.10 | Q | \| | \| | \| | V\| |
| 23+15 | 5.8896 | 0.10 | Q | \| | \| | \| | V\| |
| 23+20 | 5.8902 | 0.10 | Q | \| | \| | \| | V\| |
| 23+25 | 5.8909 | 0.10 | Q | \| | \| | \| | V\| |
| 23+30 | 5.8915 | 0.10 | Q | \| | \| | \| | V\| |
| 23+35 | 5.8922 | 0.10 | Q | \| | \| | \| | V\| |
| 23+40 | 5.8929 | 0.10 | Q | \| | \| | \| | V\| |
| 23+45 | 5.8935 | 0.10 | Q | \| | \| | \| | V\| |
| 23+50 | 5.8942 | 0.10 | Q | \| | \| | \| | V\| |
| 23+55 | 5.8948 | 0.10 | Q | \| | \| | \| | V\| |

```
   24+ 0       5.8955      0.10  Q          |          |          |         V|
   24+ 5       5.8960      0.07  Q          |          |          |         V|
   24+10       5.8962      0.02  Q          |          |          |         V|
   24+15       5.8962      0.01  Q          |          |          |         V|
   24+20       5.8962      0.00  Q          |          |          |         V|
   24+25       5.8962      0.00  Q          |          |          |          V
-------------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014, Version 9.0
Study date 01/25/18 File: AREA131100.out

++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
----------------------------------------------------------------------

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 13
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

---

Drainage Area = 28.40(Ac.) = 0.044 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 28.40(Ac.) = 0.044 Sq. Mi.
Length along longest watercourse = 1611.00(Ft.)
Length along longest watercourse measured to centroid = 894.00(Ft.)
Length along longest watercourse = 0.305 Mi.
Length along longest watercourse measured to centroid = 0.169 Mi.
Difference in elevation = 505.00(Ft.)
Slope along watercourse = 1655.1210 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.067 Hr.
Lag time = 4.00 Min.
25% of lag time = 1.00 Min.
40% of lag time = 1.60 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 28.40 | 0.49 | 13.92 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 28.40 | 1.20 | 34.08 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.490(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.97 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 28.400 | 80.04 | 0.000 |

Total Area Entered = 28.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 80.0 | 91.0 | 0.117 | 0.000 | 0.117 | 1.000 | 0.117 |
| | | | | | Sum (F) = | 0.117 |

Area averaged mean soil loss (F) (In/Hr) = 0.117

Minimum soil loss rate ((In/Hr)) = 0.058
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 125.059 | 23.071 | 6.603 |
| 2 | 0.167 | 250.118 | 55.879 | 15.994 |
| 3 | 0.250 | 375.176 | 14.879 | 4.259 |
| 4 | 0.333 | 500.235 | 4.464 | 1.278 |
| 5 | 0.417 | 625.294 | 1.119 | 0.320 |
| 6 | 0.500 | 750.353 | 0.588 | 0.168 |
| | | Sum = 100.000 | Sum= | 28.622 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.117 | ( 0.544) | 0.488 |
| 2 | 0.17 | 4.30 | 0.619 | 0.117 | ( 0.557) | 0.502 |
| 3 | 0.25 | 5.00 | 0.720 | 0.117 | ( 0.648) | 0.603 |
| 4 | 0.33 | 5.00 | 0.720 | 0.117 | ( 0.648) | 0.603 |
| 5 | 0.42 | 5.80 | 0.835 | 0.117 | ( 0.751) | 0.718 |
| 6 | 0.50 | 6.50 | 0.936 | 0.117 | ( 0.842) | 0.819 |
| 7 | 0.58 | 7.40 | 1.065 | 0.117 | ( 0.959) | 0.949 |
| 8 | 0.67 | 8.60 | 1.238 | 0.117 | ( 1.114) | 1.121 |
| 9 | 0.75 | 12.30 | 1.771 | 0.117 | ( 1.594) | 1.654 |
| 10 | 0.83 | 29.10 | 4.189 | 0.117 | ( 3.770) | 4.073 |
| 11 | 0.92 | 6.80 | 0.979 | 0.117 | ( 0.881) | 0.862 |
| 12 | 1.00 | 5.00 | 0.720 | 0.117 | ( 0.648) | 0.603 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | | Sum = | 13.0 |

Flood volume = Effective rainfall 1.08(In)
times area 28.4(Ac.)/[(In)/(Ft.)] = 2.6(Ac.Ft)
Total soil loss = 0.12(In)
Total soil loss = 0.276(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 111649.0 Cubic Feet
Total soil loss = 12029.6 Cubic Feet

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Peak flow rate of this hydrograph = 79.790(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 20.0 | 40.0 | 60.0 | 80.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0222 | 3.22 | VQ | | | | |
| 0+10 | 0.0988 | 11.13 | \|V Q | | | | |
| 0+15 | 0.1960 | 14.10 | \| V Q | | | | |
| 0+20 | 0.3089 | 16.40 | \| V Q | | | | |
| 0+25 | 0.4313 | 17.77 | \| V Q | | | | |
| 0+30 | 0.5724 | 20.49 | \| V Q | | | | |
| 0+35 | 0.7341 | 23.48 | \| Q | | | | |
| 0+40 | 0.9221 | 27.29 | \| QV | | | | |
| 0+45 | 1.1582 | 34.29 | \| QV | | | | |
| 0+50 | 1.5697 | 59.75 | \| V Q | | | | |
| 0+55 | 2.1193 | 79.79 | \| V Q | | | | |
| 1+ 0 | 2.3794 | 37.77 | \| Q V | | | | |
| 1+ 5 | 2.5119 | 19.25 | \| Q V | | | | |
| 1+10 | 2.5481 | 5.26 | \| Q V | | | | |
| 1+15 | 2.5601 | 1.73 | \| Q V | | | | |

```
    1+20       2.5624      0.34  Q          |          |          |        V|
    1+25       2.5631      0.10  Q          |          |          |         V
-------------------------------------------------------------------------------
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA133100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 13
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

---

Drainage Area = 28.40(Ac.) = 0.044 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 28.40(Ac.) = 0.044 Sq. Mi.
Length along longest watercourse = 1611.00(Ft.)
Length along longest watercourse measured to centroid = 894.00(Ft.)
Length along longest watercourse = 0.305 Mi.
Length along longest watercourse measured to centroid = 0.169 Mi.
Difference in elevation = 505.00(Ft.)
Slope along watercourse = 1655.1210 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.067 Hr.
Lag time = 4.00 Min.
25% of lag time = 1.00 Min.
40% of lag time = 1.60 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 28.40 | 0.80 | 22.72 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 28.40 | 1.80 | 51.12 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 28.400 | 80.04 | 0.000 |

Total Area Entered = 28.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 80.0 | 91.0 | 0.117 | 0.000 | 0.117 | 1.000 | 0.117 |
| | | | | | Sum (F) = | 0.117 |

Area averaged mean soil loss (F) (In/Hr) = 0.117

Minimum soil loss rate ((In/Hr)) = 0.058
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 125.059 | 23.071 | 6.603 |
| 2 0.167 | 250.118 | 55.879 | 15.994 |
| 3 0.250 | 375.176 | 14.879 | 4.259 |
| 4 0.333 | 500.235 | 4.464 | 1.278 |
| 5 0.417 | 625.294 | 1.119 | 0.320 |
| 6 0.500 | 750.353 | 0.588 | 0.168 |
| | | Sum = 100.000 | Sum= 28.622 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.281 | 0.117 | ( 0.253) | 0.164 |
| 2 | 0.17 | 1.30 | 0.281 | 0.117 | ( 0.253) | 0.164 |
| 3 | 0.25 | 1.10 | 0.238 | 0.117 | ( 0.214) | 0.121 |
| 4 | 0.33 | 1.50 | 0.324 | 0.117 | ( 0.292) | 0.207 |
| 5 | 0.42 | 1.50 | 0.324 | 0.117 | ( 0.292) | 0.207 |
| 6 | 0.50 | 1.80 | 0.389 | 0.117 | ( 0.350) | 0.272 |
| 7 | 0.58 | 1.50 | 0.324 | 0.117 | ( 0.292) | 0.207 |
| 8 | 0.67 | 1.80 | 0.389 | 0.117 | ( 0.350) | 0.272 |
| 9 | 0.75 | 1.80 | 0.389 | 0.117 | ( 0.350) | 0.272 |
| 10 | 0.83 | 1.50 | 0.324 | 0.117 | ( 0.292) | 0.207 |
| 11 | 0.92 | 1.60 | 0.346 | 0.117 | ( 0.311) | 0.229 |
| 12 | 1.00 | 1.80 | 0.389 | 0.117 | ( 0.350) | 0.272 |
| 13 | 1.08 | 2.20 | 0.475 | 0.117 | ( 0.428) | 0.358 |
| 14 | 1.17 | 2.20 | 0.475 | 0.117 | ( 0.428) | 0.358 |
| 15 | 1.25 | 2.20 | 0.475 | 0.117 | ( 0.428) | 0.358 |
| 16 | 1.33 | 2.00 | 0.432 | 0.117 | ( 0.389) | 0.315 |
| 17 | 1.42 | 2.60 | 0.562 | 0.117 | ( 0.505) | 0.445 |
| 18 | 1.50 | 2.70 | 0.583 | 0.117 | ( 0.525) | 0.466 |
| 19 | 1.58 | 2.40 | 0.518 | 0.117 | ( 0.467) | 0.402 |
| 20 | 1.67 | 2.70 | 0.583 | 0.117 | ( 0.525) | 0.466 |
| 21 | 1.75 | 3.30 | 0.713 | 0.117 | ( 0.641) | 0.596 |
| 22 | 1.83 | 3.10 | 0.670 | 0.117 | ( 0.603) | 0.553 |
| 23 | 1.92 | 2.90 | 0.626 | 0.117 | ( 0.564) | 0.510 |
| 24 | 2.00 | 3.00 | 0.648 | 0.117 | ( 0.583) | 0.531 |
| 25 | 2.08 | 3.10 | 0.670 | 0.117 | ( 0.603) | 0.553 |
| 26 | 2.17 | 4.20 | 0.907 | 0.117 | ( 0.816) | 0.790 |
| 27 | 2.25 | 5.00 | 1.080 | 0.117 | ( 0.972) | 0.963 |
| 28 | 2.33 | 3.50 | 0.756 | 0.117 | ( 0.680) | 0.639 |
| 29 | 2.42 | 6.80 | 1.469 | 0.117 | ( 1.322) | 1.352 |
| 30 | 2.50 | 7.30 | 1.577 | 0.117 | ( 1.419) | 1.460 |
| 31 | 2.58 | 8.20 | 1.771 | 0.117 | ( 1.594) | 1.654 |
| 32 | 2.67 | 5.90 | 1.274 | 0.117 | ( 1.147) | 1.158 |
| 33 | 2.75 | 2.00 | 0.432 | 0.117 | ( 0.389) | 0.315 |
| 34 | 2.83 | 1.80 | 0.389 | 0.117 | ( 0.350) | 0.272 |
| 35 | 2.92 | 1.80 | 0.389 | 0.117 | ( 0.350) | 0.272 |
| 36 | 3.00 | 0.60 | 0.130 | ( 0.117) | 0.117 | 0.013 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 17.4 |

Flood volume = Effective rainfall 1.45(In)
times area 28.4(Ac.)/[(In)/(Ft.)] = 3.4(Ac.Ft)
Total soil loss = 0.35(In)
Total soil loss = 0.828(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 149454.3 Cubic Feet
Total soil loss = 36088.3 Cubic Feet

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Peak flow rate of this hydrograph = 42.435(CFS)

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3 - H O U R S T O R M

R u n o f f  H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 12.5 25.0 37.5 50.0 |
|---|---|---|---|
| 0+ 5 | 0.0075 | 1.08 | Q |
| 0+10 | 0.0330 | 3.71 | V Q |
| 0+15 | 0.0614 | 4.12 | V Q |
| 0+20 | 0.0904 | 4.21 | V Q |
| 0+25 | 0.1281 | 5.46 | V Q |
| 0+30 | 0.1710 | 6.23 | V Q |
| 0+35 | 0.2188 | 6.94 | V Q |
| 0+40 | 0.2644 | 6.63 | V Q |
| 0+45 | 0.3159 | 7.48 | V Q |
| 0+50 | 0.3660 | 7.27 | VQ |
| 0+55 | 0.4104 | 6.45 | VQ |
| 1+ 0 | 0.4573 | 6.81 | Q |
| 1+ 5 | 0.5131 | 8.09 | VQ |
| 1+10 | 0.5796 | 9.67 | VQ |
| 1+15 | 0.6491 | 10.09 | VQ |
| 1+20 | 0.7175 | 9.93 | QV |
| 1+25 | 0.7873 | 10.13 | QV |
| 1+30 | 0.8711 | 12.18 | QV |
| 1+35 | 0.9578 | 12.59 | QV |
| 1+40 | 1.0420 | 12.23 | Q V |
| 1+45 | 1.1378 | 13.90 | Q V |
| 1+50 | 1.2474 | 15.92 | Q V |
| 1+55 | 1.3546 | 15.56 | Q V |
| 2+ 0 | 1.4579 | 15.00 | Q V |
| 2+ 5 | 1.5632 | 15.30 | Q V |
| 2+10 | 1.6821 | 17.26 | Q V |
| 2+15 | 1.8357 | 22.30 | Q V |
| 2+20 | 2.0008 | 23.97 | Q V |
| 2+25 | 2.1698 | 24.54 | Q V |
| 2+30 | 2.4148 | 35.58 | Q |
| 2+35 | 2.6993 | 41.31 | V Q |
| 2+40 | 2.9916 | 42.44 | QV |
| 2+45 | 3.1986 | 30.06 | Q V |
| 2+50 | 3.2991 | 14.58 | Q V |
| 2+55 | 3.3662 | 9.75 | Q V |
| 3+ 0 | 3.4120 | 6.65 | Q V |
| 3+ 5 | 3.4259 | 2.01 | Q V |
| 3+10 | 3.4296 | 0.54 | Q V |
| 3+15 | 3.4306 | 0.15 | Q V |
| 3+20 | 3.4310 | 0.05 | Q V |
| 3+25 | 3.4310 | 0.00 | Q V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA136100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 13
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

---

Drainage Area = 28.40(Ac.) = 0.044 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 28.40(Ac.) = 0.044 Sq. Mi.
Length along longest watercourse = 1611.00(Ft.)
Length along longest watercourse measured to centroid = 894.00(Ft.)
Length along longest watercourse = 0.305 Mi.
Length along longest watercourse measured to centroid = 0.169 Mi.
Difference in elevation = 505.00(Ft.)
Slope along watercourse = 1655.1210 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.067 Hr.
Lag time = 4.00 Min.
25% of lag time = 1.00 Min.
40% of lag time = 1.60 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 28.40 | 1.13 | 32.09 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 28.40 | 2.50 | 71.00 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.130(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 28.400 | 80.04 | 0.000 |

Total Area Entered = 28.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 80.0 | 91.0 | 0.117 | 0.000 | 0.117 | 1.000 | 0.117 |
| | | | | | Sum (F) = | 0.117 |

Area averaged mean soil loss (F) (In/Hr) = 0.117

Minimum soil loss rate ((In/Hr)) = 0.058
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 125.059 | 23.071 | 6.603 |
| 2 | 0.167 | 250.118 | 55.879 | 15.994 |
| 3 | 0.250 | 375.176 | 14.879 | 4.259 |
| 4 | 0.333 | 500.235 | 4.464 | 1.278 |
| 5 | 0.417 | 625.294 | 1.119 | 0.320 |
| 6 | 0.500 | 750.353 | 0.588 | 0.168 |
| | | | Sum = 100.000 | Sum= 28.622 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.117 | ( 0.135) | 0.033 |
| 2 | 0.17 | 0.60 | 0.180 | 0.117 | ( 0.162) | 0.063 |
| 3 | 0.25 | 0.60 | 0.180 | 0.117 | ( 0.162) | 0.063 |
| 4 | 0.33 | 0.60 | 0.180 | 0.117 | ( 0.162) | 0.063 |
| 5 | 0.42 | 0.60 | 0.180 | 0.117 | ( 0.162) | 0.063 |
| 6 | 0.50 | 0.70 | 0.210 | 0.117 | ( 0.189) | 0.093 |
| 7 | 0.58 | 0.70 | 0.210 | 0.117 | ( 0.189) | 0.093 |
| 8 | 0.67 | 0.70 | 0.210 | 0.117 | ( 0.189) | 0.093 |
| 9 | 0.75 | 0.70 | 0.210 | 0.117 | ( 0.189) | 0.093 |
| 10 | 0.83 | 0.70 | 0.210 | 0.117 | ( 0.189) | 0.093 |
| 11 | 0.92 | 0.70 | 0.210 | 0.117 | ( 0.189) | 0.093 |
| 12 | 1.00 | 0.80 | 0.240 | 0.117 | ( 0.216) | 0.123 |
| 13 | 1.08 | 0.80 | 0.240 | 0.117 | ( 0.216) | 0.123 |
| 14 | 1.17 | 0.80 | 0.240 | 0.117 | ( 0.216) | 0.123 |
| 15 | 1.25 | 0.80 | 0.240 | 0.117 | ( 0.216) | 0.123 |
| 16 | 1.33 | 0.80 | 0.240 | 0.117 | ( 0.216) | 0.123 |
| 17 | 1.42 | 0.80 | 0.240 | 0.117 | ( 0.216) | 0.123 |
| 18 | 1.50 | 0.80 | 0.240 | 0.117 | ( 0.216) | 0.123 |
| 19 | 1.58 | 0.80 | 0.240 | 0.117 | ( 0.216) | 0.123 |
| 20 | 1.67 | 0.80 | 0.240 | 0.117 | ( 0.216) | 0.123 |
| 21 | 1.75 | 0.80 | 0.240 | 0.117 | ( 0.216) | 0.123 |
| 22 | 1.83 | 0.80 | 0.240 | 0.117 | ( 0.216) | 0.123 |
| 23 | 1.92 | 0.80 | 0.240 | 0.117 | ( 0.216) | 0.123 |
| 24 | 2.00 | 0.90 | 0.270 | 0.117 | ( 0.243) | 0.153 |
| 25 | 2.08 | 0.80 | 0.240 | 0.117 | ( 0.216) | 0.123 |
| 26 | 2.17 | 0.90 | 0.270 | 0.117 | ( 0.243) | 0.153 |
| 27 | 2.25 | 0.90 | 0.270 | 0.117 | ( 0.243) | 0.153 |
| 28 | 2.33 | 0.90 | 0.270 | 0.117 | ( 0.243) | 0.153 |
| 29 | 2.42 | 0.90 | 0.270 | 0.117 | ( 0.243) | 0.153 |
| 30 | 2.50 | 0.90 | 0.270 | 0.117 | ( 0.243) | 0.153 |
| 31 | 2.58 | 0.90 | 0.270 | 0.117 | ( 0.243) | 0.153 |
| 32 | 2.67 | 0.90 | 0.270 | 0.117 | ( 0.243) | 0.153 |
| 33 | 2.75 | 1.00 | 0.300 | 0.117 | ( 0.270) | 0.183 |
| 34 | 2.83 | 1.00 | 0.300 | 0.117 | ( 0.270) | 0.183 |
| 35 | 2.92 | 1.00 | 0.300 | 0.117 | ( 0.270) | 0.183 |
| 36 | 3.00 | 1.00 | 0.300 | 0.117 | ( 0.270) | 0.183 |
| 37 | 3.08 | 1.00 | 0.300 | 0.117 | ( 0.270) | 0.183 |
| 38 | 3.17 | 1.10 | 0.330 | 0.117 | ( 0.297) | 0.213 |
| 39 | 3.25 | 1.10 | 0.330 | 0.117 | ( 0.297) | 0.213 |
| 40 | 3.33 | 1.10 | 0.330 | 0.117 | ( 0.297) | 0.213 |
| 41 | 3.42 | 1.20 | 0.360 | 0.117 | ( 0.324) | 0.243 |
| 42 | 3.50 | 1.30 | 0.390 | 0.117 | ( 0.351) | 0.273 |
| 43 | 3.58 | 1.40 | 0.420 | 0.117 | ( 0.378) | 0.303 |
| 44 | 3.67 | 1.40 | 0.420 | 0.117 | ( 0.378) | 0.303 |
| 45 | 3.75 | 1.50 | 0.450 | 0.117 | ( 0.405) | 0.333 |
| 46 | 3.83 | 1.50 | 0.450 | 0.117 | ( 0.405) | 0.333 |
| 47 | 3.92 | 1.60 | 0.480 | 0.117 | ( 0.432) | 0.363 |
| 48 | 4.00 | 1.60 | 0.480 | 0.117 | ( 0.432) | 0.363 |
| 49 | 4.08 | 1.70 | 0.510 | 0.117 | ( 0.459) | 0.393 |
| 50 | 4.17 | 1.80 | 0.540 | 0.117 | ( 0.486) | 0.423 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 51 | 4.25 | 1.90 | 0.570 | 0.117 | ( 0.513) | 0.453 |
| 52 | 4.33 | 2.00 | 0.600 | 0.117 | ( 0.540) | 0.483 |
| 53 | 4.42 | 2.10 | 0.630 | 0.117 | ( 0.567) | 0.513 |
| 54 | 4.50 | 2.10 | 0.630 | 0.117 | ( 0.567) | 0.513 |
| 55 | 4.58 | 2.20 | 0.660 | 0.117 | ( 0.594) | 0.543 |
| 56 | 4.67 | 2.30 | 0.690 | 0.117 | ( 0.621) | 0.573 |
| 57 | 4.75 | 2.40 | 0.720 | 0.117 | ( 0.648) | 0.603 |
| 58 | 4.83 | 2.40 | 0.720 | 0.117 | ( 0.648) | 0.603 |
| 59 | 4.92 | 2.50 | 0.750 | 0.117 | ( 0.675) | 0.633 |
| 60 | 5.00 | 2.60 | 0.780 | 0.117 | ( 0.702) | 0.663 |
| 61 | 5.08 | 3.10 | 0.930 | 0.117 | ( 0.837) | 0.813 |
| 62 | 5.17 | 3.60 | 1.080 | 0.117 | ( 0.972) | 0.963 |
| 63 | 5.25 | 3.90 | 1.170 | 0.117 | ( 1.053) | 1.053 |
| 64 | 5.33 | 4.20 | 1.260 | 0.117 | ( 1.134) | 1.143 |
| 65 | 5.42 | 4.70 | 1.410 | 0.117 | ( 1.269) | 1.293 |
| 66 | 5.50 | 5.60 | 1.680 | 0.117 | ( 1.512) | 1.563 |
| 67 | 5.58 | 1.90 | 0.570 | 0.117 | ( 0.513) | 0.453 |
| 68 | 5.67 | 0.90 | 0.270 | 0.117 | ( 0.243) | 0.153 |
| 69 | 5.75 | 0.60 | 0.180 | 0.117 | ( 0.162) | 0.063 |
| 70 | 5.83 | 0.50 | 0.150 | 0.117 | ( 0.135) | 0.033 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.117) | 0.081 | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.117) | 0.054 | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 21.7

Flood volume = Effective rainfall 1.81(In)
times area 28.4(Ac.)/[(In)/(Ft.)] = 4.3(Ac.Ft)
Total soil loss = 0.69(In)
Total soil loss = 1.638(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 186372.5 Cubic Feet
Total soil loss = 71332.3 Cubic Feet

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Peak flow rate of this hydrograph = 37.683(CFS)

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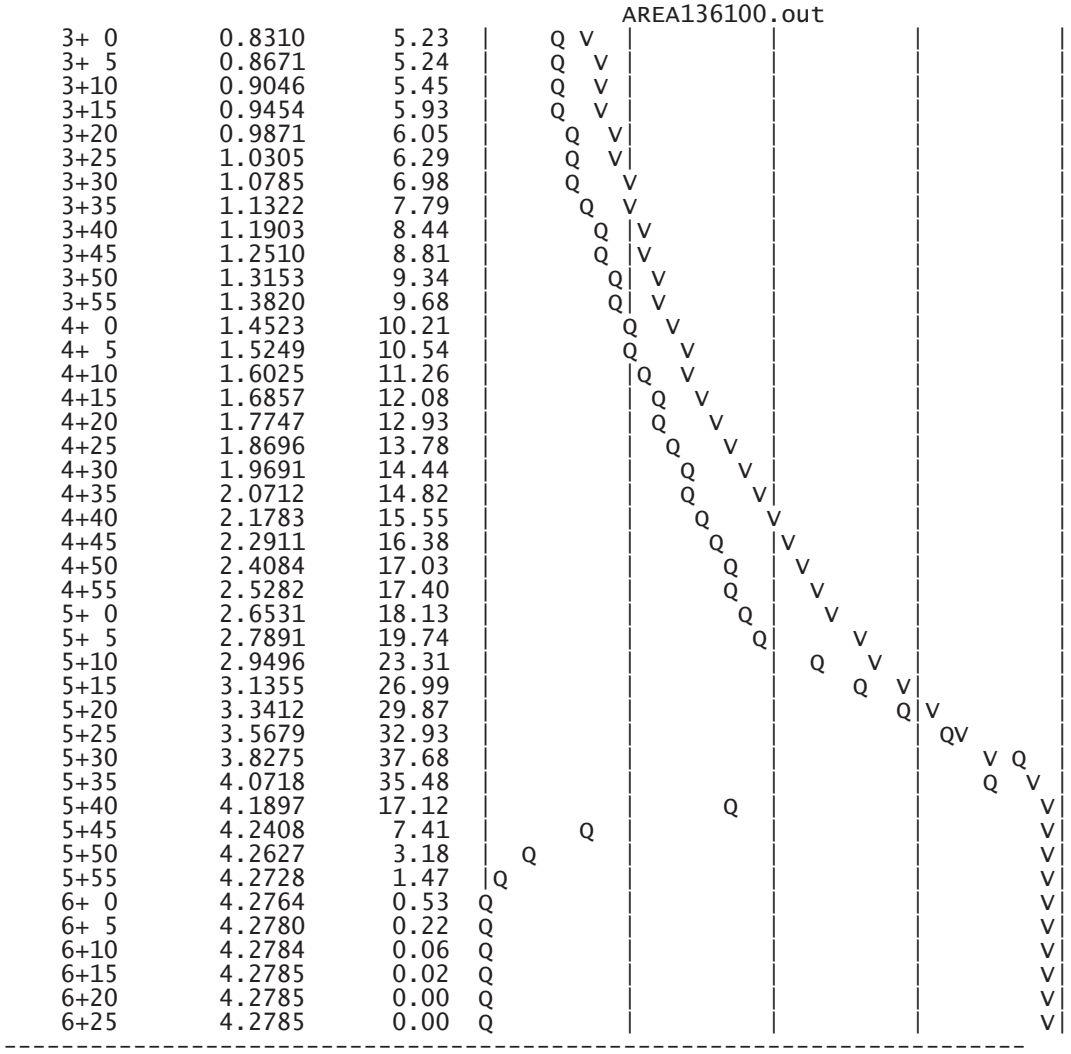
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 10.0 | 20.0 | 30.0 | 40.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0015 | 0.22 | Q | | | | |
| 0+10 | 0.0081 | 0.95 | Q | | | | |
| 0+15 | 0.0189 | 1.57 | VQ | | | | |
| 0+20 | 0.0309 | 1.74 | VQ | | | | |
| 0+25 | 0.0432 | 1.79 | VQ | | | | |
| 0+30 | 0.0571 | 2.01 | V Q | | | | |
| 0+35 | 0.0742 | 2.49 | V Q | | | | |
| 0+40 | 0.0922 | 2.62 | V Q | | | | |
| 0+45 | 0.1105 | 2.66 | \|VQ | | | | |
| 0+50 | 0.1289 | 2.67 | \|VQ | | | | |
| 0+55 | 0.1473 | 2.67 | \|VQ | | | | |
| 1+ 0 | 0.1671 | 2.87 | \|VQ | | | | |
| 1+ 5 | 0.1901 | 3.35 | \|V Q | | | | |
| 1+10 | 0.2141 | 3.48 | \| VQ | | | | |
| 1+15 | 0.2383 | 3.52 | \| VQ | | | | |
| 1+20 | 0.2626 | 3.53 | \| VQ | | | | |
| 1+25 | 0.2869 | 3.53 | \| VQ | | | | |
| 1+30 | 0.3112 | 3.53 | \| VQ | | | | |
| 1+35 | 0.3355 | 3.53 | \| Q | | | | |
| 1+40 | 0.3598 | 3.53 | \| Q | | | | |
| 1+45 | 0.3842 | 3.53 | \| Q | | | | |
| 1+50 | 0.4085 | 3.53 | \| Q | | | | |
| 1+55 | 0.4328 | 3.53 | \| QV | | | | |
| 2+ 0 | 0.4585 | 3.73 | \| QV | | | | |
| 2+ 5 | 0.4861 | 4.01 | \| Q | | | | |
| 2+10 | 0.5127 | 3.86 | \| QV | | | | |
| 2+15 | 0.5419 | 4.25 | \| QV | | | | |
| 2+20 | 0.5718 | 4.35 | \| QV | | | | |
| 2+25 | 0.6020 | 4.38 | \| QV | | | | |
| 2+30 | 0.6322 | 4.38 | \| QV | | | | |
| 2+35 | 0.6624 | 4.39 | \| Q V | | | | |
| 2+40 | 0.6927 | 4.39 | \| Q V | | | | |
| 2+45 | 0.7243 | 4.59 | \| Q V | | | | |
| 2+50 | 0.7592 | 5.07 | \| Q V | | | | |
| 2+55 | 0.7949 | 5.20 | \| Q V | | | | |



| | | | |
|---|---|---|---|
| 3+ 0 | 0.8310 | 5.23 | |
| 3+ 5 | 0.8671 | 5.24 | |
| 3+10 | 0.9046 | 5.45 | |
| 3+15 | 0.9454 | 5.93 | |
| 3+20 | 0.9871 | 6.05 | |
| 3+25 | 1.0305 | 6.29 | |
| 3+30 | 1.0785 | 6.98 | |
| 3+35 | 1.1322 | 7.79 | |
| 3+40 | 1.1903 | 8.44 | |
| 3+45 | 1.2510 | 8.81 | |
| 3+50 | 1.3153 | 9.34 | |
| 3+55 | 1.3820 | 9.68 | |
| 4+ 0 | 1.4523 | 10.21 | |
| 4+ 5 | 1.5249 | 10.54 | |
| 4+10 | 1.6025 | 11.26 | |
| 4+15 | 1.6857 | 12.08 | |
| 4+20 | 1.7747 | 12.93 | |
| 4+25 | 1.8696 | 13.78 | |
| 4+30 | 1.9691 | 14.44 | |
| 4+35 | 2.0712 | 14.82 | |
| 4+40 | 2.1783 | 15.55 | |
| 4+45 | 2.2911 | 16.38 | |
| 4+50 | 2.4084 | 17.03 | |
| 4+55 | 2.5282 | 17.40 | |
| 5+ 0 | 2.6531 | 18.13 | |
| 5+ 5 | 2.7891 | 19.74 | |
| 5+10 | 2.9496 | 23.31 | |
| 5+15 | 3.1355 | 26.99 | |
| 5+20 | 3.3412 | 29.87 | |
| 5+25 | 3.5679 | 32.93 | |
| 5+30 | 3.8275 | 37.68 | |
| 5+35 | 4.0718 | 35.48 | |
| 5+40 | 4.1897 | 17.12 | |
| 5+45 | 4.2408 | 7.41 | |
| 5+50 | 4.2627 | 3.18 | |
| 5+55 | 4.2728 | 1.47 | |
| 6+ 0 | 4.2764 | 0.53 | |
| 6+ 5 | 4.2780 | 0.22 | |
| 6+10 | 4.2784 | 0.06 | |
| 6+15 | 4.2785 | 0.02 | |
| 6+20 | 4.2785 | 0.00 | |
| 6+25 | 4.2785 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA1324100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 13
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

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Drainage Area = 28.40(Ac.) = 0.044 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 28.40(Ac.) = 0.044 Sq. Mi.
Length along longest watercourse = 1611.00(Ft.)
Length along longest watercourse measured to centroid = 894.00(Ft.)
Length along longest watercourse = 0.305 Mi.
Length along longest watercourse measured to centroid = 0.169 Mi.
Difference in elevation = 505.00(Ft.)
Slope along watercourse = 1655.1210 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.067 Hr.
Lag time = 4.00 Min.
25% of lag time = 1.00 Min.
40% of lag time = 1.60 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 28.40 | 1.80 | 51.12 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 28.40 | 4.58 | 130.07 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.580(In)

Point rain (area averaged) = 4.580(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 4.580(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 28.400 | 80.04 | 0.000 |

Total Area Entered = 28.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 80.0 | 91.0 | 0.117 | 0.000 | 0.117 | 1.000 | 0.117 |
| | | | | | Sum (F) = | 0.117 |

Area averaged mean soil loss (F) (In/Hr) = 0.117

Minimum soil loss rate ((In/Hr)) = 0.058
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 125.059 | 23.071 | 6.603 |
| 2 | 0.167 | 250.118 | 55.879 | 15.994 |
| 3 | 0.250 | 375.176 | 14.879 | 4.259 |
| 4 | 0.333 | 500.235 | 4.464 | 1.278 |
| 5 | 0.417 | 625.294 | 1.119 | 0.320 |
| 6 | 0.500 | 750.353 | 0.588 | 0.168 |
| | | | Sum = 100.000 | Sum= 28.622 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.037 | ( 0.207) | 0.033 | 0.004 |
| 2 | 0.17 | 0.07 | 0.037 | ( 0.206) | 0.033 | 0.004 |
| 3 | 0.25 | 0.07 | 0.037 | ( 0.205) | 0.033 | 0.004 |
| 4 | 0.33 | 0.10 | 0.055 | ( 0.204) | 0.049 | 0.005 |
| 5 | 0.42 | 0.10 | 0.055 | ( 0.204) | 0.049 | 0.005 |
| 6 | 0.50 | 0.10 | 0.055 | ( 0.203) | 0.049 | 0.005 |
| 7 | 0.58 | 0.10 | 0.055 | ( 0.202) | 0.049 | 0.005 |
| 8 | 0.67 | 0.10 | 0.055 | ( 0.201) | 0.049 | 0.005 |
| 9 | 0.75 | 0.10 | 0.055 | ( 0.200) | 0.049 | 0.005 |
| 10 | 0.83 | 0.13 | 0.073 | ( 0.200) | 0.066 | 0.007 |
| 11 | 0.92 | 0.13 | 0.073 | ( 0.199) | 0.066 | 0.007 |
| 12 | 1.00 | 0.13 | 0.073 | ( 0.198) | 0.066 | 0.007 |
| 13 | 1.08 | 0.10 | 0.055 | ( 0.197) | 0.049 | 0.005 |
| 14 | 1.17 | 0.10 | 0.055 | ( 0.197) | 0.049 | 0.005 |
| 15 | 1.25 | 0.10 | 0.055 | ( 0.196) | 0.049 | 0.005 |
| 16 | 1.33 | 0.10 | 0.055 | ( 0.195) | 0.049 | 0.005 |
| 17 | 1.42 | 0.10 | 0.055 | ( 0.194) | 0.049 | 0.005 |
| 18 | 1.50 | 0.10 | 0.055 | ( 0.193) | 0.049 | 0.005 |
| 19 | 1.58 | 0.10 | 0.055 | ( 0.193) | 0.049 | 0.005 |
| 20 | 1.67 | 0.10 | 0.055 | ( 0.192) | 0.049 | 0.005 |
| 21 | 1.75 | 0.10 | 0.055 | ( 0.191) | 0.049 | 0.005 |
| 22 | 1.83 | 0.13 | 0.073 | ( 0.190) | 0.066 | 0.007 |
| 23 | 1.92 | 0.13 | 0.073 | ( 0.190) | 0.066 | 0.007 |
| 24 | 2.00 | 0.13 | 0.073 | ( 0.189) | 0.066 | 0.007 |
| 25 | 2.08 | 0.13 | 0.073 | ( 0.188) | 0.066 | 0.007 |
| 26 | 2.17 | 0.13 | 0.073 | ( 0.187) | 0.066 | 0.007 |
| 27 | 2.25 | 0.13 | 0.073 | ( 0.187) | 0.066 | 0.007 |
| 28 | 2.33 | 0.13 | 0.073 | ( 0.186) | 0.066 | 0.007 |
| 29 | 2.42 | 0.13 | 0.073 | ( 0.185) | 0.066 | 0.007 |
| 30 | 2.50 | 0.13 | 0.073 | ( 0.184) | 0.066 | 0.007 |
| 31 | 2.58 | 0.17 | 0.092 | ( 0.184) | 0.082 | 0.009 |
| 32 | 2.67 | 0.17 | 0.092 | ( 0.183) | 0.082 | 0.009 |
| 33 | 2.75 | 0.17 | 0.092 | ( 0.182) | 0.082 | 0.009 |
| 34 | 2.83 | 0.17 | 0.092 | ( 0.181) | 0.082 | 0.009 |
| 35 | 2.92 | 0.17 | 0.092 | ( 0.181) | 0.082 | 0.009 |
| 36 | 3.00 | 0.17 | 0.092 | ( 0.180) | 0.082 | 0.009 |
| 37 | 3.08 | 0.17 | 0.092 | ( 0.179) | 0.082 | 0.009 |
| 38 | 3.17 | 0.17 | 0.092 | ( 0.178) | 0.082 | 0.009 |
| 39 | 3.25 | 0.17 | 0.092 | ( 0.178) | 0.082 | 0.009 |
| 40 | 3.33 | 0.17 | 0.092 | ( 0.177) | 0.082 | 0.009 |
| 41 | 3.42 | 0.17 | 0.092 | ( 0.176) | 0.082 | 0.009 |
| 42 | 3.50 | 0.17 | 0.092 | ( 0.175) | 0.082 | 0.009 |
| 43 | 3.58 | 0.17 | 0.092 | ( 0.175) | 0.082 | 0.009 |
| 44 | 3.67 | 0.17 | 0.092 | ( 0.174) | 0.082 | 0.009 |
| 45 | 3.75 | 0.17 | 0.092 | ( 0.173) | 0.082 | 0.009 |
| 46 | 3.83 | 0.20 | 0.110 | ( 0.172) | 0.099 | 0.011 |
| 47 | 3.92 | 0.20 | 0.110 | ( 0.172) | 0.099 | 0.011 |
| 48 | 4.00 | 0.20 | 0.110 | ( 0.171) | 0.099 | 0.011 |
| 49 | 4.08 | 0.20 | 0.110 | ( 0.170) | 0.099 | 0.011 |
| 50 | 4.17 | 0.20 | 0.110 | ( 0.170) | 0.099 | 0.011 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 51 | 4.25 | 0.20 | 0.110 | ( | 0.169) | 0.099 | | 0.011 |
| 52 | 4.33 | 0.23 | 0.128 | ( | 0.168) | 0.115 | | 0.013 |
| 53 | 4.42 | 0.23 | 0.128 | ( | 0.167) | 0.115 | | 0.013 |
| 54 | 4.50 | 0.23 | 0.128 | ( | 0.167) | 0.115 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.128 | ( | 0.166) | 0.115 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.128 | ( | 0.165) | 0.115 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.128 | ( | 0.164) | 0.115 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.147 | ( | 0.164) | 0.132 | | 0.015 |
| 59 | 4.92 | 0.27 | 0.147 | ( | 0.163) | 0.132 | | 0.015 |
| 60 | 5.00 | 0.27 | 0.147 | ( | 0.162) | 0.132 | | 0.015 |
| 61 | 5.08 | 0.20 | 0.110 | ( | 0.162) | 0.099 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.110 | ( | 0.161) | 0.099 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.110 | ( | 0.160) | 0.099 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.128 | ( | 0.160) | 0.115 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.128 | ( | 0.159) | 0.115 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.128 | ( | 0.158) | 0.115 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.147 | ( | 0.157) | 0.132 | | 0.015 |
| 68 | 5.67 | 0.27 | 0.147 | ( | 0.157) | 0.132 | | 0.015 |
| 69 | 5.75 | 0.27 | 0.147 | ( | 0.156) | 0.132 | | 0.015 |
| 70 | 5.83 | 0.27 | 0.147 | ( | 0.155) | 0.132 | | 0.015 |
| 71 | 5.92 | 0.27 | 0.147 | ( | 0.155) | 0.132 | | 0.015 |
| 72 | 6.00 | 0.27 | 0.147 | ( | 0.154) | 0.132 | | 0.015 |
| 73 | 6.08 | 0.30 | 0.165 | ( | 0.153) | 0.148 | | 0.016 |
| 74 | 6.17 | 0.30 | 0.165 | ( | 0.153) | 0.148 | | 0.016 |
| 75 | 6.25 | 0.30 | 0.165 | ( | 0.152) | 0.148 | | 0.016 |
| 76 | 6.33 | 0.30 | 0.165 | ( | 0.151) | 0.148 | | 0.016 |
| 77 | 6.42 | 0.30 | 0.165 | ( | 0.151) | 0.148 | | 0.016 |
| 78 | 6.50 | 0.30 | 0.165 | ( | 0.150) | 0.148 | | 0.016 |
| 79 | 6.58 | 0.33 | 0.183 | | 0.149 | ( | 0.165) | 0.034 |
| 80 | 6.67 | 0.33 | 0.183 | | 0.149 | ( | 0.165) | 0.035 |
| 81 | 6.75 | 0.33 | 0.183 | | 0.148 | ( | 0.165) | 0.035 |
| 82 | 6.83 | 0.33 | 0.183 | | 0.147 | ( | 0.165) | 0.036 |
| 83 | 6.92 | 0.33 | 0.183 | | 0.147 | ( | 0.165) | 0.037 |
| 84 | 7.00 | 0.33 | 0.183 | | 0.146 | ( | 0.165) | 0.037 |
| 85 | 7.08 | 0.33 | 0.183 | | 0.145 | ( | 0.165) | 0.038 |
| 86 | 7.17 | 0.33 | 0.183 | | 0.145 | ( | 0.165) | 0.039 |
| 87 | 7.25 | 0.33 | 0.183 | | 0.144 | ( | 0.165) | 0.039 |
| 88 | 7.33 | 0.37 | 0.202 | | 0.143 | ( | 0.181) | 0.058 |
| 89 | 7.42 | 0.37 | 0.202 | | 0.143 | ( | 0.181) | 0.059 |
| 90 | 7.50 | 0.37 | 0.202 | | 0.142 | ( | 0.181) | 0.060 |
| 91 | 7.58 | 0.40 | 0.220 | | 0.141 | ( | 0.198) | 0.078 |
| 92 | 7.67 | 0.40 | 0.220 | | 0.141 | ( | 0.198) | 0.079 |
| 93 | 7.75 | 0.40 | 0.220 | | 0.140 | ( | 0.198) | 0.080 |
| 94 | 7.83 | 0.43 | 0.238 | | 0.139 | ( | 0.214) | 0.099 |
| 95 | 7.92 | 0.43 | 0.238 | | 0.139 | ( | 0.214) | 0.099 |
| 96 | 8.00 | 0.43 | 0.238 | | 0.138 | ( | 0.214) | 0.100 |
| 97 | 8.08 | 0.50 | 0.275 | | 0.137 | ( | 0.247) | 0.137 |
| 98 | 8.17 | 0.50 | 0.275 | | 0.137 | ( | 0.247) | 0.138 |
| 99 | 8.25 | 0.50 | 0.275 | | 0.136 | ( | 0.247) | 0.139 |
| 100 | 8.33 | 0.50 | 0.275 | | 0.136 | ( | 0.247) | 0.139 |
| 101 | 8.42 | 0.50 | 0.275 | | 0.135 | ( | 0.247) | 0.140 |
| 102 | 8.50 | 0.50 | 0.275 | | 0.134 | ( | 0.247) | 0.141 |
| 103 | 8.58 | 0.53 | 0.293 | | 0.134 | ( | 0.264) | 0.159 |
| 104 | 8.67 | 0.53 | 0.293 | | 0.133 | ( | 0.264) | 0.160 |
| 105 | 8.75 | 0.53 | 0.293 | | 0.132 | ( | 0.264) | 0.161 |
| 106 | 8.83 | 0.57 | 0.311 | | 0.132 | ( | 0.280) | 0.180 |
| 107 | 8.92 | 0.57 | 0.311 | | 0.131 | ( | 0.280) | 0.180 |
| 108 | 9.00 | 0.57 | 0.311 | | 0.131 | ( | 0.280) | 0.181 |
| 109 | 9.08 | 0.63 | 0.348 | | 0.130 | ( | 0.313) | 0.218 |
| 110 | 9.17 | 0.63 | 0.348 | | 0.129 | ( | 0.313) | 0.219 |
| 111 | 9.25 | 0.63 | 0.348 | | 0.129 | ( | 0.313) | 0.219 |
| 112 | 9.33 | 0.67 | 0.366 | | 0.128 | ( | 0.330) | 0.238 |
| 113 | 9.42 | 0.67 | 0.366 | | 0.127 | ( | 0.330) | 0.239 |
| 114 | 9.50 | 0.67 | 0.366 | | 0.127 | ( | 0.330) | 0.240 |
| 115 | 9.58 | 0.70 | 0.385 | | 0.126 | ( | 0.346) | 0.258 |
| 116 | 9.67 | 0.70 | 0.385 | | 0.126 | ( | 0.346) | 0.259 |
| 117 | 9.75 | 0.70 | 0.385 | | 0.125 | ( | 0.346) | 0.260 |
| 118 | 9.83 | 0.73 | 0.403 | | 0.124 | ( | 0.363) | 0.279 |
| 119 | 9.92 | 0.73 | 0.403 | | 0.124 | ( | 0.363) | 0.279 |
| 120 | 10.00 | 0.73 | 0.403 | | 0.123 | ( | 0.363) | 0.280 |
| 121 | 10.08 | 0.50 | 0.275 | | 0.123 | ( | 0.247) | 0.152 |
| 122 | 10.17 | 0.50 | 0.275 | | 0.122 | ( | 0.247) | 0.153 |
| 123 | 10.25 | 0.50 | 0.275 | | 0.121 | ( | 0.247) | 0.153 |
| 124 | 10.33 | 0.50 | 0.275 | | 0.121 | ( | 0.247) | 0.154 |
| 125 | 10.42 | 0.50 | 0.275 | | 0.120 | ( | 0.247) | 0.155 |
| 126 | 10.50 | 0.50 | 0.275 | | 0.120 | ( | 0.247) | 0.155 |
| 127 | 10.58 | 0.67 | 0.366 | | 0.119 | ( | 0.330) | 0.247 |
| 128 | 10.67 | 0.67 | 0.366 | | 0.119 | ( | 0.330) | 0.248 |

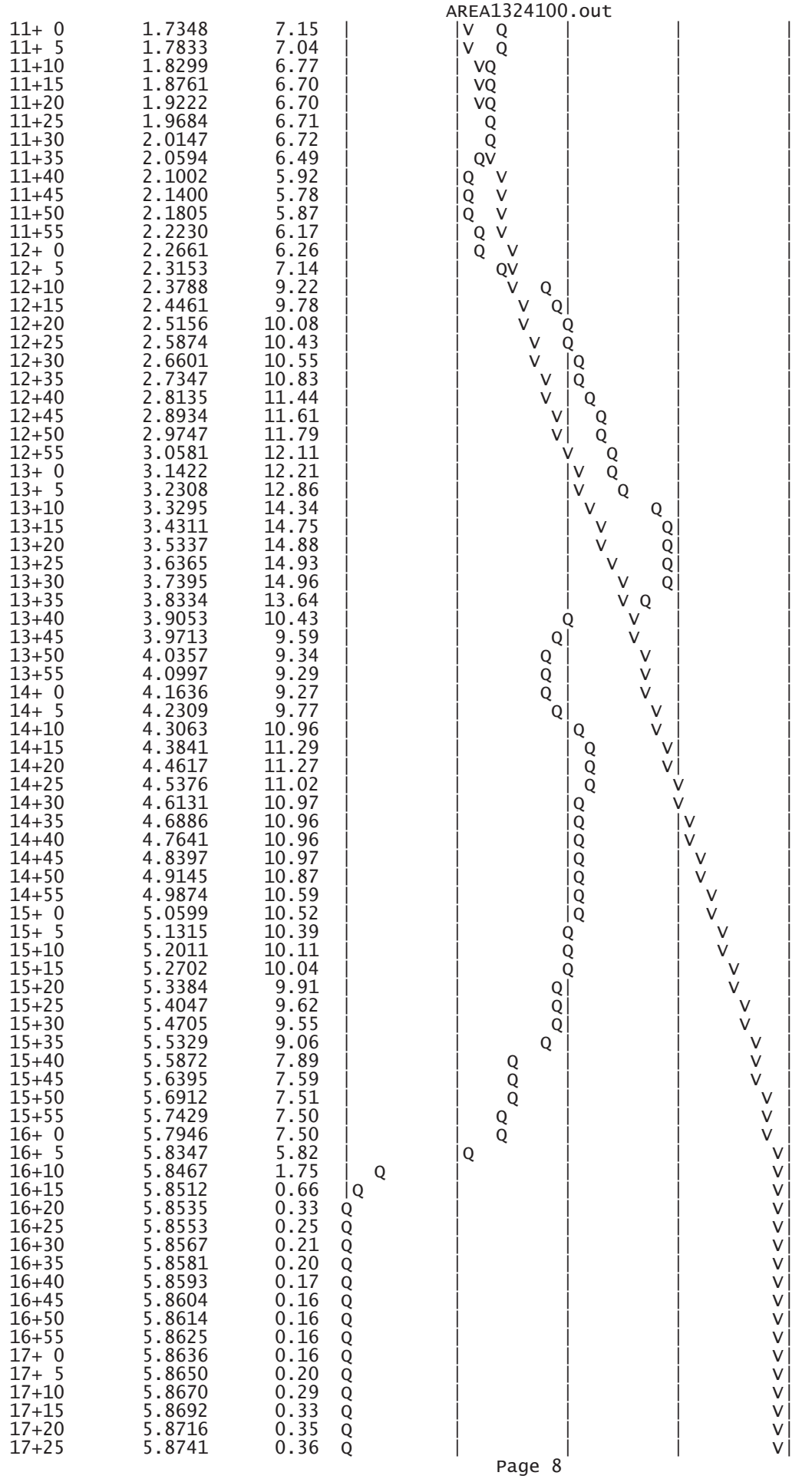
| | | | | | | |
|---|---|---|---|---|---|---|
| 129 | 10.75 | 0.67 | 0.366 | 0.118 | ( 0.330) | 0.248 |
| 130 | 10.83 | 0.67 | 0.366 | 0.117 | ( 0.330) | 0.249 |
| 131 | 10.92 | 0.67 | 0.366 | 0.117 | ( 0.330) | 0.250 |
| 132 | 11.00 | 0.67 | 0.366 | 0.116 | ( 0.330) | 0.250 |
| 133 | 11.08 | 0.63 | 0.348 | 0.116 | ( 0.313) | 0.232 |
| 134 | 11.17 | 0.63 | 0.348 | 0.115 | ( 0.313) | 0.233 |
| 135 | 11.25 | 0.63 | 0.348 | 0.114 | ( 0.313) | 0.234 |
| 136 | 11.33 | 0.63 | 0.348 | 0.114 | ( 0.313) | 0.234 |
| 137 | 11.42 | 0.63 | 0.348 | 0.113 | ( 0.313) | 0.235 |
| 138 | 11.50 | 0.63 | 0.348 | 0.113 | ( 0.313) | 0.235 |
| 139 | 11.58 | 0.57 | 0.311 | 0.112 | ( 0.280) | 0.199 |
| 140 | 11.67 | 0.57 | 0.311 | 0.112 | ( 0.280) | 0.200 |
| 141 | 11.75 | 0.57 | 0.311 | 0.111 | ( 0.280) | 0.200 |
| 142 | 11.83 | 0.60 | 0.330 | 0.111 | ( 0.297) | 0.219 |
| 143 | 11.92 | 0.60 | 0.330 | 0.110 | ( 0.297) | 0.220 |
| 144 | 12.00 | 0.60 | 0.330 | 0.109 | ( 0.297) | 0.220 |
| 145 | 12.08 | 0.83 | 0.458 | 0.109 | ( 0.412) | 0.349 |
| 146 | 12.17 | 0.83 | 0.458 | 0.108 | ( 0.412) | 0.350 |
| 147 | 12.25 | 0.83 | 0.458 | 0.108 | ( 0.412) | 0.350 |
| 148 | 12.33 | 0.87 | 0.476 | 0.107 | ( 0.429) | 0.369 |
| 149 | 12.42 | 0.87 | 0.476 | 0.107 | ( 0.429) | 0.370 |
| 150 | 12.50 | 0.87 | 0.476 | 0.106 | ( 0.429) | 0.370 |
| 151 | 12.58 | 0.93 | 0.513 | 0.106 | ( 0.462) | 0.407 |
| 152 | 12.67 | 0.93 | 0.513 | 0.105 | ( 0.462) | 0.408 |
| 153 | 12.75 | 0.93 | 0.513 | 0.105 | ( 0.462) | 0.408 |
| 154 | 12.83 | 0.97 | 0.531 | 0.104 | ( 0.478) | 0.427 |
| 155 | 12.92 | 0.97 | 0.531 | 0.104 | ( 0.478) | 0.428 |
| 156 | 13.00 | 0.97 | 0.531 | 0.103 | ( 0.478) | 0.428 |
| 157 | 13.08 | 1.13 | 0.623 | 0.103 | ( 0.561) | 0.520 |
| 158 | 13.17 | 1.13 | 0.623 | 0.102 | ( 0.561) | 0.521 |
| 159 | 13.25 | 1.13 | 0.623 | 0.101 | ( 0.561) | 0.521 |
| 160 | 13.33 | 1.13 | 0.623 | 0.101 | ( 0.561) | 0.522 |
| 161 | 13.42 | 1.13 | 0.623 | 0.100 | ( 0.561) | 0.522 |
| 162 | 13.50 | 1.13 | 0.623 | 0.100 | ( 0.561) | 0.523 |
| 163 | 13.58 | 0.77 | 0.421 | 0.099 | ( 0.379) | 0.322 |
| 164 | 13.67 | 0.77 | 0.421 | 0.099 | ( 0.379) | 0.322 |
| 165 | 13.75 | 0.77 | 0.421 | 0.098 | ( 0.379) | 0.323 |
| 166 | 13.83 | 0.77 | 0.421 | 0.098 | ( 0.379) | 0.323 |
| 167 | 13.92 | 0.77 | 0.421 | 0.097 | ( 0.379) | 0.324 |
| 168 | 14.00 | 0.77 | 0.421 | 0.097 | ( 0.379) | 0.324 |
| 169 | 14.08 | 0.90 | 0.495 | 0.096 | ( 0.445) | 0.398 |
| 170 | 14.17 | 0.90 | 0.495 | 0.096 | ( 0.445) | 0.399 |
| 171 | 14.25 | 0.90 | 0.495 | 0.095 | ( 0.445) | 0.399 |
| 172 | 14.33 | 0.87 | 0.476 | 0.095 | ( 0.429) | 0.381 |
| 173 | 14.42 | 0.87 | 0.476 | 0.094 | ( 0.429) | 0.382 |
| 174 | 14.50 | 0.87 | 0.476 | 0.094 | ( 0.429) | 0.382 |
| 175 | 14.58 | 0.87 | 0.476 | 0.094 | ( 0.429) | 0.383 |
| 176 | 14.67 | 0.87 | 0.476 | 0.093 | ( 0.429) | 0.383 |
| 177 | 14.75 | 0.87 | 0.476 | 0.093 | ( 0.429) | 0.384 |
| 178 | 14.83 | 0.83 | 0.458 | 0.092 | ( 0.412) | 0.366 |
| 179 | 14.92 | 0.83 | 0.458 | 0.092 | ( 0.412) | 0.366 |
| 180 | 15.00 | 0.83 | 0.458 | 0.091 | ( 0.412) | 0.367 |
| 181 | 15.08 | 0.80 | 0.440 | 0.091 | ( 0.396) | 0.349 |
| 182 | 15.17 | 0.80 | 0.440 | 0.090 | ( 0.396) | 0.349 |
| 183 | 15.25 | 0.80 | 0.440 | 0.090 | ( 0.396) | 0.350 |
| 184 | 15.33 | 0.77 | 0.421 | 0.089 | ( 0.379) | 0.332 |
| 185 | 15.42 | 0.77 | 0.421 | 0.089 | ( 0.379) | 0.333 |
| 186 | 15.50 | 0.77 | 0.421 | 0.088 | ( 0.379) | 0.333 |
| 187 | 15.58 | 0.63 | 0.348 | 0.088 | ( 0.313) | 0.260 |
| 188 | 15.67 | 0.63 | 0.348 | 0.087 | ( 0.313) | 0.261 |
| 189 | 15.75 | 0.63 | 0.348 | 0.087 | ( 0.313) | 0.261 |
| 190 | 15.83 | 0.63 | 0.348 | 0.087 | ( 0.313) | 0.261 |
| 191 | 15.92 | 0.63 | 0.348 | 0.086 | ( 0.313) | 0.262 |
| 192 | 16.00 | 0.63 | 0.348 | 0.086 | ( 0.313) | 0.262 |
| 193 | 16.08 | 0.13 | 0.073 | ( 0.085) | 0.066 | 0.007 |
| 194 | 16.17 | 0.13 | 0.073 | ( 0.085) | 0.066 | 0.007 |
| 195 | 16.25 | 0.13 | 0.073 | ( 0.084) | 0.066 | 0.007 |
| 196 | 16.33 | 0.13 | 0.073 | ( 0.084) | 0.066 | 0.007 |
| 197 | 16.42 | 0.13 | 0.073 | ( 0.084) | 0.066 | 0.007 |
| 198 | 16.50 | 0.13 | 0.073 | ( 0.083) | 0.066 | 0.007 |
| 199 | 16.58 | 0.10 | 0.055 | ( 0.083) | 0.049 | 0.005 |
| 200 | 16.67 | 0.10 | 0.055 | ( 0.082) | 0.049 | 0.005 |
| 201 | 16.75 | 0.10 | 0.055 | ( 0.082) | 0.049 | 0.005 |
| 202 | 16.83 | 0.10 | 0.055 | ( 0.081) | 0.049 | 0.005 |
| 203 | 16.92 | 0.10 | 0.055 | ( 0.081) | 0.049 | 0.005 |
| 204 | 17.00 | 0.10 | 0.055 | ( 0.081) | 0.049 | 0.005 |
| 205 | 17.08 | 0.17 | 0.092 | 0.080 | ( 0.082) | 0.011 |
| 206 | 17.17 | 0.17 | 0.092 | 0.080 | ( 0.082) | 0.012 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 207 | 17.25 | 0.17 | 0.092 | 0.079 | ( 0.082) | 0.012 |
| 208 | 17.33 | 0.17 | 0.092 | 0.079 | ( 0.082) | 0.013 |
| 209 | 17.42 | 0.17 | 0.092 | 0.079 | ( 0.082) | 0.013 |
| 210 | 17.50 | 0.17 | 0.092 | 0.078 | ( 0.082) | 0.013 |
| 211 | 17.58 | 0.17 | 0.092 | 0.078 | ( 0.082) | 0.014 |
| 212 | 17.67 | 0.17 | 0.092 | 0.077 | ( 0.082) | 0.014 |
| 213 | 17.75 | 0.17 | 0.092 | 0.077 | ( 0.082) | 0.015 |
| 214 | 17.83 | 0.13 | 0.073 | ( 0.077) | 0.066 | 0.007 |
| 215 | 17.92 | 0.13 | 0.073 | ( 0.076) | 0.066 | 0.007 |
| 216 | 18.00 | 0.13 | 0.073 | ( 0.076) | 0.066 | 0.007 |
| 217 | 18.08 | 0.13 | 0.073 | ( 0.076) | 0.066 | 0.007 |
| 218 | 18.17 | 0.13 | 0.073 | ( 0.075) | 0.066 | 0.007 |
| 219 | 18.25 | 0.13 | 0.073 | ( 0.075) | 0.066 | 0.007 |
| 220 | 18.33 | 0.13 | 0.073 | ( 0.074) | 0.066 | 0.007 |
| 221 | 18.42 | 0.13 | 0.073 | ( 0.074) | 0.066 | 0.007 |
| 222 | 18.50 | 0.13 | 0.073 | ( 0.074) | 0.066 | 0.007 |
| 223 | 18.58 | 0.10 | 0.055 | ( 0.073) | 0.049 | 0.005 |
| 224 | 18.67 | 0.10 | 0.055 | ( 0.073) | 0.049 | 0.005 |
| 225 | 18.75 | 0.10 | 0.055 | ( 0.073) | 0.049 | 0.005 |
| 226 | 18.83 | 0.07 | 0.037 | ( 0.072) | 0.033 | 0.004 |
| 227 | 18.92 | 0.07 | 0.037 | ( 0.072) | 0.033 | 0.004 |
| 228 | 19.00 | 0.07 | 0.037 | ( 0.072) | 0.033 | 0.004 |
| 229 | 19.08 | 0.10 | 0.055 | ( 0.071) | 0.049 | 0.005 |
| 230 | 19.17 | 0.10 | 0.055 | ( 0.071) | 0.049 | 0.005 |
| 231 | 19.25 | 0.10 | 0.055 | ( 0.071) | 0.049 | 0.005 |
| 232 | 19.33 | 0.13 | 0.073 | ( 0.070) | 0.066 | 0.007 |
| 233 | 19.42 | 0.13 | 0.073 | ( 0.070) | 0.066 | 0.007 |
| 234 | 19.50 | 0.13 | 0.073 | ( 0.070) | 0.066 | 0.007 |
| 235 | 19.58 | 0.10 | 0.055 | ( 0.069) | 0.049 | 0.005 |
| 236 | 19.67 | 0.10 | 0.055 | ( 0.069) | 0.049 | 0.005 |
| 237 | 19.75 | 0.10 | 0.055 | ( 0.069) | 0.049 | 0.005 |
| 238 | 19.83 | 0.07 | 0.037 | ( 0.068) | 0.033 | 0.004 |
| 239 | 19.92 | 0.07 | 0.037 | ( 0.068) | 0.033 | 0.004 |
| 240 | 20.00 | 0.07 | 0.037 | ( 0.068) | 0.033 | 0.004 |
| 241 | 20.08 | 0.10 | 0.055 | ( 0.067) | 0.049 | 0.005 |
| 242 | 20.17 | 0.10 | 0.055 | ( 0.067) | 0.049 | 0.005 |
| 243 | 20.25 | 0.10 | 0.055 | ( 0.067) | 0.049 | 0.005 |
| 244 | 20.33 | 0.10 | 0.055 | ( 0.067) | 0.049 | 0.005 |
| 245 | 20.42 | 0.10 | 0.055 | ( 0.066) | 0.049 | 0.005 |
| 246 | 20.50 | 0.10 | 0.055 | ( 0.066) | 0.049 | 0.005 |
| 247 | 20.58 | 0.10 | 0.055 | ( 0.066) | 0.049 | 0.005 |
| 248 | 20.67 | 0.10 | 0.055 | ( 0.065) | 0.049 | 0.005 |
| 249 | 20.75 | 0.10 | 0.055 | ( 0.065) | 0.049 | 0.005 |
| 250 | 20.83 | 0.07 | 0.037 | ( 0.065) | 0.033 | 0.004 |
| 251 | 20.92 | 0.07 | 0.037 | ( 0.065) | 0.033 | 0.004 |
| 252 | 21.00 | 0.07 | 0.037 | ( 0.064) | 0.033 | 0.004 |
| 253 | 21.08 | 0.10 | 0.055 | ( 0.064) | 0.049 | 0.005 |
| 254 | 21.17 | 0.10 | 0.055 | ( 0.064) | 0.049 | 0.005 |
| 255 | 21.25 | 0.10 | 0.055 | ( 0.064) | 0.049 | 0.005 |
| 256 | 21.33 | 0.07 | 0.037 | ( 0.063) | 0.033 | 0.004 |
| 257 | 21.42 | 0.07 | 0.037 | ( 0.063) | 0.033 | 0.004 |
| 258 | 21.50 | 0.07 | 0.037 | ( 0.063) | 0.033 | 0.004 |
| 259 | 21.58 | 0.10 | 0.055 | ( 0.063) | 0.049 | 0.005 |
| 260 | 21.67 | 0.10 | 0.055 | ( 0.062) | 0.049 | 0.005 |
| 261 | 21.75 | 0.10 | 0.055 | ( 0.062) | 0.049 | 0.005 |
| 262 | 21.83 | 0.07 | 0.037 | ( 0.062) | 0.033 | 0.004 |
| 263 | 21.92 | 0.07 | 0.037 | ( 0.062) | 0.033 | 0.004 |
| 264 | 22.00 | 0.07 | 0.037 | ( 0.062) | 0.033 | 0.004 |
| 265 | 22.08 | 0.10 | 0.055 | ( 0.061) | 0.049 | 0.005 |
| 266 | 22.17 | 0.10 | 0.055 | ( 0.061) | 0.049 | 0.005 |
| 267 | 22.25 | 0.10 | 0.055 | ( 0.061) | 0.049 | 0.005 |
| 268 | 22.33 | 0.07 | 0.037 | ( 0.061) | 0.033 | 0.004 |
| 269 | 22.42 | 0.07 | 0.037 | ( 0.061) | 0.033 | 0.004 |
| 270 | 22.50 | 0.07 | 0.037 | ( 0.060) | 0.033 | 0.004 |
| 271 | 22.58 | 0.07 | 0.037 | ( 0.060) | 0.033 | 0.004 |
| 272 | 22.67 | 0.07 | 0.037 | ( 0.060) | 0.033 | 0.004 |
| 273 | 22.75 | 0.07 | 0.037 | ( 0.060) | 0.033 | 0.004 |
| 274 | 22.83 | 0.07 | 0.037 | ( 0.060) | 0.033 | 0.004 |
| 275 | 22.92 | 0.07 | 0.037 | ( 0.060) | 0.033 | 0.004 |
| 276 | 23.00 | 0.07 | 0.037 | ( 0.059) | 0.033 | 0.004 |
| 277 | 23.08 | 0.07 | 0.037 | ( 0.059) | 0.033 | 0.004 |
| 278 | 23.17 | 0.07 | 0.037 | ( 0.059) | 0.033 | 0.004 |
| 279 | 23.25 | 0.07 | 0.037 | ( 0.059) | 0.033 | 0.004 |
| 280 | 23.33 | 0.07 | 0.037 | ( 0.059) | 0.033 | 0.004 |
| 281 | 23.42 | 0.07 | 0.037 | ( 0.059) | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.037 | ( 0.059) | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.037 | ( 0.059) | 0.033 | 0.004 |
| 284 | 23.67 | 0.07 | 0.037 | ( 0.059) | 0.033 | 0.004 |

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285  23.75     0.07      0.037       (  0.059)       0.033        0.004
286  23.83     0.07      0.037       (  0.058)       0.033        0.004
287  23.92     0.07      0.037       (  0.058)       0.033        0.004
288  24.00     0.07      0.037       (  0.058)       0.033        0.004
              (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    30.2
       Flood volume = Effective rainfall      2.52(In)
        times area      28.4(Ac.)/[(In)/(Ft.)] =       6.0(Ac.Ft)
       Total soil loss =      2.06(In)
       Total soil loss =     4.878(Ac.Ft)
       Total rainfall =      4.58(In)
       Flood volume =      259637.2 Cubic Feet
       Total soil loss =      212498.0 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =     14.959(CFS)
       ---------------------------------------------------------------------
       +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
       ---------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))

       ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        5.0      10.0      15.0      20.0
 ------------------------------------------------------------------------
   0+ 5       0.0002      0.02  Q          |          |          |          |
   0+10       0.0007      0.08  Q          |          |          |          |
   0+15       0.0014      0.10  Q          |          |          |          |
   0+20       0.0022      0.12  Q          |          |          |          |
   0+25       0.0032      0.15  Q          |          |          |          |
   0+30       0.0043      0.15  Q          |          |          |          |
   0+35       0.0054      0.16  Q          |          |          |          |
   0+40       0.0064      0.16  Q          |          |          |          |
   0+45       0.0075      0.16  Q          |          |          |          |
   0+50       0.0087      0.17  Q          |          |          |          |
   0+55       0.0101      0.20  Q          |          |          |          |
   1+ 0       0.0115      0.21  Q          |          |          |          |
   1+ 5       0.0128      0.20  Q          |          |          |          |
   1+10       0.0140      0.17  Q          |          |          |          |
   1+15       0.0151      0.16  Q          |          |          |          |
   1+20       0.0162      0.16  Q          |          |          |          |
   1+25       0.0173      0.16  Q          |          |          |          |
   1+30       0.0184      0.16  Q          |          |          |          |
   1+35       0.0194      0.16  Q          |          |          |          |
   1+40       0.0205      0.16  Q          |          |          |          |
   1+45       0.0216      0.16  Q          |          |          |          |
   1+50       0.0228      0.17  Q          |          |          |          |
   1+55       0.0241      0.20  Q          |          |          |          |
   2+ 0       0.0256      0.21  Q          |          |          |          |
   2+ 5       0.0270      0.21  Q          |          |          |          |
   2+10       0.0284      0.21  Q          |          |          |          |
   2+15       0.0299      0.21  Q          |          |          |          |
   2+20       0.0313      0.21  Q          |          |          |          |
   2+25       0.0328      0.21  Q          |          |          |          |
   2+30       0.0342      0.21  Q          |          |          |          |
   2+35       0.0358      0.22  Q          |          |          |          |
   2+40       0.0375      0.25  Q          |          |          |          |
   2+45       0.0393      0.26  Q          |          |          |          |
   2+50       0.0411      0.26  Q          |          |          |          |
   2+55       0.0429      0.26  Q          |          |          |          |
   3+ 0       0.0447      0.26  Q          |          |          |          |
   3+ 5       0.0465      0.26  Q          |          |          |          |
   3+10       0.0483      0.26  Q          |          |          |          |
   3+15       0.0501      0.26  Q          |          |          |          |
   3+20       0.0519      0.26  Q          |          |          |          |
   3+25       0.0537      0.26  Q          |          |          |          |
   3+30       0.0555      0.26  Q          |          |          |          |
   3+35       0.0573      0.26  Q          |          |          |          |
   3+40       0.0591      0.26  Q          |          |          |          |
   3+45       0.0609      0.26  Q          |          |          |          |
   3+50       0.0628      0.27  Q          |          |          |          |
   3+55       0.0649      0.30  Q          |          |          |          |
   4+ 0       0.0671      0.31  Q          |          |          |          |
   4+ 5       0.0692      0.31  Q          |          |          |          |
   4+10       0.0714      0.31  Q          |          |          |          |
   4+15       0.0736      0.31  Q          |          |          |          |
   4+20       0.0758      0.33  Q          |          |          |          |
   4+25       0.0783      0.36  Q          |          |          |          |
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 4+30       0.0808      0.36  Q          |          |          |          |
 4+35       0.0833      0.37  Q          |          |          |          |
 4+40       0.0858      0.37  Q          |          |          |          |
 4+45       0.0884      0.37  Q          |          |          |          |
 4+50       0.0910      0.38  Q          |          |          |          |
 4+55       0.0938      0.41  Q          |          |          |          |
 5+ 0       0.0966      0.42  Q          |          |          |          |
 5+ 5       0.0994      0.39  Q          |          |          |          |
 5+10       0.1017      0.34  Q          |          |          |          |
 5+15       0.1039      0.32  Q          |          |          |          |
 5+20       0.1062      0.33  Q          |          |          |          |
 5+25       0.1086      0.36  Q          |          |          |          |
 5+30       0.1111      0.36  Q          |          |          |          |
 5+35       0.1137      0.38  Q          |          |          |          |
 5+40       0.1165      0.41  Q          |          |          |          |
 5+45       0.1194      0.42  Q          |          |          |          |
 5+50       0.1223      0.42  Q          |          |          |          |
 5+55       0.1252      0.42  Q          |          |          |          |
 6+ 0       0.1281      0.42  Q          |          |          |          |
 6+ 5       0.1310      0.43  Q          |          |          |          |
 6+10       0.1342      0.46  Q          |          |          |          |
 6+15       0.1375      0.47  Q          |          |          |          |
 6+20       0.1407      0.47  Q          |          |          |          |
 6+25       0.1439      0.47  Q          |          |          |          |
 6+30       0.1472      0.47  Q          |          |          |          |
 6+35       0.1512      0.59  |Q         |          |          |          |
 6+40       0.1572      0.87  |Q         |          |          |          |
 6+45       0.1638      0.96  |Q         |          |          |          |
 6+50       0.1707      1.00  |VQ        |          |          |          |
 6+55       0.1778      1.02  |VQ        |          |          |          |
 7+ 0       0.1850      1.05  |VQ        |          |          |          |
 7+ 5       0.1923      1.07  |VQ        |          |          |          |
 7+10       0.1998      1.08  |VQ        |          |          |          |
 7+15       0.2074      1.10  |VQ        |          |          |          |
 7+20       0.2160      1.24  |VQ        |          |          |          |
 7+25       0.2267      1.56  |V Q       |          |          |          |
 7+30       0.2381      1.65  |V Q       |          |          |          |
 7+35       0.2506      1.82  |V Q       |          |          |          |
 7+40       0.2653      2.13  |V  Q      |          |          |          |
 7+45       0.2806      2.23  |V  Q      |          |          |          |
 7+50       0.2971      2.40  |V  Q      |          |          |          |
 7+55       0.3158      2.71  | V  Q     |          |          |          |
 8+ 0       0.3352      2.81  | V  Q     |          |          |          |
 8+ 5       0.3565      3.10  | V   Q    |          |          |          |
 8+10       0.3821      3.71  | V    Q   |          |          |          |
 8+15       0.4088      3.89  | V    Q   |          |          |          |
 8+20       0.4360      3.95  | V    Q   |          |          |          |
 8+25       0.4634      3.98  |  V   Q   |          |          |          |
 8+30       0.4910      4.00  |  V    Q  |          |          |          |
 8+35       0.5196      4.14  |  V    Q  |          |          |          |
 8+40       0.5502      4.45  |  V    Q  |          |          |          |
 8+45       0.5816      4.55  |  V     Q |          |          |          |
 8+50       0.6140      4.71  |   V    Q |          |          |          |
 8+55       0.6487      5.03  |   V     Q          |          |          |
 9+ 0       0.6840      5.13  |   V     Q          |          |          |
 9+ 5       0.7213      5.41  |   V     Q          |          |          |
 9+10       0.7628      6.02  |    V    | Q        |          |          |
 9+15       0.8055      6.20  |    V    | Q        |          |          |
 9+20       0.8494      6.38  |    V    | Q        |          |          |
 9+25       0.8956      6.71  |     V   |  Q       |          |          |
 9+30       0.9425      6.81  |     V   |  Q       |          |          |
 9+35       0.9905      6.97  |     V   |  Q       |          |          |
 9+40       1.0407      7.29  |     V   |   Q      |          |          |
 9+45       1.0916      7.39  |      V  |   Q      |          |          |
 9+50       1.1435      7.55  |      V  |    Q     |          |          |
 9+55       1.1977      7.86  |       V |    Q     |          |          |
10+ 0       1.2525      7.96  |       V |    Q     |          |          |
10+ 5       1.3018      7.16  |       V |   Q      |          |          |
10+10       1.3371      5.13  |       V Q          |          |          |
10+15       1.3688      4.60  |        Q|          |          |          |
10+20       1.3995      4.45  |       QV|          |          |          |
10+25       1.4300      4.43  |       QV|          |          |          |
10+30       1.4604      4.42  |       QV|          |          |          |
10+35       1.4952      5.05  |         Q          |          |          |
10+40       1.5401      6.53  |         V  Q       |          |          |
10+45       1.5879      6.94  |         V  Q       |          |          |
10+50       1.6366      7.07  |         V   Q      |          |          |
10+55       1.6856      7.11  |         |V  Q      |          |          |
```



| | | | |
|---|---|---|---|
| 11+ 0 | 1.7348 | 7.15 | |
| 11+ 5 | 1.7833 | 7.04 | |
| 11+10 | 1.8299 | 6.77 | |
| 11+15 | 1.8761 | 6.70 | |
| 11+20 | 1.9222 | 6.70 | |
| 11+25 | 1.9684 | 6.71 | |
| 11+30 | 2.0147 | 6.72 | |
| 11+35 | 2.0594 | 6.49 | |
| 11+40 | 2.1002 | 5.92 | |
| 11+45 | 2.1400 | 5.78 | |
| 11+50 | 2.1805 | 5.87 | |
| 11+55 | 2.2230 | 6.17 | |
| 12+ 0 | 2.2661 | 6.26 | |
| 12+ 5 | 2.3153 | 7.14 | |
| 12+10 | 2.3788 | 9.22 | |
| 12+15 | 2.4461 | 9.78 | |
| 12+20 | 2.5156 | 10.08 | |
| 12+25 | 2.5874 | 10.43 | |
| 12+30 | 2.6601 | 10.55 | |
| 12+35 | 2.7347 | 10.83 | |
| 12+40 | 2.8135 | 11.44 | |
| 12+45 | 2.8934 | 11.61 | |
| 12+50 | 2.9747 | 11.79 | |
| 12+55 | 3.0581 | 12.11 | |
| 13+ 0 | 3.1422 | 12.21 | |
| 13+ 5 | 3.2308 | 12.86 | |
| 13+10 | 3.3295 | 14.34 | |
| 13+15 | 3.4311 | 14.75 | |
| 13+20 | 3.5337 | 14.88 | |
| 13+25 | 3.6365 | 14.93 | |
| 13+30 | 3.7395 | 14.96 | |
| 13+35 | 3.8334 | 13.64 | |
| 13+40 | 3.9053 | 10.43 | |
| 13+45 | 3.9713 | 9.59 | |
| 13+50 | 4.0357 | 9.34 | |
| 13+55 | 4.0997 | 9.29 | |
| 14+ 0 | 4.1636 | 9.27 | |
| 14+ 5 | 4.2309 | 9.77 | |
| 14+10 | 4.3063 | 10.96 | |
| 14+15 | 4.3841 | 11.29 | |
| 14+20 | 4.4617 | 11.27 | |
| 14+25 | 4.5376 | 11.02 | |
| 14+30 | 4.6131 | 10.97 | |
| 14+35 | 4.6886 | 10.96 | |
| 14+40 | 4.7641 | 10.96 | |
| 14+45 | 4.8397 | 10.97 | |
| 14+50 | 4.9145 | 10.87 | |
| 14+55 | 4.9874 | 10.59 | |
| 15+ 0 | 5.0599 | 10.52 | |
| 15+ 5 | 5.1315 | 10.39 | |
| 15+10 | 5.2011 | 10.11 | |
| 15+15 | 5.2702 | 10.04 | |
| 15+20 | 5.3384 | 9.91 | |
| 15+25 | 5.4047 | 9.62 | |
| 15+30 | 5.4705 | 9.55 | |
| 15+35 | 5.5329 | 9.06 | |
| 15+40 | 5.5872 | 7.89 | |
| 15+45 | 5.6395 | 7.59 | |
| 15+50 | 5.6912 | 7.51 | |
| 15+55 | 5.7429 | 7.50 | |
| 16+ 0 | 5.7946 | 7.50 | |
| 16+ 5 | 5.8347 | 5.82 | |
| 16+10 | 5.8467 | 1.75 | |
| 16+15 | 5.8512 | 0.66 | |
| 16+20 | 5.8535 | 0.33 | |
| 16+25 | 5.8553 | 0.25 | |
| 16+30 | 5.8567 | 0.21 | |
| 16+35 | 5.8581 | 0.20 | |
| 16+40 | 5.8593 | 0.17 | |
| 16+45 | 5.8604 | 0.16 | |
| 16+50 | 5.8614 | 0.16 | |
| 16+55 | 5.8625 | 0.16 | |
| 17+ 0 | 5.8636 | 0.16 | |
| 17+ 5 | 5.8650 | 0.20 | |
| 17+10 | 5.8670 | 0.29 | |
| 17+15 | 5.8692 | 0.33 | |
| 17+20 | 5.8716 | 0.35 | |
| 17+25 | 5.8741 | 0.36 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+30 | 5.8767 | 0.37 | Q | \| | \| | \| | V\| |
| 17+35 | 5.8793 | 0.38 | Q | \| | \| | \| | V\| |
| 17+40 | 5.8820 | 0.39 | Q | \| | \| | \| | V\| |
| 17+45 | 5.8848 | 0.41 | Q | \| | \| | \| | V\| |
| 17+50 | 5.8873 | 0.37 | Q | \| | \| | \| | V\| |
| 17+55 | 5.8891 | 0.25 | Q | \| | \| | \| | V\| |
| 18+ 0 | 5.8906 | 0.22 | Q | \| | \| | \| | V\| |
| 18+ 5 | 5.8921 | 0.21 | Q | \| | \| | \| | V\| |
| 18+10 | 5.8935 | 0.21 | Q | \| | \| | \| | V\| |
| 18+15 | 5.8950 | 0.21 | Q | \| | \| | \| | V\| |
| 18+20 | 5.8964 | 0.21 | Q | \| | \| | \| | V\| |
| 18+25 | 5.8979 | 0.21 | Q | \| | \| | \| | V\| |
| 18+30 | 5.8993 | 0.21 | Q | \| | \| | \| | V\| |
| 18+35 | 5.9007 | 0.20 | Q | \| | \| | \| | V\| |
| 18+40 | 5.9018 | 0.17 | Q | \| | \| | \| | V\| |
| 18+45 | 5.9029 | 0.16 | Q | \| | \| | \| | V\| |
| 18+50 | 5.9039 | 0.15 | Q | \| | \| | \| | V\| |
| 18+55 | 5.9047 | 0.12 | Q | \| | \| | \| | V\| |
| 19+ 0 | 5.9055 | 0.11 | Q | \| | \| | \| | V\| |
| 19+ 5 | 5.9063 | 0.12 | Q | \| | \| | \| | V\| |
| 19+10 | 5.9073 | 0.15 | Q | \| | \| | \| | V\| |
| 19+15 | 5.9084 | 0.15 | Q | \| | \| | \| | V\| |
| 19+20 | 5.9095 | 0.17 | Q | \| | \| | \| | V\| |
| 19+25 | 5.9109 | 0.20 | Q | \| | \| | \| | V\| |
| 19+30 | 5.9123 | 0.21 | Q | \| | \| | \| | V\| |
| 19+35 | 5.9137 | 0.20 | Q | \| | \| | \| | V\| |
| 19+40 | 5.9148 | 0.17 | Q | \| | \| | \| | V\| |
| 19+45 | 5.9159 | 0.16 | Q | \| | \| | \| | V\| |
| 19+50 | 5.9169 | 0.15 | Q | \| | \| | \| | V\| |
| 19+55 | 5.9177 | 0.12 | Q | \| | \| | \| | V\| |
| 20+ 0 | 5.9185 | 0.11 | Q | \| | \| | \| | V\| |
| 20+ 5 | 5.9193 | 0.12 | Q | \| | \| | \| | V\| |
| 20+10 | 5.9203 | 0.15 | Q | \| | \| | \| | V\| |
| 20+15 | 5.9214 | 0.15 | Q | \| | \| | \| | V\| |
| 20+20 | 5.9224 | 0.16 | Q | \| | \| | \| | V\| |
| 20+25 | 5.9235 | 0.16 | Q | \| | \| | \| | V\| |
| 20+30 | 5.9246 | 0.16 | Q | \| | \| | \| | V\| |
| 20+35 | 5.9257 | 0.16 | Q | \| | \| | \| | V\| |
| 20+40 | 5.9268 | 0.16 | Q | \| | \| | \| | V\| |
| 20+45 | 5.9279 | 0.16 | Q | \| | \| | \| | V\| |
| 20+50 | 5.9289 | 0.15 | Q | \| | \| | \| | V\| |
| 20+55 | 5.9297 | 0.12 | Q | \| | \| | \| | V\| |
| 21+ 0 | 5.9304 | 0.11 | Q | \| | \| | \| | V\| |
| 21+ 5 | 5.9312 | 0.12 | Q | \| | \| | \| | V\| |
| 21+10 | 5.9322 | 0.15 | Q | \| | \| | \| | V\| |
| 21+15 | 5.9333 | 0.15 | Q | \| | \| | \| | V\| |
| 21+20 | 5.9343 | 0.14 | Q | \| | \| | \| | V\| |
| 21+25 | 5.9351 | 0.12 | Q | \| | \| | \| | V\| |
| 21+30 | 5.9358 | 0.11 | Q | \| | \| | \| | V\| |
| 21+35 | 5.9366 | 0.12 | Q | \| | \| | \| | V\| |
| 21+40 | 5.9376 | 0.15 | Q | \| | \| | \| | V\| |
| 21+45 | 5.9387 | 0.15 | Q | \| | \| | \| | V\| |
| 21+50 | 5.9397 | 0.14 | Q | \| | \| | \| | V\| |
| 21+55 | 5.9405 | 0.12 | Q | \| | \| | \| | V\| |
| 22+ 0 | 5.9412 | 0.11 | Q | \| | \| | \| | V\| |
| 22+ 5 | 5.9421 | 0.12 | Q | \| | \| | \| | V\| |
| 22+10 | 5.9431 | 0.15 | Q | \| | \| | \| | V\| |
| 22+15 | 5.9441 | 0.15 | Q | \| | \| | \| | V\| |
| 22+20 | 5.9451 | 0.14 | Q | \| | \| | \| | V\| |
| 22+25 | 5.9459 | 0.12 | Q | \| | \| | \| | V\| |
| 22+30 | 5.9467 | 0.11 | Q | \| | \| | \| | V\| |
| 22+35 | 5.9474 | 0.11 | Q | \| | \| | \| | V\| |
| 22+40 | 5.9481 | 0.11 | Q | \| | \| | \| | V\| |
| 22+45 | 5.9488 | 0.10 | Q | \| | \| | \| | V\| |
| 22+50 | 5.9496 | 0.10 | Q | \| | \| | \| | V\| |
| 22+55 | 5.9503 | 0.10 | Q | \| | \| | \| | V\| |
| 23+ 0 | 5.9510 | 0.10 | Q | \| | \| | \| | V\| |
| 23+ 5 | 5.9517 | 0.10 | Q | \| | \| | \| | V\| |
| 23+10 | 5.9525 | 0.10 | Q | \| | \| | \| | V\| |
| 23+15 | 5.9532 | 0.10 | Q | \| | \| | \| | V\| |
| 23+20 | 5.9539 | 0.10 | Q | \| | \| | \| | V\| |
| 23+25 | 5.9546 | 0.10 | Q | \| | \| | \| | V\| |
| 23+30 | 5.9553 | 0.10 | Q | \| | \| | \| | V\| |
| 23+35 | 5.9561 | 0.10 | Q | \| | \| | \| | V\| |
| 23+40 | 5.9568 | 0.10 | Q | \| | \| | \| | V\| |
| 23+45 | 5.9575 | 0.10 | Q | \| | \| | \| | V\| |
| 23+50 | 5.9582 | 0.10 | Q | \| | \| | \| | V\| |
| 23+55 | 5.9590 | 0.10 | Q | \| | \| | \| | V\| |

```
   24+ 0       5.9597      0.10  Q          |          |          |         V|
   24+ 5       5.9602      0.08  Q          |          |          |         V|
   24+10       5.9604      0.02  Q          |          |          |         V|
   24+15       5.9604      0.01  Q          |          |          |         V|
   24+20       5.9604      0.00  Q          |          |          |         V|
   24+25       5.9604      0.00  Q          |          |          |         V|
-------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA141100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 14
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

---

Drainage Area = 355.40(Ac.) = 0.555 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 355.40(Ac.) = 0.555 Sq. Mi.
Length along longest watercourse = 6167.00(Ft.)
Length along longest watercourse measured to centroid = 3141.00(Ft.)
Length along longest watercourse = 1.168 Mi.
Length along longest watercourse measured to centroid = 0.595 Mi.
Difference in elevation = 540.00(Ft.)
Slope along watercourse = 462.3318 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.228 Hr.
Lag time = 13.68 Min.
25% of lag time = 3.42 Min.
40% of lag time = 5.47 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 355.40 | 0.50 | 177.70 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 355.40 | 1.20 | 426.48 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.68 %
Adjusted average point rain = 1.196(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 355.400 | 83.11 | 0.000 |

Total Area Entered = 355.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.1 | 92.9 | 0.093 | 0.000 | 0.093 | 1.000 | 0.093 |
| | | | | | Sum (F) = | 0.093 |

Area averaged mean soil loss (F) (In/Hr) = 0.093

Minimum soil loss rate ((In/Hr)) = 0.046
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

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| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 36.557 | 2.775 | 9.939 |
| 2 | 0.167 | 73.114 | 9.857 | 35.307 |
| 3 | 0.250 | 109.670 | 25.509 | 91.366 |
| 4 | 0.333 | 146.227 | 26.287 | 94.153 |
| 5 | 0.417 | 182.784 | 10.842 | 38.834 |
| 6 | 0.500 | 219.341 | 7.121 | 25.506 |
| 7 | 0.583 | 255.898 | 5.102 | 18.273 |
| 8 | 0.667 | 292.455 | 3.762 | 13.474 |
| 9 | 0.750 | 329.011 | 2.817 | 10.089 |
| 10 | 0.833 | 365.568 | 1.972 | 7.065 |
| 11 | 0.917 | 402.125 | 1.389 | 4.974 |
| 12 | 1.000 | 438.682 | 0.713 | 2.553 |
| 13 | 1.083 | 475.239 | 0.421 | 1.509 |
| 14 | 1.167 | 511.796 | 0.361 | 1.295 |
| 15 | 1.250 | 548.352 | 0.253 | 0.906 |
| 16 | 1.333 | 584.909 | 0.253 | 0.905 |
| 17 | 1.417 | 621.466 | 0.267 | 0.957 |
| 18 | 1.500 | 658.023 | 0.157 | 0.562 |
| 19 | 1.583 | 694.580 | 0.095 | 0.342 |
| 20 | 1.667 | 731.137 | 0.047 | 0.170 |
| | | Sum = 100.000 | Sum= | 358.177 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.603 | 0.093 | ( 0.543) | 0.510 |
| 2 | 0.17 | 4.30 | 0.617 | 0.093 | ( 0.555) | 0.524 |
| 3 | 0.25 | 5.00 | 0.718 | 0.093 | ( 0.646) | 0.625 |
| 4 | 0.33 | 5.00 | 0.718 | 0.093 | ( 0.646) | 0.625 |
| 5 | 0.42 | 5.80 | 0.833 | 0.093 | ( 0.749) | 0.740 |
| 6 | 0.50 | 6.50 | 0.933 | 0.093 | ( 0.840) | 0.840 |
| 7 | 0.58 | 7.40 | 1.062 | 0.093 | ( 0.956) | 0.969 |
| 8 | 0.67 | 8.60 | 1.234 | 0.093 | ( 1.111) | 1.142 |
| 9 | 0.75 | 12.30 | 1.765 | 0.093 | ( 1.589) | 1.673 |
| 10 | 0.83 | 29.10 | 4.177 | 0.093 | ( 3.759) | 4.084 |
| 11 | 0.92 | 6.80 | 0.976 | 0.093 | ( 0.878) | 0.883 |
| 12 | 1.00 | 5.00 | 0.718 | 0.093 | ( 0.646) | 0.625 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 13.2 |

Flood volume = Effective rainfall 1.10(In)
times area 355.4(Ac.)/[(In)/(Ft.)] = 32.7(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 2.747(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 1423489.5 Cubic Feet
Total soil loss = 119646.6 Cubic Feet

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Peak flow rate of this hydrograph = 677.410(CFS)

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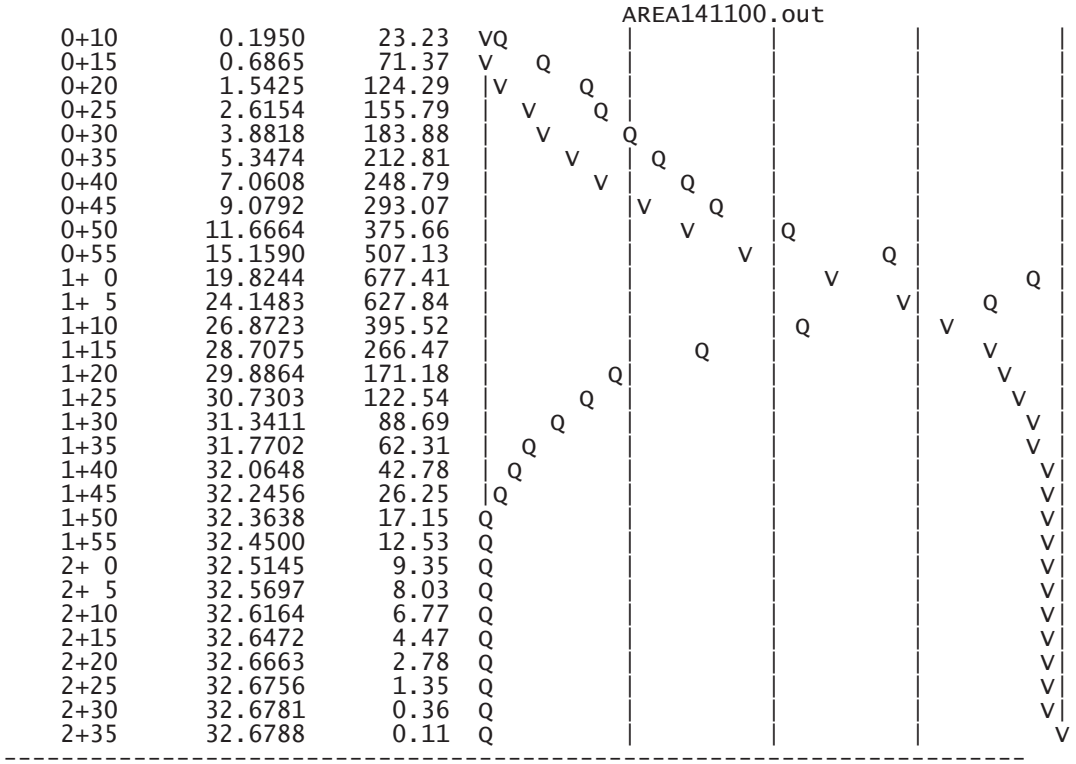
1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

---

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 175.0 | 350.0 | 525.0 | 700.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0349 | 5.07 | Q | | | | |



| | | | |
|---|---|---|---|
| 0+10 | 0.1950 | 23.23 | |
| 0+15 | 0.6865 | 71.37 | |
| 0+20 | 1.5425 | 124.29 | |
| 0+25 | 2.6154 | 155.79 | |
| 0+30 | 3.8818 | 183.88 | |
| 0+35 | 5.3474 | 212.81 | |
| 0+40 | 7.0608 | 248.79 | |
| 0+45 | 9.0792 | 293.07 | |
| 0+50 | 11.6664 | 375.66 | |
| 0+55 | 15.1590 | 507.13 | |
| 1+ 0 | 19.8244 | 677.41 | |
| 1+ 5 | 24.1483 | 627.84 | |
| 1+10 | 26.8723 | 395.52 | |
| 1+15 | 28.7075 | 266.47 | |
| 1+20 | 29.8864 | 171.18 | |
| 1+25 | 30.7303 | 122.54 | |
| 1+30 | 31.3411 | 88.69 | |
| 1+35 | 31.7702 | 62.31 | |
| 1+40 | 32.0648 | 42.78 | |
| 1+45 | 32.2456 | 26.25 | |
| 1+50 | 32.3638 | 17.15 | |
| 1+55 | 32.4500 | 12.53 | |
| 2+ 0 | 32.5145 | 9.35 | |
| 2+ 5 | 32.5697 | 8.03 | |
| 2+10 | 32.6164 | 6.77 | |
| 2+15 | 32.6472 | 4.47 | |
| 2+20 | 32.6663 | 2.78 | |
| 2+25 | 32.6756 | 1.35 | |
| 2+30 | 32.6781 | 0.36 | |
| 2+35 | 32.6788 | 0.11 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA143100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 14
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

---

Drainage Area = 355.40(Ac.) = 0.555 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 355.40(Ac.) = 0.555 Sq. Mi.
Length along longest watercourse = 6167.00(Ft.)
Length along longest watercourse measured to centroid = 3141.00(Ft.)
Length along longest watercourse = 1.168 Mi.
Length along longest watercourse measured to centroid = 0.595 Mi.
Difference in elevation = 540.00(Ft.)
Slope along watercourse = 462.3318 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.228 Hr.
Lag time = 13.68 Min.
25% of lag time = 3.42 Min.
40% of lag time = 5.47 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 355.40 | 0.81 | 287.87 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 355.40 | 1.81 | 643.27 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.810(In)
Area Averaged 100-Year Rainfall = 1.810(In)

Point rain (area averaged) = 1.810(In)
Areal adjustment factor = 99.84 %
Adjusted average point rain = 1.807(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 355.400 | 83.11 | 0.000 |

Total Area Entered = 355.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.1 | 92.9 | 0.093 | 0.000 | 0.093 | 1.000 | 0.093 |
| | | | | | Sum (F) = | 0.093 |

Area averaged mean soil loss (F) (In/Hr) = 0.093

Minimum soil loss rate ((In/Hr)) = 0.046
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 36.557 | 2.775 | 9.939 |
| 2 | 0.167 | 73.114 | 9.857 | 35.307 |
| 3 | 0.250 | 109.670 | 25.509 | 91.366 |
| 4 | 0.333 | 146.227 | 26.287 | 94.153 |
| 5 | 0.417 | 182.784 | 10.842 | 38.834 |
| 6 | 0.500 | 219.341 | 7.121 | 25.506 |
| 7 | 0.583 | 255.898 | 5.102 | 18.273 |
| 8 | 0.667 | 292.455 | 3.762 | 13.474 |
| 9 | 0.750 | 329.011 | 2.817 | 10.089 |
| 10 | 0.833 | 365.568 | 1.972 | 7.065 |
| 11 | 0.917 | 402.125 | 1.389 | 4.974 |
| 12 | 1.000 | 438.682 | 0.713 | 2.553 |
| 13 | 1.083 | 475.239 | 0.421 | 1.509 |
| 14 | 1.167 | 511.796 | 0.361 | 1.295 |
| 15 | 1.250 | 548.352 | 0.253 | 0.906 |
| 16 | 1.333 | 584.909 | 0.253 | 0.905 |
| 17 | 1.417 | 621.466 | 0.267 | 0.957 |
| 18 | 1.500 | 658.023 | 0.157 | 0.562 |
| 19 | 1.583 | 694.580 | 0.095 | 0.342 |
| 20 | 1.667 | 731.137 | 0.047 | 0.170 |
| | | | Sum = 100.000 | Sum= 358.177 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.282 | 0.093 | ( 0.254) | 0.189 |
| 2 | 0.17 | 1.30 | 0.282 | 0.093 | ( 0.254) | 0.189 |
| 3 | 0.25 | 1.10 | 0.239 | 0.093 | ( 0.215) | 0.146 |
| 4 | 0.33 | 1.50 | 0.325 | 0.093 | ( 0.293) | 0.233 |
| 5 | 0.42 | 1.50 | 0.325 | 0.093 | ( 0.293) | 0.233 |
| 6 | 0.50 | 1.80 | 0.390 | 0.093 | ( 0.351) | 0.298 |
| 7 | 0.58 | 1.50 | 0.325 | 0.093 | ( 0.293) | 0.233 |
| 8 | 0.67 | 1.80 | 0.390 | 0.093 | ( 0.351) | 0.298 |
| 9 | 0.75 | 1.80 | 0.390 | 0.093 | ( 0.351) | 0.298 |
| 10 | 0.83 | 1.50 | 0.325 | 0.093 | ( 0.293) | 0.233 |
| 11 | 0.92 | 1.60 | 0.347 | 0.093 | ( 0.312) | 0.254 |
| 12 | 1.00 | 1.80 | 0.390 | 0.093 | ( 0.351) | 0.298 |
| 13 | 1.08 | 2.20 | 0.477 | 0.093 | ( 0.429) | 0.384 |
| 14 | 1.17 | 2.20 | 0.477 | 0.093 | ( 0.429) | 0.384 |
| 15 | 1.25 | 2.20 | 0.477 | 0.093 | ( 0.429) | 0.384 |
| 16 | 1.33 | 2.00 | 0.434 | 0.093 | ( 0.390) | 0.341 |
| 17 | 1.42 | 2.60 | 0.564 | 0.093 | ( 0.507) | 0.471 |
| 18 | 1.50 | 2.70 | 0.586 | 0.093 | ( 0.527) | 0.493 |
| 19 | 1.58 | 2.40 | 0.520 | 0.093 | ( 0.468) | 0.428 |
| 20 | 1.67 | 2.70 | 0.586 | 0.093 | ( 0.527) | 0.493 |
| 21 | 1.75 | 3.30 | 0.716 | 0.093 | ( 0.644) | 0.623 |
| 22 | 1.83 | 3.10 | 0.672 | 0.093 | ( 0.605) | 0.580 |
| 23 | 1.92 | 2.90 | 0.629 | 0.093 | ( 0.566) | 0.536 |
| 24 | 2.00 | 3.00 | 0.651 | 0.093 | ( 0.586) | 0.558 |
| 25 | 2.08 | 3.10 | 0.672 | 0.093 | ( 0.605) | 0.580 |
| 26 | 2.17 | 4.20 | 0.911 | 0.093 | ( 0.820) | 0.818 |
| 27 | 2.25 | 5.00 | 1.084 | 0.093 | ( 0.976) | 0.992 |
| 28 | 2.33 | 3.50 | 0.759 | 0.093 | ( 0.683) | 0.666 |
| 29 | 2.42 | 6.80 | 1.475 | 0.093 | ( 1.327) | 1.382 |
| 30 | 2.50 | 7.30 | 1.583 | 0.093 | ( 1.425) | 1.490 |
| 31 | 2.58 | 8.20 | 1.778 | 0.093 | ( 1.600) | 1.686 |
| 32 | 2.67 | 5.90 | 1.279 | 0.093 | ( 1.152) | 1.187 |
| 33 | 2.75 | 2.00 | 0.434 | 0.093 | ( 0.390) | 0.341 |
| 34 | 2.83 | 1.80 | 0.390 | 0.093 | ( 0.351) | 0.298 |
| 35 | 2.92 | 1.80 | 0.390 | 0.093 | ( 0.351) | 0.298 |
| 36 | 3.00 | 0.60 | 0.130 | 0.093 | ( 0.117) | 0.037 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 18.3

Flood volume = Effective rainfall 1.53(In)
times area 355.4(Ac.)/[(In)/(Ft.)] = 45.3(Ac.Ft)
Total soil loss = 0.28(In)
Total soil loss = 8.240(Ac.Ft)
Total rainfall = 1.81(In)
Flood volume = 1972513.9 Cubic Feet
Total soil loss = 358939.9 Cubic Feet

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Peak flow rate of this hydrograph = 456.832(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 125.0 250.0 375.0 500.0 |
|---|---|---|---|
| 0+ 5 | 0.0130 | 1.88 | Q |
| 0+10 | 0.0719 | 8.56 | Q |
| 0+15 | 0.2470 | 25.43 | V Q |
| 0+20 | 0.5403 | 42.58 | V Q |
| 0+25 | 0.8779 | 49.03 | V Q |
| 0+30 | 1.2798 | 58.35 | V Q |
| 0+35 | 1.7615 | 69.94 | V Q |
| 0+40 | 2.3059 | 79.05 | V Q |
| 0+45 | 2.8903 | 84.86 | V Q |
| 0+50 | 3.5026 | 88.90 | V Q |
| 0+55 | 4.1483 | 93.75 | V Q |
| 1+ 0 | 4.7826 | 92.11 | V Q |
| 1+ 5 | 5.4189 | 92.39 | V Q |
| 1+10 | 6.1109 | 100.47 | V Q |
| 1+15 | 6.8869 | 112.67 | V Q |
| 1+20 | 7.7287 | 122.23 | V Q |
| 1+25 | 8.6002 | 126.55 | V Q |
| 1+30 | 9.4985 | 130.44 | V Q |
| 1+35 | 10.4665 | 140.55 | V Q |
| 1+40 | 11.5206 | 153.05 | V Q |
| 1+45 | 12.6082 | 157.93 | VQ |
| 1+50 | 13.7525 | 166.15 | VQ |
| 1+55 | 15.0099 | 182.57 | VQ |
| 2+ 0 | 16.3352 | 192.43 | VQ |
| 2+ 5 | 17.6600 | 192.36 | Q |
| 2+10 | 19.0126 | 196.39 | QV |
| 2+15 | 20.4670 | 211.18 | Q V |
| 2+20 | 22.1150 | 239.30 | Q |
| 2+25 | 24.0091 | 275.02 | VQ |
| 2+30 | 26.0648 | 298.49 | Q |
| 2+35 | 28.4937 | 352.67 | V Q |
| 2+40 | 31.4450 | 428.53 | V Q |
| 2+45 | 34.5912 | 456.83 | V Q |
| 2+50 | 37.4901 | 420.92 | Q |
| 2+55 | 39.6787 | 317.78 | Q V |
| 3+ 0 | 41.2495 | 228.08 | Q V |
| 3+ 5 | 42.4919 | 180.40 | Q V |
| 3+10 | 43.3935 | 130.92 | Q V |
| 3+15 | 43.9842 | 85.76 | Q V |
| 3+20 | 44.3879 | 58.62 | Q V |
| 3+25 | 44.6646 | 40.17 | Q V |
| 3+30 | 44.8523 | 27.25 | Q V |
| 3+35 | 44.9788 | 18.37 | Q V |
| 3+40 | 45.0682 | 12.98 | Q V |
| 3+45 | 45.1344 | 9.61 | Q V |
| 3+50 | 45.1829 | 7.04 | Q V |
| 3+55 | 45.2197 | 5.35 | Q V |
| 4+ 0 | 45.2462 | 3.85 | Q V |
| 4+ 5 | 45.2628 | 2.41 | Q V |
| 4+10 | 45.2730 | 1.47 | Q V |
| 4+15 | 45.2785 | 0.80 | Q V |
| 4+20 | 45.2810 | 0.36 | Q V |
| 4+25 | 45.2822 | 0.17 | Q V |
| 4+30 | 45.2826 | 0.06 | Q V |
| 4+35 | 45.2827 | 0.01 | Q V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA146100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 14
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

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Drainage Area = 355.40(Ac.) = 0.555 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 355.40(Ac.) = 0.555 Sq. Mi.
Length along longest watercourse = 6167.00(Ft.)
Length along longest watercourse measured to centroid = 3141.00(Ft.)
Length along longest watercourse = 1.168 Mi.
Length along longest watercourse measured to centroid = 0.595 Mi.
Difference in elevation = 540.00(Ft.)
Slope along watercourse = 462.3318 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.228 Hr.
Lag time = 13.68 Min.
25% of lag time = 3.42 Min.
40% of lag time = 5.47 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 355.40 | 1.14 | 405.16 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 355.40 | 2.50 | 888.50 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.140(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 99.88 %
Adjusted average point rain = 2.497(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 355.400 | 83.11 | 0.000 |

Total Area Entered = 355.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.1 | 92.9 | 0.093 | 0.000 | 0.093 | 1.000 | 0.093 |
| | | | | | Sum (F) = | 0.093 |

Area averaged mean soil loss (F) (In/Hr) = 0.093

Minimum soil loss rate ((In/Hr)) = 0.046
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 36.557 | 2.775 | 9.939 |
| 2 | 0.167 | 73.114 | 9.857 | 35.307 |
| 3 | 0.250 | 109.670 | 25.509 | 91.366 |
| 4 | 0.333 | 146.227 | 26.287 | 94.153 |
| 5 | 0.417 | 182.784 | 10.842 | 38.834 |
| 6 | 0.500 | 219.341 | 7.121 | 25.506 |
| 7 | 0.583 | 255.898 | 5.102 | 18.273 |
| 8 | 0.667 | 292.455 | 3.762 | 13.474 |
| 9 | 0.750 | 329.011 | 2.817 | 10.089 |
| 10 | 0.833 | 365.568 | 1.972 | 7.065 |
| 11 | 0.917 | 402.125 | 1.389 | 4.974 |
| 12 | 1.000 | 438.682 | 0.713 | 2.553 |
| 13 | 1.083 | 475.239 | 0.421 | 1.509 |
| 14 | 1.167 | 511.796 | 0.361 | 1.295 |
| 15 | 1.250 | 548.352 | 0.253 | 0.906 |
| 16 | 1.333 | 584.909 | 0.253 | 0.905 |
| 17 | 1.417 | 621.466 | 0.267 | 0.957 |
| 18 | 1.500 | 658.023 | 0.157 | 0.562 |
| 19 | 1.583 | 694.580 | 0.095 | 0.342 |
| 20 | 1.667 | 731.137 | 0.047 | 0.170 |
| | | | Sum = 100.000 | Sum= 358.177 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.093 | ( | 0.135) | 0.057 |
| 2 | 0.17 | 0.60 | 0.180 | 0.093 | ( | 0.162) | 0.087 |
| 3 | 0.25 | 0.60 | 0.180 | 0.093 | ( | 0.162) | 0.087 |
| 4 | 0.33 | 0.60 | 0.180 | 0.093 | ( | 0.162) | 0.087 |
| 5 | 0.42 | 0.60 | 0.180 | 0.093 | ( | 0.162) | 0.087 |
| 6 | 0.50 | 0.70 | 0.210 | 0.093 | ( | 0.189) | 0.117 |
| 7 | 0.58 | 0.70 | 0.210 | 0.093 | ( | 0.189) | 0.117 |
| 8 | 0.67 | 0.70 | 0.210 | 0.093 | ( | 0.189) | 0.117 |
| 9 | 0.75 | 0.70 | 0.210 | 0.093 | ( | 0.189) | 0.117 |
| 10 | 0.83 | 0.70 | 0.210 | 0.093 | ( | 0.189) | 0.117 |
| 11 | 0.92 | 0.70 | 0.210 | 0.093 | ( | 0.189) | 0.117 |
| 12 | 1.00 | 0.80 | 0.240 | 0.093 | ( | 0.216) | 0.147 |
| 13 | 1.08 | 0.80 | 0.240 | 0.093 | ( | 0.216) | 0.147 |
| 14 | 1.17 | 0.80 | 0.240 | 0.093 | ( | 0.216) | 0.147 |
| 15 | 1.25 | 0.80 | 0.240 | 0.093 | ( | 0.216) | 0.147 |
| 16 | 1.33 | 0.80 | 0.240 | 0.093 | ( | 0.216) | 0.147 |
| 17 | 1.42 | 0.80 | 0.240 | 0.093 | ( | 0.216) | 0.147 |
| 18 | 1.50 | 0.80 | 0.240 | 0.093 | ( | 0.216) | 0.147 |
| 19 | 1.58 | 0.80 | 0.240 | 0.093 | ( | 0.216) | 0.147 |
| 20 | 1.67 | 0.80 | 0.240 | 0.093 | ( | 0.216) | 0.147 |
| 21 | 1.75 | 0.80 | 0.240 | 0.093 | ( | 0.216) | 0.147 |
| 22 | 1.83 | 0.80 | 0.240 | 0.093 | ( | 0.216) | 0.147 |
| 23 | 1.92 | 0.80 | 0.240 | 0.093 | ( | 0.216) | 0.147 |
| 24 | 2.00 | 0.90 | 0.270 | 0.093 | ( | 0.243) | 0.177 |
| 25 | 2.08 | 0.80 | 0.240 | 0.093 | ( | 0.216) | 0.147 |
| 26 | 2.17 | 0.90 | 0.270 | 0.093 | ( | 0.243) | 0.177 |
| 27 | 2.25 | 0.90 | 0.270 | 0.093 | ( | 0.243) | 0.177 |
| 28 | 2.33 | 0.90 | 0.270 | 0.093 | ( | 0.243) | 0.177 |
| 29 | 2.42 | 0.90 | 0.270 | 0.093 | ( | 0.243) | 0.177 |
| 30 | 2.50 | 0.90 | 0.270 | 0.093 | ( | 0.243) | 0.177 |
| 31 | 2.58 | 0.90 | 0.270 | 0.093 | ( | 0.243) | 0.177 |
| 32 | 2.67 | 0.90 | 0.270 | 0.093 | ( | 0.243) | 0.177 |
| 33 | 2.75 | 1.00 | 0.300 | 0.093 | ( | 0.270) | 0.207 |
| 34 | 2.83 | 1.00 | 0.300 | 0.093 | ( | 0.270) | 0.207 |
| 35 | 2.92 | 1.00 | 0.300 | 0.093 | ( | 0.270) | 0.207 |
| 36 | 3.00 | 1.00 | 0.300 | 0.093 | ( | 0.270) | 0.207 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 37 | 3.08 | 1.00 | 0.300 | 0.093 | ( 0.270) | 0.207 | |
| 38 | 3.17 | 1.10 | 0.330 | 0.093 | ( 0.297) | 0.237 | |
| 39 | 3.25 | 1.10 | 0.330 | 0.093 | ( 0.297) | 0.237 | |
| 40 | 3.33 | 1.10 | 0.330 | 0.093 | ( 0.297) | 0.237 | |
| 41 | 3.42 | 1.20 | 0.360 | 0.093 | ( 0.324) | 0.267 | |
| 42 | 3.50 | 1.30 | 0.390 | 0.093 | ( 0.351) | 0.297 | |
| 43 | 3.58 | 1.40 | 0.419 | 0.093 | ( 0.378) | 0.327 | |
| 44 | 3.67 | 1.40 | 0.419 | 0.093 | ( 0.378) | 0.327 | |
| 45 | 3.75 | 1.50 | 0.449 | 0.093 | ( 0.405) | 0.357 | |
| 46 | 3.83 | 1.50 | 0.449 | 0.093 | ( 0.405) | 0.357 | |
| 47 | 3.92 | 1.60 | 0.479 | 0.093 | ( 0.431) | 0.387 | |
| 48 | 4.00 | 1.60 | 0.479 | 0.093 | ( 0.431) | 0.387 | |
| 49 | 4.08 | 1.70 | 0.509 | 0.093 | ( 0.458) | 0.417 | |
| 50 | 4.17 | 1.80 | 0.539 | 0.093 | ( 0.485) | 0.447 | |
| 51 | 4.25 | 1.90 | 0.569 | 0.093 | ( 0.512) | 0.477 | |
| 52 | 4.33 | 2.00 | 0.599 | 0.093 | ( 0.539) | 0.507 | |
| 53 | 4.42 | 2.10 | 0.629 | 0.093 | ( 0.566) | 0.536 | |
| 54 | 4.50 | 2.10 | 0.629 | 0.093 | ( 0.566) | 0.536 | |
| 55 | 4.58 | 2.20 | 0.659 | 0.093 | ( 0.593) | 0.566 | |
| 56 | 4.67 | 2.30 | 0.689 | 0.093 | ( 0.620) | 0.596 | |
| 57 | 4.75 | 2.40 | 0.719 | 0.093 | ( 0.647) | 0.626 | |
| 58 | 4.83 | 2.40 | 0.719 | 0.093 | ( 0.647) | 0.626 | |
| 59 | 4.92 | 2.50 | 0.749 | 0.093 | ( 0.674) | 0.656 | |
| 60 | 5.00 | 2.60 | 0.779 | 0.093 | ( 0.701) | 0.686 | |
| 61 | 5.08 | 3.10 | 0.929 | 0.093 | ( 0.836) | 0.836 | |
| 62 | 5.17 | 3.60 | 1.079 | 0.093 | ( 0.971) | 0.986 | |
| 63 | 5.25 | 3.90 | 1.169 | 0.093 | ( 1.052) | 1.076 | |
| 64 | 5.33 | 4.20 | 1.258 | 0.093 | ( 1.133) | 1.166 | |
| 65 | 5.42 | 4.70 | 1.408 | 0.093 | ( 1.267) | 1.316 | |
| 66 | 5.50 | 5.60 | 1.678 | 0.093 | ( 1.510) | 1.585 | |
| 67 | 5.58 | 1.90 | 0.569 | 0.093 | ( 0.512) | 0.477 | |
| 68 | 5.67 | 0.90 | 0.270 | 0.093 | ( 0.243) | 0.177 | |
| 69 | 5.75 | 0.60 | 0.180 | 0.093 | ( 0.162) | 0.087 | |
| 70 | 5.83 | 0.50 | 0.150 | 0.093 | ( 0.135) | 0.057 | |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.093) | 0.081 | 0.009 | |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.093) | 0.054 | 0.006 | |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.3

Flood volume = Effective rainfall 1.94(In)
times area 355.4(Ac.)/[(In)/(Ft.)] = 57.6(Ac.Ft)
Total soil loss = 0.55(In)
Total soil loss = 16.355(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 2508880.1 Cubic Feet
Total soil loss = 712434.6 Cubic Feet

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Peak flow rate of this hydrograph = 409.339(CFS)

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6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 125.0 | 250.0 | 375.0 | 500.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0039 | 0.57 | Q | \| | \| | \| | \| |
| 0+10 | 0.0238 | 2.88 | Q | \| | \| | \| | \| |
| 0+15 | 0.0868 | 9.16 | Q | \| | \| | \| | \| |
| 0+20 | 0.2058 | 17.27 | VQ | \| | \| | \| | \| |
| 0+25 | 0.3595 | 22.31 | VQ | \| | \| | \| | \| |
| 0+30 | 0.5332 | 25.23 | V Q | \| | \| | \| | \| |
| 0+35 | 0.7267 | 28.10 | V Q | \| | \| | \| | \| |
| 0+40 | 0.9482 | 32.15 | V Q | \| | \| | \| | \| |
| 0+45 | 1.1958 | 35.96 | V Q | \| | \| | \| | \| |
| 0+50 | 1.4564 | 37.83 | \|V Q | \| | \| | \| | \| |
| 0+55 | 1.7256 | 39.09 | \|V Q | \| | \| | \| | \| |
| 1+ 0 | 2.0026 | 40.23 | \|V Q | \| | \| | \| | \| |
| 1+ 5 | 2.2909 | 41.85 | \|V Q | \| | \| | \| | \| |
| 1+10 | 2.6009 | 45.01 | \|V Q | \| | \| | \| | \| |
| 1+15 | 2.9324 | 48.14 | \| VQ | \| | \| | \| | \| |
| 1+20 | 3.2735 | 49.53 | \| VQ | \| | \| | \| | \| |
| 1+25 | 3.6210 | 50.45 | \| V Q | \| | \| | \| | \| |
| 1+30 | 3.9730 | 51.11 | \| V Q | \| | \| | \| | \| |
| 1+35 | 4.3283 | 51.59 | \| VQ | \| | \| | \| | \| |
| 1+40 | 4.6860 | 51.94 | \| VQ | \| | \| | \| | \| |
| 1+45 | 5.0454 | 52.18 | \| VQ | \| | \| | \| | \| |

| | | | |
|---|---|---|---|
| 1+50 | 5.4060 | 52.36 | VQ |
| 1+55 | 5.7672 | 52.45 | Q |
| 2+ 0 | 6.1309 | 52.81 | Q |
| 2+ 5 | 6.5001 | 53.61 | Q |
| 2+10 | 6.8831 | 55.62 | Q |
| 2+15 | 7.2742 | 56.78 | QV |
| 2+20 | 7.6729 | 57.89 | QV |
| 2+25 | 8.0884 | 60.33 | QV |
| 2+30 | 8.5105 | 61.29 | QV |
| 2+35 | 8.9370 | 61.92 | Q V |
| 2+40 | 9.3665 | 62.36 | Q V |
| 2+45 | 9.8002 | 62.97 | QV |
| 2+50 | 10.2428 | 64.27 | Q V |
| 2+55 | 10.7053 | 67.15 | Q V |
| 3+ 0 | 11.1880 | 70.09 | Q V |
| 3+ 5 | 11.6793 | 71.33 | Q V |
| 3+10 | 12.1780 | 72.42 | Q V |
| 3+15 | 12.6882 | 74.07 | Q V |
| 3+20 | 13.2201 | 77.24 | Q V |
| 3+25 | 13.7757 | 80.68 | Q V |
| 3+30 | 14.3503 | 83.43 | Q V |
| 3+35 | 14.9595 | 88.45 | Q V |
| 3+40 | 15.6186 | 95.70 | Q V |
| 3+45 | 16.3292 | 103.18 | Q V |
| 3+50 | 17.0822 | 109.33 | Q V |
| 3+55 | 17.8748 | 115.08 | Q V |
| 4+ 0 | 18.7071 | 120.86 | Q V |
| 4+ 5 | 19.5778 | 126.42 | Q V |
| 4+10 | 20.4892 | 132.34 | Q V |
| 4+15 | 21.4456 | 138.86 | Q V |
| 4+20 | 22.4609 | 147.42 | Q V |
| 4+25 | 23.5397 | 156.65 | Q V |
| 4+30 | 24.6830 | 166.00 | Q V |
| 4+35 | 25.8877 | 174.92 | Q V |
| 4+40 | 27.1437 | 182.37 | Q V |
| 4+45 | 28.4517 | 189.93 | Q V |
| 4+50 | 29.8220 | 198.97 | Q V |
| 4+55 | 31.2527 | 207.74 | Q V |
| 5+ 0 | 32.7340 | 215.09 | Q V |
| 5+ 5 | 34.2747 | 223.71 | Q V |
| 5+10 | 35.9162 | 238.34 | Q V |
| 5+15 | 37.7332 | 263.84 | Q V |
| 5+20 | 39.7910 | 298.80 | Q V |
| 5+25 | 42.0897 | 333.77 | Q V |
| 5+30 | 44.6352 | 369.60 | QV |
| 5+35 | 47.3997 | 401.41 | Q |
| 5+40 | 50.2188 | 409.34 | Q V |
| 5+45 | 52.5311 | 335.74 | Q V |
| 5+50 | 54.0498 | 220.52 | Q V |
| 5+55 | 55.1051 | 153.23 | Q V |
| 6+ 0 | 55.8637 | 110.14 | Q V |
| 6+ 5 | 56.4031 | 78.31 | Q V |
| 6+10 | 56.7776 | 54.38 | Q V |
| 6+15 | 57.0356 | 37.46 | Q V |
| 6+20 | 57.2094 | 25.23 | Q V |
| 6+25 | 57.3231 | 16.52 | Q V |
| 6+30 | 57.4017 | 11.41 | Q V |
| 6+35 | 57.4600 | 8.47 | Q V |
| 6+40 | 57.5037 | 6.34 | Q V |
| 6+45 | 57.5375 | 4.91 | Q V |
| 6+50 | 57.5629 | 3.68 | Q V |
| 6+55 | 57.5790 | 2.34 | Q V |
| 7+ 0 | 57.5883 | 1.35 | Q V |
| 7+ 5 | 57.5930 | 0.68 | Q V |
| 7+10 | 57.5948 | 0.26 | Q V |
| 7+15 | 57.5955 | 0.11 | Q V |
| 7+20 | 57.5958 | 0.05 | Q V |
| 7+25 | 57.5959 | 0.02 | Q V |
| 7+30 | 57.5960 | 0.00 | Q V |
| 7+35 | 57.5960 | 0.00 | Q V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA1424100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 14
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

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Drainage Area = 355.40(Ac.) = 0.555 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 355.40(Ac.) = 0.555 Sq. Mi.
Length along longest watercourse = 6167.00(Ft.)
Length along longest watercourse measured to centroid = 3141.00(Ft.)
Length along longest watercourse = 1.168 Mi.
Length along longest watercourse measured to centroid = 0.595 Mi.
Difference in elevation = 540.00(Ft.)
Slope along watercourse = 462.3318 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.228 Hr.
Lag time = 13.68 Min.
25% of lag time = 3.42 Min.
40% of lag time = 5.47 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 355.40 | 1.80 | 639.72 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 355.40 | 4.68 | 1663.27 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.680(In)

Point rain (area averaged) = 4.680(In)
Areal adjustment factor = 99.93 %
Adjusted average point rain = 4.677(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 355.400 | 83.11 | 0.000 |

Total Area Entered = 355.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.1 | 92.9 | 0.093 | 0.000 | 0.093 | 1.000 | 0.093 |
| | | | | | Sum (F) = | 0.093 |

Area averaged mean soil loss (F) (In/Hr) = 0.093

Minimum soil loss rate ((In/Hr)) = 0.046
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 36.557 | 2.775 | 9.939 |
| 2 0.167 | 73.114 | 9.857 | 35.307 |
| 3 0.250 | 109.670 | 25.509 | 91.366 |
| 4 0.333 | 146.227 | 26.287 | 94.153 |
| 5 0.417 | 182.784 | 10.842 | 38.834 |
| 6 0.500 | 219.341 | 7.121 | 25.506 |
| 7 0.583 | 255.898 | 5.102 | 18.273 |
| 8 0.667 | 292.455 | 3.762 | 13.474 |
| 9 0.750 | 329.011 | 2.817 | 10.089 |
| 10 0.833 | 365.568 | 1.972 | 7.065 |
| 11 0.917 | 402.125 | 1.389 | 4.974 |
| 12 1.000 | 438.682 | 0.713 | 2.553 |
| 13 1.083 | 475.239 | 0.421 | 1.509 |
| 14 1.167 | 511.796 | 0.361 | 1.295 |
| 15 1.250 | 548.352 | 0.253 | 0.906 |
| 16 1.333 | 584.909 | 0.253 | 0.905 |
| 17 1.417 | 621.466 | 0.267 | 0.957 |
| 18 1.500 | 658.023 | 0.157 | 0.562 |
| 19 1.583 | 694.580 | 0.095 | 0.342 |
| 20 1.667 | 731.137 | 0.047 | 0.170 |
| | | Sum = 100.000 | Sum= 358.177 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.037 | ( 0.164) | 0.034 | 0.004 |
| 2 | 0.17 | 0.07 | 0.037 | ( 0.164) | 0.034 | 0.004 |
| 3 | 0.25 | 0.07 | 0.037 | ( 0.163) | 0.034 | 0.004 |
| 4 | 0.33 | 0.10 | 0.056 | ( 0.163) | 0.051 | 0.006 |
| 5 | 0.42 | 0.10 | 0.056 | ( 0.162) | 0.051 | 0.006 |
| 6 | 0.50 | 0.10 | 0.056 | ( 0.161) | 0.051 | 0.006 |
| 7 | 0.58 | 0.10 | 0.056 | ( 0.161) | 0.051 | 0.006 |
| 8 | 0.67 | 0.10 | 0.056 | ( 0.160) | 0.051 | 0.006 |
| 9 | 0.75 | 0.10 | 0.056 | ( 0.159) | 0.051 | 0.006 |
| 10 | 0.83 | 0.13 | 0.075 | ( 0.159) | 0.067 | 0.007 |
| 11 | 0.92 | 0.13 | 0.075 | ( 0.158) | 0.067 | 0.007 |
| 12 | 1.00 | 0.13 | 0.075 | ( 0.157) | 0.067 | 0.007 |
| 13 | 1.08 | 0.10 | 0.056 | ( 0.157) | 0.051 | 0.006 |
| 14 | 1.17 | 0.10 | 0.056 | ( 0.156) | 0.051 | 0.006 |
| 15 | 1.25 | 0.10 | 0.056 | ( 0.156) | 0.051 | 0.006 |
| 16 | 1.33 | 0.10 | 0.056 | ( 0.155) | 0.051 | 0.006 |
| 17 | 1.42 | 0.10 | 0.056 | ( 0.154) | 0.051 | 0.006 |
| 18 | 1.50 | 0.10 | 0.056 | ( 0.154) | 0.051 | 0.006 |
| 19 | 1.58 | 0.10 | 0.056 | ( 0.153) | 0.051 | 0.006 |
| 20 | 1.67 | 0.10 | 0.056 | ( 0.153) | 0.051 | 0.006 |
| 21 | 1.75 | 0.10 | 0.056 | ( 0.152) | 0.051 | 0.006 |
| 22 | 1.83 | 0.13 | 0.075 | ( 0.151) | 0.067 | 0.007 |
| 23 | 1.92 | 0.13 | 0.075 | ( 0.151) | 0.067 | 0.007 |
| 24 | 2.00 | 0.13 | 0.075 | ( 0.150) | 0.067 | 0.007 |
| 25 | 2.08 | 0.13 | 0.075 | ( 0.149) | 0.067 | 0.007 |
| 26 | 2.17 | 0.13 | 0.075 | ( 0.149) | 0.067 | 0.007 |
| 27 | 2.25 | 0.13 | 0.075 | ( 0.148) | 0.067 | 0.007 |
| 28 | 2.33 | 0.13 | 0.075 | ( 0.148) | 0.067 | 0.007 |
| 29 | 2.42 | 0.13 | 0.075 | ( 0.147) | 0.067 | 0.007 |
| 30 | 2.50 | 0.13 | 0.075 | ( 0.146) | 0.067 | 0.007 |
| 31 | 2.58 | 0.17 | 0.094 | ( 0.146) | 0.084 | 0.009 |
| 32 | 2.67 | 0.17 | 0.094 | ( 0.145) | 0.084 | 0.009 |
| 33 | 2.75 | 0.17 | 0.094 | ( 0.145) | 0.084 | 0.009 |
| 34 | 2.83 | 0.17 | 0.094 | ( 0.144) | 0.084 | 0.009 |
| 35 | 2.92 | 0.17 | 0.094 | ( 0.143) | 0.084 | 0.009 |
| 36 | 3.00 | 0.17 | 0.094 | ( 0.143) | 0.084 | 0.009 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 37 | 3.08 | 0.17 | 0.094 | ( | 0.142) | 0.084 | | 0.009 |
| 38 | 3.17 | 0.17 | 0.094 | ( | 0.142) | 0.084 | | 0.009 |
| 39 | 3.25 | 0.17 | 0.094 | ( | 0.141) | 0.084 | | 0.009 |
| 40 | 3.33 | 0.17 | 0.094 | ( | 0.141) | 0.084 | | 0.009 |
| 41 | 3.42 | 0.17 | 0.094 | ( | 0.140) | 0.084 | | 0.009 |
| 42 | 3.50 | 0.17 | 0.094 | ( | 0.139) | 0.084 | | 0.009 |
| 43 | 3.58 | 0.17 | 0.094 | ( | 0.139) | 0.084 | | 0.009 |
| 44 | 3.67 | 0.17 | 0.094 | ( | 0.138) | 0.084 | | 0.009 |
| 45 | 3.75 | 0.17 | 0.094 | ( | 0.138) | 0.084 | | 0.009 |
| 46 | 3.83 | 0.20 | 0.112 | ( | 0.137) | 0.101 | | 0.011 |
| 47 | 3.92 | 0.20 | 0.112 | ( | 0.136) | 0.101 | | 0.011 |
| 48 | 4.00 | 0.20 | 0.112 | ( | 0.136) | 0.101 | | 0.011 |
| 49 | 4.08 | 0.20 | 0.112 | ( | 0.135) | 0.101 | | 0.011 |
| 50 | 4.17 | 0.20 | 0.112 | ( | 0.135) | 0.101 | | 0.011 |
| 51 | 4.25 | 0.20 | 0.112 | ( | 0.134) | 0.101 | | 0.011 |
| 52 | 4.33 | 0.23 | 0.131 | ( | 0.134) | 0.118 | | 0.013 |
| 53 | 4.42 | 0.23 | 0.131 | ( | 0.133) | 0.118 | | 0.013 |
| 54 | 4.50 | 0.23 | 0.131 | ( | 0.132) | 0.118 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.131 | ( | 0.132) | 0.118 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.131 | ( | 0.131) | 0.118 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.131 | ( | 0.131) | 0.118 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.150 | | 0.130 | ( | 0.135) | 0.019 |
| 59 | 4.92 | 0.27 | 0.150 | | 0.130 | ( | 0.135) | 0.020 |
| 60 | 5.00 | 0.27 | 0.150 | | 0.129 | ( | 0.135) | 0.021 |
| 61 | 5.08 | 0.20 | 0.112 | ( | 0.128) | 0.101 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.112 | ( | 0.128) | 0.101 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.112 | ( | 0.127) | 0.101 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.131 | ( | 0.127) | 0.118 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.131 | ( | 0.126) | 0.118 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.131 | ( | 0.126) | 0.118 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.150 | | 0.125 | ( | 0.135) | 0.024 |
| 68 | 5.67 | 0.27 | 0.150 | | 0.125 | ( | 0.135) | 0.025 |
| 69 | 5.75 | 0.27 | 0.150 | | 0.124 | ( | 0.135) | 0.026 |
| 70 | 5.83 | 0.27 | 0.150 | | 0.124 | ( | 0.135) | 0.026 |
| 71 | 5.92 | 0.27 | 0.150 | | 0.123 | ( | 0.135) | 0.027 |
| 72 | 6.00 | 0.27 | 0.150 | | 0.122 | ( | 0.135) | 0.027 |
| 73 | 6.08 | 0.30 | 0.168 | | 0.122 | ( | 0.152) | 0.046 |
| 74 | 6.17 | 0.30 | 0.168 | | 0.121 | ( | 0.152) | 0.047 |
| 75 | 6.25 | 0.30 | 0.168 | | 0.121 | ( | 0.152) | 0.048 |
| 76 | 6.33 | 0.30 | 0.168 | | 0.120 | ( | 0.152) | 0.048 |
| 77 | 6.42 | 0.30 | 0.168 | | 0.120 | ( | 0.152) | 0.049 |
| 78 | 6.50 | 0.30 | 0.168 | | 0.119 | ( | 0.152) | 0.049 |
| 79 | 6.58 | 0.33 | 0.187 | | 0.119 | ( | 0.168) | 0.068 |
| 80 | 6.67 | 0.33 | 0.187 | | 0.118 | ( | 0.168) | 0.069 |
| 81 | 6.75 | 0.33 | 0.187 | | 0.118 | ( | 0.168) | 0.069 |
| 82 | 6.83 | 0.33 | 0.187 | | 0.117 | ( | 0.168) | 0.070 |
| 83 | 6.92 | 0.33 | 0.187 | | 0.117 | ( | 0.168) | 0.071 |
| 84 | 7.00 | 0.33 | 0.187 | | 0.116 | ( | 0.168) | 0.071 |
| 85 | 7.08 | 0.33 | 0.187 | | 0.115 | ( | 0.168) | 0.072 |
| 86 | 7.17 | 0.33 | 0.187 | | 0.115 | ( | 0.168) | 0.072 |
| 87 | 7.25 | 0.33 | 0.187 | | 0.114 | ( | 0.168) | 0.073 |
| 88 | 7.33 | 0.37 | 0.206 | | 0.114 | ( | 0.185) | 0.092 |
| 89 | 7.42 | 0.37 | 0.206 | | 0.113 | ( | 0.185) | 0.092 |
| 90 | 7.50 | 0.37 | 0.206 | | 0.113 | ( | 0.185) | 0.093 |
| 91 | 7.58 | 0.40 | 0.224 | | 0.112 | ( | 0.202) | 0.112 |
| 92 | 7.67 | 0.40 | 0.224 | | 0.112 | ( | 0.202) | 0.113 |
| 93 | 7.75 | 0.40 | 0.224 | | 0.111 | ( | 0.202) | 0.113 |
| 94 | 7.83 | 0.43 | 0.243 | | 0.111 | ( | 0.219) | 0.132 |
| 95 | 7.92 | 0.43 | 0.243 | | 0.110 | ( | 0.219) | 0.133 |
| 96 | 8.00 | 0.43 | 0.243 | | 0.110 | ( | 0.219) | 0.133 |
| 97 | 8.08 | 0.50 | 0.281 | | 0.109 | ( | 0.253) | 0.171 |
| 98 | 8.17 | 0.50 | 0.281 | | 0.109 | ( | 0.253) | 0.172 |
| 99 | 8.25 | 0.50 | 0.281 | | 0.108 | ( | 0.253) | 0.172 |
| 100 | 8.33 | 0.50 | 0.281 | | 0.108 | ( | 0.253) | 0.173 |
| 101 | 8.42 | 0.50 | 0.281 | | 0.107 | ( | 0.253) | 0.173 |
| 102 | 8.50 | 0.50 | 0.281 | | 0.107 | ( | 0.253) | 0.174 |
| 103 | 8.58 | 0.53 | 0.299 | | 0.106 | ( | 0.269) | 0.193 |
| 104 | 8.67 | 0.53 | 0.299 | | 0.106 | ( | 0.269) | 0.194 |
| 105 | 8.75 | 0.53 | 0.299 | | 0.105 | ( | 0.269) | 0.194 |
| 106 | 8.83 | 0.57 | 0.318 | | 0.105 | ( | 0.286) | 0.213 |
| 107 | 8.92 | 0.57 | 0.318 | | 0.104 | ( | 0.286) | 0.214 |
| 108 | 9.00 | 0.57 | 0.318 | | 0.104 | ( | 0.286) | 0.214 |
| 109 | 9.08 | 0.63 | 0.355 | | 0.103 | ( | 0.320) | 0.252 |
| 110 | 9.17 | 0.63 | 0.355 | | 0.103 | ( | 0.320) | 0.253 |
| 111 | 9.25 | 0.63 | 0.355 | | 0.102 | ( | 0.320) | 0.253 |
| 112 | 9.33 | 0.67 | 0.374 | | 0.102 | ( | 0.337) | 0.272 |
| 113 | 9.42 | 0.67 | 0.374 | | 0.101 | ( | 0.337) | 0.273 |
| 114 | 9.50 | 0.67 | 0.374 | | 0.101 | ( | 0.337) | 0.273 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 115 | 9.58 | 0.70 | 0.393 | 0.100 | ( 0.354) | 0.293 |
| 116 | 9.67 | 0.70 | 0.393 | 0.100 | ( 0.354) | 0.293 |
| 117 | 9.75 | 0.70 | 0.393 | 0.099 | ( 0.354) | 0.293 |
| 118 | 9.83 | 0.73 | 0.412 | 0.099 | ( 0.370) | 0.313 |
| 119 | 9.92 | 0.73 | 0.412 | 0.098 | ( 0.370) | 0.313 |
| 120 | 10.00 | 0.73 | 0.412 | 0.098 | ( 0.370) | 0.314 |
| 121 | 10.08 | 0.50 | 0.281 | 0.097 | ( 0.253) | 0.183 |
| 122 | 10.17 | 0.50 | 0.281 | 0.097 | ( 0.253) | 0.184 |
| 123 | 10.25 | 0.50 | 0.281 | 0.097 | ( 0.253) | 0.184 |
| 124 | 10.33 | 0.50 | 0.281 | 0.096 | ( 0.253) | 0.185 |
| 125 | 10.42 | 0.50 | 0.281 | 0.096 | ( 0.253) | 0.185 |
| 126 | 10.50 | 0.50 | 0.281 | 0.095 | ( 0.253) | 0.185 |
| 127 | 10.58 | 0.67 | 0.374 | 0.095 | ( 0.337) | 0.279 |
| 128 | 10.67 | 0.67 | 0.374 | 0.094 | ( 0.337) | 0.280 |
| 129 | 10.75 | 0.67 | 0.374 | 0.094 | ( 0.337) | 0.280 |
| 130 | 10.83 | 0.67 | 0.374 | 0.093 | ( 0.337) | 0.281 |
| 131 | 10.92 | 0.67 | 0.374 | 0.093 | ( 0.337) | 0.281 |
| 132 | 11.00 | 0.67 | 0.374 | 0.092 | ( 0.337) | 0.282 |
| 133 | 11.08 | 0.63 | 0.355 | 0.092 | ( 0.320) | 0.264 |
| 134 | 11.17 | 0.63 | 0.355 | 0.091 | ( 0.320) | 0.264 |
| 135 | 11.25 | 0.63 | 0.355 | 0.091 | ( 0.320) | 0.264 |
| 136 | 11.33 | 0.63 | 0.355 | 0.091 | ( 0.320) | 0.265 |
| 137 | 11.42 | 0.63 | 0.355 | 0.090 | ( 0.320) | 0.265 |
| 138 | 11.50 | 0.63 | 0.355 | 0.090 | ( 0.320) | 0.266 |
| 139 | 11.58 | 0.57 | 0.318 | 0.089 | ( 0.286) | 0.229 |
| 140 | 11.67 | 0.57 | 0.318 | 0.089 | ( 0.286) | 0.229 |
| 141 | 11.75 | 0.57 | 0.318 | 0.088 | ( 0.286) | 0.230 |
| 142 | 11.83 | 0.60 | 0.337 | 0.088 | ( 0.303) | 0.249 |
| 143 | 11.92 | 0.60 | 0.337 | 0.087 | ( 0.303) | 0.249 |
| 144 | 12.00 | 0.60 | 0.337 | 0.087 | ( 0.303) | 0.250 |
| 145 | 12.08 | 0.83 | 0.468 | 0.087 | ( 0.421) | 0.381 |
| 146 | 12.17 | 0.83 | 0.468 | 0.086 | ( 0.421) | 0.382 |
| 147 | 12.25 | 0.83 | 0.468 | 0.086 | ( 0.421) | 0.382 |
| 148 | 12.33 | 0.87 | 0.486 | 0.085 | ( 0.438) | 0.401 |
| 149 | 12.42 | 0.87 | 0.486 | 0.085 | ( 0.438) | 0.402 |
| 150 | 12.50 | 0.87 | 0.486 | 0.084 | ( 0.438) | 0.402 |
| 151 | 12.58 | 0.93 | 0.524 | 0.084 | ( 0.471) | 0.440 |
| 152 | 12.67 | 0.93 | 0.524 | 0.084 | ( 0.471) | 0.440 |
| 153 | 12.75 | 0.93 | 0.524 | 0.083 | ( 0.471) | 0.441 |
| 154 | 12.83 | 0.97 | 0.543 | 0.083 | ( 0.488) | 0.460 |
| 155 | 12.92 | 0.97 | 0.543 | 0.082 | ( 0.488) | 0.460 |
| 156 | 13.00 | 0.97 | 0.543 | 0.082 | ( 0.488) | 0.461 |
| 157 | 13.08 | 1.13 | 0.636 | 0.081 | ( 0.572) | 0.555 |
| 158 | 13.17 | 1.13 | 0.636 | 0.081 | ( 0.572) | 0.555 |
| 159 | 13.25 | 1.13 | 0.636 | 0.081 | ( 0.572) | 0.555 |
| 160 | 13.33 | 1.13 | 0.636 | 0.080 | ( 0.572) | 0.556 |
| 161 | 13.42 | 1.13 | 0.636 | 0.080 | ( 0.572) | 0.556 |
| 162 | 13.50 | 1.13 | 0.636 | 0.079 | ( 0.572) | 0.557 |
| 163 | 13.58 | 0.77 | 0.430 | 0.079 | ( 0.387) | 0.351 |
| 164 | 13.67 | 0.77 | 0.430 | 0.079 | ( 0.387) | 0.352 |
| 165 | 13.75 | 0.77 | 0.430 | 0.078 | ( 0.387) | 0.352 |
| 166 | 13.83 | 0.77 | 0.430 | 0.078 | ( 0.387) | 0.352 |
| 167 | 13.92 | 0.77 | 0.430 | 0.077 | ( 0.387) | 0.353 |
| 168 | 14.00 | 0.77 | 0.430 | 0.077 | ( 0.387) | 0.353 |
| 169 | 14.08 | 0.90 | 0.505 | 0.077 | ( 0.455) | 0.428 |
| 170 | 14.17 | 0.90 | 0.505 | 0.076 | ( 0.455) | 0.429 |
| 171 | 14.25 | 0.90 | 0.505 | 0.076 | ( 0.455) | 0.429 |
| 172 | 14.33 | 0.87 | 0.486 | 0.075 | ( 0.438) | 0.411 |
| 173 | 14.42 | 0.87 | 0.486 | 0.075 | ( 0.438) | 0.411 |
| 174 | 14.50 | 0.87 | 0.486 | 0.075 | ( 0.438) | 0.412 |
| 175 | 14.58 | 0.87 | 0.486 | 0.074 | ( 0.438) | 0.412 |
| 176 | 14.67 | 0.87 | 0.486 | 0.074 | ( 0.438) | 0.412 |
| 177 | 14.75 | 0.87 | 0.486 | 0.074 | ( 0.438) | 0.413 |
| 178 | 14.83 | 0.83 | 0.468 | 0.073 | ( 0.421) | 0.394 |
| 179 | 14.92 | 0.83 | 0.468 | 0.073 | ( 0.421) | 0.395 |
| 180 | 15.00 | 0.83 | 0.468 | 0.072 | ( 0.421) | 0.395 |
| 181 | 15.08 | 0.80 | 0.449 | 0.072 | ( 0.404) | 0.377 |
| 182 | 15.17 | 0.80 | 0.449 | 0.072 | ( 0.404) | 0.377 |
| 183 | 15.25 | 0.80 | 0.449 | 0.071 | ( 0.404) | 0.378 |
| 184 | 15.33 | 0.77 | 0.430 | 0.071 | ( 0.387) | 0.359 |
| 185 | 15.42 | 0.77 | 0.430 | 0.071 | ( 0.387) | 0.360 |
| 186 | 15.50 | 0.77 | 0.430 | 0.070 | ( 0.387) | 0.360 |
| 187 | 15.58 | 0.63 | 0.355 | 0.070 | ( 0.320) | 0.286 |
| 188 | 15.67 | 0.63 | 0.355 | 0.070 | ( 0.320) | 0.286 |
| 189 | 15.75 | 0.63 | 0.355 | 0.069 | ( 0.320) | 0.286 |
| 190 | 15.83 | 0.63 | 0.355 | 0.069 | ( 0.320) | 0.287 |
| 191 | 15.92 | 0.63 | 0.355 | 0.068 | ( 0.320) | 0.287 |
| 192 | 16.00 | 0.63 | 0.355 | 0.068 | ( 0.320) | 0.287 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 193 | 16.08 | 0.13 | 0.075 | ( | 0.068) | 0.067 | | 0.007 |
| 194 | 16.17 | 0.13 | 0.075 | ( | 0.067) | 0.067 | | 0.007 |
| 195 | 16.25 | 0.13 | 0.075 | | 0.067 | ( 0.067) | | 0.008 |
| 196 | 16.33 | 0.13 | 0.075 | | 0.067 | ( 0.067) | | 0.008 |
| 197 | 16.42 | 0.13 | 0.075 | | 0.066 | ( 0.067) | | 0.008 |
| 198 | 16.50 | 0.13 | 0.075 | | 0.066 | ( 0.067) | | 0.009 |
| 199 | 16.58 | 0.10 | 0.056 | ( | 0.066) | 0.051 | | 0.006 |
| 200 | 16.67 | 0.10 | 0.056 | ( | 0.065) | 0.051 | | 0.006 |
| 201 | 16.75 | 0.10 | 0.056 | ( | 0.065) | 0.051 | | 0.006 |
| 202 | 16.83 | 0.10 | 0.056 | ( | 0.065) | 0.051 | | 0.006 |
| 203 | 16.92 | 0.10 | 0.056 | ( | 0.064) | 0.051 | | 0.006 |
| 204 | 17.00 | 0.10 | 0.056 | ( | 0.064) | 0.051 | | 0.006 |
| 205 | 17.08 | 0.17 | 0.094 | | 0.064 | ( 0.084) | | 0.030 |
| 206 | 17.17 | 0.17 | 0.094 | | 0.063 | ( 0.084) | | 0.030 |
| 207 | 17.25 | 0.17 | 0.094 | | 0.063 | ( 0.084) | | 0.030 |
| 208 | 17.33 | 0.17 | 0.094 | | 0.063 | ( 0.084) | | 0.031 |
| 209 | 17.42 | 0.17 | 0.094 | | 0.062 | ( 0.084) | | 0.031 |
| 210 | 17.50 | 0.17 | 0.094 | | 0.062 | ( 0.084) | | 0.031 |
| 211 | 17.58 | 0.17 | 0.094 | | 0.062 | ( 0.084) | | 0.032 |
| 212 | 17.67 | 0.17 | 0.094 | | 0.062 | ( 0.084) | | 0.032 |
| 213 | 17.75 | 0.17 | 0.094 | | 0.061 | ( 0.084) | | 0.032 |
| 214 | 17.83 | 0.13 | 0.075 | | 0.061 | ( 0.067) | | 0.014 |
| 215 | 17.92 | 0.13 | 0.075 | | 0.061 | ( 0.067) | | 0.014 |
| 216 | 18.00 | 0.13 | 0.075 | | 0.060 | ( 0.067) | | 0.015 |
| 217 | 18.08 | 0.13 | 0.075 | | 0.060 | ( 0.067) | | 0.015 |
| 218 | 18.17 | 0.13 | 0.075 | | 0.060 | ( 0.067) | | 0.015 |
| 219 | 18.25 | 0.13 | 0.075 | | 0.059 | ( 0.067) | | 0.015 |
| 220 | 18.33 | 0.13 | 0.075 | | 0.059 | ( 0.067) | | 0.016 |
| 221 | 18.42 | 0.13 | 0.075 | | 0.059 | ( 0.067) | | 0.016 |
| 222 | 18.50 | 0.13 | 0.075 | | 0.059 | ( 0.067) | | 0.016 |
| 223 | 18.58 | 0.10 | 0.056 | ( | 0.058) | 0.051 | | 0.006 |
| 224 | 18.67 | 0.10 | 0.056 | ( | 0.058) | 0.051 | | 0.006 |
| 225 | 18.75 | 0.10 | 0.056 | ( | 0.058) | 0.051 | | 0.006 |
| 226 | 18.83 | 0.07 | 0.037 | ( | 0.057) | 0.034 | | 0.004 |
| 227 | 18.92 | 0.07 | 0.037 | ( | 0.057) | 0.034 | | 0.004 |
| 228 | 19.00 | 0.07 | 0.037 | ( | 0.057) | 0.034 | | 0.004 |
| 229 | 19.08 | 0.10 | 0.056 | ( | 0.057) | 0.051 | | 0.006 |
| 230 | 19.17 | 0.10 | 0.056 | ( | 0.056) | 0.051 | | 0.006 |
| 231 | 19.25 | 0.10 | 0.056 | ( | 0.056) | 0.051 | | 0.006 |
| 232 | 19.33 | 0.13 | 0.075 | | 0.056 | ( 0.067) | | 0.019 |
| 233 | 19.42 | 0.13 | 0.075 | | 0.056 | ( 0.067) | | 0.019 |
| 234 | 19.50 | 0.13 | 0.075 | | 0.055 | ( 0.067) | | 0.019 |
| 235 | 19.58 | 0.10 | 0.056 | ( | 0.055) | 0.051 | | 0.006 |
| 236 | 19.67 | 0.10 | 0.056 | ( | 0.055) | 0.051 | | 0.006 |
| 237 | 19.75 | 0.10 | 0.056 | ( | 0.055) | 0.051 | | 0.006 |
| 238 | 19.83 | 0.07 | 0.037 | ( | 0.054) | 0.034 | | 0.004 |
| 239 | 19.92 | 0.07 | 0.037 | ( | 0.054) | 0.034 | | 0.004 |
| 240 | 20.00 | 0.07 | 0.037 | ( | 0.054) | 0.034 | | 0.004 |
| 241 | 20.08 | 0.10 | 0.056 | ( | 0.054) | 0.051 | | 0.006 |
| 242 | 20.17 | 0.10 | 0.056 | ( | 0.053) | 0.051 | | 0.006 |
| 243 | 20.25 | 0.10 | 0.056 | ( | 0.053) | 0.051 | | 0.006 |
| 244 | 20.33 | 0.10 | 0.056 | ( | 0.053) | 0.051 | | 0.006 |
| 245 | 20.42 | 0.10 | 0.056 | ( | 0.053) | 0.051 | | 0.006 |
| 246 | 20.50 | 0.10 | 0.056 | ( | 0.052) | 0.051 | | 0.006 |
| 247 | 20.58 | 0.10 | 0.056 | ( | 0.052) | 0.051 | | 0.006 |
| 248 | 20.67 | 0.10 | 0.056 | ( | 0.052) | 0.051 | | 0.006 |
| 249 | 20.75 | 0.10 | 0.056 | ( | 0.052) | 0.051 | | 0.006 |
| 250 | 20.83 | 0.07 | 0.037 | ( | 0.052) | 0.034 | | 0.004 |
| 251 | 20.92 | 0.07 | 0.037 | ( | 0.051) | 0.034 | | 0.004 |
| 252 | 21.00 | 0.07 | 0.037 | ( | 0.051) | 0.034 | | 0.004 |
| 253 | 21.08 | 0.10 | 0.056 | ( | 0.051) | 0.051 | | 0.006 |
| 254 | 21.17 | 0.10 | 0.056 | ( | 0.051) | 0.051 | | 0.006 |
| 255 | 21.25 | 0.10 | 0.056 | ( | 0.051) | 0.051 | | 0.006 |
| 256 | 21.33 | 0.07 | 0.037 | ( | 0.050) | 0.034 | | 0.004 |
| 257 | 21.42 | 0.07 | 0.037 | ( | 0.050) | 0.034 | | 0.004 |
| 258 | 21.50 | 0.07 | 0.037 | ( | 0.050) | 0.034 | | 0.004 |
| 259 | 21.58 | 0.10 | 0.056 | | 0.050 | ( 0.051) | | 0.006 |
| 260 | 21.67 | 0.10 | 0.056 | | 0.050 | ( 0.051) | | 0.006 |
| 261 | 21.75 | 0.10 | 0.056 | | 0.049 | ( 0.051) | | 0.007 |
| 262 | 21.83 | 0.07 | 0.037 | ( | 0.049) | 0.034 | | 0.004 |
| 263 | 21.92 | 0.07 | 0.037 | ( | 0.049) | 0.034 | | 0.004 |
| 264 | 22.00 | 0.07 | 0.037 | ( | 0.049) | 0.034 | | 0.004 |
| 265 | 22.08 | 0.10 | 0.056 | | 0.049 | ( 0.051) | | 0.007 |
| 266 | 22.17 | 0.10 | 0.056 | | 0.049 | ( 0.051) | | 0.007 |
| 267 | 22.25 | 0.10 | 0.056 | | 0.048 | ( 0.051) | | 0.008 |
| 268 | 22.33 | 0.07 | 0.037 | ( | 0.048) | 0.034 | | 0.004 |
| 269 | 22.42 | 0.07 | 0.037 | ( | 0.048) | 0.034 | | 0.004 |
| 270 | 22.50 | 0.07 | 0.037 | ( | 0.048) | 0.034 | | 0.004 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 271 | 22.58 | 0.07 | 0.037 | ( 0.048) | 0.034 | 0.004 |
| 272 | 22.67 | 0.07 | 0.037 | ( 0.048) | 0.034 | 0.004 |
| 273 | 22.75 | 0.07 | 0.037 | ( 0.048) | 0.034 | 0.004 |
| 274 | 22.83 | 0.07 | 0.037 | ( 0.048) | 0.034 | 0.004 |
| 275 | 22.92 | 0.07 | 0.037 | ( 0.047) | 0.034 | 0.004 |
| 276 | 23.00 | 0.07 | 0.037 | ( 0.047) | 0.034 | 0.004 |
| 277 | 23.08 | 0.07 | 0.037 | ( 0.047) | 0.034 | 0.004 |
| 278 | 23.17 | 0.07 | 0.037 | ( 0.047) | 0.034 | 0.004 |
| 279 | 23.25 | 0.07 | 0.037 | ( 0.047) | 0.034 | 0.004 |
| 280 | 23.33 | 0.07 | 0.037 | ( 0.047) | 0.034 | 0.004 |
| 281 | 23.42 | 0.07 | 0.037 | ( 0.047) | 0.034 | 0.004 |
| 282 | 23.50 | 0.07 | 0.037 | ( 0.047) | 0.034 | 0.004 |
| 283 | 23.58 | 0.07 | 0.037 | ( 0.047) | 0.034 | 0.004 |
| 284 | 23.67 | 0.07 | 0.037 | ( 0.047) | 0.034 | 0.004 |
| 285 | 23.75 | 0.07 | 0.037 | ( 0.046) | 0.034 | 0.004 |
| 286 | 23.83 | 0.07 | 0.037 | ( 0.046) | 0.034 | 0.004 |
| 287 | 23.92 | 0.07 | 0.037 | ( 0.046) | 0.034 | 0.004 |
| 288 | 24.00 | 0.07 | 0.037 | ( 0.046) | 0.034 | 0.004 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 34.4

Flood volume = Effective rainfall 2.87(In)
times area 355.4(Ac.)/[(In)/(Ft.)] = 84.9(Ac.Ft)
Total soil loss = 1.81(In)
Total soil loss = 53.658(Ac.Ft)
Total rainfall = 4.68(In)
Flood volume = 3696165.4 Cubic Feet
Total soil loss = 2337321.0 Cubic Feet

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Peak flow rate of this hydrograph = 192.321(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

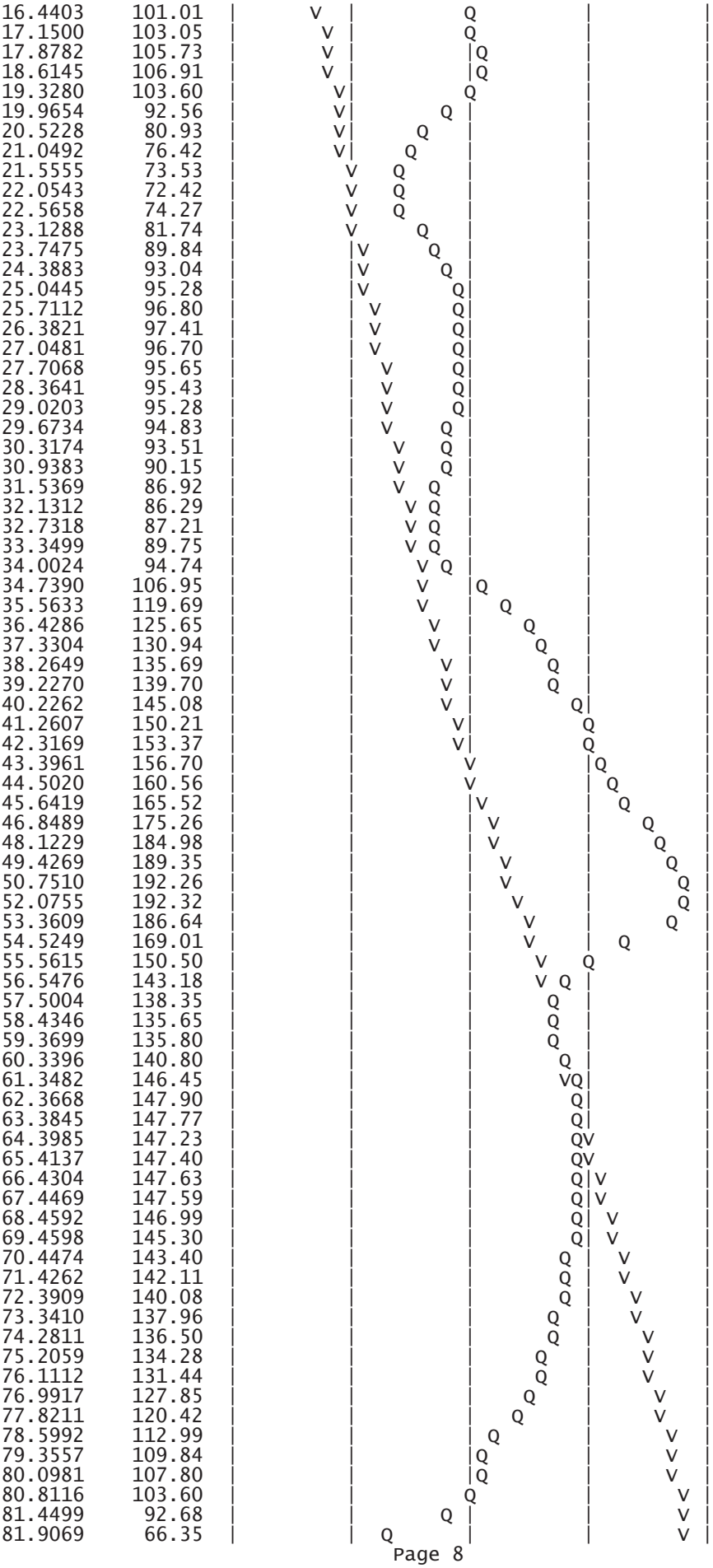
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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 50.0 | 100.0 | 150.0 | 200.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0003 | 0.04 | Q | | | | |
| 0+10 | 0.0014 | 0.17 | Q | | | | |
| 0+15 | 0.0049 | 0.51 | Q | | | | |
| 0+20 | 0.0110 | 0.88 | Q | | | | |
| 0+25 | 0.0186 | 1.09 | Q | | | | |
| 0+30 | 0.0279 | 1.36 | Q | | | | |
| 0+35 | 0.0390 | 1.60 | Q | | | | |
| 0+40 | 0.0509 | 1.73 | Q | | | | |
| 0+45 | 0.0634 | 1.81 | Q | | | | |
| 0+50 | 0.0764 | 1.89 | Q | | | | |
| 0+55 | 0.0902 | 2.00 | Q | | | | |
| 1+ 0 | 0.1054 | 2.20 | Q | | | | |
| 1+ 5 | 0.1217 | 2.38 | Q | | | | |
| 1+10 | 0.1383 | 2.40 | Q | | | | |
| 1+15 | 0.1540 | 2.28 | Q | | | | |
| 1+20 | 0.1688 | 2.15 | Q | | | | |
| 1+25 | 0.1833 | 2.11 | Q | | | | |
| 1+30 | 0.1977 | 2.08 | Q | | | | |
| 1+35 | 0.2119 | 2.06 | Q | | | | |
| 1+40 | 0.2260 | 2.05 | Q | | | | |
| 1+45 | 0.2400 | 2.04 | Q | | | | |
| 1+50 | 0.2541 | 2.05 | Q | | | | |
| 1+55 | 0.2686 | 2.11 | Q | | | | |
| 2+ 0 | 0.2843 | 2.27 | Q | | | | |
| 2+ 5 | 0.3011 | 2.45 | Q | | | | |
| 2+10 | 0.3185 | 2.52 | Q | | | | |
| 2+15 | 0.3362 | 2.57 | Q | | | | |
| 2+20 | 0.3541 | 2.60 | Q | | | | |
| 2+25 | 0.3722 | 2.62 | Q | | | | |
| 2+30 | 0.3904 | 2.64 | Q | | | | |
| 2+35 | 0.4088 | 2.67 | Q | | | | |
| 2+40 | 0.4277 | 2.75 | Q | | | | |
| 2+45 | 0.4479 | 2.92 | Q | | | | |
| 2+50 | 0.4693 | 3.10 | Q | | | | |
| 2+55 | 0.4912 | 3.18 | Q | | | | |
| 3+ 0 | 0.5134 | 3.23 | Q | | | | |
| 3+ 5 | 0.5359 | 3.26 | Q | | | | |
| 3+10 | 0.5585 | 3.29 | Q | | | | |
| 3+15 | 0.5813 | 3.31 | Q | | | | |

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3+20       0.6042      3.33  Q          |          |          |          |
3+25       0.6272      3.33  Q          |          |          |          |
3+30       0.6502      3.34  Q          |          |          |          |
3+35       0.6732      3.34  Q          |          |          |          |
3+40       0.6963      3.34  Q          |          |          |          |
3+45       0.7193      3.35  Q          |          |          |          |
3+50       0.7425      3.37  Q          |          |          |          |
3+55       0.7661      3.43  Q          |          |          |          |
4+ 0       0.7910      3.61  Q          |          |          |          |
4+ 5       0.8170      3.78  Q          |          |          |          |
4+10       0.8436      3.86  Q          |          |          |          |
4+15       0.8705      3.90  Q          |          |          |          |
4+20       0.8977      3.96  Q          |          |          |          |
4+25       0.9256      4.05  Q          |          |          |          |
4+30       0.9548      4.24  Q          |          |          |          |
4+35       0.9853      4.43  Q          |          |          |          |
4+40       1.0164      4.51  Q          |          |          |          |
4+45       1.0478      4.56  Q          |          |          |          |
4+50       1.0799      4.66  Q          |          |          |          |
4+55       1.1138      4.92  Q          |          |          |          |
5+ 0       1.1520      5.55  VQ         |          |          |          |
5+ 5       1.1944      6.15  VQ         |          |          |          |
5+10       1.2369      6.18  VQ         |          |          |          |
5+15       1.2752      5.56  VQ         |          |          |          |
5+20       1.3087      4.86  Q          |          |          |          |
5+25       1.3408      4.67  Q          |          |          |          |
5+30       1.3731      4.69  Q          |          |          |          |
5+35       1.4066      4.86  Q          |          |          |          |
5+40       1.4428      5.26  VQ         |          |          |          |
5+45       1.4863      6.31  VQ         |          |          |          |
5+50       1.5375      7.44  VQ         |          |          |          |
5+55       1.5926      8.00  VQ         |          |          |          |
6+ 0       1.6507      8.44  VQ         |          |          |          |
6+ 5       1.7127      9.00  VQ         |          |          |          |
6+10       1.7815      9.99  VQ         |          |          |          |
6+15       1.8641     12.00  V Q        |          |          |          |
6+20       1.9607     14.02  V Q        |          |          |          |
6+25       2.0639     14.98  V Q        |          |          |          |
6+30       2.1718     15.68  |V Q       |          |          |          |
6+35       2.2849     16.41  |V Q       |          |          |          |
6+40       2.4056     17.53  |V Q       |          |          |          |
6+45       2.5408     19.63  |V Q       |          |          |          |
6+50       2.6904     21.73  |V  Q      |          |          |          |
6+55       2.8471     22.75  |V  Q      |          |          |          |
7+ 0       3.0087     23.47  |V  Q      |          |          |          |
7+ 5       3.1742     24.03  |V  Q      |          |          |          |
7+10       3.3430     24.50  |V  Q      |          |          |          |
7+15       3.5145     24.90  |V  Q      |          |          |          |
7+20       3.6896     25.42  |V   Q     |          |          |          |
7+25       3.8713     26.38  |V   Q     |          |          |          |
7+30       4.0664     28.34  |V   Q     |          |          |          |
7+35       4.2766     30.51  | V   Q    |          |          |          |
7+40       4.4977     32.11  | V   Q    |          |          |          |
7+45       4.7353     34.50  | V   Q    |          |          |          |
7+50       4.9901     37.00  | V    Q   |          |          |          |
7+55       5.2576     38.84  | V    Q   |          |          |          |
8+ 0       5.5428     41.41  | V     Q  |          |          |          |
8+ 5       5.8473     44.21  | V     Q  |          |          |          |
8+10       6.1696     46.79  | V      Q|          |          |          |
8+15       6.5216     51.11  |  V      Q          |          |          |
8+20       6.9026     55.32  |  V       Q         |          |          |
8+25       7.2974     57.33  |  V       Q         |          |          |
8+30       7.7018     58.72  |  V       Q         |          |          |
8+35       8.1146     59.94  |  V       Q         |          |          |
8+40       8.5376     61.43  |   V      Q         |          |          |
8+45       8.9768     63.77  |   V      Q         |          |          |
8+50       9.4328     66.21  |   V       Q        |          |          |
8+55       9.9012     68.01  |   V       Q        |          |          |
9+ 0      10.3868     70.50  |   V        Q       |          |          |
9+ 5      10.8911     73.24  |    V       Q       |          |          |
9+10      11.4131     75.78  |    V        Q      |          |          |
9+15      11.9647     80.09  |    V         Q     |          |          |
9+20      12.5466     84.49  |    V         Q     |          |          |
9+25      13.1469     87.17  |     V         Q    |          |          |
9+30      13.7686     90.27  |     V          Q   |          |          |
9+35      14.4108     93.25  |     V          Q   |          |          |
9+40      15.0680     95.44  |      V          Q  |          |          |
9+45      15.7446     98.24  |      V          Q  |          |          |
```

| | | | |
|---|---|---|---|
| 9+50 | 16.4403 | 101.01 |  |
| 9+55 | 17.1500 | 103.05 | |
| 10+ 0 | 17.8782 | 105.73 | |
| 10+ 5 | 18.6145 | 106.91 | |
| 10+10 | 19.3280 | 103.60 | |
| 10+15 | 19.9654 | 92.56 | |
| 10+20 | 20.5228 | 80.93 | |
| 10+25 | 21.0492 | 76.42 | |
| 10+30 | 21.5555 | 73.53 | |
| 10+35 | 22.0543 | 72.42 | |
| 10+40 | 22.5658 | 74.27 | |
| 10+45 | 23.1288 | 81.74 | |
| 10+50 | 23.7475 | 89.84 | |
| 10+55 | 24.3883 | 93.04 | |
| 11+ 0 | 25.0445 | 95.28 | |
| 11+ 5 | 25.7112 | 96.80 | |
| 11+10 | 26.3821 | 97.41 | |
| 11+15 | 27.0481 | 96.70 | |
| 11+20 | 27.7068 | 95.65 | |
| 11+25 | 28.3641 | 95.43 | |
| 11+30 | 29.0203 | 95.28 | |
| 11+35 | 29.6734 | 94.83 | |
| 11+40 | 30.3174 | 93.51 | |
| 11+45 | 30.9383 | 90.15 | |
| 11+50 | 31.5369 | 86.92 | |
| 11+55 | 32.1312 | 86.29 | |
| 12+ 0 | 32.7318 | 87.21 | |
| 12+ 5 | 33.3499 | 89.75 | |
| 12+10 | 34.0024 | 94.74 | |
| 12+15 | 34.7390 | 106.95 | |
| 12+20 | 35.5633 | 119.69 | |
| 12+25 | 36.4286 | 125.65 | |
| 12+30 | 37.3304 | 130.94 | |
| 12+35 | 38.2649 | 135.69 | |
| 12+40 | 39.2270 | 139.70 | |
| 12+45 | 40.2262 | 145.08 | |
| 12+50 | 41.2607 | 150.21 | |
| 12+55 | 42.3169 | 153.37 | |
| 13+ 0 | 43.3961 | 156.70 | |
| 13+ 5 | 44.5020 | 160.56 | |
| 13+10 | 45.6419 | 165.52 | |
| 13+15 | 46.8489 | 175.26 | |
| 13+20 | 48.1229 | 184.98 | |
| 13+25 | 49.4269 | 189.35 | |
| 13+30 | 50.7510 | 192.26 | |
| 13+35 | 52.0755 | 192.32 | |
| 13+40 | 53.3609 | 186.64 | |
| 13+45 | 54.5249 | 169.01 | |
| 13+50 | 55.5615 | 150.50 | |
| 13+55 | 56.5476 | 143.18 | |
| 14+ 0 | 57.5004 | 138.35 | |
| 14+ 5 | 58.4346 | 135.65 | |
| 14+10 | 59.3699 | 135.80 | |
| 14+15 | 60.3396 | 140.80 | |
| 14+20 | 61.3482 | 146.45 | |
| 14+25 | 62.3668 | 147.90 | |
| 14+30 | 63.3845 | 147.77 | |
| 14+35 | 64.3985 | 147.23 | |
| 14+40 | 65.4137 | 147.40 | |
| 14+45 | 66.4304 | 147.63 | |
| 14+50 | 67.4469 | 147.59 | |
| 14+55 | 68.4592 | 146.99 | |
| 15+ 0 | 69.4598 | 145.30 | |
| 15+ 5 | 70.4474 | 143.40 | |
| 15+10 | 71.4262 | 142.11 | |
| 15+15 | 72.3909 | 140.08 | |
| 15+20 | 73.3410 | 137.96 | |
| 15+25 | 74.2811 | 136.50 | |
| 15+30 | 75.2059 | 134.28 | |
| 15+35 | 76.1112 | 131.44 | |
| 15+40 | 76.9917 | 127.85 | |
| 15+45 | 77.8211 | 120.42 | |
| 15+50 | 78.5992 | 112.99 | |
| 15+55 | 79.3557 | 109.84 | |
| 16+ 0 | 80.0981 | 107.80 | |
| 16+ 5 | 80.8116 | 103.60 | |
| 16+10 | 81.4499 | 92.68 | |
| 16+15 | 81.9069 | 66.35 | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 16+20 | 82.1787 | 39.47 | | Q | | V |
| 16+25 | 82.3732 | 28.25 | | Q | | V |
| 16+30 | 82.5177 | 20.98 | | Q | | V |
| 16+35 | 82.6265 | 15.80 | | Q | | V |
| 16+40 | 82.7084 | 11.89 | | Q | | V |
| 16+45 | 82.7688 | 8.77 | Q | | | V |
| 16+50 | 82.8132 | 6.45 | Q | | | V |
| 16+55 | 82.8469 | 4.89 | Q | | | V |
| 17+ 0 | 82.8749 | 4.07 | Q | | | V |
| 17+ 5 | 82.9012 | 3.82 | Q | | | V |
| 17+10 | 82.9305 | 4.26 | Q | | | V |
| 17+15 | 82.9733 | 6.21 | Q | | | V |
| 17+20 | 83.0302 | 8.26 | Q | | | V |
| 17+25 | 83.0921 | 8.99 | Q | | | V |
| 17+30 | 83.1578 | 9.53 | Q | | | V |
| 17+35 | 83.2265 | 9.97 | Q | | | V |
| 17+40 | 83.2977 | 10.34 | Q | | | V |
| 17+45 | 83.3713 | 10.69 | Q | | | V |
| 17+50 | 83.4455 | 10.78 | Q | | | V |
| 17+55 | 83.5167 | 10.34 | Q | | | V |
| 18+ 0 | 83.5773 | 8.80 | Q | | | V |
| 18+ 5 | 83.6267 | 7.18 | Q | | | V |
| 18+10 | 83.6721 | 6.59 | Q | | | V |
| 18+15 | 83.7150 | 6.24 | Q | | | V |
| 18+20 | 83.7565 | 6.02 | Q | | | V |
| 18+25 | 83.7971 | 5.90 | Q | | | V |
| 18+30 | 83.8373 | 5.83 | Q | | | V |
| 18+35 | 83.8766 | 5.70 | Q | | | V |
| 18+40 | 83.9133 | 5.33 | Q | | | V |
| 18+45 | 83.9434 | 4.37 | Q | | | V |
| 18+50 | 83.9665 | 3.36 | Q | | | V |
| 18+55 | 83.9863 | 2.88 | Q | | | V |
| 19+ 0 | 84.0032 | 2.44 | Q | | | V |
| 19+ 5 | 84.0175 | 2.08 | Q | | | V |
| 19+10 | 84.0308 | 1.93 | Q | | | V |
| 19+15 | 84.0441 | 1.94 | Q | | | V |
| 19+20 | 84.0588 | 2.13 | Q | | | V |
| 19+25 | 84.0767 | 2.60 | Q | | | V |
| 19+30 | 84.1032 | 3.84 | Q | | | V |
| 19+35 | 84.1376 | 5.00 | Q | | | V |
| 19+40 | 84.1726 | 5.08 | Q | | | V |
| 19+45 | 84.2015 | 4.19 | Q | | | V |
| 19+50 | 84.2230 | 3.13 | Q | | | V |
| 19+55 | 84.2417 | 2.71 | Q | | | V |
| 20+ 0 | 84.2577 | 2.33 | Q | | | V |
| 20+ 5 | 84.2716 | 2.01 | Q | | | V |
| 20+10 | 84.2846 | 1.89 | Q | | | V |
| 20+15 | 84.2977 | 1.91 | Q | | | V |
| 20+20 | 84.3114 | 1.98 | Q | | | V |
| 20+25 | 84.3250 | 1.98 | Q | | | V |
| 20+30 | 84.3386 | 1.98 | Q | | | V |
| 20+35 | 84.3524 | 2.00 | Q | | | V |
| 20+40 | 84.3662 | 2.01 | Q | | | V |
| 20+45 | 84.3801 | 2.02 | Q | | | V |
| 20+50 | 84.3939 | 2.00 | Q | | | V |
| 20+55 | 84.4072 | 1.93 | Q | | | V |
| 21+ 0 | 84.4192 | 1.76 | Q | | | V |
| 21+ 5 | 84.4302 | 1.59 | Q | | | V |
| 21+10 | 84.4412 | 1.59 | Q | | | V |
| 21+15 | 84.4529 | 1.71 | Q | | | V |
| 21+20 | 84.4656 | 1.83 | Q | | | V |
| 21+25 | 84.4781 | 1.82 | Q | | | V |
| 21+30 | 84.4896 | 1.68 | Q | | | V |
| 21+35 | 84.5003 | 1.55 | Q | | | V |
| 21+40 | 84.5112 | 1.58 | Q | | | V |
| 21+45 | 84.5235 | 1.79 | Q | | | V |
| 21+50 | 84.5373 | 2.00 | Q | | | V |
| 21+55 | 84.5511 | 2.01 | Q | | | V |
| 22+ 0 | 84.5636 | 1.82 | Q | | | V |
| 22+ 5 | 84.5748 | 1.63 | Q | | | V |
| 22+10 | 84.5864 | 1.67 | Q | | | V |
| 22+15 | 84.5999 | 1.96 | Q | | | V |
| 22+20 | 84.6154 | 2.25 | Q | | | V |
| 22+25 | 84.6309 | 2.25 | Q | | | V |
| 22+30 | 84.6446 | 1.99 | Q | | | V |
| 22+35 | 84.6561 | 1.68 | Q | | | V |
| 22+40 | 84.6670 | 1.57 | Q | | | V |
| 22+45 | 84.6774 | 1.51 | Q | | | V |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 22+50 | 84.6875 | 1.47 | Q | \| | \| | \| | V\| |
| 22+55 | 84.6973 | 1.43 | Q | \| | \| | \| | V\| |
| 23+ 0 | 84.7070 | 1.40 | Q | \| | \| | \| | V\| |
| 23+ 5 | 84.7165 | 1.38 | Q | \| | \| | \| | V\| |
| 23+10 | 84.7259 | 1.36 | Q | \| | \| | \| | V\| |
| 23+15 | 84.7352 | 1.36 | Q | \| | \| | \| | V\| |
| 23+20 | 84.7445 | 1.35 | Q | \| | \| | \| | V\| |
| 23+25 | 84.7538 | 1.35 | Q | \| | \| | \| | V\| |
| 23+30 | 84.7631 | 1.35 | Q | \| | \| | \| | V\| |
| 23+35 | 84.7724 | 1.35 | Q | \| | \| | \| | V\| |
| 23+40 | 84.7817 | 1.34 | Q | \| | \| | \| | V\| |
| 23+45 | 84.7909 | 1.34 | Q | \| | \| | \| | V\| |
| 23+50 | 84.8002 | 1.34 | Q | \| | \| | \| | V\| |
| 23+55 | 84.8094 | 1.34 | Q | \| | \| | \| | V\| |
| 24+ 0 | 84.8186 | 1.34 | Q | \| | \| | \| | V\| |
| 24+ 5 | 84.8276 | 1.30 | Q | \| | \| | \| | V\| |
| 24+10 | 84.8357 | 1.17 | Q | \| | \| | \| | V\| |
| 24+15 | 84.8414 | 0.83 | Q | \| | \| | \| | V\| |
| 24+20 | 84.8447 | 0.48 | Q | \| | \| | \| | V\| |
| 24+25 | 84.8470 | 0.33 | Q | \| | \| | \| | V\| |
| 24+30 | 84.8486 | 0.24 | Q | \| | \| | \| | V\| |
| 24+35 | 84.8497 | 0.17 | Q | \| | \| | \| | V\| |
| 24+40 | 84.8506 | 0.12 | Q | \| | \| | \| | V\| |
| 24+45 | 84.8511 | 0.08 | Q | \| | \| | \| | V\| |
| 24+50 | 84.8515 | 0.05 | Q | \| | \| | \| | V\| |
| 24+55 | 84.8517 | 0.03 | Q | \| | \| | \| | V\| |
| 25+ 0 | 84.8519 | 0.02 | Q | \| | \| | \| | V\| |
| 25+ 5 | 84.8520 | 0.02 | Q | \| | \| | \| | V\| |
| 25+10 | 84.8521 | 0.01 | Q | \| | \| | \| | V\| |
| 25+15 | 84.8522 | 0.01 | Q | \| | \| | \| | V\| |
| 25+20 | 84.8522 | 0.01 | Q | \| | \| | \| | V\| |
| 25+25 | 84.8523 | 0.00 | Q | \| | \| | \| | V\| |
| 25+30 | 84.8523 | 0.00 | Q | \| | \| | \| | V\| |
| 25+35 | 84.8523 | 0.00 | Q | \| | \| | \| | V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 15
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

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Drainage Area = 60.40(Ac.) = 0.094 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 60.40(Ac.) = 0.094 Sq. Mi.
Length along longest watercourse = 2544.00(Ft.)
Length along longest watercourse measured to centroid = 1082.00(Ft.)
Length along longest watercourse = 0.482 Mi.
Length along longest watercourse measured to centroid = 0.205 Mi.
Difference in elevation = 315.00(Ft.)
Slope along watercourse = 653.7736 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.102 Hr.
Lag time = 6.10 Min.
25% of lag time = 1.53 Min.
40% of lag time = 2.44 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 60.40 | 0.50 | 30.20 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 60.40 | 1.20 | 72.48 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.95 %
Adjusted average point rain = 1.199(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 60.400 | 81.83 | 0.000 |

Total Area Entered = 60.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 81.8 | 92.1 | 0.103 | 0.000 | 0.103 | 1.000 | 0.103 |
| | | | | | Sum (F) = | 0.103 |

Area averaged mean soil loss (F) (In/Hr) = 0.103

Minimum soil loss rate ((In/Hr)) = 0.051
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

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| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 81.954 | 9.417 | 5.733 |
| 2 | 0.167 | 163.908 | 49.555 | 30.165 |
| 3 | 0.250 | 245.862 | 23.711 | 14.433 |
| 4 | 0.333 | 327.816 | 9.503 | 5.784 |
| 5 | 0.417 | 409.769 | 4.644 | 2.827 |
| 6 | 0.500 | 491.723 | 1.658 | 1.009 |
| 7 | 0.583 | 573.677 | 0.714 | 0.434 |
| 8 | 0.667 | 655.631 | 0.540 | 0.329 |
| 9 | 0.750 | 737.585 | 0.259 | 0.157 |
| | | Sum = 100.000 | Sum= | 60.872 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.604 | 0.103 | ( 0.544) | 0.502 |
| 2 | 0.17 | 4.30 | 0.619 | 0.103 | ( 0.557) | 0.516 |
| 3 | 0.25 | 5.00 | 0.720 | 0.103 | ( 0.648) | 0.617 |
| 4 | 0.33 | 5.00 | 0.720 | 0.103 | ( 0.648) | 0.617 |
| 5 | 0.42 | 5.80 | 0.835 | 0.103 | ( 0.751) | 0.732 |
| 6 | 0.50 | 6.50 | 0.935 | 0.103 | ( 0.842) | 0.833 |
| 7 | 0.58 | 7.40 | 1.065 | 0.103 | ( 0.959) | 0.962 |
| 8 | 0.67 | 8.60 | 1.238 | 0.103 | ( 1.114) | 1.135 |
| 9 | 0.75 | 12.30 | 1.770 | 0.103 | ( 1.593) | 1.668 |
| 10 | 0.83 | 29.10 | 4.188 | 0.103 | ( 3.769) | 4.085 |
| 11 | 0.92 | 6.80 | 0.979 | 0.103 | ( 0.881) | 0.876 |
| 12 | 1.00 | 5.00 | 0.720 | 0.103 | ( 0.648) | 0.617 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 13.2 |

Flood volume = Effective rainfall 1.10(In)
times area 60.4(Ac.)/[(In)/(Ft.)] = 5.5(Ac.Ft)
Total soil loss = 0.10(In)
Total soil loss = 0.517(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 240435.5 Cubic Feet
Total soil loss = 22522.9 Cubic Feet

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Peak flow rate of this hydrograph = 163.152(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 50.0 | 100.0 | 150.0 | 200.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0198 | 2.88 | Q | | | | |
| 0+10 | 0.1445 | 18.10 | V Q | | | | |
| 0+15 | 0.3260 | 26.36 | V Q | | | | |
| 0+20 | 0.5500 | 32.51 | V Q | | | | |
| 0+25 | 0.7988 | 36.13 | V Q | | | | |
| 0+30 | 1.0833 | 41.31 | VQ | | | | |
| 0+35 | 1.4089 | 47.28 | QV | | | | |
| 0+40 | 1.7848 | 54.57 | Q V | | | | |
| 0+45 | 2.2376 | 65.74 | Q V | | | | |
| 0+50 | 2.9219 | 99.36 | Q V | | | | |
| 0+55 | 4.0455 | 163.15 | Q V | | | | |
| 1+ 0 | 4.7583 | 103.50 | Q V | | | | |

```
    1+ 5       5.1824     61.58  |          | Q        |          |       V  |
    1+10       5.3764     28.16  |     Q    |          |          |        V |
    1+15       5.4550     11.42  |  Q       |          |          |         V|
    1+20       5.4904      5.13  |Q         |          |          |         V|
    1+25       5.5084      2.61  Q          |          |          |         V|
    1+30       5.5166      1.20  Q          |          |          |         V|
    1+35       5.5190      0.34  Q          |          |          |         V|
    1+40       5.5196      0.10  Q          |          |          |          V
-------------------------------------------------------------------------------
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA153100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 15
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

---

Drainage Area = 60.40(Ac.) = 0.094 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 60.40(Ac.) = 0.094 Sq. Mi.
Length along longest watercourse = 2544.00(Ft.)
Length along longest watercourse measured to centroid = 1082.00(Ft.)
Length along longest watercourse = 0.482 Mi.
Length along longest watercourse measured to centroid = 0.205 Mi.
Difference in elevation = 315.00(Ft.)
Slope along watercourse = 653.7736 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.102 Hr.
Lag time = 6.10 Min.
25% of lag time = 1.53 Min.
40% of lag time = 2.44 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 60.40 | 0.82 | 49.53 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 60.40 | 1.83 | 110.53 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.820(In)
Area Averaged 100-Year Rainfall = 1.830(In)

Point rain (area averaged) = 1.830(In)
Areal adjustment factor = 99.97 %
Adjusted average point rain = 1.830(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 60.400 | 81.83 | 0.000 |

Total Area Entered = 60.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 81.8 | 92.1 | 0.103 | 0.000 | 0.103 | 1.000 | 0.103 |
| | | | | | Sum (F) = | 0.103 |

Area averaged mean soil loss (F) (In/Hr) = 0.103

Minimum soil loss rate ((In/Hr)) = 0.051
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 81.954 | 9.417 | 5.733 |
| 2 | 0.167 | 163.908 | 49.555 | 30.165 |
| 3 | 0.250 | 245.862 | 23.711 | 14.433 |
| 4 | 0.333 | 327.816 | 9.503 | 5.784 |
| 5 | 0.417 | 409.769 | 4.644 | 2.827 |
| 6 | 0.500 | 491.723 | 1.658 | 1.009 |
| 7 | 0.583 | 573.677 | 0.714 | 0.434 |
| 8 | 0.667 | 655.631 | 0.540 | 0.329 |
| 9 | 0.750 | 737.585 | 0.259 | 0.157 |
| | | | Sum = 100.000 | Sum= 60.872 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.285 | 0.103 | ( | 0.257) | 0.183 |
| 2 | 0.17 | 1.30 | 0.285 | 0.103 | ( | 0.257) | 0.183 |
| 3 | 0.25 | 1.10 | 0.241 | 0.103 | ( | 0.217) | 0.139 |
| 4 | 0.33 | 1.50 | 0.329 | 0.103 | ( | 0.296) | 0.227 |
| 5 | 0.42 | 1.50 | 0.329 | 0.103 | ( | 0.296) | 0.227 |
| 6 | 0.50 | 1.80 | 0.395 | 0.103 | ( | 0.356) | 0.292 |
| 7 | 0.58 | 1.50 | 0.329 | 0.103 | ( | 0.296) | 0.227 |
| 8 | 0.67 | 1.80 | 0.395 | 0.103 | ( | 0.356) | 0.292 |
| 9 | 0.75 | 1.80 | 0.395 | 0.103 | ( | 0.356) | 0.292 |
| 10 | 0.83 | 1.50 | 0.329 | 0.103 | ( | 0.296) | 0.227 |
| 11 | 0.92 | 1.60 | 0.351 | 0.103 | ( | 0.316) | 0.249 |
| 12 | 1.00 | 1.80 | 0.395 | 0.103 | ( | 0.356) | 0.292 |
| 13 | 1.08 | 2.20 | 0.483 | 0.103 | ( | 0.435) | 0.380 |
| 14 | 1.17 | 2.20 | 0.483 | 0.103 | ( | 0.435) | 0.380 |
| 15 | 1.25 | 2.20 | 0.483 | 0.103 | ( | 0.435) | 0.380 |
| 16 | 1.33 | 2.00 | 0.439 | 0.103 | ( | 0.395) | 0.336 |
| 17 | 1.42 | 2.60 | 0.571 | 0.103 | ( | 0.514) | 0.468 |
| 18 | 1.50 | 2.70 | 0.593 | 0.103 | ( | 0.533) | 0.490 |
| 19 | 1.58 | 2.40 | 0.527 | 0.103 | ( | 0.474) | 0.424 |
| 20 | 1.67 | 2.70 | 0.593 | 0.103 | ( | 0.533) | 0.490 |
| 21 | 1.75 | 3.30 | 0.724 | 0.103 | ( | 0.652) | 0.622 |
| 22 | 1.83 | 3.10 | 0.681 | 0.103 | ( | 0.613) | 0.578 |
| 23 | 1.92 | 2.90 | 0.637 | 0.103 | ( | 0.573) | 0.534 |
| 24 | 2.00 | 3.00 | 0.659 | 0.103 | ( | 0.593) | 0.556 |
| 25 | 2.08 | 3.10 | 0.681 | 0.103 | ( | 0.613) | 0.578 |
| 26 | 2.17 | 4.20 | 0.922 | 0.103 | ( | 0.830) | 0.819 |
| 27 | 2.25 | 5.00 | 1.098 | 0.103 | ( | 0.988) | 0.995 |
| 28 | 2.33 | 3.50 | 0.768 | 0.103 | ( | 0.692) | 0.666 |
| 29 | 2.42 | 6.80 | 1.493 | 0.103 | ( | 1.344) | 1.390 |
| 30 | 2.50 | 7.30 | 1.603 | 0.103 | ( | 1.442) | 1.500 |
| 31 | 2.58 | 8.20 | 1.800 | 0.103 | ( | 1.620) | 1.698 |
| 32 | 2.67 | 5.90 | 1.295 | 0.103 | ( | 1.166) | 1.193 |
| 33 | 2.75 | 2.00 | 0.439 | 0.103 | ( | 0.395) | 0.336 |
| 34 | 2.83 | 1.80 | 0.395 | 0.103 | ( | 0.356) | 0.292 |
| 35 | 2.92 | 1.80 | 0.395 | 0.103 | ( | 0.356) | 0.292 |
| 36 | 3.00 | 0.60 | 0.132 | 0.103 | ( | 0.119) | 0.029 |
| | | (Loss Rate Not Used) | | | | | |
| Sum = | | 100.0 | | | | Sum = | 18.3 |

Flood volume = Effective rainfall 1.52(In)
times area 60.4(Ac.)/[(In)/(Ft.)] = 7.7(Ac.Ft)
Total soil loss = 0.31(In)
Total soil loss = 1.551(Ac.Ft)
Total rainfall = 1.83(In)
Flood volume = 333556.5 Cubic Feet
Total soil loss = 67568.6 Cubic Feet

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Peak flow rate of this hydrograph = 91.298(CFS)

3 - H O U R  S T O R M
R u n o f f  H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 25.0 | 50.0 | 75.0 | 100.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0072 | 1.05 | Q | | | | |
| 0+10 | 0.0524 | 6.56 | V Q | | | | |
| 0+15 | 0.1140 | 8.95 | V Q | | | | |
| 0+20 | 0.1773 | 9.18 | V Q | | | | |
| 0+25 | 0.2580 | 11.72 | V Q | | | | |
| 0+30 | 0.3495 | 13.29 | V Q | | | | |
| 0+35 | 0.4553 | 15.37 | V Q | | | | |
| 0+40 | 0.5584 | 14.97 | V Q | | | | |
| 0+45 | 0.6720 | 16.49 | V Q | | | | |
| 0+50 | 0.7883 | 16.89 | V Q | | | | |
| 0+55 | 0.8937 | 15.31 | V Q | | | | |
| 1+ 0 | 1.0000 | 15.44 | VQ | | | | |
| 1+ 5 | 1.1189 | 17.26 | VQ | | | | |
| 1+10 | 1.2601 | 20.50 | V Q | | | | |
| 1+15 | 1.4119 | 22.03 | VQ | | | | |
| 1+20 | 1.5663 | 22.42 | Q | | | | |
| 1+25 | 1.7186 | 22.13 | Q | | | | |
| 1+30 | 1.8956 | 25.70 | VQ | | | | |
| 1+35 | 2.0863 | 27.69 | VQ | | | | |
| 1+40 | 2.2728 | 27.07 | QV | | | | |
| 1+45 | 2.4748 | 29.33 | QV | | | | |
| 1+50 | 2.7076 | 33.80 | QV | | | | |
| 1+55 | 2.9444 | 34.39 | Q V | | | | |
| 2+ 0 | 3.1750 | 33.48 | Q V | | | | |
| 2+ 5 | 3.4079 | 33.82 | Q V | | | | |
| 2+10 | 3.6554 | 35.95 | Q V | | | | |
| 2+15 | 3.9625 | 44.59 | Q V | | | | |
| 2+20 | 4.3184 | 51.67 | Q V | | | | |
| 2+25 | 4.6620 | 49.89 | Q V | | | | |
| 2+30 | 5.1395 | 69.34 | VQ | | | | |
| 2+35 | 5.7118 | 83.09 | V Q | | | | |
| 2+40 | 6.3405 | 91.30 | V Q | | | | |
| 2+45 | 6.8675 | 76.51 | Q V | | | | |
| 2+50 | 7.1792 | 45.27 | Q | | | | |
| 2+55 | 7.3828 | 29.56 | Q | | | | |
| 3+ 0 | 7.5306 | 21.46 | Q | | | | |
| 3+ 5 | 7.6022 | 10.40 | Q | | | | |
| 3+10 | 7.6339 | 4.59 | Q | | | | |
| 3+15 | 7.6483 | 2.10 | Q | | | | |
| 3+20 | 7.6538 | 0.80 | Q | | | | |
| 3+25 | 7.6559 | 0.31 | Q | | | | |
| 3+30 | 7.6570 | 0.15 | Q | | | | |
| 3+35 | 7.6574 | 0.06 | Q | | | | |
| 3+40 | 7.6574 | 0.00 | Q | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA156100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 15
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

---

Drainage Area = 60.40(Ac.) = 0.094 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 60.40(Ac.) = 0.094 Sq. Mi.
Length along longest watercourse = 2544.00(Ft.)
Length along longest watercourse measured to centroid = 1082.00(Ft.)
Length along longest watercourse = 0.482 Mi.
Length along longest watercourse measured to centroid = 0.205 Mi.
Difference in elevation = 315.00(Ft.)
Slope along watercourse = 653.7736 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.102 Hr.
Lag time = 6.10 Min.
25% of lag time = 1.53 Min.
40% of lag time = 2.44 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 60.40 | 1.16 | 70.06 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 60.40 | 2.50 | 151.00 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.160(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 99.98 %
Adjusted average point rain = 2.499(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 60.400 | 81.83 | 0.000 |

Total Area Entered = 60.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 81.8 | 92.1 | 0.103 | 0.000 | 0.103 | 1.000 | 0.103 |
| | | | | | Sum (F) = | 0.103 |

Area averaged mean soil loss (F) (In/Hr) = 0.103

Minimum soil loss rate ((In/Hr)) = 0.051
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 81.954 | 9.417 | 5.733 |
| 2 | 0.167 | 163.908 | 49.555 | 30.165 |
| 3 | 0.250 | 245.862 | 23.711 | 14.433 |
| 4 | 0.333 | 327.816 | 9.503 | 5.784 |
| 5 | 0.417 | 409.769 | 4.644 | 2.827 |
| 6 | 0.500 | 491.723 | 1.658 | 1.009 |
| 7 | 0.583 | 573.677 | 0.714 | 0.434 |
| 8 | 0.667 | 655.631 | 0.540 | 0.329 |
| 9 | 0.750 | 737.585 | 0.259 | 0.157 |
| | | | Sum = 100.000 | Sum= 60.872 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.103 | ( | 0.135) | 0.047 |
| 2 | 0.17 | 0.60 | 0.180 | 0.103 | ( | 0.162) | 0.077 |
| 3 | 0.25 | 0.60 | 0.180 | 0.103 | ( | 0.162) | 0.077 |
| 4 | 0.33 | 0.60 | 0.180 | 0.103 | ( | 0.162) | 0.077 |
| 5 | 0.42 | 0.60 | 0.180 | 0.103 | ( | 0.162) | 0.077 |
| 6 | 0.50 | 0.70 | 0.210 | 0.103 | ( | 0.189) | 0.107 |
| 7 | 0.58 | 0.70 | 0.210 | 0.103 | ( | 0.189) | 0.107 |
| 8 | 0.67 | 0.70 | 0.210 | 0.103 | ( | 0.189) | 0.107 |
| 9 | 0.75 | 0.70 | 0.210 | 0.103 | ( | 0.189) | 0.107 |
| 10 | 0.83 | 0.70 | 0.210 | 0.103 | ( | 0.189) | 0.107 |
| 11 | 0.92 | 0.70 | 0.210 | 0.103 | ( | 0.189) | 0.107 |
| 12 | 1.00 | 0.80 | 0.240 | 0.103 | ( | 0.216) | 0.137 |
| 13 | 1.08 | 0.80 | 0.240 | 0.103 | ( | 0.216) | 0.137 |
| 14 | 1.17 | 0.80 | 0.240 | 0.103 | ( | 0.216) | 0.137 |
| 15 | 1.25 | 0.80 | 0.240 | 0.103 | ( | 0.216) | 0.137 |
| 16 | 1.33 | 0.80 | 0.240 | 0.103 | ( | 0.216) | 0.137 |
| 17 | 1.42 | 0.80 | 0.240 | 0.103 | ( | 0.216) | 0.137 |
| 18 | 1.50 | 0.80 | 0.240 | 0.103 | ( | 0.216) | 0.137 |
| 19 | 1.58 | 0.80 | 0.240 | 0.103 | ( | 0.216) | 0.137 |
| 20 | 1.67 | 0.80 | 0.240 | 0.103 | ( | 0.216) | 0.137 |
| 21 | 1.75 | 0.80 | 0.240 | 0.103 | ( | 0.216) | 0.137 |
| 22 | 1.83 | 0.80 | 0.240 | 0.103 | ( | 0.216) | 0.137 |
| 23 | 1.92 | 0.80 | 0.240 | 0.103 | ( | 0.216) | 0.137 |
| 24 | 2.00 | 0.90 | 0.270 | 0.103 | ( | 0.243) | 0.167 |
| 25 | 2.08 | 0.80 | 0.240 | 0.103 | ( | 0.216) | 0.137 |
| 26 | 2.17 | 0.90 | 0.270 | 0.103 | ( | 0.243) | 0.167 |
| 27 | 2.25 | 0.90 | 0.270 | 0.103 | ( | 0.243) | 0.167 |
| 28 | 2.33 | 0.90 | 0.270 | 0.103 | ( | 0.243) | 0.167 |
| 29 | 2.42 | 0.90 | 0.270 | 0.103 | ( | 0.243) | 0.167 |
| 30 | 2.50 | 0.90 | 0.270 | 0.103 | ( | 0.243) | 0.167 |
| 31 | 2.58 | 0.90 | 0.270 | 0.103 | ( | 0.243) | 0.167 |
| 32 | 2.67 | 0.90 | 0.270 | 0.103 | ( | 0.243) | 0.167 |
| 33 | 2.75 | 1.00 | 0.300 | 0.103 | ( | 0.270) | 0.197 |
| 34 | 2.83 | 1.00 | 0.300 | 0.103 | ( | 0.270) | 0.197 |
| 35 | 2.92 | 1.00 | 0.300 | 0.103 | ( | 0.270) | 0.197 |
| 36 | 3.00 | 1.00 | 0.300 | 0.103 | ( | 0.270) | 0.197 |
| 37 | 3.08 | 1.00 | 0.300 | 0.103 | ( | 0.270) | 0.197 |
| 38 | 3.17 | 1.10 | 0.330 | 0.103 | ( | 0.297) | 0.227 |
| 39 | 3.25 | 1.10 | 0.330 | 0.103 | ( | 0.297) | 0.227 |
| 40 | 3.33 | 1.10 | 0.330 | 0.103 | ( | 0.297) | 0.227 |
| 41 | 3.42 | 1.20 | 0.360 | 0.103 | ( | 0.324) | 0.257 |
| 42 | 3.50 | 1.30 | 0.390 | 0.103 | ( | 0.351) | 0.287 |
| 43 | 3.58 | 1.40 | 0.420 | 0.103 | ( | 0.378) | 0.317 |
| 44 | 3.67 | 1.40 | 0.420 | 0.103 | ( | 0.378) | 0.317 |
| 45 | 3.75 | 1.50 | 0.450 | 0.103 | ( | 0.405) | 0.347 |
| 46 | 3.83 | 1.50 | 0.450 | 0.103 | ( | 0.405) | 0.347 |
| 47 | 3.92 | 1.60 | 0.480 | 0.103 | ( | 0.432) | 0.377 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 48 | 4.00 | 1.60 | 0.480 | 0.103 | ( 0.432) | 0.377 |
| 49 | 4.08 | 1.70 | 0.510 | 0.103 | ( 0.459) | 0.407 |
| 50 | 4.17 | 1.80 | 0.540 | 0.103 | ( 0.486) | 0.437 |
| 51 | 4.25 | 1.90 | 0.570 | 0.103 | ( 0.513) | 0.467 |
| 52 | 4.33 | 2.00 | 0.600 | 0.103 | ( 0.540) | 0.497 |
| 53 | 4.42 | 2.10 | 0.630 | 0.103 | ( 0.567) | 0.527 |
| 54 | 4.50 | 2.10 | 0.630 | 0.103 | ( 0.567) | 0.527 |
| 55 | 4.58 | 2.20 | 0.660 | 0.103 | ( 0.594) | 0.557 |
| 56 | 4.67 | 2.30 | 0.690 | 0.103 | ( 0.621) | 0.587 |
| 57 | 4.75 | 2.40 | 0.720 | 0.103 | ( 0.648) | 0.617 |
| 58 | 4.83 | 2.40 | 0.720 | 0.103 | ( 0.648) | 0.617 |
| 59 | 4.92 | 2.50 | 0.750 | 0.103 | ( 0.675) | 0.647 |
| 60 | 5.00 | 2.60 | 0.780 | 0.103 | ( 0.702) | 0.677 |
| 61 | 5.08 | 3.10 | 0.930 | 0.103 | ( 0.837) | 0.827 |
| 62 | 5.17 | 3.60 | 1.080 | 0.103 | ( 0.972) | 0.977 |
| 63 | 5.25 | 3.90 | 1.170 | 0.103 | ( 1.053) | 1.067 |
| 64 | 5.33 | 4.20 | 1.260 | 0.103 | ( 1.134) | 1.157 |
| 65 | 5.42 | 4.70 | 1.410 | 0.103 | ( 1.269) | 1.307 |
| 66 | 5.50 | 5.60 | 1.680 | 0.103 | ( 1.512) | 1.577 |
| 67 | 5.58 | 1.90 | 0.570 | 0.103 | ( 0.513) | 0.467 |
| 68 | 5.67 | 0.90 | 0.270 | 0.103 | ( 0.243) | 0.167 |
| 69 | 5.75 | 0.60 | 0.180 | 0.103 | ( 0.162) | 0.077 |
| 70 | 5.83 | 0.50 | 0.150 | 0.103 | ( 0.135) | 0.047 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.103) | 0.081 | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.103) | 0.054 | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 22.7

Flood volume = Effective rainfall 1.89(In)
times area 60.4(Ac.)/[(In)/(Ft.)] = 9.5(Ac.Ft)
Total soil loss = 0.61(In)
Total soil loss = 3.073(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 414166.6 Cubic Feet
Total soil loss = 133849.5 Cubic Feet

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Peak flow rate of this hydrograph = 80.530(CFS)

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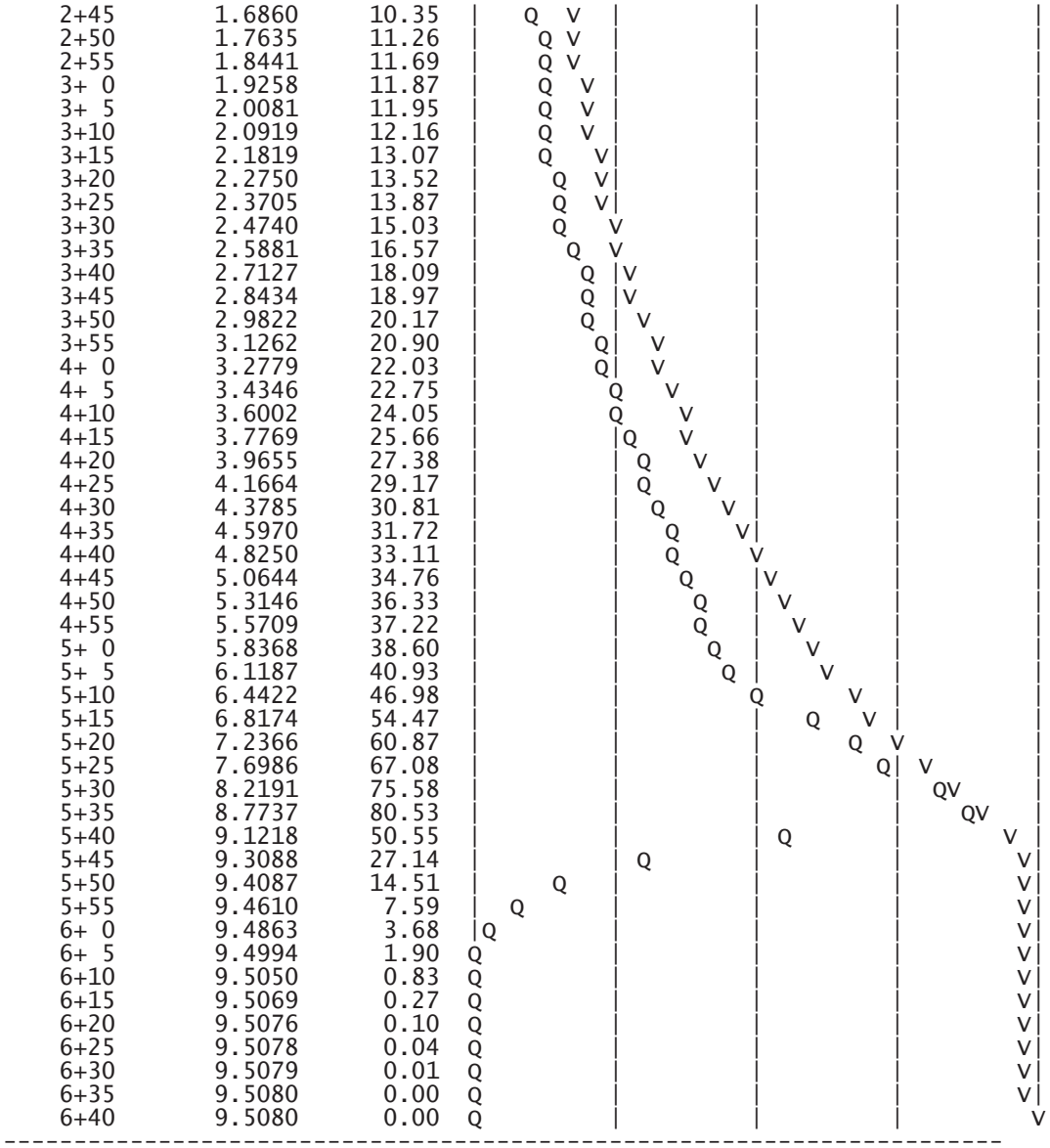
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 22.5 | 45.0 | 67.5 | 90.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0019 | 0.27 | Q | | | | |
| 0+10 | 0.0147 | 1.87 | Q | | | | |
| 0+15 | 0.0385 | 3.46 | VQ | | | | |
| 0+20 | 0.0672 | 4.16 | VQ | | | | |
| 0+25 | 0.0980 | 4.47 | VQ | | | | |
| 0+30 | 0.1309 | 4.77 | V Q | | | | |
| 0+35 | 0.1703 | 5.73 | V Q | | | | |
| 0+40 | 0.2130 | 6.19 | V Q | | | | |
| 0+45 | 0.2570 | 6.38 | \|VQ | | | | |
| 0+50 | 0.3015 | 6.47 | \|VQ | | | | |
| 0+55 | 0.3463 | 6.50 | \|VQ | | | | |
| 1+ 0 | 0.3924 | 6.69 | \|VQ | | | | |
| 1+ 5 | 0.4447 | 7.60 | \|V Q | | | | |
| 1+10 | 0.5001 | 8.04 | \| VQ | | | | |
| 1+15 | 0.5567 | 8.21 | \| VQ | | | | |
| 1+20 | 0.6139 | 8.30 | \| VQ | | | | |
| 1+25 | 0.6712 | 8.33 | \| VQ | | | | |
| 1+30 | 0.7287 | 8.34 | \| Q | | | | |
| 1+35 | 0.7862 | 8.35 | \| Q | | | | |
| 1+40 | 0.8438 | 8.36 | \| Q | | | | |
| 1+45 | 0.9013 | 8.36 | \| Q | | | | |
| 1+50 | 0.9589 | 8.36 | \| QV | | | | |
| 1+55 | 1.0164 | 8.36 | \| QV | | | | |
| 2+ 0 | 1.0752 | 8.53 | \| QV | | | | |
| 2+ 5 | 1.1390 | 9.26 | \| Q | | | | |
| 2+10 | 1.2007 | 8.96 | \| Q V | | | | |
| 2+15 | 1.2669 | 9.61 | \| QV | | | | |
| 2+20 | 1.3354 | 9.95 | \| QV | | | | |
| 2+25 | 1.4048 | 10.07 | \| QV | | | | |
| 2+30 | 1.4746 | 10.14 | \| Q V | | | | |
| 2+35 | 1.5446 | 10.17 | \| Q V | | | | |
| 2+40 | 1.6147 | 10.17 | \| Q V | | | | |



| | | | |
|---|---|---|---|
| 2+45 | 1.6860 | 10.35 | |
| 2+50 | 1.7635 | 11.26 | |
| 2+55 | 1.8441 | 11.69 | |
| 3+ 0 | 1.9258 | 11.87 | |
| 3+ 5 | 2.0081 | 11.95 | |
| 3+10 | 2.0919 | 12.16 | |
| 3+15 | 2.1819 | 13.07 | |
| 3+20 | 2.2750 | 13.52 | |
| 3+25 | 2.3705 | 13.87 | |
| 3+30 | 2.4740 | 15.03 | |
| 3+35 | 2.5881 | 16.57 | |
| 3+40 | 2.7127 | 18.09 | |
| 3+45 | 2.8434 | 18.97 | |
| 3+50 | 2.9822 | 20.17 | |
| 3+55 | 3.1262 | 20.90 | |
| 4+ 0 | 3.2779 | 22.03 | |
| 4+ 5 | 3.4346 | 22.75 | |
| 4+10 | 3.6002 | 24.05 | |
| 4+15 | 3.7769 | 25.66 | |
| 4+20 | 3.9655 | 27.38 | |
| 4+25 | 4.1664 | 29.17 | |
| 4+30 | 4.3785 | 30.81 | |
| 4+35 | 4.5970 | 31.72 | |
| 4+40 | 4.8250 | 33.11 | |
| 4+45 | 5.0644 | 34.76 | |
| 4+50 | 5.3146 | 36.33 | |
| 4+55 | 5.5709 | 37.22 | |
| 5+ 0 | 5.8368 | 38.60 | |
| 5+ 5 | 6.1187 | 40.93 | |
| 5+10 | 6.4422 | 46.98 | |
| 5+15 | 6.8174 | 54.47 | |
| 5+20 | 7.2366 | 60.87 | |
| 5+25 | 7.6986 | 67.08 | |
| 5+30 | 8.2191 | 75.58 | |
| 5+35 | 8.7737 | 80.53 | |
| 5+40 | 9.1218 | 50.55 | |
| 5+45 | 9.3088 | 27.14 | |
| 5+50 | 9.4087 | 14.51 | |
| 5+55 | 9.4610 | 7.59 | |
| 6+ 0 | 9.4863 | 3.68 | |
| 6+ 5 | 9.4994 | 1.90 | |
| 6+10 | 9.5050 | 0.83 | |
| 6+15 | 9.5069 | 0.27 | |
| 6+20 | 9.5076 | 0.10 | |
| 6+25 | 9.5078 | 0.04 | |
| 6+30 | 9.5079 | 0.01 | |
| 6+35 | 9.5080 | 0.00 | |
| 6+40 | 9.5080 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 15
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

---

Drainage Area = 60.40(Ac.) = 0.094 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 60.40(Ac.) = 0.094 Sq. Mi.
Length along longest watercourse = 2544.00(Ft.)
Length along longest watercourse measured to centroid = 1082.00(Ft.)
Length along longest watercourse = 0.482 Mi.
Length along longest watercourse measured to centroid = 0.205 Mi.
Difference in elevation = 315.00(Ft.)
Slope along watercourse = 653.7736 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.102 Hr.
Lag time = 6.10 Min.
25% of lag time = 1.53 Min.
40% of lag time = 2.44 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 60.40 | 1.81 | 109.32 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 60.40 | 4.78 | 288.71 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.810(In)
Area Averaged 100-Year Rainfall = 4.780(In)

Point rain (area averaged) = 4.780(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 4.779(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 60.400 | 81.83 | 0.000 |

Total Area Entered = 60.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 81.8 | 92.1 | 0.103 | 0.000 | 0.103 | 1.000 | 0.103 |
| | | | | | Sum (F) = | 0.103 |

Area averaged mean soil loss (F) (In/Hr) = 0.103

Minimum soil loss rate ((In/Hr)) = 0.051
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 81.954 | 9.417 | 5.733 |
| 2 | 0.167 | 163.908 | 49.555 | 30.165 |
| 3 | 0.250 | 245.862 | 23.711 | 14.433 |
| 4 | 0.333 | 327.816 | 9.503 | 5.784 |
| 5 | 0.417 | 409.769 | 4.644 | 2.827 |
| 6 | 0.500 | 491.723 | 1.658 | 1.009 |
| 7 | 0.583 | 573.677 | 0.714 | 0.434 |
| 8 | 0.667 | 655.631 | 0.540 | 0.329 |
| 9 | 0.750 | 737.585 | 0.259 | 0.157 |
| | | | Sum = 100.000 | Sum= 60.872 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.038 | ( 0.182) | 0.034 | 0.004 |
| 2 | 0.17 | 0.07 | 0.038 | ( 0.181) | 0.034 | 0.004 |
| 3 | 0.25 | 0.07 | 0.038 | ( 0.181) | 0.034 | 0.004 |
| 4 | 0.33 | 0.10 | 0.057 | ( 0.180) | 0.052 | 0.006 |
| 5 | 0.42 | 0.10 | 0.057 | ( 0.179) | 0.052 | 0.006 |
| 6 | 0.50 | 0.10 | 0.057 | ( 0.179) | 0.052 | 0.006 |
| 7 | 0.58 | 0.10 | 0.057 | ( 0.178) | 0.052 | 0.006 |
| 8 | 0.67 | 0.10 | 0.057 | ( 0.177) | 0.052 | 0.006 |
| 9 | 0.75 | 0.10 | 0.057 | ( 0.177) | 0.052 | 0.006 |
| 10 | 0.83 | 0.13 | 0.076 | ( 0.176) | 0.069 | 0.008 |
| 11 | 0.92 | 0.13 | 0.076 | ( 0.175) | 0.069 | 0.008 |
| 12 | 1.00 | 0.13 | 0.076 | ( 0.174) | 0.069 | 0.008 |
| 13 | 1.08 | 0.10 | 0.057 | ( 0.174) | 0.052 | 0.006 |
| 14 | 1.17 | 0.10 | 0.057 | ( 0.173) | 0.052 | 0.006 |
| 15 | 1.25 | 0.10 | 0.057 | ( 0.172) | 0.052 | 0.006 |
| 16 | 1.33 | 0.10 | 0.057 | ( 0.172) | 0.052 | 0.006 |
| 17 | 1.42 | 0.10 | 0.057 | ( 0.171) | 0.052 | 0.006 |
| 18 | 1.50 | 0.10 | 0.057 | ( 0.170) | 0.052 | 0.006 |
| 19 | 1.58 | 0.10 | 0.057 | ( 0.170) | 0.052 | 0.006 |
| 20 | 1.67 | 0.10 | 0.057 | ( 0.169) | 0.052 | 0.006 |
| 21 | 1.75 | 0.10 | 0.057 | ( 0.168) | 0.052 | 0.006 |
| 22 | 1.83 | 0.13 | 0.076 | ( 0.168) | 0.069 | 0.008 |
| 23 | 1.92 | 0.13 | 0.076 | ( 0.167) | 0.069 | 0.008 |
| 24 | 2.00 | 0.13 | 0.076 | ( 0.166) | 0.069 | 0.008 |
| 25 | 2.08 | 0.13 | 0.076 | ( 0.166) | 0.069 | 0.008 |
| 26 | 2.17 | 0.13 | 0.076 | ( 0.165) | 0.069 | 0.008 |
| 27 | 2.25 | 0.13 | 0.076 | ( 0.164) | 0.069 | 0.008 |
| 28 | 2.33 | 0.13 | 0.076 | ( 0.164) | 0.069 | 0.008 |
| 29 | 2.42 | 0.13 | 0.076 | ( 0.163) | 0.069 | 0.008 |
| 30 | 2.50 | 0.13 | 0.076 | ( 0.162) | 0.069 | 0.008 |
| 31 | 2.58 | 0.17 | 0.096 | ( 0.162) | 0.086 | 0.010 |
| 32 | 2.67 | 0.17 | 0.096 | ( 0.161) | 0.086 | 0.010 |
| 33 | 2.75 | 0.17 | 0.096 | ( 0.160) | 0.086 | 0.010 |
| 34 | 2.83 | 0.17 | 0.096 | ( 0.160) | 0.086 | 0.010 |
| 35 | 2.92 | 0.17 | 0.096 | ( 0.159) | 0.086 | 0.010 |
| 36 | 3.00 | 0.17 | 0.096 | ( 0.158) | 0.086 | 0.010 |
| 37 | 3.08 | 0.17 | 0.096 | ( 0.158) | 0.086 | 0.010 |
| 38 | 3.17 | 0.17 | 0.096 | ( 0.157) | 0.086 | 0.010 |
| 39 | 3.25 | 0.17 | 0.096 | ( 0.156) | 0.086 | 0.010 |
| 40 | 3.33 | 0.17 | 0.096 | ( 0.156) | 0.086 | 0.010 |
| 41 | 3.42 | 0.17 | 0.096 | ( 0.155) | 0.086 | 0.010 |
| 42 | 3.50 | 0.17 | 0.096 | ( 0.154) | 0.086 | 0.010 |
| 43 | 3.58 | 0.17 | 0.096 | ( 0.154) | 0.086 | 0.010 |
| 44 | 3.67 | 0.17 | 0.096 | ( 0.153) | 0.086 | 0.010 |
| 45 | 3.75 | 0.17 | 0.096 | ( 0.152) | 0.086 | 0.010 |
| 46 | 3.83 | 0.20 | 0.115 | ( 0.152) | 0.103 | 0.011 |
| 47 | 3.92 | 0.20 | 0.115 | ( 0.151) | 0.103 | 0.011 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 48 | 4.00 | 0.20 | 0.115 | ( | 0.151) | 0.103 | | 0.011 |
| 49 | 4.08 | 0.20 | 0.115 | ( | 0.150) | 0.103 | | 0.011 |
| 50 | 4.17 | 0.20 | 0.115 | ( | 0.149) | 0.103 | | 0.011 |
| 51 | 4.25 | 0.20 | 0.115 | ( | 0.149) | 0.103 | | 0.011 |
| 52 | 4.33 | 0.23 | 0.134 | ( | 0.148) | 0.120 | | 0.013 |
| 53 | 4.42 | 0.23 | 0.134 | ( | 0.147) | 0.120 | | 0.013 |
| 54 | 4.50 | 0.23 | 0.134 | ( | 0.147) | 0.120 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.134 | ( | 0.146) | 0.120 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.134 | ( | 0.145) | 0.120 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.134 | ( | 0.145) | 0.120 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.153 | ( | 0.144) | 0.138 | | 0.015 |
| 59 | 4.92 | 0.27 | 0.153 | ( | 0.144) | 0.138 | | 0.015 |
| 60 | 5.00 | 0.27 | 0.153 | ( | 0.143) | 0.138 | | 0.015 |
| 61 | 5.08 | 0.20 | 0.115 | ( | 0.142) | 0.103 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.115 | ( | 0.142) | 0.103 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.115 | ( | 0.141) | 0.103 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.134 | ( | 0.140) | 0.120 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.134 | ( | 0.140) | 0.120 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.134 | ( | 0.139) | 0.120 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.153 | ( | 0.139) | 0.138 | | 0.015 |
| 68 | 5.67 | 0.27 | 0.153 | ( | 0.138) | 0.138 | | 0.015 |
| 69 | 5.75 | 0.27 | 0.153 | | 0.137 | ( 0.138) | | 0.016 |
| 70 | 5.83 | 0.27 | 0.153 | | 0.137 | ( 0.138) | | 0.016 |
| 71 | 5.92 | 0.27 | 0.153 | | 0.136 | ( 0.138) | | 0.017 |
| 72 | 6.00 | 0.27 | 0.153 | | 0.136 | ( 0.138) | | 0.017 |
| 73 | 6.08 | 0.30 | 0.172 | | 0.135 | ( 0.155) | | 0.037 |
| 74 | 6.17 | 0.30 | 0.172 | | 0.134 | ( 0.155) | | 0.038 |
| 75 | 6.25 | 0.30 | 0.172 | | 0.134 | ( 0.155) | | 0.038 |
| 76 | 6.33 | 0.30 | 0.172 | | 0.133 | ( 0.155) | | 0.039 |
| 77 | 6.42 | 0.30 | 0.172 | | 0.133 | ( 0.155) | | 0.039 |
| 78 | 6.50 | 0.30 | 0.172 | | 0.132 | ( 0.155) | | 0.040 |
| 79 | 6.58 | 0.33 | 0.191 | | 0.131 | ( 0.172) | | 0.060 |
| 80 | 6.67 | 0.33 | 0.191 | | 0.131 | ( 0.172) | | 0.060 |
| 81 | 6.75 | 0.33 | 0.191 | | 0.130 | ( 0.172) | | 0.061 |
| 82 | 6.83 | 0.33 | 0.191 | | 0.130 | ( 0.172) | | 0.062 |
| 83 | 6.92 | 0.33 | 0.191 | | 0.129 | ( 0.172) | | 0.062 |
| 84 | 7.00 | 0.33 | 0.191 | | 0.128 | ( 0.172) | | 0.063 |
| 85 | 7.08 | 0.33 | 0.191 | | 0.128 | ( 0.172) | | 0.063 |
| 86 | 7.17 | 0.33 | 0.191 | | 0.127 | ( 0.172) | | 0.064 |
| 87 | 7.25 | 0.33 | 0.191 | | 0.127 | ( 0.172) | | 0.064 |
| 88 | 7.33 | 0.37 | 0.210 | | 0.126 | ( 0.189) | | 0.084 |
| 89 | 7.42 | 0.37 | 0.210 | | 0.126 | ( 0.189) | | 0.085 |
| 90 | 7.50 | 0.37 | 0.210 | | 0.125 | ( 0.189) | | 0.085 |
| 91 | 7.58 | 0.40 | 0.229 | | 0.124 | ( 0.206) | | 0.105 |
| 92 | 7.67 | 0.40 | 0.229 | | 0.124 | ( 0.206) | | 0.106 |
| 93 | 7.75 | 0.40 | 0.229 | | 0.123 | ( 0.206) | | 0.106 |
| 94 | 7.83 | 0.43 | 0.249 | | 0.123 | ( 0.224) | | 0.126 |
| 95 | 7.92 | 0.43 | 0.249 | | 0.122 | ( 0.224) | | 0.126 |
| 96 | 8.00 | 0.43 | 0.249 | | 0.122 | ( 0.224) | | 0.127 |
| 97 | 8.08 | 0.50 | 0.287 | | 0.121 | ( 0.258) | | 0.166 |
| 98 | 8.17 | 0.50 | 0.287 | | 0.120 | ( 0.258) | | 0.166 |
| 99 | 8.25 | 0.50 | 0.287 | | 0.120 | ( 0.258) | | 0.167 |
| 100 | 8.33 | 0.50 | 0.287 | | 0.119 | ( 0.258) | | 0.167 |
| 101 | 8.42 | 0.50 | 0.287 | | 0.119 | ( 0.258) | | 0.168 |
| 102 | 8.50 | 0.50 | 0.287 | | 0.118 | ( 0.258) | | 0.169 |
| 103 | 8.58 | 0.53 | 0.306 | | 0.118 | ( 0.275) | | 0.188 |
| 104 | 8.67 | 0.53 | 0.306 | | 0.117 | ( 0.275) | | 0.189 |
| 105 | 8.75 | 0.53 | 0.306 | | 0.117 | ( 0.275) | | 0.189 |
| 106 | 8.83 | 0.57 | 0.325 | | 0.116 | ( 0.293) | | 0.209 |
| 107 | 8.92 | 0.57 | 0.325 | | 0.115 | ( 0.293) | | 0.210 |
| 108 | 9.00 | 0.57 | 0.325 | | 0.115 | ( 0.293) | | 0.210 |
| 109 | 9.08 | 0.63 | 0.363 | | 0.114 | ( 0.327) | | 0.249 |
| 110 | 9.17 | 0.63 | 0.363 | | 0.114 | ( 0.327) | | 0.249 |
| 111 | 9.25 | 0.63 | 0.363 | | 0.113 | ( 0.327) | | 0.250 |
| 112 | 9.33 | 0.67 | 0.382 | | 0.113 | ( 0.344) | | 0.270 |
| 113 | 9.42 | 0.67 | 0.382 | | 0.112 | ( 0.344) | | 0.270 |
| 114 | 9.50 | 0.67 | 0.382 | | 0.112 | ( 0.344) | | 0.271 |
| 115 | 9.58 | 0.70 | 0.401 | | 0.111 | ( 0.361) | | 0.290 |
| 116 | 9.67 | 0.70 | 0.401 | | 0.111 | ( 0.361) | | 0.291 |
| 117 | 9.75 | 0.70 | 0.401 | | 0.110 | ( 0.361) | | 0.291 |
| 118 | 9.83 | 0.73 | 0.421 | | 0.110 | ( 0.379) | | 0.311 |
| 119 | 9.92 | 0.73 | 0.421 | | 0.109 | ( 0.379) | | 0.312 |
| 120 | 10.00 | 0.73 | 0.421 | | 0.108 | ( 0.379) | | 0.312 |
| 121 | 10.08 | 0.50 | 0.287 | | 0.108 | ( 0.258) | | 0.179 |
| 122 | 10.17 | 0.50 | 0.287 | | 0.107 | ( 0.258) | | 0.179 |
| 123 | 10.25 | 0.50 | 0.287 | | 0.107 | ( 0.258) | | 0.180 |
| 124 | 10.33 | 0.50 | 0.287 | | 0.106 | ( 0.258) | | 0.180 |
| 125 | 10.42 | 0.50 | 0.287 | | 0.106 | ( 0.258) | | 0.181 |

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|---|---|---|---|---|---|---|
| 126 | 10.50 | 0.50 | 0.287 | 0.105 | ( 0.258) | 0.181 |
| 127 | 10.58 | 0.67 | 0.382 | 0.105 | ( 0.344) | 0.278 |
| 128 | 10.67 | 0.67 | 0.382 | 0.104 | ( 0.344) | 0.278 |
| 129 | 10.75 | 0.67 | 0.382 | 0.104 | ( 0.344) | 0.279 |
| 130 | 10.83 | 0.67 | 0.382 | 0.103 | ( 0.344) | 0.279 |
| 131 | 10.92 | 0.67 | 0.382 | 0.103 | ( 0.344) | 0.280 |
| 132 | 11.00 | 0.67 | 0.382 | 0.102 | ( 0.344) | 0.280 |
| 133 | 11.08 | 0.63 | 0.363 | 0.102 | ( 0.327) | 0.261 |
| 134 | 11.17 | 0.63 | 0.363 | 0.101 | ( 0.327) | 0.262 |
| 135 | 11.25 | 0.63 | 0.363 | 0.101 | ( 0.327) | 0.262 |
| 136 | 11.33 | 0.63 | 0.363 | 0.100 | ( 0.327) | 0.263 |
| 137 | 11.42 | 0.63 | 0.363 | 0.100 | ( 0.327) | 0.263 |
| 138 | 11.50 | 0.63 | 0.363 | 0.099 | ( 0.327) | 0.264 |
| 139 | 11.58 | 0.57 | 0.325 | 0.099 | ( 0.293) | 0.226 |
| 140 | 11.67 | 0.57 | 0.325 | 0.098 | ( 0.293) | 0.227 |
| 141 | 11.75 | 0.57 | 0.325 | 0.098 | ( 0.293) | 0.227 |
| 142 | 11.83 | 0.60 | 0.344 | 0.097 | ( 0.310) | 0.247 |
| 143 | 11.92 | 0.60 | 0.344 | 0.097 | ( 0.310) | 0.247 |
| 144 | 12.00 | 0.60 | 0.344 | 0.096 | ( 0.310) | 0.248 |
| 145 | 12.08 | 0.83 | 0.478 | 0.096 | ( 0.430) | 0.382 |
| 146 | 12.17 | 0.83 | 0.478 | 0.095 | ( 0.430) | 0.383 |
| 147 | 12.25 | 0.83 | 0.478 | 0.095 | ( 0.430) | 0.383 |
| 148 | 12.33 | 0.87 | 0.497 | 0.094 | ( 0.447) | 0.403 |
| 149 | 12.42 | 0.87 | 0.497 | 0.094 | ( 0.447) | 0.403 |
| 150 | 12.50 | 0.87 | 0.497 | 0.094 | ( 0.447) | 0.404 |
| 151 | 12.58 | 0.93 | 0.535 | 0.093 | ( 0.482) | 0.442 |
| 152 | 12.67 | 0.93 | 0.535 | 0.093 | ( 0.482) | 0.443 |
| 153 | 12.75 | 0.93 | 0.535 | 0.092 | ( 0.482) | 0.443 |
| 154 | 12.83 | 0.97 | 0.554 | 0.092 | ( 0.499) | 0.463 |
| 155 | 12.92 | 0.97 | 0.554 | 0.091 | ( 0.499) | 0.463 |
| 156 | 13.00 | 0.97 | 0.554 | 0.091 | ( 0.499) | 0.464 |
| 157 | 13.08 | 1.13 | 0.650 | 0.090 | ( 0.585) | 0.560 |
| 158 | 13.17 | 1.13 | 0.650 | 0.090 | ( 0.585) | 0.560 |
| 159 | 13.25 | 1.13 | 0.650 | 0.089 | ( 0.585) | 0.561 |
| 160 | 13.33 | 1.13 | 0.650 | 0.089 | ( 0.585) | 0.561 |
| 161 | 13.42 | 1.13 | 0.650 | 0.088 | ( 0.585) | 0.562 |
| 162 | 13.50 | 1.13 | 0.650 | 0.088 | ( 0.585) | 0.562 |
| 163 | 13.58 | 0.77 | 0.440 | 0.088 | ( 0.396) | 0.352 |
| 164 | 13.67 | 0.77 | 0.440 | 0.087 | ( 0.396) | 0.353 |
| 165 | 13.75 | 0.77 | 0.440 | 0.087 | ( 0.396) | 0.353 |
| 166 | 13.83 | 0.77 | 0.440 | 0.086 | ( 0.396) | 0.354 |
| 167 | 13.92 | 0.77 | 0.440 | 0.086 | ( 0.396) | 0.354 |
| 168 | 14.00 | 0.77 | 0.440 | 0.085 | ( 0.396) | 0.354 |
| 169 | 14.08 | 0.90 | 0.516 | 0.085 | ( 0.465) | 0.431 |
| 170 | 14.17 | 0.90 | 0.516 | 0.084 | ( 0.465) | 0.432 |
| 171 | 14.25 | 0.90 | 0.516 | 0.084 | ( 0.465) | 0.432 |
| 172 | 14.33 | 0.87 | 0.497 | 0.084 | ( 0.447) | 0.413 |
| 173 | 14.42 | 0.87 | 0.497 | 0.083 | ( 0.447) | 0.414 |
| 174 | 14.50 | 0.87 | 0.497 | 0.083 | ( 0.447) | 0.414 |
| 175 | 14.58 | 0.87 | 0.497 | 0.082 | ( 0.447) | 0.415 |
| 176 | 14.67 | 0.87 | 0.497 | 0.082 | ( 0.447) | 0.415 |
| 177 | 14.75 | 0.87 | 0.497 | 0.081 | ( 0.447) | 0.416 |
| 178 | 14.83 | 0.83 | 0.478 | 0.081 | ( 0.430) | 0.397 |
| 179 | 14.92 | 0.83 | 0.478 | 0.081 | ( 0.430) | 0.397 |
| 180 | 15.00 | 0.83 | 0.478 | 0.080 | ( 0.430) | 0.398 |
| 181 | 15.08 | 0.80 | 0.459 | 0.080 | ( 0.413) | 0.379 |
| 182 | 15.17 | 0.80 | 0.459 | 0.079 | ( 0.413) | 0.379 |
| 183 | 15.25 | 0.80 | 0.459 | 0.079 | ( 0.413) | 0.380 |
| 184 | 15.33 | 0.77 | 0.440 | 0.079 | ( 0.396) | 0.361 |
| 185 | 15.42 | 0.77 | 0.440 | 0.078 | ( 0.396) | 0.362 |
| 186 | 15.50 | 0.77 | 0.440 | 0.078 | ( 0.396) | 0.362 |
| 187 | 15.58 | 0.63 | 0.363 | 0.077 | ( 0.327) | 0.286 |
| 188 | 15.67 | 0.63 | 0.363 | 0.077 | ( 0.327) | 0.286 |
| 189 | 15.75 | 0.63 | 0.363 | 0.077 | ( 0.327) | 0.287 |
| 190 | 15.83 | 0.63 | 0.363 | 0.076 | ( 0.327) | 0.287 |
| 191 | 15.92 | 0.63 | 0.363 | 0.076 | ( 0.327) | 0.287 |
| 192 | 16.00 | 0.63 | 0.363 | 0.075 | ( 0.327) | 0.288 |
| 193 | 16.08 | 0.13 | 0.076 | ( 0.075) | 0.069 | 0.008 |
| 194 | 16.17 | 0.13 | 0.076 | ( 0.075) | 0.069 | 0.008 |
| 195 | 16.25 | 0.13 | 0.076 | ( 0.074) | 0.069 | 0.008 |
| 196 | 16.33 | 0.13 | 0.076 | ( 0.074) | 0.069 | 0.008 |
| 197 | 16.42 | 0.13 | 0.076 | ( 0.074) | 0.069 | 0.008 |
| 198 | 16.50 | 0.13 | 0.076 | ( 0.073) | 0.069 | 0.008 |
| 199 | 16.58 | 0.10 | 0.057 | ( 0.073) | 0.052 | 0.006 |
| 200 | 16.67 | 0.10 | 0.057 | ( 0.072) | 0.052 | 0.006 |
| 201 | 16.75 | 0.10 | 0.057 | ( 0.072) | 0.052 | 0.006 |
| 202 | 16.83 | 0.10 | 0.057 | ( 0.072) | 0.052 | 0.006 |
| 203 | 16.92 | 0.10 | 0.057 | ( 0.071) | 0.052 | 0.006 |

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|---|---|---|---|---|---|---|---|---|
| 204 | 17.00 | 0.10 | 0.057 | ( | 0.071) | 0.052 | | 0.006 |
| 205 | 17.08 | 0.17 | 0.096 | | 0.071 | ( 0.086) | | 0.025 |
| 206 | 17.17 | 0.17 | 0.096 | | 0.070 | ( 0.086) | | 0.025 |
| 207 | 17.25 | 0.17 | 0.096 | | 0.070 | ( 0.086) | | 0.026 |
| 208 | 17.33 | 0.17 | 0.096 | | 0.070 | ( 0.086) | | 0.026 |
| 209 | 17.42 | 0.17 | 0.096 | | 0.069 | ( 0.086) | | 0.026 |
| 210 | 17.50 | 0.17 | 0.096 | | 0.069 | ( 0.086) | | 0.027 |
| 211 | 17.58 | 0.17 | 0.096 | | 0.069 | ( 0.086) | | 0.027 |
| 212 | 17.67 | 0.17 | 0.096 | | 0.068 | ( 0.086) | | 0.027 |
| 213 | 17.75 | 0.17 | 0.096 | | 0.068 | ( 0.086) | | 0.028 |
| 214 | 17.83 | 0.13 | 0.076 | | 0.067 | ( 0.069) | | 0.009 |
| 215 | 17.92 | 0.13 | 0.076 | | 0.067 | ( 0.069) | | 0.009 |
| 216 | 18.00 | 0.13 | 0.076 | | 0.067 | ( 0.069) | | 0.010 |
| 217 | 18.08 | 0.13 | 0.076 | | 0.066 | ( 0.069) | | 0.010 |
| 218 | 18.17 | 0.13 | 0.076 | | 0.066 | ( 0.069) | | 0.010 |
| 219 | 18.25 | 0.13 | 0.076 | | 0.066 | ( 0.069) | | 0.011 |
| 220 | 18.33 | 0.13 | 0.076 | | 0.066 | ( 0.069) | | 0.011 |
| 221 | 18.42 | 0.13 | 0.076 | | 0.065 | ( 0.069) | | 0.011 |
| 222 | 18.50 | 0.13 | 0.076 | | 0.065 | ( 0.069) | | 0.012 |
| 223 | 18.58 | 0.10 | 0.057 | ( | 0.065) | 0.052 | | 0.006 |
| 224 | 18.67 | 0.10 | 0.057 | ( | 0.064) | 0.052 | | 0.006 |
| 225 | 18.75 | 0.10 | 0.057 | ( | 0.064) | 0.052 | | 0.006 |
| 226 | 18.83 | 0.07 | 0.038 | ( | 0.064) | 0.034 | | 0.004 |
| 227 | 18.92 | 0.07 | 0.038 | ( | 0.063) | 0.034 | | 0.004 |
| 228 | 19.00 | 0.07 | 0.038 | ( | 0.063) | 0.034 | | 0.004 |
| 229 | 19.08 | 0.10 | 0.057 | ( | 0.063) | 0.052 | | 0.006 |
| 230 | 19.17 | 0.10 | 0.057 | ( | 0.062) | 0.052 | | 0.006 |
| 231 | 19.25 | 0.10 | 0.057 | ( | 0.062) | 0.052 | | 0.006 |
| 232 | 19.33 | 0.13 | 0.076 | | 0.062 | ( 0.069) | | 0.015 |
| 233 | 19.42 | 0.13 | 0.076 | | 0.062 | ( 0.069) | | 0.015 |
| 234 | 19.50 | 0.13 | 0.076 | | 0.061 | ( 0.069) | | 0.015 |
| 235 | 19.58 | 0.10 | 0.057 | ( | 0.061) | 0.052 | | 0.006 |
| 236 | 19.67 | 0.10 | 0.057 | ( | 0.061) | 0.052 | | 0.006 |
| 237 | 19.75 | 0.10 | 0.057 | ( | 0.060) | 0.052 | | 0.006 |
| 238 | 19.83 | 0.07 | 0.038 | ( | 0.060) | 0.034 | | 0.004 |
| 239 | 19.92 | 0.07 | 0.038 | ( | 0.060) | 0.034 | | 0.004 |
| 240 | 20.00 | 0.07 | 0.038 | ( | 0.060) | 0.034 | | 0.004 |
| 241 | 20.08 | 0.10 | 0.057 | ( | 0.059) | 0.052 | | 0.006 |
| 242 | 20.17 | 0.10 | 0.057 | ( | 0.059) | 0.052 | | 0.006 |
| 243 | 20.25 | 0.10 | 0.057 | ( | 0.059) | 0.052 | | 0.006 |
| 244 | 20.33 | 0.10 | 0.057 | ( | 0.059) | 0.052 | | 0.006 |
| 245 | 20.42 | 0.10 | 0.057 | ( | 0.058) | 0.052 | | 0.006 |
| 246 | 20.50 | 0.10 | 0.057 | ( | 0.058) | 0.052 | | 0.006 |
| 247 | 20.58 | 0.10 | 0.057 | ( | 0.058) | 0.052 | | 0.006 |
| 248 | 20.67 | 0.10 | 0.057 | ( | 0.058) | 0.052 | | 0.006 |
| 249 | 20.75 | 0.10 | 0.057 | ( | 0.057) | 0.052 | | 0.006 |
| 250 | 20.83 | 0.07 | 0.038 | ( | 0.057) | 0.034 | | 0.004 |
| 251 | 20.92 | 0.07 | 0.038 | ( | 0.057) | 0.034 | | 0.004 |
| 252 | 21.00 | 0.07 | 0.038 | ( | 0.057) | 0.034 | | 0.004 |
| 253 | 21.08 | 0.10 | 0.057 | ( | 0.056) | 0.052 | | 0.006 |
| 254 | 21.17 | 0.10 | 0.057 | ( | 0.056) | 0.052 | | 0.006 |
| 255 | 21.25 | 0.10 | 0.057 | ( | 0.056) | 0.052 | | 0.006 |
| 256 | 21.33 | 0.07 | 0.038 | ( | 0.056) | 0.034 | | 0.004 |
| 257 | 21.42 | 0.07 | 0.038 | ( | 0.056) | 0.034 | | 0.004 |
| 258 | 21.50 | 0.07 | 0.038 | ( | 0.055) | 0.034 | | 0.004 |
| 259 | 21.58 | 0.10 | 0.057 | ( | 0.055) | 0.052 | | 0.006 |
| 260 | 21.67 | 0.10 | 0.057 | ( | 0.055) | 0.052 | | 0.006 |
| 261 | 21.75 | 0.10 | 0.057 | ( | 0.055) | 0.052 | | 0.006 |
| 262 | 21.83 | 0.07 | 0.038 | ( | 0.055) | 0.034 | | 0.004 |
| 263 | 21.92 | 0.07 | 0.038 | ( | 0.054) | 0.034 | | 0.004 |
| 264 | 22.00 | 0.07 | 0.038 | ( | 0.054) | 0.034 | | 0.004 |
| 265 | 22.08 | 0.10 | 0.057 | ( | 0.054) | 0.052 | | 0.006 |
| 266 | 22.17 | 0.10 | 0.057 | ( | 0.054) | 0.052 | | 0.006 |
| 267 | 22.25 | 0.10 | 0.057 | ( | 0.054) | 0.052 | | 0.006 |
| 268 | 22.33 | 0.07 | 0.038 | ( | 0.054) | 0.034 | | 0.004 |
| 269 | 22.42 | 0.07 | 0.038 | ( | 0.053) | 0.034 | | 0.004 |
| 270 | 22.50 | 0.07 | 0.038 | ( | 0.053) | 0.034 | | 0.004 |
| 271 | 22.58 | 0.07 | 0.038 | ( | 0.053) | 0.034 | | 0.004 |
| 272 | 22.67 | 0.07 | 0.038 | ( | 0.053) | 0.034 | | 0.004 |
| 273 | 22.75 | 0.07 | 0.038 | ( | 0.053) | 0.034 | | 0.004 |
| 274 | 22.83 | 0.07 | 0.038 | ( | 0.053) | 0.034 | | 0.004 |
| 275 | 22.92 | 0.07 | 0.038 | ( | 0.053) | 0.034 | | 0.004 |
| 276 | 23.00 | 0.07 | 0.038 | ( | 0.052) | 0.034 | | 0.004 |
| 277 | 23.08 | 0.07 | 0.038 | ( | 0.052) | 0.034 | | 0.004 |
| 278 | 23.17 | 0.07 | 0.038 | ( | 0.052) | 0.034 | | 0.004 |
| 279 | 23.25 | 0.07 | 0.038 | ( | 0.052) | 0.034 | | 0.004 |
| 280 | 23.33 | 0.07 | 0.038 | ( | 0.052) | 0.034 | | 0.004 |
| 281 | 23.42 | 0.07 | 0.038 | ( | 0.052) | 0.034 | | 0.004 |

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|---|---|---|---|---|---|---|---|
| 282 | 23.50 | 0.07 | 0.038 | ( | 0.052) | 0.034 | 0.004 |
| 283 | 23.58 | 0.07 | 0.038 | ( | 0.052) | 0.034 | 0.004 |
| 284 | 23.67 | 0.07 | 0.038 | ( | 0.052) | 0.034 | 0.004 |
| 285 | 23.75 | 0.07 | 0.038 | ( | 0.052) | 0.034 | 0.004 |
| 286 | 23.83 | 0.07 | 0.038 | ( | 0.051) | 0.034 | 0.004 |
| 287 | 23.92 | 0.07 | 0.038 | ( | 0.051) | 0.034 | 0.004 |
| 288 | 24.00 | 0.07 | 0.038 | ( | 0.051) | 0.034 | 0.004 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 34.0

Flood volume = Effective rainfall 2.83(In)
times area 60.4(Ac.)/[(In)/(Ft.)] = 14.3(Ac.Ft)
Total soil loss = 1.95(In)
Total soil loss = 9.804(Ac.Ft)
Total rainfall = 4.78(In)
Flood volume = 620844.1 Cubic Feet
Total soil loss = 427056.8 Cubic Feet

---

Peak flow rate of this hydrograph = 34.096(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 10.0 | 20.0 | 30.0 | 40.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0002 | 0.02 | Q | \| | \| | \| | \| |
| 0+10 | 0.0011 | 0.14 | Q | \| | \| | \| | \| |
| 0+15 | 0.0024 | 0.19 | Q | \| | \| | \| | \| |
| 0+20 | 0.0040 | 0.23 | Q | \| | \| | \| | \| |
| 0+25 | 0.0060 | 0.29 | Q | \| | \| | \| | \| |
| 0+30 | 0.0082 | 0.33 | Q | \| | \| | \| | \| |
| 0+35 | 0.0106 | 0.34 | Q | \| | \| | \| | \| |
| 0+40 | 0.0130 | 0.35 | Q | \| | \| | \| | \| |
| 0+45 | 0.0153 | 0.35 | Q | \| | \| | \| | \| |
| 0+50 | 0.0178 | 0.36 | Q | \| | \| | \| | \| |
| 0+55 | 0.0207 | 0.42 | Q | \| | \| | \| | \| |
| 1+ 0 | 0.0238 | 0.45 | Q | \| | \| | \| | \| |
| 1+ 5 | 0.0268 | 0.45 | Q | \| | \| | \| | \| |
| 1+10 | 0.0295 | 0.39 | Q | \| | \| | \| | \| |
| 1+15 | 0.0321 | 0.37 | Q | \| | \| | \| | \| |
| 1+20 | 0.0345 | 0.36 | Q | \| | \| | \| | \| |
| 1+25 | 0.0370 | 0.35 | Q | \| | \| | \| | \| |
| 1+30 | 0.0394 | 0.35 | Q | \| | \| | \| | \| |
| 1+35 | 0.0418 | 0.35 | Q | \| | \| | \| | \| |
| 1+40 | 0.0442 | 0.35 | Q | \| | \| | \| | \| |
| 1+45 | 0.0466 | 0.35 | Q | \| | \| | \| | \| |
| 1+50 | 0.0491 | 0.36 | Q | \| | \| | \| | \| |
| 1+55 | 0.0520 | 0.42 | Q | \| | \| | \| | \| |
| 2+ 0 | 0.0550 | 0.45 | Q | \| | \| | \| | \| |
| 2+ 5 | 0.0582 | 0.46 | Q | \| | \| | \| | \| |
| 2+10 | 0.0614 | 0.46 | Q | \| | \| | \| | \| |
| 2+15 | 0.0646 | 0.46 | Q | \| | \| | \| | \| |
| 2+20 | 0.0678 | 0.46 | Q | \| | \| | \| | \| |
| 2+25 | 0.0710 | 0.47 | Q | \| | \| | \| | \| |
| 2+30 | 0.0742 | 0.47 | Q | \| | \| | \| | \| |
| 2+35 | 0.0775 | 0.48 | Q | \| | \| | \| | \| |
| 2+40 | 0.0811 | 0.53 | Q | \| | \| | \| | \| |
| 2+45 | 0.0850 | 0.56 | Q | \| | \| | \| | \| |
| 2+50 | 0.0890 | 0.57 | Q | \| | \| | \| | \| |
| 2+55 | 0.0929 | 0.58 | Q | \| | \| | \| | \| |
| 3+ 0 | 0.0969 | 0.58 | Q | \| | \| | \| | \| |
| 3+ 5 | 0.1009 | 0.58 | Q | \| | \| | \| | \| |
| 3+10 | 0.1049 | 0.58 | Q | \| | \| | \| | \| |
| 3+15 | 0.1090 | 0.58 | Q | \| | \| | \| | \| |
| 3+20 | 0.1130 | 0.58 | Q | \| | \| | \| | \| |
| 3+25 | 0.1170 | 0.58 | Q | \| | \| | \| | \| |
| 3+30 | 0.1210 | 0.58 | Q | \| | \| | \| | \| |
| 3+35 | 0.1250 | 0.58 | Q | \| | \| | \| | \| |
| 3+40 | 0.1290 | 0.58 | Q | \| | \| | \| | \| |
| 3+45 | 0.1330 | 0.58 | Q | \| | \| | \| | \| |
| 3+50 | 0.1371 | 0.59 | Q | \| | \| | \| | \| |
| 3+55 | 0.1416 | 0.65 | Q | \| | \| | \| | \| |
| 4+ 0 | 0.1463 | 0.68 | Q | \| | \| | \| | \| |
| 4+ 5 | 0.1510 | 0.69 | Q | \| | \| | \| | \| |
| 4+10 | 0.1558 | 0.69 | Q | \| | \| | \| | \| |

```
 4+15       0.1606      0.70  Q          |          |          |          |
 4+20       0.1655      0.71  Q          |          |          |          |
 4+25       0.1707      0.77  Q          |          |          |          |
 4+30       0.1762      0.79  Q          |          |          |          |
 4+35       0.1818      0.81  Q          |          |          |          |
 4+40       0.1874      0.81  Q          |          |          |          |
 4+45       0.1930      0.81  Q          |          |          |          |
 4+50       0.1986      0.83  Q          |          |          |          |
 4+55       0.2047      0.88  Q          |          |          |          |
 5+ 0       0.2110      0.91  Q          |          |          |          |
 5+ 5       0.2172      0.90  Q          |          |          |          |
 5+10       0.2227      0.79  Q          |          |          |          |
 5+15       0.2277      0.74  Q          |          |          |          |
 5+20       0.2327      0.73  Q          |          |          |          |
 5+25       0.2381      0.77  Q          |          |          |          |
 5+30       0.2436      0.80  Q          |          |          |          |
 5+35       0.2492      0.82  Q          |          |          |          |
 5+40       0.2553      0.88  Q          |          |          |          |
 5+45       0.2615      0.91  Q          |          |          |          |
 5+50       0.2680      0.93  Q          |          |          |          |
 5+55       0.2746      0.96  Q          |          |          |          |
 6+ 0       0.2815      1.00  Q          |          |          |          |
 6+ 5       0.2894      1.14  VQ         |          |          |          |
 6+10       0.3015      1.76  VQ         |          |          |          |
 6+15       0.3157      2.07  V Q        |          |          |          |
 6+20       0.3310      2.22  V Q        |          |          |          |
 6+25       0.3469      2.31  V Q        |          |          |          |
 6+30       0.3632      2.36  |VQ        |          |          |          |
 6+35       0.3805      2.52  |VQ        |          |          |          |
 6+40       0.4021      3.14  |V Q       |          |          |          |
 6+45       0.4259      3.45  |V Q       |          |          |          |
 6+50       0.4506      3.60  |V Q       |          |          |          |
 6+55       0.4760      3.69  |V Q       |          |          |          |
 7+ 0       0.5018      3.74  |V Q       |          |          |          |
 7+ 5       0.5279      3.79  |V Q       |          |          |          |
 7+10       0.5543      3.83  |V Q       |          |          |          |
 7+15       0.5809      3.87  |V Q       |          |          |          |
 7+20       0.6086      4.01  |V  Q      |          |          |          |
 7+25       0.6404      4.63  |V  Q      |          |          |          |
 7+30       0.6744      4.94  |V  Q      |          |          |          |
 7+35       0.7102      5.19  |V   Q     |          |          |          |
 7+40       0.7505      5.86  | V  Q     |          |          |          |
 7+45       0.7931      6.19  | V   Q    |          |          |          |
 7+50       0.8376      6.45  | V   Q    |          |          |          |
 7+55       0.8866      7.12  | V    Q   |          |          |          |
 8+ 0       0.9380      7.46  | V    Q   |          |          |          |
 8+ 5       0.9919      7.83  | V    Q   |          |          |          |
 8+10       1.0544      9.08  | V      Q |          |          |          |
 8+15       1.1211      9.69  |  V     Q |          |          |          |
 8+20       1.1897      9.95  |  V     Q |          |          |          |
 8+25       1.2592     10.10  |  V      Q          |          |          |
 8+30       1.3293     10.18  |  V      Q          |          |          |
 8+35       1.4005     10.34  |  V      Q          |          |          |
 8+40       1.4760     10.96  |   V     Q          |          |          |
 8+45       1.5536     11.27  |   V     |Q         |          |          |
 8+50       1.6330     11.53  |   V     |Q         |          |          |
 8+55       1.7170     12.19  |   V     | Q        |          |          |
 9+ 0       1.8032     12.52  |    V    | Q        |          |          |
 9+ 5       1.8920     12.89  |    V    | Q        |          |          |
 9+10       1.9894     14.14  |    V    |   Q      |          |          |
 9+15       2.0910     14.75  |    V    |   Q      |          |          |
 9+20       2.1951     15.12  |     V   |    Q     |          |          |
 9+25       2.3043     15.85  |     V   |    Q     |          |          |
 9+30       2.4158     16.20  |     V   |     Q    |          |          |
 9+35       2.5292     16.47  |      V  |     Q    |          |          |
 9+40       2.6473     17.14  |      V  |      Q   |          |          |
 9+45       2.7676     17.48  |      V  |      Q   |          |          |
 9+50       2.8898     17.74  |       V |      Q   |          |          |
 9+55       3.0165     18.41  |       V |       Q  |          |          |
10+ 0       3.1456     18.74  |       V |       Q  |          |          |
10+ 5       3.2704     18.12  |        V|       Q  |          |          |
10+10       3.3680     14.17  |        V|   Q      |          |          |
10+15       3.4527     12.30  |        V| Q        |          |          |
10+20       3.5323     11.56  |        V|Q         |          |          |
10+25       3.6096     11.22  |         VQ         |          |          |
10+30       3.6862     11.12  |         VQ         |          |          |
10+35       3.7664     11.64  |         VQ         |          |          |
10+40       3.8663     14.51  |          V   Q     |          |          |
```

| | | | |
|---|---|---|---|
| 10+45 | 3.9759 | 15.90 | \|V Q \| \| \| |
| 10+50 | 4.0894 | 16.49 | \|V Q \| \| \| |
| 10+55 | 4.2051 | 16.79 | \|V Q \| \| \| |
| 11+ 0 | 4.3216 | 16.92 | \| V Q \| \| \| |
| 11+ 5 | 4.4378 | 16.88 | \| V Q \| \| \| |
| 11+10 | 4.5505 | 16.37 | \| V Q \| \| \| |
| 11+15 | 4.6617 | 16.14 | \| V Q \| \| \| |
| 11+20 | 4.7723 | 16.06 | \| V Q \| \| \| |
| 11+25 | 4.8827 | 16.03 | \| V Q \| \| \| |
| 11+30 | 4.9932 | 16.04 | \| V Q \| \| \| |
| 11+35 | 5.1023 | 15.85 | \| VQ \| \| \| |
| 11+40 | 5.2036 | 14.72 | \| Q \| \| \| |
| 11+45 | 5.3014 | 14.19 | \| Q \| \| \| |
| 11+50 | 5.3985 | 14.11 | \| QV \| \| \| |
| 11+55 | 5.4991 | 14.61 | \| QV \| \| \| |
| 12+ 0 | 5.6016 | 14.87 | \| QV \| \| \| |
| 12+ 5 | 5.7101 | 15.77 | \| QV \| \| \| |
| 12+10 | 5.8470 | 19.87 | \| V Q\| \| \| |
| 12+15 | 5.9975 | 21.85 | \| V \|Q \| \| |
| 12+20 | 6.1543 | 22.77 | \| V \| Q \| \| |
| 12+25 | 6.3180 | 23.76 | \| V \| Q \| \| |
| 12+30 | 6.4847 | 24.21 | \| V \| Q \| \| |
| 12+35 | 6.6543 | 24.62 | \| V \| Q \| \| |
| 12+40 | 6.8327 | 25.90 | \| V\| Q \| \| |
| 12+45 | 7.0153 | 26.52 | \| V\| Q \| \| |
| 12+50 | 7.2006 | 26.89 | \| V Q \| \| |
| 12+55 | 7.3907 | 27.61 | \| V Q \| \| |
| 13+ 0 | 7.5833 | 27.96 | \| \|V Q \| \| |
| 13+ 5 | 7.7807 | 28.66 | \| \|V Q \| \| |
| 13+10 | 7.9986 | 31.64 | \| \| V \|Q \| \| |
| 13+15 | 8.2264 | 33.08 | \| \| V \| Q \| |
| 13+20 | 8.4582 | 33.66 | \| \| V \| Q \| |
| 13+25 | 8.6922 | 33.97 | \| \| V \| Q \| |
| 13+30 | 8.9270 | 34.10 | \| \| V \| Q \| |
| 13+35 | 9.1540 | 32.96 | \| \| V \| Q \| |
| 13+40 | 9.3377 | 26.67 | \| \| Q \| \| |
| 13+45 | 9.5007 | 23.68 | \| \| Q V \| \| |
| 13+50 | 9.6556 | 22.49 | \| \| Q V \| \| |
| 13+55 | 9.8065 | 21.92 | \| \|Q V \| \| |
| 14+ 0 | 9.9562 | 21.73 | \| \|Q V \| \| |
| 14+ 5 | 10.1085 | 22.11 | \| \| Q V \| \| |
| 14+10 | 10.2763 | 24.37 | \| \| Q V \| \| |
| 14+15 | 10.4517 | 25.47 | \| \| Q V\| \| |
| 14+20 | 10.6296 | 25.83 | \| \| Q V\| \| |
| 14+25 | 10.8052 | 25.49 | \| \| Q V \| |
| 14+30 | 10.9796 | 25.32 | \| \| Q V \| |
| 14+35 | 11.1536 | 25.27 | \| \| Q \|V \| |
| 14+40 | 11.3277 | 25.27 | \| \| Q \|V \| |
| 14+45 | 11.5018 | 25.29 | \| \| Q \| V \| |
| 14+50 | 11.6753 | 25.19 | \| \| Q \| V \| |
| 14+55 | 11.8450 | 24.64 | \| \| Q \| V \| |
| 15+ 0 | 12.0129 | 24.38 | \| \| Q \| V \| |
| 15+ 5 | 12.1795 | 24.19 | \| \| Q \| V \| |
| 15+10 | 12.3419 | 23.58 | \| \| Q \| V \| |
| 15+15 | 12.5025 | 23.31 | \| \| Q \| V \| |
| 15+20 | 12.6616 | 23.11 | \| \| Q \| V \| |
| 15+25 | 12.8165 | 22.49 | \| \| Q \| V \| |
| 15+30 | 12.9696 | 22.22 | \| \| Q \| V \| |
| 15+35 | 13.1189 | 21.69 | \| \|Q \| V \| |
| 15+40 | 13.2521 | 19.34 | \| Q\| \| V \| |
| 15+45 | 13.3778 | 18.24 | \| Q \| \| V \| |
| 15+50 | 13.5005 | 17.81 | \| Q \| \| V \| |
| 15+55 | 13.6218 | 17.62 | \| Q \| \| V \| |
| 16+ 0 | 13.7427 | 17.56 | \| Q \| \| V \| |
| 16+ 5 | 13.8525 | 15.94 | \| Q \| \| V \| |
| 16+10 | 13.9040 | 7.47 | \| Q \| \| V\| |
| 16+15 | 13.9275 | 3.42 | \| Q \| \| V\| |
| 16+20 | 13.9399 | 1.80 | \|Q \| \| V\| |
| 16+25 | 13.9468 | 1.01 | \|Q \| \| V\| |
| 16+30 | 13.9518 | 0.72 | Q \| \| V\| |
| 16+35 | 13.9559 | 0.59 | Q \| \| V\| |
| 16+40 | 13.9589 | 0.44 | Q \| \| V\| |
| 16+45 | 13.9614 | 0.37 | Q \| \| V\| |
| 16+50 | 13.9639 | 0.36 | Q \| \| V\| |
| 16+55 | 13.9663 | 0.35 | Q \| \| V\| |
| 17+ 0 | 13.9688 | 0.35 | Q \| \| V\| |
| 17+ 5 | 13.9719 | 0.46 | Q \| \| V\| |
| 17+10 | 13.9791 | 1.04 | \|Q \| \| V\| |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+15 | 13.9883 | 1.33 | \|Q | \| | \| | \| | V\| |
| 17+20 | 13.9984 | 1.46 | \|Q | \| | \| | \| | V\| |
| 17+25 | 14.0090 | 1.54 | \|Q | \| | \| | \| | V\| |
| 17+30 | 14.0198 | 1.58 | \|Q | \| | \| | \| | V\| |
| 17+35 | 14.0309 | 1.61 | \|Q | \| | \| | \| | V\| |
| 17+40 | 14.0421 | 1.63 | \|Q | \| | \| | \| | V\| |
| 17+45 | 14.0536 | 1.66 | \|Q | \| | \| | \| | V\| |
| 17+50 | 14.0644 | 1.57 | \|Q | \| | \| | \| | V\| |
| 17+55 | 14.0713 | 1.01 | \|Q | \| | \| | \| | V\| |
| 18+ 0 | 14.0765 | 0.76 | Q | \| | \| | \| | V\| |
| 18+ 5 | 14.0811 | 0.67 | Q | \| | \| | \| | V\| |
| 18+10 | 14.0855 | 0.63 | Q | \| | \| | \| | V\| |
| 18+15 | 14.0898 | 0.63 | Q | \| | \| | \| | V\| |
| 18+20 | 14.0943 | 0.64 | Q | \| | \| | \| | V\| |
| 18+25 | 14.0988 | 0.66 | Q | \| | \| | \| | V\| |
| 18+30 | 14.1035 | 0.67 | Q | \| | \| | \| | V\| |
| 18+35 | 14.1080 | 0.66 | Q | \| | \| | \| | V\| |
| 18+40 | 14.1114 | 0.49 | Q | \| | \| | \| | V\| |
| 18+45 | 14.1142 | 0.41 | Q | \| | \| | \| | V\| |
| 18+50 | 14.1167 | 0.37 | Q | \| | \| | \| | V\| |
| 18+55 | 14.1187 | 0.29 | Q | \| | \| | \| | V\| |
| 19+ 0 | 14.1205 | 0.26 | Q | \| | \| | \| | V\| |
| 19+ 5 | 14.1222 | 0.26 | Q | \| | \| | \| | V\| |
| 19+10 | 14.1243 | 0.31 | Q | \| | \| | \| | V\| |
| 19+15 | 14.1266 | 0.33 | Q | \| | \| | \| | V\| |
| 19+20 | 14.1293 | 0.39 | Q | \| | \| | \| | V\| |
| 19+25 | 14.1339 | 0.67 | Q | \| | \| | \| | V\| |
| 19+30 | 14.1395 | 0.81 | Q | \| | \| | \| | V\| |
| 19+35 | 14.1451 | 0.82 | Q | \| | \| | \| | V\| |
| 19+40 | 14.1490 | 0.56 | Q | \| | \| | \| | V\| |
| 19+45 | 14.1520 | 0.44 | Q | \| | \| | \| | V\| |
| 19+50 | 14.1546 | 0.38 | Q | \| | \| | \| | V\| |
| 19+55 | 14.1566 | 0.30 | Q | \| | \| | \| | V\| |
| 20+ 0 | 14.1584 | 0.26 | Q | \| | \| | \| | V\| |
| 20+ 5 | 14.1602 | 0.26 | Q | \| | \| | \| | V\| |
| 20+10 | 14.1623 | 0.31 | Q | \| | \| | \| | V\| |
| 20+15 | 14.1646 | 0.33 | Q | \| | \| | \| | V\| |
| 20+20 | 14.1670 | 0.34 | Q | \| | \| | \| | V\| |
| 20+25 | 14.1693 | 0.35 | Q | \| | \| | \| | V\| |
| 20+30 | 14.1717 | 0.35 | Q | \| | \| | \| | V\| |
| 20+35 | 14.1741 | 0.35 | Q | \| | \| | \| | V\| |
| 20+40 | 14.1765 | 0.35 | Q | \| | \| | \| | V\| |
| 20+45 | 14.1789 | 0.35 | Q | \| | \| | \| | V\| |
| 20+50 | 14.1813 | 0.34 | Q | \| | \| | \| | V\| |
| 20+55 | 14.1832 | 0.28 | Q | \| | \| | \| | V\| |
| 21+ 0 | 14.1850 | 0.25 | Q | \| | \| | \| | V\| |
| 21+ 5 | 14.1867 | 0.25 | Q | \| | \| | \| | V\| |
| 21+10 | 14.1888 | 0.31 | Q | \| | \| | \| | V\| |
| 21+15 | 14.1911 | 0.33 | Q | \| | \| | \| | V\| |
| 21+20 | 14.1933 | 0.33 | Q | \| | \| | \| | V\| |
| 21+25 | 14.1953 | 0.28 | Q | \| | \| | \| | V\| |
| 21+30 | 14.1970 | 0.25 | Q | \| | \| | \| | V\| |
| 21+35 | 14.1987 | 0.25 | Q | \| | \| | \| | V\| |
| 21+40 | 14.2008 | 0.30 | Q | \| | \| | \| | V\| |
| 21+45 | 14.2031 | 0.33 | Q | \| | \| | \| | V\| |
| 21+50 | 14.2054 | 0.33 | Q | \| | \| | \| | V\| |
| 21+55 | 14.2073 | 0.28 | Q | \| | \| | \| | V\| |
| 22+ 0 | 14.2090 | 0.25 | Q | \| | \| | \| | V\| |
| 22+ 5 | 14.2108 | 0.25 | Q | \| | \| | \| | V\| |
| 22+10 | 14.2129 | 0.30 | Q | \| | \| | \| | V\| |
| 22+15 | 14.2151 | 0.33 | Q | \| | \| | \| | V\| |
| 22+20 | 14.2174 | 0.33 | Q | \| | \| | \| | V\| |
| 22+25 | 14.2193 | 0.28 | Q | \| | \| | \| | V\| |
| 22+30 | 14.2210 | 0.25 | Q | \| | \| | \| | V\| |
| 22+35 | 14.2227 | 0.24 | Q | \| | \| | \| | V\| |
| 22+40 | 14.2243 | 0.24 | Q | \| | \| | \| | V\| |
| 22+45 | 14.2259 | 0.23 | Q | \| | \| | \| | V\| |
| 22+50 | 14.2276 | 0.23 | Q | \| | \| | \| | V\| |
| 22+55 | 14.2292 | 0.23 | Q | \| | \| | \| | V\| |
| 23+ 0 | 14.2308 | 0.23 | Q | \| | \| | \| | V\| |
| 23+ 5 | 14.2324 | 0.23 | Q | \| | \| | \| | V\| |
| 23+10 | 14.2340 | 0.23 | Q | \| | \| | \| | V\| |
| 23+15 | 14.2356 | 0.23 | Q | \| | \| | \| | V\| |
| 23+20 | 14.2372 | 0.23 | Q | \| | \| | \| | V\| |
| 23+25 | 14.2388 | 0.23 | Q | \| | \| | \| | V\| |
| 23+30 | 14.2404 | 0.23 | Q | \| | \| | \| | V\| |
| 23+35 | 14.2420 | 0.23 | Q | \| | \| | \| | V\| |
| 23+40 | 14.2436 | 0.23 | Q | \| | \| | \| | V\| |

```
   23+45      14.2452      0.23  Q          |          |          |         V|
   23+50      14.2468      0.23  Q          |          |          |         V|
   23+55      14.2484      0.23  Q          |          |          |         V|
   24+ 0      14.2500      0.23  Q          |          |          |         V|
   24+ 5      14.2515      0.21  Q          |          |          |         V|
   24+10      14.2521      0.10  Q          |          |          |         V|
   24+15      14.2524      0.04  Q          |          |          |         V|
   24+20      14.2525      0.02  Q          |          |          |         V|
   24+25      14.2526      0.01  Q          |          |          |         V|
   24+30      14.2526      0.00  Q          |          |          |         V|
   24+35      14.2526      0.00  Q          |          |          |         V|
   24+40      14.2526      0.00  Q          |          |          |          V
--------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014, Version 9.0
Study date 01/25/18 File: AREA161100.out

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----------------------------------------------------------------------

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 16
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

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Drainage Area = 45.60(Ac.) = 0.071 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 45.60(Ac.) = 0.071 Sq. Mi.
Length along longest watercourse = 1854.00(Ft.)
Length along longest watercourse measured to centroid = 862.00(Ft.)
Length along longest watercourse = 0.351 Mi.
Length along longest watercourse measured to centroid = 0.163 Mi.
Difference in elevation = 285.00(Ft.)
Slope along watercourse = 811.6505 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.079 Hr.
Lag time = 4.76 Min.
25% of lag time = 1.19 Min.
40% of lag time = 1.90 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 45.60 | 0.50 | 22.80 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 45.60 | 1.20 | 54.72 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.96 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 45.600 | 82.55 | 0.000 |

Total Area Entered = 45.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 82.5 | 92.5 | 0.097 | 0.000 | 0.097 | 1.000 | 0.097 |
| | | | | | Sum (F) = | 0.097 |

Area averaged mean soil loss (F) (In/Hr) = 0.097

Minimum soil loss rate ((In/Hr)) = 0.049
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

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| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 104.990 | 16.190 | 7.441 |
| 2 | 0.167 | 209.980 | 56.059 | 25.762 |
| 3 | 0.250 | 314.969 | 17.601 | 8.089 |
| 4 | 0.333 | 419.959 | 6.848 | 3.147 |
| 5 | 0.417 | 524.949 | 2.006 | 0.922 |
| 6 | 0.500 | 629.939 | 0.804 | 0.370 |
| 7 | 0.583 | 734.928 | 0.492 | 0.226 |
| | | Sum = 100.000 | Sum= | 45.956 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.097 | ( 0.544) | 0.507 |
| 2 | 0.17 | 4.30 | 0.619 | 0.097 | ( 0.557) | 0.522 |
| 3 | 0.25 | 5.00 | 0.720 | 0.097 | ( 0.648) | 0.623 |
| 4 | 0.33 | 5.00 | 0.720 | 0.097 | ( 0.648) | 0.623 |
| 5 | 0.42 | 5.80 | 0.835 | 0.097 | ( 0.751) | 0.738 |
| 6 | 0.50 | 6.50 | 0.936 | 0.097 | ( 0.842) | 0.839 |
| 7 | 0.58 | 7.40 | 1.065 | 0.097 | ( 0.959) | 0.968 |
| 8 | 0.67 | 8.60 | 1.238 | 0.097 | ( 1.114) | 1.141 |
| 9 | 0.75 | 12.30 | 1.770 | 0.097 | ( 1.593) | 1.673 |
| 10 | 0.83 | 29.10 | 4.189 | 0.097 | ( 3.770) | 4.092 |
| 11 | 0.92 | 6.80 | 0.979 | 0.097 | ( 0.881) | 0.882 |
| 12 | 1.00 | 5.00 | 0.720 | 0.097 | ( 0.648) | 0.623 |
| | | (Loss Rate Not Used) | | | |
| Sum = | | 100.0 | | | Sum = 13.2 |

Flood volume = Effective rainfall 1.10(In)
times area 45.6(Ac.)/[(In)/(Ft.)] = 4.2(Ac.Ft)
Total soil loss = 0.10(In)
Total soil loss = 0.369(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 182477.1 Cubic Feet
Total soil loss = 16074.4 Cubic Feet

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Peak flow rate of this hydrograph = 130.531(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 50.0 | 100.0 | 150.0 | 200.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0260 | 3.78 | Q | | | | |
| 0+10 | 0.1429 | 16.96 | V Q | | | | |
| 0+15 | 0.2957 | 22.19 | V Q | | | | |
| 0+20 | 0.4782 | 26.50 | VQ | | | | |
| 0+25 | 0.6758 | 28.69 | QV | | | | |
| 0+30 | 0.9026 | 32.93 | Q V | | | | |
| 0+35 | 1.1617 | 37.63 | Q V | | | | |
| 0+40 | 1.4612 | 43.48 | Q V | | | | |
| 0+45 | 1.8289 | 53.39 | Q V | | | | |
| 0+50 | 2.4284 | 87.06 | Q V | | | | |
| 0+55 | 3.3274 | 130.53 | Q V | | | | |
| 1+ 0 | 3.7912 | 67.34 | Q V | | | | |
| 1+ 5 | 4.0546 | 38.25 | Q V | | | | |
| 1+10 | 4.1405 | 12.47 | Q V | | | | |

```
    1+15       4.1726      4.67  Q         |          |          |        V|
    1+20       4.1852      1.83  Q         |          |          |        V|
    1+25       4.1881      0.43  Q         |          |          |        V|
    1+30       4.1891      0.14  Q         |          |          |        V|
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA163100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 16
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

---

Drainage Area = 45.60(Ac.) = 0.071 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 45.60(Ac.) = 0.071 Sq. Mi.
Length along longest watercourse = 1854.00(Ft.)
Length along longest watercourse measured to centroid = 862.00(Ft.)
Length along longest watercourse = 0.351 Mi.
Length along longest watercourse measured to centroid = 0.163 Mi.
Difference in elevation = 285.00(Ft.)
Slope along watercourse = 811.6505 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.079 Hr.
Lag time = 4.76 Min.
25% of lag time = 1.19 Min.
40% of lag time = 1.90 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 45.60 | 0.81 | 36.94 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 45.60 | 1.82 | 82.99 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.810(In)
Area Averaged 100-Year Rainfall = 1.820(In)

Point rain (area averaged) = 1.820(In)
Areal adjustment factor = 99.98 %
Adjusted average point rain = 1.820(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 45.600 | 82.55 | 0.000 |

Total Area Entered = 45.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 82.5 | 92.5 | 0.097 | 0.000 | 0.097 | 1.000 | 0.097 |
| | | | | | Sum (F) = | 0.097 |

Area averaged mean soil loss (F) (In/Hr) = 0.097

Minimum soil loss rate ((In/Hr)) = 0.049
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 104.990 | 16.190 | 7.441 |
| 2 | 0.167 | 209.980 | 56.059 | 25.762 |
| 3 | 0.250 | 314.969 | 17.601 | 8.089 |
| 4 | 0.333 | 419.959 | 6.848 | 3.147 |
| 5 | 0.417 | 524.949 | 2.006 | 0.922 |
| 6 | 0.500 | 629.939 | 0.804 | 0.370 |
| 7 | 0.583 | 734.928 | 0.492 | 0.226 |
| | | | Sum = 100.000 | Sum= 45.956 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.284 | 0.097 | ( 0.255) | 0.187 |
| 2 | 0.17 | 1.30 | 0.284 | 0.097 | ( 0.255) | 0.187 |
| 3 | 0.25 | 1.10 | 0.240 | 0.097 | ( 0.216) | 0.143 |
| 4 | 0.33 | 1.50 | 0.328 | 0.097 | ( 0.295) | 0.230 |
| 5 | 0.42 | 1.50 | 0.328 | 0.097 | ( 0.295) | 0.230 |
| 6 | 0.50 | 1.80 | 0.393 | 0.097 | ( 0.354) | 0.296 |
| 7 | 0.58 | 1.50 | 0.328 | 0.097 | ( 0.295) | 0.230 |
| 8 | 0.67 | 1.80 | 0.393 | 0.097 | ( 0.354) | 0.296 |
| 9 | 0.75 | 1.80 | 0.393 | 0.097 | ( 0.354) | 0.296 |
| 10 | 0.83 | 1.50 | 0.328 | 0.097 | ( 0.295) | 0.230 |
| 11 | 0.92 | 1.60 | 0.349 | 0.097 | ( 0.314) | 0.252 |
| 12 | 1.00 | 1.80 | 0.393 | 0.097 | ( 0.354) | 0.296 |
| 13 | 1.08 | 2.20 | 0.480 | 0.097 | ( 0.432) | 0.383 |
| 14 | 1.17 | 2.20 | 0.480 | 0.097 | ( 0.432) | 0.383 |
| 15 | 1.25 | 2.20 | 0.480 | 0.097 | ( 0.432) | 0.383 |
| 16 | 1.33 | 2.00 | 0.437 | 0.097 | ( 0.393) | 0.340 |
| 17 | 1.42 | 2.60 | 0.568 | 0.097 | ( 0.511) | 0.471 |
| 18 | 1.50 | 2.70 | 0.590 | 0.097 | ( 0.531) | 0.492 |
| 19 | 1.58 | 2.40 | 0.524 | 0.097 | ( 0.472) | 0.427 |
| 20 | 1.67 | 2.70 | 0.590 | 0.097 | ( 0.531) | 0.492 |
| 21 | 1.75 | 3.30 | 0.721 | 0.097 | ( 0.649) | 0.623 |
| 22 | 1.83 | 3.10 | 0.677 | 0.097 | ( 0.609) | 0.580 |
| 23 | 1.92 | 2.90 | 0.633 | 0.097 | ( 0.570) | 0.536 |
| 24 | 2.00 | 3.00 | 0.655 | 0.097 | ( 0.590) | 0.558 |
| 25 | 2.08 | 3.10 | 0.677 | 0.097 | ( 0.609) | 0.580 |
| 26 | 2.17 | 4.20 | 0.917 | 0.097 | ( 0.825) | 0.820 |
| 27 | 2.25 | 5.00 | 1.092 | 0.097 | ( 0.983) | 0.995 |
| 28 | 2.33 | 3.50 | 0.764 | 0.097 | ( 0.688) | 0.667 |
| 29 | 2.42 | 6.80 | 1.485 | 0.097 | ( 1.336) | 1.388 |
| 30 | 2.50 | 7.30 | 1.594 | 0.097 | ( 1.435) | 1.497 |
| 31 | 2.58 | 8.20 | 1.791 | 0.097 | ( 1.611) | 1.693 |
| 32 | 2.67 | 5.90 | 1.288 | 0.097 | ( 1.159) | 1.191 |
| 33 | 2.75 | 2.00 | 0.437 | 0.097 | ( 0.393) | 0.340 |
| 34 | 2.83 | 1.80 | 0.393 | 0.097 | ( 0.354) | 0.296 |
| 35 | 2.92 | 1.80 | 0.393 | 0.097 | ( 0.354) | 0.296 |
| 36 | 3.00 | 0.60 | 0.131 | 0.097 | ( 0.118) | 0.034 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 18.3 |

Flood volume = Effective rainfall 1.53(In)
times area 45.6(Ac.)/[(In)/(Ft.)] = 5.8(Ac.Ft)
Total soil loss = 0.29(In)
Total soil loss = 1.107(Ac.Ft)
Total rainfall = 1.82(In)
Flood volume = 252977.6 Cubic Feet
Total soil loss = 48223.3 Cubic Feet

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Peak flow rate of this hydrograph = 70.169(CFS)

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3 - H O U R  S T O R M
R u n o f f  H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 20.0 | 40.0 | 60.0 | 80.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0096 | 1.39 | Q | | | | |
| 0+10 | 0.0523 | 6.20 | V Q | | | | |
| 0+15 | 0.1032 | 7.39 | V Q | | | | |
| 0+20 | 0.1549 | 7.50 | V Q | | | | |
| 0+25 | 0.2208 | 9.57 | V Q | | | | |
| 0+30 | 0.2945 | 10.70 | V Q | | | | |
| 0+35 | 0.3783 | 12.18 | V Q | | | | |
| 0+40 | 0.4580 | 11.57 | V Q | | | | |
| 0+45 | 0.5473 | 12.96 | V Q | | | | |
| 0+50 | 0.6359 | 12.87 | V Q | | | | |
| 0+55 | 0.7153 | 11.52 | VQ | | | | |
| 1+ 0 | 0.7974 | 11.93 | Q | | | | |
| 1+ 5 | 0.8916 | 13.68 | Q | | | | |
| 1+10 | 1.0040 | 16.31 | V Q | | | | |
| 1+15 | 1.1221 | 17.15 | VQ | | | | |
| 1+20 | 1.2401 | 17.13 | Q | | | | |
| 1+25 | 1.3578 | 17.09 | QV | | | | |
| 1+30 | 1.4977 | 20.31 | Q | | | | |
| 1+35 | 1.6446 | 21.33 | QV | | | | |
| 1+40 | 1.7870 | 20.68 | Q V | | | | |
| 1+45 | 1.9453 | 22.99 | Q V | | | | |
| 1+50 | 2.1273 | 26.42 | QV | | | | |
| 1+55 | 2.3078 | 26.21 | Q V | | | | |
| 2+ 0 | 2.4824 | 25.35 | Q V | | | | |
| 2+ 5 | 2.6595 | 25.72 | Q V | | | | |
| 2+10 | 2.8532 | 28.13 | Q V | | | | |
| 2+15 | 3.1001 | 35.84 | Q V | | | | |
| 2+20 | 3.3749 | 39.91 | Q V | | | | |
| 2+25 | 3.6437 | 39.02 | Q V | | | | |
| 2+30 | 4.0331 | 56.54 | VQ | | | | |
| 2+35 | 4.4867 | 65.87 | V Q | | | | |
| 2+40 | 4.9700 | 70.17 | VQ | | | | |
| 2+45 | 5.3378 | 53.40 | Q V | | | | |
| 2+50 | 5.5304 | 27.97 | Q V | | | | |
| 2+55 | 5.6596 | 18.76 | Q V | | | | |
| 3+ 0 | 5.7520 | 13.41 | Q V | | | | |
| 3+ 5 | 5.7887 | 5.34 | Q V | | | | |
| 3+10 | 5.8016 | 1.87 | Q V | | | | |
| 3+15 | 5.8055 | 0.57 | Q V | | | | |
| 3+20 | 5.8070 | 0.21 | Q V | | | | |
| 3+25 | 5.8075 | 0.08 | Q V | | | | |
| 3+30 | 5.8076 | 0.01 | Q V | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA166100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 16
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

---

Drainage Area = 45.60(Ac.) = 0.071 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 45.60(Ac.) = 0.071 Sq. Mi.
Length along longest watercourse = 1854.00(Ft.)
Length along longest watercourse measured to centroid = 862.00(Ft.)
Length along longest watercourse = 0.351 Mi.
Length along longest watercourse measured to centroid = 0.163 Mi.
Difference in elevation = 285.00(Ft.)
Slope along watercourse = 811.6505 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.079 Hr.
Lag time = 4.76 Min.
25% of lag time = 1.19 Min.
40% of lag time = 1.90 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 45.60 | 1.15 | 52.44 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 45.60 | 2.50 | 114.00 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.150(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 99.98 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 45.600 | 82.55 | 0.000 |

Total Area Entered = 45.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 82.5 | 92.5 | 0.097 | 0.000 | 0.097 | 1.000 | 0.097 |
| | | | | | Sum (F) = | 0.097 |

Area averaged mean soil loss (F) (In/Hr) = 0.097

Minimum soil loss rate ((In/Hr)) = 0.049
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 104.990 | 16.190 | 7.441 |
| 2 | 0.167 | 209.980 | 56.059 | 25.762 |
| 3 | 0.250 | 314.969 | 17.601 | 8.089 |
| 4 | 0.333 | 419.959 | 6.848 | 3.147 |
| 5 | 0.417 | 524.949 | 2.006 | 0.922 |
| 6 | 0.500 | 629.939 | 0.804 | 0.370 |
| 7 | 0.583 | 734.928 | 0.492 | 0.226 |
| | | | Sum = 100.000 | Sum= 45.956 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.097 | ( 0.135) | 0.053 |
| 2 | 0.17 | 0.60 | 0.180 | 0.097 | ( 0.162) | 0.083 |
| 3 | 0.25 | 0.60 | 0.180 | 0.097 | ( 0.162) | 0.083 |
| 4 | 0.33 | 0.60 | 0.180 | 0.097 | ( 0.162) | 0.083 |
| 5 | 0.42 | 0.60 | 0.180 | 0.097 | ( 0.162) | 0.083 |
| 6 | 0.50 | 0.70 | 0.210 | 0.097 | ( 0.189) | 0.113 |
| 7 | 0.58 | 0.70 | 0.210 | 0.097 | ( 0.189) | 0.113 |
| 8 | 0.67 | 0.70 | 0.210 | 0.097 | ( 0.189) | 0.113 |
| 9 | 0.75 | 0.70 | 0.210 | 0.097 | ( 0.189) | 0.113 |
| 10 | 0.83 | 0.70 | 0.210 | 0.097 | ( 0.189) | 0.113 |
| 11 | 0.92 | 0.70 | 0.210 | 0.097 | ( 0.189) | 0.113 |
| 12 | 1.00 | 0.80 | 0.240 | 0.097 | ( 0.216) | 0.143 |
| 13 | 1.08 | 0.80 | 0.240 | 0.097 | ( 0.216) | 0.143 |
| 14 | 1.17 | 0.80 | 0.240 | 0.097 | ( 0.216) | 0.143 |
| 15 | 1.25 | 0.80 | 0.240 | 0.097 | ( 0.216) | 0.143 |
| 16 | 1.33 | 0.80 | 0.240 | 0.097 | ( 0.216) | 0.143 |
| 17 | 1.42 | 0.80 | 0.240 | 0.097 | ( 0.216) | 0.143 |
| 18 | 1.50 | 0.80 | 0.240 | 0.097 | ( 0.216) | 0.143 |
| 19 | 1.58 | 0.80 | 0.240 | 0.097 | ( 0.216) | 0.143 |
| 20 | 1.67 | 0.80 | 0.240 | 0.097 | ( 0.216) | 0.143 |
| 21 | 1.75 | 0.80 | 0.240 | 0.097 | ( 0.216) | 0.143 |
| 22 | 1.83 | 0.80 | 0.240 | 0.097 | ( 0.216) | 0.143 |
| 23 | 1.92 | 0.80 | 0.240 | 0.097 | ( 0.216) | 0.143 |
| 24 | 2.00 | 0.90 | 0.270 | 0.097 | ( 0.243) | 0.173 |
| 25 | 2.08 | 0.80 | 0.240 | 0.097 | ( 0.216) | 0.143 |
| 26 | 2.17 | 0.90 | 0.270 | 0.097 | ( 0.243) | 0.173 |
| 27 | 2.25 | 0.90 | 0.270 | 0.097 | ( 0.243) | 0.173 |
| 28 | 2.33 | 0.90 | 0.270 | 0.097 | ( 0.243) | 0.173 |
| 29 | 2.42 | 0.90 | 0.270 | 0.097 | ( 0.243) | 0.173 |
| 30 | 2.50 | 0.90 | 0.270 | 0.097 | ( 0.243) | 0.173 |
| 31 | 2.58 | 0.90 | 0.270 | 0.097 | ( 0.243) | 0.173 |
| 32 | 2.67 | 0.90 | 0.270 | 0.097 | ( 0.243) | 0.173 |
| 33 | 2.75 | 1.00 | 0.300 | 0.097 | ( 0.270) | 0.203 |
| 34 | 2.83 | 1.00 | 0.300 | 0.097 | ( 0.270) | 0.203 |
| 35 | 2.92 | 1.00 | 0.300 | 0.097 | ( 0.270) | 0.203 |
| 36 | 3.00 | 1.00 | 0.300 | 0.097 | ( 0.270) | 0.203 |
| 37 | 3.08 | 1.00 | 0.300 | 0.097 | ( 0.270) | 0.203 |
| 38 | 3.17 | 1.10 | 0.330 | 0.097 | ( 0.297) | 0.233 |
| 39 | 3.25 | 1.10 | 0.330 | 0.097 | ( 0.297) | 0.233 |
| 40 | 3.33 | 1.10 | 0.330 | 0.097 | ( 0.297) | 0.233 |
| 41 | 3.42 | 1.20 | 0.360 | 0.097 | ( 0.324) | 0.263 |
| 42 | 3.50 | 1.30 | 0.390 | 0.097 | ( 0.351) | 0.293 |
| 43 | 3.58 | 1.40 | 0.420 | 0.097 | ( 0.378) | 0.323 |
| 44 | 3.67 | 1.40 | 0.420 | 0.097 | ( 0.378) | 0.323 |
| 45 | 3.75 | 1.50 | 0.450 | 0.097 | ( 0.405) | 0.353 |
| 46 | 3.83 | 1.50 | 0.450 | 0.097 | ( 0.405) | 0.353 |
| 47 | 3.92 | 1.60 | 0.480 | 0.097 | ( 0.432) | 0.383 |
| 48 | 4.00 | 1.60 | 0.480 | 0.097 | ( 0.432) | 0.383 |
| 49 | 4.08 | 1.70 | 0.510 | 0.097 | ( 0.459) | 0.413 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 50 | 4.17 | 1.80 | 0.540 | 0.097 | ( 0.486) | 0.443 | |
| 51 | 4.25 | 1.90 | 0.570 | 0.097 | ( 0.513) | 0.473 | |
| 52 | 4.33 | 2.00 | 0.600 | 0.097 | ( 0.540) | 0.503 | |
| 53 | 4.42 | 2.10 | 0.630 | 0.097 | ( 0.567) | 0.533 | |
| 54 | 4.50 | 2.10 | 0.630 | 0.097 | ( 0.567) | 0.533 | |
| 55 | 4.58 | 2.20 | 0.660 | 0.097 | ( 0.594) | 0.563 | |
| 56 | 4.67 | 2.30 | 0.690 | 0.097 | ( 0.621) | 0.593 | |
| 57 | 4.75 | 2.40 | 0.720 | 0.097 | ( 0.648) | 0.623 | |
| 58 | 4.83 | 2.40 | 0.720 | 0.097 | ( 0.648) | 0.623 | |
| 59 | 4.92 | 2.50 | 0.750 | 0.097 | ( 0.675) | 0.653 | |
| 60 | 5.00 | 2.60 | 0.780 | 0.097 | ( 0.702) | 0.683 | |
| 61 | 5.08 | 3.10 | 0.930 | 0.097 | ( 0.837) | 0.833 | |
| 62 | 5.17 | 3.60 | 1.080 | 0.097 | ( 0.972) | 0.983 | |
| 63 | 5.25 | 3.90 | 1.170 | 0.097 | ( 1.053) | 1.073 | |
| 64 | 5.33 | 4.20 | 1.260 | 0.097 | ( 1.134) | 1.163 | |
| 65 | 5.42 | 4.70 | 1.410 | 0.097 | ( 1.269) | 1.313 | |
| 66 | 5.50 | 5.60 | 1.680 | 0.097 | ( 1.512) | 1.583 | |
| 67 | 5.58 | 1.90 | 0.570 | 0.097 | ( 0.513) | 0.473 | |
| 68 | 5.67 | 0.90 | 0.270 | 0.097 | ( 0.243) | 0.173 | |
| 69 | 5.75 | 0.60 | 0.180 | 0.097 | ( 0.162) | 0.083 | |
| 70 | 5.83 | 0.50 | 0.150 | 0.097 | ( 0.135) | 0.053 | |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.097) | 0.081 | 0.009 | |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.097) | 0.054 | 0.006 | |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.1

Flood volume = Effective rainfall 1.92(In)
times area 45.6(Ac.)/[(In)/(Ft.)] = 7.3(Ac.Ft)
Total soil loss = 0.58(In)
Total soil loss = 2.195(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 318125.8 Cubic Feet
Total soil loss = 95629.4 Cubic Feet

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Peak flow rate of this hydrograph = 60.139(CFS)

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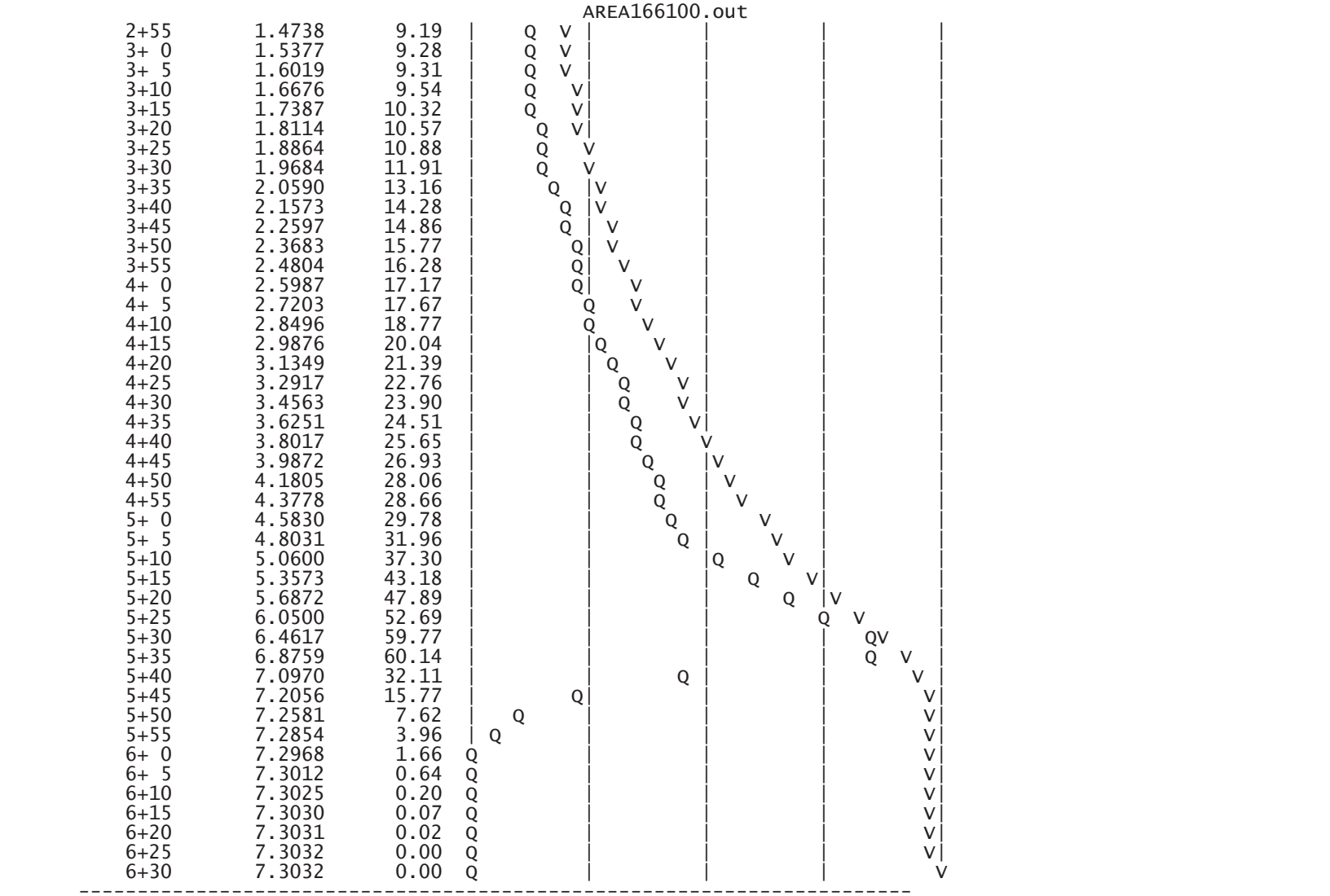
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 17.5 | 35.0 | 52.5 | 70.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0027 | 0.39 | Q | \| | \| | \| | \| |
| 0+10 | 0.0163 | 1.98 | VQ | \| | \| | \| | \| |
| 0+15 | 0.0382 | 3.18 | VQ | \| | \| | \| | \| |
| 0+20 | 0.0630 | 3.59 | V Q | \| | \| | \| | \| |
| 0+25 | 0.0887 | 3.73 | V Q | \| | \| | \| | \| |
| 0+30 | 0.1163 | 4.00 | V Q | \| | \| | \| | \| |
| 0+35 | 0.1493 | 4.80 | V Q | \| | \| | \| | \| |
| 0+40 | 0.1841 | 5.05 | \|VQ | \| | \| | \| | \| |
| 0+45 | 0.2195 | 5.14 | \|VQ | \| | \| | \| | \| |
| 0+50 | 0.2551 | 5.17 | \|VQ | \| | \| | \| | \| |
| 0+55 | 0.2908 | 5.18 | \|VQ | \| | \| | \| | \| |
| 1+ 0 | 0.3281 | 5.41 | \|V Q | \| | \| | \| | \| |
| 1+ 5 | 0.3707 | 6.19 | \| VQ | \| | \| | \| | \| |
| 1+10 | 0.4150 | 6.43 | \| VQ | \| | \| | \| | \| |
| 1+15 | 0.4599 | 6.52 | \| VQ | \| | \| | \| | \| |
| 1+20 | 0.5050 | 6.55 | \| VQ | \| | \| | \| | \| |
| 1+25 | 0.5502 | 6.56 | \| Q | \| | \| | \| | \| |
| 1+30 | 0.5954 | 6.57 | \| Q | \| | \| | \| | \| |
| 1+35 | 0.6407 | 6.57 | \| Q | \| | \| | \| | \| |
| 1+40 | 0.6859 | 6.57 | \| Q | \| | \| | \| | \| |
| 1+45 | 0.7311 | 6.57 | \| QV | \| | \| | \| | \| |
| 1+50 | 0.7764 | 6.57 | \| QV | \| | \| | \| | \| |
| 1+55 | 0.8216 | 6.57 | \| QV | \| | \| | \| | \| |
| 2+ 0 | 0.8684 | 6.79 | \| QV | \| | \| | \| | \| |
| 2+ 5 | 0.9189 | 7.34 | \| QV | \| | \| | \| | \| |
| 2+10 | 0.9674 | 7.03 | \| QV | \| | \| | \| | \| |
| 2+15 | 1.0201 | 7.66 | \| QV | \| | \| | \| | \| |
| 2+20 | 1.0741 | 7.84 | \| QV | \| | \| | \| | \| |
| 2+25 | 1.1286 | 7.91 | \| Q V | \| | \| | \| | \| |
| 2+30 | 1.1833 | 7.94 | \| Q V | \| | \| | \| | \| |
| 2+35 | 1.2379 | 7.94 | \| Q V | \| | \| | \| | \| |
| 2+40 | 1.2927 | 7.95 | \| Q V | \| | \| | \| | \| |
| 2+45 | 1.3490 | 8.17 | \| Q V | \| | \| | \| | \| |
| 2+50 | 1.4106 | 8.94 | \| Q V | \| | \| | \| | \| |



| | | | |
|---|---|---|---|
| 2+55 | 1.4738 | 9.19 | |
| 3+ 0 | 1.5377 | 9.28 | |
| 3+ 5 | 1.6019 | 9.31 | |
| 3+10 | 1.6676 | 9.54 | |
| 3+15 | 1.7387 | 10.32 | |
| 3+20 | 1.8114 | 10.57 | |
| 3+25 | 1.8864 | 10.88 | |
| 3+30 | 1.9684 | 11.91 | |
| 3+35 | 2.0590 | 13.16 | |
| 3+40 | 2.1573 | 14.28 | |
| 3+45 | 2.2597 | 14.86 | |
| 3+50 | 2.3683 | 15.77 | |
| 3+55 | 2.4804 | 16.28 | |
| 4+ 0 | 2.5987 | 17.17 | |
| 4+ 5 | 2.7203 | 17.67 | |
| 4+10 | 2.8496 | 18.77 | |
| 4+15 | 2.9876 | 20.04 | |
| 4+20 | 3.1349 | 21.39 | |
| 4+25 | 3.2917 | 22.76 | |
| 4+30 | 3.4563 | 23.90 | |
| 4+35 | 3.6251 | 24.51 | |
| 4+40 | 3.8017 | 25.65 | |
| 4+45 | 3.9872 | 26.93 | |
| 4+50 | 4.1805 | 28.06 | |
| 4+55 | 4.3778 | 28.66 | |
| 5+ 0 | 4.5830 | 29.78 | |
| 5+ 5 | 4.8031 | 31.96 | |
| 5+10 | 5.0600 | 37.30 | |
| 5+15 | 5.3573 | 43.18 | |
| 5+20 | 5.6872 | 47.89 | |
| 5+25 | 6.0500 | 52.69 | |
| 5+30 | 6.4617 | 59.77 | |
| 5+35 | 6.8759 | 60.14 | |
| 5+40 | 7.0970 | 32.11 | |
| 5+45 | 7.2056 | 15.77 | |
| 5+50 | 7.2581 | 7.62 | |
| 5+55 | 7.2854 | 3.96 | |
| 6+ 0 | 7.2968 | 1.66 | |
| 6+ 5 | 7.3012 | 0.64 | |
| 6+10 | 7.3025 | 0.20 | |
| 6+15 | 7.3030 | 0.07 | |
| 6+20 | 7.3031 | 0.02 | |
| 6+25 | 7.3032 | 0.00 | |
| 6+30 | 7.3032 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA1624100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 16
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

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Drainage Area = 45.60(Ac.) = 0.071 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 45.60(Ac.) = 0.071 Sq. Mi.
Length along longest watercourse = 1854.00(Ft.)
Length along longest watercourse measured to centroid = 862.00(Ft.)
Length along longest watercourse = 0.351 Mi.
Length along longest watercourse measured to centroid = 0.163 Mi.
Difference in elevation = 285.00(Ft.)
Slope along watercourse = 811.6505 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.079 Hr.
Lag time = 4.76 Min.
25% of lag time = 1.19 Min.
40% of lag time = 1.90 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 45.60 | 1.80 | 82.08 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 45.60 | 4.76 | 217.06 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.760(In)

Point rain (area averaged) = 4.760(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 4.760(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 45.600 | 82.55 | 0.000 |

Total Area Entered = 45.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 82.5 | 92.5 | 0.097 | 0.000 | 0.097 | 1.000 | 0.097 |
| | | | | | Sum (F) = | 0.097 |

Area averaged mean soil loss (F) (In/Hr) = 0.097

Minimum soil loss rate ((In/Hr)) = 0.049
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 104.990 | 16.190 | 7.441 |
| 2 0.167 | 209.980 | 56.059 | 25.762 |
| 3 0.250 | 314.969 | 17.601 | 8.089 |
| 4 0.333 | 419.959 | 6.848 | 3.147 |
| 5 0.417 | 524.949 | 2.006 | 0.922 |
| 6 0.500 | 629.939 | 0.804 | 0.370 |
| 7 0.583 | 734.928 | 0.492 | 0.226 |
| | | Sum = 100.000 | Sum= 45.956 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.038 | ( 0.172) | 0.034 | 0.004 |
| 2 | 0.17 | 0.07 | 0.038 | ( 0.171) | 0.034 | 0.004 |
| 3 | 0.25 | 0.07 | 0.038 | ( 0.171) | 0.034 | 0.004 |
| 4 | 0.33 | 0.10 | 0.057 | ( 0.170) | 0.051 | 0.006 |
| 5 | 0.42 | 0.10 | 0.057 | ( 0.169) | 0.051 | 0.006 |
| 6 | 0.50 | 0.10 | 0.057 | ( 0.169) | 0.051 | 0.006 |
| 7 | 0.58 | 0.10 | 0.057 | ( 0.168) | 0.051 | 0.006 |
| 8 | 0.67 | 0.10 | 0.057 | ( 0.168) | 0.051 | 0.006 |
| 9 | 0.75 | 0.10 | 0.057 | ( 0.167) | 0.051 | 0.006 |
| 10 | 0.83 | 0.13 | 0.076 | ( 0.166) | 0.069 | 0.008 |
| 11 | 0.92 | 0.13 | 0.076 | ( 0.166) | 0.069 | 0.008 |
| 12 | 1.00 | 0.13 | 0.076 | ( 0.165) | 0.069 | 0.008 |
| 13 | 1.08 | 0.10 | 0.057 | ( 0.164) | 0.051 | 0.006 |
| 14 | 1.17 | 0.10 | 0.057 | ( 0.164) | 0.051 | 0.006 |
| 15 | 1.25 | 0.10 | 0.057 | ( 0.163) | 0.051 | 0.006 |
| 16 | 1.33 | 0.10 | 0.057 | ( 0.162) | 0.051 | 0.006 |
| 17 | 1.42 | 0.10 | 0.057 | ( 0.162) | 0.051 | 0.006 |
| 18 | 1.50 | 0.10 | 0.057 | ( 0.161) | 0.051 | 0.006 |
| 19 | 1.58 | 0.10 | 0.057 | ( 0.160) | 0.051 | 0.006 |
| 20 | 1.67 | 0.10 | 0.057 | ( 0.160) | 0.051 | 0.006 |
| 21 | 1.75 | 0.10 | 0.057 | ( 0.159) | 0.051 | 0.006 |
| 22 | 1.83 | 0.13 | 0.076 | ( 0.158) | 0.069 | 0.008 |
| 23 | 1.92 | 0.13 | 0.076 | ( 0.158) | 0.069 | 0.008 |
| 24 | 2.00 | 0.13 | 0.076 | ( 0.157) | 0.069 | 0.008 |
| 25 | 2.08 | 0.13 | 0.076 | ( 0.157) | 0.069 | 0.008 |
| 26 | 2.17 | 0.13 | 0.076 | ( 0.156) | 0.069 | 0.008 |
| 27 | 2.25 | 0.13 | 0.076 | ( 0.155) | 0.069 | 0.008 |
| 28 | 2.33 | 0.13 | 0.076 | ( 0.155) | 0.069 | 0.008 |
| 29 | 2.42 | 0.13 | 0.076 | ( 0.154) | 0.069 | 0.008 |
| 30 | 2.50 | 0.13 | 0.076 | ( 0.153) | 0.069 | 0.008 |
| 31 | 2.58 | 0.17 | 0.095 | ( 0.153) | 0.086 | 0.010 |
| 32 | 2.67 | 0.17 | 0.095 | ( 0.152) | 0.086 | 0.010 |
| 33 | 2.75 | 0.17 | 0.095 | ( 0.151) | 0.086 | 0.010 |
| 34 | 2.83 | 0.17 | 0.095 | ( 0.151) | 0.086 | 0.010 |
| 35 | 2.92 | 0.17 | 0.095 | ( 0.150) | 0.086 | 0.010 |
| 36 | 3.00 | 0.17 | 0.095 | ( 0.150) | 0.086 | 0.010 |
| 37 | 3.08 | 0.17 | 0.095 | ( 0.149) | 0.086 | 0.010 |
| 38 | 3.17 | 0.17 | 0.095 | ( 0.148) | 0.086 | 0.010 |
| 39 | 3.25 | 0.17 | 0.095 | ( 0.148) | 0.086 | 0.010 |
| 40 | 3.33 | 0.17 | 0.095 | ( 0.147) | 0.086 | 0.010 |
| 41 | 3.42 | 0.17 | 0.095 | ( 0.147) | 0.086 | 0.010 |
| 42 | 3.50 | 0.17 | 0.095 | ( 0.146) | 0.086 | 0.010 |
| 43 | 3.58 | 0.17 | 0.095 | ( 0.145) | 0.086 | 0.010 |
| 44 | 3.67 | 0.17 | 0.095 | ( 0.145) | 0.086 | 0.010 |
| 45 | 3.75 | 0.17 | 0.095 | ( 0.144) | 0.086 | 0.010 |
| 46 | 3.83 | 0.20 | 0.114 | ( 0.143) | 0.103 | 0.011 |
| 47 | 3.92 | 0.20 | 0.114 | ( 0.143) | 0.103 | 0.011 |
| 48 | 4.00 | 0.20 | 0.114 | ( 0.142) | 0.103 | 0.011 |
| 49 | 4.08 | 0.20 | 0.114 | ( 0.142) | 0.103 | 0.011 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 50 | 4.17 | 0.20 | 0.114 | ( | 0.141) | 0.103 | | 0.011 |
| 51 | 4.25 | 0.20 | 0.114 | ( | 0.140) | 0.103 | | 0.011 |
| 52 | 4.33 | 0.23 | 0.133 | ( | 0.140) | 0.120 | | 0.013 |
| 53 | 4.42 | 0.23 | 0.133 | ( | 0.139) | 0.120 | | 0.013 |
| 54 | 4.50 | 0.23 | 0.133 | ( | 0.139) | 0.120 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.133 | ( | 0.138) | 0.120 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.133 | ( | 0.137) | 0.120 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.133 | ( | 0.137) | 0.120 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.152 | | 0.136 | ( | 0.137) | 0.016 |
| 59 | 4.92 | 0.27 | 0.152 | | 0.136 | ( | 0.137) | 0.017 |
| 60 | 5.00 | 0.27 | 0.152 | | 0.135 | ( | 0.137) | 0.017 |
| 61 | 5.08 | 0.20 | 0.114 | ( | 0.135) | 0.103 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.114 | ( | 0.134) | 0.103 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.114 | ( | 0.133) | 0.103 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.133 | ( | 0.133) | 0.120 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.133 | ( | 0.132) | 0.120 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.133 | ( | 0.132) | 0.120 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.152 | | 0.131 | ( | 0.137) | 0.021 |
| 68 | 5.67 | 0.27 | 0.152 | | 0.130 | ( | 0.137) | 0.022 |
| 69 | 5.75 | 0.27 | 0.152 | | 0.130 | ( | 0.137) | 0.022 |
| 70 | 5.83 | 0.27 | 0.152 | | 0.129 | ( | 0.137) | 0.023 |
| 71 | 5.92 | 0.27 | 0.152 | | 0.129 | ( | 0.137) | 0.024 |
| 72 | 6.00 | 0.27 | 0.152 | | 0.128 | ( | 0.137) | 0.024 |
| 73 | 6.08 | 0.30 | 0.171 | | 0.128 | ( | 0.154) | 0.044 |
| 74 | 6.17 | 0.30 | 0.171 | | 0.127 | ( | 0.154) | 0.044 |
| 75 | 6.25 | 0.30 | 0.171 | | 0.126 | ( | 0.154) | 0.045 |
| 76 | 6.33 | 0.30 | 0.171 | | 0.126 | ( | 0.154) | 0.045 |
| 77 | 6.42 | 0.30 | 0.171 | | 0.125 | ( | 0.154) | 0.046 |
| 78 | 6.50 | 0.30 | 0.171 | | 0.125 | ( | 0.154) | 0.047 |
| 79 | 6.58 | 0.33 | 0.190 | | 0.124 | ( | 0.171) | 0.066 |
| 80 | 6.67 | 0.33 | 0.190 | | 0.124 | ( | 0.171) | 0.067 |
| 81 | 6.75 | 0.33 | 0.190 | | 0.123 | ( | 0.171) | 0.067 |
| 82 | 6.83 | 0.33 | 0.190 | | 0.123 | ( | 0.171) | 0.068 |
| 83 | 6.92 | 0.33 | 0.190 | | 0.122 | ( | 0.171) | 0.068 |
| 84 | 7.00 | 0.33 | 0.190 | | 0.121 | ( | 0.171) | 0.069 |
| 85 | 7.08 | 0.33 | 0.190 | | 0.121 | ( | 0.171) | 0.069 |
| 86 | 7.17 | 0.33 | 0.190 | | 0.120 | ( | 0.171) | 0.070 |
| 87 | 7.25 | 0.33 | 0.190 | | 0.120 | ( | 0.171) | 0.071 |
| 88 | 7.33 | 0.37 | 0.209 | | 0.119 | ( | 0.188) | 0.090 |
| 89 | 7.42 | 0.37 | 0.209 | | 0.119 | ( | 0.188) | 0.091 |
| 90 | 7.50 | 0.37 | 0.209 | | 0.118 | ( | 0.188) | 0.091 |
| 91 | 7.58 | 0.40 | 0.228 | | 0.118 | ( | 0.206) | 0.111 |
| 92 | 7.67 | 0.40 | 0.228 | | 0.117 | ( | 0.206) | 0.111 |
| 93 | 7.75 | 0.40 | 0.228 | | 0.117 | ( | 0.206) | 0.112 |
| 94 | 7.83 | 0.43 | 0.247 | | 0.116 | ( | 0.223) | 0.132 |
| 95 | 7.92 | 0.43 | 0.247 | | 0.115 | ( | 0.223) | 0.132 |
| 96 | 8.00 | 0.43 | 0.247 | | 0.115 | ( | 0.223) | 0.133 |
| 97 | 8.08 | 0.50 | 0.286 | | 0.114 | ( | 0.257) | 0.171 |
| 98 | 8.17 | 0.50 | 0.286 | | 0.114 | ( | 0.257) | 0.172 |
| 99 | 8.25 | 0.50 | 0.286 | | 0.113 | ( | 0.257) | 0.172 |
| 100 | 8.33 | 0.50 | 0.286 | | 0.113 | ( | 0.257) | 0.173 |
| 101 | 8.42 | 0.50 | 0.286 | | 0.112 | ( | 0.257) | 0.173 |
| 102 | 8.50 | 0.50 | 0.286 | | 0.112 | ( | 0.257) | 0.174 |
| 103 | 8.58 | 0.53 | 0.305 | | 0.111 | ( | 0.274) | 0.193 |
| 104 | 8.67 | 0.53 | 0.305 | | 0.111 | ( | 0.274) | 0.194 |
| 105 | 8.75 | 0.53 | 0.305 | | 0.110 | ( | 0.274) | 0.194 |
| 106 | 8.83 | 0.57 | 0.324 | | 0.110 | ( | 0.291) | 0.214 |
| 107 | 8.92 | 0.57 | 0.324 | | 0.109 | ( | 0.291) | 0.215 |
| 108 | 9.00 | 0.57 | 0.324 | | 0.109 | ( | 0.291) | 0.215 |
| 109 | 9.08 | 0.63 | 0.362 | | 0.108 | ( | 0.326) | 0.254 |
| 110 | 9.17 | 0.63 | 0.362 | | 0.108 | ( | 0.326) | 0.254 |
| 111 | 9.25 | 0.63 | 0.362 | | 0.107 | ( | 0.326) | 0.255 |
| 112 | 9.33 | 0.67 | 0.381 | | 0.107 | ( | 0.343) | 0.274 |
| 113 | 9.42 | 0.67 | 0.381 | | 0.106 | ( | 0.343) | 0.275 |
| 114 | 9.50 | 0.67 | 0.381 | | 0.106 | ( | 0.343) | 0.275 |
| 115 | 9.58 | 0.70 | 0.400 | | 0.105 | ( | 0.360) | 0.295 |
| 116 | 9.67 | 0.70 | 0.400 | | 0.105 | ( | 0.360) | 0.295 |
| 117 | 9.75 | 0.70 | 0.400 | | 0.104 | ( | 0.360) | 0.296 |
| 118 | 9.83 | 0.73 | 0.419 | | 0.104 | ( | 0.377) | 0.315 |
| 119 | 9.92 | 0.73 | 0.419 | | 0.103 | ( | 0.377) | 0.316 |
| 120 | 10.00 | 0.73 | 0.419 | | 0.103 | ( | 0.377) | 0.316 |
| 121 | 10.08 | 0.50 | 0.286 | | 0.102 | ( | 0.257) | 0.184 |
| 122 | 10.17 | 0.50 | 0.286 | | 0.102 | ( | 0.257) | 0.184 |
| 123 | 10.25 | 0.50 | 0.286 | | 0.101 | ( | 0.257) | 0.185 |
| 124 | 10.33 | 0.50 | 0.286 | | 0.101 | ( | 0.257) | 0.185 |
| 125 | 10.42 | 0.50 | 0.286 | | 0.100 | ( | 0.257) | 0.185 |
| 126 | 10.50 | 0.50 | 0.286 | | 0.100 | ( | 0.257) | 0.186 |
| 127 | 10.58 | 0.67 | 0.381 | | 0.099 | ( | 0.343) | 0.282 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 128 | 10.67 | 0.67 | 0.381 | 0.099 | ( 0.343) | 0.282 |
| 129 | 10.75 | 0.67 | 0.381 | 0.098 | ( 0.343) | 0.283 |
| 130 | 10.83 | 0.67 | 0.381 | 0.098 | ( 0.343) | 0.283 |
| 131 | 10.92 | 0.67 | 0.381 | 0.097 | ( 0.343) | 0.284 |
| 132 | 11.00 | 0.67 | 0.381 | 0.097 | ( 0.343) | 0.284 |
| 133 | 11.08 | 0.63 | 0.362 | 0.096 | ( 0.326) | 0.265 |
| 134 | 11.17 | 0.63 | 0.362 | 0.096 | ( 0.326) | 0.266 |
| 135 | 11.25 | 0.63 | 0.362 | 0.095 | ( 0.326) | 0.266 |
| 136 | 11.33 | 0.63 | 0.362 | 0.095 | ( 0.326) | 0.267 |
| 137 | 11.42 | 0.63 | 0.362 | 0.094 | ( 0.326) | 0.267 |
| 138 | 11.50 | 0.63 | 0.362 | 0.094 | ( 0.326) | 0.268 |
| 139 | 11.58 | 0.57 | 0.324 | 0.093 | ( 0.291) | 0.230 |
| 140 | 11.67 | 0.57 | 0.324 | 0.093 | ( 0.291) | 0.231 |
| 141 | 11.75 | 0.57 | 0.324 | 0.092 | ( 0.291) | 0.231 |
| 142 | 11.83 | 0.60 | 0.343 | 0.092 | ( 0.308) | 0.251 |
| 143 | 11.92 | 0.60 | 0.343 | 0.092 | ( 0.308) | 0.251 |
| 144 | 12.00 | 0.60 | 0.343 | 0.091 | ( 0.308) | 0.252 |
| 145 | 12.08 | 0.83 | 0.476 | 0.091 | ( 0.428) | 0.385 |
| 146 | 12.17 | 0.83 | 0.476 | 0.090 | ( 0.428) | 0.386 |
| 147 | 12.25 | 0.83 | 0.476 | 0.090 | ( 0.428) | 0.386 |
| 148 | 12.33 | 0.87 | 0.495 | 0.089 | ( 0.445) | 0.406 |
| 149 | 12.42 | 0.87 | 0.495 | 0.089 | ( 0.445) | 0.406 |
| 150 | 12.50 | 0.87 | 0.495 | 0.088 | ( 0.445) | 0.407 |
| 151 | 12.58 | 0.93 | 0.533 | 0.088 | ( 0.480) | 0.445 |
| 152 | 12.67 | 0.93 | 0.533 | 0.088 | ( 0.480) | 0.446 |
| 153 | 12.75 | 0.93 | 0.533 | 0.087 | ( 0.480) | 0.446 |
| 154 | 12.83 | 0.97 | 0.552 | 0.087 | ( 0.497) | 0.465 |
| 155 | 12.92 | 0.97 | 0.552 | 0.086 | ( 0.497) | 0.466 |
| 156 | 13.00 | 0.97 | 0.552 | 0.086 | ( 0.497) | 0.466 |
| 157 | 13.08 | 1.13 | 0.647 | 0.085 | ( 0.583) | 0.562 |
| 158 | 13.17 | 1.13 | 0.647 | 0.085 | ( 0.583) | 0.562 |
| 159 | 13.25 | 1.13 | 0.647 | 0.084 | ( 0.583) | 0.563 |
| 160 | 13.33 | 1.13 | 0.647 | 0.084 | ( 0.583) | 0.563 |
| 161 | 13.42 | 1.13 | 0.647 | 0.084 | ( 0.583) | 0.564 |
| 162 | 13.50 | 1.13 | 0.647 | 0.083 | ( 0.583) | 0.564 |
| 163 | 13.58 | 0.77 | 0.438 | 0.083 | ( 0.394) | 0.355 |
| 164 | 13.67 | 0.77 | 0.438 | 0.082 | ( 0.394) | 0.356 |
| 165 | 13.75 | 0.77 | 0.438 | 0.082 | ( 0.394) | 0.356 |
| 166 | 13.83 | 0.77 | 0.438 | 0.081 | ( 0.394) | 0.356 |
| 167 | 13.92 | 0.77 | 0.438 | 0.081 | ( 0.394) | 0.357 |
| 168 | 14.00 | 0.77 | 0.438 | 0.081 | ( 0.394) | 0.357 |
| 169 | 14.08 | 0.90 | 0.514 | 0.080 | ( 0.463) | 0.434 |
| 170 | 14.17 | 0.90 | 0.514 | 0.080 | ( 0.463) | 0.434 |
| 171 | 14.25 | 0.90 | 0.514 | 0.079 | ( 0.463) | 0.435 |
| 172 | 14.33 | 0.87 | 0.495 | 0.079 | ( 0.445) | 0.416 |
| 173 | 14.42 | 0.87 | 0.495 | 0.079 | ( 0.445) | 0.416 |
| 174 | 14.50 | 0.87 | 0.495 | 0.078 | ( 0.445) | 0.417 |
| 175 | 14.58 | 0.87 | 0.495 | 0.078 | ( 0.445) | 0.417 |
| 176 | 14.67 | 0.87 | 0.495 | 0.077 | ( 0.445) | 0.418 |
| 177 | 14.75 | 0.87 | 0.495 | 0.077 | ( 0.445) | 0.418 |
| 178 | 14.83 | 0.83 | 0.476 | 0.077 | ( 0.428) | 0.399 |
| 179 | 14.92 | 0.83 | 0.476 | 0.076 | ( 0.428) | 0.400 |
| 180 | 15.00 | 0.83 | 0.476 | 0.076 | ( 0.428) | 0.400 |
| 181 | 15.08 | 0.80 | 0.457 | 0.075 | ( 0.411) | 0.381 |
| 182 | 15.17 | 0.80 | 0.457 | 0.075 | ( 0.411) | 0.382 |
| 183 | 15.25 | 0.80 | 0.457 | 0.075 | ( 0.411) | 0.382 |
| 184 | 15.33 | 0.77 | 0.438 | 0.074 | ( 0.394) | 0.364 |
| 185 | 15.42 | 0.77 | 0.438 | 0.074 | ( 0.394) | 0.364 |
| 186 | 15.50 | 0.77 | 0.438 | 0.074 | ( 0.394) | 0.364 |
| 187 | 15.58 | 0.63 | 0.362 | 0.073 | ( 0.326) | 0.289 |
| 188 | 15.67 | 0.63 | 0.362 | 0.073 | ( 0.326) | 0.289 |
| 189 | 15.75 | 0.63 | 0.362 | 0.072 | ( 0.326) | 0.289 |
| 190 | 15.83 | 0.63 | 0.362 | 0.072 | ( 0.326) | 0.290 |
| 191 | 15.92 | 0.63 | 0.362 | 0.072 | ( 0.326) | 0.290 |
| 192 | 16.00 | 0.63 | 0.362 | 0.071 | ( 0.326) | 0.290 |
| 193 | 16.08 | 0.13 | 0.076 | ( 0.071) | 0.069 | 0.008 |
| 194 | 16.17 | 0.13 | 0.076 | ( 0.071) | 0.069 | 0.008 |
| 195 | 16.25 | 0.13 | 0.076 | ( 0.070) | 0.069 | 0.008 |
| 196 | 16.33 | 0.13 | 0.076 | ( 0.070) | 0.069 | 0.008 |
| 197 | 16.42 | 0.13 | 0.076 | ( 0.070) | 0.069 | 0.008 |
| 198 | 16.50 | 0.13 | 0.076 | ( 0.069) | 0.069 | 0.008 |
| 199 | 16.58 | 0.10 | 0.057 | ( 0.069) | 0.051 | 0.006 |
| 200 | 16.67 | 0.10 | 0.057 | ( 0.068) | 0.051 | 0.006 |
| 201 | 16.75 | 0.10 | 0.057 | ( 0.068) | 0.051 | 0.006 |
| 202 | 16.83 | 0.10 | 0.057 | ( 0.068) | 0.051 | 0.006 |
| 203 | 16.92 | 0.10 | 0.057 | ( 0.067) | 0.051 | 0.006 |
| 204 | 17.00 | 0.10 | 0.057 | ( 0.067) | 0.051 | 0.006 |
| 205 | 17.08 | 0.17 | 0.095 | 0.067 | ( 0.086) | 0.028 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 206 | 17.17 | 0.17 | 0.095 | 0.066 | ( 0.086) | 0.029 |
| 207 | 17.25 | 0.17 | 0.095 | 0.066 | ( 0.086) | 0.029 |
| 208 | 17.33 | 0.17 | 0.095 | 0.066 | ( 0.086) | 0.029 |
| 209 | 17.42 | 0.17 | 0.095 | 0.065 | ( 0.086) | 0.030 |
| 210 | 17.50 | 0.17 | 0.095 | 0.065 | ( 0.086) | 0.030 |
| 211 | 17.58 | 0.17 | 0.095 | 0.065 | ( 0.086) | 0.030 |
| 212 | 17.67 | 0.17 | 0.095 | 0.064 | ( 0.086) | 0.031 |
| 213 | 17.75 | 0.17 | 0.095 | 0.064 | ( 0.086) | 0.031 |
| 214 | 17.83 | 0.13 | 0.076 | 0.064 | ( 0.069) | 0.012 |
| 215 | 17.92 | 0.13 | 0.076 | 0.063 | ( 0.069) | 0.013 |
| 216 | 18.00 | 0.13 | 0.076 | 0.063 | ( 0.069) | 0.013 |
| 217 | 18.08 | 0.13 | 0.076 | 0.063 | ( 0.069) | 0.013 |
| 218 | 18.17 | 0.13 | 0.076 | 0.063 | ( 0.069) | 0.014 |
| 219 | 18.25 | 0.13 | 0.076 | 0.062 | ( 0.069) | 0.014 |
| 220 | 18.33 | 0.13 | 0.076 | 0.062 | ( 0.069) | 0.014 |
| 221 | 18.42 | 0.13 | 0.076 | 0.062 | ( 0.069) | 0.015 |
| 222 | 18.50 | 0.13 | 0.076 | 0.061 | ( 0.069) | 0.015 |
| 223 | 18.58 | 0.10 | 0.057 | ( 0.061) | 0.051 | 0.006 |
| 224 | 18.67 | 0.10 | 0.057 | ( 0.061) | 0.051 | 0.006 |
| 225 | 18.75 | 0.10 | 0.057 | ( 0.060) | 0.051 | 0.006 |
| 226 | 18.83 | 0.07 | 0.038 | ( 0.060) | 0.034 | 0.004 |
| 227 | 18.92 | 0.07 | 0.038 | ( 0.060) | 0.034 | 0.004 |
| 228 | 19.00 | 0.07 | 0.038 | ( 0.060) | 0.034 | 0.004 |
| 229 | 19.08 | 0.10 | 0.057 | ( 0.059) | 0.051 | 0.006 |
| 230 | 19.17 | 0.10 | 0.057 | ( 0.059) | 0.051 | 0.006 |
| 231 | 19.25 | 0.10 | 0.057 | ( 0.059) | 0.051 | 0.006 |
| 232 | 19.33 | 0.13 | 0.076 | 0.058 | ( 0.069) | 0.018 |
| 233 | 19.42 | 0.13 | 0.076 | 0.058 | ( 0.069) | 0.018 |
| 234 | 19.50 | 0.13 | 0.076 | 0.058 | ( 0.069) | 0.018 |
| 235 | 19.58 | 0.10 | 0.057 | ( 0.058) | 0.051 | 0.006 |
| 236 | 19.67 | 0.10 | 0.057 | ( 0.057) | 0.051 | 0.006 |
| 237 | 19.75 | 0.10 | 0.057 | ( 0.057) | 0.051 | 0.006 |
| 238 | 19.83 | 0.07 | 0.038 | ( 0.057) | 0.034 | 0.004 |
| 239 | 19.92 | 0.07 | 0.038 | ( 0.057) | 0.034 | 0.004 |
| 240 | 20.00 | 0.07 | 0.038 | ( 0.056) | 0.034 | 0.004 |
| 241 | 20.08 | 0.10 | 0.057 | ( 0.056) | 0.051 | 0.006 |
| 242 | 20.17 | 0.10 | 0.057 | ( 0.056) | 0.051 | 0.006 |
| 243 | 20.25 | 0.10 | 0.057 | ( 0.056) | 0.051 | 0.006 |
| 244 | 20.33 | 0.10 | 0.057 | ( 0.055) | 0.051 | 0.006 |
| 245 | 20.42 | 0.10 | 0.057 | ( 0.055) | 0.051 | 0.006 |
| 246 | 20.50 | 0.10 | 0.057 | ( 0.055) | 0.051 | 0.006 |
| 247 | 20.58 | 0.10 | 0.057 | ( 0.055) | 0.051 | 0.006 |
| 248 | 20.67 | 0.10 | 0.057 | ( 0.054) | 0.051 | 0.006 |
| 249 | 20.75 | 0.10 | 0.057 | ( 0.054) | 0.051 | 0.006 |
| 250 | 20.83 | 0.07 | 0.038 | ( 0.054) | 0.034 | 0.004 |
| 251 | 20.92 | 0.07 | 0.038 | ( 0.054) | 0.034 | 0.004 |
| 252 | 21.00 | 0.07 | 0.038 | ( 0.054) | 0.034 | 0.004 |
| 253 | 21.08 | 0.10 | 0.057 | ( 0.053) | 0.051 | 0.006 |
| 254 | 21.17 | 0.10 | 0.057 | ( 0.053) | 0.051 | 0.006 |
| 255 | 21.25 | 0.10 | 0.057 | ( 0.053) | 0.051 | 0.006 |
| 256 | 21.33 | 0.07 | 0.038 | ( 0.053) | 0.034 | 0.004 |
| 257 | 21.42 | 0.07 | 0.038 | ( 0.053) | 0.034 | 0.004 |
| 258 | 21.50 | 0.07 | 0.038 | ( 0.052) | 0.034 | 0.004 |
| 259 | 21.58 | 0.10 | 0.057 | ( 0.052) | 0.051 | 0.006 |
| 260 | 21.67 | 0.10 | 0.057 | ( 0.052) | 0.051 | 0.006 |
| 261 | 21.75 | 0.10 | 0.057 | ( 0.052) | 0.051 | 0.006 |
| 262 | 21.83 | 0.07 | 0.038 | ( 0.052) | 0.034 | 0.004 |
| 263 | 21.92 | 0.07 | 0.038 | ( 0.051) | 0.034 | 0.004 |
| 264 | 22.00 | 0.07 | 0.038 | ( 0.051) | 0.034 | 0.004 |
| 265 | 22.08 | 0.10 | 0.057 | 0.051 | ( 0.051) | 0.006 |
| 266 | 22.17 | 0.10 | 0.057 | 0.051 | ( 0.051) | 0.006 |
| 267 | 22.25 | 0.10 | 0.057 | 0.051 | ( 0.051) | 0.006 |
| 268 | 22.33 | 0.07 | 0.038 | ( 0.051) | 0.034 | 0.004 |
| 269 | 22.42 | 0.07 | 0.038 | ( 0.050) | 0.034 | 0.004 |
| 270 | 22.50 | 0.07 | 0.038 | ( 0.050) | 0.034 | 0.004 |
| 271 | 22.58 | 0.07 | 0.038 | ( 0.050) | 0.034 | 0.004 |
| 272 | 22.67 | 0.07 | 0.038 | ( 0.050) | 0.034 | 0.004 |
| 273 | 22.75 | 0.07 | 0.038 | ( 0.050) | 0.034 | 0.004 |
| 274 | 22.83 | 0.07 | 0.038 | ( 0.050) | 0.034 | 0.004 |
| 275 | 22.92 | 0.07 | 0.038 | ( 0.050) | 0.034 | 0.004 |
| 276 | 23.00 | 0.07 | 0.038 | ( 0.050) | 0.034 | 0.004 |
| 277 | 23.08 | 0.07 | 0.038 | ( 0.049) | 0.034 | 0.004 |
| 278 | 23.17 | 0.07 | 0.038 | ( 0.049) | 0.034 | 0.004 |
| 279 | 23.25 | 0.07 | 0.038 | ( 0.049) | 0.034 | 0.004 |
| 280 | 23.33 | 0.07 | 0.038 | ( 0.049) | 0.034 | 0.004 |
| 281 | 23.42 | 0.07 | 0.038 | ( 0.049) | 0.034 | 0.004 |
| 282 | 23.50 | 0.07 | 0.038 | ( 0.049) | 0.034 | 0.004 |
| 283 | 23.58 | 0.07 | 0.038 | ( 0.049) | 0.034 | 0.004 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 284 | 23.67 | 0.07 | 0.038 | ( | 0.049) | 0.034 | 0.004 |
| 285 | 23.75 | 0.07 | 0.038 | ( | 0.049) | 0.034 | 0.004 |
| 286 | 23.83 | 0.07 | 0.038 | ( | 0.049) | 0.034 | 0.004 |
| 287 | 23.92 | 0.07 | 0.038 | ( | 0.049) | 0.034 | 0.004 |
| 288 | 24.00 | 0.07 | 0.038 | ( | 0.049) | 0.034 | 0.004 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 34.6

Flood volume = Effective rainfall 2.88(In)
times area 45.6(Ac.)/[(In)/(Ft.)] = 11.0(Ac.Ft)
Total soil loss = 1.88(In)
Total soil loss = 7.136(Ac.Ft)
Total rainfall = 4.76(In)
Flood volume = 476999.0 Cubic Feet
Total soil loss = 310844.1 Cubic Feet

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Peak flow rate of this hydrograph = 25.892(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

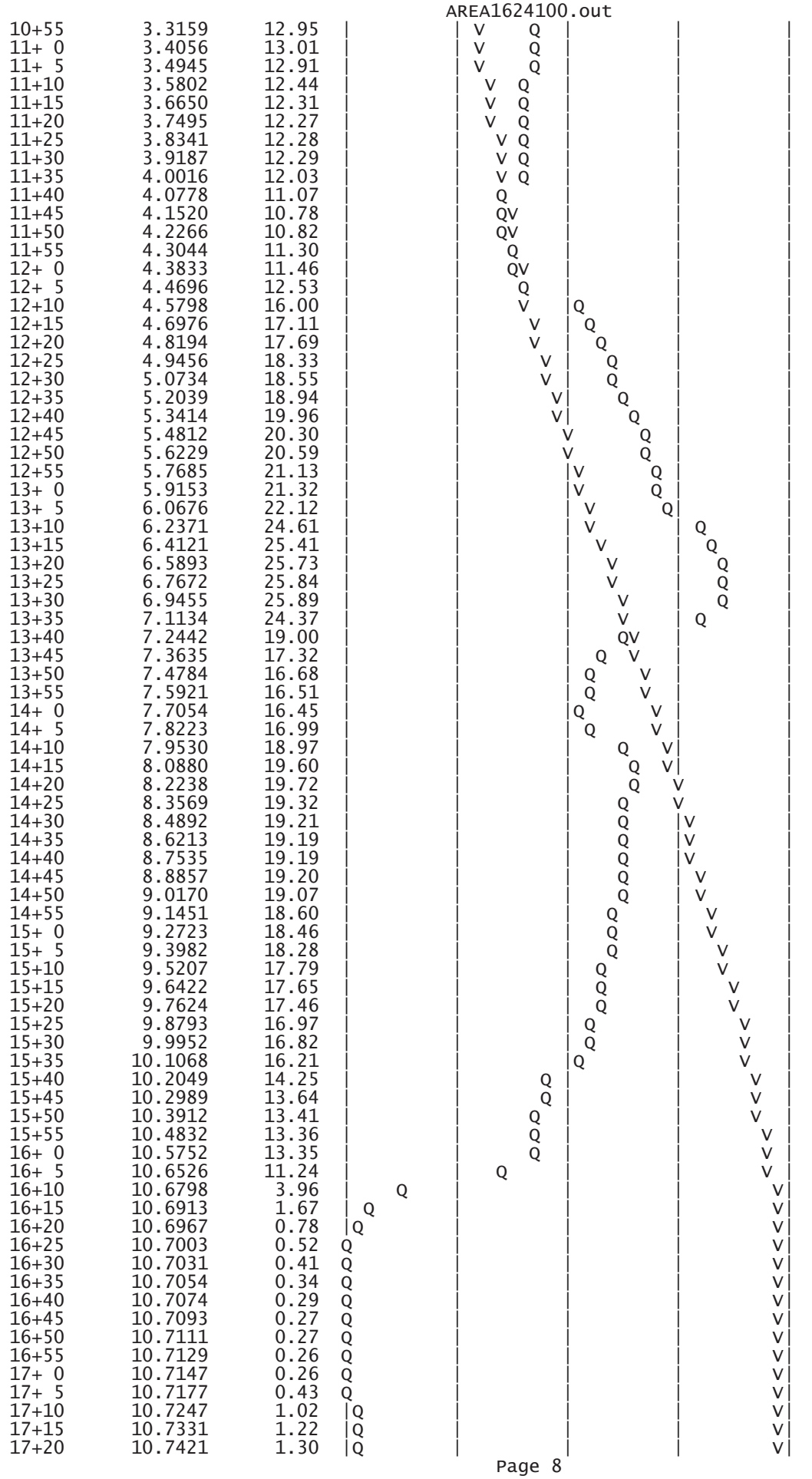
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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 7.5 | 15.0 | 22.5 | 30.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0002 | 0.03 | Q | | | | |
| 0+10 | 0.0011 | 0.13 | Q | | | | |
| 0+15 | 0.0021 | 0.16 | Q | | | | |
| 0+20 | 0.0034 | 0.18 | Q | | | | |
| 0+25 | 0.0050 | 0.24 | Q | | | | |
| 0+30 | 0.0068 | 0.25 | Q | | | | |
| 0+35 | 0.0086 | 0.26 | Q | | | | |
| 0+40 | 0.0104 | 0.26 | Q | | | | |
| 0+45 | 0.0122 | 0.26 | Q | | | | |
| 0+50 | 0.0141 | 0.28 | Q | | | | |
| 0+55 | 0.0163 | 0.33 | Q | | | | |
| 1+ 0 | 0.0187 | 0.34 | Q | | | | |
| 1+ 5 | 0.0210 | 0.33 | Q | | | | |
| 1+10 | 0.0229 | 0.29 | Q | | | | |
| 1+15 | 0.0248 | 0.27 | Q | | | | |
| 1+20 | 0.0266 | 0.27 | Q | | | | |
| 1+25 | 0.0285 | 0.26 | Q | | | | |
| 1+30 | 0.0303 | 0.26 | Q | | | | |
| 1+35 | 0.0321 | 0.26 | Q | | | | |
| 1+40 | 0.0339 | 0.26 | Q | | | | |
| 1+45 | 0.0357 | 0.26 | Q | | | | |
| 1+50 | 0.0376 | 0.28 | Q | | | | |
| 1+55 | 0.0398 | 0.33 | Q | | | | |
| 2+ 0 | 0.0422 | 0.34 | Q | | | | |
| 2+ 5 | 0.0446 | 0.35 | Q | | | | |
| 2+10 | 0.0470 | 0.35 | Q | | | | |
| 2+15 | 0.0494 | 0.35 | Q | | | | |
| 2+20 | 0.0518 | 0.35 | Q | | | | |
| 2+25 | 0.0542 | 0.35 | Q | | | | |
| 2+30 | 0.0566 | 0.35 | Q | | | | |
| 2+35 | 0.0591 | 0.36 | Q | | | | |
| 2+40 | 0.0620 | 0.41 | Q | | | | |
| 2+45 | 0.0649 | 0.43 | Q | | | | |
| 2+50 | 0.0679 | 0.43 | Q | | | | |
| 2+55 | 0.0709 | 0.44 | Q | | | | |
| 3+ 0 | 0.0739 | 0.44 | Q | | | | |
| 3+ 5 | 0.0770 | 0.44 | Q | | | | |
| 3+10 | 0.0800 | 0.44 | Q | | | | |
| 3+15 | 0.0830 | 0.44 | Q | | | | |
| 3+20 | 0.0860 | 0.44 | Q | | | | |
| 3+25 | 0.0890 | 0.44 | Q | | | | |
| 3+30 | 0.0920 | 0.44 | Q | | | | |
| 3+35 | 0.0951 | 0.44 | Q | | | | |
| 3+40 | 0.0981 | 0.44 | Q | | | | |
| 3+45 | 0.1011 | 0.44 | Q | | | | |
| 3+50 | 0.1042 | 0.45 | Q | | | | |
| 3+55 | 0.1076 | 0.50 | Q | | | | |
| 4+ 0 | 0.1112 | 0.52 | Q | | | | |
| 4+ 5 | 0.1148 | 0.52 | Q | | | | |
| 4+10 | 0.1184 | 0.52 | Q | | | | |
| 4+15 | 0.1220 | 0.52 | Q | | | | |
| 4+20 | 0.1257 | 0.54 | Q | | | | |

| | | | |
|---|---|---|---|
| 4+25 | 0.1298 | 0.59 | Q |
| 4+30 | 0.1339 | 0.60 | Q |
| 4+35 | 0.1381 | 0.61 | Q |
| 4+40 | 0.1424 | 0.61 | Q |
| 4+45 | 0.1466 | 0.61 | Q |
| 4+50 | 0.1509 | 0.63 | Q |
| 4+55 | 0.1558 | 0.71 | Q |
| 5+ 0 | 0.1609 | 0.75 | Q |
| 5+ 5 | 0.1660 | 0.73 | Q |
| 5+10 | 0.1701 | 0.59 | Q |
| 5+15 | 0.1739 | 0.55 | Q |
| 5+20 | 0.1776 | 0.55 | Q |
| 5+25 | 0.1817 | 0.59 | Q |
| 5+30 | 0.1859 | 0.61 | Q |
| 5+35 | 0.1905 | 0.67 | Q |
| 5+40 | 0.1965 | 0.88 | VQ |
| 5+45 | 0.2032 | 0.96 | VQ |
| 5+50 | 0.2101 | 1.01 | VQ |
| 5+55 | 0.2173 | 1.05 | VQ |
| 6+ 0 | 0.2247 | 1.07 | VQ |
| 6+ 5 | 0.2333 | 1.24 | VQ |
| 6+10 | 0.2454 | 1.76 | V Q |
| 6+15 | 0.2588 | 1.94 | V Q |
| 6+20 | 0.2728 | 2.03 | V Q |
| 6+25 | 0.2870 | 2.07 | \|VQ |
| 6+30 | 0.3015 | 2.10 | \|VQ |
| 6+35 | 0.3172 | 2.28 | \|V Q |
| 6+40 | 0.3364 | 2.79 | \|V Q |
| 6+45 | 0.3569 | 2.97 | \|V Q |
| 6+50 | 0.3779 | 3.06 | \|V  Q |
| 6+55 | 0.3993 | 3.10 | \|V  Q |
| 7+ 0 | 0.4209 | 3.13 | \|V  Q |
| 7+ 5 | 0.4426 | 3.16 | \|V  Q |
| 7+10 | 0.4646 | 3.19 | \|V  Q |
| 7+15 | 0.4867 | 3.21 | \|V  Q |
| 7+20 | 0.5100 | 3.38 | \|V  Q |
| 7+25 | 0.5369 | 3.90 | \|V   Q |
| 7+30 | 0.5649 | 4.08 | \| V  Q |
| 7+35 | 0.5945 | 4.30 | \| V  Q |
| 7+40 | 0.6279 | 4.84 | \| V   Q |
| 7+45 | 0.6624 | 5.02 | \| V   Q |
| 7+50 | 0.6986 | 5.25 | \| V    Q |
| 7+55 | 0.7385 | 5.79 | \| V    Q |
| 8+ 0 | 0.7796 | 5.97 | \| V    Q |
| 8+ 5 | 0.8233 | 6.34 | \|  V    Q |
| 8+10 | 0.8740 | 7.37 | \|  V     Q\| |
| 8+15 | 0.9271 | 7.71 | \|  V      Q |
| 8+20 | 0.9812 | 7.86 | \|  V      Q |
| 8+25 | 1.0357 | 7.91 | \|  V      Q |
| 8+30 | 1.0905 | 7.95 | \|  V      Q |
| 8+35 | 1.1464 | 8.13 | \|   V     Q |
| 8+40 | 1.2060 | 8.64 | \|   V     \|Q |
| 8+45 | 1.2667 | 8.82 | \|   V     \|Q |
| 8+50 | 1.3290 | 9.05 | \|   V     \| Q |
| 8+55 | 1.3950 | 9.58 | \|    V     \| Q |
| 9+ 0 | 1.4622 | 9.76 | \|    V     \|  Q |
| 9+ 5 | 1.5320 | 10.14 | \|    V     \|  Q |
| 9+10 | 1.6089 | 11.16 | \|    V     \|   Q |
| 9+15 | 1.6881 | 11.50 | \|     V     \|    Q |
| 9+20 | 1.7692 | 11.79 | \|     V     \|    Q |
| 9+25 | 1.8542 | 12.34 | \|     V     \|     Q |
| 9+30 | 1.9405 | 12.53 | \|      V     \|     Q |
| 9+35 | 2.0283 | 12.76 | \|      V     \|      Q |
| 9+40 | 2.1199 | 13.29 | \|      V     \|      Q |
| 9+45 | 2.2127 | 13.48 | \|       V     \|      Q |
| 9+50 | 2.3071 | 13.71 | \|       V     \|       Q |
| 9+55 | 2.4051 | 14.24 | \|       V     \|       Q |
| 10+ 0 | 2.5045 | 14.42 | \|        V\|        Q\| |
| 10+ 5 | 2.5975 | 13.52 | \|        V\|       Q \| |
| 10+10 | 2.6673 | 10.12 | \|        V\|  Q      \| |
| 10+15 | 2.7297 | 9.07 | \|        V\| Q       \| |
| 10+20 | 2.7895 | 8.68 | \|         VQ       \| |
| 10+25 | 2.8486 | 8.58 | \|         VQ       \| |
| 10+30 | 2.9075 | 8.55 | \|         VQ       \| |
| 10+35 | 2.9712 | 9.25 | \|         V Q      \| |
| 10+40 | 3.0520 | 11.73 | \|         \|V   Q    \| |
| 10+45 | 3.1383 | 12.52 | \|         \|V    Q   \| |
| 10+50 | 3.2267 | 12.84 | \|         \|V     Q  \| |



| | | | |
|---|---|---|---|
| 10+55 | 3.3159 | 12.95 | |
| 11+ 0 | 3.4056 | 13.01 | |
| 11+ 5 | 3.4945 | 12.91 | |
| 11+10 | 3.5802 | 12.44 | |
| 11+15 | 3.6650 | 12.31 | |
| 11+20 | 3.7495 | 12.27 | |
| 11+25 | 3.8341 | 12.28 | |
| 11+30 | 3.9187 | 12.29 | |
| 11+35 | 4.0016 | 12.03 | |
| 11+40 | 4.0778 | 11.07 | |
| 11+45 | 4.1520 | 10.78 | |
| 11+50 | 4.2266 | 10.82 | |
| 11+55 | 4.3044 | 11.30 | |
| 12+ 0 | 4.3833 | 11.46 | |
| 12+ 5 | 4.4696 | 12.53 | |
| 12+10 | 4.5798 | 16.00 | |
| 12+15 | 4.6976 | 17.11 | |
| 12+20 | 4.8194 | 17.69 | |
| 12+25 | 4.9456 | 18.33 | |
| 12+30 | 5.0734 | 18.55 | |
| 12+35 | 5.2039 | 18.94 | |
| 12+40 | 5.3414 | 19.96 | |
| 12+45 | 5.4812 | 20.30 | |
| 12+50 | 5.6229 | 20.59 | |
| 12+55 | 5.7685 | 21.13 | |
| 13+ 0 | 5.9153 | 21.32 | |
| 13+ 5 | 6.0676 | 22.12 | |
| 13+10 | 6.2371 | 24.61 | |
| 13+15 | 6.4121 | 25.41 | |
| 13+20 | 6.5893 | 25.73 | |
| 13+25 | 6.7672 | 25.84 | |
| 13+30 | 6.9455 | 25.89 | |
| 13+35 | 7.1134 | 24.37 | |
| 13+40 | 7.2442 | 19.00 | |
| 13+45 | 7.3635 | 17.32 | |
| 13+50 | 7.4784 | 16.68 | |
| 13+55 | 7.5921 | 16.51 | |
| 14+ 0 | 7.7054 | 16.45 | |
| 14+ 5 | 7.8223 | 16.99 | |
| 14+10 | 7.9530 | 18.97 | |
| 14+15 | 8.0880 | 19.60 | |
| 14+20 | 8.2238 | 19.72 | |
| 14+25 | 8.3569 | 19.32 | |
| 14+30 | 8.4892 | 19.21 | |
| 14+35 | 8.6213 | 19.19 | |
| 14+40 | 8.7535 | 19.19 | |
| 14+45 | 8.8857 | 19.20 | |
| 14+50 | 9.0170 | 19.07 | |
| 14+55 | 9.1451 | 18.60 | |
| 15+ 0 | 9.2723 | 18.46 | |
| 15+ 5 | 9.3982 | 18.28 | |
| 15+10 | 9.5207 | 17.79 | |
| 15+15 | 9.6422 | 17.65 | |
| 15+20 | 9.7624 | 17.46 | |
| 15+25 | 9.8793 | 16.97 | |
| 15+30 | 9.9952 | 16.82 | |
| 15+35 | 10.1068 | 16.21 | |
| 15+40 | 10.2049 | 14.25 | |
| 15+45 | 10.2989 | 13.64 | |
| 15+50 | 10.3912 | 13.41 | |
| 15+55 | 10.4832 | 13.36 | |
| 16+ 0 | 10.5752 | 13.35 | |
| 16+ 5 | 10.6526 | 11.24 | |
| 16+10 | 10.6798 | 3.96 | |
| 16+15 | 10.6913 | 1.67 | |
| 16+20 | 10.6967 | 0.78 | |
| 16+25 | 10.7003 | 0.52 | |
| 16+30 | 10.7031 | 0.41 | |
| 16+35 | 10.7054 | 0.34 | |
| 16+40 | 10.7074 | 0.29 | |
| 16+45 | 10.7093 | 0.27 | |
| 16+50 | 10.7111 | 0.27 | |
| 16+55 | 10.7129 | 0.26 | |
| 17+ 0 | 10.7147 | 0.26 | |
| 17+ 5 | 10.7177 | 0.43 | |
| 17+10 | 10.7247 | 1.02 | |
| 17+15 | 10.7331 | 1.22 | |
| 17+20 | 10.7421 | 1.30 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+25 | 10.7513 | 1.34 | \|Q | \| | \| | \| | V\| |
| 17+30 | 10.7607 | 1.36 | \|Q | \| | \| | \| | V\| |
| 17+35 | 10.7702 | 1.38 | \|Q | \| | \| | \| | V\| |
| 17+40 | 10.7798 | 1.40 | \|Q | \| | \| | \| | V\| |
| 17+45 | 10.7895 | 1.41 | \|Q | \| | \| | \| | V\| |
| 17+50 | 10.7983 | 1.28 | \|Q | \| | \| | \| | V\| |
| 17+55 | 10.8039 | 0.81 | \|Q | \| | \| | \| | V\| |
| 18+ 0 | 10.8085 | 0.67 | Q | \| | \| | \| | V\| |
| 18+ 5 | 10.8128 | 0.62 | Q | \| | \| | \| | V\| |
| 18+10 | 10.8170 | 0.62 | Q | \| | \| | \| | V\| |
| 18+15 | 10.8213 | 0.63 | Q | \| | \| | \| | V\| |
| 18+20 | 10.8257 | 0.64 | Q | \| | \| | \| | V\| |
| 18+25 | 10.8302 | 0.65 | Q | \| | \| | \| | V\| |
| 18+30 | 10.8348 | 0.66 | Q | \| | \| | \| | V\| |
| 18+35 | 10.8390 | 0.61 | Q | \| | \| | \| | V\| |
| 18+40 | 10.8416 | 0.38 | Q | \| | \| | \| | V\| |
| 18+45 | 10.8437 | 0.30 | Q | \| | \| | \| | V\| |
| 18+50 | 10.8455 | 0.26 | Q | \| | \| | \| | V\| |
| 18+55 | 10.8469 | 0.20 | Q | \| | \| | \| | V\| |
| 19+ 0 | 10.8481 | 0.19 | Q | \| | \| | \| | V\| |
| 19+ 5 | 10.8495 | 0.19 | Q | \| | \| | \| | V\| |
| 19+10 | 10.8511 | 0.24 | Q | \| | \| | \| | V\| |
| 19+15 | 10.8529 | 0.25 | Q | \| | \| | \| | V\| |
| 19+20 | 10.8553 | 0.35 | Q | \| | \| | \| | V\| |
| 19+25 | 10.8598 | 0.66 | Q | \| | \| | \| | V\| |
| 19+30 | 10.8651 | 0.77 | \|Q | \| | \| | \| | V\| |
| 19+35 | 10.8701 | 0.72 | Q | \| | \| | \| | V\| |
| 19+40 | 10.8729 | 0.41 | Q | \| | \| | \| | V\| |
| 19+45 | 10.8751 | 0.32 | Q | \| | \| | \| | V\| |
| 19+50 | 10.8770 | 0.27 | Q | \| | \| | \| | V\| |
| 19+55 | 10.8784 | 0.21 | Q | \| | \| | \| | V\| |
| 20+ 0 | 10.8797 | 0.19 | Q | \| | \| | \| | V\| |
| 20+ 5 | 10.8810 | 0.19 | Q | \| | \| | \| | V\| |
| 20+10 | 10.8826 | 0.24 | Q | \| | \| | \| | V\| |
| 20+15 | 10.8844 | 0.25 | Q | \| | \| | \| | V\| |
| 20+20 | 10.8862 | 0.26 | Q | \| | \| | \| | V\| |
| 20+25 | 10.8880 | 0.26 | Q | \| | \| | \| | V\| |
| 20+30 | 10.8898 | 0.26 | Q | \| | \| | \| | V\| |
| 20+35 | 10.8916 | 0.26 | Q | \| | \| | \| | V\| |
| 20+40 | 10.8934 | 0.26 | Q | \| | \| | \| | V\| |
| 20+45 | 10.8952 | 0.26 | Q | \| | \| | \| | V\| |
| 20+50 | 10.8969 | 0.25 | Q | \| | \| | \| | V\| |
| 20+55 | 10.8983 | 0.20 | Q | \| | \| | \| | V\| |
| 21+ 0 | 10.8996 | 0.18 | Q | \| | \| | \| | V\| |
| 21+ 5 | 10.9009 | 0.19 | Q | \| | \| | \| | V\| |
| 21+10 | 10.9025 | 0.24 | Q | \| | \| | \| | V\| |
| 21+15 | 10.9043 | 0.25 | Q | \| | \| | \| | V\| |
| 21+20 | 10.9060 | 0.25 | Q | \| | \| | \| | V\| |
| 21+25 | 10.9073 | 0.20 | Q | \| | \| | \| | V\| |
| 21+30 | 10.9086 | 0.18 | Q | \| | \| | \| | V\| |
| 21+35 | 10.9099 | 0.19 | Q | \| | \| | \| | V\| |
| 21+40 | 10.9116 | 0.24 | Q | \| | \| | \| | V\| |
| 21+45 | 10.9133 | 0.25 | Q | \| | \| | \| | V\| |
| 21+50 | 10.9150 | 0.25 | Q | \| | \| | \| | V\| |
| 21+55 | 10.9164 | 0.20 | Q | \| | \| | \| | V\| |
| 22+ 0 | 10.9176 | 0.18 | Q | \| | \| | \| | V\| |
| 22+ 5 | 10.9190 | 0.19 | Q | \| | \| | \| | V\| |
| 22+10 | 10.9207 | 0.25 | Q | \| | \| | \| | V\| |
| 22+15 | 10.9226 | 0.27 | Q | \| | \| | \| | V\| |
| 22+20 | 10.9244 | 0.27 | Q | \| | \| | \| | V\| |
| 22+25 | 10.9258 | 0.21 | Q | \| | \| | \| | V\| |
| 22+30 | 10.9271 | 0.19 | Q | \| | \| | \| | V\| |
| 22+35 | 10.9283 | 0.18 | Q | \| | \| | \| | V\| |
| 22+40 | 10.9296 | 0.18 | Q | \| | \| | \| | V\| |
| 22+45 | 10.9308 | 0.18 | Q | \| | \| | \| | V\| |
| 22+50 | 10.9320 | 0.18 | Q | \| | \| | \| | V\| |
| 22+55 | 10.9332 | 0.18 | Q | \| | \| | \| | V\| |
| 23+ 0 | 10.9344 | 0.18 | Q | \| | \| | \| | V\| |
| 23+ 5 | 10.9356 | 0.18 | Q | \| | \| | \| | V\| |
| 23+10 | 10.9368 | 0.18 | Q | \| | \| | \| | V\| |
| 23+15 | 10.9380 | 0.18 | Q | \| | \| | \| | V\| |
| 23+20 | 10.9392 | 0.18 | Q | \| | \| | \| | V\| |
| 23+25 | 10.9404 | 0.18 | Q | \| | \| | \| | V\| |
| 23+30 | 10.9416 | 0.18 | Q | \| | \| | \| | V\| |
| 23+35 | 10.9428 | 0.18 | Q | \| | \| | \| | V\| |
| 23+40 | 10.9440 | 0.18 | Q | \| | \| | \| | V\| |
| 23+45 | 10.9452 | 0.18 | Q | \| | \| | \| | V\| |
| 23+50 | 10.9464 | 0.18 | Q | \| | \| | \| | V\| |

```
   23+55      10.9477      0.18  Q          |          |          |         V|
   24+ 0      10.9489      0.18  Q          |          |          |         V|
   24+ 5      10.9499      0.15  Q          |          |          |         V|
   24+10      10.9502      0.05  Q          |          |          |         V|
   24+15      10.9503      0.02  Q          |          |          |         V|
   24+20      10.9504      0.01  Q          |          |          |         V|
   24+25      10.9504      0.00  Q          |          |          |         V|
   24+30      10.9504      0.00  Q          |          |          |          V
-------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA171100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 17
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

---

Drainage Area = 26.70(Ac.) = 0.042 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 26.70(Ac.) = 0.042 Sq. Mi.
Length along longest watercourse = 1711.00(Ft.)
Length along longest watercourse measured to centroid = 839.00(Ft.)
Length along longest watercourse = 0.324 Mi.
Length along longest watercourse measured to centroid = 0.159 Mi.
Difference in elevation = 220.00(Ft.)
Slope along watercourse = 678.9012 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.079 Hr.
Lag time = 4.73 Min.
25% of lag time = 1.18 Min.
40% of lag time = 1.89 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 26.70 | 0.50 | 13.35 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 26.70 | 1.20 | 32.04 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.98 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 26.700 | 81.93 | 0.000 |

Total Area Entered = 26.70(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 81.9 | 92.2 | 0.102 | 0.000 | 0.102 | 1.000 | 0.102 |
| | | | | | Sum (F) = | 0.102 |

Area averaged mean soil loss (F) (In/Hr) = 0.102

Minimum soil loss rate ((In/Hr)) = 0.051
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

---

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 105.711 | 16.446 | 4.425 |
| 2 0.167 | 211.422 | 56.089 | 15.093 |
| 3 0.250 | 317.133 | 17.489 | 4.706 |
| 4 0.333 | 422.844 | 6.760 | 1.819 |
| 5 0.417 | 528.555 | 1.950 | 0.525 |
| 6 0.500 | 634.266 | 0.799 | 0.215 |
| 7 0.583 | 739.977 | 0.467 | 0.126 |
| | Sum = 100.000 | Sum= | 26.909 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 4.20 | 0.605 | 0.102 | ( 0.544) | 0.503 |
| 2 0.17 | 4.30 | 0.619 | 0.102 | ( 0.557) | 0.517 |
| 3 0.25 | 5.00 | 0.720 | 0.102 | ( 0.648) | 0.618 |
| 4 0.33 | 5.00 | 0.720 | 0.102 | ( 0.648) | 0.618 |
| 5 0.42 | 5.80 | 0.835 | 0.102 | ( 0.751) | 0.733 |
| 6 0.50 | 6.50 | 0.936 | 0.102 | ( 0.842) | 0.834 |
| 7 0.58 | 7.40 | 1.065 | 0.102 | ( 0.959) | 0.963 |
| 8 0.67 | 8.60 | 1.238 | 0.102 | ( 1.114) | 1.136 |
| 9 0.75 | 12.30 | 1.771 | 0.102 | ( 1.594) | 1.669 |
| 10 0.83 | 29.10 | 4.189 | 0.102 | ( 3.770) | 4.087 |
| 11 0.92 | 6.80 | 0.979 | 0.102 | ( 0.881) | 0.877 |
| 12 1.00 | 5.00 | 0.720 | 0.102 | ( 0.648) | 0.618 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 13.2 |

Flood volume = Effective rainfall 1.10(In)
times area 26.7(Ac.)/[(In)/(Ft.)] = 2.4(Ac.Ft)
Total soil loss = 0.10(In)
Total soil loss = 0.227(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 106396.3 Cubic Feet
Total soil loss = 9880.7 Cubic Feet

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Peak flow rate of this hydrograph = 76.308(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 20.0 40.0 60.0 80.0 |
|---|---|---|---|
| 0+ 5 | 0.0153 | 2.23 | VQ |
| 0+10 | 0.0834 | 9.88 | V Q |
| 0+15 | 0.1723 | 12.91 | V Q |
| 0+20 | 0.2785 | 15.42 | V Q |
| 0+25 | 0.3934 | 16.69 | V Q |
| 0+30 | 0.5255 | 19.17 | VQ |
| 0+35 | 0.6765 | 21.93 | QV |
| 0+40 | 0.8512 | 25.36 | QV |
| 0+45 | 1.0660 | 31.19 | Q V |
| 0+50 | 1.4178 | 51.07 | V Q |
| 0+55 | 1.9433 | 76.31 | V Q |
| 1+ 0 | 2.2131 | 39.17 | Q V |
| 1+ 5 | 2.3656 | 22.14 | Q V |
| 1+10 | 2.4148 | 7.15 | Q V |

```
    1+15       2.4332      2.67  |Q        |          |          |        V|
    1+20       2.4403      1.03  Q         |          |          |        V|
    1+25       2.4420      0.24  Q         |          |          |        V|
    1+30       2.4425      0.08  Q         |          |          |         V
-------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA173100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 17
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

---

Drainage Area = 26.70(Ac.) = 0.042 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 26.70(Ac.) = 0.042 Sq. Mi.
Length along longest watercourse = 1711.00(Ft.)
Length along longest watercourse measured to centroid = 839.00(Ft.)
Length along longest watercourse = 0.324 Mi.
Length along longest watercourse measured to centroid = 0.159 Mi.
Difference in elevation = 220.00(Ft.)
Slope along watercourse = 678.9012 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.079 Hr.
Lag time = 4.73 Min.
25% of lag time = 1.18 Min.
40% of lag time = 1.89 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 26.70 | 0.81 | 21.63 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 26.70 | 1.82 | 48.59 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.810(In)
Area Averaged 100-Year Rainfall = 1.820(In)

Point rain (area averaged) = 1.820(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.820(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 26.700 | 81.93 | 0.000 |

Total Area Entered = 26.70(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 81.9 | 92.2 | 0.102 | 0.000 | 0.102 | 1.000 | 0.102 |
| | | | | | Sum (F) = | 0.102 |

Area averaged mean soil loss (F) (In/Hr) = 0.102

Minimum soil loss rate ((In/Hr)) = 0.051
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 105.711 | 16.446 | 4.425 |
| 2 0.167 | 211.422 | 56.089 | 15.093 |
| 3 0.250 | 317.133 | 17.489 | 4.706 |
| 4 0.333 | 422.844 | 6.760 | 1.819 |
| 5 0.417 | 528.555 | 1.950 | 0.525 |
| 6 0.500 | 634.266 | 0.799 | 0.215 |
| 7 0.583 | 739.977 | 0.467 | 0.126 |
| | Sum = 100.000 | Sum= | 26.909 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.284 | 0.102 | ( 0.255) | 0.182 |
| 2 | 0.17 | 1.30 | 0.284 | 0.102 | ( 0.255) | 0.182 |
| 3 | 0.25 | 1.10 | 0.240 | 0.102 | ( 0.216) | 0.138 |
| 4 | 0.33 | 1.50 | 0.328 | 0.102 | ( 0.295) | 0.226 |
| 5 | 0.42 | 1.50 | 0.328 | 0.102 | ( 0.295) | 0.226 |
| 6 | 0.50 | 1.80 | 0.393 | 0.102 | ( 0.354) | 0.291 |
| 7 | 0.58 | 1.50 | 0.328 | 0.102 | ( 0.295) | 0.226 |
| 8 | 0.67 | 1.80 | 0.393 | 0.102 | ( 0.354) | 0.291 |
| 9 | 0.75 | 1.80 | 0.393 | 0.102 | ( 0.354) | 0.291 |
| 10 | 0.83 | 1.50 | 0.328 | 0.102 | ( 0.295) | 0.226 |
| 11 | 0.92 | 1.60 | 0.349 | 0.102 | ( 0.314) | 0.247 |
| 12 | 1.00 | 1.80 | 0.393 | 0.102 | ( 0.354) | 0.291 |
| 13 | 1.08 | 2.20 | 0.480 | 0.102 | ( 0.432) | 0.378 |
| 14 | 1.17 | 2.20 | 0.480 | 0.102 | ( 0.432) | 0.378 |
| 15 | 1.25 | 2.20 | 0.480 | 0.102 | ( 0.432) | 0.378 |
| 16 | 1.33 | 2.00 | 0.437 | 0.102 | ( 0.393) | 0.335 |
| 17 | 1.42 | 2.60 | 0.568 | 0.102 | ( 0.511) | 0.466 |
| 18 | 1.50 | 2.70 | 0.590 | 0.102 | ( 0.531) | 0.488 |
| 19 | 1.58 | 2.40 | 0.524 | 0.102 | ( 0.472) | 0.422 |
| 20 | 1.67 | 2.70 | 0.590 | 0.102 | ( 0.531) | 0.488 |
| 21 | 1.75 | 3.30 | 0.721 | 0.102 | ( 0.649) | 0.619 |
| 22 | 1.83 | 3.10 | 0.677 | 0.102 | ( 0.609) | 0.575 |
| 23 | 1.92 | 2.90 | 0.633 | 0.102 | ( 0.570) | 0.531 |
| 24 | 2.00 | 3.00 | 0.655 | 0.102 | ( 0.590) | 0.553 |
| 25 | 2.08 | 3.10 | 0.677 | 0.102 | ( 0.609) | 0.575 |
| 26 | 2.17 | 4.20 | 0.917 | 0.102 | ( 0.825) | 0.815 |
| 27 | 2.25 | 5.00 | 1.092 | 0.102 | ( 0.983) | 0.990 |
| 28 | 2.33 | 3.50 | 0.764 | 0.102 | ( 0.688) | 0.662 |
| 29 | 2.42 | 6.80 | 1.485 | 0.102 | ( 1.336) | 1.383 |
| 30 | 2.50 | 7.30 | 1.594 | 0.102 | ( 1.435) | 1.492 |
| 31 | 2.58 | 8.20 | 1.791 | 0.102 | ( 1.612) | 1.689 |
| 32 | 2.67 | 5.90 | 1.288 | 0.102 | ( 1.160) | 1.186 |
| 33 | 2.75 | 2.00 | 0.437 | 0.102 | ( 0.393) | 0.335 |
| 34 | 2.83 | 1.80 | 0.393 | 0.102 | ( 0.354) | 0.291 |
| 35 | 2.92 | 1.80 | 0.393 | 0.102 | ( 0.354) | 0.291 |
| 36 | 3.00 | 0.60 | 0.131 | 0.102 | ( 0.118) | 0.029 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 18.2 |

Flood volume = Effective rainfall 1.51(In)
times area 26.7(Ac.)/[(In)/(Ft.)] = 3.4(Ac.Ft)
Total soil loss = 0.31(In)
Total soil loss = 0.680(Ac.Ft)
Total rainfall = 1.82(In)
Flood volume = 146733.5 Cubic Feet
Total soil loss = 29642.1 Cubic Feet

Peak flow rate of this hydrograph = 40.960(CFS)

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3 - H O U R  S T O R M
R u n o f f  H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 12.5 | 25.0 | 37.5 | 50.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0055 | 0.81 | Q | | | | |
| 0+10 | 0.0300 | 3.55 | V Q | | | | |
| 0+15 | 0.0591 | 4.22 | V Q | | | | |
| 0+20 | 0.0885 | 4.27 | V Q | | | | |
| 0+25 | 0.1263 | 5.48 | V Q | | | | |
| 0+30 | 0.1686 | 6.14 | V Q | | | | |
| 0+35 | 0.2168 | 7.00 | V Q | | | | |
| 0+40 | 0.2626 | 6.65 | V Q | | | | |
| 0+45 | 0.3140 | 7.46 | V Q | | | | |
| 0+50 | 0.3650 | 7.41 | VQ | | | | |
| 0+55 | 0.4105 | 6.61 | VQ | | | | |
| 1+ 0 | 0.4577 | 6.86 | Q | | | | |
| 1+ 5 | 0.5121 | 7.89 | Q | | | | |
| 1+10 | 0.5770 | 9.43 | VQ | | | | |
| 1+15 | 0.6453 | 9.92 | Q | | | | |
| 1+20 | 0.7135 | 9.90 | QV | | | | |
| 1+25 | 0.7816 | 9.88 | Q V | | | | |
| 1+30 | 0.8627 | 11.78 | QV | | | | |
| 1+35 | 0.9479 | 12.36 | Q V | | | | |
| 1+40 | 1.0304 | 11.98 | Q V | | | | |
| 1+45 | 1.1223 | 13.34 | Q V | | | | |
| 1+50 | 1.2280 | 15.35 | Q V | | | | |
| 1+55 | 1.3328 | 15.22 | Q V | | | | |
| 2+ 0 | 1.4342 | 14.71 | Q V | | | | |
| 2+ 5 | 1.5370 | 14.93 | Q V | | | | |
| 2+10 | 1.6497 | 16.36 | Q V | | | | |
| 2+15 | 1.7935 | 20.89 | Q V | | | | |
| 2+20 | 1.9536 | 23.24 | Q V | | | | |
| 2+25 | 2.1103 | 22.76 | Q V | | | | |
| 2+30 | 2.3378 | 33.03 | QV | | | | |
| 2+35 | 2.6029 | 38.49 | Q | | | | |
| 2+40 | 2.8850 | 40.96 | Q V | | | | |
| 2+45 | 3.0989 | 31.06 | Q V | | | | |
| 2+50 | 3.2103 | 16.17 | Q V | | | | |
| 2+55 | 3.2847 | 10.80 | Q V | | | | |
| 3+ 0 | 3.3376 | 7.68 | Q V | | | | |
| 3+ 5 | 3.3581 | 2.98 | Q V | | | | |
| 3+10 | 3.3653 | 1.04 | Q V | | | | |
| 3+15 | 3.3674 | 0.31 | Q V | | | | |
| 3+20 | 3.3682 | 0.11 | Q V | | | | |
| 3+25 | 3.3685 | 0.04 | Q V | | | | |
| 3+30 | 3.3685 | 0.00 | Q V | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA176100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 17
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

---

Drainage Area = 26.70(Ac.) = 0.042 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 26.70(Ac.) = 0.042 Sq. Mi.
Length along longest watercourse = 1711.00(Ft.)
Length along longest watercourse measured to centroid = 839.00(Ft.)
Length along longest watercourse = 0.324 Mi.
Length along longest watercourse measured to centroid = 0.159 Mi.
Difference in elevation = 220.00(Ft.)
Slope along watercourse = 678.9012 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.079 Hr.
Lag time = 4.73 Min.
25% of lag time = 1.18 Min.
40% of lag time = 1.89 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 26.70 | 1.15 | 30.70 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 26.70 | 2.50 | 66.75 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.150(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 26.700 | 81.93 | 0.000 |

Total Area Entered = 26.70(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 81.9 | 92.2 | 0.102 | 0.000 | 0.102 | 1.000 | 0.102 |
| | | | | | Sum (F) = | 0.102 |

Area averaged mean soil loss (F) (In/Hr) = 0.102

Minimum soil loss rate ((In/Hr)) = 0.051
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 105.711 | 16.446 | 4.425 |
| 2 0.167 | 211.422 | 56.089 | 15.093 |
| 3 0.250 | 317.133 | 17.489 | 4.706 |
| 4 0.333 | 422.844 | 6.760 | 1.819 |
| 5 0.417 | 528.555 | 1.950 | 0.525 |
| 6 0.500 | 634.266 | 0.799 | 0.215 |
| 7 0.583 | 739.977 | 0.467 | 0.126 |
| | Sum = 100.000 | Sum= | 26.909 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.102 | ( 0.135) | 0.048 |
| 2 | 0.17 | 0.60 | 0.180 | 0.102 | ( 0.162) | 0.078 |
| 3 | 0.25 | 0.60 | 0.180 | 0.102 | ( 0.162) | 0.078 |
| 4 | 0.33 | 0.60 | 0.180 | 0.102 | ( 0.162) | 0.078 |
| 5 | 0.42 | 0.60 | 0.180 | 0.102 | ( 0.162) | 0.078 |
| 6 | 0.50 | 0.70 | 0.210 | 0.102 | ( 0.189) | 0.108 |
| 7 | 0.58 | 0.70 | 0.210 | 0.102 | ( 0.189) | 0.108 |
| 8 | 0.67 | 0.70 | 0.210 | 0.102 | ( 0.189) | 0.108 |
| 9 | 0.75 | 0.70 | 0.210 | 0.102 | ( 0.189) | 0.108 |
| 10 | 0.83 | 0.70 | 0.210 | 0.102 | ( 0.189) | 0.108 |
| 11 | 0.92 | 0.70 | 0.210 | 0.102 | ( 0.189) | 0.108 |
| 12 | 1.00 | 0.80 | 0.240 | 0.102 | ( 0.216) | 0.138 |
| 13 | 1.08 | 0.80 | 0.240 | 0.102 | ( 0.216) | 0.138 |
| 14 | 1.17 | 0.80 | 0.240 | 0.102 | ( 0.216) | 0.138 |
| 15 | 1.25 | 0.80 | 0.240 | 0.102 | ( 0.216) | 0.138 |
| 16 | 1.33 | 0.80 | 0.240 | 0.102 | ( 0.216) | 0.138 |
| 17 | 1.42 | 0.80 | 0.240 | 0.102 | ( 0.216) | 0.138 |
| 18 | 1.50 | 0.80 | 0.240 | 0.102 | ( 0.216) | 0.138 |
| 19 | 1.58 | 0.80 | 0.240 | 0.102 | ( 0.216) | 0.138 |
| 20 | 1.67 | 0.80 | 0.240 | 0.102 | ( 0.216) | 0.138 |
| 21 | 1.75 | 0.80 | 0.240 | 0.102 | ( 0.216) | 0.138 |
| 22 | 1.83 | 0.80 | 0.240 | 0.102 | ( 0.216) | 0.138 |
| 23 | 1.92 | 0.80 | 0.240 | 0.102 | ( 0.216) | 0.138 |
| 24 | 2.00 | 0.90 | 0.270 | 0.102 | ( 0.243) | 0.168 |
| 25 | 2.08 | 0.80 | 0.240 | 0.102 | ( 0.216) | 0.138 |
| 26 | 2.17 | 0.90 | 0.270 | 0.102 | ( 0.243) | 0.168 |
| 27 | 2.25 | 0.90 | 0.270 | 0.102 | ( 0.243) | 0.168 |
| 28 | 2.33 | 0.90 | 0.270 | 0.102 | ( 0.243) | 0.168 |
| 29 | 2.42 | 0.90 | 0.270 | 0.102 | ( 0.243) | 0.168 |
| 30 | 2.50 | 0.90 | 0.270 | 0.102 | ( 0.243) | 0.168 |
| 31 | 2.58 | 0.90 | 0.270 | 0.102 | ( 0.243) | 0.168 |
| 32 | 2.67 | 0.90 | 0.270 | 0.102 | ( 0.243) | 0.168 |
| 33 | 2.75 | 1.00 | 0.300 | 0.102 | ( 0.270) | 0.198 |
| 34 | 2.83 | 1.00 | 0.300 | 0.102 | ( 0.270) | 0.198 |
| 35 | 2.92 | 1.00 | 0.300 | 0.102 | ( 0.270) | 0.198 |
| 36 | 3.00 | 1.00 | 0.300 | 0.102 | ( 0.270) | 0.198 |
| 37 | 3.08 | 1.00 | 0.300 | 0.102 | ( 0.270) | 0.198 |
| 38 | 3.17 | 1.10 | 0.330 | 0.102 | ( 0.297) | 0.228 |
| 39 | 3.25 | 1.10 | 0.330 | 0.102 | ( 0.297) | 0.228 |
| 40 | 3.33 | 1.10 | 0.330 | 0.102 | ( 0.297) | 0.228 |
| 41 | 3.42 | 1.20 | 0.360 | 0.102 | ( 0.324) | 0.258 |
| 42 | 3.50 | 1.30 | 0.390 | 0.102 | ( 0.351) | 0.288 |
| 43 | 3.58 | 1.40 | 0.420 | 0.102 | ( 0.378) | 0.318 |
| 44 | 3.67 | 1.40 | 0.420 | 0.102 | ( 0.378) | 0.318 |
| 45 | 3.75 | 1.50 | 0.450 | 0.102 | ( 0.405) | 0.348 |
| 46 | 3.83 | 1.50 | 0.450 | 0.102 | ( 0.405) | 0.348 |
| 47 | 3.92 | 1.60 | 0.480 | 0.102 | ( 0.432) | 0.378 |
| 48 | 4.00 | 1.60 | 0.480 | 0.102 | ( 0.432) | 0.378 |
| 49 | 4.08 | 1.70 | 0.510 | 0.102 | ( 0.459) | 0.408 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 50 | 4.17 | 1.80 | 0.540 | 0.102 | ( 0.486) | 0.438 | |
| 51 | 4.25 | 1.90 | 0.570 | 0.102 | ( 0.513) | 0.468 | |
| 52 | 4.33 | 2.00 | 0.600 | 0.102 | ( 0.540) | 0.498 | |
| 53 | 4.42 | 2.10 | 0.630 | 0.102 | ( 0.567) | 0.528 | |
| 54 | 4.50 | 2.10 | 0.630 | 0.102 | ( 0.567) | 0.528 | |
| 55 | 4.58 | 2.20 | 0.660 | 0.102 | ( 0.594) | 0.558 | |
| 56 | 4.67 | 2.30 | 0.690 | 0.102 | ( 0.621) | 0.588 | |
| 57 | 4.75 | 2.40 | 0.720 | 0.102 | ( 0.648) | 0.618 | |
| 58 | 4.83 | 2.40 | 0.720 | 0.102 | ( 0.648) | 0.618 | |
| 59 | 4.92 | 2.50 | 0.750 | 0.102 | ( 0.675) | 0.648 | |
| 60 | 5.00 | 2.60 | 0.780 | 0.102 | ( 0.702) | 0.678 | |
| 61 | 5.08 | 3.10 | 0.930 | 0.102 | ( 0.837) | 0.828 | |
| 62 | 5.17 | 3.60 | 1.080 | 0.102 | ( 0.972) | 0.978 | |
| 63 | 5.25 | 3.90 | 1.170 | 0.102 | ( 1.053) | 1.068 | |
| 64 | 5.33 | 4.20 | 1.260 | 0.102 | ( 1.134) | 1.158 | |
| 65 | 5.42 | 4.70 | 1.410 | 0.102 | ( 1.269) | 1.308 | |
| 66 | 5.50 | 5.60 | 1.680 | 0.102 | ( 1.512) | 1.578 | |
| 67 | 5.58 | 1.90 | 0.570 | 0.102 | ( 0.513) | 0.468 | |
| 68 | 5.67 | 0.90 | 0.270 | 0.102 | ( 0.243) | 0.168 | |
| 69 | 5.75 | 0.60 | 0.180 | 0.102 | ( 0.162) | 0.078 | |
| 70 | 5.83 | 0.50 | 0.150 | 0.102 | ( 0.135) | 0.048 | |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.102) | 0.081 | 0.009 | |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.102) | 0.054 | 0.006 | |

(Loss Rate Not Used)

Sum = 100.0 Sum = 22.7

Flood volume = Effective rainfall 1.89(In)
times area 26.7(Ac.)/[(In)/(Ft.)] = 4.2(Ac.Ft)
Total soil loss = 0.61(In)
Total soil loss = 1.348(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 183552.5 Cubic Feet
Total soil loss = 58727.7 Cubic Feet

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Peak flow rate of this hydrograph = 35.040(CFS)

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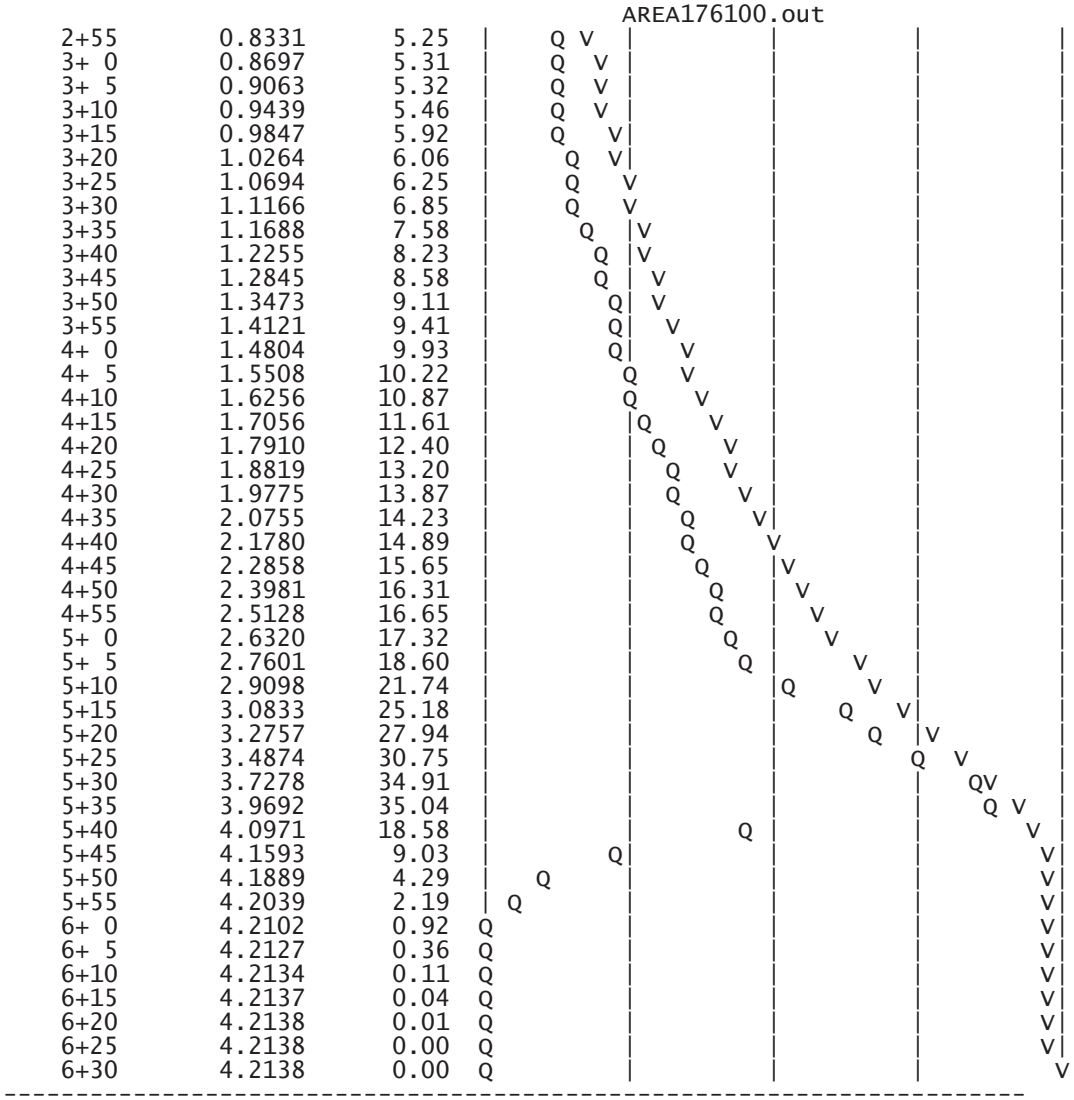
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 10.0 | 20.0 | 30.0 | 40.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0015 | 0.21 | Q | \| | \| | \| | \| |
| 0+10 | 0.0088 | 1.07 | VQ | \| | \| | \| | \| |
| 0+15 | 0.0209 | 1.75 | VQ | \| | \| | \| | \| |
| 0+20 | 0.0345 | 1.98 | VQ | \| | \| | \| | \| |
| 0+25 | 0.0487 | 2.06 | V Q | \| | \| | \| | \| |
| 0+30 | 0.0640 | 2.22 | V Q | \| | \| | \| | \| |
| 0+35 | 0.0825 | 2.68 | V Q | \| | \| | \| | \| |
| 0+40 | 0.1019 | 2.83 | V Q | \| | \| | \| | \| |
| 0+45 | 0.1218 | 2.88 | \|VQ | \| | \| | \| | \| |
| 0+50 | 0.1417 | 2.90 | \|VQ | \| | \| | \| | \| |
| 0+55 | 0.1617 | 2.90 | \|VQ | \| | \| | \| | \| |
| 1+ 0 | 0.1827 | 3.04 | \|V Q | \| | \| | \| | \| |
| 1+ 5 | 0.2068 | 3.49 | \|V Q | \| | \| | \| | \| |
| 1+10 | 0.2318 | 3.64 | \| VQ | \| | \| | \| | \| |
| 1+15 | 0.2572 | 3.69 | \| VQ | \| | \| | \| | \| |
| 1+20 | 0.2827 | 3.71 | \| VQ | \| | \| | \| | \| |
| 1+25 | 0.3083 | 3.71 | \| VQ | \| | \| | \| | \| |
| 1+30 | 0.3339 | 3.72 | \| Q | \| | \| | \| | \| |
| 1+35 | 0.3595 | 3.72 | \| Q | \| | \| | \| | \| |
| 1+40 | 0.3851 | 3.72 | \| Q | \| | \| | \| | \| |
| 1+45 | 0.4107 | 3.72 | \| Q | \| | \| | \| | \| |
| 1+50 | 0.4363 | 3.72 | \| QV | \| | \| | \| | \| |
| 1+55 | 0.4619 | 3.72 | \| QV | \| | \| | \| | \| |
| 2+ 0 | 0.4884 | 3.85 | \| QV | \| | \| | \| | \| |
| 2+ 5 | 0.5171 | 4.17 | \| Q | \| | \| | \| | \| |
| 2+10 | 0.5446 | 3.99 | \| Q V | \| | \| | \| | \| |
| 2+15 | 0.5746 | 4.36 | \| QV | \| | \| | \| | \| |
| 2+20 | 0.6053 | 4.46 | \| QV | \| | \| | \| | \| |
| 2+25 | 0.6363 | 4.50 | \| Q V | \| | \| | \| | \| |
| 2+30 | 0.6674 | 4.52 | \| Q V | \| | \| | \| | \| |
| 2+35 | 0.6985 | 4.52 | \| Q V | \| | \| | \| | \| |
| 2+40 | 0.7297 | 4.52 | \| Q V | \| | \| | \| | \| |
| 2+45 | 0.7618 | 4.66 | \| Q V | \| | \| | \| | \| |
| 2+50 | 0.7970 | 5.11 | \| Q V | \| | \| | \| | \| |



| | | | |
|---|---|---|---|
| 2+55 | 0.8331 | 5.25 | |
| 3+ 0 | 0.8697 | 5.31 | |
| 3+ 5 | 0.9063 | 5.32 | |
| 3+10 | 0.9439 | 5.46 | |
| 3+15 | 0.9847 | 5.92 | |
| 3+20 | 1.0264 | 6.06 | |
| 3+25 | 1.0694 | 6.25 | |
| 3+30 | 1.1166 | 6.85 | |
| 3+35 | 1.1688 | 7.58 | |
| 3+40 | 1.2255 | 8.23 | |
| 3+45 | 1.2845 | 8.58 | |
| 3+50 | 1.3473 | 9.11 | |
| 3+55 | 1.4121 | 9.41 | |
| 4+ 0 | 1.4804 | 9.93 | |
| 4+ 5 | 1.5508 | 10.22 | |
| 4+10 | 1.6256 | 10.87 | |
| 4+15 | 1.7056 | 11.61 | |
| 4+20 | 1.7910 | 12.40 | |
| 4+25 | 1.8819 | 13.20 | |
| 4+30 | 1.9775 | 13.87 | |
| 4+35 | 2.0755 | 14.23 | |
| 4+40 | 2.1780 | 14.89 | |
| 4+45 | 2.2858 | 15.65 | |
| 4+50 | 2.3981 | 16.31 | |
| 4+55 | 2.5128 | 16.65 | |
| 5+ 0 | 2.6320 | 17.32 | |
| 5+ 5 | 2.7601 | 18.60 | |
| 5+10 | 2.9098 | 21.74 | |
| 5+15 | 3.0833 | 25.18 | |
| 5+20 | 3.2757 | 27.94 | |
| 5+25 | 3.4874 | 30.75 | |
| 5+30 | 3.7278 | 34.91 | |
| 5+35 | 3.9692 | 35.04 | |
| 5+40 | 4.0971 | 18.58 | |
| 5+45 | 4.1593 | 9.03 | |
| 5+50 | 4.1889 | 4.29 | |
| 5+55 | 4.2039 | 2.19 | |
| 6+ 0 | 4.2102 | 0.92 | |
| 6+ 5 | 4.2127 | 0.36 | |
| 6+10 | 4.2134 | 0.11 | |
| 6+15 | 4.2137 | 0.04 | |
| 6+20 | 4.2138 | 0.01 | |
| 6+25 | 4.2138 | 0.00 | |
| 6+30 | 4.2138 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 17
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

---

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Drainage Area for Depth-Area Areal Adjustment = 26.70(Ac.) = 0.042 Sq. Mi.
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Length along longest watercourse = 0.324 Mi.
Length along longest watercourse measured to centroid = 0.159 Mi.
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Average Manning's 'N' = 0.035
Lag time = 0.079 Hr.
Lag time = 4.73 Min.
25% of lag time = 1.18 Min.
40% of lag time = 1.89 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 26.70 | 1.80 | 48.06 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 26.70 | 4.74 | 126.56 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.740(In)

Point rain (area averaged) = 4.740(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 4.740(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 26.700 | 81.93 | 0.000 |

Total Area Entered = 26.70(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 81.9 | 92.2 | 0.102 | 0.000 | 0.102 | 1.000 | 0.102 |
| | | | | | Sum (F) = | 0.102 |

Area averaged mean soil loss (F) (In/Hr) = 0.102

Minimum soil loss rate ((In/Hr)) = 0.051
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 105.711 | 16.446 | 4.425 |
| 2 0.167 | 211.422 | 56.089 | 15.093 |
| 3 0.250 | 317.133 | 17.489 | 4.706 |
| 4 0.333 | 422.844 | 6.760 | 1.819 |
| 5 0.417 | 528.555 | 1.950 | 0.525 |
| 6 0.500 | 634.266 | 0.799 | 0.215 |
| 7 0.583 | 739.977 | 0.467 | 0.126 |
| | | Sum = 100.000 | Sum= 26.909 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.038 | ( 0.181) | 0.034 | 0.004 |
| 2 | 0.17 | 0.07 | 0.038 | ( 0.180) | 0.034 | 0.004 |
| 3 | 0.25 | 0.07 | 0.038 | ( 0.179) | 0.034 | 0.004 |
| 4 | 0.33 | 0.10 | 0.057 | ( 0.179) | 0.051 | 0.006 |
| 5 | 0.42 | 0.10 | 0.057 | ( 0.178) | 0.051 | 0.006 |
| 6 | 0.50 | 0.10 | 0.057 | ( 0.177) | 0.051 | 0.006 |
| 7 | 0.58 | 0.10 | 0.057 | ( 0.177) | 0.051 | 0.006 |
| 8 | 0.67 | 0.10 | 0.057 | ( 0.176) | 0.051 | 0.006 |
| 9 | 0.75 | 0.10 | 0.057 | ( 0.175) | 0.051 | 0.006 |
| 10 | 0.83 | 0.13 | 0.076 | ( 0.174) | 0.068 | 0.008 |
| 11 | 0.92 | 0.13 | 0.076 | ( 0.174) | 0.068 | 0.008 |
| 12 | 1.00 | 0.13 | 0.076 | ( 0.173) | 0.068 | 0.008 |
| 13 | 1.08 | 0.10 | 0.057 | ( 0.172) | 0.051 | 0.006 |
| 14 | 1.17 | 0.10 | 0.057 | ( 0.172) | 0.051 | 0.006 |
| 15 | 1.25 | 0.10 | 0.057 | ( 0.171) | 0.051 | 0.006 |
| 16 | 1.33 | 0.10 | 0.057 | ( 0.170) | 0.051 | 0.006 |
| 17 | 1.42 | 0.10 | 0.057 | ( 0.170) | 0.051 | 0.006 |
| 18 | 1.50 | 0.10 | 0.057 | ( 0.169) | 0.051 | 0.006 |
| 19 | 1.58 | 0.10 | 0.057 | ( 0.168) | 0.051 | 0.006 |
| 20 | 1.67 | 0.10 | 0.057 | ( 0.168) | 0.051 | 0.006 |
| 21 | 1.75 | 0.10 | 0.057 | ( 0.167) | 0.051 | 0.006 |
| 22 | 1.83 | 0.13 | 0.076 | ( 0.166) | 0.068 | 0.008 |
| 23 | 1.92 | 0.13 | 0.076 | ( 0.166) | 0.068 | 0.008 |
| 24 | 2.00 | 0.13 | 0.076 | ( 0.165) | 0.068 | 0.008 |
| 25 | 2.08 | 0.13 | 0.076 | ( 0.164) | 0.068 | 0.008 |
| 26 | 2.17 | 0.13 | 0.076 | ( 0.164) | 0.068 | 0.008 |
| 27 | 2.25 | 0.13 | 0.076 | ( 0.163) | 0.068 | 0.008 |
| 28 | 2.33 | 0.13 | 0.076 | ( 0.162) | 0.068 | 0.008 |
| 29 | 2.42 | 0.13 | 0.076 | ( 0.162) | 0.068 | 0.008 |
| 30 | 2.50 | 0.13 | 0.076 | ( 0.161) | 0.068 | 0.008 |
| 31 | 2.58 | 0.17 | 0.095 | ( 0.160) | 0.085 | 0.009 |
| 32 | 2.67 | 0.17 | 0.095 | ( 0.160) | 0.085 | 0.009 |
| 33 | 2.75 | 0.17 | 0.095 | ( 0.159) | 0.085 | 0.009 |
| 34 | 2.83 | 0.17 | 0.095 | ( 0.158) | 0.085 | 0.009 |
| 35 | 2.92 | 0.17 | 0.095 | ( 0.158) | 0.085 | 0.009 |
| 36 | 3.00 | 0.17 | 0.095 | ( 0.157) | 0.085 | 0.009 |
| 37 | 3.08 | 0.17 | 0.095 | ( 0.156) | 0.085 | 0.009 |
| 38 | 3.17 | 0.17 | 0.095 | ( 0.156) | 0.085 | 0.009 |
| 39 | 3.25 | 0.17 | 0.095 | ( 0.155) | 0.085 | 0.009 |
| 40 | 3.33 | 0.17 | 0.095 | ( 0.154) | 0.085 | 0.009 |
| 41 | 3.42 | 0.17 | 0.095 | ( 0.154) | 0.085 | 0.009 |
| 42 | 3.50 | 0.17 | 0.095 | ( 0.153) | 0.085 | 0.009 |
| 43 | 3.58 | 0.17 | 0.095 | ( 0.153) | 0.085 | 0.009 |
| 44 | 3.67 | 0.17 | 0.095 | ( 0.152) | 0.085 | 0.009 |
| 45 | 3.75 | 0.17 | 0.095 | ( 0.151) | 0.085 | 0.009 |
| 46 | 3.83 | 0.20 | 0.114 | ( 0.151) | 0.102 | 0.011 |
| 47 | 3.92 | 0.20 | 0.114 | ( 0.150) | 0.102 | 0.011 |
| 48 | 4.00 | 0.20 | 0.114 | ( 0.149) | 0.102 | 0.011 |
| 49 | 4.08 | 0.20 | 0.114 | ( 0.149) | 0.102 | 0.011 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 50 | 4.17 | 0.20 | 0.114 | ( | 0.148) | 0.102 | | 0.011 |
| 51 | 4.25 | 0.20 | 0.114 | ( | 0.147) | 0.102 | | 0.011 |
| 52 | 4.33 | 0.23 | 0.133 | ( | 0.147) | 0.119 | | 0.013 |
| 53 | 4.42 | 0.23 | 0.133 | ( | 0.146) | 0.119 | | 0.013 |
| 54 | 4.50 | 0.23 | 0.133 | ( | 0.146) | 0.119 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.133 | ( | 0.145) | 0.119 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.133 | ( | 0.144) | 0.119 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.133 | ( | 0.144) | 0.119 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.152 | ( | 0.143) | 0.137 | | 0.015 |
| 59 | 4.92 | 0.27 | 0.152 | ( | 0.142) | 0.137 | | 0.015 |
| 60 | 5.00 | 0.27 | 0.152 | ( | 0.142) | 0.137 | | 0.015 |
| 61 | 5.08 | 0.20 | 0.114 | ( | 0.141) | 0.102 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.114 | ( | 0.141) | 0.102 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.114 | ( | 0.140) | 0.102 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.133 | ( | 0.139) | 0.119 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.133 | ( | 0.139) | 0.119 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.133 | ( | 0.138) | 0.119 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.152 | ( | 0.138) | 0.137 | | 0.015 |
| 68 | 5.67 | 0.27 | 0.152 | ( | 0.137) | 0.137 | | 0.015 |
| 69 | 5.75 | 0.27 | 0.152 | | 0.136 | ( | 0.137) | 0.015 |
| 70 | 5.83 | 0.27 | 0.152 | | 0.136 | ( | 0.137) | 0.016 |
| 71 | 5.92 | 0.27 | 0.152 | | 0.135 | ( | 0.137) | 0.017 |
| 72 | 6.00 | 0.27 | 0.152 | | 0.135 | ( | 0.137) | 0.017 |
| 73 | 6.08 | 0.30 | 0.171 | | 0.134 | ( | 0.154) | 0.037 |
| 74 | 6.17 | 0.30 | 0.171 | | 0.133 | ( | 0.154) | 0.037 |
| 75 | 6.25 | 0.30 | 0.171 | | 0.133 | ( | 0.154) | 0.038 |
| 76 | 6.33 | 0.30 | 0.171 | | 0.132 | ( | 0.154) | 0.038 |
| 77 | 6.42 | 0.30 | 0.171 | | 0.132 | ( | 0.154) | 0.039 |
| 78 | 6.50 | 0.30 | 0.171 | | 0.131 | ( | 0.154) | 0.040 |
| 79 | 6.58 | 0.33 | 0.190 | | 0.130 | ( | 0.171) | 0.059 |
| 80 | 6.67 | 0.33 | 0.190 | | 0.130 | ( | 0.171) | 0.060 |
| 81 | 6.75 | 0.33 | 0.190 | | 0.129 | ( | 0.171) | 0.060 |
| 82 | 6.83 | 0.33 | 0.190 | | 0.129 | ( | 0.171) | 0.061 |
| 83 | 6.92 | 0.33 | 0.190 | | 0.128 | ( | 0.171) | 0.062 |
| 84 | 7.00 | 0.33 | 0.190 | | 0.127 | ( | 0.171) | 0.062 |
| 85 | 7.08 | 0.33 | 0.190 | | 0.127 | ( | 0.171) | 0.063 |
| 86 | 7.17 | 0.33 | 0.190 | | 0.126 | ( | 0.171) | 0.063 |
| 87 | 7.25 | 0.33 | 0.190 | | 0.126 | ( | 0.171) | 0.064 |
| 88 | 7.33 | 0.37 | 0.209 | | 0.125 | ( | 0.188) | 0.083 |
| 89 | 7.42 | 0.37 | 0.209 | | 0.125 | ( | 0.188) | 0.084 |
| 90 | 7.50 | 0.37 | 0.209 | | 0.124 | ( | 0.188) | 0.085 |
| 91 | 7.58 | 0.40 | 0.228 | | 0.123 | ( | 0.205) | 0.104 |
| 92 | 7.67 | 0.40 | 0.228 | | 0.123 | ( | 0.205) | 0.105 |
| 93 | 7.75 | 0.40 | 0.228 | | 0.122 | ( | 0.205) | 0.105 |
| 94 | 7.83 | 0.43 | 0.246 | | 0.122 | ( | 0.222) | 0.125 |
| 95 | 7.92 | 0.43 | 0.246 | | 0.121 | ( | 0.222) | 0.125 |
| 96 | 8.00 | 0.43 | 0.246 | | 0.121 | ( | 0.222) | 0.126 |
| 97 | 8.08 | 0.50 | 0.284 | | 0.120 | ( | 0.256) | 0.164 |
| 98 | 8.17 | 0.50 | 0.284 | | 0.120 | ( | 0.256) | 0.165 |
| 99 | 8.25 | 0.50 | 0.284 | | 0.119 | ( | 0.256) | 0.165 |
| 100 | 8.33 | 0.50 | 0.284 | | 0.118 | ( | 0.256) | 0.166 |
| 101 | 8.42 | 0.50 | 0.284 | | 0.118 | ( | 0.256) | 0.167 |
| 102 | 8.50 | 0.50 | 0.284 | | 0.117 | ( | 0.256) | 0.167 |
| 103 | 8.58 | 0.53 | 0.303 | | 0.117 | ( | 0.273) | 0.187 |
| 104 | 8.67 | 0.53 | 0.303 | | 0.116 | ( | 0.273) | 0.187 |
| 105 | 8.75 | 0.53 | 0.303 | | 0.116 | ( | 0.273) | 0.188 |
| 106 | 8.83 | 0.57 | 0.322 | | 0.115 | ( | 0.290) | 0.207 |
| 107 | 8.92 | 0.57 | 0.322 | | 0.115 | ( | 0.290) | 0.208 |
| 108 | 9.00 | 0.57 | 0.322 | | 0.114 | ( | 0.290) | 0.208 |
| 109 | 9.08 | 0.63 | 0.360 | | 0.113 | ( | 0.324) | 0.247 |
| 110 | 9.17 | 0.63 | 0.360 | | 0.113 | ( | 0.324) | 0.247 |
| 111 | 9.25 | 0.63 | 0.360 | | 0.112 | ( | 0.324) | 0.248 |
| 112 | 9.33 | 0.67 | 0.379 | | 0.112 | ( | 0.341) | 0.267 |
| 113 | 9.42 | 0.67 | 0.379 | | 0.111 | ( | 0.341) | 0.268 |
| 114 | 9.50 | 0.67 | 0.379 | | 0.111 | ( | 0.341) | 0.268 |
| 115 | 9.58 | 0.70 | 0.398 | | 0.110 | ( | 0.358) | 0.288 |
| 116 | 9.67 | 0.70 | 0.398 | | 0.110 | ( | 0.358) | 0.288 |
| 117 | 9.75 | 0.70 | 0.398 | | 0.109 | ( | 0.358) | 0.289 |
| 118 | 9.83 | 0.73 | 0.417 | | 0.109 | ( | 0.375) | 0.308 |
| 119 | 9.92 | 0.73 | 0.417 | | 0.108 | ( | 0.375) | 0.309 |
| 120 | 10.00 | 0.73 | 0.417 | | 0.108 | ( | 0.375) | 0.309 |
| 121 | 10.08 | 0.50 | 0.284 | | 0.107 | ( | 0.256) | 0.177 |
| 122 | 10.17 | 0.50 | 0.284 | | 0.107 | ( | 0.256) | 0.178 |
| 123 | 10.25 | 0.50 | 0.284 | | 0.106 | ( | 0.256) | 0.178 |
| 124 | 10.33 | 0.50 | 0.284 | | 0.106 | ( | 0.256) | 0.179 |
| 125 | 10.42 | 0.50 | 0.284 | | 0.105 | ( | 0.256) | 0.179 |
| 126 | 10.50 | 0.50 | 0.284 | | 0.105 | ( | 0.256) | 0.180 |
| 127 | 10.58 | 0.67 | 0.379 | | 0.104 | ( | 0.341) | 0.275 |

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|---|---|---|---|---|---|---|
| 128 | 10.67 | 0.67 | 0.379 | 0.104 | ( 0.341) | 0.276 |
| 129 | 10.75 | 0.67 | 0.379 | 0.103 | ( 0.341) | 0.276 |
| 130 | 10.83 | 0.67 | 0.379 | 0.103 | ( 0.341) | 0.277 |
| 131 | 10.92 | 0.67 | 0.379 | 0.102 | ( 0.341) | 0.277 |
| 132 | 11.00 | 0.67 | 0.379 | 0.102 | ( 0.341) | 0.278 |
| 133 | 11.08 | 0.63 | 0.360 | 0.101 | ( 0.324) | 0.259 |
| 134 | 11.17 | 0.63 | 0.360 | 0.101 | ( 0.324) | 0.260 |
| 135 | 11.25 | 0.63 | 0.360 | 0.100 | ( 0.324) | 0.260 |
| 136 | 11.33 | 0.63 | 0.360 | 0.100 | ( 0.324) | 0.261 |
| 137 | 11.42 | 0.63 | 0.360 | 0.099 | ( 0.324) | 0.261 |
| 138 | 11.50 | 0.63 | 0.360 | 0.099 | ( 0.324) | 0.262 |
| 139 | 11.58 | 0.57 | 0.322 | 0.098 | ( 0.290) | 0.224 |
| 140 | 11.67 | 0.57 | 0.322 | 0.098 | ( 0.290) | 0.225 |
| 141 | 11.75 | 0.57 | 0.322 | 0.097 | ( 0.290) | 0.225 |
| 142 | 11.83 | 0.60 | 0.341 | 0.097 | ( 0.307) | 0.245 |
| 143 | 11.92 | 0.60 | 0.341 | 0.096 | ( 0.307) | 0.245 |
| 144 | 12.00 | 0.60 | 0.341 | 0.096 | ( 0.307) | 0.246 |
| 145 | 12.08 | 0.83 | 0.474 | 0.095 | ( 0.427) | 0.379 |
| 146 | 12.17 | 0.83 | 0.474 | 0.095 | ( 0.427) | 0.379 |
| 147 | 12.25 | 0.83 | 0.474 | 0.094 | ( 0.427) | 0.380 |
| 148 | 12.33 | 0.87 | 0.493 | 0.094 | ( 0.444) | 0.399 |
| 149 | 12.42 | 0.87 | 0.493 | 0.093 | ( 0.444) | 0.400 |
| 150 | 12.50 | 0.87 | 0.493 | 0.093 | ( 0.444) | 0.400 |
| 151 | 12.58 | 0.93 | 0.531 | 0.092 | ( 0.478) | 0.439 |
| 152 | 12.67 | 0.93 | 0.531 | 0.092 | ( 0.478) | 0.439 |
| 153 | 12.75 | 0.93 | 0.531 | 0.091 | ( 0.478) | 0.439 |
| 154 | 12.83 | 0.97 | 0.550 | 0.091 | ( 0.495) | 0.459 |
| 155 | 12.92 | 0.97 | 0.550 | 0.090 | ( 0.495) | 0.459 |
| 156 | 13.00 | 0.97 | 0.550 | 0.090 | ( 0.495) | 0.460 |
| 157 | 13.08 | 1.13 | 0.645 | 0.090 | ( 0.580) | 0.555 |
| 158 | 13.17 | 1.13 | 0.645 | 0.089 | ( 0.580) | 0.555 |
| 159 | 13.25 | 1.13 | 0.645 | 0.089 | ( 0.580) | 0.556 |
| 160 | 13.33 | 1.13 | 0.645 | 0.088 | ( 0.580) | 0.556 |
| 161 | 13.42 | 1.13 | 0.645 | 0.088 | ( 0.580) | 0.557 |
| 162 | 13.50 | 1.13 | 0.645 | 0.087 | ( 0.580) | 0.557 |
| 163 | 13.58 | 0.77 | 0.436 | 0.087 | ( 0.392) | 0.349 |
| 164 | 13.67 | 0.77 | 0.436 | 0.086 | ( 0.392) | 0.350 |
| 165 | 13.75 | 0.77 | 0.436 | 0.086 | ( 0.392) | 0.350 |
| 166 | 13.83 | 0.77 | 0.436 | 0.086 | ( 0.392) | 0.351 |
| 167 | 13.92 | 0.77 | 0.436 | 0.085 | ( 0.392) | 0.351 |
| 168 | 14.00 | 0.77 | 0.436 | 0.085 | ( 0.392) | 0.351 |
| 169 | 14.08 | 0.90 | 0.512 | 0.084 | ( 0.461) | 0.428 |
| 170 | 14.17 | 0.90 | 0.512 | 0.084 | ( 0.461) | 0.428 |
| 171 | 14.25 | 0.90 | 0.512 | 0.083 | ( 0.461) | 0.429 |
| 172 | 14.33 | 0.87 | 0.493 | 0.083 | ( 0.444) | 0.410 |
| 173 | 14.42 | 0.87 | 0.493 | 0.083 | ( 0.444) | 0.410 |
| 174 | 14.50 | 0.87 | 0.493 | 0.082 | ( 0.444) | 0.411 |
| 175 | 14.58 | 0.87 | 0.493 | 0.082 | ( 0.444) | 0.411 |
| 176 | 14.67 | 0.87 | 0.493 | 0.081 | ( 0.444) | 0.412 |
| 177 | 14.75 | 0.87 | 0.493 | 0.081 | ( 0.444) | 0.412 |
| 178 | 14.83 | 0.83 | 0.474 | 0.080 | ( 0.427) | 0.394 |
| 179 | 14.92 | 0.83 | 0.474 | 0.080 | ( 0.427) | 0.394 |
| 180 | 15.00 | 0.83 | 0.474 | 0.080 | ( 0.427) | 0.394 |
| 181 | 15.08 | 0.80 | 0.455 | 0.079 | ( 0.410) | 0.376 |
| 182 | 15.17 | 0.80 | 0.455 | 0.079 | ( 0.410) | 0.376 |
| 183 | 15.25 | 0.80 | 0.455 | 0.078 | ( 0.410) | 0.377 |
| 184 | 15.33 | 0.77 | 0.436 | 0.078 | ( 0.392) | 0.358 |
| 185 | 15.42 | 0.77 | 0.436 | 0.078 | ( 0.392) | 0.358 |
| 186 | 15.50 | 0.77 | 0.436 | 0.077 | ( 0.392) | 0.359 |
| 187 | 15.58 | 0.63 | 0.360 | 0.077 | ( 0.324) | 0.283 |
| 188 | 15.67 | 0.63 | 0.360 | 0.076 | ( 0.324) | 0.284 |
| 189 | 15.75 | 0.63 | 0.360 | 0.076 | ( 0.324) | 0.284 |
| 190 | 15.83 | 0.63 | 0.360 | 0.076 | ( 0.324) | 0.285 |
| 191 | 15.92 | 0.63 | 0.360 | 0.075 | ( 0.324) | 0.285 |
| 192 | 16.00 | 0.63 | 0.360 | 0.075 | ( 0.324) | 0.285 |
| 193 | 16.08 | 0.13 | 0.076 | ( 0.074) | 0.068 | 0.008 |
| 194 | 16.17 | 0.13 | 0.076 | ( 0.074) | 0.068 | 0.008 |
| 195 | 16.25 | 0.13 | 0.076 | ( 0.074) | 0.068 | 0.008 |
| 196 | 16.33 | 0.13 | 0.076 | ( 0.073) | 0.068 | 0.008 |
| 197 | 16.42 | 0.13 | 0.076 | ( 0.073) | 0.068 | 0.008 |
| 198 | 16.50 | 0.13 | 0.076 | ( 0.073) | 0.068 | 0.008 |
| 199 | 16.58 | 0.10 | 0.057 | ( 0.072) | 0.051 | 0.006 |
| 200 | 16.67 | 0.10 | 0.057 | ( 0.072) | 0.051 | 0.006 |
| 201 | 16.75 | 0.10 | 0.057 | ( 0.072) | 0.051 | 0.006 |
| 202 | 16.83 | 0.10 | 0.057 | ( 0.071) | 0.051 | 0.006 |
| 203 | 16.92 | 0.10 | 0.057 | ( 0.071) | 0.051 | 0.006 |
| 204 | 17.00 | 0.10 | 0.057 | ( 0.070) | 0.051 | 0.006 |
| 205 | 17.08 | 0.17 | 0.095 | 0.070 | ( 0.085) | 0.025 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 206 | 17.17 | 0.17 | 0.095 | 0.070 | ( 0.085) | 0.025 |
| 207 | 17.25 | 0.17 | 0.095 | 0.069 | ( 0.085) | 0.025 |
| 208 | 17.33 | 0.17 | 0.095 | 0.069 | ( 0.085) | 0.026 |
| 209 | 17.42 | 0.17 | 0.095 | 0.069 | ( 0.085) | 0.026 |
| 210 | 17.50 | 0.17 | 0.095 | 0.068 | ( 0.085) | 0.026 |
| 211 | 17.58 | 0.17 | 0.095 | 0.068 | ( 0.085) | 0.027 |
| 212 | 17.67 | 0.17 | 0.095 | 0.068 | ( 0.085) | 0.027 |
| 213 | 17.75 | 0.17 | 0.095 | 0.067 | ( 0.085) | 0.027 |
| 214 | 17.83 | 0.13 | 0.076 | 0.067 | ( 0.068) | 0.009 |
| 215 | 17.92 | 0.13 | 0.076 | 0.067 | ( 0.068) | 0.009 |
| 216 | 18.00 | 0.13 | 0.076 | 0.066 | ( 0.068) | 0.010 |
| 217 | 18.08 | 0.13 | 0.076 | 0.066 | ( 0.068) | 0.010 |
| 218 | 18.17 | 0.13 | 0.076 | 0.066 | ( 0.068) | 0.010 |
| 219 | 18.25 | 0.13 | 0.076 | 0.065 | ( 0.068) | 0.010 |
| 220 | 18.33 | 0.13 | 0.076 | 0.065 | ( 0.068) | 0.011 |
| 221 | 18.42 | 0.13 | 0.076 | 0.065 | ( 0.068) | 0.011 |
| 222 | 18.50 | 0.13 | 0.076 | 0.064 | ( 0.068) | 0.011 |
| 223 | 18.58 | 0.10 | 0.057 | ( 0.064) | 0.051 | 0.006 |
| 224 | 18.67 | 0.10 | 0.057 | ( 0.064) | 0.051 | 0.006 |
| 225 | 18.75 | 0.10 | 0.057 | ( 0.063) | 0.051 | 0.006 |
| 226 | 18.83 | 0.07 | 0.038 | ( 0.063) | 0.034 | 0.004 |
| 227 | 18.92 | 0.07 | 0.038 | ( 0.063) | 0.034 | 0.004 |
| 228 | 19.00 | 0.07 | 0.038 | ( 0.063) | 0.034 | 0.004 |
| 229 | 19.08 | 0.10 | 0.057 | ( 0.062) | 0.051 | 0.006 |
| 230 | 19.17 | 0.10 | 0.057 | ( 0.062) | 0.051 | 0.006 |
| 231 | 19.25 | 0.10 | 0.057 | ( 0.062) | 0.051 | 0.006 |
| 232 | 19.33 | 0.13 | 0.076 | 0.061 | ( 0.068) | 0.014 |
| 233 | 19.42 | 0.13 | 0.076 | 0.061 | ( 0.068) | 0.015 |
| 234 | 19.50 | 0.13 | 0.076 | 0.061 | ( 0.068) | 0.015 |
| 235 | 19.58 | 0.10 | 0.057 | ( 0.061) | 0.051 | 0.006 |
| 236 | 19.67 | 0.10 | 0.057 | ( 0.060) | 0.051 | 0.006 |
| 237 | 19.75 | 0.10 | 0.057 | ( 0.060) | 0.051 | 0.006 |
| 238 | 19.83 | 0.07 | 0.038 | ( 0.060) | 0.034 | 0.004 |
| 239 | 19.92 | 0.07 | 0.038 | ( 0.059) | 0.034 | 0.004 |
| 240 | 20.00 | 0.07 | 0.038 | ( 0.059) | 0.034 | 0.004 |
| 241 | 20.08 | 0.10 | 0.057 | ( 0.059) | 0.051 | 0.006 |
| 242 | 20.17 | 0.10 | 0.057 | ( 0.059) | 0.051 | 0.006 |
| 243 | 20.25 | 0.10 | 0.057 | ( 0.058) | 0.051 | 0.006 |
| 244 | 20.33 | 0.10 | 0.057 | ( 0.058) | 0.051 | 0.006 |
| 245 | 20.42 | 0.10 | 0.057 | ( 0.058) | 0.051 | 0.006 |
| 246 | 20.50 | 0.10 | 0.057 | ( 0.058) | 0.051 | 0.006 |
| 247 | 20.58 | 0.10 | 0.057 | ( 0.057) | 0.051 | 0.006 |
| 248 | 20.67 | 0.10 | 0.057 | ( 0.057) | 0.051 | 0.006 |
| 249 | 20.75 | 0.10 | 0.057 | ( 0.057) | 0.051 | 0.006 |
| 250 | 20.83 | 0.07 | 0.038 | ( 0.057) | 0.034 | 0.004 |
| 251 | 20.92 | 0.07 | 0.038 | ( 0.056) | 0.034 | 0.004 |
| 252 | 21.00 | 0.07 | 0.038 | ( 0.056) | 0.034 | 0.004 |
| 253 | 21.08 | 0.10 | 0.057 | ( 0.056) | 0.051 | 0.006 |
| 254 | 21.17 | 0.10 | 0.057 | ( 0.056) | 0.051 | 0.006 |
| 255 | 21.25 | 0.10 | 0.057 | ( 0.056) | 0.051 | 0.006 |
| 256 | 21.33 | 0.07 | 0.038 | ( 0.055) | 0.034 | 0.004 |
| 257 | 21.42 | 0.07 | 0.038 | ( 0.055) | 0.034 | 0.004 |
| 258 | 21.50 | 0.07 | 0.038 | ( 0.055) | 0.034 | 0.004 |
| 259 | 21.58 | 0.10 | 0.057 | ( 0.055) | 0.051 | 0.006 |
| 260 | 21.67 | 0.10 | 0.057 | ( 0.055) | 0.051 | 0.006 |
| 261 | 21.75 | 0.10 | 0.057 | ( 0.054) | 0.051 | 0.006 |
| 262 | 21.83 | 0.07 | 0.038 | ( 0.054) | 0.034 | 0.004 |
| 263 | 21.92 | 0.07 | 0.038 | ( 0.054) | 0.034 | 0.004 |
| 264 | 22.00 | 0.07 | 0.038 | ( 0.054) | 0.034 | 0.004 |
| 265 | 22.08 | 0.10 | 0.057 | ( 0.054) | 0.051 | 0.006 |
| 266 | 22.17 | 0.10 | 0.057 | ( 0.053) | 0.051 | 0.006 |
| 267 | 22.25 | 0.10 | 0.057 | ( 0.053) | 0.051 | 0.006 |
| 268 | 22.33 | 0.07 | 0.038 | ( 0.053) | 0.034 | 0.004 |
| 269 | 22.42 | 0.07 | 0.038 | ( 0.053) | 0.034 | 0.004 |
| 270 | 22.50 | 0.07 | 0.038 | ( 0.053) | 0.034 | 0.004 |
| 271 | 22.58 | 0.07 | 0.038 | ( 0.053) | 0.034 | 0.004 |
| 272 | 22.67 | 0.07 | 0.038 | ( 0.053) | 0.034 | 0.004 |
| 273 | 22.75 | 0.07 | 0.038 | ( 0.052) | 0.034 | 0.004 |
| 274 | 22.83 | 0.07 | 0.038 | ( 0.052) | 0.034 | 0.004 |
| 275 | 22.92 | 0.07 | 0.038 | ( 0.052) | 0.034 | 0.004 |
| 276 | 23.00 | 0.07 | 0.038 | ( 0.052) | 0.034 | 0.004 |
| 277 | 23.08 | 0.07 | 0.038 | ( 0.052) | 0.034 | 0.004 |
| 278 | 23.17 | 0.07 | 0.038 | ( 0.052) | 0.034 | 0.004 |
| 279 | 23.25 | 0.07 | 0.038 | ( 0.052) | 0.034 | 0.004 |
| 280 | 23.33 | 0.07 | 0.038 | ( 0.052) | 0.034 | 0.004 |
| 281 | 23.42 | 0.07 | 0.038 | ( 0.051) | 0.034 | 0.004 |
| 282 | 23.50 | 0.07 | 0.038 | ( 0.051) | 0.034 | 0.004 |
| 283 | 23.58 | 0.07 | 0.038 | ( 0.051) | 0.034 | 0.004 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 284 | 23.67 | 0.07 | 0.038 | ( | 0.051) | 0.034 | 0.004 |
| 285 | 23.75 | 0.07 | 0.038 | ( | 0.051) | 0.034 | 0.004 |
| 286 | 23.83 | 0.07 | 0.038 | ( | 0.051) | 0.034 | 0.004 |
| 287 | 23.92 | 0.07 | 0.038 | ( | 0.051) | 0.034 | 0.004 |
| 288 | 24.00 | 0.07 | 0.038 | ( | 0.051) | 0.034 | 0.004 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 33.7

Flood volume = Effective rainfall 2.81(In)
times area 26.7(Ac.)/[(In)/(Ft.)] = 6.2(Ac.Ft)
Total soil loss = 1.93(In)
Total soil loss = 4.300(Ac.Ft)
Total rainfall = 4.74(In)
Flood volume = 272085.2 Cubic Feet
Total soil loss = 187296.4 Cubic Feet

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Peak flow rate of this hydrograph = 14.976(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 5.0 | 10.0 | 15.0 | 20.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0001 | 0.02 | Q | | | | |
| 0+10 | 0.0006 | 0.07 | Q | | | | |
| 0+15 | 0.0013 | 0.09 | Q | | | | |
| 0+20 | 0.0020 | 0.11 | Q | | | | |
| 0+25 | 0.0029 | 0.14 | Q | | | | |
| 0+30 | 0.0040 | 0.15 | Q | | | | |
| 0+35 | 0.0050 | 0.15 | Q | | | | |
| 0+40 | 0.0061 | 0.15 | Q | | | | |
| 0+45 | 0.0071 | 0.15 | Q | | | | |
| 0+50 | 0.0082 | 0.16 | Q | | | | |
| 0+55 | 0.0095 | 0.19 | Q | | | | |
| 1+ 0 | 0.0109 | 0.20 | Q | | | | |
| 1+ 5 | 0.0122 | 0.19 | Q | | | | |
| 1+10 | 0.0134 | 0.17 | Q | | | | |
| 1+15 | 0.0145 | 0.16 | Q | | | | |
| 1+20 | 0.0155 | 0.15 | Q | | | | |
| 1+25 | 0.0166 | 0.15 | Q | | | | |
| 1+30 | 0.0177 | 0.15 | Q | | | | |
| 1+35 | 0.0187 | 0.15 | Q | | | | |
| 1+40 | 0.0198 | 0.15 | Q | | | | |
| 1+45 | 0.0208 | 0.15 | Q | | | | |
| 1+50 | 0.0219 | 0.16 | Q | | | | |
| 1+55 | 0.0232 | 0.19 | Q | | | | |
| 2+ 0 | 0.0246 | 0.20 | Q | | | | |
| 2+ 5 | 0.0260 | 0.20 | Q | | | | |
| 2+10 | 0.0274 | 0.20 | Q | | | | |
| 2+15 | 0.0288 | 0.20 | Q | | | | |
| 2+20 | 0.0302 | 0.20 | Q | | | | |
| 2+25 | 0.0316 | 0.20 | Q | | | | |
| 2+30 | 0.0330 | 0.20 | Q | | | | |
| 2+35 | 0.0345 | 0.21 | Q | | | | |
| 2+40 | 0.0362 | 0.24 | Q | | | | |
| 2+45 | 0.0379 | 0.25 | Q | | | | |
| 2+50 | 0.0396 | 0.25 | Q | | | | |
| 2+55 | 0.0414 | 0.25 | Q | | | | |
| 3+ 0 | 0.0431 | 0.25 | Q | | | | |
| 3+ 5 | 0.0449 | 0.26 | Q | | | | |
| 3+10 | 0.0466 | 0.26 | Q | | | | |
| 3+15 | 0.0484 | 0.26 | Q | | | | |
| 3+20 | 0.0502 | 0.26 | Q | | | | |
| 3+25 | 0.0519 | 0.26 | Q | | | | |
| 3+30 | 0.0537 | 0.26 | Q | | | | |
| 3+35 | 0.0554 | 0.26 | Q | | | | |
| 3+40 | 0.0572 | 0.26 | Q | | | | |
| 3+45 | 0.0590 | 0.26 | Q | | | | |
| 3+50 | 0.0608 | 0.26 | Q | | | | |
| 3+55 | 0.0628 | 0.29 | Q | | | | |
| 4+ 0 | 0.0649 | 0.30 | Q | | | | |
| 4+ 5 | 0.0670 | 0.30 | Q | | | | |
| 4+10 | 0.0691 | 0.31 | Q | | | | |
| 4+15 | 0.0712 | 0.31 | Q | | | | |
| 4+20 | 0.0733 | 0.31 | Q | | | | |

| | | | |
|---|---|---|---|
| 4+25 | 0.0757 | 0.34 | Q |
| 4+30 | 0.0781 | 0.35 | Q |
| 4+35 | 0.0806 | 0.36 | Q |
| 4+40 | 0.0830 | 0.36 | Q |
| 4+45 | 0.0855 | 0.36 | Q |
| 4+50 | 0.0880 | 0.37 | Q |
| 4+55 | 0.0907 | 0.39 | Q |
| 5+ 0 | 0.0935 | 0.40 | Q |
| 5+ 5 | 0.0962 | 0.39 | Q |
| 5+10 | 0.0985 | 0.33 | Q |
| 5+15 | 0.1007 | 0.32 | Q |
| 5+20 | 0.1028 | 0.32 | Q |
| 5+25 | 0.1052 | 0.34 | Q |
| 5+30 | 0.1077 | 0.35 | Q |
| 5+35 | 0.1102 | 0.36 | Q |
| 5+40 | 0.1129 | 0.39 | Q |
| 5+45 | 0.1156 | 0.40 | Q |
| 5+50 | 0.1185 | 0.41 | Q |
| 5+55 | 0.1214 | 0.43 | Q |
| 6+ 0 | 0.1245 | 0.44 | Q |
| 6+ 5 | 0.1282 | 0.54 | VQ |
| 6+10 | 0.1340 | 0.84 | VQ |
| 6+15 | 0.1405 | 0.95 | VQ |
| 6+20 | 0.1474 | 1.00 | VQ |
| 6+25 | 0.1544 | 1.02 | V Q |
| 6+30 | 0.1616 | 1.04 | \|VQ |
| 6+35 | 0.1695 | 1.15 | \|VQ |
| 6+40 | 0.1795 | 1.45 | \|VQ |
| 6+45 | 0.1902 | 1.55 | \|V Q |
| 6+50 | 0.2013 | 1.60 | \|V Q |
| 6+55 | 0.2125 | 1.63 | \|V Q |
| 7+ 0 | 0.2238 | 1.65 | \|V Q |
| 7+ 5 | 0.2353 | 1.67 | \|V Q |
| 7+10 | 0.2469 | 1.68 | \|V Q |
| 7+15 | 0.2586 | 1.70 | \|V Q |
| 7+20 | 0.2710 | 1.80 | \|V Q |
| 7+25 | 0.2855 | 2.10 | \|V  Q |
| 7+30 | 0.3007 | 2.20 | \|V  Q |
| 7+35 | 0.3168 | 2.34 | \| V Q |
| 7+40 | 0.3350 | 2.65 | \| V  Q |
| 7+45 | 0.3540 | 2.76 | \| V  Q |
| 7+50 | 0.3739 | 2.89 | \| V  Q |
| 7+55 | 0.3960 | 3.21 | \| V   Q |
| 8+ 0 | 0.4189 | 3.31 | \| V   Q |
| 8+ 5 | 0.4432 | 3.53 | \| V    Q |
| 8+10 | 0.4717 | 4.13 | \|  V    Q |
| 8+15 | 0.5015 | 4.33 | \|  V    Q |
| 8+20 | 0.5319 | 4.42 | \|  V    Q |
| 8+25 | 0.5626 | 4.45 | \|  V    Q |
| 8+30 | 0.5934 | 4.47 | \|  V    Q |
| 8+35 | 0.6249 | 4.58 | \|   V    Q\| |
| 8+40 | 0.6585 | 4.88 | \|   V    Q\| |
| 8+45 | 0.6928 | 4.98 | \|   V    Q\| |
| 8+50 | 0.7281 | 5.12 | \|   V     Q |
| 8+55 | 0.7655 | 5.43 | \|   V     Q |
| 9+ 0 | 0.8036 | 5.54 | \|    V     \|Q |
| 9+ 5 | 0.8432 | 5.75 | \|    V     \|Q |
| 9+10 | 0.8870 | 6.35 | \|    V     \| Q |
| 9+15 | 0.9321 | 6.55 | \|    V     \|  Q |
| 9+20 | 0.9783 | 6.72 | \|     V    \|  Q |
| 9+25 | 1.0268 | 7.04 | \|     V    \|   Q |
| 9+30 | 1.0761 | 7.15 | \|     V    \|   Q |
| 9+35 | 1.1263 | 7.29 | \|      V   \|   Q |
| 9+40 | 1.1786 | 7.60 | \|      V   \|    Q |
| 9+45 | 1.2317 | 7.71 | \|      V   \|    Q |
| 9+50 | 1.2857 | 7.84 | \|       V  \|    Q |
| 9+55 | 1.3418 | 8.15 | \|       V  \|     Q |
| 10+ 0 | 1.3987 | 8.26 | \|       V  \|     Q |
| 10+ 5 | 1.4519 | 7.72 | \|        V\|    Q |
| 10+10 | 1.4915 | 5.74 | \|        V\|Q |
| 10+15 | 1.5268 | 5.14 | \|        VQ |
| 10+20 | 1.5607 | 4.91 | \|        Q\| |
| 10+25 | 1.5941 | 4.86 | \|        QV |
| 10+30 | 1.6274 | 4.84 | \|        QV |
| 10+35 | 1.6637 | 5.26 | \|         Q |
| 10+40 | 1.7098 | 6.70 | \|         V  Q |
| 10+45 | 1.7591 | 7.16 | \|          \|V  Q |
| 10+50 | 1.8098 | 7.35 | \|          \|V  Q |

| | | | |
|---|---|---|---|
| 10+55 | 1.8608 | 7.41 | \|V Q \| \| \| \| |
| 11+ 0 | 1.9121 | 7.45 | \| V Q \| \| \| \| |
| 11+ 5 | 1.9630 | 7.39 | \| V Q \| \| \| \| |
| 11+10 | 2.0120 | 7.11 | \| V Q \| \| \| \| |
| 11+15 | 2.0604 | 7.04 | \| VQ \| \| \| \| |
| 11+20 | 2.1088 | 7.02 | \| VQ \| \| \| \| |
| 11+25 | 2.1571 | 7.02 | \| VQ \| \| \| \| |
| 11+30 | 2.2056 | 7.03 | \| Q \| \| \| \| |
| 11+35 | 2.2529 | 6.87 | \| QV \| \| \| \| |
| 11+40 | 2.2964 | 6.31 | \| Q V \| \| \| \| |
| 11+45 | 2.3387 | 6.15 | \| Q V \| \| \| \| |
| 11+50 | 2.3813 | 6.18 | \| Q V \| \| \| \| |
| 11+55 | 2.4257 | 6.46 | \| Q V \| \| \| \| |
| 12+ 0 | 2.4708 | 6.55 | \| Q V \| \| \| \| |
| 12+ 5 | 2.5203 | 7.18 | \| Q V \| \| \| \| |
| 12+10 | 2.5837 | 9.21 | \| V Q \| \| \| \| |
| 12+15 | 2.6515 | 9.85 | \| V Q\| \| \| \| |
| 12+20 | 2.7217 | 10.19 | \| V Q \| \| \| |
| 12+25 | 2.7944 | 10.56 | \| V \|Q \| \| \| |
| 12+30 | 2.8681 | 10.69 | \| V \|Q \| \| \| |
| 12+35 | 2.9433 | 10.92 | \| V \|Q \| \| \| |
| 12+40 | 3.0226 | 11.52 | \| V\| Q \| \| \| |
| 12+45 | 3.1032 | 11.71 | \| V\| Q \| \| \| |
| 12+50 | 3.1850 | 11.88 | \| V Q \| \| \| |
| 12+55 | 3.2690 | 12.20 | \| V Q \| \| \| |
| 13+ 0 | 3.3538 | 12.31 | \| \|V Q \| \| \| |
| 13+ 5 | 3.4418 | 12.78 | \| \| V Q \| \| \| |
| 13+10 | 3.5398 | 14.23 | \| \| V Q \| \| |
| 13+15 | 3.6410 | 14.70 | \| \| V Q\| \| |
| 13+20 | 3.7435 | 14.88 | \| \| V Q\| \| |
| 13+25 | 3.8465 | 14.94 | \| \| V Q\| \| |
| 13+30 | 3.9496 | 14.98 | \| \| V Q\| \| |
| 13+35 | 4.0465 | 14.08 | \| \| V Q \| \| |
| 13+40 | 4.1219 | 10.94 | \| \|Q V \| \| |
| 13+45 | 4.1906 | 9.97 | \| Q\| V \| \| |
| 13+50 | 4.2567 | 9.60 | \| Q\| V \| \| |
| 13+55 | 4.3221 | 9.50 | \| Q\| V \| \| |
| 14+ 0 | 4.3874 | 9.47 | \| Q \| V \| \| |
| 14+ 5 | 4.4548 | 9.79 | \| Q\| V \| \| |
| 14+10 | 4.5302 | 10.95 | \| \|Q V\| \| |
| 14+15 | 4.6082 | 11.32 | \| \| Q V\| \| |
| 14+20 | 4.6866 | 11.38 | \| \| Q V \| \| |
| 14+25 | 4.7634 | 11.15 | \| \| Q V \| \| |
| 14+30 | 4.8397 | 11.09 | \| \| Q V \| \| |
| 14+35 | 4.9160 | 11.07 | \| \| Q \|V \| \| |
| 14+40 | 4.9922 | 11.08 | \| \| Q \|V \| \| |
| 14+45 | 5.0686 | 11.08 | \| \| Q \| V \| \| |
| 14+50 | 5.1444 | 11.01 | \| \| Q \| V \| \| |
| 14+55 | 5.2183 | 10.73 | \| \|Q \| V \| \| |
| 15+ 0 | 5.2917 | 10.65 | \| \|Q \| V \| \| |
| 15+ 5 | 5.3643 | 10.55 | \| \|Q \| V \| \| |
| 15+10 | 5.4350 | 10.26 | \| \| Q \| V \| \| |
| 15+15 | 5.5051 | 10.18 | \| \| Q \| V \| \| |
| 15+20 | 5.5744 | 10.07 | \| \| Q \| V \| \| |
| 15+25 | 5.6418 | 9.78 | \| \| Q\| \| V \| \| |
| 15+30 | 5.7086 | 9.70 | \| \| Q\| \| V \| \| |
| 15+35 | 5.7729 | 9.34 | \| \| Q \| \| V \| \| |
| 15+40 | 5.8294 | 8.19 | \| \| Q \| \| \| V \| \| |
| 15+45 | 5.8834 | 7.84 | \| \| Q \| \| \| V \| \| |
| 15+50 | 5.9365 | 7.71 | \| \| Q \| \| \| \| V \| |
| 15+55 | 5.9894 | 7.68 | \| \| Q \| \| \| \| V \| |
| 16+ 0 | 6.0423 | 7.68 | \| \| Q \| \| \| \| V \| |
| 16+ 5 | 6.0867 | 6.45 | \| Q \| \| \| \| V \| |
| 16+10 | 6.1023 | 2.26 | \| Q \| \| \| \| \| V\| |
| 16+15 | 6.1088 | 0.95 | \|Q \| \| \| \| \| V\| |
| 16+20 | 6.1119 | 0.44 | Q \| \| \| \| \| V\| |
| 16+25 | 6.1139 | 0.30 | Q \| \| \| \| \| V\| |
| 16+30 | 6.1156 | 0.24 | Q \| \| \| \| \| V\| |
| 16+35 | 6.1169 | 0.20 | Q \| \| \| \| \| V\| |
| 16+40 | 6.1181 | 0.17 | Q \| \| \| \| \| V\| |
| 16+45 | 6.1192 | 0.16 | Q \| \| \| \| \| V\| |
| 16+50 | 6.1202 | 0.15 | Q \| \| \| \| \| V\| |
| 16+55 | 6.1213 | 0.15 | Q \| \| \| \| \| V\| |
| 17+ 0 | 6.1224 | 0.15 | Q \| \| \| \| \| V\| |
| 17+ 5 | 6.1240 | 0.24 | Q \| \| \| \| \| V\| |
| 17+10 | 6.1276 | 0.53 | \|Q \| \| \| \| \| V\| |
| 17+15 | 6.1319 | 0.62 | \|Q \| \| \| \| \| V\| |
| 17+20 | 6.1365 | 0.67 | \|Q \| \| \| \| \| V\| |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+25 | 6.1412 | 0.69 | \|Q | \| | \| | \| | V\| |
| 17+30 | 6.1460 | 0.70 | \|Q | \| | \| | \| | V\| |
| 17+35 | 6.1509 | 0.71 | \|Q | \| | \| | \| | V\| |
| 17+40 | 6.1559 | 0.72 | \|Q | \| | \| | \| | V\| |
| 17+45 | 6.1609 | 0.73 | \|Q | \| | \| | \| | V\| |
| 17+50 | 6.1654 | 0.65 | \|Q | \| | \| | \| | V\| |
| 17+55 | 6.1680 | 0.38 | Q | \| | \| | \| | V\| |
| 18+ 0 | 6.1700 | 0.30 | Q | \| | \| | \| | V\| |
| 18+ 5 | 6.1719 | 0.27 | Q | \| | \| | \| | V\| |
| 18+10 | 6.1737 | 0.27 | Q | \| | \| | \| | V\| |
| 18+15 | 6.1756 | 0.27 | Q | \| | \| | \| | V\| |
| 18+20 | 6.1776 | 0.28 | Q | \| | \| | \| | V\| |
| 18+25 | 6.1796 | 0.29 | Q | \| | \| | \| | V\| |
| 18+30 | 6.1816 | 0.30 | Q | \| | \| | \| | V\| |
| 18+35 | 6.1835 | 0.28 | Q | \| | \| | \| | V\| |
| 18+40 | 6.1849 | 0.19 | Q | \| | \| | \| | V\| |
| 18+45 | 6.1860 | 0.17 | Q | \| | \| | \| | V\| |
| 18+50 | 6.1871 | 0.15 | Q | \| | \| | \| | V\| |
| 18+55 | 6.1879 | 0.12 | Q | \| | \| | \| | V\| |
| 19+ 0 | 6.1886 | 0.11 | Q | \| | \| | \| | V\| |
| 19+ 5 | 6.1894 | 0.11 | Q | \| | \| | \| | V\| |
| 19+10 | 6.1903 | 0.14 | Q | \| | \| | \| | V\| |
| 19+15 | 6.1914 | 0.15 | Q | \| | \| | \| | V\| |
| 19+20 | 6.1927 | 0.19 | Q | \| | \| | \| | V\| |
| 19+25 | 6.1949 | 0.32 | Q | \| | \| | \| | V\| |
| 19+30 | 6.1975 | 0.37 | Q | \| | \| | \| | V\| |
| 19+35 | 6.1999 | 0.35 | Q | \| | \| | \| | V\| |
| 19+40 | 6.2014 | 0.22 | Q | \| | \| | \| | V\| |
| 19+45 | 6.2026 | 0.18 | Q | \| | \| | \| | V\| |
| 19+50 | 6.2037 | 0.15 | Q | \| | \| | \| | V\| |
| 19+55 | 6.2045 | 0.12 | Q | \| | \| | \| | V\| |
| 20+ 0 | 6.2052 | 0.11 | Q | \| | \| | \| | V\| |
| 20+ 5 | 6.2060 | 0.11 | Q | \| | \| | \| | V\| |
| 20+10 | 6.2070 | 0.14 | Q | \| | \| | \| | V\| |
| 20+15 | 6.2080 | 0.15 | Q | \| | \| | \| | V\| |
| 20+20 | 6.2090 | 0.15 | Q | \| | \| | \| | V\| |
| 20+25 | 6.2101 | 0.15 | Q | \| | \| | \| | V\| |
| 20+30 | 6.2111 | 0.15 | Q | \| | \| | \| | V\| |
| 20+35 | 6.2122 | 0.15 | Q | \| | \| | \| | V\| |
| 20+40 | 6.2132 | 0.15 | Q | \| | \| | \| | V\| |
| 20+45 | 6.2143 | 0.15 | Q | \| | \| | \| | V\| |
| 20+50 | 6.2153 | 0.14 | Q | \| | \| | \| | V\| |
| 20+55 | 6.2161 | 0.12 | Q | \| | \| | \| | V\| |
| 21+ 0 | 6.2168 | 0.11 | Q | \| | \| | \| | V\| |
| 21+ 5 | 6.2176 | 0.11 | Q | \| | \| | \| | V\| |
| 21+10 | 6.2186 | 0.14 | Q | \| | \| | \| | V\| |
| 21+15 | 6.2196 | 0.15 | Q | \| | \| | \| | V\| |
| 21+20 | 6.2206 | 0.14 | Q | \| | \| | \| | V\| |
| 21+25 | 6.2214 | 0.12 | Q | \| | \| | \| | V\| |
| 21+30 | 6.2221 | 0.11 | Q | \| | \| | \| | V\| |
| 21+35 | 6.2229 | 0.11 | Q | \| | \| | \| | V\| |
| 21+40 | 6.2238 | 0.14 | Q | \| | \| | \| | V\| |
| 21+45 | 6.2249 | 0.15 | Q | \| | \| | \| | V\| |
| 21+50 | 6.2259 | 0.14 | Q | \| | \| | \| | V\| |
| 21+55 | 6.2266 | 0.12 | Q | \| | \| | \| | V\| |
| 22+ 0 | 6.2274 | 0.11 | Q | \| | \| | \| | V\| |
| 22+ 5 | 6.2282 | 0.11 | Q | \| | \| | \| | V\| |
| 22+10 | 6.2291 | 0.14 | Q | \| | \| | \| | V\| |
| 22+15 | 6.2301 | 0.15 | Q | \| | \| | \| | V\| |
| 22+20 | 6.2311 | 0.14 | Q | \| | \| | \| | V\| |
| 22+25 | 6.2319 | 0.12 | Q | \| | \| | \| | V\| |
| 22+30 | 6.2327 | 0.11 | Q | \| | \| | \| | V\| |
| 22+35 | 6.2334 | 0.10 | Q | \| | \| | \| | V\| |
| 22+40 | 6.2341 | 0.10 | Q | \| | \| | \| | V\| |
| 22+45 | 6.2348 | 0.10 | Q | \| | \| | \| | V\| |
| 22+50 | 6.2355 | 0.10 | Q | \| | \| | \| | V\| |
| 22+55 | 6.2362 | 0.10 | Q | \| | \| | \| | V\| |
| 23+ 0 | 6.2369 | 0.10 | Q | \| | \| | \| | V\| |
| 23+ 5 | 6.2376 | 0.10 | Q | \| | \| | \| | V\| |
| 23+10 | 6.2383 | 0.10 | Q | \| | \| | \| | V\| |
| 23+15 | 6.2390 | 0.10 | Q | \| | \| | \| | V\| |
| 23+20 | 6.2397 | 0.10 | Q | \| | \| | \| | V\| |
| 23+25 | 6.2404 | 0.10 | Q | \| | \| | \| | V\| |
| 23+30 | 6.2411 | 0.10 | Q | \| | \| | \| | V\| |
| 23+35 | 6.2418 | 0.10 | Q | \| | \| | \| | V\| |
| 23+40 | 6.2425 | 0.10 | Q | \| | \| | \| | V\| |
| 23+45 | 6.2432 | 0.10 | Q | \| | \| | \| | V\| |
| 23+50 | 6.2439 | 0.10 | Q | \| | \| | \| | V\| |

```
   23+55       6.2446      0.10  Q          |          |          |         V|
   24+ 0       6.2453      0.10  Q          |          |          |         V|
   24+ 5       6.2459      0.09  Q          |          |          |         V|
   24+10       6.2461      0.03  Q          |          |          |         V|
   24+15       6.2462      0.01  Q          |          |          |         V|
   24+20       6.2462      0.00  Q          |          |          |         V|
   24+25       6.2462      0.00  Q          |          |          |         V|
   24+30       6.2462      0.00  Q          |          |          |          V
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U n i t  H y d r o g r a p h  A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 18
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

---

Drainage Area = 1.20(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.20(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 256.00(Ft.)
Length along longest watercourse measured to centroid = 132.00(Ft.)
Length along longest watercourse = 0.048 Mi.
Length along longest watercourse measured to centroid = 0.025 Mi.
Difference in elevation = 30.00(Ft.)
Slope along watercourse = 618.7500 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.019 Hr.
Lag time = 1.16 Min.
25% of lag time = 0.29 Min.
40% of lag time = 0.46 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.20 | 0.50 | 0.60 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.20 | 1.20 | 1.44 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 1.200 | 74.53 | 0.000 |

Total Area Entered = 1.20(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 74.5 | 87.7 | 0.156 | 0.000 | 0.156 | 1.000 | 0.156 |
| | | | | | Sum (F) = | 0.156 |

Area averaged mean soil loss (F) (In/Hr) = 0.156

Minimum soil loss rate ((In/Hr)) = 0.078
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

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| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 431.698 | 69.548 | 0.841 |
| 2 0.167 | 863.396 | 30.452 | 0.368 |
| | | Sum = 100.000 Sum= | 1.209 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 4.20 | 0.605 | 0.156 | ( 0.544) | 0.449 |
| 2 0.17 | 4.30 | 0.619 | 0.156 | ( 0.557) | 0.463 |
| 3 0.25 | 5.00 | 0.720 | 0.156 | ( 0.648) | 0.564 |
| 4 0.33 | 5.00 | 0.720 | 0.156 | ( 0.648) | 0.564 |
| 5 0.42 | 5.80 | 0.835 | 0.156 | ( 0.752) | 0.679 |
| 6 0.50 | 6.50 | 0.936 | 0.156 | ( 0.842) | 0.780 |
| 7 0.58 | 7.40 | 1.066 | 0.156 | ( 0.959) | 0.910 |
| 8 0.67 | 8.60 | 1.238 | 0.156 | ( 1.115) | 1.082 |
| 9 0.75 | 12.30 | 1.771 | 0.156 | ( 1.594) | 1.615 |
| 10 0.83 | 29.10 | 4.190 | 0.156 | ( 3.771) | 4.034 |
| 11 0.92 | 6.80 | 0.979 | 0.156 | ( 0.881) | 0.823 |
| 12 1.00 | 5.00 | 0.720 | 0.156 | ( 0.648) | 0.564 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 12.5 |

Flood volume = Effective rainfall 1.04(In)
times area 1.2(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.16(In)
Total soil loss = 0.016(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 4547.5 Cubic Feet
Total soil loss = 679.6 Cubic Feet

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Peak flow rate of this hydrograph = 3.990(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0026 | 0.38 | VQ | | | | |
| 0+10 | 0.0064 | 0.56 | \| Q | | | | |
| 0+15 | 0.0109 | 0.65 | \| Q V | | | | |
| 0+20 | 0.0156 | 0.68 | \| Q V | | | | |
| 0+25 | 0.0209 | 0.78 | \| Q V | | | | |
| 0+30 | 0.0272 | 0.91 | \| Q V | | | | |
| 0+35 | 0.0344 | 1.05 | \| Q \| V | | | | |
| 0+40 | 0.0430 | 1.25 | \| Q \| V | | | | |
| 0+45 | 0.0551 | 1.76 | \| Q \| V | | | | |
| 0+50 | 0.0826 | 3.99 | \| \| Q \| V | | | | |
| 0+55 | 0.0976 | 2.18 | \| Q \| V | | | | |
| 1+ 0 | 0.1030 | 0.78 | \| Q \| V | | | | |
| 1+ 5 | 0.1044 | 0.21 | Q \| V | | | | |

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U n i t  H y d r o g r a p h  A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 18
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

---

Drainage Area = 1.20(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.20(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 256.00(Ft.)
Length along longest watercourse measured to centroid = 132.00(Ft.)
Length along longest watercourse = 0.048 Mi.
Length along longest watercourse measured to centroid = 0.025 Mi.
Difference in elevation = 30.00(Ft.)
Slope along watercourse = 618.7500 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.019 Hr.
Lag time = 1.16 Min.
25% of lag time = 0.29 Min.
40% of lag time = 0.46 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.20 | 0.81 | 0.97 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.20 | 1.82 | 2.18 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.810(In)
Area Averaged 100-Year Rainfall = 1.820(In)

Point rain (area averaged) = 1.820(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.820(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 1.200 | 74.53 | 0.000 |

Total Area Entered = 1.20(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 74.5 | 87.7 | 0.156 | 0.000 | 0.156 | 1.000 | 0.156 |
| | | | | | Sum (F) = | 0.156 |

Area averaged mean soil loss (F) (In/Hr) = 0.156

Minimum soil loss rate ((In/Hr)) = 0.078
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 431.698 | 69.548 | 0.841 |
| 2 0.167 | 863.396 | 30.452 | 0.368 |
| | | Sum = 100.000 Sum= | 1.209 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 1.30 | 0.284 | 0.156 | ( 0.256) | 0.128 |
| 2 0.17 | 1.30 | 0.284 | 0.156 | ( 0.256) | 0.128 |
| 3 0.25 | 1.10 | 0.240 | 0.156 | ( 0.216) | 0.084 |
| 4 0.33 | 1.50 | 0.328 | 0.156 | ( 0.295) | 0.172 |
| 5 0.42 | 1.50 | 0.328 | 0.156 | ( 0.295) | 0.172 |
| 6 0.50 | 1.80 | 0.393 | 0.156 | ( 0.354) | 0.237 |
| 7 0.58 | 1.50 | 0.328 | 0.156 | ( 0.295) | 0.172 |
| 8 0.67 | 1.80 | 0.393 | 0.156 | ( 0.354) | 0.237 |
| 9 0.75 | 1.80 | 0.393 | 0.156 | ( 0.354) | 0.237 |
| 10 0.83 | 1.50 | 0.328 | 0.156 | ( 0.295) | 0.172 |
| 11 0.92 | 1.60 | 0.349 | 0.156 | ( 0.314) | 0.193 |
| 12 1.00 | 1.80 | 0.393 | 0.156 | ( 0.354) | 0.237 |
| 13 1.08 | 2.20 | 0.480 | 0.156 | ( 0.432) | 0.324 |
| 14 1.17 | 2.20 | 0.480 | 0.156 | ( 0.432) | 0.324 |
| 15 1.25 | 2.20 | 0.480 | 0.156 | ( 0.432) | 0.324 |
| 16 1.33 | 2.00 | 0.437 | 0.156 | ( 0.393) | 0.281 |
| 17 1.42 | 2.60 | 0.568 | 0.156 | ( 0.511) | 0.412 |
| 18 1.50 | 2.70 | 0.590 | 0.156 | ( 0.531) | 0.434 |
| 19 1.58 | 2.40 | 0.524 | 0.156 | ( 0.472) | 0.368 |
| 20 1.67 | 2.70 | 0.590 | 0.156 | ( 0.531) | 0.434 |
| 21 1.75 | 3.30 | 0.721 | 0.156 | ( 0.649) | 0.565 |
| 22 1.83 | 3.10 | 0.677 | 0.156 | ( 0.609) | 0.521 |
| 23 1.92 | 2.90 | 0.633 | 0.156 | ( 0.570) | 0.477 |
| 24 2.00 | 3.00 | 0.655 | 0.156 | ( 0.590) | 0.499 |
| 25 2.08 | 3.10 | 0.677 | 0.156 | ( 0.609) | 0.521 |
| 26 2.17 | 4.20 | 0.917 | 0.156 | ( 0.826) | 0.761 |
| 27 2.25 | 5.00 | 1.092 | 0.156 | ( 0.983) | 0.936 |
| 28 2.33 | 3.50 | 0.764 | 0.156 | ( 0.688) | 0.608 |
| 29 2.42 | 6.80 | 1.485 | 0.156 | ( 1.337) | 1.329 |
| 30 2.50 | 7.30 | 1.594 | 0.156 | ( 1.435) | 1.438 |
| 31 2.58 | 8.20 | 1.791 | 0.156 | ( 1.612) | 1.635 |
| 32 2.67 | 5.90 | 1.289 | 0.156 | ( 1.160) | 1.133 |
| 33 2.75 | 2.00 | 0.437 | 0.156 | ( 0.393) | 0.281 |
| 34 2.83 | 1.80 | 0.393 | 0.156 | ( 0.354) | 0.237 |
| 35 2.92 | 1.80 | 0.393 | 0.156 | ( 0.354) | 0.237 |
| 36 3.00 | 0.60 | 0.131 | ( 0.156) | 0.118 | 0.013 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 16.3 |

Flood volume = Effective rainfall 1.36(In)
times area 1.2(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.46(In)
Total soil loss = 0.046(Ac.Ft)
Total rainfall = 1.82(In)
Flood volume = 5902.9 Cubic Feet
Total soil loss = 2025.0 Cubic Feet

Peak flow rate of this hydrograph = 1.906(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 2.5 5.0 7.5 10.0 |
|---|---|---|---|
| 0+ 5 | 0.0007 | 0.11 | Q \| \| \| \| |
| 0+10 | 0.0018 | 0.15 | Q \| \| \| \| |
| 0+15 | 0.0026 | 0.12 | Q \| \| \| \| |
| 0+20 | 0.0038 | 0.18 | QV \| \| \| \| |
| 0+25 | 0.0053 | 0.21 | QV \| \| \| \| |
| 0+30 | 0.0071 | 0.26 | \|QV \| \| \| \| |
| 0+35 | 0.0087 | 0.23 | Q V \| \| \| \| |
| 0+40 | 0.0105 | 0.26 | \|Q V \| \| \| \| |
| 0+45 | 0.0124 | 0.29 | \|Q V \| \| \| \| |
| 0+50 | 0.0140 | 0.23 | Q V \| \| \| \| |
| 0+55 | 0.0156 | 0.23 | Q V \| \| \| \| |
| 1+ 0 | 0.0175 | 0.27 | \|Q V \| \| \| \| |
| 1+ 5 | 0.0199 | 0.36 | \|Q V \| \| \| \| |
| 1+10 | 0.0227 | 0.39 | \|Q V \| \| \| \| |
| 1+15 | 0.0254 | 0.39 | \|Q V \| \| \| \| |
| 1+20 | 0.0278 | 0.36 | \|Q V \| \| \| \| |
| 1+25 | 0.0309 | 0.45 | \|Q V\| \| \| \| |
| 1+30 | 0.0345 | 0.52 | \| Q V \| \| \| |
| 1+35 | 0.0377 | 0.47 | \|Q \|V \| \| \| |
| 1+40 | 0.0411 | 0.50 | \| Q \| V \| \| \| |
| 1+45 | 0.0455 | 0.64 | \| Q \| V \| \| \| |
| 1+50 | 0.0500 | 0.65 | \| Q \| V \| \| \| |
| 1+55 | 0.0541 | 0.59 | \| Q \| V \| \| \| |
| 2+ 0 | 0.0582 | 0.60 | \| Q \| V \| \| \| |
| 2+ 5 | 0.0625 | 0.62 | \| Q \| V \| \| \| |
| 2+10 | 0.0682 | 0.83 | \| Q \| V \| \| |
| 2+15 | 0.0755 | 1.07 | \| Q \| \| V \| \| |
| 2+20 | 0.0814 | 0.86 | \| Q \| \| V \| \| |
| 2+25 | 0.0907 | 1.34 | \| Q \| \| V \| \| |
| 2+30 | 0.1024 | 1.70 | \| Q \| \| V \| |
| 2+35 | 0.1155 | 1.91 | \| Q \| \| V \| |
| 2+40 | 0.1262 | 1.56 | \| Q \| \| V \| |
| 2+45 | 0.1307 | 0.65 | \| Q \| \| V \| |
| 2+50 | 0.1328 | 0.30 | \|Q \| \| V\| |
| 2+55 | 0.1348 | 0.29 | \|Q \| \| V\| |
| 3+ 0 | 0.1355 | 0.10 | Q \| \| V\| |
| 3+ 5 | 0.1355 | 0.00 | Q \| \| V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 18
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

---

Drainage Area = 1.20(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.20(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 256.00(Ft.)
Length along longest watercourse measured to centroid = 132.00(Ft.)
Length along longest watercourse = 0.048 Mi.
Length along longest watercourse measured to centroid = 0.025 Mi.
Difference in elevation = 30.00(Ft.)
Slope along watercourse = 618.7500 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.019 Hr.
Lag time = 1.16 Min.
25% of lag time = 0.29 Min.
40% of lag time = 0.46 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.20 | 1.16 | 1.39 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.20 | 2.50 | 3.00 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.160(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 1.200 | 74.53 | 0.000 |

Total Area Entered = 1.20(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 74.5 | 87.7 | 0.156 | 0.000 | 0.156 | 1.000 | 0.156 |
| | | | | | Sum (F) = | 0.156 |

Area averaged mean soil loss (F) (In/Hr) = 0.156

Minimum soil loss rate ((In/Hr)) = 0.078
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 431.698 | 69.548 | 0.841 |
| 2 0.167 | 863.396 | 30.452 | 0.368 |
| | | Sum = 100.000 Sum= | 1.209 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 0.50 | 0.150 | ( 0.156) | 0.135 | 0.015 |
| 2 0.17 | 0.60 | 0.180 | 0.156 | ( 0.162) | 0.024 |
| 3 0.25 | 0.60 | 0.180 | 0.156 | ( 0.162) | 0.024 |
| 4 0.33 | 0.60 | 0.180 | 0.156 | ( 0.162) | 0.024 |
| 5 0.42 | 0.60 | 0.180 | 0.156 | ( 0.162) | 0.024 |
| 6 0.50 | 0.70 | 0.210 | 0.156 | ( 0.189) | 0.054 |
| 7 0.58 | 0.70 | 0.210 | 0.156 | ( 0.189) | 0.054 |
| 8 0.67 | 0.70 | 0.210 | 0.156 | ( 0.189) | 0.054 |
| 9 0.75 | 0.70 | 0.210 | 0.156 | ( 0.189) | 0.054 |
| 10 0.83 | 0.70 | 0.210 | 0.156 | ( 0.189) | 0.054 |
| 11 0.92 | 0.70 | 0.210 | 0.156 | ( 0.189) | 0.054 |
| 12 1.00 | 0.80 | 0.240 | 0.156 | ( 0.216) | 0.084 |
| 13 1.08 | 0.80 | 0.240 | 0.156 | ( 0.216) | 0.084 |
| 14 1.17 | 0.80 | 0.240 | 0.156 | ( 0.216) | 0.084 |
| 15 1.25 | 0.80 | 0.240 | 0.156 | ( 0.216) | 0.084 |
| 16 1.33 | 0.80 | 0.240 | 0.156 | ( 0.216) | 0.084 |
| 17 1.42 | 0.80 | 0.240 | 0.156 | ( 0.216) | 0.084 |
| 18 1.50 | 0.80 | 0.240 | 0.156 | ( 0.216) | 0.084 |
| 19 1.58 | 0.80 | 0.240 | 0.156 | ( 0.216) | 0.084 |
| 20 1.67 | 0.80 | 0.240 | 0.156 | ( 0.216) | 0.084 |
| 21 1.75 | 0.80 | 0.240 | 0.156 | ( 0.216) | 0.084 |
| 22 1.83 | 0.80 | 0.240 | 0.156 | ( 0.216) | 0.084 |
| 23 1.92 | 0.80 | 0.240 | 0.156 | ( 0.216) | 0.084 |
| 24 2.00 | 0.90 | 0.270 | 0.156 | ( 0.243) | 0.114 |
| 25 2.08 | 0.80 | 0.240 | 0.156 | ( 0.216) | 0.084 |
| 26 2.17 | 0.90 | 0.270 | 0.156 | ( 0.243) | 0.114 |
| 27 2.25 | 0.90 | 0.270 | 0.156 | ( 0.243) | 0.114 |
| 28 2.33 | 0.90 | 0.270 | 0.156 | ( 0.243) | 0.114 |
| 29 2.42 | 0.90 | 0.270 | 0.156 | ( 0.243) | 0.114 |
| 30 2.50 | 0.90 | 0.270 | 0.156 | ( 0.243) | 0.114 |
| 31 2.58 | 0.90 | 0.270 | 0.156 | ( 0.243) | 0.114 |
| 32 2.67 | 0.90 | 0.270 | 0.156 | ( 0.243) | 0.114 |
| 33 2.75 | 1.00 | 0.300 | 0.156 | ( 0.270) | 0.144 |
| 34 2.83 | 1.00 | 0.300 | 0.156 | ( 0.270) | 0.144 |
| 35 2.92 | 1.00 | 0.300 | 0.156 | ( 0.270) | 0.144 |
| 36 3.00 | 1.00 | 0.300 | 0.156 | ( 0.270) | 0.144 |
| 37 3.08 | 1.00 | 0.300 | 0.156 | ( 0.270) | 0.144 |
| 38 3.17 | 1.10 | 0.330 | 0.156 | ( 0.297) | 0.174 |
| 39 3.25 | 1.10 | 0.330 | 0.156 | ( 0.297) | 0.174 |
| 40 3.33 | 1.10 | 0.330 | 0.156 | ( 0.297) | 0.174 |
| 41 3.42 | 1.20 | 0.360 | 0.156 | ( 0.324) | 0.204 |
| 42 3.50 | 1.30 | 0.390 | 0.156 | ( 0.351) | 0.234 |
| 43 3.58 | 1.40 | 0.420 | 0.156 | ( 0.378) | 0.264 |
| 44 3.67 | 1.40 | 0.420 | 0.156 | ( 0.378) | 0.264 |
| 45 3.75 | 1.50 | 0.450 | 0.156 | ( 0.405) | 0.294 |
| 46 3.83 | 1.50 | 0.450 | 0.156 | ( 0.405) | 0.294 |
| 47 3.92 | 1.60 | 0.480 | 0.156 | ( 0.432) | 0.324 |
| 48 4.00 | 1.60 | 0.480 | 0.156 | ( 0.432) | 0.324 |
| 49 4.08 | 1.70 | 0.510 | 0.156 | ( 0.459) | 0.354 |
| 50 4.17 | 1.80 | 0.540 | 0.156 | ( 0.486) | 0.384 |
| 51 4.25 | 1.90 | 0.570 | 0.156 | ( 0.513) | 0.414 |
| 52 4.33 | 2.00 | 0.600 | 0.156 | ( 0.540) | 0.444 |
| 53 4.42 | 2.10 | 0.630 | 0.156 | ( 0.567) | 0.474 |
| 54 4.50 | 2.10 | 0.630 | 0.156 | ( 0.567) | 0.474 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 55 | 4.58 | 2.20 | 0.660 | 0.156 | ( 0.594) | | 0.504 |
| 56 | 4.67 | 2.30 | 0.690 | 0.156 | ( 0.621) | | 0.534 |
| 57 | 4.75 | 2.40 | 0.720 | 0.156 | ( 0.648) | | 0.564 |
| 58 | 4.83 | 2.40 | 0.720 | 0.156 | ( 0.648) | | 0.564 |
| 59 | 4.92 | 2.50 | 0.750 | 0.156 | ( 0.675) | | 0.594 |
| 60 | 5.00 | 2.60 | 0.780 | 0.156 | ( 0.702) | | 0.624 |
| 61 | 5.08 | 3.10 | 0.930 | 0.156 | ( 0.837) | | 0.774 |
| 62 | 5.17 | 3.60 | 1.080 | 0.156 | ( 0.972) | | 0.924 |
| 63 | 5.25 | 3.90 | 1.170 | 0.156 | ( 1.053) | | 1.014 |
| 64 | 5.33 | 4.20 | 1.260 | 0.156 | ( 1.134) | | 1.104 |
| 65 | 5.42 | 4.70 | 1.410 | 0.156 | ( 1.269) | | 1.254 |
| 66 | 5.50 | 5.60 | 1.680 | 0.156 | ( 1.512) | | 1.524 |
| 67 | 5.58 | 1.90 | 0.570 | 0.156 | ( 0.513) | | 0.414 |
| 68 | 5.67 | 0.90 | 0.270 | 0.156 | ( 0.243) | | 0.114 |
| 69 | 5.75 | 0.60 | 0.180 | 0.156 | ( 0.162) | | 0.024 |
| 70 | 5.83 | 0.50 | 0.150 | ( 0.156) | 0.135 | | 0.015 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.156) | 0.081 | | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.156) | 0.054 | | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 19.0

Flood volume = Effective rainfall 1.58(In)
times area 1.2(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 0.92(In)
Total soil loss = 0.092(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 6891.9 Cubic Feet
Total soil loss = 3998.1 Cubic Feet

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Peak flow rate of this hydrograph = 1.745(CFS)

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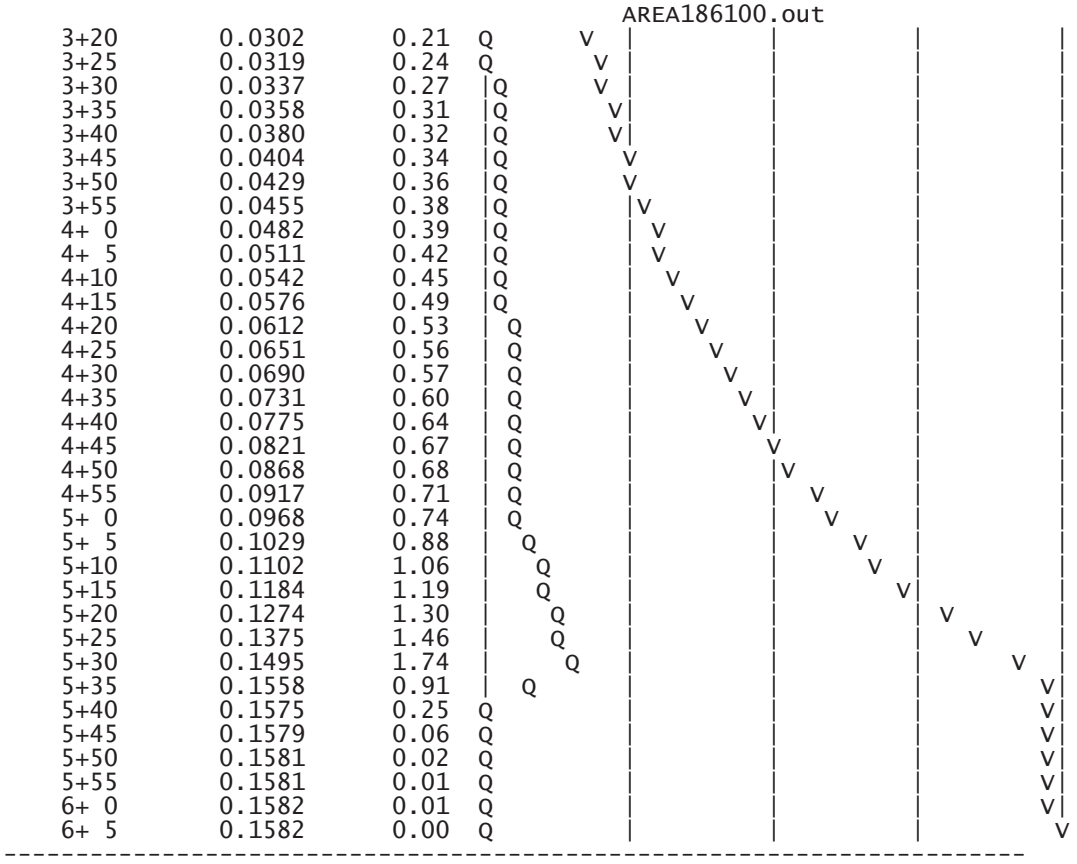
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0001 | 0.01 | Q | | | | |
| 0+10 | 0.0003 | 0.03 | Q | | | | |
| 0+15 | 0.0005 | 0.03 | Q | | | | |
| 0+20 | 0.0007 | 0.03 | Q | | | | |
| 0+25 | 0.0009 | 0.03 | Q | | | | |
| 0+30 | 0.0012 | 0.05 | Q | | | | |
| 0+35 | 0.0017 | 0.07 | Q | | | | |
| 0+40 | 0.0021 | 0.07 | Q | | | | |
| 0+45 | 0.0026 | 0.07 | Q | | | | |
| 0+50 | 0.0030 | 0.07 | Q | | | | |
| 0+55 | 0.0035 | 0.07 | Q | | | | |
| 1+ 0 | 0.0041 | 0.09 | QV | | | | |
| 1+ 5 | 0.0048 | 0.10 | QV | | | | |
| 1+10 | 0.0055 | 0.10 | QV | | | | |
| 1+15 | 0.0062 | 0.10 | QV | | | | |
| 1+20 | 0.0069 | 0.10 | QV | | | | |
| 1+25 | 0.0076 | 0.10 | QV | | | | |
| 1+30 | 0.0083 | 0.10 | Q V | | | | |
| 1+35 | 0.0090 | 0.10 | Q V | | | | |
| 1+40 | 0.0097 | 0.10 | Q V | | | | |
| 1+45 | 0.0104 | 0.10 | Q V | | | | |
| 1+50 | 0.0111 | 0.10 | Q V | | | | |
| 1+55 | 0.0118 | 0.10 | Q V | | | | |
| 2+ 0 | 0.0127 | 0.13 | Q V | | | | |
| 2+ 5 | 0.0135 | 0.11 | Q V | | | | |
| 2+10 | 0.0143 | 0.13 | Q V | | | | |
| 2+15 | 0.0153 | 0.14 | Q V | | | | |
| 2+20 | 0.0162 | 0.14 | Q V | | | | |
| 2+25 | 0.0172 | 0.14 | Q V | | | | |
| 2+30 | 0.0181 | 0.14 | Q V | | | | |
| 2+35 | 0.0191 | 0.14 | Q V | | | | |
| 2+40 | 0.0200 | 0.14 | Q V | | | | |
| 2+45 | 0.0212 | 0.16 | Q V | | | | |
| 2+50 | 0.0224 | 0.17 | Q V | | | | |
| 2+55 | 0.0236 | 0.17 | Q V | | | | |
| 3+ 0 | 0.0248 | 0.17 | Q V | | | | |
| 3+ 5 | 0.0260 | 0.17 | Q V | | | | |
| 3+10 | 0.0273 | 0.20 | Q V | | | | |
| 3+15 | 0.0288 | 0.21 | Q V | | | | |



| | | | |
|---|---|---|---|
| 3+20 | 0.0302 | 0.21 | Q V |
| 3+25 | 0.0319 | 0.24 | Q V |
| 3+30 | 0.0337 | 0.27 | Q V |
| 3+35 | 0.0358 | 0.31 | Q V |
| 3+40 | 0.0380 | 0.32 | Q V |
| 3+45 | 0.0404 | 0.34 | Q V |
| 3+50 | 0.0429 | 0.36 | Q V |
| 3+55 | 0.0455 | 0.38 | Q V |
| 4+ 0 | 0.0482 | 0.39 | Q V |
| 4+ 5 | 0.0511 | 0.42 | Q V |
| 4+10 | 0.0542 | 0.45 | Q V |
| 4+15 | 0.0576 | 0.49 | Q V |
| 4+20 | 0.0612 | 0.53 | Q V |
| 4+25 | 0.0651 | 0.56 | Q V |
| 4+30 | 0.0690 | 0.57 | Q V |
| 4+35 | 0.0731 | 0.60 | Q V |
| 4+40 | 0.0775 | 0.64 | Q V |
| 4+45 | 0.0821 | 0.67 | Q V |
| 4+50 | 0.0868 | 0.68 | Q V |
| 4+55 | 0.0917 | 0.71 | Q V |
| 5+ 0 | 0.0968 | 0.74 | Q V |
| 5+ 5 | 0.1029 | 0.88 | Q V |
| 5+10 | 0.1102 | 1.06 | Q V |
| 5+15 | 0.1184 | 1.19 | Q V |
| 5+20 | 0.1274 | 1.30 | Q V |
| 5+25 | 0.1375 | 1.46 | Q V |
| 5+30 | 0.1495 | 1.74 | Q V |
| 5+35 | 0.1558 | 0.91 | Q V |
| 5+40 | 0.1575 | 0.25 | Q V |
| 5+45 | 0.1579 | 0.06 | Q V |
| 5+50 | 0.1581 | 0.02 | Q V |
| 5+55 | 0.1581 | 0.01 | Q V |
| 6+ 0 | 0.1582 | 0.01 | Q V |
| 6+ 5 | 0.1582 | 0.00 | Q V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA1824100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 18
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

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Drainage Area = 1.20(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.20(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 256.00(Ft.)
Length along longest watercourse measured to centroid = 132.00(Ft.)
Length along longest watercourse = 0.048 Mi.
Length along longest watercourse measured to centroid = 0.025 Mi.
Difference in elevation = 30.00(Ft.)
Slope along watercourse = 618.7500 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.019 Hr.
Lag time = 1.16 Min.
25% of lag time = 0.29 Min.
40% of lag time = 0.46 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.20 | 1.80 | 2.16 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.20 | 4.76 | 5.71 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.760(In)

Point rain (area averaged) = 4.760(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.760(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 1.200 | 74.53 | 0.000 |

Total Area Entered = 1.20(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 74.5 | 87.7 | 0.156 | 0.000 | 0.156 | 1.000 | 0.156 |
| | | | | | Sum (F) = | 0.156 |

Area averaged mean soil loss (F) (In/Hr) = 0.156

Minimum soil loss rate ((In/Hr)) = 0.078
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 431.698 | 69.548 | 0.841 |
| 2 0.167 | 863.396 | 30.452 | 0.368 |
| | | Sum = 100.000 | Sum= 1.209 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 0.07 | 0.038 | ( 0.277) | 0.034 | 0.004 |
| 2 0.17 | 0.07 | 0.038 | ( 0.276) | 0.034 | 0.004 |
| 3 0.25 | 0.07 | 0.038 | ( 0.274) | 0.034 | 0.004 |
| 4 0.33 | 0.10 | 0.057 | ( 0.273) | 0.051 | 0.006 |
| 5 0.42 | 0.10 | 0.057 | ( 0.272) | 0.051 | 0.006 |
| 6 0.50 | 0.10 | 0.057 | ( 0.271) | 0.051 | 0.006 |
| 7 0.58 | 0.10 | 0.057 | ( 0.270) | 0.051 | 0.006 |
| 8 0.67 | 0.10 | 0.057 | ( 0.269) | 0.051 | 0.006 |
| 9 0.75 | 0.10 | 0.057 | ( 0.268) | 0.051 | 0.006 |
| 10 0.83 | 0.13 | 0.076 | ( 0.267) | 0.069 | 0.008 |
| 11 0.92 | 0.13 | 0.076 | ( 0.266) | 0.069 | 0.008 |
| 12 1.00 | 0.13 | 0.076 | ( 0.265) | 0.069 | 0.008 |
| 13 1.08 | 0.10 | 0.057 | ( 0.264) | 0.051 | 0.006 |
| 14 1.17 | 0.10 | 0.057 | ( 0.263) | 0.051 | 0.006 |
| 15 1.25 | 0.10 | 0.057 | ( 0.262) | 0.051 | 0.006 |
| 16 1.33 | 0.10 | 0.057 | ( 0.261) | 0.051 | 0.006 |
| 17 1.42 | 0.10 | 0.057 | ( 0.260) | 0.051 | 0.006 |
| 18 1.50 | 0.10 | 0.057 | ( 0.259) | 0.051 | 0.006 |
| 19 1.58 | 0.10 | 0.057 | ( 0.258) | 0.051 | 0.006 |
| 20 1.67 | 0.10 | 0.057 | ( 0.257) | 0.051 | 0.006 |
| 21 1.75 | 0.10 | 0.057 | ( 0.256) | 0.051 | 0.006 |
| 22 1.83 | 0.13 | 0.076 | ( 0.255) | 0.069 | 0.008 |
| 23 1.92 | 0.13 | 0.076 | ( 0.254) | 0.069 | 0.008 |
| 24 2.00 | 0.13 | 0.076 | ( 0.252) | 0.069 | 0.008 |
| 25 2.08 | 0.13 | 0.076 | ( 0.251) | 0.069 | 0.008 |
| 26 2.17 | 0.13 | 0.076 | ( 0.250) | 0.069 | 0.008 |
| 27 2.25 | 0.13 | 0.076 | ( 0.249) | 0.069 | 0.008 |
| 28 2.33 | 0.13 | 0.076 | ( 0.248) | 0.069 | 0.008 |
| 29 2.42 | 0.13 | 0.076 | ( 0.247) | 0.069 | 0.008 |
| 30 2.50 | 0.13 | 0.076 | ( 0.246) | 0.069 | 0.008 |
| 31 2.58 | 0.17 | 0.095 | ( 0.245) | 0.086 | 0.010 |
| 32 2.67 | 0.17 | 0.095 | ( 0.244) | 0.086 | 0.010 |
| 33 2.75 | 0.17 | 0.095 | ( 0.243) | 0.086 | 0.010 |
| 34 2.83 | 0.17 | 0.095 | ( 0.242) | 0.086 | 0.010 |
| 35 2.92 | 0.17 | 0.095 | ( 0.241) | 0.086 | 0.010 |
| 36 3.00 | 0.17 | 0.095 | ( 0.240) | 0.086 | 0.010 |
| 37 3.08 | 0.17 | 0.095 | ( 0.239) | 0.086 | 0.010 |
| 38 3.17 | 0.17 | 0.095 | ( 0.238) | 0.086 | 0.010 |
| 39 3.25 | 0.17 | 0.095 | ( 0.237) | 0.086 | 0.010 |
| 40 3.33 | 0.17 | 0.095 | ( 0.236) | 0.086 | 0.010 |
| 41 3.42 | 0.17 | 0.095 | ( 0.235) | 0.086 | 0.010 |
| 42 3.50 | 0.17 | 0.095 | ( 0.234) | 0.086 | 0.010 |
| 43 3.58 | 0.17 | 0.095 | ( 0.233) | 0.086 | 0.010 |
| 44 3.67 | 0.17 | 0.095 | ( 0.232) | 0.086 | 0.010 |
| 45 3.75 | 0.17 | 0.095 | ( 0.231) | 0.086 | 0.010 |
| 46 3.83 | 0.20 | 0.114 | ( 0.231) | 0.103 | 0.011 |
| 47 3.92 | 0.20 | 0.114 | ( 0.230) | 0.103 | 0.011 |
| 48 4.00 | 0.20 | 0.114 | ( 0.229) | 0.103 | 0.011 |
| 49 4.08 | 0.20 | 0.114 | ( 0.228) | 0.103 | 0.011 |
| 50 4.17 | 0.20 | 0.114 | ( 0.227) | 0.103 | 0.011 |
| 51 4.25 | 0.20 | 0.114 | ( 0.226) | 0.103 | 0.011 |
| 52 4.33 | 0.23 | 0.133 | ( 0.225) | 0.120 | 0.013 |
| 53 4.42 | 0.23 | 0.133 | ( 0.224) | 0.120 | 0.013 |
| 54 4.50 | 0.23 | 0.133 | ( 0.223) | 0.120 | 0.013 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 55 | 4.58 | 0.23 | 0.133 | ( 0.222) | 0.120 | 0.013 |
| 56 | 4.67 | 0.23 | 0.133 | ( 0.221) | 0.120 | 0.013 |
| 57 | 4.75 | 0.23 | 0.133 | ( 0.220) | 0.120 | 0.013 |
| 58 | 4.83 | 0.27 | 0.152 | ( 0.219) | 0.137 | 0.015 |
| 59 | 4.92 | 0.27 | 0.152 | ( 0.218) | 0.137 | 0.015 |
| 60 | 5.00 | 0.27 | 0.152 | ( 0.217) | 0.137 | 0.015 |
| 61 | 5.08 | 0.20 | 0.114 | ( 0.216) | 0.103 | 0.011 |
| 62 | 5.17 | 0.20 | 0.114 | ( 0.215) | 0.103 | 0.011 |
| 63 | 5.25 | 0.20 | 0.114 | ( 0.214) | 0.103 | 0.011 |
| 64 | 5.33 | 0.23 | 0.133 | ( 0.213) | 0.120 | 0.013 |
| 65 | 5.42 | 0.23 | 0.133 | ( 0.212) | 0.120 | 0.013 |
| 66 | 5.50 | 0.23 | 0.133 | ( 0.211) | 0.120 | 0.013 |
| 67 | 5.58 | 0.27 | 0.152 | ( 0.211) | 0.137 | 0.015 |
| 68 | 5.67 | 0.27 | 0.152 | ( 0.210) | 0.137 | 0.015 |
| 69 | 5.75 | 0.27 | 0.152 | ( 0.209) | 0.137 | 0.015 |
| 70 | 5.83 | 0.27 | 0.152 | ( 0.208) | 0.137 | 0.015 |
| 71 | 5.92 | 0.27 | 0.152 | ( 0.207) | 0.137 | 0.015 |
| 72 | 6.00 | 0.27 | 0.152 | ( 0.206) | 0.137 | 0.015 |
| 73 | 6.08 | 0.30 | 0.171 | ( 0.205) | 0.154 | 0.017 |
| 74 | 6.17 | 0.30 | 0.171 | ( 0.204) | 0.154 | 0.017 |
| 75 | 6.25 | 0.30 | 0.171 | ( 0.203) | 0.154 | 0.017 |
| 76 | 6.33 | 0.30 | 0.171 | ( 0.202) | 0.154 | 0.017 |
| 77 | 6.42 | 0.30 | 0.171 | ( 0.201) | 0.154 | 0.017 |
| 78 | 6.50 | 0.30 | 0.171 | ( 0.200) | 0.154 | 0.017 |
| 79 | 6.58 | 0.33 | 0.190 | ( 0.200) | 0.171 | 0.019 |
| 80 | 6.67 | 0.33 | 0.190 | ( 0.199) | 0.171 | 0.019 |
| 81 | 6.75 | 0.33 | 0.190 | ( 0.198) | 0.171 | 0.019 |
| 82 | 6.83 | 0.33 | 0.190 | ( 0.197) | 0.171 | 0.019 |
| 83 | 6.92 | 0.33 | 0.190 | ( 0.196) | 0.171 | 0.019 |
| 84 | 7.00 | 0.33 | 0.190 | ( 0.195) | 0.171 | 0.019 |
| 85 | 7.08 | 0.33 | 0.190 | ( 0.194) | 0.171 | 0.019 |
| 86 | 7.17 | 0.33 | 0.190 | ( 0.193) | 0.171 | 0.019 |
| 87 | 7.25 | 0.33 | 0.190 | ( 0.192) | 0.171 | 0.019 |
| 88 | 7.33 | 0.37 | 0.209 | ( 0.192) | 0.188 | 0.021 |
| 89 | 7.42 | 0.37 | 0.209 | ( 0.191) | 0.188 | 0.021 |
| 90 | 7.50 | 0.37 | 0.209 | ( 0.190) | 0.188 | 0.021 |
| 91 | 7.58 | 0.40 | 0.228 | 0.189 | ( 0.206) | 0.040 |
| 92 | 7.67 | 0.40 | 0.228 | 0.188 | ( 0.206) | 0.040 |
| 93 | 7.75 | 0.40 | 0.228 | 0.187 | ( 0.206) | 0.041 |
| 94 | 7.83 | 0.43 | 0.248 | 0.186 | ( 0.223) | 0.061 |
| 95 | 7.92 | 0.43 | 0.248 | 0.185 | ( 0.223) | 0.062 |
| 96 | 8.00 | 0.43 | 0.248 | 0.185 | ( 0.223) | 0.063 |
| 97 | 8.08 | 0.50 | 0.286 | 0.184 | ( 0.257) | 0.102 |
| 98 | 8.17 | 0.50 | 0.286 | 0.183 | ( 0.257) | 0.103 |
| 99 | 8.25 | 0.50 | 0.286 | 0.182 | ( 0.257) | 0.104 |
| 100 | 8.33 | 0.50 | 0.286 | 0.181 | ( 0.257) | 0.104 |
| 101 | 8.42 | 0.50 | 0.286 | 0.180 | ( 0.257) | 0.105 |
| 102 | 8.50 | 0.50 | 0.286 | 0.180 | ( 0.257) | 0.106 |
| 103 | 8.58 | 0.53 | 0.305 | 0.179 | ( 0.274) | 0.126 |
| 104 | 8.67 | 0.53 | 0.305 | 0.178 | ( 0.274) | 0.127 |
| 105 | 8.75 | 0.53 | 0.305 | 0.177 | ( 0.274) | 0.128 |
| 106 | 8.83 | 0.57 | 0.324 | 0.176 | ( 0.291) | 0.148 |
| 107 | 8.92 | 0.57 | 0.324 | 0.175 | ( 0.291) | 0.148 |
| 108 | 9.00 | 0.57 | 0.324 | 0.175 | ( 0.291) | 0.149 |
| 109 | 9.08 | 0.63 | 0.362 | 0.174 | ( 0.326) | 0.188 |
| 110 | 9.17 | 0.63 | 0.362 | 0.173 | ( 0.326) | 0.189 |
| 111 | 9.25 | 0.63 | 0.362 | 0.172 | ( 0.326) | 0.190 |
| 112 | 9.33 | 0.67 | 0.381 | 0.171 | ( 0.343) | 0.210 |
| 113 | 9.42 | 0.67 | 0.381 | 0.170 | ( 0.343) | 0.210 |
| 114 | 9.50 | 0.67 | 0.381 | 0.170 | ( 0.343) | 0.211 |
| 115 | 9.58 | 0.70 | 0.400 | 0.169 | ( 0.360) | 0.231 |
| 116 | 9.67 | 0.70 | 0.400 | 0.168 | ( 0.360) | 0.232 |
| 117 | 9.75 | 0.70 | 0.400 | 0.167 | ( 0.360) | 0.233 |
| 118 | 9.83 | 0.73 | 0.419 | 0.166 | ( 0.377) | 0.253 |
| 119 | 9.92 | 0.73 | 0.419 | 0.166 | ( 0.377) | 0.253 |
| 120 | 10.00 | 0.73 | 0.419 | 0.165 | ( 0.377) | 0.254 |
| 121 | 10.08 | 0.50 | 0.286 | 0.164 | ( 0.257) | 0.122 |
| 122 | 10.17 | 0.50 | 0.286 | 0.163 | ( 0.257) | 0.122 |
| 123 | 10.25 | 0.50 | 0.286 | 0.162 | ( 0.257) | 0.123 |
| 124 | 10.33 | 0.50 | 0.286 | 0.162 | ( 0.257) | 0.124 |
| 125 | 10.42 | 0.50 | 0.286 | 0.161 | ( 0.257) | 0.125 |
| 126 | 10.50 | 0.50 | 0.286 | 0.160 | ( 0.257) | 0.126 |
| 127 | 10.58 | 0.67 | 0.381 | 0.159 | ( 0.343) | 0.222 |
| 128 | 10.67 | 0.67 | 0.381 | 0.158 | ( 0.343) | 0.222 |
| 129 | 10.75 | 0.67 | 0.381 | 0.158 | ( 0.343) | 0.223 |
| 130 | 10.83 | 0.67 | 0.381 | 0.157 | ( 0.343) | 0.224 |
| 131 | 10.92 | 0.67 | 0.381 | 0.156 | ( 0.343) | 0.225 |
| 132 | 11.00 | 0.67 | 0.381 | 0.155 | ( 0.343) | 0.225 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 133 | 11.08 | 0.63 | 0.362 | 0.155 | ( 0.326) | 0.207 |
| 134 | 11.17 | 0.63 | 0.362 | 0.154 | ( 0.326) | 0.208 |
| 135 | 11.25 | 0.63 | 0.362 | 0.153 | ( 0.326) | 0.209 |
| 136 | 11.33 | 0.63 | 0.362 | 0.152 | ( 0.326) | 0.209 |
| 137 | 11.42 | 0.63 | 0.362 | 0.152 | ( 0.326) | 0.210 |
| 138 | 11.50 | 0.63 | 0.362 | 0.151 | ( 0.326) | 0.211 |
| 139 | 11.58 | 0.57 | 0.324 | 0.150 | ( 0.291) | 0.174 |
| 140 | 11.67 | 0.57 | 0.324 | 0.149 | ( 0.291) | 0.174 |
| 141 | 11.75 | 0.57 | 0.324 | 0.149 | ( 0.291) | 0.175 |
| 142 | 11.83 | 0.60 | 0.343 | 0.148 | ( 0.308) | 0.195 |
| 143 | 11.92 | 0.60 | 0.343 | 0.147 | ( 0.308) | 0.196 |
| 144 | 12.00 | 0.60 | 0.343 | 0.146 | ( 0.308) | 0.196 |
| 145 | 12.08 | 0.83 | 0.476 | 0.146 | ( 0.428) | 0.330 |
| 146 | 12.17 | 0.83 | 0.476 | 0.145 | ( 0.428) | 0.331 |
| 147 | 12.25 | 0.83 | 0.476 | 0.144 | ( 0.428) | 0.332 |
| 148 | 12.33 | 0.87 | 0.495 | 0.143 | ( 0.446) | 0.352 |
| 149 | 12.42 | 0.87 | 0.495 | 0.143 | ( 0.446) | 0.352 |
| 150 | 12.50 | 0.87 | 0.495 | 0.142 | ( 0.446) | 0.353 |
| 151 | 12.58 | 0.93 | 0.533 | 0.141 | ( 0.480) | 0.392 |
| 152 | 12.67 | 0.93 | 0.533 | 0.141 | ( 0.480) | 0.393 |
| 153 | 12.75 | 0.93 | 0.533 | 0.140 | ( 0.480) | 0.393 |
| 154 | 12.83 | 0.97 | 0.552 | 0.139 | ( 0.497) | 0.413 |
| 155 | 12.92 | 0.97 | 0.552 | 0.138 | ( 0.497) | 0.414 |
| 156 | 13.00 | 0.97 | 0.552 | 0.138 | ( 0.497) | 0.414 |
| 157 | 13.08 | 1.13 | 0.647 | 0.137 | ( 0.583) | 0.510 |
| 158 | 13.17 | 1.13 | 0.647 | 0.136 | ( 0.583) | 0.511 |
| 159 | 13.25 | 1.13 | 0.647 | 0.136 | ( 0.583) | 0.512 |
| 160 | 13.33 | 1.13 | 0.647 | 0.135 | ( 0.583) | 0.512 |
| 161 | 13.42 | 1.13 | 0.647 | 0.134 | ( 0.583) | 0.513 |
| 162 | 13.50 | 1.13 | 0.647 | 0.134 | ( 0.583) | 0.514 |
| 163 | 13.58 | 0.77 | 0.438 | 0.133 | ( 0.394) | 0.305 |
| 164 | 13.67 | 0.77 | 0.438 | 0.132 | ( 0.394) | 0.306 |
| 165 | 13.75 | 0.77 | 0.438 | 0.132 | ( 0.394) | 0.306 |
| 166 | 13.83 | 0.77 | 0.438 | 0.131 | ( 0.394) | 0.307 |
| 167 | 13.92 | 0.77 | 0.438 | 0.130 | ( 0.394) | 0.308 |
| 168 | 14.00 | 0.77 | 0.438 | 0.130 | ( 0.394) | 0.308 |
| 169 | 14.08 | 0.90 | 0.514 | 0.129 | ( 0.463) | 0.385 |
| 170 | 14.17 | 0.90 | 0.514 | 0.128 | ( 0.463) | 0.386 |
| 171 | 14.25 | 0.90 | 0.514 | 0.128 | ( 0.463) | 0.386 |
| 172 | 14.33 | 0.87 | 0.495 | 0.127 | ( 0.446) | 0.368 |
| 173 | 14.42 | 0.87 | 0.495 | 0.126 | ( 0.446) | 0.369 |
| 174 | 14.50 | 0.87 | 0.495 | 0.126 | ( 0.446) | 0.369 |
| 175 | 14.58 | 0.87 | 0.495 | 0.125 | ( 0.446) | 0.370 |
| 176 | 14.67 | 0.87 | 0.495 | 0.124 | ( 0.446) | 0.371 |
| 177 | 14.75 | 0.87 | 0.495 | 0.124 | ( 0.446) | 0.371 |
| 178 | 14.83 | 0.83 | 0.476 | 0.123 | ( 0.428) | 0.353 |
| 179 | 14.92 | 0.83 | 0.476 | 0.122 | ( 0.428) | 0.354 |
| 180 | 15.00 | 0.83 | 0.476 | 0.122 | ( 0.428) | 0.354 |
| 181 | 15.08 | 0.80 | 0.457 | 0.121 | ( 0.411) | 0.336 |
| 182 | 15.17 | 0.80 | 0.457 | 0.121 | ( 0.411) | 0.336 |
| 183 | 15.25 | 0.80 | 0.457 | 0.120 | ( 0.411) | 0.337 |
| 184 | 15.33 | 0.77 | 0.438 | 0.119 | ( 0.394) | 0.319 |
| 185 | 15.42 | 0.77 | 0.438 | 0.119 | ( 0.394) | 0.319 |
| 186 | 15.50 | 0.77 | 0.438 | 0.118 | ( 0.394) | 0.320 |
| 187 | 15.58 | 0.63 | 0.362 | 0.118 | ( 0.326) | 0.244 |
| 188 | 15.67 | 0.63 | 0.362 | 0.117 | ( 0.326) | 0.245 |
| 189 | 15.75 | 0.63 | 0.362 | 0.116 | ( 0.326) | 0.245 |
| 190 | 15.83 | 0.63 | 0.362 | 0.116 | ( 0.326) | 0.246 |
| 191 | 15.92 | 0.63 | 0.362 | 0.115 | ( 0.326) | 0.247 |
| 192 | 16.00 | 0.63 | 0.362 | 0.115 | ( 0.326) | 0.247 |
| 193 | 16.08 | 0.13 | 0.076 | ( 0.114) | 0.069 | 0.008 |
| 194 | 16.17 | 0.13 | 0.076 | ( 0.113) | 0.069 | 0.008 |
| 195 | 16.25 | 0.13 | 0.076 | ( 0.113) | 0.069 | 0.008 |
| 196 | 16.33 | 0.13 | 0.076 | ( 0.112) | 0.069 | 0.008 |
| 197 | 16.42 | 0.13 | 0.076 | ( 0.112) | 0.069 | 0.008 |
| 198 | 16.50 | 0.13 | 0.076 | ( 0.111) | 0.069 | 0.008 |
| 199 | 16.58 | 0.10 | 0.057 | ( 0.111) | 0.051 | 0.006 |
| 200 | 16.67 | 0.10 | 0.057 | ( 0.110) | 0.051 | 0.006 |
| 201 | 16.75 | 0.10 | 0.057 | ( 0.109) | 0.051 | 0.006 |
| 202 | 16.83 | 0.10 | 0.057 | ( 0.109) | 0.051 | 0.006 |
| 203 | 16.92 | 0.10 | 0.057 | ( 0.108) | 0.051 | 0.006 |
| 204 | 17.00 | 0.10 | 0.057 | ( 0.108) | 0.051 | 0.006 |
| 205 | 17.08 | 0.17 | 0.095 | ( 0.107) | 0.086 | 0.010 |
| 206 | 17.17 | 0.17 | 0.095 | ( 0.107) | 0.086 | 0.010 |
| 207 | 17.25 | 0.17 | 0.095 | ( 0.106) | 0.086 | 0.010 |
| 208 | 17.33 | 0.17 | 0.095 | ( 0.106) | 0.086 | 0.010 |
| 209 | 17.42 | 0.17 | 0.095 | ( 0.105) | 0.086 | 0.010 |
| 210 | 17.50 | 0.17 | 0.095 | ( 0.105) | 0.086 | 0.010 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 211 | 17.58 | 0.17 | 0.095 | ( 0.104) | 0.086 | 0.010 |
| 212 | 17.67 | 0.17 | 0.095 | ( 0.104) | 0.086 | 0.010 |
| 213 | 17.75 | 0.17 | 0.095 | ( 0.103) | 0.086 | 0.010 |
| 214 | 17.83 | 0.13 | 0.076 | ( 0.102) | 0.069 | 0.008 |
| 215 | 17.92 | 0.13 | 0.076 | ( 0.102) | 0.069 | 0.008 |
| 216 | 18.00 | 0.13 | 0.076 | ( 0.101) | 0.069 | 0.008 |
| 217 | 18.08 | 0.13 | 0.076 | ( 0.101) | 0.069 | 0.008 |
| 218 | 18.17 | 0.13 | 0.076 | ( 0.100) | 0.069 | 0.008 |
| 219 | 18.25 | 0.13 | 0.076 | ( 0.100) | 0.069 | 0.008 |
| 220 | 18.33 | 0.13 | 0.076 | ( 0.100) | 0.069 | 0.008 |
| 221 | 18.42 | 0.13 | 0.076 | ( 0.099) | 0.069 | 0.008 |
| 222 | 18.50 | 0.13 | 0.076 | ( 0.099) | 0.069 | 0.008 |
| 223 | 18.58 | 0.10 | 0.057 | ( 0.098) | 0.051 | 0.006 |
| 224 | 18.67 | 0.10 | 0.057 | ( 0.098) | 0.051 | 0.006 |
| 225 | 18.75 | 0.10 | 0.057 | ( 0.097) | 0.051 | 0.006 |
| 226 | 18.83 | 0.07 | 0.038 | ( 0.097) | 0.034 | 0.004 |
| 227 | 18.92 | 0.07 | 0.038 | ( 0.096) | 0.034 | 0.004 |
| 228 | 19.00 | 0.07 | 0.038 | ( 0.096) | 0.034 | 0.004 |
| 229 | 19.08 | 0.10 | 0.057 | ( 0.095) | 0.051 | 0.006 |
| 230 | 19.17 | 0.10 | 0.057 | ( 0.095) | 0.051 | 0.006 |
| 231 | 19.25 | 0.10 | 0.057 | ( 0.094) | 0.051 | 0.006 |
| 232 | 19.33 | 0.13 | 0.076 | ( 0.094) | 0.069 | 0.008 |
| 233 | 19.42 | 0.13 | 0.076 | ( 0.094) | 0.069 | 0.008 |
| 234 | 19.50 | 0.13 | 0.076 | ( 0.093) | 0.069 | 0.008 |
| 235 | 19.58 | 0.10 | 0.057 | ( 0.093) | 0.051 | 0.006 |
| 236 | 19.67 | 0.10 | 0.057 | ( 0.092) | 0.051 | 0.006 |
| 237 | 19.75 | 0.10 | 0.057 | ( 0.092) | 0.051 | 0.006 |
| 238 | 19.83 | 0.07 | 0.038 | ( 0.091) | 0.034 | 0.004 |
| 239 | 19.92 | 0.07 | 0.038 | ( 0.091) | 0.034 | 0.004 |
| 240 | 20.00 | 0.07 | 0.038 | ( 0.091) | 0.034 | 0.004 |
| 241 | 20.08 | 0.10 | 0.057 | ( 0.090) | 0.051 | 0.006 |
| 242 | 20.17 | 0.10 | 0.057 | ( 0.090) | 0.051 | 0.006 |
| 243 | 20.25 | 0.10 | 0.057 | ( 0.089) | 0.051 | 0.006 |
| 244 | 20.33 | 0.10 | 0.057 | ( 0.089) | 0.051 | 0.006 |
| 245 | 20.42 | 0.10 | 0.057 | ( 0.089) | 0.051 | 0.006 |
| 246 | 20.50 | 0.10 | 0.057 | ( 0.088) | 0.051 | 0.006 |
| 247 | 20.58 | 0.10 | 0.057 | ( 0.088) | 0.051 | 0.006 |
| 248 | 20.67 | 0.10 | 0.057 | ( 0.088) | 0.051 | 0.006 |
| 249 | 20.75 | 0.10 | 0.057 | ( 0.087) | 0.051 | 0.006 |
| 250 | 20.83 | 0.07 | 0.038 | ( 0.087) | 0.034 | 0.004 |
| 251 | 20.92 | 0.07 | 0.038 | ( 0.086) | 0.034 | 0.004 |
| 252 | 21.00 | 0.07 | 0.038 | ( 0.086) | 0.034 | 0.004 |
| 253 | 21.08 | 0.10 | 0.057 | ( 0.086) | 0.051 | 0.006 |
| 254 | 21.17 | 0.10 | 0.057 | ( 0.085) | 0.051 | 0.006 |
| 255 | 21.25 | 0.10 | 0.057 | ( 0.085) | 0.051 | 0.006 |
| 256 | 21.33 | 0.07 | 0.038 | ( 0.085) | 0.034 | 0.004 |
| 257 | 21.42 | 0.07 | 0.038 | ( 0.084) | 0.034 | 0.004 |
| 258 | 21.50 | 0.07 | 0.038 | ( 0.084) | 0.034 | 0.004 |
| 259 | 21.58 | 0.10 | 0.057 | ( 0.084) | 0.051 | 0.006 |
| 260 | 21.67 | 0.10 | 0.057 | ( 0.084) | 0.051 | 0.006 |
| 261 | 21.75 | 0.10 | 0.057 | ( 0.083) | 0.051 | 0.006 |
| 262 | 21.83 | 0.07 | 0.038 | ( 0.083) | 0.034 | 0.004 |
| 263 | 21.92 | 0.07 | 0.038 | ( 0.083) | 0.034 | 0.004 |
| 264 | 22.00 | 0.07 | 0.038 | ( 0.082) | 0.034 | 0.004 |
| 265 | 22.08 | 0.10 | 0.057 | ( 0.082) | 0.051 | 0.006 |
| 266 | 22.17 | 0.10 | 0.057 | ( 0.082) | 0.051 | 0.006 |
| 267 | 22.25 | 0.10 | 0.057 | ( 0.082) | 0.051 | 0.006 |
| 268 | 22.33 | 0.07 | 0.038 | ( 0.081) | 0.034 | 0.004 |
| 269 | 22.42 | 0.07 | 0.038 | ( 0.081) | 0.034 | 0.004 |
| 270 | 22.50 | 0.07 | 0.038 | ( 0.081) | 0.034 | 0.004 |
| 271 | 22.58 | 0.07 | 0.038 | ( 0.081) | 0.034 | 0.004 |
| 272 | 22.67 | 0.07 | 0.038 | ( 0.080) | 0.034 | 0.004 |
| 273 | 22.75 | 0.07 | 0.038 | ( 0.080) | 0.034 | 0.004 |
| 274 | 22.83 | 0.07 | 0.038 | ( 0.080) | 0.034 | 0.004 |
| 275 | 22.92 | 0.07 | 0.038 | ( 0.080) | 0.034 | 0.004 |
| 276 | 23.00 | 0.07 | 0.038 | ( 0.080) | 0.034 | 0.004 |
| 277 | 23.08 | 0.07 | 0.038 | ( 0.079) | 0.034 | 0.004 |
| 278 | 23.17 | 0.07 | 0.038 | ( 0.079) | 0.034 | 0.004 |
| 279 | 23.25 | 0.07 | 0.038 | ( 0.079) | 0.034 | 0.004 |
| 280 | 23.33 | 0.07 | 0.038 | ( 0.079) | 0.034 | 0.004 |
| 281 | 23.42 | 0.07 | 0.038 | ( 0.079) | 0.034 | 0.004 |
| 282 | 23.50 | 0.07 | 0.038 | ( 0.079) | 0.034 | 0.004 |
| 283 | 23.58 | 0.07 | 0.038 | ( 0.078) | 0.034 | 0.004 |
| 284 | 23.67 | 0.07 | 0.038 | ( 0.078) | 0.034 | 0.004 |
| 285 | 23.75 | 0.07 | 0.038 | ( 0.078) | 0.034 | 0.004 |
| 286 | 23.83 | 0.07 | 0.038 | ( 0.078) | 0.034 | 0.004 |
| 287 | 23.92 | 0.07 | 0.038 | ( 0.078) | 0.034 | 0.004 |
| 288 | 24.00 | 0.07 | 0.038 | ( 0.078) | 0.034 | 0.004 |

(Loss Rate Not Used)
Sum = 100.0 Sum = 27.7
Flood volume = Effective rainfall 2.31(In)
times area 1.2(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 2.45(In)
Total soil loss = 0.245(Ac.Ft)
Total rainfall = 4.76(In)
Flood volume = 10051.8 Cubic Feet
Total soil loss = 10682.7 Cubic Feet

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Peak flow rate of this hydrograph = 0.621(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0000 | 0.00 | Q | | | | |
| 0+10 | 0.0001 | 0.00 | Q | | | | |
| 0+15 | 0.0001 | 0.00 | Q | | | | |
| 0+20 | 0.0001 | 0.01 | Q | | | | |
| 0+25 | 0.0002 | 0.01 | Q | | | | |
| 0+30 | 0.0002 | 0.01 | Q | | | | |
| 0+35 | 0.0003 | 0.01 | Q | | | | |
| 0+40 | 0.0003 | 0.01 | Q | | | | |
| 0+45 | 0.0004 | 0.01 | Q | | | | |
| 0+50 | 0.0004 | 0.01 | Q | | | | |
| 0+55 | 0.0005 | 0.01 | Q | | | | |
| 1+ 0 | 0.0006 | 0.01 | Q | | | | |
| 1+ 5 | 0.0006 | 0.01 | Q | | | | |
| 1+10 | 0.0007 | 0.01 | Q | | | | |
| 1+15 | 0.0007 | 0.01 | Q | | | | |
| 1+20 | 0.0007 | 0.01 | Q | | | | |
| 1+25 | 0.0008 | 0.01 | Q | | | | |
| 1+30 | 0.0008 | 0.01 | Q | | | | |
| 1+35 | 0.0009 | 0.01 | Q | | | | |
| 1+40 | 0.0009 | 0.01 | Q | | | | |
| 1+45 | 0.0010 | 0.01 | Q | | | | |
| 1+50 | 0.0010 | 0.01 | Q | | | | |
| 1+55 | 0.0011 | 0.01 | Q | | | | |
| 2+ 0 | 0.0012 | 0.01 | Q | | | | |
| 2+ 5 | 0.0012 | 0.01 | Q | | | | |
| 2+10 | 0.0013 | 0.01 | Q | | | | |
| 2+15 | 0.0014 | 0.01 | Q | | | | |
| 2+20 | 0.0014 | 0.01 | Q | | | | |
| 2+25 | 0.0015 | 0.01 | Q | | | | |
| 2+30 | 0.0016 | 0.01 | Q | | | | |
| 2+35 | 0.0016 | 0.01 | Q | | | | |
| 2+40 | 0.0017 | 0.01 | Q | | | | |
| 2+45 | 0.0018 | 0.01 | Q | | | | |
| 2+50 | 0.0019 | 0.01 | Q | | | | |
| 2+55 | 0.0019 | 0.01 | Q | | | | |
| 3+ 0 | 0.0020 | 0.01 | Q | | | | |
| 3+ 5 | 0.0021 | 0.01 | Q | | | | |
| 3+10 | 0.0022 | 0.01 | Q | | | | |
| 3+15 | 0.0023 | 0.01 | Q | | | | |
| 3+20 | 0.0023 | 0.01 | Q | | | | |
| 3+25 | 0.0024 | 0.01 | Q | | | | |
| 3+30 | 0.0025 | 0.01 | Q | | | | |
| 3+35 | 0.0026 | 0.01 | Q | | | | |
| 3+40 | 0.0027 | 0.01 | Q | | | | |
| 3+45 | 0.0027 | 0.01 | Q | | | | |
| 3+50 | 0.0028 | 0.01 | Q | | | | |
| 3+55 | 0.0029 | 0.01 | Q | | | | |
| 4+ 0 | 0.0030 | 0.01 | Q | | | | |
| 4+ 5 | 0.0031 | 0.01 | Q | | | | |
| 4+10 | 0.0032 | 0.01 | Q | | | | |
| 4+15 | 0.0033 | 0.01 | Q | | | | |
| 4+20 | 0.0034 | 0.02 | Q | | | | |
| 4+25 | 0.0035 | 0.02 | Q | | | | |
| 4+30 | 0.0036 | 0.02 | Q | | | | |
| 4+35 | 0.0037 | 0.02 | Q | | | | |
| 4+40 | 0.0039 | 0.02 | Q | | | | |
| 4+45 | 0.0040 | 0.02 | Q | | | | |

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 4+50       0.0041      0.02  Q          |          |          |          |
 4+55       0.0042      0.02  Q          |          |          |          |
 5+ 0       0.0043      0.02  Q          |          |          |          |
 5+ 5       0.0044      0.02  Q          |          |          |          |
 5+10       0.0045      0.01  Q          |          |          |          |
 5+15       0.0046      0.01  Q          |          |          |          |
 5+20       0.0047      0.02  Q          |          |          |          |
 5+25       0.0049      0.02  Q          |          |          |          |
 5+30       0.0050      0.02  Q          |          |          |          |
 5+35       0.0051      0.02  Q          |          |          |          |
 5+40       0.0052      0.02  Q          |          |          |          |
 5+45       0.0053      0.02  Q          |          |          |          |
 5+50       0.0055      0.02  Q          |          |          |          |
 5+55       0.0056      0.02  Q          |          |          |          |
 6+ 0       0.0057      0.02  Q          |          |          |          |
 6+ 5       0.0059      0.02  QV         |          |          |          |
 6+10       0.0060      0.02  QV         |          |          |          |
 6+15       0.0061      0.02  QV         |          |          |          |
 6+20       0.0063      0.02  QV         |          |          |          |
 6+25       0.0064      0.02  QV         |          |          |          |
 6+30       0.0066      0.02  QV         |          |          |          |
 6+35       0.0067      0.02  QV         |          |          |          |
 6+40       0.0069      0.02  QV         |          |          |          |
 6+45       0.0070      0.02  QV         |          |          |          |
 6+50       0.0072      0.02  QV         |          |          |          |
 6+55       0.0074      0.02  QV         |          |          |          |
 7+ 0       0.0075      0.02  QV         |          |          |          |
 7+ 5       0.0077      0.02  QV         |          |          |          |
 7+10       0.0078      0.02  QV         |          |          |          |
 7+15       0.0080      0.02  QV         |          |          |          |
 7+20       0.0082      0.02  QV         |          |          |          |
 7+25       0.0083      0.03  QV         |          |          |          |
 7+30       0.0085      0.03  QV         |          |          |          |
 7+35       0.0088      0.04  QV         |          |          |          |
 7+40       0.0091      0.05  QV         |          |          |          |
 7+45       0.0095      0.05  QV         |          |          |          |
 7+50       0.0099      0.07  QV         |          |          |          |
 7+55       0.0104      0.07  QV         |          |          |          |
 8+ 0       0.0110      0.08  QV         |          |          |          |
 8+ 5       0.0117      0.11  Q V        |          |          |          |
 8+10       0.0126      0.12  Q V        |          |          |          |
 8+15       0.0134      0.12  Q V        |          |          |          |
 8+20       0.0143      0.13  Q V        |          |          |          |
 8+25       0.0152      0.13  Q V        |          |          |          |
 8+30       0.0161      0.13  Q V        |          |          |          |
 8+35       0.0171      0.15  Q V        |          |          |          |
 8+40       0.0181      0.15  Q  V       |          |          |          |
 8+45       0.0192      0.15  Q  V       |          |          |          |
 8+50       0.0204      0.17  Q  V       |          |          |          |
 8+55       0.0216      0.18  Q  V       |          |          |          |
 9+ 0       0.0228      0.18  Q  V       |          |          |          |
 9+ 5       0.0243      0.21  Q   V      |          |          |          |
 9+10       0.0259      0.23  Q   V      |          |          |          |
 9+15       0.0274      0.23  Q   V      |          |          |          |
 9+20       0.0291      0.25  Q    V     |          |          |          |
 9+25       0.0309      0.25  |Q   V     |          |          |          |
 9+30       0.0327      0.26  |Q   V     |          |          |          |
 9+35       0.0345      0.27  |Q   V     |          |          |          |
 9+40       0.0365      0.28  |Q    V    |          |          |          |
 9+45       0.0384      0.28  |Q    V    |          |          |          |
 9+50       0.0404      0.30  |Q     V   |          |          |          |
 9+55       0.0426      0.31  |Q     V   |          |          |          |
10+ 0       0.0447      0.31  |Q     V   |          |          |          |
10+ 5       0.0460      0.20  Q      V   |          |          |          |
10+10       0.0470      0.15  Q       V  |          |          |          |
10+15       0.0481      0.15  Q       V  |          |          |          |
10+20       0.0491      0.15  Q       V  |          |          |          |
10+25       0.0501      0.15  Q       V  |          |          |          |
10+30       0.0512      0.15  Q       V  |          |          |          |
10+35       0.0528      0.23  Q        V |          |          |          |
10+40       0.0546      0.27  |Q       V |          |          |          |
10+45       0.0565      0.27  |Q       V |          |          |          |
10+50       0.0584      0.27  |Q        V|          |          |          |
10+55       0.0602      0.27  |Q        V|          |          |          |
11+ 0       0.0621      0.27  |Q        V|          |          |          |
11+ 5       0.0639      0.26  |Q         |V         |          |          |
11+10       0.0656      0.25  |Q         |V         |          |          |
11+15       0.0673      0.25  |Q         |V         |          |          |
```

```
11+20       0.0691      0.25  |Q        |V         |          |          |
11+25       0.0708      0.25  |Q        | V        |          |          |
11+30       0.0726      0.25  |Q        | V        |          |          |
11+35       0.0741      0.22  Q         | V        |          |          |
11+40       0.0756      0.21  Q         |  V       |          |          |
11+45       0.0770      0.21  Q         |  V       |          |          |
11+50       0.0786      0.23  Q         |  V       |          |          |
11+55       0.0802      0.24  Q         |  V       |          |          |
12+ 0       0.0819      0.24  Q         |   V      |          |          |
12+ 5       0.0843      0.35  |Q        |   V      |          |          |
12+10       0.0870      0.40  |Q        |    V     |          |          |
12+15       0.0898      0.40  |Q        |    V     |          |          |
12+20       0.0927      0.42  |Q        |     V    |          |          |
12+25       0.0956      0.43  |Q        |     V    |          |          |
12+30       0.0986      0.43  |Q        |      V   |          |          |
12+35       0.1017      0.46  |Q        |      V   |          |          |
12+40       0.1050      0.47  |Q        |       V  |          |          |
12+45       0.1083      0.48  |Q        |       V  |          |          |
12+50       0.1117      0.49  |Q        |        V |          |          |
12+55       0.1151      0.50  | Q       |        V |          |          |
13+ 0       0.1186      0.50  | Q       |         V|          |          |
13+ 5       0.1226      0.58  | Q       |          |V         |          |
13+10       0.1268      0.62  | Q       |          |V         |          |
13+15       0.1311      0.62  | Q       |          | V        |          |
13+20       0.1354      0.62  | Q       |          |  V       |          |
13+25       0.1396      0.62  | Q       |          |   V      |          |
13+30       0.1439      0.62  | Q       |          |   V      |          |
13+35       0.1470      0.45  |Q        |          |    V     |          |
13+40       0.1495      0.37  |Q        |          |    V     |          |
13+45       0.1521      0.37  |Q        |          |     V    |          |
13+50       0.1546      0.37  |Q        |          |     V    |          |
13+55       0.1572      0.37  |Q        |          |      V   |          |
14+ 0       0.1598      0.37  |Q        |          |      V   |          |
14+ 5       0.1628      0.44  |Q        |          |       V  |          |
14+10       0.1660      0.47  |Q        |          |       V  |          |
14+15       0.1692      0.47  |Q        |          |        V|          |
14+20       0.1723      0.45  |Q        |          |        V|          |
14+25       0.1754      0.45  |Q        |          |         V          |
14+30       0.1785      0.45  |Q        |          |         V          |
14+35       0.1816      0.45  |Q        |          |          V         |
14+40       0.1846      0.45  |Q        |          |          V         |
14+45       0.1877      0.45  |Q        |          |          V         |
14+50       0.1907      0.43  |Q        |          |           V        |
14+55       0.1937      0.43  |Q        |          |           V        |
15+ 0       0.1966      0.43  |Q        |          |            V       |
15+ 5       0.1995      0.41  |Q        |          |            V       |
15+10       0.2023      0.41  |Q        |          |             V      |
15+15       0.2051      0.41  |Q        |          |             V      |
15+20       0.2078      0.39  |Q        |          |              V     |
15+25       0.2104      0.39  |Q        |          |              V     |
15+30       0.2131      0.39  |Q        |          |              V     |
15+35       0.2153      0.32  |Q        |          |               V    |
15+40       0.2174      0.30  |Q        |          |               V    |
15+45       0.2194      0.30  |Q        |          |                V   |
15+50       0.2214      0.30  |Q        |          |                V   |
15+55       0.2235      0.30  |Q        |          |                V   |
16+ 0       0.2256      0.30  |Q        |          |                 V  |
16+ 5       0.2262      0.10  Q         |          |                 V  |
16+10       0.2263      0.01  Q         |          |                 V  |
16+15       0.2264      0.01  Q         |          |                 V  |
16+20       0.2264      0.01  Q         |          |                 V  |
16+25       0.2265      0.01  Q         |          |                 V  |
16+30       0.2265      0.01  Q         |          |                 V  |
16+35       0.2266      0.01  Q         |          |                 V  |
16+40       0.2266      0.01  Q         |          |                 V  |
16+45       0.2267      0.01  Q         |          |                 V  |
16+50       0.2267      0.01  Q         |          |                 V  |
16+55       0.2268      0.01  Q         |          |                 V  |
17+ 0       0.2268      0.01  Q         |          |                 V  |
17+ 5       0.2269      0.01  Q         |          |                 V  |
17+10       0.2270      0.01  Q         |          |                 V  |
17+15       0.2271      0.01  Q         |          |                 V  |
17+20       0.2271      0.01  Q         |          |                 V  |
17+25       0.2272      0.01  Q         |          |                 V  |
17+30       0.2273      0.01  Q         |          |                 V  |
17+35       0.2274      0.01  Q         |          |                 V  |
17+40       0.2275      0.01  Q         |          |                 V  |
17+45       0.2275      0.01  Q         |          |                 V  |
```

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+50 | 0.2276 | 0.01 | Q | \| | \| | \| | V\| |
| 17+55 | 0.2277 | 0.01 | Q | \| | \| | \| | V\| |
| 18+ 0 | 0.2277 | 0.01 | Q | \| | \| | \| | V\| |
| 18+ 5 | 0.2278 | 0.01 | Q | \| | \| | \| | V\| |
| 18+10 | 0.2279 | 0.01 | Q | \| | \| | \| | V\| |
| 18+15 | 0.2279 | 0.01 | Q | \| | \| | \| | V\| |
| 18+20 | 0.2280 | 0.01 | Q | \| | \| | \| | V\| |
| 18+25 | 0.2281 | 0.01 | Q | \| | \| | \| | V\| |
| 18+30 | 0.2281 | 0.01 | Q | \| | \| | \| | V\| |
| 18+35 | 0.2282 | 0.01 | Q | \| | \| | \| | V\| |
| 18+40 | 0.2282 | 0.01 | Q | \| | \| | \| | V\| |
| 18+45 | 0.2283 | 0.01 | Q | \| | \| | \| | V\| |
| 18+50 | 0.2283 | 0.01 | Q | \| | \| | \| | V\| |
| 18+55 | 0.2283 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 0 | 0.2284 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 5 | 0.2284 | 0.01 | Q | \| | \| | \| | V\| |
| 19+10 | 0.2285 | 0.01 | Q | \| | \| | \| | V\| |
| 19+15 | 0.2285 | 0.01 | Q | \| | \| | \| | V\| |
| 19+20 | 0.2286 | 0.01 | Q | \| | \| | \| | V\| |
| 19+25 | 0.2286 | 0.01 | Q | \| | \| | \| | V\| |
| 19+30 | 0.2287 | 0.01 | Q | \| | \| | \| | V\| |
| 19+35 | 0.2287 | 0.01 | Q | \| | \| | \| | V\| |
| 19+40 | 0.2288 | 0.01 | Q | \| | \| | \| | V\| |
| 19+45 | 0.2288 | 0.01 | Q | \| | \| | \| | V\| |
| 19+50 | 0.2289 | 0.01 | Q | \| | \| | \| | V\| |
| 19+55 | 0.2289 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 0 | 0.2289 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 5 | 0.2290 | 0.01 | Q | \| | \| | \| | V\| |
| 20+10 | 0.2290 | 0.01 | Q | \| | \| | \| | V\| |
| 20+15 | 0.2291 | 0.01 | Q | \| | \| | \| | V\| |
| 20+20 | 0.2291 | 0.01 | Q | \| | \| | \| | V\| |
| 20+25 | 0.2292 | 0.01 | Q | \| | \| | \| | V\| |
| 20+30 | 0.2292 | 0.01 | Q | \| | \| | \| | V\| |
| 20+35 | 0.2293 | 0.01 | Q | \| | \| | \| | V\| |
| 20+40 | 0.2293 | 0.01 | Q | \| | \| | \| | V\| |
| 20+45 | 0.2294 | 0.01 | Q | \| | \| | \| | V\| |
| 20+50 | 0.2294 | 0.01 | Q | \| | \| | \| | V\| |
| 20+55 | 0.2294 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 0 | 0.2295 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 5 | 0.2295 | 0.01 | Q | \| | \| | \| | V\| |
| 21+10 | 0.2296 | 0.01 | Q | \| | \| | \| | V\| |
| 21+15 | 0.2296 | 0.01 | Q | \| | \| | \| | V\| |
| 21+20 | 0.2296 | 0.01 | Q | \| | \| | \| | V\| |
| 21+25 | 0.2297 | 0.00 | Q | \| | \| | \| | V\| |
| 21+30 | 0.2297 | 0.00 | Q | \| | \| | \| | V\| |
| 21+35 | 0.2297 | 0.01 | Q | \| | \| | \| | V\| |
| 21+40 | 0.2298 | 0.01 | Q | \| | \| | \| | V\| |
| 21+45 | 0.2298 | 0.01 | Q | \| | \| | \| | V\| |
| 21+50 | 0.2299 | 0.01 | Q | \| | \| | \| | V\| |
| 21+55 | 0.2299 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 0 | 0.2299 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 5 | 0.2300 | 0.01 | Q | \| | \| | \| | V\| |
| 22+10 | 0.2300 | 0.01 | Q | \| | \| | \| | V\| |
| 22+15 | 0.2301 | 0.01 | Q | \| | \| | \| | V\| |
| 22+20 | 0.2301 | 0.01 | Q | \| | \| | \| | V\| |
| 22+25 | 0.2301 | 0.00 | Q | \| | \| | \| | V\| |
| 22+30 | 0.2302 | 0.00 | Q | \| | \| | \| | V\| |
| 22+35 | 0.2302 | 0.00 | Q | \| | \| | \| | V\| |
| 22+40 | 0.2302 | 0.00 | Q | \| | \| | \| | V\| |
| 22+45 | 0.2303 | 0.00 | Q | \| | \| | \| | V\| |
| 22+50 | 0.2303 | 0.00 | Q | \| | \| | \| | V\| |
| 22+55 | 0.2303 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 0 | 0.2304 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 5 | 0.2304 | 0.00 | Q | \| | \| | \| | V\| |
| 23+10 | 0.2304 | 0.00 | Q | \| | \| | \| | V\| |
| 23+15 | 0.2305 | 0.00 | Q | \| | \| | \| | V\| |
| 23+20 | 0.2305 | 0.00 | Q | \| | \| | \| | V\| |
| 23+25 | 0.2305 | 0.00 | Q | \| | \| | \| | V\| |
| 23+30 | 0.2306 | 0.00 | Q | \| | \| | \| | V\| |
| 23+35 | 0.2306 | 0.00 | Q | \| | \| | \| | V\| |
| 23+40 | 0.2306 | 0.00 | Q | \| | \| | \| | V\| |
| 23+45 | 0.2307 | 0.00 | Q | \| | \| | \| | V\| |
| 23+50 | 0.2307 | 0.00 | Q | \| | \| | \| | V\| |
| 23+55 | 0.2307 | 0.00 | Q | \| | \| | \| | V\| |
| 24+ 0 | 0.2307 | 0.00 | Q | \| | \| | \| | V\| |
| 24+ 5 | 0.2308 | 0.00 | Q | \| | \| | \| | V\| |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA191100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 19
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

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Drainage Area = 5.20(Ac.) = 0.008 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 5.20(Ac.) = 0.008 Sq. Mi.
Length along longest watercourse = 627.00(Ft.)
Length along longest watercourse measured to centroid = 335.00(Ft.)
Length along longest watercourse = 0.119 Mi.
Length along longest watercourse measured to centroid = 0.063 Mi.
Difference in elevation = 185.00(Ft.)
Slope along watercourse = 1557.8947 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.032 Hr.
Lag time = 1.95 Min.
25% of lag time = 0.49 Min.
40% of lag time = 0.78 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 5.20 | 0.50 | 2.60 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 5.20 | 1.20 | 6.24 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 5.200 | 79.78 | 0.000 |

Total Area Entered = 5.20(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 79.8 | 90.9 | 0.119 | 0.000 | 0.119 | 1.000 | 0.119 |
| | | | | | Sum (F) = | 0.119 |

Area averaged mean soil loss (F) (In/Hr) = 0.119

Minimum soil loss rate ((In/Hr)) = 0.059
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

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| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 256.948 | 52.030 | 2.727 |
| 2 | 0.167 | 513.895 | 44.369 | 2.325 |
| 3 | 0.250 | 770.843 | 3.602 | 0.189 |
| | | Sum = 100.000 | Sum= | 5.241 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.119 | ( 0.544) | 0.486 |
| 2 | 0.17 | 4.30 | 0.619 | 0.119 | ( 0.557) | 0.500 |
| 3 | 0.25 | 5.00 | 0.720 | 0.119 | ( 0.648) | 0.601 |
| 4 | 0.33 | 5.00 | 0.720 | 0.119 | ( 0.648) | 0.601 |
| 5 | 0.42 | 5.80 | 0.835 | 0.119 | ( 0.752) | 0.716 |
| 6 | 0.50 | 6.50 | 0.936 | 0.119 | ( 0.842) | 0.817 |
| 7 | 0.58 | 7.40 | 1.066 | 0.119 | ( 0.959) | 0.947 |
| 8 | 0.67 | 8.60 | 1.238 | 0.119 | ( 1.115) | 1.120 |
| 9 | 0.75 | 12.30 | 1.771 | 0.119 | ( 1.594) | 1.652 |
| 10 | 0.83 | 29.10 | 4.190 | 0.119 | ( 3.771) | 4.071 |
| 11 | 0.92 | 6.80 | 0.979 | 0.119 | ( 0.881) | 0.860 |
| 12 | 1.00 | 5.00 | 0.720 | 0.119 | ( 0.648) | 0.601 |
| | | (Loss Rate Not Used) | | | |
| Sum = | | 100.0 | | | Sum = | 13.0 |

Flood volume = Effective rainfall 1.08(In)
times area 5.2(Ac.)/[(In)/(Ft.)] = 0.5(Ac.Ft)
Total soil loss = 0.12(In)
Total soil loss = 0.051(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 20409.2 Cubic Feet
Total soil loss = 2240.9 Cubic Feet

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Peak flow rate of this hydrograph = 15.163(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 5.0 10.0 15.0 20.0 |
|---|---|---|---|
| 0+ 5 | 0.0091 | 1.33 | V Q |
| 0+10 | 0.0263 | 2.50 | V Q |
| 0+15 | 0.0463 | 2.90 | V Q |
| 0+20 | 0.0679 | 3.13 | VQ |
| 0+25 | 0.0917 | 3.47 | QV |
| 0+30 | 0.1193 | 4.01 | Q V |
| 0+35 | 0.1512 | 4.62 | Q V |
| 0+40 | 0.1884 | 5.41 | Q V |
| 0+45 | 0.2386 | 7.29 | Q V |
| 0+50 | 0.3431 | 15.16 | VQ |
| 0+55 | 0.4266 | 12.13 | Q V |
| 1+ 0 | 0.4570 | 4.41 | Q V |
| 1+ 5 | 0.4677 | 1.56 | Q V |
| 1+10 | 0.4685 | 0.11 | Q V |

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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA193100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 19
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

---

Drainage Area = 5.20(Ac.) = 0.008 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 5.20(Ac.) = 0.008 Sq. Mi.
Length along longest watercourse = 627.00(Ft.)
Length along longest watercourse measured to centroid = 335.00(Ft.)
Length along longest watercourse = 0.119 Mi.
Length along longest watercourse measured to centroid = 0.063 Mi.
Difference in elevation = 185.00(Ft.)
Slope along watercourse = 1557.8947 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.032 Hr.
Lag time = 1.95 Min.
25% of lag time = 0.49 Min.
40% of lag time = 0.78 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 5.20 | 0.81 | 4.21 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 5.20 | 1.82 | 9.46 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.810(In)
Area Averaged 100-Year Rainfall = 1.820(In)

Point rain (area averaged) = 1.820(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.820(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 5.200 | 79.78 | 0.000 |

Total Area Entered = 5.20(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 79.8 | 90.9 | 0.119 | 0.000 | 0.119 | 1.000 | 0.119 |
| | | | | | Sum (F) = | 0.119 |

Area averaged mean soil loss (F) (In/Hr) = 0.119

Minimum soil loss rate ((In/Hr)) = 0.059
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 256.948 | 52.030 | 2.727 |
| 2 0.167 | 513.895 | 44.369 | 2.325 |
| 3 0.250 | 770.843 | 3.602 | 0.189 |
| | Sum = | 100.000 Sum= | 5.241 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.284 | 0.119 | ( 0.256) | 0.165 |
| 2 | 0.17 | 1.30 | 0.284 | 0.119 | ( 0.256) | 0.165 |
| 3 | 0.25 | 1.10 | 0.240 | 0.119 | ( 0.216) | 0.122 |
| 4 | 0.33 | 1.50 | 0.328 | 0.119 | ( 0.295) | 0.209 |
| 5 | 0.42 | 1.50 | 0.328 | 0.119 | ( 0.295) | 0.209 |
| 6 | 0.50 | 1.80 | 0.393 | 0.119 | ( 0.354) | 0.274 |
| 7 | 0.58 | 1.50 | 0.328 | 0.119 | ( 0.295) | 0.209 |
| 8 | 0.67 | 1.80 | 0.393 | 0.119 | ( 0.354) | 0.274 |
| 9 | 0.75 | 1.80 | 0.393 | 0.119 | ( 0.354) | 0.274 |
| 10 | 0.83 | 1.50 | 0.328 | 0.119 | ( 0.295) | 0.209 |
| 11 | 0.92 | 1.60 | 0.349 | 0.119 | ( 0.314) | 0.231 |
| 12 | 1.00 | 1.80 | 0.393 | 0.119 | ( 0.354) | 0.274 |
| 13 | 1.08 | 2.20 | 0.480 | 0.119 | ( 0.432) | 0.362 |
| 14 | 1.17 | 2.20 | 0.480 | 0.119 | ( 0.432) | 0.362 |
| 15 | 1.25 | 2.20 | 0.480 | 0.119 | ( 0.432) | 0.362 |
| 16 | 1.33 | 2.00 | 0.437 | 0.119 | ( 0.393) | 0.318 |
| 17 | 1.42 | 2.60 | 0.568 | 0.119 | ( 0.511) | 0.449 |
| 18 | 1.50 | 2.70 | 0.590 | 0.119 | ( 0.531) | 0.471 |
| 19 | 1.58 | 2.40 | 0.524 | 0.119 | ( 0.472) | 0.405 |
| 20 | 1.67 | 2.70 | 0.590 | 0.119 | ( 0.531) | 0.471 |
| 21 | 1.75 | 3.30 | 0.721 | 0.119 | ( 0.649) | 0.602 |
| 22 | 1.83 | 3.10 | 0.677 | 0.119 | ( 0.609) | 0.558 |
| 23 | 1.92 | 2.90 | 0.633 | 0.119 | ( 0.570) | 0.515 |
| 24 | 2.00 | 3.00 | 0.655 | 0.119 | ( 0.590) | 0.536 |
| 25 | 2.08 | 3.10 | 0.677 | 0.119 | ( 0.609) | 0.558 |
| 26 | 2.17 | 4.20 | 0.917 | 0.119 | ( 0.826) | 0.799 |
| 27 | 2.25 | 5.00 | 1.092 | 0.119 | ( 0.983) | 0.973 |
| 28 | 2.33 | 3.50 | 0.764 | 0.119 | ( 0.688) | 0.646 |
| 29 | 2.42 | 6.80 | 1.485 | 0.119 | ( 1.337) | 1.366 |
| 30 | 2.50 | 7.30 | 1.594 | 0.119 | ( 1.435) | 1.476 |
| 31 | 2.58 | 8.20 | 1.791 | 0.119 | ( 1.612) | 1.672 |
| 32 | 2.67 | 5.90 | 1.289 | 0.119 | ( 1.160) | 1.170 |
| 33 | 2.75 | 2.00 | 0.437 | 0.119 | ( 0.393) | 0.318 |
| 34 | 2.83 | 1.80 | 0.393 | 0.119 | ( 0.354) | 0.274 |
| 35 | 2.92 | 1.80 | 0.393 | 0.119 | ( 0.354) | 0.274 |
| 36 | 3.00 | 0.60 | 0.131 | ( 0.119) | 0.118 | 0.013 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 17.6 |

Flood volume = Effective rainfall 1.46(In)
times area 5.2(Ac.)/[(In)/(Ft.)] = 0.6(Ac.Ft)
Total soil loss = 0.36(In)
Total soil loss = 0.154(Ac.Ft)
Total rainfall = 1.82(In)
Flood volume = 27632.1 Cubic Feet
Total soil loss = 6721.4 Cubic Feet

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Peak flow rate of this hydrograph = 8.252(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0031 | 0.45 | VQ | | | | |
| 0+10 | 0.0089 | 0.83 | V Q | | | | |
| 0+15 | 0.0140 | 0.75 | V Q | | | | |
| 0+20 | 0.0201 | 0.88 | V Q | | | | |
| 0+25 | 0.0275 | 1.08 | V Q | | | | |
| 0+30 | 0.0363 | 1.27 | V Q | | | | |
| 0+35 | 0.0449 | 1.25 | V Q | | | | |
| 0+40 | 0.0537 | 1.29 | V Q | | | | |
| 0+45 | 0.0636 | 1.43 | VQ | | | | |
| 0+50 | 0.0722 | 1.26 | VQ | | | | |
| 0+55 | 0.0803 | 1.17 | QV | | | | |
| 1+ 0 | 0.0894 | 1.32 | Q | | | | |
| 1+ 5 | 0.1009 | 1.67 | Q | | | | |
| 1+10 | 0.1138 | 1.88 | Q | | | | |
| 1+15 | 0.1269 | 1.90 | QV | | | | |
| 1+20 | 0.1392 | 1.78 | QV | | | | |
| 1+25 | 0.1532 | 2.03 | QV | | | | |
| 1+30 | 0.1696 | 2.39 | QV | | | | |
| 1+35 | 0.1854 | 2.29 | Q V | | | | |
| 1+40 | 0.2013 | 2.32 | Q V | | | | |
| 1+45 | 0.2207 | 2.81 | Q V | | | | |
| 1+50 | 0.2414 | 3.01 | Q V | | | | |
| 1+55 | 0.2608 | 2.82 | Q V | | | | |
| 2+ 0 | 0.2799 | 2.77 | Q V | | | | |
| 2+ 5 | 0.2997 | 2.87 | Q V | | | | |
| 2+10 | 0.3243 | 3.58 | Q V | | | | |
| 2+15 | 0.3561 | 4.62 | Q V | | | | |
| 2+20 | 0.3849 | 4.18 | Q V | | | | |
| 2+25 | 0.4222 | 5.41 | Q V | | | | |
| 2+30 | 0.4726 | 7.33 | Q | | | | |
| 2+35 | 0.5294 | 8.25 | Q | | | | |
| 2+40 | 0.5801 | 7.36 | Q | | | | |
| 2+45 | 0.6070 | 3.90 | Q | | | | |
| 2+50 | 0.6188 | 1.71 | Q | | | | |
| 2+55 | 0.6288 | 1.45 | Q | | | | |
| 3+ 0 | 0.6338 | 0.73 | Q | | | | |
| 3+ 5 | 0.6343 | 0.08 | Q | | | | |
| 3+10 | 0.6343 | 0.00 | Q | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 19
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

---

Drainage Area = 5.20(Ac.) = 0.008 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 5.20(Ac.) = 0.008 Sq. Mi.
Length along longest watercourse = 627.00(Ft.)
Length along longest watercourse measured to centroid = 335.00(Ft.)
Length along longest watercourse = 0.119 Mi.
Length along longest watercourse measured to centroid = 0.063 Mi.
Difference in elevation = 185.00(Ft.)
Slope along watercourse = 1557.8947 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.032 Hr.
Lag time = 1.95 Min.
25% of lag time = 0.49 Min.
40% of lag time = 0.78 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 5.20 | 1.15 | 5.98 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 5.20 | 2.50 | 13.00 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.150(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 5.200 | 79.78 | 0.000 |

Total Area Entered = 5.20(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 79.8 | 90.9 | 0.119 | 0.000 | 0.119 | 1.000 | 0.119 |
| | | | | | Sum (F) = | 0.119 |

Area averaged mean soil loss (F) (In/Hr) = 0.119

Minimum soil loss rate ((In/Hr)) = 0.059
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 256.948 | 52.030 | 2.727 |
| 2 0.167 | 513.895 | 44.369 | 2.325 |
| 3 0.250 | 770.843 | 3.602 | 0.189 |
| | | Sum = 100.000 Sum= | 5.241 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.119 | ( 0.135) | 0.031 |
| 2 | 0.17 | 0.60 | 0.180 | 0.119 | ( 0.162) | 0.061 |
| 3 | 0.25 | 0.60 | 0.180 | 0.119 | ( 0.162) | 0.061 |
| 4 | 0.33 | 0.60 | 0.180 | 0.119 | ( 0.162) | 0.061 |
| 5 | 0.42 | 0.60 | 0.180 | 0.119 | ( 0.162) | 0.061 |
| 6 | 0.50 | 0.70 | 0.210 | 0.119 | ( 0.189) | 0.091 |
| 7 | 0.58 | 0.70 | 0.210 | 0.119 | ( 0.189) | 0.091 |
| 8 | 0.67 | 0.70 | 0.210 | 0.119 | ( 0.189) | 0.091 |
| 9 | 0.75 | 0.70 | 0.210 | 0.119 | ( 0.189) | 0.091 |
| 10 | 0.83 | 0.70 | 0.210 | 0.119 | ( 0.189) | 0.091 |
| 11 | 0.92 | 0.70 | 0.210 | 0.119 | ( 0.189) | 0.091 |
| 12 | 1.00 | 0.80 | 0.240 | 0.119 | ( 0.216) | 0.121 |
| 13 | 1.08 | 0.80 | 0.240 | 0.119 | ( 0.216) | 0.121 |
| 14 | 1.17 | 0.80 | 0.240 | 0.119 | ( 0.216) | 0.121 |
| 15 | 1.25 | 0.80 | 0.240 | 0.119 | ( 0.216) | 0.121 |
| 16 | 1.33 | 0.80 | 0.240 | 0.119 | ( 0.216) | 0.121 |
| 17 | 1.42 | 0.80 | 0.240 | 0.119 | ( 0.216) | 0.121 |
| 18 | 1.50 | 0.80 | 0.240 | 0.119 | ( 0.216) | 0.121 |
| 19 | 1.58 | 0.80 | 0.240 | 0.119 | ( 0.216) | 0.121 |
| 20 | 1.67 | 0.80 | 0.240 | 0.119 | ( 0.216) | 0.121 |
| 21 | 1.75 | 0.80 | 0.240 | 0.119 | ( 0.216) | 0.121 |
| 22 | 1.83 | 0.80 | 0.240 | 0.119 | ( 0.216) | 0.121 |
| 23 | 1.92 | 0.80 | 0.240 | 0.119 | ( 0.216) | 0.121 |
| 24 | 2.00 | 0.90 | 0.270 | 0.119 | ( 0.243) | 0.151 |
| 25 | 2.08 | 0.80 | 0.240 | 0.119 | ( 0.216) | 0.121 |
| 26 | 2.17 | 0.90 | 0.270 | 0.119 | ( 0.243) | 0.151 |
| 27 | 2.25 | 0.90 | 0.270 | 0.119 | ( 0.243) | 0.151 |
| 28 | 2.33 | 0.90 | 0.270 | 0.119 | ( 0.243) | 0.151 |
| 29 | 2.42 | 0.90 | 0.270 | 0.119 | ( 0.243) | 0.151 |
| 30 | 2.50 | 0.90 | 0.270 | 0.119 | ( 0.243) | 0.151 |
| 31 | 2.58 | 0.90 | 0.270 | 0.119 | ( 0.243) | 0.151 |
| 32 | 2.67 | 0.90 | 0.270 | 0.119 | ( 0.243) | 0.151 |
| 33 | 2.75 | 1.00 | 0.300 | 0.119 | ( 0.270) | 0.181 |
| 34 | 2.83 | 1.00 | 0.300 | 0.119 | ( 0.270) | 0.181 |
| 35 | 2.92 | 1.00 | 0.300 | 0.119 | ( 0.270) | 0.181 |
| 36 | 3.00 | 1.00 | 0.300 | 0.119 | ( 0.270) | 0.181 |
| 37 | 3.08 | 1.00 | 0.300 | 0.119 | ( 0.270) | 0.181 |
| 38 | 3.17 | 1.10 | 0.330 | 0.119 | ( 0.297) | 0.211 |
| 39 | 3.25 | 1.10 | 0.330 | 0.119 | ( 0.297) | 0.211 |
| 40 | 3.33 | 1.10 | 0.330 | 0.119 | ( 0.297) | 0.211 |
| 41 | 3.42 | 1.20 | 0.360 | 0.119 | ( 0.324) | 0.241 |
| 42 | 3.50 | 1.30 | 0.390 | 0.119 | ( 0.351) | 0.271 |
| 43 | 3.58 | 1.40 | 0.420 | 0.119 | ( 0.378) | 0.301 |
| 44 | 3.67 | 1.40 | 0.420 | 0.119 | ( 0.378) | 0.301 |
| 45 | 3.75 | 1.50 | 0.450 | 0.119 | ( 0.405) | 0.331 |
| 46 | 3.83 | 1.50 | 0.450 | 0.119 | ( 0.405) | 0.331 |
| 47 | 3.92 | 1.60 | 0.480 | 0.119 | ( 0.432) | 0.361 |
| 48 | 4.00 | 1.60 | 0.480 | 0.119 | ( 0.432) | 0.361 |
| 49 | 4.08 | 1.70 | 0.510 | 0.119 | ( 0.459) | 0.391 |
| 50 | 4.17 | 1.80 | 0.540 | 0.119 | ( 0.486) | 0.421 |
| 51 | 4.25 | 1.90 | 0.570 | 0.119 | ( 0.513) | 0.451 |
| 52 | 4.33 | 2.00 | 0.600 | 0.119 | ( 0.540) | 0.481 |
| 53 | 4.42 | 2.10 | 0.630 | 0.119 | ( 0.567) | 0.511 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 54 | 4.50 | 2.10 | 0.630 | 0.119 | ( 0.567) | 0.511 |
| 55 | 4.58 | 2.20 | 0.660 | 0.119 | ( 0.594) | 0.541 |
| 56 | 4.67 | 2.30 | 0.690 | 0.119 | ( 0.621) | 0.571 |
| 57 | 4.75 | 2.40 | 0.720 | 0.119 | ( 0.648) | 0.601 |
| 58 | 4.83 | 2.40 | 0.720 | 0.119 | ( 0.648) | 0.601 |
| 59 | 4.92 | 2.50 | 0.750 | 0.119 | ( 0.675) | 0.631 |
| 60 | 5.00 | 2.60 | 0.780 | 0.119 | ( 0.702) | 0.661 |
| 61 | 5.08 | 3.10 | 0.930 | 0.119 | ( 0.837) | 0.811 |
| 62 | 5.17 | 3.60 | 1.080 | 0.119 | ( 0.972) | 0.961 |
| 63 | 5.25 | 3.90 | 1.170 | 0.119 | ( 1.053) | 1.051 |
| 64 | 5.33 | 4.20 | 1.260 | 0.119 | ( 1.134) | 1.141 |
| 65 | 5.42 | 4.70 | 1.410 | 0.119 | ( 1.269) | 1.291 |
| 66 | 5.50 | 5.60 | 1.680 | 0.119 | ( 1.512) | 1.561 |
| 67 | 5.58 | 1.90 | 0.570 | 0.119 | ( 0.513) | 0.451 |
| 68 | 5.67 | 0.90 | 0.270 | 0.119 | ( 0.243) | 0.151 |
| 69 | 5.75 | 0.60 | 0.180 | 0.119 | ( 0.162) | 0.061 |
| 70 | 5.83 | 0.50 | 0.150 | 0.119 | ( 0.135) | 0.031 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.119) | 0.081 | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.119) | 0.054 | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 21.6

Flood volume = Effective rainfall 1.80(In)
times area 5.2(Ac.)/[(In)/(Ft.)] = 0.8(Ac.Ft)
Total soil loss = 0.70(In)
Total soil loss = 0.305(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 33905.0 Cubic Feet
Total soil loss = 13284.2 Cubic Feet

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Peak flow rate of this hydrograph = 7.479(CFS)

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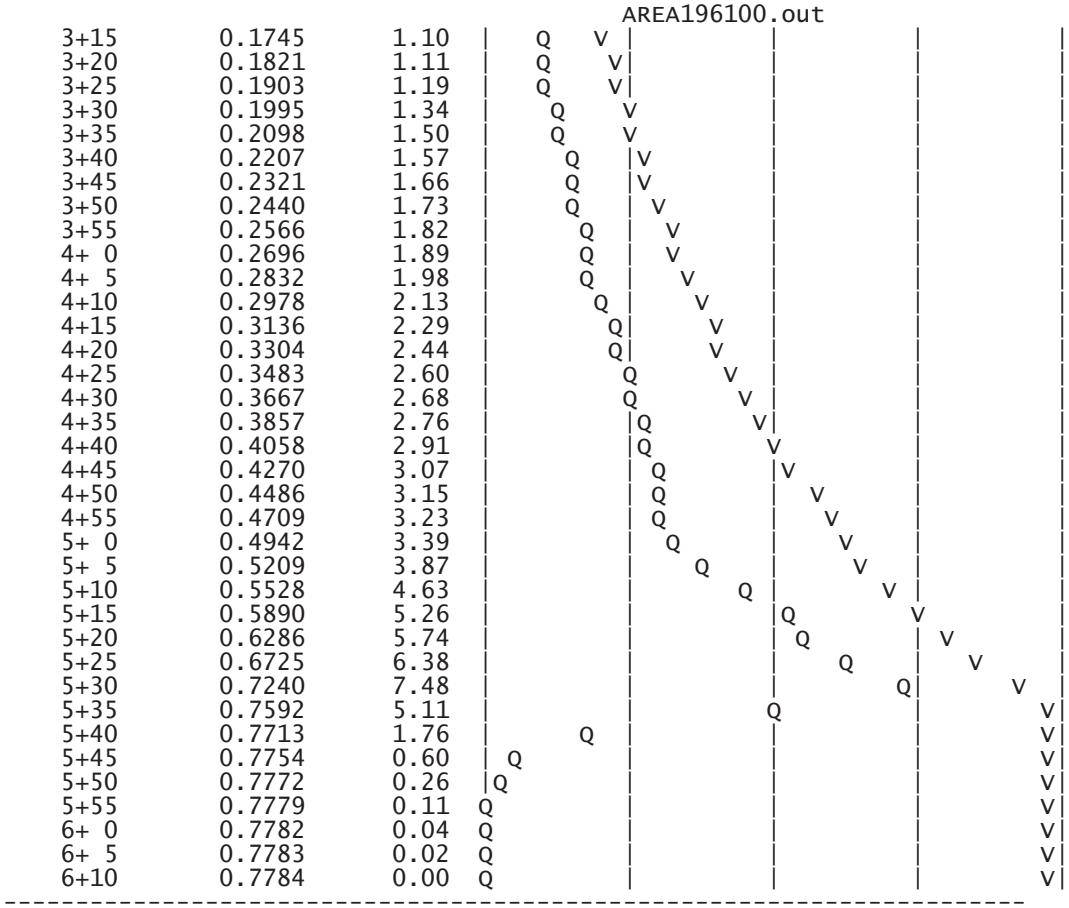
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0006 | 0.09 | Q | | | | |
| 0+10 | 0.0022 | 0.24 | Q | | | | |
| 0+15 | 0.0044 | 0.32 | VQ | | | | |
| 0+20 | 0.0066 | 0.32 | VQ | | | | |
| 0+25 | 0.0088 | 0.32 | VQ | | | | |
| 0+30 | 0.0116 | 0.40 | VQ | | | | |
| 0+35 | 0.0149 | 0.47 | VQ | | | | |
| 0+40 | 0.0182 | 0.48 | VQ | | | | |
| 0+45 | 0.0215 | 0.48 | \|Q | | | | |
| 0+50 | 0.0248 | 0.48 | \|Q | | | | |
| 0+55 | 0.0281 | 0.48 | \|Q | | | | |
| 1+ 0 | 0.0319 | 0.56 | \|VQ | | | | |
| 1+ 5 | 0.0363 | 0.63 | \|VQ | | | | |
| 1+10 | 0.0406 | 0.64 | \| Q | | | | |
| 1+15 | 0.0450 | 0.64 | \| Q | | | | |
| 1+20 | 0.0494 | 0.64 | \| Q | | | | |
| 1+25 | 0.0538 | 0.64 | \| Q | | | | |
| 1+30 | 0.0582 | 0.64 | \| Q | | | | |
| 1+35 | 0.0625 | 0.64 | \| QV | | | | |
| 1+40 | 0.0669 | 0.64 | \| QV | | | | |
| 1+45 | 0.0713 | 0.64 | \| QV | | | | |
| 1+50 | 0.0757 | 0.64 | \| QV | | | | |
| 1+55 | 0.0801 | 0.64 | \| Q V | | | | |
| 2+ 0 | 0.0850 | 0.72 | \| Q V | | | | |
| 2+ 5 | 0.0899 | 0.71 | \| Q V | | | | |
| 2+10 | 0.0948 | 0.72 | \| Q V | | | | |
| 2+15 | 0.1003 | 0.79 | \| Q V | | | | |
| 2+20 | 0.1057 | 0.79 | \| Q V | | | | |
| 2+25 | 0.1112 | 0.79 | \| Q V | | | | |
| 2+30 | 0.1167 | 0.79 | \| Q V | | | | |
| 2+35 | 0.1221 | 0.79 | \| Q V | | | | |
| 2+40 | 0.1276 | 0.79 | \| Q V | | | | |
| 2+45 | 0.1336 | 0.88 | \| Q V | | | | |
| 2+50 | 0.1401 | 0.94 | \| Q V | | | | |
| 2+55 | 0.1467 | 0.95 | \| Q V | | | | |
| 3+ 0 | 0.1532 | 0.95 | \| Q V | | | | |
| 3+ 5 | 0.1598 | 0.95 | \| Q V | | | | |
| 3+10 | 0.1669 | 1.03 | \| Q V | | | | |



| | | | |
|---|---|---|---|
| 3+15 | 0.1745 | 1.10 | |
| 3+20 | 0.1821 | 1.11 | |
| 3+25 | 0.1903 | 1.19 | |
| 3+30 | 0.1995 | 1.34 | |
| 3+35 | 0.2098 | 1.50 | |
| 3+40 | 0.2207 | 1.57 | |
| 3+45 | 0.2321 | 1.66 | |
| 3+50 | 0.2440 | 1.73 | |
| 3+55 | 0.2566 | 1.82 | |
| 4+ 0 | 0.2696 | 1.89 | |
| 4+ 5 | 0.2832 | 1.98 | |
| 4+10 | 0.2978 | 2.13 | |
| 4+15 | 0.3136 | 2.29 | |
| 4+20 | 0.3304 | 2.44 | |
| 4+25 | 0.3483 | 2.60 | |
| 4+30 | 0.3667 | 2.68 | |
| 4+35 | 0.3857 | 2.76 | |
| 4+40 | 0.4058 | 2.91 | |
| 4+45 | 0.4270 | 3.07 | |
| 4+50 | 0.4486 | 3.15 | |
| 4+55 | 0.4709 | 3.23 | |
| 5+ 0 | 0.4942 | 3.39 | |
| 5+ 5 | 0.5209 | 3.87 | |
| 5+10 | 0.5528 | 4.63 | |
| 5+15 | 0.5890 | 5.26 | |
| 5+20 | 0.6286 | 5.74 | |
| 5+25 | 0.6725 | 6.38 | |
| 5+30 | 0.7240 | 7.48 | |
| 5+35 | 0.7592 | 5.11 | |
| 5+40 | 0.7713 | 1.76 | |
| 5+45 | 0.7754 | 0.60 | |
| 5+50 | 0.7772 | 0.26 | |
| 5+55 | 0.7779 | 0.11 | |
| 6+ 0 | 0.7782 | 0.04 | |
| 6+ 5 | 0.7783 | 0.02 | |
| 6+10 | 0.7784 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 19
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

---

Drainage Area = 5.20(Ac.) = 0.008 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 5.20(Ac.) = 0.008 Sq. Mi.
Length along longest watercourse = 627.00(Ft.)
Length along longest watercourse measured to centroid = 335.00(Ft.)
Length along longest watercourse = 0.119 Mi.
Length along longest watercourse measured to centroid = 0.063 Mi.
Difference in elevation = 185.00(Ft.)
Slope along watercourse = 1557.8947 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.032 Hr.
Lag time = 1.95 Min.
25% of lag time = 0.49 Min.
40% of lag time = 0.78 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 5.20 | 1.80 | 9.36 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 5.20 | 4.75 | 24.70 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.750(In)

Point rain (area averaged) = 4.750(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.750(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 5.200 | 79.78 | 0.000 |

Total Area Entered = 5.20(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 79.8 | 90.9 | 0.119 | 0.000 | 0.119 | 1.000 | 0.119 |
| | | | | | Sum (F) = | 0.119 |

Area averaged mean soil loss (F) (In/Hr) = 0.119

Minimum soil loss rate ((In/Hr)) = 0.059
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 256.948 | 52.030 | 2.727 |
| 2 0.167 | 513.895 | 44.369 | 2.325 |
| 3 0.250 | 770.843 | 3.602 | 0.189 |
| | Sum = 100.000 | Sum= | 5.241 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.038 | ( 0.210) | 0.034 | 0.004 |
| 2 | 0.17 | 0.07 | 0.038 | ( 0.210) | 0.034 | 0.004 |
| 3 | 0.25 | 0.07 | 0.038 | ( 0.209) | 0.034 | 0.004 |
| 4 | 0.33 | 0.10 | 0.057 | ( 0.208) | 0.051 | 0.006 |
| 5 | 0.42 | 0.10 | 0.057 | ( 0.207) | 0.051 | 0.006 |
| 6 | 0.50 | 0.10 | 0.057 | ( 0.206) | 0.051 | 0.006 |
| 7 | 0.58 | 0.10 | 0.057 | ( 0.206) | 0.051 | 0.006 |
| 8 | 0.67 | 0.10 | 0.057 | ( 0.205) | 0.051 | 0.006 |
| 9 | 0.75 | 0.10 | 0.057 | ( 0.204) | 0.051 | 0.006 |
| 10 | 0.83 | 0.13 | 0.076 | ( 0.203) | 0.068 | 0.008 |
| 11 | 0.92 | 0.13 | 0.076 | ( 0.202) | 0.068 | 0.008 |
| 12 | 1.00 | 0.13 | 0.076 | ( 0.202) | 0.068 | 0.008 |
| 13 | 1.08 | 0.10 | 0.057 | ( 0.201) | 0.051 | 0.006 |
| 14 | 1.17 | 0.10 | 0.057 | ( 0.200) | 0.051 | 0.006 |
| 15 | 1.25 | 0.10 | 0.057 | ( 0.199) | 0.051 | 0.006 |
| 16 | 1.33 | 0.10 | 0.057 | ( 0.198) | 0.051 | 0.006 |
| 17 | 1.42 | 0.10 | 0.057 | ( 0.198) | 0.051 | 0.006 |
| 18 | 1.50 | 0.10 | 0.057 | ( 0.197) | 0.051 | 0.006 |
| 19 | 1.58 | 0.10 | 0.057 | ( 0.196) | 0.051 | 0.006 |
| 20 | 1.67 | 0.10 | 0.057 | ( 0.195) | 0.051 | 0.006 |
| 21 | 1.75 | 0.10 | 0.057 | ( 0.194) | 0.051 | 0.006 |
| 22 | 1.83 | 0.13 | 0.076 | ( 0.194) | 0.068 | 0.008 |
| 23 | 1.92 | 0.13 | 0.076 | ( 0.193) | 0.068 | 0.008 |
| 24 | 2.00 | 0.13 | 0.076 | ( 0.192) | 0.068 | 0.008 |
| 25 | 2.08 | 0.13 | 0.076 | ( 0.191) | 0.068 | 0.008 |
| 26 | 2.17 | 0.13 | 0.076 | ( 0.191) | 0.068 | 0.008 |
| 27 | 2.25 | 0.13 | 0.076 | ( 0.190) | 0.068 | 0.008 |
| 28 | 2.33 | 0.13 | 0.076 | ( 0.189) | 0.068 | 0.008 |
| 29 | 2.42 | 0.13 | 0.076 | ( 0.188) | 0.068 | 0.008 |
| 30 | 2.50 | 0.13 | 0.076 | ( 0.187) | 0.068 | 0.008 |
| 31 | 2.58 | 0.17 | 0.095 | ( 0.187) | 0.085 | 0.009 |
| 32 | 2.67 | 0.17 | 0.095 | ( 0.186) | 0.085 | 0.009 |
| 33 | 2.75 | 0.17 | 0.095 | ( 0.185) | 0.085 | 0.009 |
| 34 | 2.83 | 0.17 | 0.095 | ( 0.184) | 0.085 | 0.009 |
| 35 | 2.92 | 0.17 | 0.095 | ( 0.184) | 0.085 | 0.009 |
| 36 | 3.00 | 0.17 | 0.095 | ( 0.183) | 0.085 | 0.009 |
| 37 | 3.08 | 0.17 | 0.095 | ( 0.182) | 0.085 | 0.009 |
| 38 | 3.17 | 0.17 | 0.095 | ( 0.181) | 0.085 | 0.009 |
| 39 | 3.25 | 0.17 | 0.095 | ( 0.181) | 0.085 | 0.009 |
| 40 | 3.33 | 0.17 | 0.095 | ( 0.180) | 0.085 | 0.009 |
| 41 | 3.42 | 0.17 | 0.095 | ( 0.179) | 0.085 | 0.009 |
| 42 | 3.50 | 0.17 | 0.095 | ( 0.178) | 0.085 | 0.009 |
| 43 | 3.58 | 0.17 | 0.095 | ( 0.178) | 0.085 | 0.009 |
| 44 | 3.67 | 0.17 | 0.095 | ( 0.177) | 0.085 | 0.009 |
| 45 | 3.75 | 0.17 | 0.095 | ( 0.176) | 0.085 | 0.009 |
| 46 | 3.83 | 0.20 | 0.114 | ( 0.175) | 0.103 | 0.011 |
| 47 | 3.92 | 0.20 | 0.114 | ( 0.175) | 0.103 | 0.011 |
| 48 | 4.00 | 0.20 | 0.114 | ( 0.174) | 0.103 | 0.011 |
| 49 | 4.08 | 0.20 | 0.114 | ( 0.173) | 0.103 | 0.011 |
| 50 | 4.17 | 0.20 | 0.114 | ( 0.172) | 0.103 | 0.011 |
| 51 | 4.25 | 0.20 | 0.114 | ( 0.172) | 0.103 | 0.011 |
| 52 | 4.33 | 0.23 | 0.133 | ( 0.171) | 0.120 | 0.013 |
| 53 | 4.42 | 0.23 | 0.133 | ( 0.170) | 0.120 | 0.013 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 54 | 4.50 | 0.23 | 0.133 | ( 0.170) | 0.120 | 0.013 |
| 55 | 4.58 | 0.23 | 0.133 | ( 0.169) | 0.120 | 0.013 |
| 56 | 4.67 | 0.23 | 0.133 | ( 0.168) | 0.120 | 0.013 |
| 57 | 4.75 | 0.23 | 0.133 | ( 0.167) | 0.120 | 0.013 |
| 58 | 4.83 | 0.27 | 0.152 | ( 0.167) | 0.137 | 0.015 |
| 59 | 4.92 | 0.27 | 0.152 | ( 0.166) | 0.137 | 0.015 |
| 60 | 5.00 | 0.27 | 0.152 | ( 0.165) | 0.137 | 0.015 |
| 61 | 5.08 | 0.20 | 0.114 | ( 0.164) | 0.103 | 0.011 |
| 62 | 5.17 | 0.20 | 0.114 | ( 0.164) | 0.103 | 0.011 |
| 63 | 5.25 | 0.20 | 0.114 | ( 0.163) | 0.103 | 0.011 |
| 64 | 5.33 | 0.23 | 0.133 | ( 0.162) | 0.120 | 0.013 |
| 65 | 5.42 | 0.23 | 0.133 | ( 0.162) | 0.120 | 0.013 |
| 66 | 5.50 | 0.23 | 0.133 | ( 0.161) | 0.120 | 0.013 |
| 67 | 5.58 | 0.27 | 0.152 | ( 0.160) | 0.137 | 0.015 |
| 68 | 5.67 | 0.27 | 0.152 | ( 0.160) | 0.137 | 0.015 |
| 69 | 5.75 | 0.27 | 0.152 | ( 0.159) | 0.137 | 0.015 |
| 70 | 5.83 | 0.27 | 0.152 | ( 0.158) | 0.137 | 0.015 |
| 71 | 5.92 | 0.27 | 0.152 | ( 0.157) | 0.137 | 0.015 |
| 72 | 6.00 | 0.27 | 0.152 | ( 0.157) | 0.137 | 0.015 |
| 73 | 6.08 | 0.30 | 0.171 | ( 0.156) | 0.154 | 0.017 |
| 74 | 6.17 | 0.30 | 0.171 | ( 0.155) | 0.154 | 0.017 |
| 75 | 6.25 | 0.30 | 0.171 | ( 0.155) | 0.154 | 0.017 |
| 76 | 6.33 | 0.30 | 0.171 | ( 0.154) | 0.154 | 0.017 |
| 77 | 6.42 | 0.30 | 0.171 | 0.153 | ( 0.154) | 0.018 |
| 78 | 6.50 | 0.30 | 0.171 | 0.153 | ( 0.154) | 0.018 |
| 79 | 6.58 | 0.33 | 0.190 | 0.152 | ( 0.171) | 0.038 |
| 80 | 6.67 | 0.33 | 0.190 | 0.151 | ( 0.171) | 0.039 |
| 81 | 6.75 | 0.33 | 0.190 | 0.151 | ( 0.171) | 0.039 |
| 82 | 6.83 | 0.33 | 0.190 | 0.150 | ( 0.171) | 0.040 |
| 83 | 6.92 | 0.33 | 0.190 | 0.149 | ( 0.171) | 0.041 |
| 84 | 7.00 | 0.33 | 0.190 | 0.148 | ( 0.171) | 0.042 |
| 85 | 7.08 | 0.33 | 0.190 | 0.148 | ( 0.171) | 0.042 |
| 86 | 7.17 | 0.33 | 0.190 | 0.147 | ( 0.171) | 0.043 |
| 87 | 7.25 | 0.33 | 0.190 | 0.146 | ( 0.171) | 0.044 |
| 88 | 7.33 | 0.37 | 0.209 | 0.146 | ( 0.188) | 0.063 |
| 89 | 7.42 | 0.37 | 0.209 | 0.145 | ( 0.188) | 0.064 |
| 90 | 7.50 | 0.37 | 0.209 | 0.144 | ( 0.188) | 0.065 |
| 91 | 7.58 | 0.40 | 0.228 | 0.144 | ( 0.205) | 0.084 |
| 92 | 7.67 | 0.40 | 0.228 | 0.143 | ( 0.205) | 0.085 |
| 93 | 7.75 | 0.40 | 0.228 | 0.142 | ( 0.205) | 0.086 |
| 94 | 7.83 | 0.43 | 0.247 | 0.142 | ( 0.222) | 0.105 |
| 95 | 7.92 | 0.43 | 0.247 | 0.141 | ( 0.222) | 0.106 |
| 96 | 8.00 | 0.43 | 0.247 | 0.140 | ( 0.222) | 0.107 |
| 97 | 8.08 | 0.50 | 0.285 | 0.140 | ( 0.256) | 0.145 |
| 98 | 8.17 | 0.50 | 0.285 | 0.139 | ( 0.256) | 0.146 |
| 99 | 8.25 | 0.50 | 0.285 | 0.139 | ( 0.256) | 0.146 |
| 100 | 8.33 | 0.50 | 0.285 | 0.138 | ( 0.256) | 0.147 |
| 101 | 8.42 | 0.50 | 0.285 | 0.137 | ( 0.256) | 0.148 |
| 102 | 8.50 | 0.50 | 0.285 | 0.137 | ( 0.256) | 0.148 |
| 103 | 8.58 | 0.53 | 0.304 | 0.136 | ( 0.274) | 0.168 |
| 104 | 8.67 | 0.53 | 0.304 | 0.135 | ( 0.274) | 0.169 |
| 105 | 8.75 | 0.53 | 0.304 | 0.135 | ( 0.274) | 0.169 |
| 106 | 8.83 | 0.57 | 0.323 | 0.134 | ( 0.291) | 0.189 |
| 107 | 8.92 | 0.57 | 0.323 | 0.133 | ( 0.291) | 0.190 |
| 108 | 9.00 | 0.57 | 0.323 | 0.133 | ( 0.291) | 0.190 |
| 109 | 9.08 | 0.63 | 0.361 | 0.132 | ( 0.325) | 0.229 |
| 110 | 9.17 | 0.63 | 0.361 | 0.132 | ( 0.325) | 0.229 |
| 111 | 9.25 | 0.63 | 0.361 | 0.131 | ( 0.325) | 0.230 |
| 112 | 9.33 | 0.67 | 0.380 | 0.130 | ( 0.342) | 0.250 |
| 113 | 9.42 | 0.67 | 0.380 | 0.130 | ( 0.342) | 0.250 |
| 114 | 9.50 | 0.67 | 0.380 | 0.129 | ( 0.342) | 0.251 |
| 115 | 9.58 | 0.70 | 0.399 | 0.128 | ( 0.359) | 0.271 |
| 116 | 9.67 | 0.70 | 0.399 | 0.128 | ( 0.359) | 0.271 |
| 117 | 9.75 | 0.70 | 0.399 | 0.127 | ( 0.359) | 0.272 |
| 118 | 9.83 | 0.73 | 0.418 | 0.127 | ( 0.376) | 0.291 |
| 119 | 9.92 | 0.73 | 0.418 | 0.126 | ( 0.376) | 0.292 |
| 120 | 10.00 | 0.73 | 0.418 | 0.125 | ( 0.376) | 0.293 |
| 121 | 10.08 | 0.50 | 0.285 | 0.125 | ( 0.256) | 0.160 |
| 122 | 10.17 | 0.50 | 0.285 | 0.124 | ( 0.256) | 0.161 |
| 123 | 10.25 | 0.50 | 0.285 | 0.124 | ( 0.256) | 0.161 |
| 124 | 10.33 | 0.50 | 0.285 | 0.123 | ( 0.256) | 0.162 |
| 125 | 10.42 | 0.50 | 0.285 | 0.122 | ( 0.256) | 0.163 |
| 126 | 10.50 | 0.50 | 0.285 | 0.122 | ( 0.256) | 0.163 |
| 127 | 10.58 | 0.67 | 0.380 | 0.121 | ( 0.342) | 0.259 |
| 128 | 10.67 | 0.67 | 0.380 | 0.121 | ( 0.342) | 0.259 |
| 129 | 10.75 | 0.67 | 0.380 | 0.120 | ( 0.342) | 0.260 |
| 130 | 10.83 | 0.67 | 0.380 | 0.119 | ( 0.342) | 0.261 |
| 131 | 10.92 | 0.67 | 0.380 | 0.119 | ( 0.342) | 0.261 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 132 | 11.00 | 0.67 | 0.380 | 0.118 | ( 0.342) | 0.262 |
| 133 | 11.08 | 0.63 | 0.361 | 0.118 | ( 0.325) | 0.243 |
| 134 | 11.17 | 0.63 | 0.361 | 0.117 | ( 0.325) | 0.244 |
| 135 | 11.25 | 0.63 | 0.361 | 0.116 | ( 0.325) | 0.245 |
| 136 | 11.33 | 0.63 | 0.361 | 0.116 | ( 0.325) | 0.245 |
| 137 | 11.42 | 0.63 | 0.361 | 0.115 | ( 0.325) | 0.246 |
| 138 | 11.50 | 0.63 | 0.361 | 0.115 | ( 0.325) | 0.246 |
| 139 | 11.58 | 0.57 | 0.323 | 0.114 | ( 0.291) | 0.209 |
| 140 | 11.67 | 0.57 | 0.323 | 0.114 | ( 0.291) | 0.209 |
| 141 | 11.75 | 0.57 | 0.323 | 0.113 | ( 0.291) | 0.210 |
| 142 | 11.83 | 0.60 | 0.342 | 0.112 | ( 0.308) | 0.230 |
| 143 | 11.92 | 0.60 | 0.342 | 0.112 | ( 0.308) | 0.230 |
| 144 | 12.00 | 0.60 | 0.342 | 0.111 | ( 0.308) | 0.231 |
| 145 | 12.08 | 0.83 | 0.475 | 0.111 | ( 0.427) | 0.364 |
| 146 | 12.17 | 0.83 | 0.475 | 0.110 | ( 0.427) | 0.365 |
| 147 | 12.25 | 0.83 | 0.475 | 0.110 | ( 0.427) | 0.365 |
| 148 | 12.33 | 0.87 | 0.494 | 0.109 | ( 0.445) | 0.385 |
| 149 | 12.42 | 0.87 | 0.494 | 0.109 | ( 0.445) | 0.385 |
| 150 | 12.50 | 0.87 | 0.494 | 0.108 | ( 0.445) | 0.386 |
| 151 | 12.58 | 0.93 | 0.532 | 0.108 | ( 0.479) | 0.424 |
| 152 | 12.67 | 0.93 | 0.532 | 0.107 | ( 0.479) | 0.425 |
| 153 | 12.75 | 0.93 | 0.532 | 0.106 | ( 0.479) | 0.426 |
| 154 | 12.83 | 0.97 | 0.551 | 0.106 | ( 0.496) | 0.445 |
| 155 | 12.92 | 0.97 | 0.551 | 0.105 | ( 0.496) | 0.446 |
| 156 | 13.00 | 0.97 | 0.551 | 0.105 | ( 0.496) | 0.446 |
| 157 | 13.08 | 1.13 | 0.646 | 0.104 | ( 0.581) | 0.542 |
| 158 | 13.17 | 1.13 | 0.646 | 0.104 | ( 0.581) | 0.542 |
| 159 | 13.25 | 1.13 | 0.646 | 0.103 | ( 0.581) | 0.543 |
| 160 | 13.33 | 1.13 | 0.646 | 0.103 | ( 0.581) | 0.543 |
| 161 | 13.42 | 1.13 | 0.646 | 0.102 | ( 0.581) | 0.544 |
| 162 | 13.50 | 1.13 | 0.646 | 0.102 | ( 0.581) | 0.544 |
| 163 | 13.58 | 0.77 | 0.437 | 0.101 | ( 0.393) | 0.336 |
| 164 | 13.67 | 0.77 | 0.437 | 0.101 | ( 0.393) | 0.336 |
| 165 | 13.75 | 0.77 | 0.437 | 0.100 | ( 0.393) | 0.337 |
| 166 | 13.83 | 0.77 | 0.437 | 0.100 | ( 0.393) | 0.337 |
| 167 | 13.92 | 0.77 | 0.437 | 0.099 | ( 0.393) | 0.338 |
| 168 | 14.00 | 0.77 | 0.437 | 0.099 | ( 0.393) | 0.338 |
| 169 | 14.08 | 0.90 | 0.513 | 0.098 | ( 0.462) | 0.415 |
| 170 | 14.17 | 0.90 | 0.513 | 0.098 | ( 0.462) | 0.415 |
| 171 | 14.25 | 0.90 | 0.513 | 0.097 | ( 0.462) | 0.416 |
| 172 | 14.33 | 0.87 | 0.494 | 0.097 | ( 0.445) | 0.397 |
| 173 | 14.42 | 0.87 | 0.494 | 0.096 | ( 0.445) | 0.398 |
| 174 | 14.50 | 0.87 | 0.494 | 0.096 | ( 0.445) | 0.398 |
| 175 | 14.58 | 0.87 | 0.494 | 0.095 | ( 0.445) | 0.399 |
| 176 | 14.67 | 0.87 | 0.494 | 0.095 | ( 0.445) | 0.399 |
| 177 | 14.75 | 0.87 | 0.494 | 0.094 | ( 0.445) | 0.400 |
| 178 | 14.83 | 0.83 | 0.475 | 0.094 | ( 0.427) | 0.381 |
| 179 | 14.92 | 0.83 | 0.475 | 0.093 | ( 0.427) | 0.382 |
| 180 | 15.00 | 0.83 | 0.475 | 0.093 | ( 0.427) | 0.382 |
| 181 | 15.08 | 0.80 | 0.456 | 0.092 | ( 0.410) | 0.364 |
| 182 | 15.17 | 0.80 | 0.456 | 0.092 | ( 0.410) | 0.364 |
| 183 | 15.25 | 0.80 | 0.456 | 0.091 | ( 0.410) | 0.365 |
| 184 | 15.33 | 0.77 | 0.437 | 0.091 | ( 0.393) | 0.346 |
| 185 | 15.42 | 0.77 | 0.437 | 0.090 | ( 0.393) | 0.347 |
| 186 | 15.50 | 0.77 | 0.437 | 0.090 | ( 0.393) | 0.347 |
| 187 | 15.58 | 0.63 | 0.361 | 0.089 | ( 0.325) | 0.272 |
| 188 | 15.67 | 0.63 | 0.361 | 0.089 | ( 0.325) | 0.272 |
| 189 | 15.75 | 0.63 | 0.361 | 0.089 | ( 0.325) | 0.272 |
| 190 | 15.83 | 0.63 | 0.361 | 0.088 | ( 0.325) | 0.273 |
| 191 | 15.92 | 0.63 | 0.361 | 0.088 | ( 0.325) | 0.273 |
| 192 | 16.00 | 0.63 | 0.361 | 0.087 | ( 0.325) | 0.274 |
| 193 | 16.08 | 0.13 | 0.076 | ( 0.087) | 0.068 | 0.008 |
| 194 | 16.17 | 0.13 | 0.076 | ( 0.086) | 0.068 | 0.008 |
| 195 | 16.25 | 0.13 | 0.076 | ( 0.086) | 0.068 | 0.008 |
| 196 | 16.33 | 0.13 | 0.076 | ( 0.085) | 0.068 | 0.008 |
| 197 | 16.42 | 0.13 | 0.076 | ( 0.085) | 0.068 | 0.008 |
| 198 | 16.50 | 0.13 | 0.076 | ( 0.085) | 0.068 | 0.008 |
| 199 | 16.58 | 0.10 | 0.057 | ( 0.084) | 0.051 | 0.006 |
| 200 | 16.67 | 0.10 | 0.057 | ( 0.084) | 0.051 | 0.006 |
| 201 | 16.75 | 0.10 | 0.057 | ( 0.083) | 0.051 | 0.006 |
| 202 | 16.83 | 0.10 | 0.057 | ( 0.083) | 0.051 | 0.006 |
| 203 | 16.92 | 0.10 | 0.057 | ( 0.082) | 0.051 | 0.006 |
| 204 | 17.00 | 0.10 | 0.057 | ( 0.082) | 0.051 | 0.006 |
| 205 | 17.08 | 0.17 | 0.095 | 0.082 | ( 0.085) | 0.013 |
| 206 | 17.17 | 0.17 | 0.095 | 0.081 | ( 0.085) | 0.014 |
| 207 | 17.25 | 0.17 | 0.095 | 0.081 | ( 0.085) | 0.014 |
| 208 | 17.33 | 0.17 | 0.095 | 0.080 | ( 0.085) | 0.015 |
| 209 | 17.42 | 0.17 | 0.095 | 0.080 | ( 0.085) | 0.015 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 210 | 17.50 | 0.17 | 0.095 | 0.080 | ( 0.085) | 0.015 |
| 211 | 17.58 | 0.17 | 0.095 | 0.079 | ( 0.085) | 0.016 |
| 212 | 17.67 | 0.17 | 0.095 | 0.079 | ( 0.085) | 0.016 |
| 213 | 17.75 | 0.17 | 0.095 | 0.078 | ( 0.085) | 0.017 |
| 214 | 17.83 | 0.13 | 0.076 | ( 0.078) | 0.068 | 0.008 |
| 215 | 17.92 | 0.13 | 0.076 | ( 0.078) | 0.068 | 0.008 |
| 216 | 18.00 | 0.13 | 0.076 | ( 0.077) | 0.068 | 0.008 |
| 217 | 18.08 | 0.13 | 0.076 | ( 0.077) | 0.068 | 0.008 |
| 218 | 18.17 | 0.13 | 0.076 | ( 0.076) | 0.068 | 0.008 |
| 219 | 18.25 | 0.13 | 0.076 | ( 0.076) | 0.068 | 0.008 |
| 220 | 18.33 | 0.13 | 0.076 | ( 0.076) | 0.068 | 0.008 |
| 221 | 18.42 | 0.13 | 0.076 | ( 0.075) | 0.068 | 0.008 |
| 222 | 18.50 | 0.13 | 0.076 | ( 0.075) | 0.068 | 0.008 |
| 223 | 18.58 | 0.10 | 0.057 | ( 0.075) | 0.051 | 0.006 |
| 224 | 18.67 | 0.10 | 0.057 | ( 0.074) | 0.051 | 0.006 |
| 225 | 18.75 | 0.10 | 0.057 | ( 0.074) | 0.051 | 0.006 |
| 226 | 18.83 | 0.07 | 0.038 | ( 0.074) | 0.034 | 0.004 |
| 227 | 18.92 | 0.07 | 0.038 | ( 0.073) | 0.034 | 0.004 |
| 228 | 19.00 | 0.07 | 0.038 | ( 0.073) | 0.034 | 0.004 |
| 229 | 19.08 | 0.10 | 0.057 | ( 0.073) | 0.051 | 0.006 |
| 230 | 19.17 | 0.10 | 0.057 | ( 0.072) | 0.051 | 0.006 |
| 231 | 19.25 | 0.10 | 0.057 | ( 0.072) | 0.051 | 0.006 |
| 232 | 19.33 | 0.13 | 0.076 | ( 0.071) | 0.068 | 0.008 |
| 233 | 19.42 | 0.13 | 0.076 | ( 0.071) | 0.068 | 0.008 |
| 234 | 19.50 | 0.13 | 0.076 | ( 0.071) | 0.068 | 0.008 |
| 235 | 19.58 | 0.10 | 0.057 | ( 0.071) | 0.051 | 0.006 |
| 236 | 19.67 | 0.10 | 0.057 | ( 0.070) | 0.051 | 0.006 |
| 237 | 19.75 | 0.10 | 0.057 | ( 0.070) | 0.051 | 0.006 |
| 238 | 19.83 | 0.07 | 0.038 | ( 0.070) | 0.034 | 0.004 |
| 239 | 19.92 | 0.07 | 0.038 | ( 0.069) | 0.034 | 0.004 |
| 240 | 20.00 | 0.07 | 0.038 | ( 0.069) | 0.034 | 0.004 |
| 241 | 20.08 | 0.10 | 0.057 | ( 0.069) | 0.051 | 0.006 |
| 242 | 20.17 | 0.10 | 0.057 | ( 0.068) | 0.051 | 0.006 |
| 243 | 20.25 | 0.10 | 0.057 | ( 0.068) | 0.051 | 0.006 |
| 244 | 20.33 | 0.10 | 0.057 | ( 0.068) | 0.051 | 0.006 |
| 245 | 20.42 | 0.10 | 0.057 | ( 0.067) | 0.051 | 0.006 |
| 246 | 20.50 | 0.10 | 0.057 | ( 0.067) | 0.051 | 0.006 |
| 247 | 20.58 | 0.10 | 0.057 | ( 0.067) | 0.051 | 0.006 |
| 248 | 20.67 | 0.10 | 0.057 | ( 0.067) | 0.051 | 0.006 |
| 249 | 20.75 | 0.10 | 0.057 | ( 0.066) | 0.051 | 0.006 |
| 250 | 20.83 | 0.07 | 0.038 | ( 0.066) | 0.034 | 0.004 |
| 251 | 20.92 | 0.07 | 0.038 | ( 0.066) | 0.034 | 0.004 |
| 252 | 21.00 | 0.07 | 0.038 | ( 0.066) | 0.034 | 0.004 |
| 253 | 21.08 | 0.10 | 0.057 | ( 0.065) | 0.051 | 0.006 |
| 254 | 21.17 | 0.10 | 0.057 | ( 0.065) | 0.051 | 0.006 |
| 255 | 21.25 | 0.10 | 0.057 | ( 0.065) | 0.051 | 0.006 |
| 256 | 21.33 | 0.07 | 0.038 | ( 0.065) | 0.034 | 0.004 |
| 257 | 21.42 | 0.07 | 0.038 | ( 0.064) | 0.034 | 0.004 |
| 258 | 21.50 | 0.07 | 0.038 | ( 0.064) | 0.034 | 0.004 |
| 259 | 21.58 | 0.10 | 0.057 | ( 0.064) | 0.051 | 0.006 |
| 260 | 21.67 | 0.10 | 0.057 | ( 0.064) | 0.051 | 0.006 |
| 261 | 21.75 | 0.10 | 0.057 | ( 0.063) | 0.051 | 0.006 |
| 262 | 21.83 | 0.07 | 0.038 | ( 0.063) | 0.034 | 0.004 |
| 263 | 21.92 | 0.07 | 0.038 | ( 0.063) | 0.034 | 0.004 |
| 264 | 22.00 | 0.07 | 0.038 | ( 0.063) | 0.034 | 0.004 |
| 265 | 22.08 | 0.10 | 0.057 | ( 0.062) | 0.051 | 0.006 |
| 266 | 22.17 | 0.10 | 0.057 | ( 0.062) | 0.051 | 0.006 |
| 267 | 22.25 | 0.10 | 0.057 | ( 0.062) | 0.051 | 0.006 |
| 268 | 22.33 | 0.07 | 0.038 | ( 0.062) | 0.034 | 0.004 |
| 269 | 22.42 | 0.07 | 0.038 | ( 0.062) | 0.034 | 0.004 |
| 270 | 22.50 | 0.07 | 0.038 | ( 0.062) | 0.034 | 0.004 |
| 271 | 22.58 | 0.07 | 0.038 | ( 0.061) | 0.034 | 0.004 |
| 272 | 22.67 | 0.07 | 0.038 | ( 0.061) | 0.034 | 0.004 |
| 273 | 22.75 | 0.07 | 0.038 | ( 0.061) | 0.034 | 0.004 |
| 274 | 22.83 | 0.07 | 0.038 | ( 0.061) | 0.034 | 0.004 |
| 275 | 22.92 | 0.07 | 0.038 | ( 0.061) | 0.034 | 0.004 |
| 276 | 23.00 | 0.07 | 0.038 | ( 0.061) | 0.034 | 0.004 |
| 277 | 23.08 | 0.07 | 0.038 | ( 0.060) | 0.034 | 0.004 |
| 278 | 23.17 | 0.07 | 0.038 | ( 0.060) | 0.034 | 0.004 |
| 279 | 23.25 | 0.07 | 0.038 | ( 0.060) | 0.034 | 0.004 |
| 280 | 23.33 | 0.07 | 0.038 | ( 0.060) | 0.034 | 0.004 |
| 281 | 23.42 | 0.07 | 0.038 | ( 0.060) | 0.034 | 0.004 |
| 282 | 23.50 | 0.07 | 0.038 | ( 0.060) | 0.034 | 0.004 |
| 283 | 23.58 | 0.07 | 0.038 | ( 0.060) | 0.034 | 0.004 |
| 284 | 23.67 | 0.07 | 0.038 | ( 0.060) | 0.034 | 0.004 |
| 285 | 23.75 | 0.07 | 0.038 | ( 0.060) | 0.034 | 0.004 |
| 286 | 23.83 | 0.07 | 0.038 | ( 0.059) | 0.034 | 0.004 |
| 287 | 23.92 | 0.07 | 0.038 | ( 0.059) | 0.034 | 0.004 |

288 24.00 0.07 0.038 ( 0.059) 0.034 0.004
(Loss Rate Not Used)
Sum = 100.0 Sum = 31.6
Flood volume = Effective rainfall 2.64(In)
times area 5.2(Ac.)/[(In)/(Ft.)] = 1.1(Ac.Ft)
Total soil loss = 2.11(In)
Total soil loss = 0.916(Ac.Ft)
Total rainfall = 4.75(In)
Flood volume = 49740.3 Cubic Feet
Total soil loss = 39919.8 Cubic Feet

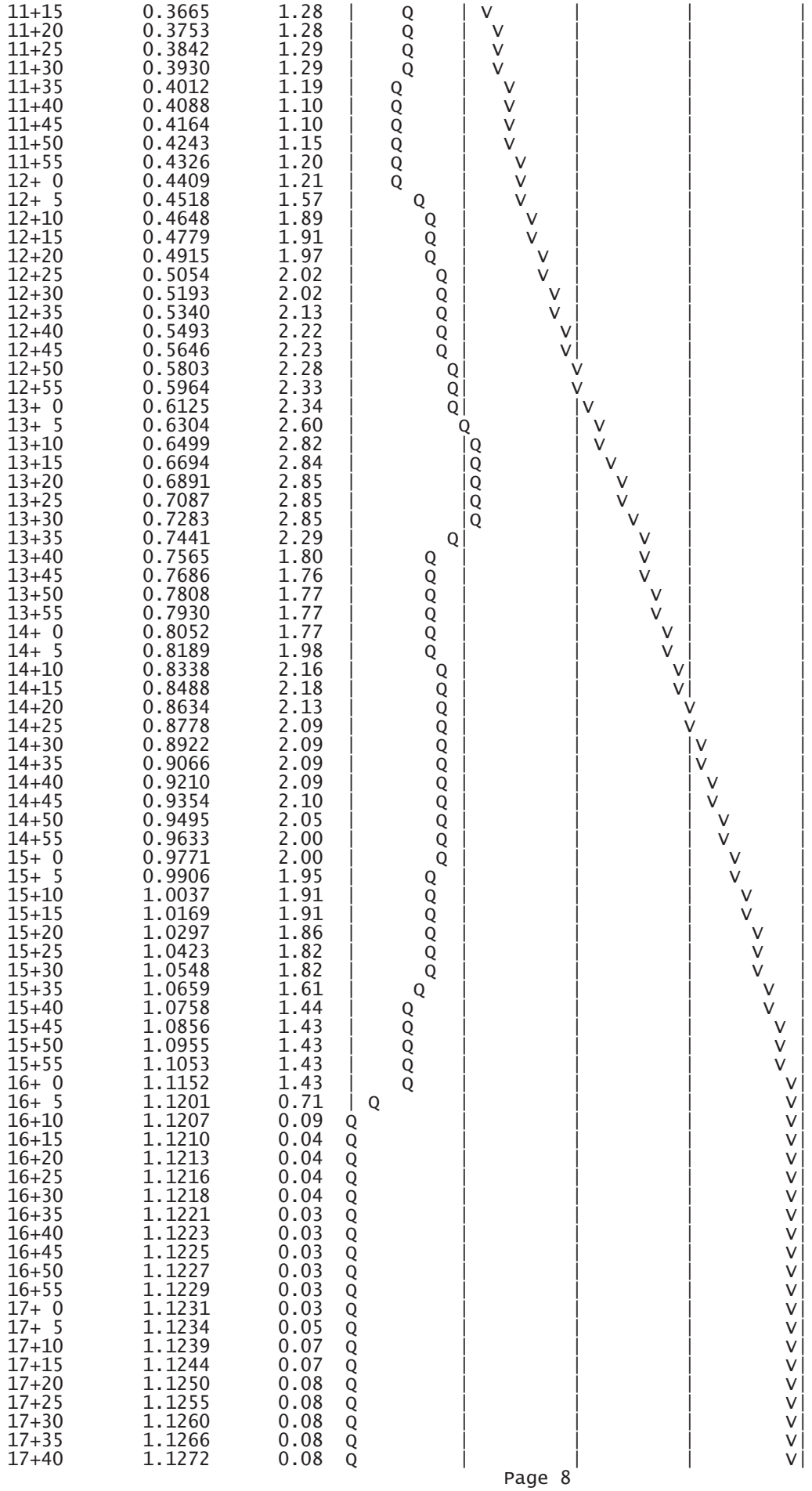
Peak flow rate of this hydrograph = 2.853(CFS)

24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0001 | 0.01 | Q | | | | |
| 0+10 | 0.0002 | 0.02 | Q | | | | |
| 0+15 | 0.0003 | 0.02 | Q | | | | |
| 0+20 | 0.0005 | 0.03 | Q | | | | |
| 0+25 | 0.0007 | 0.03 | Q | | | | |
| 0+30 | 0.0009 | 0.03 | Q | | | | |
| 0+35 | 0.0011 | 0.03 | Q | | | | |
| 0+40 | 0.0013 | 0.03 | Q | | | | |
| 0+45 | 0.0015 | 0.03 | Q | | | | |
| 0+50 | 0.0018 | 0.04 | Q | | | | |
| 0+55 | 0.0021 | 0.04 | Q | | | | |
| 1+ 0 | 0.0023 | 0.04 | Q | | | | |
| 1+ 5 | 0.0026 | 0.03 | Q | | | | |
| 1+10 | 0.0028 | 0.03 | Q | | | | |
| 1+15 | 0.0030 | 0.03 | Q | | | | |
| 1+20 | 0.0032 | 0.03 | Q | | | | |
| 1+25 | 0.0034 | 0.03 | Q | | | | |
| 1+30 | 0.0036 | 0.03 | Q | | | | |
| 1+35 | 0.0038 | 0.03 | Q | | | | |
| 1+40 | 0.0040 | 0.03 | Q | | | | |
| 1+45 | 0.0042 | 0.03 | Q | | | | |
| 1+50 | 0.0045 | 0.04 | Q | | | | |
| 1+55 | 0.0047 | 0.04 | Q | | | | |
| 2+ 0 | 0.0050 | 0.04 | Q | | | | |
| 2+ 5 | 0.0053 | 0.04 | Q | | | | |
| 2+10 | 0.0056 | 0.04 | Q | | | | |
| 2+15 | 0.0058 | 0.04 | Q | | | | |
| 2+20 | 0.0061 | 0.04 | Q | | | | |
| 2+25 | 0.0064 | 0.04 | Q | | | | |
| 2+30 | 0.0067 | 0.04 | Q | | | | |
| 2+35 | 0.0070 | 0.05 | Q | | | | |
| 2+40 | 0.0073 | 0.05 | Q | | | | |
| 2+45 | 0.0076 | 0.05 | Q | | | | |
| 2+50 | 0.0080 | 0.05 | Q | | | | |
| 2+55 | 0.0083 | 0.05 | Q | | | | |
| 3+ 0 | 0.0087 | 0.05 | Q | | | | |
| 3+ 5 | 0.0090 | 0.05 | Q | | | | |
| 3+10 | 0.0094 | 0.05 | Q | | | | |
| 3+15 | 0.0097 | 0.05 | Q | | | | |
| 3+20 | 0.0100 | 0.05 | Q | | | | |
| 3+25 | 0.0104 | 0.05 | Q | | | | |
| 3+30 | 0.0107 | 0.05 | Q | | | | |
| 3+35 | 0.0111 | 0.05 | Q | | | | |
| 3+40 | 0.0114 | 0.05 | Q | | | | |
| 3+45 | 0.0118 | 0.05 | Q | | | | |
| 3+50 | 0.0121 | 0.05 | Q | | | | |
| 3+55 | 0.0125 | 0.06 | Q | | | | |
| 4+ 0 | 0.0130 | 0.06 | Q | | | | |
| 4+ 5 | 0.0134 | 0.06 | Q | | | | |
| 4+10 | 0.0138 | 0.06 | Q | | | | |
| 4+15 | 0.0142 | 0.06 | Q | | | | |
| 4+20 | 0.0146 | 0.06 | Q | | | | |
| 4+25 | 0.0151 | 0.07 | Q | | | | |
| 4+30 | 0.0156 | 0.07 | Q | | | | |
| 4+35 | 0.0161 | 0.07 | Q | | | | |
| 4+40 | 0.0166 | 0.07 | Q | | | | |

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 4+45       0.0170      0.07  Q          |          |          |          |
 4+50       0.0176      0.07  Q          |          |          |          |
 4+55       0.0181      0.08  Q          |          |          |          |
 5+ 0       0.0187      0.08  Q          |          |          |          |
 5+ 5       0.0191      0.07  Q          |          |          |          |
 5+10       0.0195      0.06  Q          |          |          |          |
 5+15       0.0200      0.06  Q          |          |          |          |
 5+20       0.0204      0.06  Q          |          |          |          |
 5+25       0.0209      0.07  Q          |          |          |          |
 5+30       0.0214      0.07  Q          |          |          |          |
 5+35       0.0219      0.07  Q          |          |          |          |
 5+40       0.0224      0.08  Q          |          |          |          |
 5+45       0.0230      0.08  Q          |          |          |          |
 5+50       0.0235      0.08  Q          |          |          |          |
 5+55       0.0241      0.08  Q          |          |          |          |
 6+ 0       0.0246      0.08  Q          |          |          |          |
 6+ 5       0.0252      0.08  Q          |          |          |          |
 6+10       0.0258      0.09  Q          |          |          |          |
 6+15       0.0264      0.09  Q          |          |          |          |
 6+20       0.0271      0.09  Q          |          |          |          |
 6+25       0.0277      0.09  Q          |          |          |          |
 6+30       0.0283      0.09  Q          |          |          |          |
 6+35       0.0294      0.15  QV         |          |          |          |
 6+40       0.0307      0.20  QV         |          |          |          |
 6+45       0.0322      0.21  QV         |          |          |          |
 6+50       0.0336      0.21  QV         |          |          |          |
 6+55       0.0351      0.21  QV         |          |          |          |
 7+ 0       0.0365      0.22  QV         |          |          |          |
 7+ 5       0.0381      0.22  QV         |          |          |          |
 7+10       0.0396      0.22  QV         |          |          |          |
 7+15       0.0411      0.23  QV         |          |          |          |
 7+20       0.0431      0.28  |Q         |          |          |          |
 7+25       0.0454      0.33  |Q         |          |          |          |
 7+30       0.0477      0.34  |Q         |          |          |          |
 7+35       0.0504      0.39  |Q         |          |          |          |
 7+40       0.0534      0.44  |Q         |          |          |          |
 7+45       0.0565      0.45  |Q         |          |          |          |
 7+50       0.0599      0.50  | Q        |          |          |          |
 7+55       0.0637      0.55  | Q        |          |          |          |
 8+ 0       0.0676      0.56  | Q        |          |          |          |
 8+ 5       0.0721      0.66  | Q        |          |          |          |
 8+10       0.0773      0.76  | VQ       |          |          |          |
 8+15       0.0826      0.77  | VQ       |          |          |          |
 8+20       0.0879      0.77  |  Q       |          |          |          |
 8+25       0.0932      0.77  |  Q       |          |          |          |
 8+30       0.0986      0.78  |  Q       |          |          |          |
 8+35       0.1043      0.83  |  Q       |          |          |          |
 8+40       0.1104      0.88  |  Q       |          |          |          |
 8+45       0.1165      0.89  |  QV      |          |          |          |
 8+50       0.1229      0.94  |  QV      |          |          |          |
 8+55       0.1298      0.99  |  QV      |          |          |          |
 9+ 0       0.1366      1.00  |  QV      |          |          |          |
 9+ 5       0.1442      1.10  |   QV     |          |          |          |
 9+10       0.1524      1.19  |   QV     |          |          |          |
 9+15       0.1607      1.20  |   QV     |          |          |          |
 9+20       0.1694      1.26  |    Q     |          |          |          |
 9+25       0.1784      1.31  |    QV    |          |          |          |
 9+30       0.1875      1.31  |    QV    |          |          |          |
 9+35       0.1969      1.37  |    QV    |          |          |          |
 9+40       0.2066      1.42  |    Q V   |          |          |          |
 9+45       0.2164      1.42  |    Q V   |          |          |          |
 9+50       0.2266      1.48  |    Q V   |          |          |          |
 9+55       0.2371      1.53  |     Q V  |          |          |          |
10+ 0       0.2477      1.53  |     Q V  |          |          |          |
10+ 5       0.2558      1.17  |   Q   V  |          |          |          |
10+10       0.2617      0.87  |  Q     V|          |          |          |
10+15       0.2676      0.84  |  Q     V|          |          |          |
10+20       0.2734      0.85  |  Q     V|          |          |          |
10+25       0.2793      0.85  |  Q     V|          |          |          |
10+30       0.2851      0.85  |  Q     V|          |          |          |
10+35       0.2928      1.12  |   Q     V          |          |          |
10+40       0.3021      1.34  |    Q    V          |          |          |
10+45       0.3114      1.36  |    Q    V          |          |          |
10+50       0.3208      1.36  |    Q    |V         |          |          |
10+55       0.3303      1.37  |    Q    |V         |          |          |
11+ 0       0.3397      1.37  |    Q    |V         |          |          |
11+ 5       0.3488      1.32  |    Q    | V        |          |          |
11+10       0.3576      1.28  |    Q    | V        |          |          |
```



| | | | |
|---|---|---|---|
| 11+15 | 0.3665 | 1.28 | Q V |
| 11+20 | 0.3753 | 1.28 | Q V |
| 11+25 | 0.3842 | 1.29 | Q V |
| 11+30 | 0.3930 | 1.29 | Q V |
| 11+35 | 0.4012 | 1.19 | Q V |
| 11+40 | 0.4088 | 1.10 | Q V |
| 11+45 | 0.4164 | 1.10 | Q V |
| 11+50 | 0.4243 | 1.15 | Q V |
| 11+55 | 0.4326 | 1.20 | Q V |
| 12+ 0 | 0.4409 | 1.21 | Q V |
| 12+ 5 | 0.4518 | 1.57 | Q V |
| 12+10 | 0.4648 | 1.89 | Q V |
| 12+15 | 0.4779 | 1.91 | Q V |
| 12+20 | 0.4915 | 1.97 | Q V |
| 12+25 | 0.5054 | 2.02 | Q V |
| 12+30 | 0.5193 | 2.02 | Q V |
| 12+35 | 0.5340 | 2.13 | Q V |
| 12+40 | 0.5493 | 2.22 | Q V |
| 12+45 | 0.5646 | 2.23 | Q V |
| 12+50 | 0.5803 | 2.28 | Q V |
| 12+55 | 0.5964 | 2.33 | Q V |
| 13+ 0 | 0.6125 | 2.34 | Q V |
| 13+ 5 | 0.6304 | 2.60 | Q V |
| 13+10 | 0.6499 | 2.82 | Q V |
| 13+15 | 0.6694 | 2.84 | Q V |
| 13+20 | 0.6891 | 2.85 | Q V |
| 13+25 | 0.7087 | 2.85 | Q V |
| 13+30 | 0.7283 | 2.85 | Q V |
| 13+35 | 0.7441 | 2.29 | Q V |
| 13+40 | 0.7565 | 1.80 | Q V |
| 13+45 | 0.7686 | 1.76 | Q V |
| 13+50 | 0.7808 | 1.77 | Q V |
| 13+55 | 0.7930 | 1.77 | Q V |
| 14+ 0 | 0.8052 | 1.77 | Q V |
| 14+ 5 | 0.8189 | 1.98 | Q V |
| 14+10 | 0.8338 | 2.16 | Q V |
| 14+15 | 0.8488 | 2.18 | Q V |
| 14+20 | 0.8634 | 2.13 | Q V |
| 14+25 | 0.8778 | 2.09 | Q V |
| 14+30 | 0.8922 | 2.09 | Q V |
| 14+35 | 0.9066 | 2.09 | Q V |
| 14+40 | 0.9210 | 2.09 | Q V |
| 14+45 | 0.9354 | 2.10 | Q V |
| 14+50 | 0.9495 | 2.05 | Q V |
| 14+55 | 0.9633 | 2.00 | Q V |
| 15+ 0 | 0.9771 | 2.00 | Q V |
| 15+ 5 | 0.9906 | 1.95 | Q V |
| 15+10 | 1.0037 | 1.91 | Q V |
| 15+15 | 1.0169 | 1.91 | Q V |
| 15+20 | 1.0297 | 1.86 | Q V |
| 15+25 | 1.0423 | 1.82 | Q V |
| 15+30 | 1.0548 | 1.82 | Q V |
| 15+35 | 1.0659 | 1.61 | Q V |
| 15+40 | 1.0758 | 1.44 | Q V |
| 15+45 | 1.0856 | 1.43 | Q V |
| 15+50 | 1.0955 | 1.43 | Q V |
| 15+55 | 1.1053 | 1.43 | Q V |
| 16+ 0 | 1.1152 | 1.43 | Q V |
| 16+ 5 | 1.1201 | 0.71 | Q V |
| 16+10 | 1.1207 | 0.09 | Q V |
| 16+15 | 1.1210 | 0.04 | Q V |
| 16+20 | 1.1213 | 0.04 | Q V |
| 16+25 | 1.1216 | 0.04 | Q V |
| 16+30 | 1.1218 | 0.04 | Q V |
| 16+35 | 1.1221 | 0.03 | Q V |
| 16+40 | 1.1223 | 0.03 | Q V |
| 16+45 | 1.1225 | 0.03 | Q V |
| 16+50 | 1.1227 | 0.03 | Q V |
| 16+55 | 1.1229 | 0.03 | Q V |
| 17+ 0 | 1.1231 | 0.03 | Q V |
| 17+ 5 | 1.1234 | 0.05 | Q V |
| 17+10 | 1.1239 | 0.07 | Q V |
| 17+15 | 1.1244 | 0.07 | Q V |
| 17+20 | 1.1250 | 0.08 | Q V |
| 17+25 | 1.1255 | 0.08 | Q V |
| 17+30 | 1.1260 | 0.08 | Q V |
| 17+35 | 1.1266 | 0.08 | Q V |
| 17+40 | 1.1272 | 0.08 | Q V |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+45 | 1.1278 | 0.09 | Q | \| | \| | \| | V\| |
| 17+50 | 1.1282 | 0.06 | Q | \| | \| | \| | V\| |
| 17+55 | 1.1285 | 0.04 | Q | \| | \| | \| | V\| |
| 18+ 0 | 1.1288 | 0.04 | Q | \| | \| | \| | V\| |
| 18+ 5 | 1.1290 | 0.04 | Q | \| | \| | \| | V\| |
| 18+10 | 1.1293 | 0.04 | Q | \| | \| | \| | V\| |
| 18+15 | 1.1296 | 0.04 | Q | \| | \| | \| | V\| |
| 18+20 | 1.1299 | 0.04 | Q | \| | \| | \| | V\| |
| 18+25 | 1.1301 | 0.04 | Q | \| | \| | \| | V\| |
| 18+30 | 1.1304 | 0.04 | Q | \| | \| | \| | V\| |
| 18+35 | 1.1307 | 0.03 | Q | \| | \| | \| | V\| |
| 18+40 | 1.1309 | 0.03 | Q | \| | \| | \| | V\| |
| 18+45 | 1.1311 | 0.03 | Q | \| | \| | \| | V\| |
| 18+50 | 1.1312 | 0.02 | Q | \| | \| | \| | V\| |
| 18+55 | 1.1314 | 0.02 | Q | \| | \| | \| | V\| |
| 19+ 0 | 1.1315 | 0.02 | Q | \| | \| | \| | V\| |
| 19+ 5 | 1.1317 | 0.03 | Q | \| | \| | \| | V\| |
| 19+10 | 1.1319 | 0.03 | Q | \| | \| | \| | V\| |
| 19+15 | 1.1321 | 0.03 | Q | \| | \| | \| | V\| |
| 19+20 | 1.1323 | 0.04 | Q | \| | \| | \| | V\| |
| 19+25 | 1.1326 | 0.04 | Q | \| | \| | \| | V\| |
| 19+30 | 1.1329 | 0.04 | Q | \| | \| | \| | V\| |
| 19+35 | 1.1331 | 0.03 | Q | \| | \| | \| | V\| |
| 19+40 | 1.1333 | 0.03 | Q | \| | \| | \| | V\| |
| 19+45 | 1.1335 | 0.03 | Q | \| | \| | \| | V\| |
| 19+50 | 1.1337 | 0.02 | Q | \| | \| | \| | V\| |
| 19+55 | 1.1339 | 0.02 | Q | \| | \| | \| | V\| |
| 20+ 0 | 1.1340 | 0.02 | Q | \| | \| | \| | V\| |
| 20+ 5 | 1.1342 | 0.03 | Q | \| | \| | \| | V\| |
| 20+10 | 1.1344 | 0.03 | Q | \| | \| | \| | V\| |
| 20+15 | 1.1346 | 0.03 | Q | \| | \| | \| | V\| |
| 20+20 | 1.1348 | 0.03 | Q | \| | \| | \| | V\| |
| 20+25 | 1.1350 | 0.03 | Q | \| | \| | \| | V\| |
| 20+30 | 1.1352 | 0.03 | Q | \| | \| | \| | V\| |
| 20+35 | 1.1354 | 0.03 | Q | \| | \| | \| | V\| |
| 20+40 | 1.1356 | 0.03 | Q | \| | \| | \| | V\| |
| 20+45 | 1.1358 | 0.03 | Q | \| | \| | \| | V\| |
| 20+50 | 1.1360 | 0.02 | Q | \| | \| | \| | V\| |
| 20+55 | 1.1361 | 0.02 | Q | \| | \| | \| | V\| |
| 21+ 0 | 1.1363 | 0.02 | Q | \| | \| | \| | V\| |
| 21+ 5 | 1.1364 | 0.03 | Q | \| | \| | \| | V\| |
| 21+10 | 1.1366 | 0.03 | Q | \| | \| | \| | V\| |
| 21+15 | 1.1368 | 0.03 | Q | \| | \| | \| | V\| |
| 21+20 | 1.1370 | 0.02 | Q | \| | \| | \| | V\| |
| 21+25 | 1.1371 | 0.02 | Q | \| | \| | \| | V\| |
| 21+30 | 1.1373 | 0.02 | Q | \| | \| | \| | V\| |
| 21+35 | 1.1375 | 0.03 | Q | \| | \| | \| | V\| |
| 21+40 | 1.1377 | 0.03 | Q | \| | \| | \| | V\| |
| 21+45 | 1.1379 | 0.03 | Q | \| | \| | \| | V\| |
| 21+50 | 1.1380 | 0.02 | Q | \| | \| | \| | V\| |
| 21+55 | 1.1382 | 0.02 | Q | \| | \| | \| | V\| |
| 22+ 0 | 1.1383 | 0.02 | Q | \| | \| | \| | V\| |
| 22+ 5 | 1.1385 | 0.03 | Q | \| | \| | \| | V\| |
| 22+10 | 1.1387 | 0.03 | Q | \| | \| | \| | V\| |
| 22+15 | 1.1389 | 0.03 | Q | \| | \| | \| | V\| |
| 22+20 | 1.1391 | 0.02 | Q | \| | \| | \| | V\| |
| 22+25 | 1.1392 | 0.02 | Q | \| | \| | \| | V\| |
| 22+30 | 1.1393 | 0.02 | Q | \| | \| | \| | V\| |
| 22+35 | 1.1395 | 0.02 | Q | \| | \| | \| | V\| |
| 22+40 | 1.1396 | 0.02 | Q | \| | \| | \| | V\| |
| 22+45 | 1.1398 | 0.02 | Q | \| | \| | \| | V\| |
| 22+50 | 1.1399 | 0.02 | Q | \| | \| | \| | V\| |
| 22+55 | 1.1400 | 0.02 | Q | \| | \| | \| | V\| |
| 23+ 0 | 1.1402 | 0.02 | Q | \| | \| | \| | V\| |
| 23+ 5 | 1.1403 | 0.02 | Q | \| | \| | \| | V\| |
| 23+10 | 1.1404 | 0.02 | Q | \| | \| | \| | V\| |
| 23+15 | 1.1406 | 0.02 | Q | \| | \| | \| | V\| |
| 23+20 | 1.1407 | 0.02 | Q | \| | \| | \| | V\| |
| 23+25 | 1.1408 | 0.02 | Q | \| | \| | \| | V\| |
| 23+30 | 1.1410 | 0.02 | Q | \| | \| | \| | V\| |
| 23+35 | 1.1411 | 0.02 | Q | \| | \| | \| | V\| |
| 23+40 | 1.1413 | 0.02 | Q | \| | \| | \| | V\| |
| 23+45 | 1.1414 | 0.02 | Q | \| | \| | \| | V\| |
| 23+50 | 1.1415 | 0.02 | Q | \| | \| | \| | V\| |
| 23+55 | 1.1417 | 0.02 | Q | \| | \| | \| | V\| |
| 24+ 0 | 1.1418 | 0.02 | Q | \| | \| | \| | V\| |
| 24+ 5 | 1.1419 | 0.01 | Q | \| | \| | \| | V\| |
| 24+10 | 1.1419 | 0.00 | Q | \| | \| | \| | V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA201100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 20
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

---

Drainage Area = 33.70(Ac.) = 0.053 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 33.70(Ac.) = 0.053 Sq. Mi.
Length along longest watercourse = 1583.00(Ft.)
Length along longest watercourse measured to centroid = 934.00(Ft.)
Length along longest watercourse = 0.300 Mi.
Length along longest watercourse measured to centroid = 0.177 Mi.
Difference in elevation = 290.00(Ft.)
Slope along watercourse = 967.2773 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.075 Hr.
Lag time = 4.47 Min.
25% of lag time = 1.12 Min.
40% of lag time = 1.79 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 33.70 | 0.50 | 16.85 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 33.70 | 1.20 | 40.44 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.97 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 33.700 | 83.91 | 0.000 |

Total Area Entered = 33.70(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.9 | 93.3 | 0.087 | 0.000 | 0.087 | 1.000 | 0.087 |
| | | | | | Sum (F) = | 0.087 |

Area averaged mean soil loss (F) (In/Hr) = 0.087

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

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| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 111.805 | 18.601 | 6.318 |
| 2 | 0.167 | 223.610 | 56.187 | 19.083 |
| 3 | 0.250 | 335.415 | 16.612 | 5.642 |
| 4 | 0.333 | 447.220 | 6.006 | 2.040 |
| 5 | 0.417 | 559.025 | 1.564 | 0.531 |
| 6 | 0.500 | 670.830 | 0.756 | 0.257 |
| 7 | 0.583 | 782.635 | 0.274 | 0.093 |
| | | Sum = 100.000 | Sum= | 33.963 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.087 | ( 0.544) | 0.518 |
| 2 | 0.17 | 4.30 | 0.619 | 0.087 | ( 0.557) | 0.533 |
| 3 | 0.25 | 5.00 | 0.720 | 0.087 | ( 0.648) | 0.633 |
| 4 | 0.33 | 5.00 | 0.720 | 0.087 | ( 0.648) | 0.633 |
| 5 | 0.42 | 5.80 | 0.835 | 0.087 | ( 0.751) | 0.748 |
| 6 | 0.50 | 6.50 | 0.936 | 0.087 | ( 0.842) | 0.849 |
| 7 | 0.58 | 7.40 | 1.065 | 0.087 | ( 0.959) | 0.979 |
| 8 | 0.67 | 8.60 | 1.238 | 0.087 | ( 1.114) | 1.152 |
| 9 | 0.75 | 12.30 | 1.771 | 0.087 | ( 1.594) | 1.684 |
| 10 | 0.83 | 29.10 | 4.189 | 0.087 | ( 3.770) | 4.103 |
| 11 | 0.92 | 6.80 | 0.979 | 0.087 | ( 0.881) | 0.892 |
| 12 | 1.00 | 5.00 | 0.720 | 0.087 | ( 0.648) | 0.633 |
| | | (Loss Rate Not Used) | | | |
| Sum = | | 100.0 | | | Sum = 13.4 |

Flood volume = Effective rainfall 1.11(In)
times area 33.7(Ac.)/[(In)/(Ft.)] = 3.1(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.243(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 136170.5 Cubic Feet
Total soil loss = 10581.9 Cubic Feet

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Peak flow rate of this hydrograph = 96.636(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 25.0 | 50.0 | 75.0 | 100.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0226 | 3.27 | VQ | | | | |
| 0+10 | 0.1139 | 13.26 | V Q | | | | |
| 0+15 | 0.2316 | 17.09 | V Q | | | | |
| 0+20 | 0.3704 | 20.16 | V Q | | | | |
| 0+25 | 0.5203 | 21.76 | V Q | | | | |
| 0+30 | 0.6920 | 24.94 | VQ | | | | |
| 0+35 | 0.8879 | 28.44 | Q | | | | |
| 0+40 | 1.1140 | 32.84 | QV | | | | |
| 0+45 | 1.3930 | 40.51 | QV | | | | |
| 0+50 | 1.8564 | 67.29 | V Q | | | | |
| 0+55 | 2.5220 | 96.64 | V Q | | | | |
| 1+ 0 | 2.8565 | 48.58 | Q | | | V | |
| 1+ 5 | 3.0410 | 26.78 | Q | | | V | |
| 1+10 | 3.0969 | 8.12 | Q | | | V | |

```
    1+15       3.1174      2.98  |Q        |          |          |        V|
    1+20       3.1239      0.95  Q         |          |          |        V|
    1+25       3.1256      0.25  Q         |          |          |        V|
    1+30       3.1260      0.06  Q         |          |          |         V
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA203100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 20
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

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Drainage Area = 33.70(Ac.) = 0.053 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 33.70(Ac.) = 0.053 Sq. Mi.
Length along longest watercourse = 1583.00(Ft.)
Length along longest watercourse measured to centroid = 934.00(Ft.)
Length along longest watercourse = 0.300 Mi.
Length along longest watercourse measured to centroid = 0.177 Mi.
Difference in elevation = 290.00(Ft.)
Slope along watercourse = 967.2773 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.075 Hr.
Lag time = 4.47 Min.
25% of lag time = 1.12 Min.
40% of lag time = 1.79 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 33.70 | 0.81 | 27.30 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 33.70 | 1.82 | 61.33 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.810(In)
Area Averaged 100-Year Rainfall = 1.820(In)

Point rain (area averaged) = 1.820(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.820(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 33.700 | 83.91 | 0.000 |

Total Area Entered = 33.70(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.9 | 93.3 | 0.087 | 0.000 | 0.087 | 1.000 | 0.087 |
| | | | | | Sum (F) = | 0.087 |

Area averaged mean soil loss (F) (In/Hr) = 0.087

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 111.805 | 18.601 | 6.318 |
| 2 | 0.167 | 223.610 | 56.187 | 19.083 |
| 3 | 0.250 | 335.415 | 16.612 | 5.642 |
| 4 | 0.333 | 447.220 | 6.006 | 2.040 |
| 5 | 0.417 | 559.025 | 1.564 | 0.531 |
| 6 | 0.500 | 670.830 | 0.756 | 0.257 |
| 7 | 0.583 | 782.635 | 0.274 | 0.093 |
| | | | Sum = 100.000 | Sum= 33.963 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.284 | 0.087 | ( 0.255) | 0.197 |
| 2 | 0.17 | 1.30 | 0.284 | 0.087 | ( 0.255) | 0.197 |
| 3 | 0.25 | 1.10 | 0.240 | 0.087 | ( 0.216) | 0.154 |
| 4 | 0.33 | 1.50 | 0.328 | 0.087 | ( 0.295) | 0.241 |
| 5 | 0.42 | 1.50 | 0.328 | 0.087 | ( 0.295) | 0.241 |
| 6 | 0.50 | 1.80 | 0.393 | 0.087 | ( 0.354) | 0.307 |
| 7 | 0.58 | 1.50 | 0.328 | 0.087 | ( 0.295) | 0.241 |
| 8 | 0.67 | 1.80 | 0.393 | 0.087 | ( 0.354) | 0.307 |
| 9 | 0.75 | 1.80 | 0.393 | 0.087 | ( 0.354) | 0.307 |
| 10 | 0.83 | 1.50 | 0.328 | 0.087 | ( 0.295) | 0.241 |
| 11 | 0.92 | 1.60 | 0.349 | 0.087 | ( 0.314) | 0.263 |
| 12 | 1.00 | 1.80 | 0.393 | 0.087 | ( 0.354) | 0.307 |
| 13 | 1.08 | 2.20 | 0.480 | 0.087 | ( 0.432) | 0.394 |
| 14 | 1.17 | 2.20 | 0.480 | 0.087 | ( 0.432) | 0.394 |
| 15 | 1.25 | 2.20 | 0.480 | 0.087 | ( 0.432) | 0.394 |
| 16 | 1.33 | 2.00 | 0.437 | 0.087 | ( 0.393) | 0.350 |
| 17 | 1.42 | 2.60 | 0.568 | 0.087 | ( 0.511) | 0.481 |
| 18 | 1.50 | 2.70 | 0.590 | 0.087 | ( 0.531) | 0.503 |
| 19 | 1.58 | 2.40 | 0.524 | 0.087 | ( 0.472) | 0.438 |
| 20 | 1.67 | 2.70 | 0.590 | 0.087 | ( 0.531) | 0.503 |
| 21 | 1.75 | 3.30 | 0.721 | 0.087 | ( 0.649) | 0.634 |
| 22 | 1.83 | 3.10 | 0.677 | 0.087 | ( 0.609) | 0.590 |
| 23 | 1.92 | 2.90 | 0.633 | 0.087 | ( 0.570) | 0.547 |
| 24 | 2.00 | 3.00 | 0.655 | 0.087 | ( 0.590) | 0.569 |
| 25 | 2.08 | 3.10 | 0.677 | 0.087 | ( 0.609) | 0.590 |
| 26 | 2.17 | 4.20 | 0.917 | 0.087 | ( 0.825) | 0.831 |
| 27 | 2.25 | 5.00 | 1.092 | 0.087 | ( 0.983) | 1.005 |
| 28 | 2.33 | 3.50 | 0.764 | 0.087 | ( 0.688) | 0.678 |
| 29 | 2.42 | 6.80 | 1.485 | 0.087 | ( 1.336) | 1.398 |
| 30 | 2.50 | 7.30 | 1.594 | 0.087 | ( 1.435) | 1.508 |
| 31 | 2.58 | 8.20 | 1.791 | 0.087 | ( 1.612) | 1.704 |
| 32 | 2.67 | 5.90 | 1.288 | 0.087 | ( 1.160) | 1.202 |
| 33 | 2.75 | 2.00 | 0.437 | 0.087 | ( 0.393) | 0.350 |
| 34 | 2.83 | 1.80 | 0.393 | 0.087 | ( 0.354) | 0.307 |
| 35 | 2.92 | 1.80 | 0.393 | 0.087 | ( 0.354) | 0.307 |
| 36 | 3.00 | 0.60 | 0.131 | 0.087 | ( 0.118) | 0.045 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 18.7 |

Flood volume = Effective rainfall 1.56(In)
times area 33.7(Ac.)/[(In)/(Ft.)] = 4.4(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.729(Ac.Ft)
Total rainfall = 1.82(In)
Flood volume = 190864.0 Cubic Feet
Total soil loss = 31745.6 Cubic Feet

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Peak flow rate of this hydrograph = 52.193(CFS)

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3 - H O U R  S T O R M
R u n o f f  H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 15.0 | 30.0 | 45.0 | 60.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0086 | 1.25 | Q | | | | |
| 0+10 | 0.0431 | 5.02 | V Q | | | | |
| 0+15 | 0.0835 | 5.85 | V Q | | | | |
| 0+20 | 0.1246 | 5.98 | V Q | | | | |
| 0+25 | 0.1763 | 7.50 | V Q | | | | |
| 0+30 | 0.2339 | 8.37 | V Q | | | | |
| 0+35 | 0.2985 | 9.38 | V Q | | | | |
| 0+40 | 0.3601 | 8.95 | V Q | | | | |
| 0+45 | 0.4289 | 9.98 | V Q | | | | |
| 0+50 | 0.4967 | 9.85 | V Q | | | | |
| 0+55 | 0.5576 | 8.85 | Q | | | | |
| 1+ 0 | 0.6210 | 9.20 | VQ | | | | |
| 1+ 5 | 0.6939 | 10.58 | VQ | | | | |
| 1+10 | 0.7800 | 12.51 | VQ | | | | |
| 1+15 | 0.8702 | 13.09 | VQ | | | | |
| 1+20 | 0.9598 | 13.01 | Q | | | | |
| 1+25 | 1.0498 | 13.07 | QV | | | | |
| 1+30 | 1.1565 | 15.49 | Q | | | | |
| 1+35 | 1.2677 | 16.15 | QV | | | | |
| 1+40 | 1.3757 | 15.68 | Q V | | | | |
| 1+45 | 1.4962 | 17.49 | Q V | | | | |
| 1+50 | 1.6339 | 20.00 | QV | | | | |
| 1+55 | 1.7699 | 19.74 | Q V | | | | |
| 2+ 0 | 1.9013 | 19.09 | Q V | | | | |
| 2+ 5 | 2.0348 | 19.39 | Q V | | | | |
| 2+10 | 2.1820 | 21.37 | Q V | | | | |
| 2+15 | 2.3694 | 27.21 | Q V | | | | |
| 2+20 | 2.5751 | 29.87 | Q V | | | | |
| 2+25 | 2.7794 | 29.66 | Q V | | | | |
| 2+30 | 3.0739 | 42.75 | Q | | | | |
| 2+35 | 3.4157 | 49.63 | V Q | | | | |
| 2+40 | 3.7752 | 52.19 | Q | | | | |
| 2+45 | 4.0428 | 38.87 | Q | | | | |
| 2+50 | 4.1813 | 20.11 | Q | | | | |
| 2+55 | 4.2753 | 13.64 | Q | | | | |
| 3+ 0 | 4.3428 | 9.80 | Q | | | | |
| 3+ 5 | 4.3694 | 3.86 | Q | | | | |
| 3+10 | 4.3779 | 1.24 | Q | | | | |
| 3+15 | 4.3804 | 0.37 | Q | | | | |
| 3+20 | 4.3813 | 0.13 | Q | | | | |
| 3+25 | 4.3816 | 0.04 | Q | | | | |
| 3+30 | 4.3816 | 0.00 | Q | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA206100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 20
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

---

Drainage Area = 33.70(Ac.) = 0.053 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 33.70(Ac.) = 0.053 Sq. Mi.
Length along longest watercourse = 1583.00(Ft.)
Length along longest watercourse measured to centroid = 934.00(Ft.)
Length along longest watercourse = 0.300 Mi.
Length along longest watercourse measured to centroid = 0.177 Mi.
Difference in elevation = 290.00(Ft.)
Slope along watercourse = 967.2773 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.075 Hr.
Lag time = 4.47 Min.
25% of lag time = 1.12 Min.
40% of lag time = 1.79 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 33.70 | 1.15 | 38.76 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 33.70 | 2.50 | 84.25 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.150(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 33.700 | 83.91 | 0.000 |

Total Area Entered = 33.70(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.9 | 93.3 | 0.087 | 0.000 | 0.087 | 1.000 | 0.087 |
| | | | | | Sum (F) = | 0.087 |

Area averaged mean soil loss (F) (In/Hr) = 0.087

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 111.805 | 18.601 | 6.318 |
| 2 | 0.167 | 223.610 | 56.187 | 19.083 |
| 3 | 0.250 | 335.415 | 16.612 | 5.642 |
| 4 | 0.333 | 447.220 | 6.006 | 2.040 |
| 5 | 0.417 | 559.025 | 1.564 | 0.531 |
| 6 | 0.500 | 670.830 | 0.756 | 0.257 |
| 7 | 0.583 | 782.635 | 0.274 | 0.093 |
| | | Sum = | 100.000 Sum= | 33.963 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.087 | ( 0.135) 0.063 |
| 2 | 0.17 | 0.60 | 0.180 | 0.087 | ( 0.162) 0.093 |
| 3 | 0.25 | 0.60 | 0.180 | 0.087 | ( 0.162) 0.093 |
| 4 | 0.33 | 0.60 | 0.180 | 0.087 | ( 0.162) 0.093 |
| 5 | 0.42 | 0.60 | 0.180 | 0.087 | ( 0.162) 0.093 |
| 6 | 0.50 | 0.70 | 0.210 | 0.087 | ( 0.189) 0.123 |
| 7 | 0.58 | 0.70 | 0.210 | 0.087 | ( 0.189) 0.123 |
| 8 | 0.67 | 0.70 | 0.210 | 0.087 | ( 0.189) 0.123 |
| 9 | 0.75 | 0.70 | 0.210 | 0.087 | ( 0.189) 0.123 |
| 10 | 0.83 | 0.70 | 0.210 | 0.087 | ( 0.189) 0.123 |
| 11 | 0.92 | 0.70 | 0.210 | 0.087 | ( 0.189) 0.123 |
| 12 | 1.00 | 0.80 | 0.240 | 0.087 | ( 0.216) 0.153 |
| 13 | 1.08 | 0.80 | 0.240 | 0.087 | ( 0.216) 0.153 |
| 14 | 1.17 | 0.80 | 0.240 | 0.087 | ( 0.216) 0.153 |
| 15 | 1.25 | 0.80 | 0.240 | 0.087 | ( 0.216) 0.153 |
| 16 | 1.33 | 0.80 | 0.240 | 0.087 | ( 0.216) 0.153 |
| 17 | 1.42 | 0.80 | 0.240 | 0.087 | ( 0.216) 0.153 |
| 18 | 1.50 | 0.80 | 0.240 | 0.087 | ( 0.216) 0.153 |
| 19 | 1.58 | 0.80 | 0.240 | 0.087 | ( 0.216) 0.153 |
| 20 | 1.67 | 0.80 | 0.240 | 0.087 | ( 0.216) 0.153 |
| 21 | 1.75 | 0.80 | 0.240 | 0.087 | ( 0.216) 0.153 |
| 22 | 1.83 | 0.80 | 0.240 | 0.087 | ( 0.216) 0.153 |
| 23 | 1.92 | 0.80 | 0.240 | 0.087 | ( 0.216) 0.153 |
| 24 | 2.00 | 0.90 | 0.270 | 0.087 | ( 0.243) 0.183 |
| 25 | 2.08 | 0.80 | 0.240 | 0.087 | ( 0.216) 0.153 |
| 26 | 2.17 | 0.90 | 0.270 | 0.087 | ( 0.243) 0.183 |
| 27 | 2.25 | 0.90 | 0.270 | 0.087 | ( 0.243) 0.183 |
| 28 | 2.33 | 0.90 | 0.270 | 0.087 | ( 0.243) 0.183 |
| 29 | 2.42 | 0.90 | 0.270 | 0.087 | ( 0.243) 0.183 |
| 30 | 2.50 | 0.90 | 0.270 | 0.087 | ( 0.243) 0.183 |
| 31 | 2.58 | 0.90 | 0.270 | 0.087 | ( 0.243) 0.183 |
| 32 | 2.67 | 0.90 | 0.270 | 0.087 | ( 0.243) 0.183 |
| 33 | 2.75 | 1.00 | 0.300 | 0.087 | ( 0.270) 0.213 |
| 34 | 2.83 | 1.00 | 0.300 | 0.087 | ( 0.270) 0.213 |
| 35 | 2.92 | 1.00 | 0.300 | 0.087 | ( 0.270) 0.213 |
| 36 | 3.00 | 1.00 | 0.300 | 0.087 | ( 0.270) 0.213 |
| 37 | 3.08 | 1.00 | 0.300 | 0.087 | ( 0.270) 0.213 |
| 38 | 3.17 | 1.10 | 0.330 | 0.087 | ( 0.297) 0.243 |
| 39 | 3.25 | 1.10 | 0.330 | 0.087 | ( 0.297) 0.243 |
| 40 | 3.33 | 1.10 | 0.330 | 0.087 | ( 0.297) 0.243 |
| 41 | 3.42 | 1.20 | 0.360 | 0.087 | ( 0.324) 0.273 |
| 42 | 3.50 | 1.30 | 0.390 | 0.087 | ( 0.351) 0.303 |
| 43 | 3.58 | 1.40 | 0.420 | 0.087 | ( 0.378) 0.333 |
| 44 | 3.67 | 1.40 | 0.420 | 0.087 | ( 0.378) 0.333 |
| 45 | 3.75 | 1.50 | 0.450 | 0.087 | ( 0.405) 0.363 |
| 46 | 3.83 | 1.50 | 0.450 | 0.087 | ( 0.405) 0.363 |
| 47 | 3.92 | 1.60 | 0.480 | 0.087 | ( 0.432) 0.393 |
| 48 | 4.00 | 1.60 | 0.480 | 0.087 | ( 0.432) 0.393 |
| 49 | 4.08 | 1.70 | 0.510 | 0.087 | ( 0.459) 0.423 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 50 | 4.17 | 1.80 | 0.540 | 0.087 | ( 0.486) | 0.453 | |
| 51 | 4.25 | 1.90 | 0.570 | 0.087 | ( 0.513) | 0.483 | |
| 52 | 4.33 | 2.00 | 0.600 | 0.087 | ( 0.540) | 0.513 | |
| 53 | 4.42 | 2.10 | 0.630 | 0.087 | ( 0.567) | 0.543 | |
| 54 | 4.50 | 2.10 | 0.630 | 0.087 | ( 0.567) | 0.543 | |
| 55 | 4.58 | 2.20 | 0.660 | 0.087 | ( 0.594) | 0.573 | |
| 56 | 4.67 | 2.30 | 0.690 | 0.087 | ( 0.621) | 0.603 | |
| 57 | 4.75 | 2.40 | 0.720 | 0.087 | ( 0.648) | 0.633 | |
| 58 | 4.83 | 2.40 | 0.720 | 0.087 | ( 0.648) | 0.633 | |
| 59 | 4.92 | 2.50 | 0.750 | 0.087 | ( 0.675) | 0.663 | |
| 60 | 5.00 | 2.60 | 0.780 | 0.087 | ( 0.702) | 0.693 | |
| 61 | 5.08 | 3.10 | 0.930 | 0.087 | ( 0.837) | 0.843 | |
| 62 | 5.17 | 3.60 | 1.080 | 0.087 | ( 0.972) | 0.993 | |
| 63 | 5.25 | 3.90 | 1.170 | 0.087 | ( 1.053) | 1.083 | |
| 64 | 5.33 | 4.20 | 1.260 | 0.087 | ( 1.134) | 1.173 | |
| 65 | 5.42 | 4.70 | 1.410 | 0.087 | ( 1.269) | 1.323 | |
| 66 | 5.50 | 5.60 | 1.680 | 0.087 | ( 1.512) | 1.593 | |
| 67 | 5.58 | 1.90 | 0.570 | 0.087 | ( 0.513) | 0.483 | |
| 68 | 5.67 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 | |
| 69 | 5.75 | 0.60 | 0.180 | 0.087 | ( 0.162) | 0.093 | |
| 70 | 5.83 | 0.50 | 0.150 | 0.087 | ( 0.135) | 0.063 | |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.087) | 0.081 | 0.009 | |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.087) | 0.054 | 0.006 | |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.8

Flood volume = Effective rainfall 1.98(In)
times area 33.7(Ac.)/[(In)/(Ft.)] = 5.6(Ac.Ft)
Total soil loss = 0.52(In)
Total soil loss = 1.449(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 242688.4 Cubic Feet
Total soil loss = 63103.7 Cubic Feet

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Peak flow rate of this hydrograph = 44.981(CFS)

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6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 12.5 | 25.0 | 37.5 | 50.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0028 | 0.40 | Q | \| | \| | \| | \| |
| 0+10 | 0.0152 | 1.80 | VQ | \| | \| | \| | \| |
| 0+15 | 0.0340 | 2.73 | V Q | \| | \| | \| | \| |
| 0+20 | 0.0549 | 3.03 | V Q | \| | \| | \| | \| |
| 0+25 | 0.0764 | 3.13 | V Q | \| | \| | \| | \| |
| 0+30 | 0.0995 | 3.35 | V Q | \| | \| | \| | \| |
| 0+35 | 0.1266 | 3.94 | V Q | \| | \| | \| | \| |
| 0+40 | 0.1549 | 4.11 | \|V Q | \| | \| | \| | \| |
| 0+45 | 0.1836 | 4.17 | \|V Q | \| | \| | \| | \| |
| 0+50 | 0.2124 | 4.19 | \|V Q | \| | \| | \| | \| |
| 0+55 | 0.2413 | 4.19 | \|V Q | \| | \| | \| | \| |
| 1+ 0 | 0.2715 | 4.39 | \|V Q | \| | \| | \| | \| |
| 1+ 5 | 0.3057 | 4.96 | \| VQ | \| | \| | \| | \| |
| 1+10 | 0.3410 | 5.13 | \| V Q | \| | \| | \| | \| |
| 1+15 | 0.3767 | 5.19 | \| V Q | \| | \| | \| | \| |
| 1+20 | 0.4126 | 5.20 | \| V Q | \| | \| | \| | \| |
| 1+25 | 0.4485 | 5.21 | \| VQ | \| | \| | \| | \| |
| 1+30 | 0.4844 | 5.22 | \| VQ | \| | \| | \| | \| |
| 1+35 | 0.5203 | 5.22 | \| VQ | \| | \| | \| | \| |
| 1+40 | 0.5562 | 5.22 | \| VQ | \| | \| | \| | \| |
| 1+45 | 0.5921 | 5.22 | \| Q | \| | \| | \| | \| |
| 1+50 | 0.6280 | 5.22 | \| Q | \| | \| | \| | \| |
| 1+55 | 0.6640 | 5.22 | \| Q | \| | \| | \| | \| |
| 2+ 0 | 0.7012 | 5.40 | \| QV | \| | \| | \| | \| |
| 2+ 5 | 0.7410 | 5.79 | \| QV | \| | \| | \| | \| |
| 2+10 | 0.7794 | 5.57 | \| QV | \| | \| | \| | \| |
| 2+15 | 0.8210 | 6.04 | \| QV | \| | \| | \| | \| |
| 2+20 | 0.8635 | 6.16 | \| Q V | \| | \| | \| | \| |
| 2+25 | 0.9063 | 6.22 | \| Q V | \| | \| | \| | \| |
| 2+30 | 0.9491 | 6.23 | \| Q V | \| | \| | \| | \| |
| 2+35 | 0.9921 | 6.23 | \| Q V | \| | \| | \| | \| |
| 2+40 | 1.0350 | 6.23 | \| Q V | \| | \| | \| | \| |
| 2+45 | 1.0792 | 6.42 | \| Q V | \| | \| | \| | \| |
| 2+50 | 1.1274 | 7.00 | \| Q V | \| | \| | \| | \| |

| | | | |
|---|---|---|---|
| 2+55 | 1.1768 | 7.17 | |
| 3+ 0 | 1.2266 | 7.23 | |
| 3+ 5 | 1.2764 | 7.24 | |
| 3+10 | 1.3277 | 7.44 | |
| 3+15 | 1.3829 | 8.02 | |
| 3+20 | 1.4393 | 8.19 | |
| 3+25 | 1.4974 | 8.44 | |
| 3+30 | 1.5608 | 9.21 | |
| 3+35 | 1.6307 | 10.15 | |
| 3+40 | 1.7062 | 10.96 | |
| 3+45 | 1.7847 | 11.40 | |
| 3+50 | 1.8677 | 12.05 | |
| 3+55 | 1.9534 | 12.44 | |
| 4+ 0 | 2.0435 | 13.08 | |
| 4+ 5 | 2.1362 | 13.46 | |
| 4+10 | 2.2346 | 14.29 | |
| 4+15 | 2.3396 | 15.24 | |
| 4+20 | 2.4515 | 16.24 | |
| 4+25 | 2.5703 | 17.25 | |
| 4+30 | 2.6948 | 18.08 | |
| 4+35 | 2.8224 | 18.53 | |
| 4+40 | 2.9559 | 19.38 | |
| 4+45 | 3.0960 | 20.34 | |
| 4+50 | 3.2416 | 21.15 | |
| 4+55 | 3.3903 | 21.59 | |
| 5+ 0 | 3.5448 | 22.44 | |
| 5+ 5 | 3.7112 | 24.15 | |
| 5+10 | 3.9054 | 28.21 | |
| 5+15 | 4.1297 | 32.56 | |
| 5+20 | 4.3778 | 36.03 | |
| 5+25 | 4.6505 | 39.60 | |
| 5+30 | 4.9603 | 44.98 | |
| 5+35 | 5.2651 | 44.25 | |
| 5+40 | 5.4240 | 23.08 | |
| 5+45 | 5.5010 | 11.18 | |
| 5+50 | 5.5389 | 5.50 | |
| 5+55 | 5.5593 | 2.96 | |
| 6+ 0 | 5.5671 | 1.13 | |
| 6+ 5 | 5.5701 | 0.44 | |
| 6+10 | 5.5710 | 0.13 | |
| 6+15 | 5.5713 | 0.04 | |
| 6+20 | 5.5713 | 0.01 | |
| 6+25 | 5.5714 | 0.00 | |
| 6+30 | 5.5714 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA2024100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 20
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

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Drainage Area = 33.70(Ac.) = 0.053 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 33.70(Ac.) = 0.053 Sq. Mi.
Length along longest watercourse = 1583.00(Ft.)
Length along longest watercourse measured to centroid = 934.00(Ft.)
Length along longest watercourse = 0.300 Mi.
Length along longest watercourse measured to centroid = 0.177 Mi.
Difference in elevation = 290.00(Ft.)
Slope along watercourse = 967.2773 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.075 Hr.
Lag time = 4.47 Min.
25% of lag time = 1.12 Min.
40% of lag time = 1.79 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 33.70 | 1.80 | 60.66 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 33.70 | 4.72 | 159.06 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.720(In)

Point rain (area averaged) = 4.720(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 4.720(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 33.700 | 83.91 | 0.000 |

Total Area Entered = 33.70(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.9 | 93.3 | 0.087 | 0.000 | 0.087 | 1.000 | 0.087 |
| | | | | | Sum (F) = | 0.087 |

Area averaged mean soil loss (F) (In/Hr) = 0.087

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 111.805 | 18.601 | 6.318 |
| 2 0.167 | 223.610 | 56.187 | 19.083 |
| 3 0.250 | 335.415 | 16.612 | 5.642 |
| 4 0.333 | 447.220 | 6.006 | 2.040 |
| 5 0.417 | 559.025 | 1.564 | 0.531 |
| 6 0.500 | 670.830 | 0.756 | 0.257 |
| 7 0.583 | 782.635 | 0.274 | 0.093 |
| | | Sum = 100.000 | Sum= 33.963 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.038 | ( 0.153) | 0.034 | 0.004 |
| 2 | 0.17 | 0.07 | 0.038 | ( 0.153) | 0.034 | 0.004 |
| 3 | 0.25 | 0.07 | 0.038 | ( 0.152) | 0.034 | 0.004 |
| 4 | 0.33 | 0.10 | 0.057 | ( 0.152) | 0.051 | 0.006 |
| 5 | 0.42 | 0.10 | 0.057 | ( 0.151) | 0.051 | 0.006 |
| 6 | 0.50 | 0.10 | 0.057 | ( 0.150) | 0.051 | 0.006 |
| 7 | 0.58 | 0.10 | 0.057 | ( 0.150) | 0.051 | 0.006 |
| 8 | 0.67 | 0.10 | 0.057 | ( 0.149) | 0.051 | 0.006 |
| 9 | 0.75 | 0.10 | 0.057 | ( 0.149) | 0.051 | 0.006 |
| 10 | 0.83 | 0.13 | 0.076 | ( 0.148) | 0.068 | 0.008 |
| 11 | 0.92 | 0.13 | 0.076 | ( 0.147) | 0.068 | 0.008 |
| 12 | 1.00 | 0.13 | 0.076 | ( 0.147) | 0.068 | 0.008 |
| 13 | 1.08 | 0.10 | 0.057 | ( 0.146) | 0.051 | 0.006 |
| 14 | 1.17 | 0.10 | 0.057 | ( 0.146) | 0.051 | 0.006 |
| 15 | 1.25 | 0.10 | 0.057 | ( 0.145) | 0.051 | 0.006 |
| 16 | 1.33 | 0.10 | 0.057 | ( 0.145) | 0.051 | 0.006 |
| 17 | 1.42 | 0.10 | 0.057 | ( 0.144) | 0.051 | 0.006 |
| 18 | 1.50 | 0.10 | 0.057 | ( 0.143) | 0.051 | 0.006 |
| 19 | 1.58 | 0.10 | 0.057 | ( 0.143) | 0.051 | 0.006 |
| 20 | 1.67 | 0.10 | 0.057 | ( 0.142) | 0.051 | 0.006 |
| 21 | 1.75 | 0.10 | 0.057 | ( 0.142) | 0.051 | 0.006 |
| 22 | 1.83 | 0.13 | 0.076 | ( 0.141) | 0.068 | 0.008 |
| 23 | 1.92 | 0.13 | 0.076 | ( 0.141) | 0.068 | 0.008 |
| 24 | 2.00 | 0.13 | 0.076 | ( 0.140) | 0.068 | 0.008 |
| 25 | 2.08 | 0.13 | 0.076 | ( 0.139) | 0.068 | 0.008 |
| 26 | 2.17 | 0.13 | 0.076 | ( 0.139) | 0.068 | 0.008 |
| 27 | 2.25 | 0.13 | 0.076 | ( 0.138) | 0.068 | 0.008 |
| 28 | 2.33 | 0.13 | 0.076 | ( 0.138) | 0.068 | 0.008 |
| 29 | 2.42 | 0.13 | 0.076 | ( 0.137) | 0.068 | 0.008 |
| 30 | 2.50 | 0.13 | 0.076 | ( 0.137) | 0.068 | 0.008 |
| 31 | 2.58 | 0.17 | 0.094 | ( 0.136) | 0.085 | 0.009 |
| 32 | 2.67 | 0.17 | 0.094 | ( 0.135) | 0.085 | 0.009 |
| 33 | 2.75 | 0.17 | 0.094 | ( 0.135) | 0.085 | 0.009 |
| 34 | 2.83 | 0.17 | 0.094 | ( 0.134) | 0.085 | 0.009 |
| 35 | 2.92 | 0.17 | 0.094 | ( 0.134) | 0.085 | 0.009 |
| 36 | 3.00 | 0.17 | 0.094 | ( 0.133) | 0.085 | 0.009 |
| 37 | 3.08 | 0.17 | 0.094 | ( 0.133) | 0.085 | 0.009 |
| 38 | 3.17 | 0.17 | 0.094 | ( 0.132) | 0.085 | 0.009 |
| 39 | 3.25 | 0.17 | 0.094 | ( 0.132) | 0.085 | 0.009 |
| 40 | 3.33 | 0.17 | 0.094 | ( 0.131) | 0.085 | 0.009 |
| 41 | 3.42 | 0.17 | 0.094 | ( 0.131) | 0.085 | 0.009 |
| 42 | 3.50 | 0.17 | 0.094 | ( 0.130) | 0.085 | 0.009 |
| 43 | 3.58 | 0.17 | 0.094 | ( 0.129) | 0.085 | 0.009 |
| 44 | 3.67 | 0.17 | 0.094 | ( 0.129) | 0.085 | 0.009 |
| 45 | 3.75 | 0.17 | 0.094 | ( 0.128) | 0.085 | 0.009 |
| 46 | 3.83 | 0.20 | 0.113 | ( 0.128) | 0.102 | 0.011 |
| 47 | 3.92 | 0.20 | 0.113 | ( 0.127) | 0.102 | 0.011 |
| 48 | 4.00 | 0.20 | 0.113 | ( 0.127) | 0.102 | 0.011 |
| 49 | 4.08 | 0.20 | 0.113 | ( 0.126) | 0.102 | 0.011 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 50 | 4.17 | 0.20 | 0.113 | ( | 0.126) | 0.102 | | 0.011 |
| 51 | 4.25 | 0.20 | 0.113 | ( | 0.125) | 0.102 | | 0.011 |
| 52 | 4.33 | 0.23 | 0.132 | ( | 0.125) | 0.119 | | 0.013 |
| 53 | 4.42 | 0.23 | 0.132 | ( | 0.124) | 0.119 | | 0.013 |
| 54 | 4.50 | 0.23 | 0.132 | ( | 0.124) | 0.119 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.132 | ( | 0.123) | 0.119 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.132 | ( | 0.122) | 0.119 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.132 | ( | 0.122) | 0.119 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.151 | | 0.121 | ( | 0.136) | 0.030 |
| 59 | 4.92 | 0.27 | 0.151 | | 0.121 | ( | 0.136) | 0.030 |
| 60 | 5.00 | 0.27 | 0.151 | | 0.120 | ( | 0.136) | 0.031 |
| 61 | 5.08 | 0.20 | 0.113 | ( | 0.120) | 0.102 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.113 | ( | 0.119) | 0.102 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.113 | ( | 0.119) | 0.102 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.132 | | 0.118 | ( | 0.119) | 0.014 |
| 65 | 5.42 | 0.23 | 0.132 | | 0.118 | ( | 0.119) | 0.014 |
| 66 | 5.50 | 0.23 | 0.132 | | 0.117 | ( | 0.119) | 0.015 |
| 67 | 5.58 | 0.27 | 0.151 | | 0.117 | ( | 0.136) | 0.034 |
| 68 | 5.67 | 0.27 | 0.151 | | 0.116 | ( | 0.136) | 0.035 |
| 69 | 5.75 | 0.27 | 0.151 | | 0.116 | ( | 0.136) | 0.035 |
| 70 | 5.83 | 0.27 | 0.151 | | 0.115 | ( | 0.136) | 0.036 |
| 71 | 5.92 | 0.27 | 0.151 | | 0.115 | ( | 0.136) | 0.036 |
| 72 | 6.00 | 0.27 | 0.151 | | 0.114 | ( | 0.136) | 0.037 |
| 73 | 6.08 | 0.30 | 0.170 | | 0.114 | ( | 0.153) | 0.056 |
| 74 | 6.17 | 0.30 | 0.170 | | 0.113 | ( | 0.153) | 0.057 |
| 75 | 6.25 | 0.30 | 0.170 | | 0.113 | ( | 0.153) | 0.057 |
| 76 | 6.33 | 0.30 | 0.170 | | 0.112 | ( | 0.153) | 0.058 |
| 77 | 6.42 | 0.30 | 0.170 | | 0.112 | ( | 0.153) | 0.058 |
| 78 | 6.50 | 0.30 | 0.170 | | 0.111 | ( | 0.153) | 0.059 |
| 79 | 6.58 | 0.33 | 0.189 | | 0.111 | ( | 0.170) | 0.078 |
| 80 | 6.67 | 0.33 | 0.189 | | 0.110 | ( | 0.170) | 0.079 |
| 81 | 6.75 | 0.33 | 0.189 | | 0.110 | ( | 0.170) | 0.079 |
| 82 | 6.83 | 0.33 | 0.189 | | 0.109 | ( | 0.170) | 0.080 |
| 83 | 6.92 | 0.33 | 0.189 | | 0.109 | ( | 0.170) | 0.080 |
| 84 | 7.00 | 0.33 | 0.189 | | 0.108 | ( | 0.170) | 0.081 |
| 85 | 7.08 | 0.33 | 0.189 | | 0.108 | ( | 0.170) | 0.081 |
| 86 | 7.17 | 0.33 | 0.189 | | 0.107 | ( | 0.170) | 0.082 |
| 87 | 7.25 | 0.33 | 0.189 | | 0.107 | ( | 0.170) | 0.082 |
| 88 | 7.33 | 0.37 | 0.208 | | 0.106 | ( | 0.187) | 0.101 |
| 89 | 7.42 | 0.37 | 0.208 | | 0.106 | ( | 0.187) | 0.102 |
| 90 | 7.50 | 0.37 | 0.208 | | 0.105 | ( | 0.187) | 0.102 |
| 91 | 7.58 | 0.40 | 0.227 | | 0.105 | ( | 0.204) | 0.122 |
| 92 | 7.67 | 0.40 | 0.227 | | 0.104 | ( | 0.204) | 0.122 |
| 93 | 7.75 | 0.40 | 0.227 | | 0.104 | ( | 0.204) | 0.123 |
| 94 | 7.83 | 0.43 | 0.245 | | 0.103 | ( | 0.221) | 0.142 |
| 95 | 7.92 | 0.43 | 0.245 | | 0.103 | ( | 0.221) | 0.143 |
| 96 | 8.00 | 0.43 | 0.245 | | 0.102 | ( | 0.221) | 0.143 |
| 97 | 8.08 | 0.50 | 0.283 | | 0.102 | ( | 0.255) | 0.181 |
| 98 | 8.17 | 0.50 | 0.283 | | 0.101 | ( | 0.255) | 0.182 |
| 99 | 8.25 | 0.50 | 0.283 | | 0.101 | ( | 0.255) | 0.182 |
| 100 | 8.33 | 0.50 | 0.283 | | 0.100 | ( | 0.255) | 0.183 |
| 101 | 8.42 | 0.50 | 0.283 | | 0.100 | ( | 0.255) | 0.183 |
| 102 | 8.50 | 0.50 | 0.283 | | 0.100 | ( | 0.255) | 0.184 |
| 103 | 8.58 | 0.53 | 0.302 | | 0.099 | ( | 0.272) | 0.203 |
| 104 | 8.67 | 0.53 | 0.302 | | 0.099 | ( | 0.272) | 0.203 |
| 105 | 8.75 | 0.53 | 0.302 | | 0.098 | ( | 0.272) | 0.204 |
| 106 | 8.83 | 0.57 | 0.321 | | 0.098 | ( | 0.289) | 0.223 |
| 107 | 8.92 | 0.57 | 0.321 | | 0.097 | ( | 0.289) | 0.224 |
| 108 | 9.00 | 0.57 | 0.321 | | 0.097 | ( | 0.289) | 0.224 |
| 109 | 9.08 | 0.63 | 0.359 | | 0.096 | ( | 0.323) | 0.262 |
| 110 | 9.17 | 0.63 | 0.359 | | 0.096 | ( | 0.323) | 0.263 |
| 111 | 9.25 | 0.63 | 0.359 | | 0.095 | ( | 0.323) | 0.263 |
| 112 | 9.33 | 0.67 | 0.378 | | 0.095 | ( | 0.340) | 0.283 |
| 113 | 9.42 | 0.67 | 0.378 | | 0.094 | ( | 0.340) | 0.283 |
| 114 | 9.50 | 0.67 | 0.378 | | 0.094 | ( | 0.340) | 0.284 |
| 115 | 9.58 | 0.70 | 0.396 | | 0.094 | ( | 0.357) | 0.303 |
| 116 | 9.67 | 0.70 | 0.396 | | 0.093 | ( | 0.357) | 0.303 |
| 117 | 9.75 | 0.70 | 0.396 | | 0.093 | ( | 0.357) | 0.304 |
| 118 | 9.83 | 0.73 | 0.415 | | 0.092 | ( | 0.374) | 0.323 |
| 119 | 9.92 | 0.73 | 0.415 | | 0.092 | ( | 0.374) | 0.324 |
| 120 | 10.00 | 0.73 | 0.415 | | 0.091 | ( | 0.374) | 0.324 |
| 121 | 10.08 | 0.50 | 0.283 | | 0.091 | ( | 0.255) | 0.192 |
| 122 | 10.17 | 0.50 | 0.283 | | 0.090 | ( | 0.255) | 0.193 |
| 123 | 10.25 | 0.50 | 0.283 | | 0.090 | ( | 0.255) | 0.193 |
| 124 | 10.33 | 0.50 | 0.283 | | 0.090 | ( | 0.255) | 0.194 |
| 125 | 10.42 | 0.50 | 0.283 | | 0.089 | ( | 0.255) | 0.194 |
| 126 | 10.50 | 0.50 | 0.283 | | 0.089 | ( | 0.255) | 0.194 |
| 127 | 10.58 | 0.67 | 0.378 | | 0.088 | ( | 0.340) | 0.289 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 128 | 10.67 | 0.67 | 0.378 | 0.088 | ( 0.340) | 0.290 |
| 129 | 10.75 | 0.67 | 0.378 | 0.087 | ( 0.340) | 0.290 |
| 130 | 10.83 | 0.67 | 0.378 | 0.087 | ( 0.340) | 0.291 |
| 131 | 10.92 | 0.67 | 0.378 | 0.087 | ( 0.340) | 0.291 |
| 132 | 11.00 | 0.67 | 0.378 | 0.086 | ( 0.340) | 0.291 |
| 133 | 11.08 | 0.63 | 0.359 | 0.086 | ( 0.323) | 0.273 |
| 134 | 11.17 | 0.63 | 0.359 | 0.085 | ( 0.323) | 0.273 |
| 135 | 11.25 | 0.63 | 0.359 | 0.085 | ( 0.323) | 0.274 |
| 136 | 11.33 | 0.63 | 0.359 | 0.084 | ( 0.323) | 0.274 |
| 137 | 11.42 | 0.63 | 0.359 | 0.084 | ( 0.323) | 0.275 |
| 138 | 11.50 | 0.63 | 0.359 | 0.084 | ( 0.323) | 0.275 |
| 139 | 11.58 | 0.57 | 0.321 | 0.083 | ( 0.289) | 0.238 |
| 140 | 11.67 | 0.57 | 0.321 | 0.083 | ( 0.289) | 0.238 |
| 141 | 11.75 | 0.57 | 0.321 | 0.082 | ( 0.289) | 0.239 |
| 142 | 11.83 | 0.60 | 0.340 | 0.082 | ( 0.306) | 0.258 |
| 143 | 11.92 | 0.60 | 0.340 | 0.082 | ( 0.306) | 0.258 |
| 144 | 12.00 | 0.60 | 0.340 | 0.081 | ( 0.306) | 0.259 |
| 145 | 12.08 | 0.83 | 0.472 | 0.081 | ( 0.425) | 0.391 |
| 146 | 12.17 | 0.83 | 0.472 | 0.080 | ( 0.425) | 0.392 |
| 147 | 12.25 | 0.83 | 0.472 | 0.080 | ( 0.425) | 0.392 |
| 148 | 12.33 | 0.87 | 0.491 | 0.080 | ( 0.442) | 0.411 |
| 149 | 12.42 | 0.87 | 0.491 | 0.079 | ( 0.442) | 0.412 |
| 150 | 12.50 | 0.87 | 0.491 | 0.079 | ( 0.442) | 0.412 |
| 151 | 12.58 | 0.93 | 0.529 | 0.078 | ( 0.476) | 0.450 |
| 152 | 12.67 | 0.93 | 0.529 | 0.078 | ( 0.476) | 0.451 |
| 153 | 12.75 | 0.93 | 0.529 | 0.078 | ( 0.476) | 0.451 |
| 154 | 12.83 | 0.97 | 0.547 | 0.077 | ( 0.493) | 0.470 |
| 155 | 12.92 | 0.97 | 0.547 | 0.077 | ( 0.493) | 0.471 |
| 156 | 13.00 | 0.97 | 0.547 | 0.076 | ( 0.493) | 0.471 |
| 157 | 13.08 | 1.13 | 0.642 | 0.076 | ( 0.578) | 0.566 |
| 158 | 13.17 | 1.13 | 0.642 | 0.076 | ( 0.578) | 0.566 |
| 159 | 13.25 | 1.13 | 0.642 | 0.075 | ( 0.578) | 0.567 |
| 160 | 13.33 | 1.13 | 0.642 | 0.075 | ( 0.578) | 0.567 |
| 161 | 13.42 | 1.13 | 0.642 | 0.074 | ( 0.578) | 0.567 |
| 162 | 13.50 | 1.13 | 0.642 | 0.074 | ( 0.578) | 0.568 |
| 163 | 13.58 | 0.77 | 0.434 | 0.074 | ( 0.391) | 0.360 |
| 164 | 13.67 | 0.77 | 0.434 | 0.073 | ( 0.391) | 0.361 |
| 165 | 13.75 | 0.77 | 0.434 | 0.073 | ( 0.391) | 0.361 |
| 166 | 13.83 | 0.77 | 0.434 | 0.073 | ( 0.391) | 0.362 |
| 167 | 13.92 | 0.77 | 0.434 | 0.072 | ( 0.391) | 0.362 |
| 168 | 14.00 | 0.77 | 0.434 | 0.072 | ( 0.391) | 0.362 |
| 169 | 14.08 | 0.90 | 0.510 | 0.071 | ( 0.459) | 0.438 |
| 170 | 14.17 | 0.90 | 0.510 | 0.071 | ( 0.459) | 0.439 |
| 171 | 14.25 | 0.90 | 0.510 | 0.071 | ( 0.459) | 0.439 |
| 172 | 14.33 | 0.87 | 0.491 | 0.070 | ( 0.442) | 0.420 |
| 173 | 14.42 | 0.87 | 0.491 | 0.070 | ( 0.442) | 0.421 |
| 174 | 14.50 | 0.87 | 0.491 | 0.070 | ( 0.442) | 0.421 |
| 175 | 14.58 | 0.87 | 0.491 | 0.069 | ( 0.442) | 0.422 |
| 176 | 14.67 | 0.87 | 0.491 | 0.069 | ( 0.442) | 0.422 |
| 177 | 14.75 | 0.87 | 0.491 | 0.069 | ( 0.442) | 0.422 |
| 178 | 14.83 | 0.83 | 0.472 | 0.068 | ( 0.425) | 0.404 |
| 179 | 14.92 | 0.83 | 0.472 | 0.068 | ( 0.425) | 0.404 |
| 180 | 15.00 | 0.83 | 0.472 | 0.068 | ( 0.425) | 0.404 |
| 181 | 15.08 | 0.80 | 0.453 | 0.067 | ( 0.408) | 0.386 |
| 182 | 15.17 | 0.80 | 0.453 | 0.067 | ( 0.408) | 0.386 |
| 183 | 15.25 | 0.80 | 0.453 | 0.067 | ( 0.408) | 0.387 |
| 184 | 15.33 | 0.77 | 0.434 | 0.066 | ( 0.391) | 0.368 |
| 185 | 15.42 | 0.77 | 0.434 | 0.066 | ( 0.391) | 0.368 |
| 186 | 15.50 | 0.77 | 0.434 | 0.066 | ( 0.391) | 0.369 |
| 187 | 15.58 | 0.63 | 0.359 | 0.065 | ( 0.323) | 0.294 |
| 188 | 15.67 | 0.63 | 0.359 | 0.065 | ( 0.323) | 0.294 |
| 189 | 15.75 | 0.63 | 0.359 | 0.065 | ( 0.323) | 0.294 |
| 190 | 15.83 | 0.63 | 0.359 | 0.064 | ( 0.323) | 0.295 |
| 191 | 15.92 | 0.63 | 0.359 | 0.064 | ( 0.323) | 0.295 |
| 192 | 16.00 | 0.63 | 0.359 | 0.064 | ( 0.323) | 0.295 |
| 193 | 16.08 | 0.13 | 0.076 | 0.063 | ( 0.068) | 0.012 |
| 194 | 16.17 | 0.13 | 0.076 | 0.063 | ( 0.068) | 0.013 |
| 195 | 16.25 | 0.13 | 0.076 | 0.063 | ( 0.068) | 0.013 |
| 196 | 16.33 | 0.13 | 0.076 | 0.062 | ( 0.068) | 0.013 |
| 197 | 16.42 | 0.13 | 0.076 | 0.062 | ( 0.068) | 0.014 |
| 198 | 16.50 | 0.13 | 0.076 | 0.062 | ( 0.068) | 0.014 |
| 199 | 16.58 | 0.10 | 0.057 | ( 0.061) | 0.051 | 0.006 |
| 200 | 16.67 | 0.10 | 0.057 | ( 0.061) | 0.051 | 0.006 |
| 201 | 16.75 | 0.10 | 0.057 | ( 0.061) | 0.051 | 0.006 |
| 202 | 16.83 | 0.10 | 0.057 | ( 0.060) | 0.051 | 0.006 |
| 203 | 16.92 | 0.10 | 0.057 | ( 0.060) | 0.051 | 0.006 |
| 204 | 17.00 | 0.10 | 0.057 | ( 0.060) | 0.051 | 0.006 |
| 205 | 17.08 | 0.17 | 0.094 | 0.059 | ( 0.085) | 0.035 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 206 | 17.17 | 0.17 | 0.094 | 0.059 | ( 0.085) | 0.035 |
| 207 | 17.25 | 0.17 | 0.094 | 0.059 | ( 0.085) | 0.036 |
| 208 | 17.33 | 0.17 | 0.094 | 0.059 | ( 0.085) | 0.036 |
| 209 | 17.42 | 0.17 | 0.094 | 0.058 | ( 0.085) | 0.036 |
| 210 | 17.50 | 0.17 | 0.094 | 0.058 | ( 0.085) | 0.036 |
| 211 | 17.58 | 0.17 | 0.094 | 0.058 | ( 0.085) | 0.037 |
| 212 | 17.67 | 0.17 | 0.094 | 0.057 | ( 0.085) | 0.037 |
| 213 | 17.75 | 0.17 | 0.094 | 0.057 | ( 0.085) | 0.037 |
| 214 | 17.83 | 0.13 | 0.076 | 0.057 | ( 0.068) | 0.019 |
| 215 | 17.92 | 0.13 | 0.076 | 0.057 | ( 0.068) | 0.019 |
| 216 | 18.00 | 0.13 | 0.076 | 0.056 | ( 0.068) | 0.019 |
| 217 | 18.08 | 0.13 | 0.076 | 0.056 | ( 0.068) | 0.020 |
| 218 | 18.17 | 0.13 | 0.076 | 0.056 | ( 0.068) | 0.020 |
| 219 | 18.25 | 0.13 | 0.076 | 0.055 | ( 0.068) | 0.020 |
| 220 | 18.33 | 0.13 | 0.076 | 0.055 | ( 0.068) | 0.020 |
| 221 | 18.42 | 0.13 | 0.076 | 0.055 | ( 0.068) | 0.021 |
| 222 | 18.50 | 0.13 | 0.076 | 0.055 | ( 0.068) | 0.021 |
| 223 | 18.58 | 0.10 | 0.057 | ( 0.054) | 0.051 | 0.006 |
| 224 | 18.67 | 0.10 | 0.057 | ( 0.054) | 0.051 | 0.006 |
| 225 | 18.75 | 0.10 | 0.057 | ( 0.054) | 0.051 | 0.006 |
| 226 | 18.83 | 0.07 | 0.038 | ( 0.054) | 0.034 | 0.004 |
| 227 | 18.92 | 0.07 | 0.038 | ( 0.053) | 0.034 | 0.004 |
| 228 | 19.00 | 0.07 | 0.038 | ( 0.053) | 0.034 | 0.004 |
| 229 | 19.08 | 0.10 | 0.057 | ( 0.053) | 0.051 | 0.006 |
| 230 | 19.17 | 0.10 | 0.057 | ( 0.053) | 0.051 | 0.006 |
| 231 | 19.25 | 0.10 | 0.057 | ( 0.052) | 0.051 | 0.006 |
| 232 | 19.33 | 0.13 | 0.076 | 0.052 | ( 0.068) | 0.023 |
| 233 | 19.42 | 0.13 | 0.076 | 0.052 | ( 0.068) | 0.024 |
| 234 | 19.50 | 0.13 | 0.076 | 0.052 | ( 0.068) | 0.024 |
| 235 | 19.58 | 0.10 | 0.057 | ( 0.051) | 0.051 | 0.006 |
| 236 | 19.67 | 0.10 | 0.057 | ( 0.051) | 0.051 | 0.006 |
| 237 | 19.75 | 0.10 | 0.057 | 0.051 | ( 0.051) | 0.006 |
| 238 | 19.83 | 0.07 | 0.038 | ( 0.051) | 0.034 | 0.004 |
| 239 | 19.92 | 0.07 | 0.038 | ( 0.050) | 0.034 | 0.004 |
| 240 | 20.00 | 0.07 | 0.038 | ( 0.050) | 0.034 | 0.004 |
| 241 | 20.08 | 0.10 | 0.057 | 0.050 | ( 0.051) | 0.007 |
| 242 | 20.17 | 0.10 | 0.057 | 0.050 | ( 0.051) | 0.007 |
| 243 | 20.25 | 0.10 | 0.057 | 0.050 | ( 0.051) | 0.007 |
| 244 | 20.33 | 0.10 | 0.057 | 0.049 | ( 0.051) | 0.007 |
| 245 | 20.42 | 0.10 | 0.057 | 0.049 | ( 0.051) | 0.007 |
| 246 | 20.50 | 0.10 | 0.057 | 0.049 | ( 0.051) | 0.008 |
| 247 | 20.58 | 0.10 | 0.057 | 0.049 | ( 0.051) | 0.008 |
| 248 | 20.67 | 0.10 | 0.057 | 0.049 | ( 0.051) | 0.008 |
| 249 | 20.75 | 0.10 | 0.057 | 0.048 | ( 0.051) | 0.008 |
| 250 | 20.83 | 0.07 | 0.038 | ( 0.048) | 0.034 | 0.004 |
| 251 | 20.92 | 0.07 | 0.038 | ( 0.048) | 0.034 | 0.004 |
| 252 | 21.00 | 0.07 | 0.038 | ( 0.048) | 0.034 | 0.004 |
| 253 | 21.08 | 0.10 | 0.057 | 0.048 | ( 0.051) | 0.009 |
| 254 | 21.17 | 0.10 | 0.057 | 0.047 | ( 0.051) | 0.009 |
| 255 | 21.25 | 0.10 | 0.057 | 0.047 | ( 0.051) | 0.009 |
| 256 | 21.33 | 0.07 | 0.038 | ( 0.047) | 0.034 | 0.004 |
| 257 | 21.42 | 0.07 | 0.038 | ( 0.047) | 0.034 | 0.004 |
| 258 | 21.50 | 0.07 | 0.038 | ( 0.047) | 0.034 | 0.004 |
| 259 | 21.58 | 0.10 | 0.057 | 0.046 | ( 0.051) | 0.010 |
| 260 | 21.67 | 0.10 | 0.057 | 0.046 | ( 0.051) | 0.010 |
| 261 | 21.75 | 0.10 | 0.057 | 0.046 | ( 0.051) | 0.010 |
| 262 | 21.83 | 0.07 | 0.038 | ( 0.046) | 0.034 | 0.004 |
| 263 | 21.92 | 0.07 | 0.038 | ( 0.046) | 0.034 | 0.004 |
| 264 | 22.00 | 0.07 | 0.038 | ( 0.046) | 0.034 | 0.004 |
| 265 | 22.08 | 0.10 | 0.057 | 0.046 | ( 0.051) | 0.011 |
| 266 | 22.17 | 0.10 | 0.057 | 0.045 | ( 0.051) | 0.011 |
| 267 | 22.25 | 0.10 | 0.057 | 0.045 | ( 0.051) | 0.011 |
| 268 | 22.33 | 0.07 | 0.038 | ( 0.045) | 0.034 | 0.004 |
| 269 | 22.42 | 0.07 | 0.038 | ( 0.045) | 0.034 | 0.004 |
| 270 | 22.50 | 0.07 | 0.038 | ( 0.045) | 0.034 | 0.004 |
| 271 | 22.58 | 0.07 | 0.038 | ( 0.045) | 0.034 | 0.004 |
| 272 | 22.67 | 0.07 | 0.038 | ( 0.045) | 0.034 | 0.004 |
| 273 | 22.75 | 0.07 | 0.038 | ( 0.044) | 0.034 | 0.004 |
| 274 | 22.83 | 0.07 | 0.038 | ( 0.044) | 0.034 | 0.004 |
| 275 | 22.92 | 0.07 | 0.038 | ( 0.044) | 0.034 | 0.004 |
| 276 | 23.00 | 0.07 | 0.038 | ( 0.044) | 0.034 | 0.004 |
| 277 | 23.08 | 0.07 | 0.038 | ( 0.044) | 0.034 | 0.004 |
| 278 | 23.17 | 0.07 | 0.038 | ( 0.044) | 0.034 | 0.004 |
| 279 | 23.25 | 0.07 | 0.038 | ( 0.044) | 0.034 | 0.004 |
| 280 | 23.33 | 0.07 | 0.038 | ( 0.044) | 0.034 | 0.004 |
| 281 | 23.42 | 0.07 | 0.038 | ( 0.044) | 0.034 | 0.004 |
| 282 | 23.50 | 0.07 | 0.038 | ( 0.044) | 0.034 | 0.004 |
| 283 | 23.58 | 0.07 | 0.038 | ( 0.043) | 0.034 | 0.004 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 284 | 23.67 | 0.07 | 0.038 | ( | 0.043) | 0.034 | 0.004 |
| 285 | 23.75 | 0.07 | 0.038 | ( | 0.043) | 0.034 | 0.004 |
| 286 | 23.83 | 0.07 | 0.038 | ( | 0.043) | 0.034 | 0.004 |
| 287 | 23.92 | 0.07 | 0.038 | ( | 0.043) | 0.034 | 0.004 |
| 288 | 24.00 | 0.07 | 0.038 | ( | 0.043) | 0.034 | 0.004 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 35.8

Flood volume = Effective rainfall 2.98(In)
times area 33.7(Ac.)/[(In)/(Ft.)] = 8.4(Ac.Ft)
Total soil loss = 1.73(In)
Total soil loss = 4.872(Ac.Ft)
Total rainfall = 4.72(In)
Flood volume = 365127.0 Cubic Feet
Total soil loss = 212237.3 Cubic Feet

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Peak flow rate of this hydrograph = 19.270(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

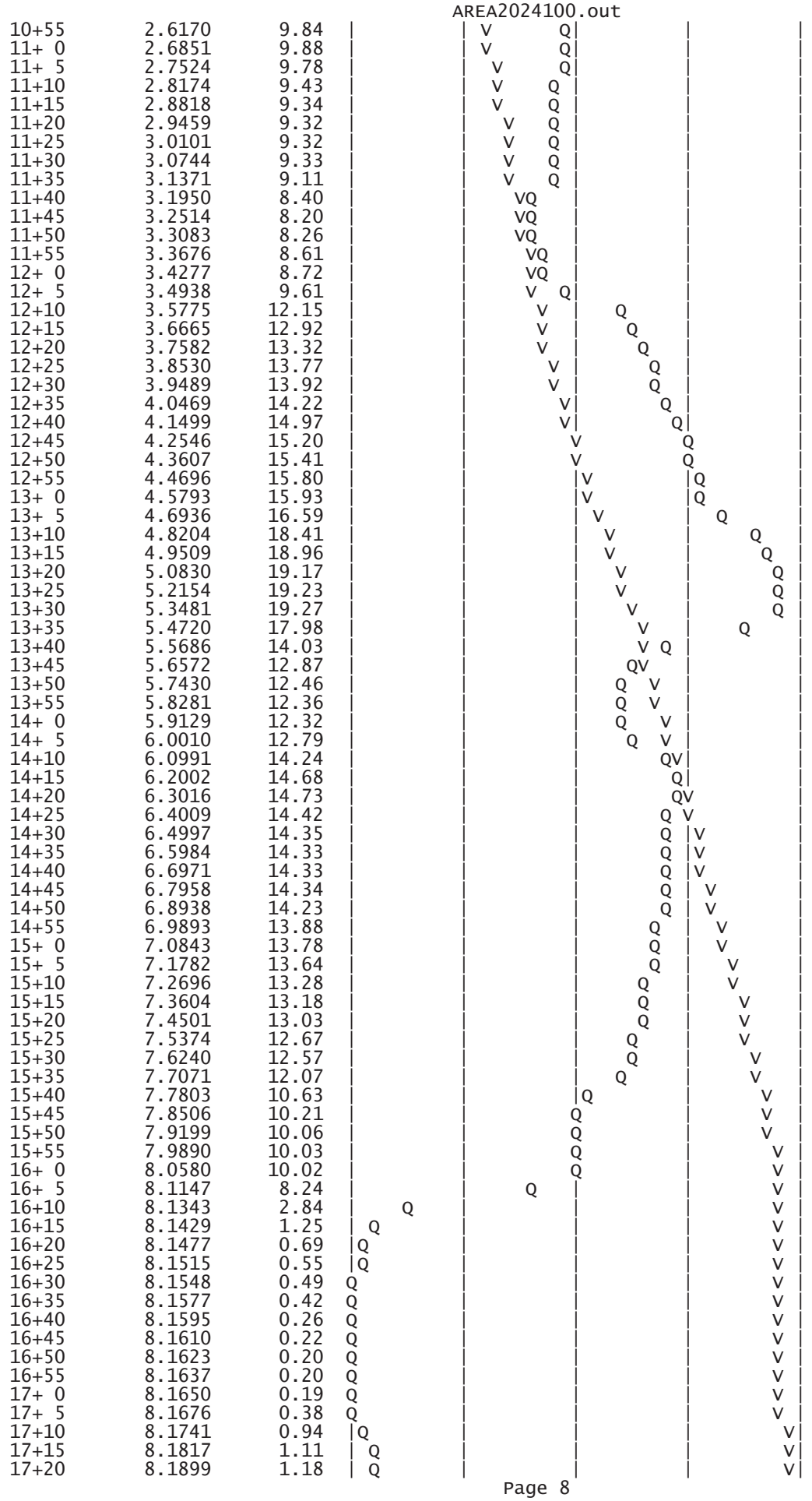
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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 5.0 | 10.0 | 15.0 | 20.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0002 | 0.02 | Q | | | | |
| 0+10 | 0.0008 | 0.10 | Q | | | | |
| 0+15 | 0.0016 | 0.12 | Q | | | | |
| 0+20 | 0.0026 | 0.14 | Q | | | | |
| 0+25 | 0.0038 | 0.17 | Q | | | | |
| 0+30 | 0.0051 | 0.19 | Q | | | | |
| 0+35 | 0.0064 | 0.19 | Q | | | | |
| 0+40 | 0.0077 | 0.19 | Q | | | | |
| 0+45 | 0.0090 | 0.19 | Q | | | | |
| 0+50 | 0.0104 | 0.20 | Q | | | | |
| 0+55 | 0.0121 | 0.24 | Q | | | | |
| 1+ 0 | 0.0138 | 0.25 | Q | | | | |
| 1+ 5 | 0.0155 | 0.24 | Q | | | | |
| 1+10 | 0.0169 | 0.21 | Q | | | | |
| 1+15 | 0.0183 | 0.20 | Q | | | | |
| 1+20 | 0.0196 | 0.19 | Q | | | | |
| 1+25 | 0.0210 | 0.19 | Q | | | | |
| 1+30 | 0.0223 | 0.19 | Q | | | | |
| 1+35 | 0.0236 | 0.19 | Q | | | | |
| 1+40 | 0.0249 | 0.19 | Q | | | | |
| 1+45 | 0.0263 | 0.19 | Q | | | | |
| 1+50 | 0.0277 | 0.20 | Q | | | | |
| 1+55 | 0.0293 | 0.24 | Q | | | | |
| 2+ 0 | 0.0310 | 0.25 | Q | | | | |
| 2+ 5 | 0.0328 | 0.25 | Q | | | | |
| 2+10 | 0.0346 | 0.26 | Q | | | | |
| 2+15 | 0.0363 | 0.26 | Q | | | | |
| 2+20 | 0.0381 | 0.26 | Q | | | | |
| 2+25 | 0.0399 | 0.26 | Q | | | | |
| 2+30 | 0.0416 | 0.26 | Q | | | | |
| 2+35 | 0.0435 | 0.27 | Q | | | | |
| 2+40 | 0.0456 | 0.30 | Q | | | | |
| 2+45 | 0.0478 | 0.32 | Q | | | | |
| 2+50 | 0.0500 | 0.32 | Q | | | | |
| 2+55 | 0.0522 | 0.32 | Q | | | | |
| 3+ 0 | 0.0544 | 0.32 | Q | | | | |
| 3+ 5 | 0.0566 | 0.32 | Q | | | | |
| 3+10 | 0.0588 | 0.32 | Q | | | | |
| 3+15 | 0.0610 | 0.32 | Q | | | | |
| 3+20 | 0.0632 | 0.32 | Q | | | | |
| 3+25 | 0.0654 | 0.32 | Q | | | | |
| 3+30 | 0.0676 | 0.32 | Q | | | | |
| 3+35 | 0.0698 | 0.32 | Q | | | | |
| 3+40 | 0.0720 | 0.32 | Q | | | | |
| 3+45 | 0.0742 | 0.32 | Q | | | | |
| 3+50 | 0.0765 | 0.33 | Q | | | | |
| 3+55 | 0.0791 | 0.37 | Q | | | | |
| 4+ 0 | 0.0817 | 0.38 | Q | | | | |
| 4+ 5 | 0.0843 | 0.38 | Q | | | | |
| 4+10 | 0.0870 | 0.38 | Q | | | | |
| 4+15 | 0.0896 | 0.38 | Q | | | | |
| 4+20 | 0.0924 | 0.40 | Q | | | | |

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 4+25       0.0953      0.43  Q          |          |          |          |
 4+30       0.0984      0.44  Q          |          |          |          |
 4+35       0.1015      0.45  Q          |          |          |          |
 4+40       0.1046      0.45  Q          |          |          |          |
 4+45       0.1077      0.45  Q          |          |          |          |
 4+50       0.1115      0.55  VQ         |          |          |          |
 4+55       0.1174      0.87  VQ         |          |          |          |
 5+ 0       0.1242      0.98  VQ         |          |          |          |
 5+ 5       0.1304      0.90  VQ         |          |          |          |
 5+10       0.1341      0.54  VQ         |          |          |          |
 5+15       0.1371      0.44  Q          |          |          |          |
 5+20       0.1400      0.42  Q          |          |          |          |
 5+25       0.1432      0.46  Q          |          |          |          |
 5+30       0.1465      0.48  Q          |          |          |          |
 5+35       0.1508      0.62  VQ         |          |          |          |
 5+40       0.1576      1.00  VQ         |          |          |          |
 5+45       0.1654      1.12  V Q        |          |          |          |
 5+50       0.1735      1.18  V Q        |          |          |          |
 5+55       0.1818      1.21  V Q        |          |          |          |
 6+ 0       0.1903      1.23  V Q        |          |          |          |
 6+ 5       0.1997      1.37  V Q        |          |          |          |
 6+10       0.2117      1.75  |V Q       |          |          |          |
 6+15       0.2246      1.87  |V Q       |          |          |          |
 6+20       0.2379      1.93  |V Q       |          |          |          |
 6+25       0.2513      1.95  |V Q       |          |          |          |
 6+30       0.2649      1.97  |V Q       |          |          |          |
 6+35       0.2795      2.11  |V  Q      |          |          |          |
 6+40       0.2966      2.49  |V  Q      |          |          |          |
 6+45       0.3146      2.61  |V   Q     |          |          |          |
 6+50       0.3330      2.67  |V   Q     |          |          |          |
 6+55       0.3516      2.70  |V   Q     |          |          |          |
 7+ 0       0.3703      2.72  |V   Q     |          |          |          |
 7+ 5       0.3891      2.74  |V   Q     |          |          |          |
 7+10       0.4081      2.75  |V   Q     |          |          |          |
 7+15       0.4271      2.77  | V  Q     |          |          |          |
 7+20       0.4472      2.91  | V  Q     |          |          |          |
 7+25       0.4698      3.28  | V   Q    |          |          |          |
 7+30       0.4932      3.41  | V   Q    |          |          |          |
 7+35       0.5179      3.58  | V    Q   |          |          |          |
 7+40       0.5452      3.97  | V    Q   |          |          |          |
 7+45       0.5734      4.09  | V     Q  |          |          |          |
 7+50       0.6028      4.27  | V     Q  |          |          |          |
 7+55       0.6349      4.66  |  V     Q |          |          |          |
 8+ 0       0.6678      4.78  |  V     Q|          |          |          |
 8+ 5       0.7028      5.08  |  V      Q          |          |          |
 8+10       0.7429      5.83  |  V      |Q         |          |          |
 8+15       0.7847      6.06  |  V      | Q        |          |          |
 8+20       0.8271      6.16  |  V      | Q        |          |          |
 8+25       0.8697      6.19  |   V     | Q        |          |          |
 8+30       0.9125      6.22  |   V     | Q        |          |          |
 8+35       0.9563      6.36  |   V     | Q        |          |          |
 8+40       1.0027      6.73  |   V     |  Q       |          |          |
 8+45       1.0499      6.86  |    V    |  Q       |          |          |
 8+50       1.0983      7.03  |    V    |   Q      |          |          |
 8+55       1.1494      7.42  |    V    |   Q      |          |          |
 9+ 0       1.2013      7.54  |    V    |    Q     |          |          |
 9+ 5       1.2553      7.84  |    V    |    Q     |          |          |
 9+10       1.3144      8.58  |     V   |      Q   |          |          |
 9+15       1.3751      8.82  |     V   |      Q   |          |          |
 9+20       1.4373      9.03  |     V   |       Q  |          |          |
 9+25       1.5022      9.43  |      V  |       Q  |          |          |
 9+30       1.5681      9.56  |      V  |        Q|          |          |
 9+35       1.6351      9.73  |      V  |        Q|          |          |
 9+40       1.7048     10.12  |       V |         Q          |          |
 9+45       1.7754     10.25  |       V |         Q          |          |
 9+50       1.8472     10.42  |       V |         Q          |          |
 9+55       1.9216     10.81  |        V|         |Q         |          |
10+ 0       1.9969     10.93  |        V|         |Q         |          |
10+ 5       2.0669     10.15  |        V|         Q          |          |
10+10       2.1196      7.66  |         V    Q     |         |          |
10+15       2.1673      6.93  |         V  Q       |         |          |
10+20       2.2133      6.68  |         V  Q       |         |          |
10+25       2.2589      6.62  |         V  Q       |         |          |
10+30       2.3044      6.60  |         V  Q       |         |          |
10+35       2.3540      7.20  |         |V  Q      |         |          |
10+40       2.4161      9.02  |         |V      Q  |         |          |
10+45       2.4820      9.57  |         |V       Q|         |          |
10+50       2.5493      9.77  |         | V      Q|         |          |
```



| | | | |
|---|---|---|---|
| 10+55 | 2.6170 | 9.84 | |
| 11+ 0 | 2.6851 | 9.88 | |
| 11+ 5 | 2.7524 | 9.78 | |
| 11+10 | 2.8174 | 9.43 | |
| 11+15 | 2.8818 | 9.34 | |
| 11+20 | 2.9459 | 9.32 | |
| 11+25 | 3.0101 | 9.32 | |
| 11+30 | 3.0744 | 9.33 | |
| 11+35 | 3.1371 | 9.11 | |
| 11+40 | 3.1950 | 8.40 | |
| 11+45 | 3.2514 | 8.20 | |
| 11+50 | 3.3083 | 8.26 | |
| 11+55 | 3.3676 | 8.61 | |
| 12+ 0 | 3.4277 | 8.72 | |
| 12+ 5 | 3.4938 | 9.61 | |
| 12+10 | 3.5775 | 12.15 | |
| 12+15 | 3.6665 | 12.92 | |
| 12+20 | 3.7582 | 13.32 | |
| 12+25 | 3.8530 | 13.77 | |
| 12+30 | 3.9489 | 13.92 | |
| 12+35 | 4.0469 | 14.22 | |
| 12+40 | 4.1499 | 14.97 | |
| 12+45 | 4.2546 | 15.20 | |
| 12+50 | 4.3607 | 15.41 | |
| 12+55 | 4.4696 | 15.80 | |
| 13+ 0 | 4.5793 | 15.93 | |
| 13+ 5 | 4.6936 | 16.59 | |
| 13+10 | 4.8204 | 18.41 | |
| 13+15 | 4.9509 | 18.96 | |
| 13+20 | 5.0830 | 19.17 | |
| 13+25 | 5.2154 | 19.23 | |
| 13+30 | 5.3481 | 19.27 | |
| 13+35 | 5.4720 | 17.98 | |
| 13+40 | 5.5686 | 14.03 | |
| 13+45 | 5.6572 | 12.87 | |
| 13+50 | 5.7430 | 12.46 | |
| 13+55 | 5.8281 | 12.36 | |
| 14+ 0 | 5.9129 | 12.32 | |
| 14+ 5 | 6.0010 | 12.79 | |
| 14+10 | 6.0991 | 14.24 | |
| 14+15 | 6.2002 | 14.68 | |
| 14+20 | 6.3016 | 14.73 | |
| 14+25 | 6.4009 | 14.42 | |
| 14+30 | 6.4997 | 14.35 | |
| 14+35 | 6.5984 | 14.33 | |
| 14+40 | 6.6971 | 14.33 | |
| 14+45 | 6.7958 | 14.34 | |
| 14+50 | 6.8938 | 14.23 | |
| 14+55 | 6.9893 | 13.88 | |
| 15+ 0 | 7.0843 | 13.78 | |
| 15+ 5 | 7.1782 | 13.64 | |
| 15+10 | 7.2696 | 13.28 | |
| 15+15 | 7.3604 | 13.18 | |
| 15+20 | 7.4501 | 13.03 | |
| 15+25 | 7.5374 | 12.67 | |
| 15+30 | 7.6240 | 12.57 | |
| 15+35 | 7.7071 | 12.07 | |
| 15+40 | 7.7803 | 10.63 | |
| 15+45 | 7.8506 | 10.21 | |
| 15+50 | 7.9199 | 10.06 | |
| 15+55 | 7.9890 | 10.03 | |
| 16+ 0 | 8.0580 | 10.02 | |
| 16+ 5 | 8.1147 | 8.24 | |
| 16+10 | 8.1343 | 2.84 | |
| 16+15 | 8.1429 | 1.25 | |
| 16+20 | 8.1477 | 0.69 | |
| 16+25 | 8.1515 | 0.55 | |
| 16+30 | 8.1548 | 0.49 | |
| 16+35 | 8.1577 | 0.42 | |
| 16+40 | 8.1595 | 0.26 | |
| 16+45 | 8.1610 | 0.22 | |
| 16+50 | 8.1623 | 0.20 | |
| 16+55 | 8.1637 | 0.20 | |
| 17+ 0 | 8.1650 | 0.19 | |
| 17+ 5 | 8.1676 | 0.38 | |
| 17+10 | 8.1741 | 0.94 | |
| 17+15 | 8.1817 | 1.11 | |
| 17+20 | 8.1899 | 1.18 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+25 | 8.1982 | 1.21 | \| Q | \| | \| | \| | V\| |
| 17+30 | 8.2066 | 1.22 | \| Q | \| | \| | \| | V\| |
| 17+35 | 8.2151 | 1.24 | \| Q | \| | \| | \| | V\| |
| 17+40 | 8.2237 | 1.25 | \| Q | \| | \| | \| | V\| |
| 17+45 | 8.2323 | 1.26 | \| Q | \| | \| | \| | V\| |
| 17+50 | 8.2402 | 1.15 | \| Q | \| | \| | \| | V\| |
| 17+55 | 8.2457 | 0.79 | \|Q | \| | \| | \| | V\| |
| 18+ 0 | 8.2505 | 0.70 | \|Q | \| | \| | \| | V\| |
| 18+ 5 | 8.2551 | 0.67 | \|Q | \| | \| | \| | V\| |
| 18+10 | 8.2597 | 0.67 | \|Q | \| | \| | \| | V\| |
| 18+15 | 8.2643 | 0.67 | \|Q | \| | \| | \| | V\| |
| 18+20 | 8.2690 | 0.68 | \|Q | \| | \| | \| | V\| |
| 18+25 | 8.2738 | 0.69 | \|Q | \| | \| | \| | V\| |
| 18+30 | 8.2786 | 0.70 | \|Q | \| | \| | \| | V\| |
| 18+35 | 8.2828 | 0.61 | \|Q | \| | \| | \| | V\| |
| 18+40 | 8.2850 | 0.32 | Q | \| | \| | \| | V\| |
| 18+45 | 8.2866 | 0.24 | Q | \| | \| | \| | V\| |
| 18+50 | 8.2880 | 0.19 | Q | \| | \| | \| | V\| |
| 18+55 | 8.2890 | 0.15 | Q | \| | \| | \| | V\| |
| 19+ 0 | 8.2899 | 0.14 | Q | \| | \| | \| | V\| |
| 19+ 5 | 8.2909 | 0.14 | Q | \| | \| | \| | V\| |
| 19+10 | 8.2921 | 0.18 | Q | \| | \| | \| | V\| |
| 19+15 | 8.2934 | 0.19 | Q | \| | \| | \| | V\| |
| 19+20 | 8.2955 | 0.30 | Q | \| | \| | \| | V\| |
| 19+25 | 8.2999 | 0.64 | \|Q | \| | \| | \| | V\| |
| 19+30 | 8.3051 | 0.75 | \|Q | \| | \| | \| | V\| |
| 19+35 | 8.3098 | 0.68 | \|Q | \| | \| | \| | V\| |
| 19+40 | 8.3121 | 0.34 | Q | \| | \| | \| | V\| |
| 19+45 | 8.3138 | 0.24 | Q | \| | \| | \| | V\| |
| 19+50 | 8.3152 | 0.20 | Q | \| | \| | \| | V\| |
| 19+55 | 8.3162 | 0.15 | Q | \| | \| | \| | V\| |
| 20+ 0 | 8.3172 | 0.14 | Q | \| | \| | \| | V\| |
| 20+ 5 | 8.3182 | 0.15 | Q | \| | \| | \| | V\| |
| 20+10 | 8.3196 | 0.20 | Q | \| | \| | \| | V\| |
| 20+15 | 8.3211 | 0.22 | Q | \| | \| | \| | V\| |
| 20+20 | 8.3228 | 0.24 | Q | \| | \| | \| | V\| |
| 20+25 | 8.3244 | 0.24 | Q | \| | \| | \| | V\| |
| 20+30 | 8.3262 | 0.25 | Q | \| | \| | \| | V\| |
| 20+35 | 8.3280 | 0.26 | Q | \| | \| | \| | V\| |
| 20+40 | 8.3298 | 0.27 | Q | \| | \| | \| | V\| |
| 20+45 | 8.3317 | 0.27 | Q | \| | \| | \| | V\| |
| 20+50 | 8.3334 | 0.25 | Q | \| | \| | \| | V\| |
| 20+55 | 8.3346 | 0.17 | Q | \| | \| | \| | V\| |
| 21+ 0 | 8.3356 | 0.14 | Q | \| | \| | \| | V\| |
| 21+ 5 | 8.3367 | 0.17 | Q | \| | \| | \| | V\| |
| 21+10 | 8.3385 | 0.27 | Q | \| | \| | \| | V\| |
| 21+15 | 8.3406 | 0.30 | Q | \| | \| | \| | V\| |
| 21+20 | 8.3425 | 0.28 | Q | \| | \| | \| | V\| |
| 21+25 | 8.3437 | 0.17 | Q | \| | \| | \| | V\| |
| 21+30 | 8.3447 | 0.14 | Q | \| | \| | \| | V\| |
| 21+35 | 8.3459 | 0.17 | Q | \| | \| | \| | V\| |
| 21+40 | 8.3479 | 0.29 | Q | \| | \| | \| | V\| |
| 21+45 | 8.3502 | 0.33 | Q | \| | \| | \| | V\| |
| 21+50 | 8.3523 | 0.31 | Q | \| | \| | \| | V\| |
| 21+55 | 8.3536 | 0.18 | Q | \| | \| | \| | V\| |
| 22+ 0 | 8.3546 | 0.15 | Q | \| | \| | \| | V\| |
| 22+ 5 | 8.3558 | 0.18 | Q | \| | \| | \| | V\| |
| 22+10 | 8.3580 | 0.32 | Q | \| | \| | \| | V\| |
| 22+15 | 8.3605 | 0.36 | Q | \| | \| | \| | V\| |
| 22+20 | 8.3628 | 0.33 | Q | \| | \| | \| | V\| |
| 22+25 | 8.3641 | 0.19 | Q | \| | \| | \| | V\| |
| 22+30 | 8.3651 | 0.15 | Q | \| | \| | \| | V\| |
| 22+35 | 8.3661 | 0.13 | Q | \| | \| | \| | V\| |
| 22+40 | 8.3670 | 0.13 | Q | \| | \| | \| | V\| |
| 22+45 | 8.3679 | 0.13 | Q | \| | \| | \| | V\| |
| 22+50 | 8.3687 | 0.13 | Q | \| | \| | \| | V\| |
| 22+55 | 8.3696 | 0.13 | Q | \| | \| | \| | V\| |
| 23+ 0 | 8.3705 | 0.13 | Q | \| | \| | \| | V\| |
| 23+ 5 | 8.3714 | 0.13 | Q | \| | \| | \| | V\| |
| 23+10 | 8.3723 | 0.13 | Q | \| | \| | \| | V\| |
| 23+15 | 8.3732 | 0.13 | Q | \| | \| | \| | V\| |
| 23+20 | 8.3740 | 0.13 | Q | \| | \| | \| | V\| |
| 23+25 | 8.3749 | 0.13 | Q | \| | \| | \| | V\| |
| 23+30 | 8.3758 | 0.13 | Q | \| | \| | \| | V\| |
| 23+35 | 8.3767 | 0.13 | Q | \| | \| | \| | V\| |
| 23+40 | 8.3776 | 0.13 | Q | \| | \| | \| | V\| |
| 23+45 | 8.3785 | 0.13 | Q | \| | \| | \| | V\| |
| 23+50 | 8.3793 | 0.13 | Q | \| | \| | \| | V\| |

```
   23+55       8.3802      0.13  Q          |          |          |         V|
   24+ 0       8.3811      0.13  Q          |          |          |         V|
   24+ 5       8.3818      0.10  Q          |          |          |         V|
   24+10       8.3821      0.03  Q          |          |          |         V|
   24+15       8.3821      0.01  Q          |          |          |         V|
   24+20       8.3822      0.00  Q          |          |          |         V|
   24+25       8.3822      0.00  Q          |          |          |         V|
   24+30       8.3822      0.00  Q          |          |          |          V
---------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA211100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 21
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

---

Drainage Area = 19.70(Ac.) = 0.031 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 19.70(Ac.) = 0.031 Sq. Mi.
Length along longest watercourse = 1329.00(Ft.)
Length along longest watercourse measured to centroid = 664.00(Ft.)
Length along longest watercourse = 0.252 Mi.
Length along longest watercourse measured to centroid = 0.126 Mi.
Difference in elevation = 435.00(Ft.)
Slope along watercourse = 1728.2167 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.055 Hr.
Lag time = 3.29 Min.
25% of lag time = 0.82 Min.
40% of lag time = 1.32 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 19.70 | 0.50 | 9.85 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 19.70 | 1.20 | 23.64 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.98 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 19.700 | 81.95 | 0.000 |

Total Area Entered = 19.70(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 82.0 | 92.2 | 0.102 | 0.000 | 0.102 | 1.000 | 0.102 |
| | | | | | Sum (F) = | 0.102 |

Area averaged mean soil loss (F) (In/Hr) = 0.102

Minimum soil loss rate ((In/Hr)) = 0.051
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

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| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 151.887 | 31.063 | 6.167 |
| 2 | 0.167 | 303.775 | 54.185 | 10.758 |
| 3 | 0.250 | 455.662 | 11.640 | 2.311 |
| 4 | 0.333 | 607.549 | 2.296 | 0.456 |
| 5 | 0.417 | 759.437 | 0.815 | 0.162 |
| | | Sum = 100.000 | Sum= | 19.854 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.102 | ( 0.544) | 0.503 |
| 2 | 0.17 | 4.30 | 0.619 | 0.102 | ( 0.557) | 0.517 |
| 3 | 0.25 | 5.00 | 0.720 | 0.102 | ( 0.648) | 0.618 |
| 4 | 0.33 | 5.00 | 0.720 | 0.102 | ( 0.648) | 0.618 |
| 5 | 0.42 | 5.80 | 0.835 | 0.102 | ( 0.752) | 0.733 |
| 6 | 0.50 | 6.50 | 0.936 | 0.102 | ( 0.842) | 0.834 |
| 7 | 0.58 | 7.40 | 1.065 | 0.102 | ( 0.959) | 0.964 |
| 8 | 0.67 | 8.60 | 1.238 | 0.102 | ( 1.114) | 1.136 |
| 9 | 0.75 | 12.30 | 1.771 | 0.102 | ( 1.594) | 1.669 |
| 10 | 0.83 | 29.10 | 4.190 | 0.102 | ( 3.771) | 4.088 |
| 11 | 0.92 | 6.80 | 0.979 | 0.102 | ( 0.881) | 0.877 |
| 12 | 1.00 | 5.00 | 0.720 | 0.102 | ( 0.648) | 0.618 |
| | (Loss Rate Not Used) | | | | | |
| Sum = | 100.0 | | | | Sum = | 13.2 |

Flood volume = Effective rainfall 1.10(In)
times area 19.7(Ac.)/[(In)/(Ft.)] = 1.8(Ac.Ft)
Total soil loss = 0.10(In)
Total soil loss = 0.167(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 78518.8 Cubic Feet
Total soil loss = 7279.1 Cubic Feet

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Peak flow rate of this hydrograph = 53.946(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 15.0 | 30.0 | 45.0 | 60.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0214 | 3.10 | V Q | | | | |
| 0+10 | 0.0806 | 8.60 | \|V Q | | | | |
| 0+15 | 0.1533 | 10.54 | \| V Q | | | | |
| 0+20 | 0.2352 | 11.89 | \| V Q | | | | |
| 0+25 | 0.3242 | 12.92 | \| VQ | | | | |
| 0+30 | 0.4263 | 14.83 | \| Q | | | | |
| 0+35 | 0.5434 | 17.00 | \| QV | | | | |
| 0+40 | 0.6794 | 19.75 | \| Q V | | | | |
| 0+45 | 0.8534 | 25.26 | \| Q V | | | | |
| 0+50 | 1.1729 | 46.39 | \| V Q | | | | |
| 0+55 | 1.5444 | 53.95 | \| VQ | | | | |
| 1+ 0 | 1.7073 | 23.65 | \| Q | | | V | |
| 1+ 5 | 1.7818 | 10.82 | \| Q | | | V\| | |
| 1+10 | 1.7989 | 2.49 | \|Q | | | V\| | |
| 1+15 | 1.8019 | 0.42 | Q | | | V\| | |
| 1+20 | 1.8025 | 0.10 | Q | | | V | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA213100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 21
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

---

Drainage Area = 19.70(Ac.) = 0.031 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 19.70(Ac.) = 0.031 Sq. Mi.
Length along longest watercourse = 1329.00(Ft.)
Length along longest watercourse measured to centroid = 664.00(Ft.)
Length along longest watercourse = 0.252 Mi.
Length along longest watercourse measured to centroid = 0.126 Mi.
Difference in elevation = 435.00(Ft.)
Slope along watercourse = 1728.2167 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.055 Hr.
Lag time = 3.29 Min.
25% of lag time = 0.82 Min.
40% of lag time = 1.32 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 19.70 | 0.80 | 15.76 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 19.70 | 1.80 | 35.46 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 19.700 | 81.95 | 0.000 |

Total Area Entered = 19.70(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 82.0 | 92.2 | 0.102 | 0.000 | 0.102 | 1.000 | 0.102 |
| | | | | | Sum (F) = | 0.102 |

Area averaged mean soil loss (F) (In/Hr) = 0.102

Minimum soil loss rate ((In/Hr)) = 0.051
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 151.887 | 31.063 | 6.167 |
| 2 | 0.167 | 303.775 | 54.185 | 10.758 |
| 3 | 0.250 | 455.662 | 11.640 | 2.311 |
| 4 | 0.333 | 607.549 | 2.296 | 0.456 |
| 5 | 0.417 | 759.437 | 0.815 | 0.162 |
| | | | Sum = 100.000 | Sum= 19.854 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.281 | 0.102 | ( 0.253) | 0.179 |
| 2 | 0.17 | 1.30 | 0.281 | 0.102 | ( 0.253) | 0.179 |
| 3 | 0.25 | 1.10 | 0.238 | 0.102 | ( 0.214) | 0.136 |
| 4 | 0.33 | 1.50 | 0.324 | 0.102 | ( 0.292) | 0.222 |
| 5 | 0.42 | 1.50 | 0.324 | 0.102 | ( 0.292) | 0.222 |
| 6 | 0.50 | 1.80 | 0.389 | 0.102 | ( 0.350) | 0.287 |
| 7 | 0.58 | 1.50 | 0.324 | 0.102 | ( 0.292) | 0.222 |
| 8 | 0.67 | 1.80 | 0.389 | 0.102 | ( 0.350) | 0.287 |
| 9 | 0.75 | 1.80 | 0.389 | 0.102 | ( 0.350) | 0.287 |
| 10 | 0.83 | 1.50 | 0.324 | 0.102 | ( 0.292) | 0.222 |
| 11 | 0.92 | 1.60 | 0.346 | 0.102 | ( 0.311) | 0.244 |
| 12 | 1.00 | 1.80 | 0.389 | 0.102 | ( 0.350) | 0.287 |
| 13 | 1.08 | 2.20 | 0.475 | 0.102 | ( 0.428) | 0.373 |
| 14 | 1.17 | 2.20 | 0.475 | 0.102 | ( 0.428) | 0.373 |
| 15 | 1.25 | 2.20 | 0.475 | 0.102 | ( 0.428) | 0.373 |
| 16 | 1.33 | 2.00 | 0.432 | 0.102 | ( 0.389) | 0.330 |
| 17 | 1.42 | 2.60 | 0.562 | 0.102 | ( 0.505) | 0.460 |
| 18 | 1.50 | 2.70 | 0.583 | 0.102 | ( 0.525) | 0.481 |
| 19 | 1.58 | 2.40 | 0.518 | 0.102 | ( 0.467) | 0.417 |
| 20 | 1.67 | 2.70 | 0.583 | 0.102 | ( 0.525) | 0.481 |
| 21 | 1.75 | 3.30 | 0.713 | 0.102 | ( 0.641) | 0.611 |
| 22 | 1.83 | 3.10 | 0.670 | 0.102 | ( 0.603) | 0.568 |
| 23 | 1.92 | 2.90 | 0.626 | 0.102 | ( 0.564) | 0.525 |
| 24 | 2.00 | 3.00 | 0.648 | 0.102 | ( 0.583) | 0.546 |
| 25 | 2.08 | 3.10 | 0.670 | 0.102 | ( 0.603) | 0.568 |
| 26 | 2.17 | 4.20 | 0.907 | 0.102 | ( 0.816) | 0.805 |
| 27 | 2.25 | 5.00 | 1.080 | 0.102 | ( 0.972) | 0.978 |
| 28 | 2.33 | 3.50 | 0.756 | 0.102 | ( 0.680) | 0.654 |
| 29 | 2.42 | 6.80 | 1.469 | 0.102 | ( 1.322) | 1.367 |
| 30 | 2.50 | 7.30 | 1.577 | 0.102 | ( 1.419) | 1.475 |
| 31 | 2.58 | 8.20 | 1.771 | 0.102 | ( 1.594) | 1.669 |
| 32 | 2.67 | 5.90 | 1.274 | 0.102 | ( 1.147) | 1.173 |
| 33 | 2.75 | 2.00 | 0.432 | 0.102 | ( 0.389) | 0.330 |
| 34 | 2.83 | 1.80 | 0.389 | 0.102 | ( 0.350) | 0.287 |
| 35 | 2.92 | 1.80 | 0.389 | 0.102 | ( 0.350) | 0.287 |
| 36 | 3.00 | 0.60 | 0.130 | 0.102 | ( 0.117) | 0.028 |
| | | (Loss Rate Not Used) | | | |
| Sum = | | 100.0 | | | Sum = 17.9 |

Flood volume = Effective rainfall 1.49(In)
times area 19.7(Ac.)/[(In)/(Ft.)] = 2.5(Ac.Ft)
Total soil loss = 0.31(In)
Total soil loss = 0.501(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 106871.4 Cubic Feet
Total soil loss = 21837.3 Cubic Feet

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Peak flow rate of this hydrograph = 29.792(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 7.5 | 15.0 | 22.5 | 30.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0076 | 1.10 | VQ | | | | |
| 0+10 | 0.0285 | 3.03 | V Q | | | | |
| 0+15 | 0.0504 | 3.18 | V Q | | | | |
| 0+20 | 0.0733 | 3.33 | V Q | | | | |
| 0+25 | 0.1021 | 4.19 | V Q | | | | |
| 0+30 | 0.1350 | 4.77 | V Q | | | | |
| 0+35 | 0.1701 | 5.10 | V Q | | | | |
| 0+40 | 0.2042 | 4.96 | V Q | | | | |
| 0+45 | 0.2424 | 5.54 | V Q | | | | |
| 0+50 | 0.2787 | 5.27 | V Q | | | | |
| 0+55 | 0.3112 | 4.73 | VQ | | | | |
| 1+ 0 | 0.3463 | 5.09 | VQ | | | | |
| 1+ 5 | 0.3883 | 6.10 | V Q | | | | |
| 1+10 | 0.4374 | 7.13 | V Q | | | | |
| 1+15 | 0.4881 | 7.36 | V Q | | | | |
| 1+20 | 0.5372 | 7.14 | VQ | | | | |
| 1+25 | 0.5888 | 7.48 | Q | | | | |
| 1+30 | 0.6502 | 8.91 | VQ | | | | |
| 1+35 | 0.7123 | 9.03 | VQ | | | | |
| 1+40 | 0.7732 | 8.83 | QV | | | | |
| 1+45 | 0.8435 | 10.21 | Q | | | | |
| 1+50 | 0.9224 | 11.46 | Q | | | | |
| 1+55 | 0.9985 | 11.05 | Q V | | | | |
| 2+ 0 | 1.0721 | 10.69 | Q V | | | | |
| 2+ 5 | 1.1475 | 10.95 | Q V | | | | |
| 2+10 | 1.2348 | 12.67 | Q V | | | | |
| 2+15 | 1.3474 | 16.35 | Q | | | | |
| 2+20 | 1.4629 | 16.77 | QV | | | | |
| 2+25 | 1.5882 | 18.20 | QV | | | | |
| 2+30 | 1.7666 | 25.90 | V | Q | | | |
| 2+35 | 1.9718 | 29.79 | V | | | Q | |
| 2+40 | 2.1739 | 29.34 | V | | | Q | |
| 2+45 | 2.3076 | 19.41 | Q | | V | | |
| 2+50 | 2.3698 | 9.04 | Q | | V | | |
| 2+55 | 2.4141 | 6.43 | Q | | V | | |
| 3+ 0 | 2.4434 | 4.26 | Q | | V | | |
| 3+ 5 | 2.4513 | 1.15 | Q | | V | | |
| 3+10 | 2.4530 | 0.24 | Q | | V | | |
| 3+15 | 2.4534 | 0.06 | Q | | V | | |
| 3+20 | 2.4534 | 0.00 | Q | | V | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 21
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

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Drainage Area = 19.70(Ac.) = 0.031 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 19.70(Ac.) = 0.031 Sq. Mi.
Length along longest watercourse = 1329.00(Ft.)
Length along longest watercourse measured to centroid = 664.00(Ft.)
Length along longest watercourse = 0.252 Mi.
Length along longest watercourse measured to centroid = 0.126 Mi.
Difference in elevation = 435.00(Ft.)
Slope along watercourse = 1728.2167 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.055 Hr.
Lag time = 3.29 Min.
25% of lag time = 0.82 Min.
40% of lag time = 1.32 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 19.70 | 1.13 | 22.26 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 19.70 | 2.50 | 49.25 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.130(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 19.700 | 81.95 | 0.000 |

Total Area Entered = 19.70(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 82.0 | 92.2 | 0.102 | 0.000 | 0.102 | 1.000 | 0.102 |
| | | | | | Sum (F) = | 0.102 |

Area averaged mean soil loss (F) (In/Hr) = 0.102

Minimum soil loss rate ((In/Hr)) = 0.051
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 151.887 | 31.063 | 6.167 |
| 2 | 0.167 | 303.775 | 54.185 | 10.758 |
| 3 | 0.250 | 455.662 | 11.640 | 2.311 |
| 4 | 0.333 | 607.549 | 2.296 | 0.456 |
| 5 | 0.417 | 759.437 | 0.815 | 0.162 |
| | | | Sum = 100.000 | Sum= 19.854 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.102 | ( 0.135) | 0.048 |
| 2 | 0.17 | 0.60 | 0.180 | 0.102 | ( 0.162) | 0.078 |
| 3 | 0.25 | 0.60 | 0.180 | 0.102 | ( 0.162) | 0.078 |
| 4 | 0.33 | 0.60 | 0.180 | 0.102 | ( 0.162) | 0.078 |
| 5 | 0.42 | 0.60 | 0.180 | 0.102 | ( 0.162) | 0.078 |
| 6 | 0.50 | 0.70 | 0.210 | 0.102 | ( 0.189) | 0.108 |
| 7 | 0.58 | 0.70 | 0.210 | 0.102 | ( 0.189) | 0.108 |
| 8 | 0.67 | 0.70 | 0.210 | 0.102 | ( 0.189) | 0.108 |
| 9 | 0.75 | 0.70 | 0.210 | 0.102 | ( 0.189) | 0.108 |
| 10 | 0.83 | 0.70 | 0.210 | 0.102 | ( 0.189) | 0.108 |
| 11 | 0.92 | 0.70 | 0.210 | 0.102 | ( 0.189) | 0.108 |
| 12 | 1.00 | 0.80 | 0.240 | 0.102 | ( 0.216) | 0.138 |
| 13 | 1.08 | 0.80 | 0.240 | 0.102 | ( 0.216) | 0.138 |
| 14 | 1.17 | 0.80 | 0.240 | 0.102 | ( 0.216) | 0.138 |
| 15 | 1.25 | 0.80 | 0.240 | 0.102 | ( 0.216) | 0.138 |
| 16 | 1.33 | 0.80 | 0.240 | 0.102 | ( 0.216) | 0.138 |
| 17 | 1.42 | 0.80 | 0.240 | 0.102 | ( 0.216) | 0.138 |
| 18 | 1.50 | 0.80 | 0.240 | 0.102 | ( 0.216) | 0.138 |
| 19 | 1.58 | 0.80 | 0.240 | 0.102 | ( 0.216) | 0.138 |
| 20 | 1.67 | 0.80 | 0.240 | 0.102 | ( 0.216) | 0.138 |
| 21 | 1.75 | 0.80 | 0.240 | 0.102 | ( 0.216) | 0.138 |
| 22 | 1.83 | 0.80 | 0.240 | 0.102 | ( 0.216) | 0.138 |
| 23 | 1.92 | 0.80 | 0.240 | 0.102 | ( 0.216) | 0.138 |
| 24 | 2.00 | 0.90 | 0.270 | 0.102 | ( 0.243) | 0.168 |
| 25 | 2.08 | 0.80 | 0.240 | 0.102 | ( 0.216) | 0.138 |
| 26 | 2.17 | 0.90 | 0.270 | 0.102 | ( 0.243) | 0.168 |
| 27 | 2.25 | 0.90 | 0.270 | 0.102 | ( 0.243) | 0.168 |
| 28 | 2.33 | 0.90 | 0.270 | 0.102 | ( 0.243) | 0.168 |
| 29 | 2.42 | 0.90 | 0.270 | 0.102 | ( 0.243) | 0.168 |
| 30 | 2.50 | 0.90 | 0.270 | 0.102 | ( 0.243) | 0.168 |
| 31 | 2.58 | 0.90 | 0.270 | 0.102 | ( 0.243) | 0.168 |
| 32 | 2.67 | 0.90 | 0.270 | 0.102 | ( 0.243) | 0.168 |
| 33 | 2.75 | 1.00 | 0.300 | 0.102 | ( 0.270) | 0.198 |
| 34 | 2.83 | 1.00 | 0.300 | 0.102 | ( 0.270) | 0.198 |
| 35 | 2.92 | 1.00 | 0.300 | 0.102 | ( 0.270) | 0.198 |
| 36 | 3.00 | 1.00 | 0.300 | 0.102 | ( 0.270) | 0.198 |
| 37 | 3.08 | 1.00 | 0.300 | 0.102 | ( 0.270) | 0.198 |
| 38 | 3.17 | 1.10 | 0.330 | 0.102 | ( 0.297) | 0.228 |
| 39 | 3.25 | 1.10 | 0.330 | 0.102 | ( 0.297) | 0.228 |
| 40 | 3.33 | 1.10 | 0.330 | 0.102 | ( 0.297) | 0.228 |
| 41 | 3.42 | 1.20 | 0.360 | 0.102 | ( 0.324) | 0.258 |
| 42 | 3.50 | 1.30 | 0.390 | 0.102 | ( 0.351) | 0.288 |
| 43 | 3.58 | 1.40 | 0.420 | 0.102 | ( 0.378) | 0.318 |
| 44 | 3.67 | 1.40 | 0.420 | 0.102 | ( 0.378) | 0.318 |
| 45 | 3.75 | 1.50 | 0.450 | 0.102 | ( 0.405) | 0.348 |
| 46 | 3.83 | 1.50 | 0.450 | 0.102 | ( 0.405) | 0.348 |
| 47 | 3.92 | 1.60 | 0.480 | 0.102 | ( 0.432) | 0.378 |
| 48 | 4.00 | 1.60 | 0.480 | 0.102 | ( 0.432) | 0.378 |
| 49 | 4.08 | 1.70 | 0.510 | 0.102 | ( 0.459) | 0.408 |
| 50 | 4.17 | 1.80 | 0.540 | 0.102 | ( 0.486) | 0.438 |
| 51 | 4.25 | 1.90 | 0.570 | 0.102 | ( 0.513) | 0.468 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 52 | 4.33 | 2.00 | 0.600 | 0.102 | ( 0.540) | 0.498 | |
| 53 | 4.42 | 2.10 | 0.630 | 0.102 | ( 0.567) | 0.528 | |
| 54 | 4.50 | 2.10 | 0.630 | 0.102 | ( 0.567) | 0.528 | |
| 55 | 4.58 | 2.20 | 0.660 | 0.102 | ( 0.594) | 0.558 | |
| 56 | 4.67 | 2.30 | 0.690 | 0.102 | ( 0.621) | 0.588 | |
| 57 | 4.75 | 2.40 | 0.720 | 0.102 | ( 0.648) | 0.618 | |
| 58 | 4.83 | 2.40 | 0.720 | 0.102 | ( 0.648) | 0.618 | |
| 59 | 4.92 | 2.50 | 0.750 | 0.102 | ( 0.675) | 0.648 | |
| 60 | 5.00 | 2.60 | 0.780 | 0.102 | ( 0.702) | 0.678 | |
| 61 | 5.08 | 3.10 | 0.930 | 0.102 | ( 0.837) | 0.828 | |
| 62 | 5.17 | 3.60 | 1.080 | 0.102 | ( 0.972) | 0.978 | |
| 63 | 5.25 | 3.90 | 1.170 | 0.102 | ( 1.053) | 1.068 | |
| 64 | 5.33 | 4.20 | 1.260 | 0.102 | ( 1.134) | 1.158 | |
| 65 | 5.42 | 4.70 | 1.410 | 0.102 | ( 1.269) | 1.308 | |
| 66 | 5.50 | 5.60 | 1.680 | 0.102 | ( 1.512) | 1.578 | |
| 67 | 5.58 | 1.90 | 0.570 | 0.102 | ( 0.513) | 0.468 | |
| 68 | 5.67 | 0.90 | 0.270 | 0.102 | ( 0.243) | 0.168 | |
| 69 | 5.75 | 0.60 | 0.180 | 0.102 | ( 0.162) | 0.078 | |
| 70 | 5.83 | 0.50 | 0.150 | 0.102 | ( 0.135) | 0.048 | |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.102) | 0.081 | 0.009 | |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.102) | 0.054 | 0.006 | |

(Loss Rate Not Used)

Sum = 100.0 Sum = 22.7

Flood volume = Effective rainfall 1.89(In)
times area 19.7(Ac.)/[(In)/(Ft.)] = 3.1(Ac.Ft)
Total soil loss = 0.61(In)
Total soil loss = 0.993(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 135499.5 Cubic Feet
Total soil loss = 43265.9 Cubic Feet

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Peak flow rate of this hydrograph = 27.141(CFS)

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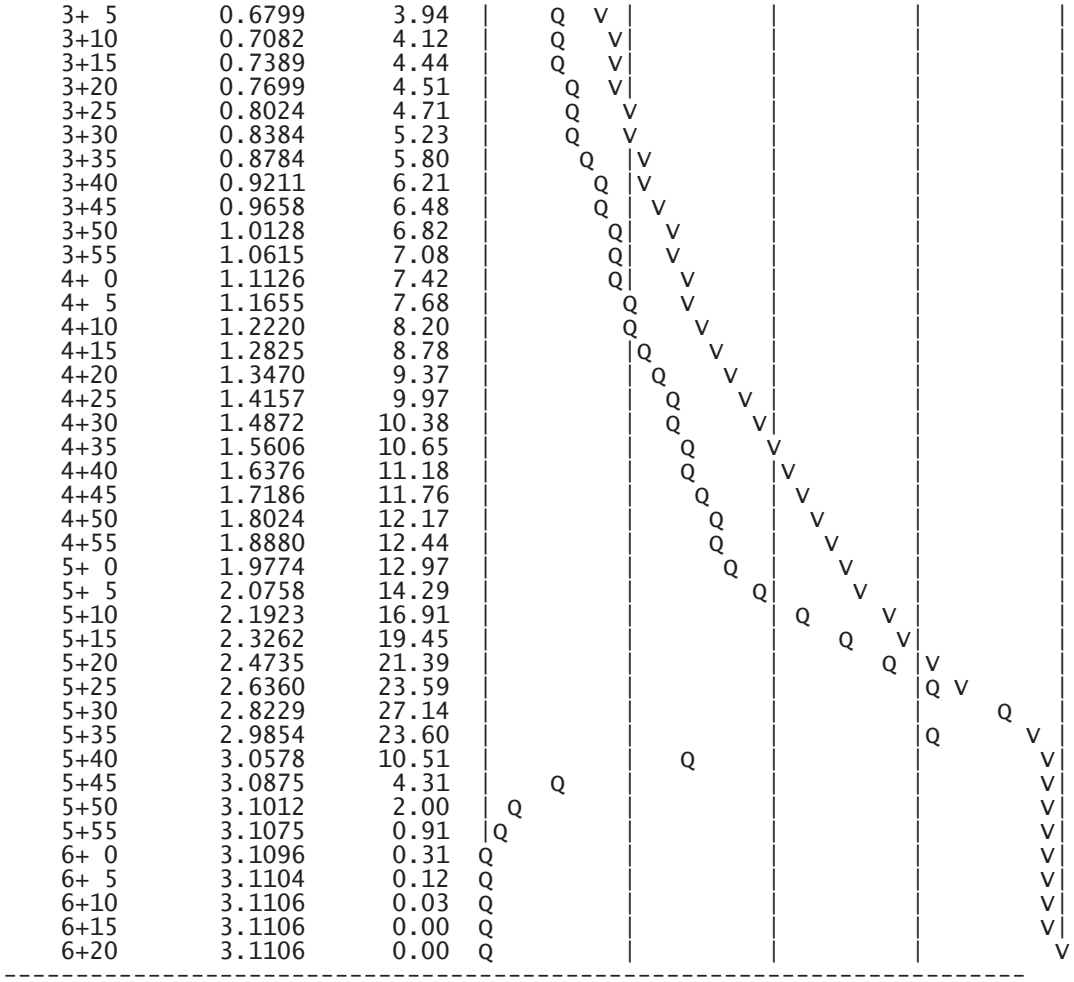
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 7.5 | 15.0 | 22.5 | 30.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0020 | 0.30 | Q | | | | |
| 0+10 | 0.0089 | 1.00 | VQ | | | | |
| 0+15 | 0.0188 | 1.44 | VQ | | | | |
| 0+20 | 0.0293 | 1.53 | V Q | | | | |
| 0+25 | 0.0400 | 1.55 | V Q | | | | |
| 0+30 | 0.0520 | 1.74 | V Q | | | | |
| 0+35 | 0.0662 | 2.06 | V Q | | | | |
| 0+40 | 0.0809 | 2.13 | VQ | | | | |
| 0+45 | 0.0956 | 2.14 | VQ | | | | |
| 0+50 | 0.1104 | 2.15 | VQ | | | | |
| 0+55 | 0.1252 | 2.15 | VQ | | | | |
| 1+ 0 | 0.1413 | 2.33 | V Q | | | | |
| 1+ 5 | 0.1596 | 2.66 | VQ | | | | |
| 1+10 | 0.1784 | 2.73 | VQ | | | | |
| 1+15 | 0.1973 | 2.74 | VQ | | | | |
| 1+20 | 0.2162 | 2.75 | VQ | | | | |
| 1+25 | 0.2351 | 2.75 | Q | | | | |
| 1+30 | 0.2540 | 2.75 | Q | | | | |
| 1+35 | 0.2729 | 2.75 | Q | | | | |
| 1+40 | 0.2918 | 2.75 | Q | | | | |
| 1+45 | 0.3107 | 2.75 | Q | | | | |
| 1+50 | 0.3296 | 2.75 | QV | | | | |
| 1+55 | 0.3485 | 2.75 | QV | | | | |
| 2+ 0 | 0.3687 | 2.93 | QV | | | | |
| 2+ 5 | 0.3898 | 3.07 | QV | | | | |
| 2+10 | 0.4105 | 3.00 | Q V | | | | |
| 2+15 | 0.4330 | 3.27 | QV | | | | |
| 2+20 | 0.4559 | 3.33 | QV | | | | |
| 2+25 | 0.4789 | 3.34 | Q V | | | | |
| 2+30 | 0.5019 | 3.34 | Q V | | | | |
| 2+35 | 0.5249 | 3.34 | Q V | | | | |
| 2+40 | 0.5479 | 3.34 | Q V | | | | |
| 2+45 | 0.5722 | 3.53 | Q V | | | | |
| 2+50 | 0.5987 | 3.85 | Q V | | | | |
| 2+55 | 0.6257 | 3.92 | Q V | | | | |
| 3+ 0 | 0.6527 | 3.93 | Q V | | | | |



| | | | |
|---|---|---|---|
| 3+ 5 | 0.6799 | 3.94 | |
| 3+10 | 0.7082 | 4.12 | |
| 3+15 | 0.7389 | 4.44 | |
| 3+20 | 0.7699 | 4.51 | |
| 3+25 | 0.8024 | 4.71 | |
| 3+30 | 0.8384 | 5.23 | |
| 3+35 | 0.8784 | 5.80 | |
| 3+40 | 0.9211 | 6.21 | |
| 3+45 | 0.9658 | 6.48 | |
| 3+50 | 1.0128 | 6.82 | |
| 3+55 | 1.0615 | 7.08 | |
| 4+ 0 | 1.1126 | 7.42 | |
| 4+ 5 | 1.1655 | 7.68 | |
| 4+10 | 1.2220 | 8.20 | |
| 4+15 | 1.2825 | 8.78 | |
| 4+20 | 1.3470 | 9.37 | |
| 4+25 | 1.4157 | 9.97 | |
| 4+30 | 1.4872 | 10.38 | |
| 4+35 | 1.5606 | 10.65 | |
| 4+40 | 1.6376 | 11.18 | |
| 4+45 | 1.7186 | 11.76 | |
| 4+50 | 1.8024 | 12.17 | |
| 4+55 | 1.8880 | 12.44 | |
| 5+ 0 | 1.9774 | 12.97 | |
| 5+ 5 | 2.0758 | 14.29 | |
| 5+10 | 2.1923 | 16.91 | |
| 5+15 | 2.3262 | 19.45 | |
| 5+20 | 2.4735 | 21.39 | |
| 5+25 | 2.6360 | 23.59 | |
| 5+30 | 2.8229 | 27.14 | |
| 5+35 | 2.9854 | 23.60 | |
| 5+40 | 3.0578 | 10.51 | |
| 5+45 | 3.0875 | 4.31 | |
| 5+50 | 3.1012 | 2.00 | |
| 5+55 | 3.1075 | 0.91 | |
| 6+ 0 | 3.1096 | 0.31 | |
| 6+ 5 | 3.1104 | 0.12 | |
| 6+10 | 3.1106 | 0.03 | |
| 6+15 | 3.1106 | 0.00 | |
| 6+20 | 3.1106 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA2124100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 21
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

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Drainage Area = 19.70(Ac.) = 0.031 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 19.70(Ac.) = 0.031 Sq. Mi.
Length along longest watercourse = 1329.00(Ft.)
Length along longest watercourse measured to centroid = 664.00(Ft.)
Length along longest watercourse = 0.252 Mi.
Length along longest watercourse measured to centroid = 0.126 Mi.
Difference in elevation = 435.00(Ft.)
Slope along watercourse = 1728.2167 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.055 Hr.
Lag time = 3.29 Min.
25% of lag time = 0.82 Min.
40% of lag time = 1.32 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 19.70 | 1.80 | 35.46 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 19.70 | 4.62 | 91.01 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.620(In)

Point rain (area averaged) = 4.620(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.620(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 19.700 | 81.95 | 0.000 |

Total Area Entered = 19.70(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 82.0 | 92.2 | 0.102 | 0.000 | 0.102 | 1.000 | 0.102 |
| | | | | | Sum (F) = | 0.102 |

Area averaged mean soil loss (F) (In/Hr) = 0.102

Minimum soil loss rate ((In/Hr)) = 0.051
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 151.887 | 31.063 | 6.167 |
| 2 | 0.167 | 303.775 | 54.185 | 10.758 |
| 3 | 0.250 | 455.662 | 11.640 | 2.311 |
| 4 | 0.333 | 607.549 | 2.296 | 0.456 |
| 5 | 0.417 | 759.437 | 0.815 | 0.162 |
| | | | Sum = 100.000 | Sum= 19.854 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.037 | ( 0.180) | 0.033 | 0.004 |
| 2 | 0.17 | 0.07 | 0.037 | ( 0.180) | 0.033 | 0.004 |
| 3 | 0.25 | 0.07 | 0.037 | ( 0.179) | 0.033 | 0.004 |
| 4 | 0.33 | 0.10 | 0.055 | ( 0.178) | 0.050 | 0.006 |
| 5 | 0.42 | 0.10 | 0.055 | ( 0.178) | 0.050 | 0.006 |
| 6 | 0.50 | 0.10 | 0.055 | ( 0.177) | 0.050 | 0.006 |
| 7 | 0.58 | 0.10 | 0.055 | ( 0.176) | 0.050 | 0.006 |
| 8 | 0.67 | 0.10 | 0.055 | ( 0.176) | 0.050 | 0.006 |
| 9 | 0.75 | 0.10 | 0.055 | ( 0.175) | 0.050 | 0.006 |
| 10 | 0.83 | 0.13 | 0.074 | ( 0.174) | 0.067 | 0.007 |
| 11 | 0.92 | 0.13 | 0.074 | ( 0.174) | 0.067 | 0.007 |
| 12 | 1.00 | 0.13 | 0.074 | ( 0.173) | 0.067 | 0.007 |
| 13 | 1.08 | 0.10 | 0.055 | ( 0.172) | 0.050 | 0.006 |
| 14 | 1.17 | 0.10 | 0.055 | ( 0.171) | 0.050 | 0.006 |
| 15 | 1.25 | 0.10 | 0.055 | ( 0.171) | 0.050 | 0.006 |
| 16 | 1.33 | 0.10 | 0.055 | ( 0.170) | 0.050 | 0.006 |
| 17 | 1.42 | 0.10 | 0.055 | ( 0.169) | 0.050 | 0.006 |
| 18 | 1.50 | 0.10 | 0.055 | ( 0.169) | 0.050 | 0.006 |
| 19 | 1.58 | 0.10 | 0.055 | ( 0.168) | 0.050 | 0.006 |
| 20 | 1.67 | 0.10 | 0.055 | ( 0.167) | 0.050 | 0.006 |
| 21 | 1.75 | 0.10 | 0.055 | ( 0.167) | 0.050 | 0.006 |
| 22 | 1.83 | 0.13 | 0.074 | ( 0.166) | 0.067 | 0.007 |
| 23 | 1.92 | 0.13 | 0.074 | ( 0.165) | 0.067 | 0.007 |
| 24 | 2.00 | 0.13 | 0.074 | ( 0.165) | 0.067 | 0.007 |
| 25 | 2.08 | 0.13 | 0.074 | ( 0.164) | 0.067 | 0.007 |
| 26 | 2.17 | 0.13 | 0.074 | ( 0.163) | 0.067 | 0.007 |
| 27 | 2.25 | 0.13 | 0.074 | ( 0.163) | 0.067 | 0.007 |
| 28 | 2.33 | 0.13 | 0.074 | ( 0.162) | 0.067 | 0.007 |
| 29 | 2.42 | 0.13 | 0.074 | ( 0.161) | 0.067 | 0.007 |
| 30 | 2.50 | 0.13 | 0.074 | ( 0.161) | 0.067 | 0.007 |
| 31 | 2.58 | 0.17 | 0.092 | ( 0.160) | 0.083 | 0.009 |
| 32 | 2.67 | 0.17 | 0.092 | ( 0.159) | 0.083 | 0.009 |
| 33 | 2.75 | 0.17 | 0.092 | ( 0.159) | 0.083 | 0.009 |
| 34 | 2.83 | 0.17 | 0.092 | ( 0.158) | 0.083 | 0.009 |
| 35 | 2.92 | 0.17 | 0.092 | ( 0.157) | 0.083 | 0.009 |
| 36 | 3.00 | 0.17 | 0.092 | ( 0.157) | 0.083 | 0.009 |
| 37 | 3.08 | 0.17 | 0.092 | ( 0.156) | 0.083 | 0.009 |
| 38 | 3.17 | 0.17 | 0.092 | ( 0.156) | 0.083 | 0.009 |
| 39 | 3.25 | 0.17 | 0.092 | ( 0.155) | 0.083 | 0.009 |
| 40 | 3.33 | 0.17 | 0.092 | ( 0.154) | 0.083 | 0.009 |
| 41 | 3.42 | 0.17 | 0.092 | ( 0.154) | 0.083 | 0.009 |
| 42 | 3.50 | 0.17 | 0.092 | ( 0.153) | 0.083 | 0.009 |
| 43 | 3.58 | 0.17 | 0.092 | ( 0.152) | 0.083 | 0.009 |
| 44 | 3.67 | 0.17 | 0.092 | ( 0.152) | 0.083 | 0.009 |
| 45 | 3.75 | 0.17 | 0.092 | ( 0.151) | 0.083 | 0.009 |
| 46 | 3.83 | 0.20 | 0.111 | ( 0.150) | 0.100 | 0.011 |
| 47 | 3.92 | 0.20 | 0.111 | ( 0.150) | 0.100 | 0.011 |
| 48 | 4.00 | 0.20 | 0.111 | ( 0.149) | 0.100 | 0.011 |
| 49 | 4.08 | 0.20 | 0.111 | ( 0.149) | 0.100 | 0.011 |
| 50 | 4.17 | 0.20 | 0.111 | ( 0.148) | 0.100 | 0.011 |
| 51 | 4.25 | 0.20 | 0.111 | ( 0.147) | 0.100 | 0.011 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 52 | 4.33 | 0.23 | 0.129 | ( 0.147) | 0.116 | 0.013 |
| 53 | 4.42 | 0.23 | 0.129 | ( 0.146) | 0.116 | 0.013 |
| 54 | 4.50 | 0.23 | 0.129 | ( 0.145) | 0.116 | 0.013 |
| 55 | 4.58 | 0.23 | 0.129 | ( 0.145) | 0.116 | 0.013 |
| 56 | 4.67 | 0.23 | 0.129 | ( 0.144) | 0.116 | 0.013 |
| 57 | 4.75 | 0.23 | 0.129 | ( 0.143) | 0.116 | 0.013 |
| 58 | 4.83 | 0.27 | 0.148 | ( 0.143) | 0.133 | 0.015 |
| 59 | 4.92 | 0.27 | 0.148 | ( 0.142) | 0.133 | 0.015 |
| 60 | 5.00 | 0.27 | 0.148 | ( 0.142) | 0.133 | 0.015 |
| 61 | 5.08 | 0.20 | 0.111 | ( 0.141) | 0.100 | 0.011 |
| 62 | 5.17 | 0.20 | 0.111 | ( 0.140) | 0.100 | 0.011 |
| 63 | 5.25 | 0.20 | 0.111 | ( 0.140) | 0.100 | 0.011 |
| 64 | 5.33 | 0.23 | 0.129 | ( 0.139) | 0.116 | 0.013 |
| 65 | 5.42 | 0.23 | 0.129 | ( 0.139) | 0.116 | 0.013 |
| 66 | 5.50 | 0.23 | 0.129 | ( 0.138) | 0.116 | 0.013 |
| 67 | 5.58 | 0.27 | 0.148 | ( 0.137) | 0.133 | 0.015 |
| 68 | 5.67 | 0.27 | 0.148 | ( 0.137) | 0.133 | 0.015 |
| 69 | 5.75 | 0.27 | 0.148 | ( 0.136) | 0.133 | 0.015 |
| 70 | 5.83 | 0.27 | 0.148 | ( 0.136) | 0.133 | 0.015 |
| 71 | 5.92 | 0.27 | 0.148 | ( 0.135) | 0.133 | 0.015 |
| 72 | 6.00 | 0.27 | 0.148 | ( 0.134) | 0.133 | 0.015 |
| 73 | 6.08 | 0.30 | 0.166 | 0.134 | ( 0.150) | 0.033 |
| 74 | 6.17 | 0.30 | 0.166 | 0.133 | ( 0.150) | 0.033 |
| 75 | 6.25 | 0.30 | 0.166 | 0.133 | ( 0.150) | 0.034 |
| 76 | 6.33 | 0.30 | 0.166 | 0.132 | ( 0.150) | 0.034 |
| 77 | 6.42 | 0.30 | 0.166 | 0.131 | ( 0.150) | 0.035 |
| 78 | 6.50 | 0.30 | 0.166 | 0.131 | ( 0.150) | 0.036 |
| 79 | 6.58 | 0.33 | 0.185 | 0.130 | ( 0.166) | 0.055 |
| 80 | 6.67 | 0.33 | 0.185 | 0.130 | ( 0.166) | 0.055 |
| 81 | 6.75 | 0.33 | 0.185 | 0.129 | ( 0.166) | 0.056 |
| 82 | 6.83 | 0.33 | 0.185 | 0.128 | ( 0.166) | 0.056 |
| 83 | 6.92 | 0.33 | 0.185 | 0.128 | ( 0.166) | 0.057 |
| 84 | 7.00 | 0.33 | 0.185 | 0.127 | ( 0.166) | 0.057 |
| 85 | 7.08 | 0.33 | 0.185 | 0.127 | ( 0.166) | 0.058 |
| 86 | 7.17 | 0.33 | 0.185 | 0.126 | ( 0.166) | 0.059 |
| 87 | 7.25 | 0.33 | 0.185 | 0.126 | ( 0.166) | 0.059 |
| 88 | 7.33 | 0.37 | 0.203 | 0.125 | ( 0.183) | 0.078 |
| 89 | 7.42 | 0.37 | 0.203 | 0.124 | ( 0.183) | 0.079 |
| 90 | 7.50 | 0.37 | 0.203 | 0.124 | ( 0.183) | 0.079 |
| 91 | 7.58 | 0.40 | 0.222 | 0.123 | ( 0.200) | 0.098 |
| 92 | 7.67 | 0.40 | 0.222 | 0.123 | ( 0.200) | 0.099 |
| 93 | 7.75 | 0.40 | 0.222 | 0.122 | ( 0.200) | 0.100 |
| 94 | 7.83 | 0.43 | 0.240 | 0.122 | ( 0.216) | 0.119 |
| 95 | 7.92 | 0.43 | 0.240 | 0.121 | ( 0.216) | 0.119 |
| 96 | 8.00 | 0.43 | 0.240 | 0.120 | ( 0.216) | 0.120 |
| 97 | 8.08 | 0.50 | 0.277 | 0.120 | ( 0.249) | 0.157 |
| 98 | 8.17 | 0.50 | 0.277 | 0.119 | ( 0.249) | 0.158 |
| 99 | 8.25 | 0.50 | 0.277 | 0.119 | ( 0.249) | 0.158 |
| 100 | 8.33 | 0.50 | 0.277 | 0.118 | ( 0.249) | 0.159 |
| 101 | 8.42 | 0.50 | 0.277 | 0.118 | ( 0.249) | 0.160 |
| 102 | 8.50 | 0.50 | 0.277 | 0.117 | ( 0.249) | 0.160 |
| 103 | 8.58 | 0.53 | 0.296 | 0.117 | ( 0.266) | 0.179 |
| 104 | 8.67 | 0.53 | 0.296 | 0.116 | ( 0.266) | 0.180 |
| 105 | 8.75 | 0.53 | 0.296 | 0.115 | ( 0.266) | 0.180 |
| 106 | 8.83 | 0.57 | 0.314 | 0.115 | ( 0.283) | 0.199 |
| 107 | 8.92 | 0.57 | 0.314 | 0.114 | ( 0.283) | 0.200 |
| 108 | 9.00 | 0.57 | 0.314 | 0.114 | ( 0.283) | 0.200 |
| 109 | 9.08 | 0.63 | 0.351 | 0.113 | ( 0.316) | 0.238 |
| 110 | 9.17 | 0.63 | 0.351 | 0.113 | ( 0.316) | 0.238 |
| 111 | 9.25 | 0.63 | 0.351 | 0.112 | ( 0.316) | 0.239 |
| 112 | 9.33 | 0.67 | 0.370 | 0.112 | ( 0.333) | 0.258 |
| 113 | 9.42 | 0.67 | 0.370 | 0.111 | ( 0.333) | 0.258 |
| 114 | 9.50 | 0.67 | 0.370 | 0.111 | ( 0.333) | 0.259 |
| 115 | 9.58 | 0.70 | 0.388 | 0.110 | ( 0.349) | 0.278 |
| 116 | 9.67 | 0.70 | 0.388 | 0.110 | ( 0.349) | 0.278 |
| 117 | 9.75 | 0.70 | 0.388 | 0.109 | ( 0.349) | 0.279 |
| 118 | 9.83 | 0.73 | 0.407 | 0.109 | ( 0.366) | 0.298 |
| 119 | 9.92 | 0.73 | 0.407 | 0.108 | ( 0.366) | 0.299 |
| 120 | 10.00 | 0.73 | 0.407 | 0.107 | ( 0.366) | 0.299 |
| 121 | 10.08 | 0.50 | 0.277 | 0.107 | ( 0.249) | 0.170 |
| 122 | 10.17 | 0.50 | 0.277 | 0.106 | ( 0.249) | 0.171 |
| 123 | 10.25 | 0.50 | 0.277 | 0.106 | ( 0.249) | 0.171 |
| 124 | 10.33 | 0.50 | 0.277 | 0.105 | ( 0.249) | 0.172 |
| 125 | 10.42 | 0.50 | 0.277 | 0.105 | ( 0.249) | 0.172 |
| 126 | 10.50 | 0.50 | 0.277 | 0.104 | ( 0.249) | 0.173 |
| 127 | 10.58 | 0.67 | 0.370 | 0.104 | ( 0.333) | 0.266 |
| 128 | 10.67 | 0.67 | 0.370 | 0.103 | ( 0.333) | 0.266 |
| 129 | 10.75 | 0.67 | 0.370 | 0.103 | ( 0.333) | 0.267 |

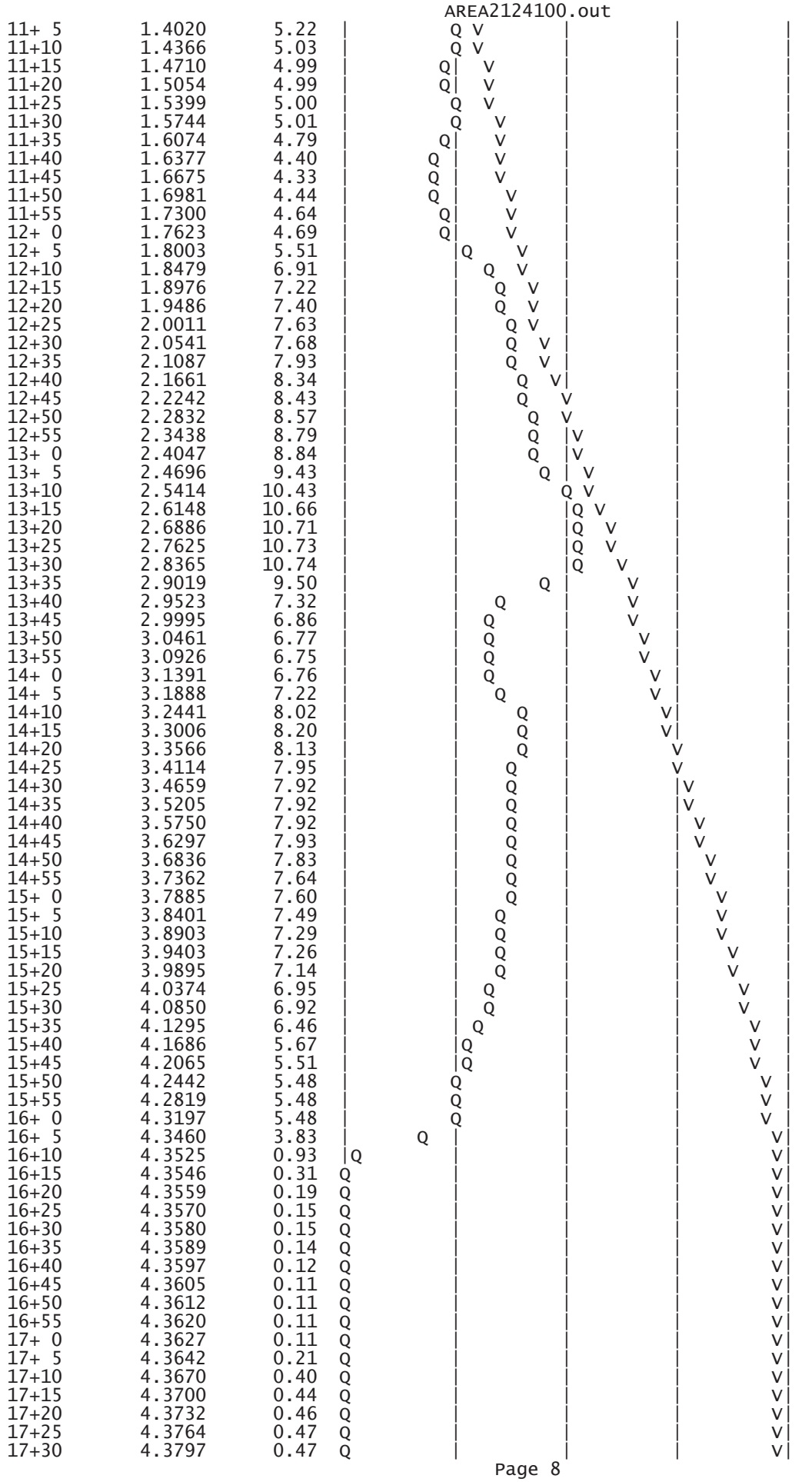
| | | | | | | |
|---|---|---|---|---|---|---|
| 130 | 10.83 | 0.67 | 0.370 | 0.102 | ( 0.333) | 0.267 |
| 131 | 10.92 | 0.67 | 0.370 | 0.102 | ( 0.333) | 0.268 |
| 132 | 11.00 | 0.67 | 0.370 | 0.101 | ( 0.333) | 0.268 |
| 133 | 11.08 | 0.63 | 0.351 | 0.101 | ( 0.316) | 0.250 |
| 134 | 11.17 | 0.63 | 0.351 | 0.100 | ( 0.316) | 0.251 |
| 135 | 11.25 | 0.63 | 0.351 | 0.100 | ( 0.316) | 0.251 |
| 136 | 11.33 | 0.63 | 0.351 | 0.099 | ( 0.316) | 0.252 |
| 137 | 11.42 | 0.63 | 0.351 | 0.099 | ( 0.316) | 0.252 |
| 138 | 11.50 | 0.63 | 0.351 | 0.098 | ( 0.316) | 0.253 |
| 139 | 11.58 | 0.57 | 0.314 | 0.098 | ( 0.283) | 0.216 |
| 140 | 11.67 | 0.57 | 0.314 | 0.097 | ( 0.283) | 0.217 |
| 141 | 11.75 | 0.57 | 0.314 | 0.097 | ( 0.283) | 0.217 |
| 142 | 11.83 | 0.60 | 0.333 | 0.096 | ( 0.299) | 0.236 |
| 143 | 11.92 | 0.60 | 0.333 | 0.096 | ( 0.299) | 0.237 |
| 144 | 12.00 | 0.60 | 0.333 | 0.095 | ( 0.299) | 0.237 |
| 145 | 12.08 | 0.83 | 0.462 | 0.095 | ( 0.416) | 0.367 |
| 146 | 12.17 | 0.83 | 0.462 | 0.095 | ( 0.416) | 0.367 |
| 147 | 12.25 | 0.83 | 0.462 | 0.094 | ( 0.416) | 0.368 |
| 148 | 12.33 | 0.87 | 0.480 | 0.094 | ( 0.432) | 0.387 |
| 149 | 12.42 | 0.87 | 0.480 | 0.093 | ( 0.432) | 0.387 |
| 150 | 12.50 | 0.87 | 0.480 | 0.093 | ( 0.432) | 0.388 |
| 151 | 12.58 | 0.93 | 0.517 | 0.092 | ( 0.466) | 0.425 |
| 152 | 12.67 | 0.93 | 0.517 | 0.092 | ( 0.466) | 0.426 |
| 153 | 12.75 | 0.93 | 0.517 | 0.091 | ( 0.466) | 0.426 |
| 154 | 12.83 | 0.97 | 0.536 | 0.091 | ( 0.482) | 0.445 |
| 155 | 12.92 | 0.97 | 0.536 | 0.090 | ( 0.482) | 0.446 |
| 156 | 13.00 | 0.97 | 0.536 | 0.090 | ( 0.482) | 0.446 |
| 157 | 13.08 | 1.13 | 0.628 | 0.089 | ( 0.565) | 0.539 |
| 158 | 13.17 | 1.13 | 0.628 | 0.089 | ( 0.565) | 0.539 |
| 159 | 13.25 | 1.13 | 0.628 | 0.089 | ( 0.565) | 0.540 |
| 160 | 13.33 | 1.13 | 0.628 | 0.088 | ( 0.565) | 0.540 |
| 161 | 13.42 | 1.13 | 0.628 | 0.088 | ( 0.565) | 0.541 |
| 162 | 13.50 | 1.13 | 0.628 | 0.087 | ( 0.565) | 0.541 |
| 163 | 13.58 | 0.77 | 0.425 | 0.087 | ( 0.383) | 0.338 |
| 164 | 13.67 | 0.77 | 0.425 | 0.086 | ( 0.383) | 0.339 |
| 165 | 13.75 | 0.77 | 0.425 | 0.086 | ( 0.383) | 0.339 |
| 166 | 13.83 | 0.77 | 0.425 | 0.085 | ( 0.383) | 0.340 |
| 167 | 13.92 | 0.77 | 0.425 | 0.085 | ( 0.383) | 0.340 |
| 168 | 14.00 | 0.77 | 0.425 | 0.085 | ( 0.383) | 0.340 |
| 169 | 14.08 | 0.90 | 0.499 | 0.084 | ( 0.449) | 0.415 |
| 170 | 14.17 | 0.90 | 0.499 | 0.084 | ( 0.449) | 0.415 |
| 171 | 14.25 | 0.90 | 0.499 | 0.083 | ( 0.449) | 0.416 |
| 172 | 14.33 | 0.87 | 0.480 | 0.083 | ( 0.432) | 0.398 |
| 173 | 14.42 | 0.87 | 0.480 | 0.082 | ( 0.432) | 0.398 |
| 174 | 14.50 | 0.87 | 0.480 | 0.082 | ( 0.432) | 0.398 |
| 175 | 14.58 | 0.87 | 0.480 | 0.082 | ( 0.432) | 0.399 |
| 176 | 14.67 | 0.87 | 0.480 | 0.081 | ( 0.432) | 0.399 |
| 177 | 14.75 | 0.87 | 0.480 | 0.081 | ( 0.432) | 0.400 |
| 178 | 14.83 | 0.83 | 0.462 | 0.080 | ( 0.416) | 0.382 |
| 179 | 14.92 | 0.83 | 0.462 | 0.080 | ( 0.416) | 0.382 |
| 180 | 15.00 | 0.83 | 0.462 | 0.080 | ( 0.416) | 0.382 |
| 181 | 15.08 | 0.80 | 0.444 | 0.079 | ( 0.399) | 0.364 |
| 182 | 15.17 | 0.80 | 0.444 | 0.079 | ( 0.399) | 0.365 |
| 183 | 15.25 | 0.80 | 0.444 | 0.078 | ( 0.399) | 0.365 |
| 184 | 15.33 | 0.77 | 0.425 | 0.078 | ( 0.383) | 0.347 |
| 185 | 15.42 | 0.77 | 0.425 | 0.077 | ( 0.383) | 0.348 |
| 186 | 15.50 | 0.77 | 0.425 | 0.077 | ( 0.383) | 0.348 |
| 187 | 15.58 | 0.63 | 0.351 | 0.077 | ( 0.316) | 0.274 |
| 188 | 15.67 | 0.63 | 0.351 | 0.076 | ( 0.316) | 0.275 |
| 189 | 15.75 | 0.63 | 0.351 | 0.076 | ( 0.316) | 0.275 |
| 190 | 15.83 | 0.63 | 0.351 | 0.076 | ( 0.316) | 0.276 |
| 191 | 15.92 | 0.63 | 0.351 | 0.075 | ( 0.316) | 0.276 |
| 192 | 16.00 | 0.63 | 0.351 | 0.075 | ( 0.316) | 0.276 |
| 193 | 16.08 | 0.13 | 0.074 | ( 0.074) | 0.067 | 0.007 |
| 194 | 16.17 | 0.13 | 0.074 | ( 0.074) | 0.067 | 0.007 |
| 195 | 16.25 | 0.13 | 0.074 | ( 0.074) | 0.067 | 0.007 |
| 196 | 16.33 | 0.13 | 0.074 | ( 0.073) | 0.067 | 0.007 |
| 197 | 16.42 | 0.13 | 0.074 | ( 0.073) | 0.067 | 0.007 |
| 198 | 16.50 | 0.13 | 0.074 | ( 0.072) | 0.067 | 0.007 |
| 199 | 16.58 | 0.10 | 0.055 | ( 0.072) | 0.050 | 0.006 |
| 200 | 16.67 | 0.10 | 0.055 | ( 0.072) | 0.050 | 0.006 |
| 201 | 16.75 | 0.10 | 0.055 | ( 0.071) | 0.050 | 0.006 |
| 202 | 16.83 | 0.10 | 0.055 | ( 0.071) | 0.050 | 0.006 |
| 203 | 16.92 | 0.10 | 0.055 | ( 0.071) | 0.050 | 0.006 |
| 204 | 17.00 | 0.10 | 0.055 | ( 0.070) | 0.050 | 0.006 |
| 205 | 17.08 | 0.17 | 0.092 | 0.070 | ( 0.083) | 0.022 |
| 206 | 17.17 | 0.17 | 0.092 | 0.070 | ( 0.083) | 0.023 |
| 207 | 17.25 | 0.17 | 0.092 | 0.069 | ( 0.083) | 0.023 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 208 | 17.33 | 0.17 | 0.092 | 0.069 | ( 0.083) | 0.023 |
| 209 | 17.42 | 0.17 | 0.092 | 0.069 | ( 0.083) | 0.024 |
| 210 | 17.50 | 0.17 | 0.092 | 0.068 | ( 0.083) | 0.024 |
| 211 | 17.58 | 0.17 | 0.092 | 0.068 | ( 0.083) | 0.025 |
| 212 | 17.67 | 0.17 | 0.092 | 0.068 | ( 0.083) | 0.025 |
| 213 | 17.75 | 0.17 | 0.092 | 0.067 | ( 0.083) | 0.025 |
| 214 | 17.83 | 0.13 | 0.074 | ( 0.067) | 0.067 | 0.007 |
| 215 | 17.92 | 0.13 | 0.074 | ( 0.067) | 0.067 | 0.007 |
| 216 | 18.00 | 0.13 | 0.074 | 0.066 | ( 0.067) | 0.008 |
| 217 | 18.08 | 0.13 | 0.074 | 0.066 | ( 0.067) | 0.008 |
| 218 | 18.17 | 0.13 | 0.074 | 0.066 | ( 0.067) | 0.008 |
| 219 | 18.25 | 0.13 | 0.074 | 0.065 | ( 0.067) | 0.009 |
| 220 | 18.33 | 0.13 | 0.074 | 0.065 | ( 0.067) | 0.009 |
| 221 | 18.42 | 0.13 | 0.074 | 0.065 | ( 0.067) | 0.009 |
| 222 | 18.50 | 0.13 | 0.074 | 0.064 | ( 0.067) | 0.010 |
| 223 | 18.58 | 0.10 | 0.055 | ( 0.064) | 0.050 | 0.006 |
| 224 | 18.67 | 0.10 | 0.055 | ( 0.064) | 0.050 | 0.006 |
| 225 | 18.75 | 0.10 | 0.055 | ( 0.063) | 0.050 | 0.006 |
| 226 | 18.83 | 0.07 | 0.037 | ( 0.063) | 0.033 | 0.004 |
| 227 | 18.92 | 0.07 | 0.037 | ( 0.063) | 0.033 | 0.004 |
| 228 | 19.00 | 0.07 | 0.037 | ( 0.062) | 0.033 | 0.004 |
| 229 | 19.08 | 0.10 | 0.055 | ( 0.062) | 0.050 | 0.006 |
| 230 | 19.17 | 0.10 | 0.055 | ( 0.062) | 0.050 | 0.006 |
| 231 | 19.25 | 0.10 | 0.055 | ( 0.062) | 0.050 | 0.006 |
| 232 | 19.33 | 0.13 | 0.074 | 0.061 | ( 0.067) | 0.013 |
| 233 | 19.42 | 0.13 | 0.074 | 0.061 | ( 0.067) | 0.013 |
| 234 | 19.50 | 0.13 | 0.074 | 0.061 | ( 0.067) | 0.013 |
| 235 | 19.58 | 0.10 | 0.055 | ( 0.060) | 0.050 | 0.006 |
| 236 | 19.67 | 0.10 | 0.055 | ( 0.060) | 0.050 | 0.006 |
| 237 | 19.75 | 0.10 | 0.055 | ( 0.060) | 0.050 | 0.006 |
| 238 | 19.83 | 0.07 | 0.037 | ( 0.060) | 0.033 | 0.004 |
| 239 | 19.92 | 0.07 | 0.037 | ( 0.059) | 0.033 | 0.004 |
| 240 | 20.00 | 0.07 | 0.037 | ( 0.059) | 0.033 | 0.004 |
| 241 | 20.08 | 0.10 | 0.055 | ( 0.059) | 0.050 | 0.006 |
| 242 | 20.17 | 0.10 | 0.055 | ( 0.059) | 0.050 | 0.006 |
| 243 | 20.25 | 0.10 | 0.055 | ( 0.058) | 0.050 | 0.006 |
| 244 | 20.33 | 0.10 | 0.055 | ( 0.058) | 0.050 | 0.006 |
| 245 | 20.42 | 0.10 | 0.055 | ( 0.058) | 0.050 | 0.006 |
| 246 | 20.50 | 0.10 | 0.055 | ( 0.058) | 0.050 | 0.006 |
| 247 | 20.58 | 0.10 | 0.055 | ( 0.057) | 0.050 | 0.006 |
| 248 | 20.67 | 0.10 | 0.055 | ( 0.057) | 0.050 | 0.006 |
| 249 | 20.75 | 0.10 | 0.055 | ( 0.057) | 0.050 | 0.006 |
| 250 | 20.83 | 0.07 | 0.037 | ( 0.057) | 0.033 | 0.004 |
| 251 | 20.92 | 0.07 | 0.037 | ( 0.056) | 0.033 | 0.004 |
| 252 | 21.00 | 0.07 | 0.037 | ( 0.056) | 0.033 | 0.004 |
| 253 | 21.08 | 0.10 | 0.055 | ( 0.056) | 0.050 | 0.006 |
| 254 | 21.17 | 0.10 | 0.055 | ( 0.056) | 0.050 | 0.006 |
| 255 | 21.25 | 0.10 | 0.055 | ( 0.056) | 0.050 | 0.006 |
| 256 | 21.33 | 0.07 | 0.037 | ( 0.055) | 0.033 | 0.004 |
| 257 | 21.42 | 0.07 | 0.037 | ( 0.055) | 0.033 | 0.004 |
| 258 | 21.50 | 0.07 | 0.037 | ( 0.055) | 0.033 | 0.004 |
| 259 | 21.58 | 0.10 | 0.055 | ( 0.055) | 0.050 | 0.006 |
| 260 | 21.67 | 0.10 | 0.055 | ( 0.054) | 0.050 | 0.006 |
| 261 | 21.75 | 0.10 | 0.055 | ( 0.054) | 0.050 | 0.006 |
| 262 | 21.83 | 0.07 | 0.037 | ( 0.054) | 0.033 | 0.004 |
| 263 | 21.92 | 0.07 | 0.037 | ( 0.054) | 0.033 | 0.004 |
| 264 | 22.00 | 0.07 | 0.037 | ( 0.054) | 0.033 | 0.004 |
| 265 | 22.08 | 0.10 | 0.055 | ( 0.054) | 0.050 | 0.006 |
| 266 | 22.17 | 0.10 | 0.055 | ( 0.053) | 0.050 | 0.006 |
| 267 | 22.25 | 0.10 | 0.055 | ( 0.053) | 0.050 | 0.006 |
| 268 | 22.33 | 0.07 | 0.037 | ( 0.053) | 0.033 | 0.004 |
| 269 | 22.42 | 0.07 | 0.037 | ( 0.053) | 0.033 | 0.004 |
| 270 | 22.50 | 0.07 | 0.037 | ( 0.053) | 0.033 | 0.004 |
| 271 | 22.58 | 0.07 | 0.037 | ( 0.053) | 0.033 | 0.004 |
| 272 | 22.67 | 0.07 | 0.037 | ( 0.052) | 0.033 | 0.004 |
| 273 | 22.75 | 0.07 | 0.037 | ( 0.052) | 0.033 | 0.004 |
| 274 | 22.83 | 0.07 | 0.037 | ( 0.052) | 0.033 | 0.004 |
| 275 | 22.92 | 0.07 | 0.037 | ( 0.052) | 0.033 | 0.004 |
| 276 | 23.00 | 0.07 | 0.037 | ( 0.052) | 0.033 | 0.004 |
| 277 | 23.08 | 0.07 | 0.037 | ( 0.052) | 0.033 | 0.004 |
| 278 | 23.17 | 0.07 | 0.037 | ( 0.052) | 0.033 | 0.004 |
| 279 | 23.25 | 0.07 | 0.037 | ( 0.052) | 0.033 | 0.004 |
| 280 | 23.33 | 0.07 | 0.037 | ( 0.051) | 0.033 | 0.004 |
| 281 | 23.42 | 0.07 | 0.037 | ( 0.051) | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.037 | ( 0.051) | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.037 | ( 0.051) | 0.033 | 0.004 |
| 284 | 23.67 | 0.07 | 0.037 | ( 0.051) | 0.033 | 0.004 |
| 285 | 23.75 | 0.07 | 0.037 | ( 0.051) | 0.033 | 0.004 |

```
286  23.83     0.07      0.037       (  0.051)       0.033        0.004
287  23.92     0.07      0.037       (  0.051)       0.033        0.004
288  24.00     0.07      0.037       (  0.051)       0.033        0.004
              (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    32.5
       Flood volume = Effective rainfall      2.71(In)
        times area      19.7(Ac.)/[(In)/(Ft.)] =       4.4(Ac.Ft)
       Total soil loss =      1.91(In)
       Total soil loss =     3.137(Ac.Ft)
       Total rainfall =      4.62(In)
       Flood volume =      193713.4 Cubic Feet
       Total soil loss =      136654.8 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =     10.741(CFS)
       ---------------------------------------------------------------------
       +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
       ---------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))

       ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        5.0      10.0      15.0      20.0
 ------------------------------------------------------------------------
   0+ 5       0.0002      0.02  Q          |          |          |          |
   0+10       0.0006      0.06  Q          |          |          |          |
   0+15       0.0011      0.07  Q          |          |          |          |
   0+20       0.0017      0.08  Q          |          |          |          |
   0+25       0.0024      0.10  Q          |          |          |          |
   0+30       0.0031      0.11  Q          |          |          |          |
   0+35       0.0039      0.11  Q          |          |          |          |
   0+40       0.0046      0.11  Q          |          |          |          |
   0+45       0.0054      0.11  Q          |          |          |          |
   0+50       0.0062      0.12  Q          |          |          |          |
   0+55       0.0072      0.14  Q          |          |          |          |
   1+ 0       0.0082      0.15  Q          |          |          |          |
   1+ 5       0.0091      0.14  Q          |          |          |          |
   1+10       0.0099      0.12  Q          |          |          |          |
   1+15       0.0107      0.11  Q          |          |          |          |
   1+20       0.0115      0.11  Q          |          |          |          |
   1+25       0.0122      0.11  Q          |          |          |          |
   1+30       0.0130      0.11  Q          |          |          |          |
   1+35       0.0137      0.11  Q          |          |          |          |
   1+40       0.0145      0.11  Q          |          |          |          |
   1+45       0.0153      0.11  Q          |          |          |          |
   1+50       0.0161      0.12  Q          |          |          |          |
   1+55       0.0171      0.14  Q          |          |          |          |
   2+ 0       0.0181      0.15  Q          |          |          |          |
   2+ 5       0.0191      0.15  Q          |          |          |          |
   2+10       0.0201      0.15  Q          |          |          |          |
   2+15       0.0211      0.15  Q          |          |          |          |
   2+20       0.0221      0.15  Q          |          |          |          |
   2+25       0.0231      0.15  Q          |          |          |          |
   2+30       0.0241      0.15  Q          |          |          |          |
   2+35       0.0252      0.16  Q          |          |          |          |
   2+40       0.0265      0.18  Q          |          |          |          |
   2+45       0.0277      0.18  Q          |          |          |          |
   2+50       0.0290      0.18  Q          |          |          |          |
   2+55       0.0302      0.18  Q          |          |          |          |
   3+ 0       0.0315      0.18  Q          |          |          |          |
   3+ 5       0.0328      0.18  Q          |          |          |          |
   3+10       0.0340      0.18  Q          |          |          |          |
   3+15       0.0353      0.18  Q          |          |          |          |
   3+20       0.0366      0.18  Q          |          |          |          |
   3+25       0.0378      0.18  Q          |          |          |          |
   3+30       0.0391      0.18  Q          |          |          |          |
   3+35       0.0404      0.18  Q          |          |          |          |
   3+40       0.0416      0.18  Q          |          |          |          |
   3+45       0.0429      0.18  Q          |          |          |          |
   3+50       0.0442      0.19  Q          |          |          |          |
   3+55       0.0457      0.21  Q          |          |          |          |
   4+ 0       0.0472      0.22  Q          |          |          |          |
   4+ 5       0.0487      0.22  Q          |          |          |          |
   4+10       0.0502      0.22  Q          |          |          |          |
   4+15       0.0518      0.22  Q          |          |          |          |
   4+20       0.0534      0.23  Q          |          |          |          |
   4+25       0.0551      0.25  Q          |          |          |          |
   4+30       0.0568      0.26  Q          |          |          |          |
```

```
 4+35       0.0586      0.26  Q          |          |          |          |
 4+40       0.0604      0.26  Q          |          |          |          |
 4+45       0.0622      0.26  Q          |          |          |          |
 4+50       0.0640      0.27  Q          |          |          |          |
 4+55       0.0660      0.29  Q          |          |          |          |
 5+ 0       0.0680      0.29  Q          |          |          |          |
 5+ 5       0.0699      0.27  Q          |          |          |          |
 5+10       0.0715      0.23  Q          |          |          |          |
 5+15       0.0730      0.22  Q          |          |          |          |
 5+20       0.0746      0.23  Q          |          |          |          |
 5+25       0.0763      0.25  Q          |          |          |          |
 5+30       0.0781      0.26  Q          |          |          |          |
 5+35       0.0799      0.27  Q          |          |          |          |
 5+40       0.0819      0.29  Q          |          |          |          |
 5+45       0.0839      0.29  Q          |          |          |          |
 5+50       0.0860      0.29  Q          |          |          |          |
 5+55       0.0880      0.29  Q          |          |          |          |
 6+ 0       0.0900      0.29  Q          |          |          |          |
 6+ 5       0.0928      0.40  Q          |          |          |          |
 6+10       0.0969      0.60  VQ         |          |          |          |
 6+15       0.1014      0.65  VQ         |          |          |          |
 6+20       0.1060      0.67  VQ         |          |          |          |
 6+25       0.1107      0.68  VQ         |          |          |          |
 6+30       0.1155      0.70  |Q         |          |          |          |
 6+35       0.1211      0.82  |Q         |          |          |          |
 6+40       0.1282      1.03  |VQ        |          |          |          |
 6+45       0.1357      1.09  |VQ        |          |          |          |
 6+50       0.1433      1.11  |VQ        |          |          |          |
 6+55       0.1510      1.12  |VQ        |          |          |          |
 7+ 0       0.1588      1.13  |VQ        |          |          |          |
 7+ 5       0.1667      1.14  |VQ        |          |          |          |
 7+10       0.1747      1.15  |VQ        |          |          |          |
 7+15       0.1827      1.17  |VQ        |          |          |          |
 7+20       0.1916      1.29  |VQ        |          |          |          |
 7+25       0.2019      1.50  |V Q       |          |          |          |
 7+30       0.2127      1.56  |V Q       |          |          |          |
 7+35       0.2243      1.69  | VQ       |          |          |          |
 7+40       0.2374      1.90  | VQ       |          |          |          |
 7+45       0.2509      1.96  | VQ       |          |          |          |
 7+50       0.2653      2.09  | V Q      |          |          |          |
 7+55       0.2811      2.30  | V Q      |          |          |          |
 8+ 0       0.2974      2.36  | V Q      |          |          |          |
 8+ 5       0.3153      2.61  | V  Q     |          |          |          |
 8+10       0.3361      3.02  |  V  Q    |          |          |          |
 8+15       0.3576      3.11  |  V  Q    |          |          |          |
 8+20       0.3792      3.14  |  V  Q    |          |          |          |
 8+25       0.4009      3.16  |  V  Q    |          |          |          |
 8+30       0.4228      3.17  |  V  Q    |          |          |          |
 8+35       0.4455      3.29  |   V Q    |          |          |          |
 8+40       0.4696      3.50  |   V  Q   |          |          |          |
 8+45       0.4941      3.56  |   V  Q   |          |          |          |
 8+50       0.5195      3.69  |   V  Q   |          |          |          |
 8+55       0.5464      3.90  |   V  Q   |          |          |          |
 9+ 0       0.5737      3.96  |    V Q   |          |          |          |
 9+ 5       0.6026      4.20  |    V  Q  |          |          |          |
 9+10       0.6344      4.62  |    V   Q |          |          |          |
 9+15       0.6669      4.71  |    V   Q |          |          |          |
 9+20       0.7003      4.85  |     V  Q |          |          |          |
 9+25       0.7352      5.07  |     V   Q          |          |          |
 9+30       0.7705      5.12  |     V   Q          |          |          |
 9+35       0.8067      5.26  |      V  Q          |          |          |
 9+40       0.8444      5.47  |      V  Q          |          |          |
 9+45       0.8824      5.52  |      V  |Q         |          |          |
 9+50       0.9213      5.65  |       V |Q         |          |          |
 9+55       0.9618      5.87  |       V |Q         |          |          |
10+ 0       1.0025      5.92  |        V|Q         |          |          |
10+ 5       1.0379      5.14  |         VQ         |          |          |
10+10       1.0638      3.76  |       Q V|         |          |          |
10+15       1.0877      3.47  |      Q  V|         |          |          |
10+20       1.1113      3.42  |      Q  V|         |          |          |
10+25       1.1348      3.41  |      Q   V         |          |          |
10+30       1.1584      3.42  |      Q   V         |          |          |
10+35       1.1860      4.00  |        Q V         |          |          |
10+40       1.2205      5.01  |          Q         |          |          |
10+45       1.2565      5.23  |          QV        |          |          |
10+50       1.2929      5.28  |          QV        |          |          |
10+55       1.3295      5.31  |          QV        |          |          |
11+ 0       1.3661      5.32  |          Q V       |          |          |
```



| | | | |
|---|---|---|---|
| 11+ 5 | 1.4020 | 5.22 | |
| 11+10 | 1.4366 | 5.03 | |
| 11+15 | 1.4710 | 4.99 | |
| 11+20 | 1.5054 | 4.99 | |
| 11+25 | 1.5399 | 5.00 | |
| 11+30 | 1.5744 | 5.01 | |
| 11+35 | 1.6074 | 4.79 | |
| 11+40 | 1.6377 | 4.40 | |
| 11+45 | 1.6675 | 4.33 | |
| 11+50 | 1.6981 | 4.44 | |
| 11+55 | 1.7300 | 4.64 | |
| 12+ 0 | 1.7623 | 4.69 | |
| 12+ 5 | 1.8003 | 5.51 | |
| 12+10 | 1.8479 | 6.91 | |
| 12+15 | 1.8976 | 7.22 | |
| 12+20 | 1.9486 | 7.40 | |
| 12+25 | 2.0011 | 7.63 | |
| 12+30 | 2.0541 | 7.68 | |
| 12+35 | 2.1087 | 7.93 | |
| 12+40 | 2.1661 | 8.34 | |
| 12+45 | 2.2242 | 8.43 | |
| 12+50 | 2.2832 | 8.57 | |
| 12+55 | 2.3438 | 8.79 | |
| 13+ 0 | 2.4047 | 8.84 | |
| 13+ 5 | 2.4696 | 9.43 | |
| 13+10 | 2.5414 | 10.43 | |
| 13+15 | 2.6148 | 10.66 | |
| 13+20 | 2.6886 | 10.71 | |
| 13+25 | 2.7625 | 10.73 | |
| 13+30 | 2.8365 | 10.74 | |
| 13+35 | 2.9019 | 9.50 | |
| 13+40 | 2.9523 | 7.32 | |
| 13+45 | 2.9995 | 6.86 | |
| 13+50 | 3.0461 | 6.77 | |
| 13+55 | 3.0926 | 6.75 | |
| 14+ 0 | 3.1391 | 6.76 | |
| 14+ 5 | 3.1888 | 7.22 | |
| 14+10 | 3.2441 | 8.02 | |
| 14+15 | 3.3006 | 8.20 | |
| 14+20 | 3.3566 | 8.13 | |
| 14+25 | 3.4114 | 7.95 | |
| 14+30 | 3.4659 | 7.92 | |
| 14+35 | 3.5205 | 7.92 | |
| 14+40 | 3.5750 | 7.92 | |
| 14+45 | 3.6297 | 7.93 | |
| 14+50 | 3.6836 | 7.83 | |
| 14+55 | 3.7362 | 7.64 | |
| 15+ 0 | 3.7885 | 7.60 | |
| 15+ 5 | 3.8401 | 7.49 | |
| 15+10 | 3.8903 | 7.29 | |
| 15+15 | 3.9403 | 7.26 | |
| 15+20 | 3.9895 | 7.14 | |
| 15+25 | 4.0374 | 6.95 | |
| 15+30 | 4.0850 | 6.92 | |
| 15+35 | 4.1295 | 6.46 | |
| 15+40 | 4.1686 | 5.67 | |
| 15+45 | 4.2065 | 5.51 | |
| 15+50 | 4.2442 | 5.48 | |
| 15+55 | 4.2819 | 5.48 | |
| 16+ 0 | 4.3197 | 5.48 | |
| 16+ 5 | 4.3460 | 3.83 | |
| 16+10 | 4.3525 | 0.93 | |
| 16+15 | 4.3546 | 0.31 | |
| 16+20 | 4.3559 | 0.19 | |
| 16+25 | 4.3570 | 0.15 | |
| 16+30 | 4.3580 | 0.15 | |
| 16+35 | 4.3589 | 0.14 | |
| 16+40 | 4.3597 | 0.12 | |
| 16+45 | 4.3605 | 0.11 | |
| 16+50 | 4.3612 | 0.11 | |
| 16+55 | 4.3620 | 0.11 | |
| 17+ 0 | 4.3627 | 0.11 | |
| 17+ 5 | 4.3642 | 0.21 | |
| 17+10 | 4.3670 | 0.40 | |
| 17+15 | 4.3700 | 0.44 | |
| 17+20 | 4.3732 | 0.46 | |
| 17+25 | 4.3764 | 0.47 | |
| 17+30 | 4.3797 | 0.47 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+35 | 4.3830 | 0.48 | Q | \| | \| | \| | V\| |
| 17+40 | 4.3863 | 0.49 | Q | \| | \| | \| | V\| |
| 17+45 | 4.3897 | 0.49 | Q | \| | \| | \| | V\| |
| 17+50 | 4.3924 | 0.39 | Q | \| | \| | \| | V\| |
| 17+55 | 4.3938 | 0.20 | Q | \| | \| | \| | V\| |
| 18+ 0 | 4.3949 | 0.16 | Q | \| | \| | \| | V\| |
| 18+ 5 | 4.3960 | 0.16 | Q | \| | \| | \| | V\| |
| 18+10 | 4.3971 | 0.16 | Q | \| | \| | \| | V\| |
| 18+15 | 4.3982 | 0.17 | Q | \| | \| | \| | V\| |
| 18+20 | 4.3994 | 0.17 | Q | \| | \| | \| | V\| |
| 18+25 | 4.4006 | 0.18 | Q | \| | \| | \| | V\| |
| 18+30 | 4.4019 | 0.19 | Q | \| | \| | \| | V\| |
| 18+35 | 4.4031 | 0.16 | Q | \| | \| | \| | V\| |
| 18+40 | 4.4039 | 0.12 | Q | \| | \| | \| | V\| |
| 18+45 | 4.4047 | 0.11 | Q | \| | \| | \| | V\| |
| 18+50 | 4.4054 | 0.10 | Q | \| | \| | \| | V\| |
| 18+55 | 4.4059 | 0.08 | Q | \| | \| | \| | V\| |
| 19+ 0 | 4.4064 | 0.07 | Q | \| | \| | \| | V\| |
| 19+ 5 | 4.4070 | 0.09 | Q | \| | \| | \| | V\| |
| 19+10 | 4.4077 | 0.10 | Q | \| | \| | \| | V\| |
| 19+15 | 4.4085 | 0.11 | Q | \| | \| | \| | V\| |
| 19+20 | 4.4095 | 0.15 | Q | \| | \| | \| | V\| |
| 19+25 | 4.4111 | 0.23 | Q | \| | \| | \| | V\| |
| 19+30 | 4.4129 | 0.25 | Q | \| | \| | \| | V\| |
| 19+35 | 4.4143 | 0.21 | Q | \| | \| | \| | V\| |
| 19+40 | 4.4152 | 0.13 | Q | \| | \| | \| | V\| |
| 19+45 | 4.4160 | 0.11 | Q | \| | \| | \| | V\| |
| 19+50 | 4.4167 | 0.10 | Q | \| | \| | \| | V\| |
| 19+55 | 4.4173 | 0.08 | Q | \| | \| | \| | V\| |
| 20+ 0 | 4.4178 | 0.07 | Q | \| | \| | \| | V\| |
| 20+ 5 | 4.4184 | 0.09 | Q | \| | \| | \| | V\| |
| 20+10 | 4.4191 | 0.10 | Q | \| | \| | \| | V\| |
| 20+15 | 4.4198 | 0.11 | Q | \| | \| | \| | V\| |
| 20+20 | 4.4206 | 0.11 | Q | \| | \| | \| | V\| |
| 20+25 | 4.4214 | 0.11 | Q | \| | \| | \| | V\| |
| 20+30 | 4.4221 | 0.11 | Q | \| | \| | \| | V\| |
| 20+35 | 4.4229 | 0.11 | Q | \| | \| | \| | V\| |
| 20+40 | 4.4236 | 0.11 | Q | \| | \| | \| | V\| |
| 20+45 | 4.4244 | 0.11 | Q | \| | \| | \| | V\| |
| 20+50 | 4.4251 | 0.10 | Q | \| | \| | \| | V\| |
| 20+55 | 4.4256 | 0.08 | Q | \| | \| | \| | V\| |
| 21+ 0 | 4.4261 | 0.07 | Q | \| | \| | \| | V\| |
| 21+ 5 | 4.4267 | 0.09 | Q | \| | \| | \| | V\| |
| 21+10 | 4.4274 | 0.10 | Q | \| | \| | \| | V\| |
| 21+15 | 4.4282 | 0.11 | Q | \| | \| | \| | V\| |
| 21+20 | 4.4289 | 0.10 | Q | \| | \| | \| | V\| |
| 21+25 | 4.4294 | 0.08 | Q | \| | \| | \| | V\| |
| 21+30 | 4.4299 | 0.07 | Q | \| | \| | \| | V\| |
| 21+35 | 4.4305 | 0.09 | Q | \| | \| | \| | V\| |
| 21+40 | 4.4312 | 0.10 | Q | \| | \| | \| | V\| |
| 21+45 | 4.4320 | 0.11 | Q | \| | \| | \| | V\| |
| 21+50 | 4.4327 | 0.10 | Q | \| | \| | \| | V\| |
| 21+55 | 4.4332 | 0.08 | Q | \| | \| | \| | V\| |
| 22+ 0 | 4.4337 | 0.07 | Q | \| | \| | \| | V\| |
| 22+ 5 | 4.4343 | 0.09 | Q | \| | \| | \| | V\| |
| 22+10 | 4.4350 | 0.10 | Q | \| | \| | \| | V\| |
| 22+15 | 4.4358 | 0.11 | Q | \| | \| | \| | V\| |
| 22+20 | 4.4364 | 0.10 | Q | \| | \| | \| | V\| |
| 22+25 | 4.4370 | 0.08 | Q | \| | \| | \| | V\| |
| 22+30 | 4.4375 | 0.07 | Q | \| | \| | \| | V\| |
| 22+35 | 4.4380 | 0.07 | Q | \| | \| | \| | V\| |
| 22+40 | 4.4385 | 0.07 | Q | \| | \| | \| | V\| |
| 22+45 | 4.4390 | 0.07 | Q | \| | \| | \| | V\| |
| 22+50 | 4.4395 | 0.07 | Q | \| | \| | \| | V\| |
| 22+55 | 4.4400 | 0.07 | Q | \| | \| | \| | V\| |
| 23+ 0 | 4.4405 | 0.07 | Q | \| | \| | \| | V\| |
| 23+ 5 | 4.4410 | 0.07 | Q | \| | \| | \| | V\| |
| 23+10 | 4.4415 | 0.07 | Q | \| | \| | \| | V\| |
| 23+15 | 4.4421 | 0.07 | Q | \| | \| | \| | V\| |
| 23+20 | 4.4426 | 0.07 | Q | \| | \| | \| | V\| |
| 23+25 | 4.4431 | 0.07 | Q | \| | \| | \| | V\| |
| 23+30 | 4.4436 | 0.07 | Q | \| | \| | \| | V\| |
| 23+35 | 4.4441 | 0.07 | Q | \| | \| | \| | V\| |
| 23+40 | 4.4446 | 0.07 | Q | \| | \| | \| | V\| |
| 23+45 | 4.4451 | 0.07 | Q | \| | \| | \| | V\| |
| 23+50 | 4.4456 | 0.07 | Q | \| | \| | \| | V\| |
| 23+55 | 4.4461 | 0.07 | Q | \| | \| | \| | V\| |
| 24+ 0 | 4.4466 | 0.07 | Q | \| | \| | \| | V\| |

```
   24+ 5       4.4470      0.05  Q          |          |          |        V|
   24+10       4.4470      0.01  Q          |          |          |        V|
   24+15       4.4470      0.00  Q          |          |          |        V|
   24+20       4.4470      0.00  Q          |          |          |        V|
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U n i t  H y d r o g r a p h  A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 22
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

---

Drainage Area = 54.40(Ac.) = 0.085 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 54.40(Ac.) = 0.085 Sq. Mi.
Length along longest watercourse = 3079.00(Ft.)
Length along longest watercourse measured to centroid = 1493.00(Ft.)
Length along longest watercourse = 0.583 Mi.
Length along longest watercourse measured to centroid = 0.283 Mi.
Difference in elevation = 495.00(Ft.)
Slope along watercourse = 848.8470 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.118 Hr.
Lag time = 7.05 Min.
25% of lag time = 1.76 Min.
40% of lag time = 2.82 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 54.40 | 0.50 | 27.20 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 54.40 | 1.20 | 65.28 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.95 %
Adjusted average point rain = 1.199(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 54.400 | 83.11 | 0.000 |

Total Area Entered = 54.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.1 | 92.9 | 0.093 | 0.000 | 0.093 | 1.000 | 0.093 |
| | | | | | Sum (F) = | 0.093 |

Area averaged mean soil loss (F) (In/Hr) = 0.093

Minimum soil loss rate ((In/Hr)) = 0.046
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

---

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 70.873 | 7.310 | 4.008 |
| 2 | 0.167 | 141.746 | 41.797 | 22.915 |
| 3 | 0.250 | 212.619 | 28.618 | 15.690 |
| 4 | 0.333 | 283.492 | 10.818 | 5.931 |
| 5 | 0.417 | 354.365 | 5.940 | 3.256 |
| 6 | 0.500 | 425.238 | 3.024 | 1.658 |
| 7 | 0.583 | 496.111 | 1.092 | 0.598 |
| 8 | 0.667 | 566.983 | 0.595 | 0.326 |
| 9 | 0.750 | 637.856 | 0.486 | 0.266 |
| 10 | 0.833 | 708.729 | 0.321 | 0.176 |
| | | Sum = 100.000 | Sum= | 54.825 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.093 | ( 0.544) | 0.512 |
| 2 | 0.17 | 4.30 | 0.619 | 0.093 | ( 0.557) | 0.526 |
| 3 | 0.25 | 5.00 | 0.720 | 0.093 | ( 0.648) | 0.627 |
| 4 | 0.33 | 5.00 | 0.720 | 0.093 | ( 0.648) | 0.627 |
| 5 | 0.42 | 5.80 | 0.835 | 0.093 | ( 0.751) | 0.742 |
| 6 | 0.50 | 6.50 | 0.936 | 0.093 | ( 0.842) | 0.843 |
| 7 | 0.58 | 7.40 | 1.065 | 0.093 | ( 0.959) | 0.972 |
| 8 | 0.67 | 8.60 | 1.238 | 0.093 | ( 1.114) | 1.145 |
| 9 | 0.75 | 12.30 | 1.770 | 0.093 | ( 1.593) | 1.678 |
| 10 | 0.83 | 29.10 | 4.188 | 0.093 | ( 3.770) | 4.096 |
| 11 | 0.92 | 6.80 | 0.979 | 0.093 | ( 0.881) | 0.886 |
| 12 | 1.00 | 5.00 | 0.720 | 0.093 | ( 0.648) | 0.627 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 13.3 |

Flood volume = Effective rainfall 1.11(In)
times area 54.4(Ac.)/[(In)/(Ft.)] = 5.0(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.420(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 218535.6 Cubic Feet
Total soil loss = 18313.9 Cubic Feet

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Peak flow rate of this hydrograph = 136.056(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 50.0 | 100.0 | 150.0 | 200.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0141 | 2.05 | Q | | | | |
| 0+10 | 0.1095 | 13.84 | V Q | | | | |
| 0+15 | 0.2652 | 22.61 | \| V Q | | | | |
| 0+20 | 0.4593 | 28.18 | \| V Q | | | | |
| 0+25 | 0.6795 | 31.98 | \| VQ | | | | |
| 0+30 | 0.9310 | 36.52 | \| Q | | | | |
| 0+35 | 1.2190 | 41.81 | \| QV | | | | |
| 0+40 | 1.5501 | 48.08 | \| Q\| V | | | | |
| 0+45 | 1.9453 | 57.38 | \| Q V | | | | |
| 0+50 | 2.5198 | 83.42 | \| Q V | | | | |
| 0+55 | 3.4569 | 136.06 | \| Q \| | | | |

```
    1+ 0       4.1693    103.44  |          |          Q          |  V       |
    1+ 5       4.5902     61.11  |          | Q        |          |     V    |
    1+10       4.8146     32.58  |      Q   |          |          |        V |
    1+15       4.9191     15.19  |   Q      |          |          |         V|
    1+20       4.9673      6.99  |Q         |          |          |         V|
    1+25       4.9918      3.56  Q          |          |          |         V|
    1+30       5.0059      2.05  Q          |          |          |         V|
    1+35       5.0139      1.16  Q          |          |          |         V|
    1+40       5.0161      0.32  Q          |          |          |         V|
    1+45       5.0169      0.11  Q          |          |          |         V|
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA223100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 22
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

---

Drainage Area = 54.40(Ac.) = 0.085 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 54.40(Ac.) = 0.085 Sq. Mi.
Length along longest watercourse = 3079.00(Ft.)
Length along longest watercourse measured to centroid = 1493.00(Ft.)
Length along longest watercourse = 0.583 Mi.
Length along longest watercourse measured to centroid = 0.283 Mi.
Difference in elevation = 495.00(Ft.)
Slope along watercourse = 848.8470 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.118 Hr.
Lag time = 7.05 Min.
25% of lag time = 1.76 Min.
40% of lag time = 2.82 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 54.40 | 0.80 | 43.52 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 54.40 | 1.81 | 98.46 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.810(In)

Point rain (area averaged) = 1.810(In)
Areal adjustment factor = 99.98 %
Adjusted average point rain = 1.810(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 54.400 | 83.11 | 0.000 |

Total Area Entered = 54.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.1 | 92.9 | 0.093 | 0.000 | 0.093 | 1.000 | 0.093 |
| | | | | | Sum (F) = | 0.093 |

Area averaged mean soil loss (F) (In/Hr) = 0.093

Minimum soil loss rate ((In/Hr)) = 0.046
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 70.873 | 7.310 | 4.008 |
| 2 0.167 | 141.746 | 41.797 | 22.915 |
| 3 0.250 | 212.619 | 28.618 | 15.690 |
| 4 0.333 | 283.492 | 10.818 | 5.931 |
| 5 0.417 | 354.365 | 5.940 | 3.256 |
| 6 0.500 | 425.238 | 3.024 | 1.658 |
| 7 0.583 | 496.111 | 1.092 | 0.598 |
| 8 0.667 | 566.983 | 0.595 | 0.326 |
| 9 0.750 | 637.856 | 0.486 | 0.266 |
| 10 0.833 | 708.729 | 0.321 | 0.176 |
| | | Sum = 100.000 | Sum= 54.825 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.282 | 0.093 | ( 0.254) | 0.190 |
| 2 | 0.17 | 1.30 | 0.282 | 0.093 | ( 0.254) | 0.190 |
| 3 | 0.25 | 1.10 | 0.239 | 0.093 | ( 0.215) | 0.146 |
| 4 | 0.33 | 1.50 | 0.326 | 0.093 | ( 0.293) | 0.233 |
| 5 | 0.42 | 1.50 | 0.326 | 0.093 | ( 0.293) | 0.233 |
| 6 | 0.50 | 1.80 | 0.391 | 0.093 | ( 0.352) | 0.298 |
| 7 | 0.58 | 1.50 | 0.326 | 0.093 | ( 0.293) | 0.233 |
| 8 | 0.67 | 1.80 | 0.391 | 0.093 | ( 0.352) | 0.298 |
| 9 | 0.75 | 1.80 | 0.391 | 0.093 | ( 0.352) | 0.298 |
| 10 | 0.83 | 1.50 | 0.326 | 0.093 | ( 0.293) | 0.233 |
| 11 | 0.92 | 1.60 | 0.347 | 0.093 | ( 0.313) | 0.255 |
| 12 | 1.00 | 1.80 | 0.391 | 0.093 | ( 0.352) | 0.298 |
| 13 | 1.08 | 2.20 | 0.478 | 0.093 | ( 0.430) | 0.385 |
| 14 | 1.17 | 2.20 | 0.478 | 0.093 | ( 0.430) | 0.385 |
| 15 | 1.25 | 2.20 | 0.478 | 0.093 | ( 0.430) | 0.385 |
| 16 | 1.33 | 2.00 | 0.434 | 0.093 | ( 0.391) | 0.342 |
| 17 | 1.42 | 2.60 | 0.565 | 0.093 | ( 0.508) | 0.472 |
| 18 | 1.50 | 2.70 | 0.586 | 0.093 | ( 0.528) | 0.494 |
| 19 | 1.58 | 2.40 | 0.521 | 0.093 | ( 0.469) | 0.428 |
| 20 | 1.67 | 2.70 | 0.586 | 0.093 | ( 0.528) | 0.494 |
| 21 | 1.75 | 3.30 | 0.717 | 0.093 | ( 0.645) | 0.624 |
| 22 | 1.83 | 3.10 | 0.673 | 0.093 | ( 0.606) | 0.580 |
| 23 | 1.92 | 2.90 | 0.630 | 0.093 | ( 0.567) | 0.537 |
| 24 | 2.00 | 3.00 | 0.651 | 0.093 | ( 0.586) | 0.559 |
| 25 | 2.08 | 3.10 | 0.673 | 0.093 | ( 0.606) | 0.580 |
| 26 | 2.17 | 4.20 | 0.912 | 0.093 | ( 0.821) | 0.819 |
| 27 | 2.25 | 5.00 | 1.086 | 0.093 | ( 0.977) | 0.993 |
| 28 | 2.33 | 3.50 | 0.760 | 0.093 | ( 0.684) | 0.667 |
| 29 | 2.42 | 6.80 | 1.477 | 0.093 | ( 1.329) | 1.384 |
| 30 | 2.50 | 7.30 | 1.585 | 0.093 | ( 1.427) | 1.492 |
| 31 | 2.58 | 8.20 | 1.781 | 0.093 | ( 1.603) | 1.688 |
| 32 | 2.67 | 5.90 | 1.281 | 0.093 | ( 1.153) | 1.188 |
| 33 | 2.75 | 2.00 | 0.434 | 0.093 | ( 0.391) | 0.342 |
| 34 | 2.83 | 1.80 | 0.391 | 0.093 | ( 0.352) | 0.298 |
| 35 | 2.92 | 1.80 | 0.391 | 0.093 | ( 0.352) | 0.298 |
| 36 | 3.00 | 0.60 | 0.130 | 0.093 | ( 0.117) | 0.038 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 18.4 |

Flood volume = Effective rainfall 1.53(In)
times area 54.4(Ac.)/[(In)/(Ft.)] = 6.9(Ac.Ft)
Total soil loss = 0.28(In)
Total soil loss = 1.261(Ac.Ft)
Total rainfall = 1.81(In)
Flood volume = 302397.4 Cubic Feet
Total soil loss = 54941.8 Cubic Feet

Peak flow rate of this hydrograph = 79.848(CFS)

3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 20.0 40.0 60.0 80.0 |
|---|---|---|---|
| 0+ 5 | 0.0052 | 0.76 | Q |
| 0+10 | 0.0404 | 5.11 | V Q |
| 0+15 | 0.0949 | 7.91 | V Q |
| 0+20 | 0.1526 | 8.38 | V Q |
| 0+25 | 0.2236 | 10.31 | V Q |
| 0+30 | 0.3062 | 11.99 | V Q |
| 0+35 | 0.4007 | 13.71 | V Q |
| 0+40 | 0.4955 | 13.78 | V Q |
| 0+45 | 0.5975 | 14.80 | V Q |
| 0+50 | 0.7040 | 15.46 | V Q |
| 0+55 | 0.8028 | 14.35 | V Q |
| 1+ 0 | 0.9003 | 14.16 | V Q |
| 1+ 5 | 1.0075 | 15.57 | V Q |
| 1+10 | 1.1328 | 18.19 | V Q |
| 1+15 | 1.2691 | 19.79 | V Q |
| 1+20 | 1.4087 | 20.28 | V Q |
| 1+25 | 1.5476 | 20.16 | V Q |
| 1+30 | 1.7040 | 22.71 | V Q |
| 1+35 | 1.8748 | 24.80 | V Q |
| 1+40 | 2.0441 | 24.58 | VQ |
| 1+45 | 2.2237 | 26.09 | VQ |
| 1+50 | 2.4291 | 29.81 | VQ |
| 1+55 | 2.6423 | 30.96 | Q |
| 2+ 0 | 2.8509 | 30.29 | QV |
| 2+ 5 | 3.0607 | 30.47 | Q V |
| 2+10 | 3.2820 | 32.13 | Q V |
| 2+15 | 3.5481 | 38.64 | QV |
| 2+20 | 3.8595 | 45.22 | Q |
| 2+25 | 4.1686 | 44.88 | Q V |
| 2+30 | 4.5714 | 58.49 | V Q |
| 2+35 | 5.0675 | 72.04 | V Q |
| 2+40 | 5.6174 | 79.85 | V Q |
| 2+45 | 6.1043 | 70.70 | Q |
| 2+50 | 6.4205 | 45.90 | Q V |
| 2+55 | 6.6262 | 29.87 | Q V |
| 3+ 0 | 6.7781 | 22.06 | Q V |
| 3+ 5 | 6.8634 | 12.38 | Q V |
| 3+10 | 6.9033 | 5.80 | Q V |
| 3+15 | 6.9240 | 2.99 | Q V |
| 3+20 | 6.9344 | 1.52 | Q V |
| 3+25 | 6.9388 | 0.64 | Q V |
| 3+30 | 6.9406 | 0.26 | Q V |
| 3+35 | 6.9416 | 0.14 | Q V |
| 3+40 | 6.9420 | 0.06 | Q V |
| 3+45 | 6.9421 | 0.01 | Q V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA226100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 22
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

---

Drainage Area = 54.40(Ac.) = 0.085 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 54.40(Ac.) = 0.085 Sq. Mi.
Length along longest watercourse = 3079.00(Ft.)
Length along longest watercourse measured to centroid = 1493.00(Ft.)
Length along longest watercourse = 0.583 Mi.
Length along longest watercourse measured to centroid = 0.283 Mi.
Difference in elevation = 495.00(Ft.)
Slope along watercourse = 848.8470 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.118 Hr.
Lag time = 7.05 Min.
25% of lag time = 1.76 Min.
40% of lag time = 2.82 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 54.40 | 1.14 | 62.02 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 54.40 | 2.50 | 136.00 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.140(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 99.98 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 54.400 | 83.11 | 0.000 |

Total Area Entered = 54.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.1 | 92.9 | 0.093 | 0.000 | 0.093 | 1.000 | 0.093 |
| | | | | | Sum (F) = | 0.093 |

Area averaged mean soil loss (F) (In/Hr) = 0.093

Minimum soil loss rate ((In/Hr)) = 0.046
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 70.873 | 7.310 | 4.008 |
| 2 | 0.167 | 141.746 | 41.797 | 22.915 |
| 3 | 0.250 | 212.619 | 28.618 | 15.690 |
| 4 | 0.333 | 283.492 | 10.818 | 5.931 |
| 5 | 0.417 | 354.365 | 5.940 | 3.256 |
| 6 | 0.500 | 425.238 | 3.024 | 1.658 |
| 7 | 0.583 | 496.111 | 1.092 | 0.598 |
| 8 | 0.667 | 566.983 | 0.595 | 0.326 |
| 9 | 0.750 | 637.856 | 0.486 | 0.266 |
| 10 | 0.833 | 708.729 | 0.321 | 0.176 |
| | | | Sum = 100.000 Sum= | 54.825 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.093 | ( 0.135) | 0.057 |
| 2 | 0.17 | 0.60 | 0.180 | 0.093 | ( 0.162) | 0.087 |
| 3 | 0.25 | 0.60 | 0.180 | 0.093 | ( 0.162) | 0.087 |
| 4 | 0.33 | 0.60 | 0.180 | 0.093 | ( 0.162) | 0.087 |
| 5 | 0.42 | 0.60 | 0.180 | 0.093 | ( 0.162) | 0.087 |
| 6 | 0.50 | 0.70 | 0.210 | 0.093 | ( 0.189) | 0.117 |
| 7 | 0.58 | 0.70 | 0.210 | 0.093 | ( 0.189) | 0.117 |
| 8 | 0.67 | 0.70 | 0.210 | 0.093 | ( 0.189) | 0.117 |
| 9 | 0.75 | 0.70 | 0.210 | 0.093 | ( 0.189) | 0.117 |
| 10 | 0.83 | 0.70 | 0.210 | 0.093 | ( 0.189) | 0.117 |
| 11 | 0.92 | 0.70 | 0.210 | 0.093 | ( 0.189) | 0.117 |
| 12 | 1.00 | 0.80 | 0.240 | 0.093 | ( 0.216) | 0.147 |
| 13 | 1.08 | 0.80 | 0.240 | 0.093 | ( 0.216) | 0.147 |
| 14 | 1.17 | 0.80 | 0.240 | 0.093 | ( 0.216) | 0.147 |
| 15 | 1.25 | 0.80 | 0.240 | 0.093 | ( 0.216) | 0.147 |
| 16 | 1.33 | 0.80 | 0.240 | 0.093 | ( 0.216) | 0.147 |
| 17 | 1.42 | 0.80 | 0.240 | 0.093 | ( 0.216) | 0.147 |
| 18 | 1.50 | 0.80 | 0.240 | 0.093 | ( 0.216) | 0.147 |
| 19 | 1.58 | 0.80 | 0.240 | 0.093 | ( 0.216) | 0.147 |
| 20 | 1.67 | 0.80 | 0.240 | 0.093 | ( 0.216) | 0.147 |
| 21 | 1.75 | 0.80 | 0.240 | 0.093 | ( 0.216) | 0.147 |
| 22 | 1.83 | 0.80 | 0.240 | 0.093 | ( 0.216) | 0.147 |
| 23 | 1.92 | 0.80 | 0.240 | 0.093 | ( 0.216) | 0.147 |
| 24 | 2.00 | 0.90 | 0.270 | 0.093 | ( 0.243) | 0.177 |
| 25 | 2.08 | 0.80 | 0.240 | 0.093 | ( 0.216) | 0.147 |
| 26 | 2.17 | 0.90 | 0.270 | 0.093 | ( 0.243) | 0.177 |
| 27 | 2.25 | 0.90 | 0.270 | 0.093 | ( 0.243) | 0.177 |
| 28 | 2.33 | 0.90 | 0.270 | 0.093 | ( 0.243) | 0.177 |
| 29 | 2.42 | 0.90 | 0.270 | 0.093 | ( 0.243) | 0.177 |
| 30 | 2.50 | 0.90 | 0.270 | 0.093 | ( 0.243) | 0.177 |
| 31 | 2.58 | 0.90 | 0.270 | 0.093 | ( 0.243) | 0.177 |
| 32 | 2.67 | 0.90 | 0.270 | 0.093 | ( 0.243) | 0.177 |
| 33 | 2.75 | 1.00 | 0.300 | 0.093 | ( 0.270) | 0.207 |
| 34 | 2.83 | 1.00 | 0.300 | 0.093 | ( 0.270) | 0.207 |
| 35 | 2.92 | 1.00 | 0.300 | 0.093 | ( 0.270) | 0.207 |
| 36 | 3.00 | 1.00 | 0.300 | 0.093 | ( 0.270) | 0.207 |
| 37 | 3.08 | 1.00 | 0.300 | 0.093 | ( 0.270) | 0.207 |
| 38 | 3.17 | 1.10 | 0.330 | 0.093 | ( 0.297) | 0.237 |
| 39 | 3.25 | 1.10 | 0.330 | 0.093 | ( 0.297) | 0.237 |
| 40 | 3.33 | 1.10 | 0.330 | 0.093 | ( 0.297) | 0.237 |
| 41 | 3.42 | 1.20 | 0.360 | 0.093 | ( 0.324) | 0.267 |
| 42 | 3.50 | 1.30 | 0.390 | 0.093 | ( 0.351) | 0.297 |
| 43 | 3.58 | 1.40 | 0.420 | 0.093 | ( 0.378) | 0.327 |
| 44 | 3.67 | 1.40 | 0.420 | 0.093 | ( 0.378) | 0.327 |
| 45 | 3.75 | 1.50 | 0.450 | 0.093 | ( 0.405) | 0.357 |
| 46 | 3.83 | 1.50 | 0.450 | 0.093 | ( 0.405) | 0.357 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 47 | 3.92 | 1.60 | 0.480 | 0.093 | ( 0.432) | 0.387 | |
| 48 | 4.00 | 1.60 | 0.480 | 0.093 | ( 0.432) | 0.387 | |
| 49 | 4.08 | 1.70 | 0.510 | 0.093 | ( 0.459) | 0.417 | |
| 50 | 4.17 | 1.80 | 0.540 | 0.093 | ( 0.486) | 0.447 | |
| 51 | 4.25 | 1.90 | 0.570 | 0.093 | ( 0.513) | 0.477 | |
| 52 | 4.33 | 2.00 | 0.600 | 0.093 | ( 0.540) | 0.507 | |
| 53 | 4.42 | 2.10 | 0.630 | 0.093 | ( 0.567) | 0.537 | |
| 54 | 4.50 | 2.10 | 0.630 | 0.093 | ( 0.567) | 0.537 | |
| 55 | 4.58 | 2.20 | 0.660 | 0.093 | ( 0.594) | 0.567 | |
| 56 | 4.67 | 2.30 | 0.690 | 0.093 | ( 0.621) | 0.597 | |
| 57 | 4.75 | 2.40 | 0.720 | 0.093 | ( 0.648) | 0.627 | |
| 58 | 4.83 | 2.40 | 0.720 | 0.093 | ( 0.648) | 0.627 | |
| 59 | 4.92 | 2.50 | 0.750 | 0.093 | ( 0.675) | 0.657 | |
| 60 | 5.00 | 2.60 | 0.780 | 0.093 | ( 0.702) | 0.687 | |
| 61 | 5.08 | 3.10 | 0.930 | 0.093 | ( 0.837) | 0.837 | |
| 62 | 5.17 | 3.60 | 1.080 | 0.093 | ( 0.972) | 0.987 | |
| 63 | 5.25 | 3.90 | 1.170 | 0.093 | ( 1.053) | 1.077 | |
| 64 | 5.33 | 4.20 | 1.260 | 0.093 | ( 1.134) | 1.167 | |
| 65 | 5.42 | 4.70 | 1.410 | 0.093 | ( 1.269) | 1.317 | |
| 66 | 5.50 | 5.60 | 1.680 | 0.093 | ( 1.512) | 1.587 | |
| 67 | 5.58 | 1.90 | 0.570 | 0.093 | ( 0.513) | 0.477 | |
| 68 | 5.67 | 0.90 | 0.270 | 0.093 | ( 0.243) | 0.177 | |
| 69 | 5.75 | 0.60 | 0.180 | 0.093 | ( 0.162) | 0.087 | |
| 70 | 5.83 | 0.50 | 0.150 | 0.093 | ( 0.135) | 0.057 | |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.093) | 0.081 | 0.009 | |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.093) | 0.054 | 0.006 | |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.4

Flood volume = Effective rainfall 1.95(In)
times area 54.4(Ac.)/[(In)/(Ft.)] = 8.8(Ac.Ft)
Total soil loss = 0.55(In)
Total soil loss = 2.504(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 384535.2 Cubic Feet
Total soil loss = 109052.5 Cubic Feet

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Peak flow rate of this hydrograph = 72.054(CFS)

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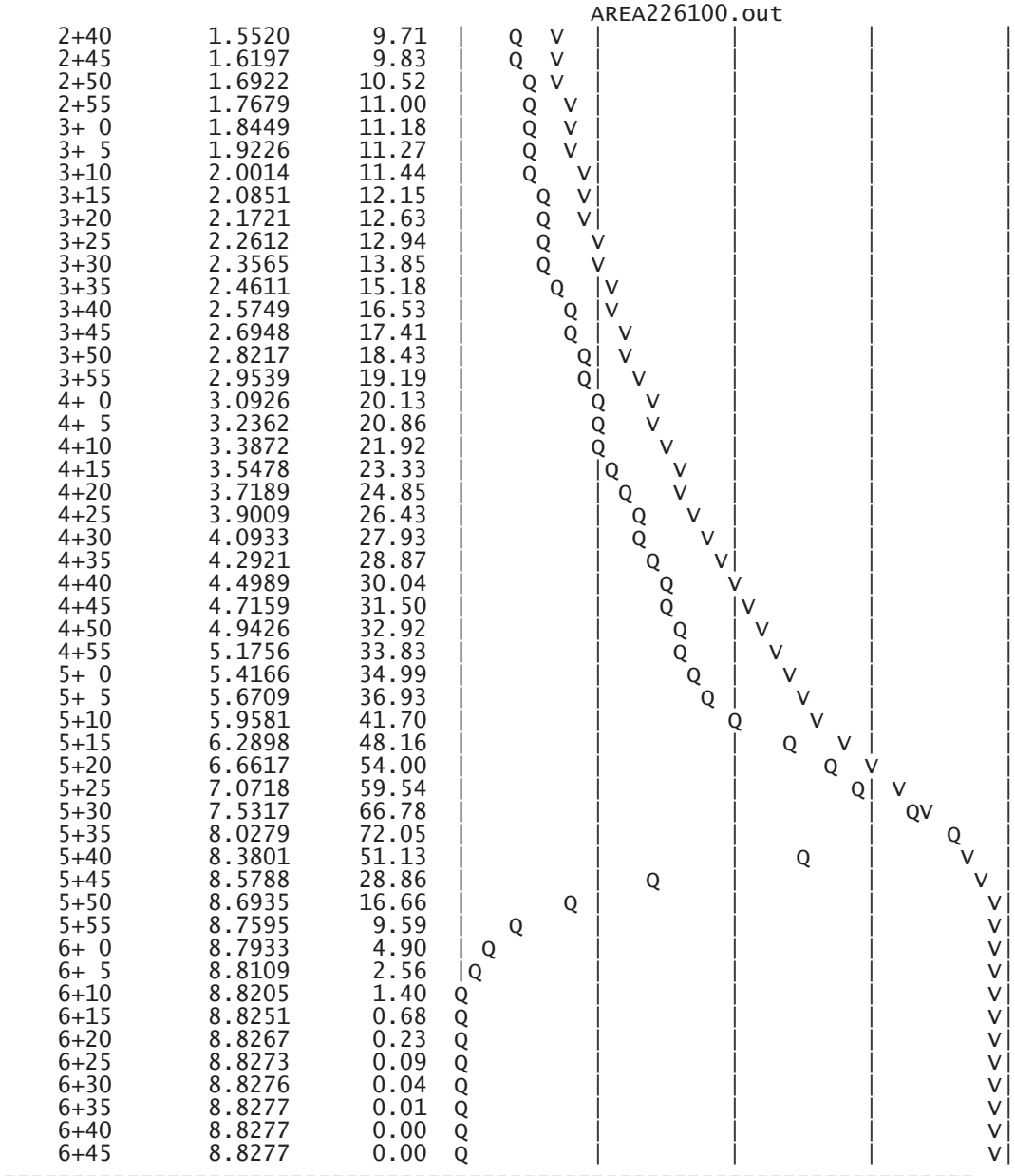
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 20.0 | 40.0 | 60.0 | 80.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0016 | 0.23 | Q | | | | |
| 0+10 | 0.0130 | 1.66 | Q | | | | |
| 0+15 | 0.0354 | 3.25 | VQ | | | | |
| 0+20 | 0.0633 | 4.06 | V Q | | | | |
| 0+25 | 0.0938 | 4.42 | V Q | | | | |
| 0+30 | 0.1264 | 4.74 | V Q | | | | |
| 0+35 | 0.1644 | 5.51 | V Q | | | | |
| 0+40 | 0.2058 | 6.01 | V Q | | | | |
| 0+45 | 0.2486 | 6.22 | \|V Q | | | | |
| 0+50 | 0.2922 | 6.33 | \|V Q | | | | |
| 0+55 | 0.3362 | 6.39 | \|V Q | | | | |
| 1+ 0 | 0.3812 | 6.53 | \|V Q | | | | |
| 1+ 5 | 0.4309 | 7.22 | \|V Q | | | | |
| 1+10 | 0.4840 | 7.70 | \| VQ | | | | |
| 1+15 | 0.5383 | 7.89 | \| VQ | | | | |
| 1+20 | 0.5933 | 7.98 | \| VQ | | | | |
| 1+25 | 0.6486 | 8.03 | \| V Q | | | | |
| 1+30 | 0.7041 | 8.05 | \| VQ | | | | |
| 1+35 | 0.7596 | 8.06 | \| VQ | | | | |
| 1+40 | 0.8152 | 8.07 | \| VQ | | | | |
| 1+45 | 0.8708 | 8.08 | \| VQ | | | | |
| 1+50 | 0.9264 | 8.08 | \| Q | | | | |
| 1+55 | 0.9820 | 8.08 | \| Q | | | | |
| 2+ 0 | 1.0385 | 8.20 | \| Q | | | | |
| 2+ 5 | 1.0988 | 8.76 | \| Q | | | | |
| 2+10 | 1.1585 | 8.67 | \| QV | | | | |
| 2+15 | 1.2209 | 9.06 | \| QV | | | | |
| 2+20 | 1.2860 | 9.45 | \| QV | | | | |
| 2+25 | 1.3520 | 9.58 | \| Q V | | | | |
| 2+30 | 1.4184 | 9.65 | \| Q V | | | | |
| 2+35 | 1.4852 | 9.69 | \| Q V | | | | |



| | | | |
|---|---|---|---|
| 2+40 | 1.5520 | 9.71 | |
| 2+45 | 1.6197 | 9.83 | |
| 2+50 | 1.6922 | 10.52 | |
| 2+55 | 1.7679 | 11.00 | |
| 3+ 0 | 1.8449 | 11.18 | |
| 3+ 5 | 1.9226 | 11.27 | |
| 3+10 | 2.0014 | 11.44 | |
| 3+15 | 2.0851 | 12.15 | |
| 3+20 | 2.1721 | 12.63 | |
| 3+25 | 2.2612 | 12.94 | |
| 3+30 | 2.3565 | 13.85 | |
| 3+35 | 2.4611 | 15.18 | |
| 3+40 | 2.5749 | 16.53 | |
| 3+45 | 2.6948 | 17.41 | |
| 3+50 | 2.8217 | 18.43 | |
| 3+55 | 2.9539 | 19.19 | |
| 4+ 0 | 3.0926 | 20.13 | |
| 4+ 5 | 3.2362 | 20.86 | |
| 4+10 | 3.3872 | 21.92 | |
| 4+15 | 3.5478 | 23.33 | |
| 4+20 | 3.7189 | 24.85 | |
| 4+25 | 3.9009 | 26.43 | |
| 4+30 | 4.0933 | 27.93 | |
| 4+35 | 4.2921 | 28.87 | |
| 4+40 | 4.4989 | 30.04 | |
| 4+45 | 4.7159 | 31.50 | |
| 4+50 | 4.9426 | 32.92 | |
| 4+55 | 5.1756 | 33.83 | |
| 5+ 0 | 5.4166 | 34.99 | |
| 5+ 5 | 5.6709 | 36.93 | |
| 5+10 | 5.9581 | 41.70 | |
| 5+15 | 6.2898 | 48.16 | |
| 5+20 | 6.6617 | 54.00 | |
| 5+25 | 7.0718 | 59.54 | |
| 5+30 | 7.5317 | 66.78 | |
| 5+35 | 8.0279 | 72.05 | |
| 5+40 | 8.3801 | 51.13 | |
| 5+45 | 8.5788 | 28.86 | |
| 5+50 | 8.6935 | 16.66 | |
| 5+55 | 8.7595 | 9.59 | |
| 6+ 0 | 8.7933 | 4.90 | |
| 6+ 5 | 8.8109 | 2.56 | |
| 6+10 | 8.8205 | 1.40 | |
| 6+15 | 8.8251 | 0.68 | |
| 6+20 | 8.8267 | 0.23 | |
| 6+25 | 8.8273 | 0.09 | |
| 6+30 | 8.8276 | 0.04 | |
| 6+35 | 8.8277 | 0.01 | |
| 6+40 | 8.8277 | 0.00 | |
| 6+45 | 8.8277 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA2224100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 22
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

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Drainage Area = 54.40(Ac.) = 0.085 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 54.40(Ac.) = 0.085 Sq. Mi.
Length along longest watercourse = 3079.00(Ft.)
Length along longest watercourse measured to centroid = 1493.00(Ft.)
Length along longest watercourse = 0.583 Mi.
Length along longest watercourse measured to centroid = 0.283 Mi.
Difference in elevation = 495.00(Ft.)
Slope along watercourse = 848.8470 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.118 Hr.
Lag time = 7.05 Min.
25% of lag time = 1.76 Min.
40% of lag time = 2.82 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 54.40 | 1.80 | 97.92 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 54.40 | 4.66 | 253.50 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.660(In)

Point rain (area averaged) = 4.660(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 4.660(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 54.400 | 83.11 | 0.000 |

Total Area Entered = 54.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.1 | 92.9 | 0.093 | 0.000 | 0.093 | 1.000 | 0.093 |
| | | | | | Sum (F) = | 0.093 |

Area averaged mean soil loss (F) (In/Hr) = 0.093

Minimum soil loss rate ((In/Hr)) = 0.046
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 70.873 | 7.310 | 4.008 |
| 2 0.167 | 141.746 | 41.797 | 22.915 |
| 3 0.250 | 212.619 | 28.618 | 15.690 |
| 4 0.333 | 283.492 | 10.818 | 5.931 |
| 5 0.417 | 354.365 | 5.940 | 3.256 |
| 6 0.500 | 425.238 | 3.024 | 1.658 |
| 7 0.583 | 496.111 | 1.092 | 0.598 |
| 8 0.667 | 566.983 | 0.595 | 0.326 |
| 9 0.750 | 637.856 | 0.486 | 0.266 |
| 10 0.833 | 708.729 | 0.321 | 0.176 |
| | | Sum = 100.000 | Sum= 54.825 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.037 | ( 0.164) | 0.034 | 0.004 |
| 2 | 0.17 | 0.07 | 0.037 | ( 0.164) | 0.034 | 0.004 |
| 3 | 0.25 | 0.07 | 0.037 | ( 0.163) | 0.034 | 0.004 |
| 4 | 0.33 | 0.10 | 0.056 | ( 0.163) | 0.050 | 0.006 |
| 5 | 0.42 | 0.10 | 0.056 | ( 0.162) | 0.050 | 0.006 |
| 6 | 0.50 | 0.10 | 0.056 | ( 0.161) | 0.050 | 0.006 |
| 7 | 0.58 | 0.10 | 0.056 | ( 0.161) | 0.050 | 0.006 |
| 8 | 0.67 | 0.10 | 0.056 | ( 0.160) | 0.050 | 0.006 |
| 9 | 0.75 | 0.10 | 0.056 | ( 0.159) | 0.050 | 0.006 |
| 10 | 0.83 | 0.13 | 0.075 | ( 0.159) | 0.067 | 0.007 |
| 11 | 0.92 | 0.13 | 0.075 | ( 0.158) | 0.067 | 0.007 |
| 12 | 1.00 | 0.13 | 0.075 | ( 0.157) | 0.067 | 0.007 |
| 13 | 1.08 | 0.10 | 0.056 | ( 0.157) | 0.050 | 0.006 |
| 14 | 1.17 | 0.10 | 0.056 | ( 0.156) | 0.050 | 0.006 |
| 15 | 1.25 | 0.10 | 0.056 | ( 0.156) | 0.050 | 0.006 |
| 16 | 1.33 | 0.10 | 0.056 | ( 0.155) | 0.050 | 0.006 |
| 17 | 1.42 | 0.10 | 0.056 | ( 0.154) | 0.050 | 0.006 |
| 18 | 1.50 | 0.10 | 0.056 | ( 0.154) | 0.050 | 0.006 |
| 19 | 1.58 | 0.10 | 0.056 | ( 0.153) | 0.050 | 0.006 |
| 20 | 1.67 | 0.10 | 0.056 | ( 0.153) | 0.050 | 0.006 |
| 21 | 1.75 | 0.10 | 0.056 | ( 0.152) | 0.050 | 0.006 |
| 22 | 1.83 | 0.13 | 0.075 | ( 0.151) | 0.067 | 0.007 |
| 23 | 1.92 | 0.13 | 0.075 | ( 0.151) | 0.067 | 0.007 |
| 24 | 2.00 | 0.13 | 0.075 | ( 0.150) | 0.067 | 0.007 |
| 25 | 2.08 | 0.13 | 0.075 | ( 0.149) | 0.067 | 0.007 |
| 26 | 2.17 | 0.13 | 0.075 | ( 0.149) | 0.067 | 0.007 |
| 27 | 2.25 | 0.13 | 0.075 | ( 0.148) | 0.067 | 0.007 |
| 28 | 2.33 | 0.13 | 0.075 | ( 0.148) | 0.067 | 0.007 |
| 29 | 2.42 | 0.13 | 0.075 | ( 0.147) | 0.067 | 0.007 |
| 30 | 2.50 | 0.13 | 0.075 | ( 0.146) | 0.067 | 0.007 |
| 31 | 2.58 | 0.17 | 0.093 | ( 0.146) | 0.084 | 0.009 |
| 32 | 2.67 | 0.17 | 0.093 | ( 0.145) | 0.084 | 0.009 |
| 33 | 2.75 | 0.17 | 0.093 | ( 0.145) | 0.084 | 0.009 |
| 34 | 2.83 | 0.17 | 0.093 | ( 0.144) | 0.084 | 0.009 |
| 35 | 2.92 | 0.17 | 0.093 | ( 0.143) | 0.084 | 0.009 |
| 36 | 3.00 | 0.17 | 0.093 | ( 0.143) | 0.084 | 0.009 |
| 37 | 3.08 | 0.17 | 0.093 | ( 0.142) | 0.084 | 0.009 |
| 38 | 3.17 | 0.17 | 0.093 | ( 0.142) | 0.084 | 0.009 |
| 39 | 3.25 | 0.17 | 0.093 | ( 0.141) | 0.084 | 0.009 |
| 40 | 3.33 | 0.17 | 0.093 | ( 0.141) | 0.084 | 0.009 |
| 41 | 3.42 | 0.17 | 0.093 | ( 0.140) | 0.084 | 0.009 |
| 42 | 3.50 | 0.17 | 0.093 | ( 0.139) | 0.084 | 0.009 |
| 43 | 3.58 | 0.17 | 0.093 | ( 0.139) | 0.084 | 0.009 |
| 44 | 3.67 | 0.17 | 0.093 | ( 0.138) | 0.084 | 0.009 |
| 45 | 3.75 | 0.17 | 0.093 | ( 0.138) | 0.084 | 0.009 |
| 46 | 3.83 | 0.20 | 0.112 | ( 0.137) | 0.101 | 0.011 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 47 | 3.92 | 0.20 | 0.112 | ( | 0.136) | 0.101 | | 0.011 |
| 48 | 4.00 | 0.20 | 0.112 | ( | 0.136) | 0.101 | | 0.011 |
| 49 | 4.08 | 0.20 | 0.112 | ( | 0.135) | 0.101 | | 0.011 |
| 50 | 4.17 | 0.20 | 0.112 | ( | 0.135) | 0.101 | | 0.011 |
| 51 | 4.25 | 0.20 | 0.112 | ( | 0.134) | 0.101 | | 0.011 |
| 52 | 4.33 | 0.23 | 0.130 | ( | 0.134) | 0.117 | | 0.013 |
| 53 | 4.42 | 0.23 | 0.130 | ( | 0.133) | 0.117 | | 0.013 |
| 54 | 4.50 | 0.23 | 0.130 | ( | 0.132) | 0.117 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.130 | ( | 0.132) | 0.117 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.130 | ( | 0.131) | 0.117 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.130 | ( | 0.131) | 0.117 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.149 | | 0.130 | ( | 0.134) | 0.019 |
| 59 | 4.92 | 0.27 | 0.149 | | 0.130 | ( | 0.134) | 0.019 |
| 60 | 5.00 | 0.27 | 0.149 | | 0.129 | ( | 0.134) | 0.020 |
| 61 | 5.08 | 0.20 | 0.112 | ( | 0.128) | 0.101 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.112 | ( | 0.128) | 0.101 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.112 | ( | 0.127) | 0.101 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.130 | ( | 0.127) | 0.117 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.130 | ( | 0.126) | 0.117 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.130 | ( | 0.126) | 0.117 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.149 | | 0.125 | ( | 0.134) | 0.024 |
| 68 | 5.67 | 0.27 | 0.149 | | 0.125 | ( | 0.134) | 0.024 |
| 69 | 5.75 | 0.27 | 0.149 | | 0.124 | ( | 0.134) | 0.025 |
| 70 | 5.83 | 0.27 | 0.149 | | 0.124 | ( | 0.134) | 0.026 |
| 71 | 5.92 | 0.27 | 0.149 | | 0.123 | ( | 0.134) | 0.026 |
| 72 | 6.00 | 0.27 | 0.149 | | 0.122 | ( | 0.134) | 0.027 |
| 73 | 6.08 | 0.30 | 0.168 | | 0.122 | ( | 0.151) | 0.046 |
| 74 | 6.17 | 0.30 | 0.168 | | 0.121 | ( | 0.151) | 0.046 |
| 75 | 6.25 | 0.30 | 0.168 | | 0.121 | ( | 0.151) | 0.047 |
| 76 | 6.33 | 0.30 | 0.168 | | 0.120 | ( | 0.151) | 0.047 |
| 77 | 6.42 | 0.30 | 0.168 | | 0.120 | ( | 0.151) | 0.048 |
| 78 | 6.50 | 0.30 | 0.168 | | 0.119 | ( | 0.151) | 0.049 |
| 79 | 6.58 | 0.33 | 0.186 | | 0.119 | ( | 0.168) | 0.068 |
| 80 | 6.67 | 0.33 | 0.186 | | 0.118 | ( | 0.168) | 0.068 |
| 81 | 6.75 | 0.33 | 0.186 | | 0.118 | ( | 0.168) | 0.069 |
| 82 | 6.83 | 0.33 | 0.186 | | 0.117 | ( | 0.168) | 0.069 |
| 83 | 6.92 | 0.33 | 0.186 | | 0.117 | ( | 0.168) | 0.070 |
| 84 | 7.00 | 0.33 | 0.186 | | 0.116 | ( | 0.168) | 0.070 |
| 85 | 7.08 | 0.33 | 0.186 | | 0.115 | ( | 0.168) | 0.071 |
| 86 | 7.17 | 0.33 | 0.186 | | 0.115 | ( | 0.168) | 0.071 |
| 87 | 7.25 | 0.33 | 0.186 | | 0.114 | ( | 0.168) | 0.072 |
| 88 | 7.33 | 0.37 | 0.205 | | 0.114 | ( | 0.185) | 0.091 |
| 89 | 7.42 | 0.37 | 0.205 | | 0.113 | ( | 0.185) | 0.092 |
| 90 | 7.50 | 0.37 | 0.205 | | 0.113 | ( | 0.185) | 0.092 |
| 91 | 7.58 | 0.40 | 0.224 | | 0.112 | ( | 0.201) | 0.111 |
| 92 | 7.67 | 0.40 | 0.224 | | 0.112 | ( | 0.201) | 0.112 |
| 93 | 7.75 | 0.40 | 0.224 | | 0.111 | ( | 0.201) | 0.112 |
| 94 | 7.83 | 0.43 | 0.242 | | 0.111 | ( | 0.218) | 0.132 |
| 95 | 7.92 | 0.43 | 0.242 | | 0.110 | ( | 0.218) | 0.132 |
| 96 | 8.00 | 0.43 | 0.242 | | 0.110 | ( | 0.218) | 0.133 |
| 97 | 8.08 | 0.50 | 0.280 | | 0.109 | ( | 0.252) | 0.170 |
| 98 | 8.17 | 0.50 | 0.280 | | 0.109 | ( | 0.252) | 0.171 |
| 99 | 8.25 | 0.50 | 0.280 | | 0.108 | ( | 0.252) | 0.171 |
| 100 | 8.33 | 0.50 | 0.280 | | 0.108 | ( | 0.252) | 0.172 |
| 101 | 8.42 | 0.50 | 0.280 | | 0.107 | ( | 0.252) | 0.172 |
| 102 | 8.50 | 0.50 | 0.280 | | 0.107 | ( | 0.252) | 0.173 |
| 103 | 8.58 | 0.53 | 0.298 | | 0.106 | ( | 0.268) | 0.192 |
| 104 | 8.67 | 0.53 | 0.298 | | 0.106 | ( | 0.268) | 0.192 |
| 105 | 8.75 | 0.53 | 0.298 | | 0.105 | ( | 0.268) | 0.193 |
| 106 | 8.83 | 0.57 | 0.317 | | 0.105 | ( | 0.285) | 0.212 |
| 107 | 8.92 | 0.57 | 0.317 | | 0.104 | ( | 0.285) | 0.213 |
| 108 | 9.00 | 0.57 | 0.317 | | 0.104 | ( | 0.285) | 0.213 |
| 109 | 9.08 | 0.63 | 0.354 | | 0.103 | ( | 0.319) | 0.251 |
| 110 | 9.17 | 0.63 | 0.354 | | 0.103 | ( | 0.319) | 0.251 |
| 111 | 9.25 | 0.63 | 0.354 | | 0.102 | ( | 0.319) | 0.252 |
| 112 | 9.33 | 0.67 | 0.373 | | 0.102 | ( | 0.335) | 0.271 |
| 113 | 9.42 | 0.67 | 0.373 | | 0.101 | ( | 0.335) | 0.271 |
| 114 | 9.50 | 0.67 | 0.373 | | 0.101 | ( | 0.335) | 0.272 |
| 115 | 9.58 | 0.70 | 0.391 | | 0.100 | ( | 0.352) | 0.291 |
| 116 | 9.67 | 0.70 | 0.391 | | 0.100 | ( | 0.352) | 0.292 |
| 117 | 9.75 | 0.70 | 0.391 | | 0.099 | ( | 0.352) | 0.292 |
| 118 | 9.83 | 0.73 | 0.410 | | 0.099 | ( | 0.369) | 0.311 |
| 119 | 9.92 | 0.73 | 0.410 | | 0.098 | ( | 0.369) | 0.312 |
| 120 | 10.00 | 0.73 | 0.410 | | 0.098 | ( | 0.369) | 0.312 |
| 121 | 10.08 | 0.50 | 0.280 | | 0.097 | ( | 0.252) | 0.182 |
| 122 | 10.17 | 0.50 | 0.280 | | 0.097 | ( | 0.252) | 0.183 |
| 123 | 10.25 | 0.50 | 0.280 | | 0.097 | ( | 0.252) | 0.183 |
| 124 | 10.33 | 0.50 | 0.280 | | 0.096 | ( | 0.252) | 0.184 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 125 | 10.42 | 0.50 | 0.280 | 0.096 | ( 0.252) | 0.184 |
| 126 | 10.50 | 0.50 | 0.280 | 0.095 | ( 0.252) | 0.184 |
| 127 | 10.58 | 0.67 | 0.373 | 0.095 | ( 0.335) | 0.278 |
| 128 | 10.67 | 0.67 | 0.373 | 0.094 | ( 0.335) | 0.279 |
| 129 | 10.75 | 0.67 | 0.373 | 0.094 | ( 0.335) | 0.279 |
| 130 | 10.83 | 0.67 | 0.373 | 0.093 | ( 0.335) | 0.279 |
| 131 | 10.92 | 0.67 | 0.373 | 0.093 | ( 0.335) | 0.280 |
| 132 | 11.00 | 0.67 | 0.373 | 0.092 | ( 0.335) | 0.280 |
| 133 | 11.08 | 0.63 | 0.354 | 0.092 | ( 0.319) | 0.262 |
| 134 | 11.17 | 0.63 | 0.354 | 0.091 | ( 0.319) | 0.263 |
| 135 | 11.25 | 0.63 | 0.354 | 0.091 | ( 0.319) | 0.263 |
| 136 | 11.33 | 0.63 | 0.354 | 0.091 | ( 0.319) | 0.264 |
| 137 | 11.42 | 0.63 | 0.354 | 0.090 | ( 0.319) | 0.264 |
| 138 | 11.50 | 0.63 | 0.354 | 0.090 | ( 0.319) | 0.264 |
| 139 | 11.58 | 0.57 | 0.317 | 0.089 | ( 0.285) | 0.228 |
| 140 | 11.67 | 0.57 | 0.317 | 0.089 | ( 0.285) | 0.228 |
| 141 | 11.75 | 0.57 | 0.317 | 0.088 | ( 0.285) | 0.229 |
| 142 | 11.83 | 0.60 | 0.335 | 0.088 | ( 0.302) | 0.248 |
| 143 | 11.92 | 0.60 | 0.335 | 0.087 | ( 0.302) | 0.248 |
| 144 | 12.00 | 0.60 | 0.335 | 0.087 | ( 0.302) | 0.248 |
| 145 | 12.08 | 0.83 | 0.466 | 0.087 | ( 0.419) | 0.379 |
| 146 | 12.17 | 0.83 | 0.466 | 0.086 | ( 0.419) | 0.380 |
| 147 | 12.25 | 0.83 | 0.466 | 0.086 | ( 0.419) | 0.380 |
| 148 | 12.33 | 0.87 | 0.485 | 0.085 | ( 0.436) | 0.399 |
| 149 | 12.42 | 0.87 | 0.485 | 0.085 | ( 0.436) | 0.400 |
| 150 | 12.50 | 0.87 | 0.485 | 0.084 | ( 0.436) | 0.400 |
| 151 | 12.58 | 0.93 | 0.522 | 0.084 | ( 0.470) | 0.438 |
| 152 | 12.67 | 0.93 | 0.522 | 0.084 | ( 0.470) | 0.438 |
| 153 | 12.75 | 0.93 | 0.522 | 0.083 | ( 0.470) | 0.439 |
| 154 | 12.83 | 0.97 | 0.541 | 0.083 | ( 0.486) | 0.458 |
| 155 | 12.92 | 0.97 | 0.541 | 0.082 | ( 0.486) | 0.458 |
| 156 | 13.00 | 0.97 | 0.541 | 0.082 | ( 0.486) | 0.459 |
| 157 | 13.08 | 1.13 | 0.634 | 0.081 | ( 0.570) | 0.552 |
| 158 | 13.17 | 1.13 | 0.634 | 0.081 | ( 0.570) | 0.553 |
| 159 | 13.25 | 1.13 | 0.634 | 0.081 | ( 0.570) | 0.553 |
| 160 | 13.33 | 1.13 | 0.634 | 0.080 | ( 0.570) | 0.553 |
| 161 | 13.42 | 1.13 | 0.634 | 0.080 | ( 0.570) | 0.554 |
| 162 | 13.50 | 1.13 | 0.634 | 0.079 | ( 0.570) | 0.554 |
| 163 | 13.58 | 0.77 | 0.429 | 0.079 | ( 0.386) | 0.350 |
| 164 | 13.67 | 0.77 | 0.429 | 0.079 | ( 0.386) | 0.350 |
| 165 | 13.75 | 0.77 | 0.429 | 0.078 | ( 0.386) | 0.350 |
| 166 | 13.83 | 0.77 | 0.429 | 0.078 | ( 0.386) | 0.351 |
| 167 | 13.92 | 0.77 | 0.429 | 0.077 | ( 0.386) | 0.351 |
| 168 | 14.00 | 0.77 | 0.429 | 0.077 | ( 0.386) | 0.352 |
| 169 | 14.08 | 0.90 | 0.503 | 0.077 | ( 0.453) | 0.427 |
| 170 | 14.17 | 0.90 | 0.503 | 0.076 | ( 0.453) | 0.427 |
| 171 | 14.25 | 0.90 | 0.503 | 0.076 | ( 0.453) | 0.427 |
| 172 | 14.33 | 0.87 | 0.485 | 0.075 | ( 0.436) | 0.409 |
| 173 | 14.42 | 0.87 | 0.485 | 0.075 | ( 0.436) | 0.410 |
| 174 | 14.50 | 0.87 | 0.485 | 0.075 | ( 0.436) | 0.410 |
| 175 | 14.58 | 0.87 | 0.485 | 0.074 | ( 0.436) | 0.410 |
| 176 | 14.67 | 0.87 | 0.485 | 0.074 | ( 0.436) | 0.411 |
| 177 | 14.75 | 0.87 | 0.485 | 0.074 | ( 0.436) | 0.411 |
| 178 | 14.83 | 0.83 | 0.466 | 0.073 | ( 0.419) | 0.393 |
| 179 | 14.92 | 0.83 | 0.466 | 0.073 | ( 0.419) | 0.393 |
| 180 | 15.00 | 0.83 | 0.466 | 0.072 | ( 0.419) | 0.394 |
| 181 | 15.08 | 0.80 | 0.447 | 0.072 | ( 0.403) | 0.375 |
| 182 | 15.17 | 0.80 | 0.447 | 0.072 | ( 0.403) | 0.376 |
| 183 | 15.25 | 0.80 | 0.447 | 0.071 | ( 0.403) | 0.376 |
| 184 | 15.33 | 0.77 | 0.429 | 0.071 | ( 0.386) | 0.358 |
| 185 | 15.42 | 0.77 | 0.429 | 0.071 | ( 0.386) | 0.358 |
| 186 | 15.50 | 0.77 | 0.429 | 0.070 | ( 0.386) | 0.358 |
| 187 | 15.58 | 0.63 | 0.354 | 0.070 | ( 0.319) | 0.284 |
| 188 | 15.67 | 0.63 | 0.354 | 0.070 | ( 0.319) | 0.285 |
| 189 | 15.75 | 0.63 | 0.354 | 0.069 | ( 0.319) | 0.285 |
| 190 | 15.83 | 0.63 | 0.354 | 0.069 | ( 0.319) | 0.285 |
| 191 | 15.92 | 0.63 | 0.354 | 0.068 | ( 0.319) | 0.286 |
| 192 | 16.00 | 0.63 | 0.354 | 0.068 | ( 0.319) | 0.286 |
| 193 | 16.08 | 0.13 | 0.075 | ( 0.068) | 0.067 | 0.007 |
| 194 | 16.17 | 0.13 | 0.075 | ( 0.067) | 0.067 | 0.007 |
| 195 | 16.25 | 0.13 | 0.075 | 0.067 | ( 0.067) | 0.007 |
| 196 | 16.33 | 0.13 | 0.075 | 0.067 | ( 0.067) | 0.008 |
| 197 | 16.42 | 0.13 | 0.075 | 0.066 | ( 0.067) | 0.008 |
| 198 | 16.50 | 0.13 | 0.075 | 0.066 | ( 0.067) | 0.009 |
| 199 | 16.58 | 0.10 | 0.056 | ( 0.066) | 0.050 | 0.006 |
| 200 | 16.67 | 0.10 | 0.056 | ( 0.065) | 0.050 | 0.006 |
| 201 | 16.75 | 0.10 | 0.056 | ( 0.065) | 0.050 | 0.006 |
| 202 | 16.83 | 0.10 | 0.056 | ( 0.065) | 0.050 | 0.006 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 203 | 16.92 | 0.10 | 0.056 | ( | 0.064) | 0.050 | | 0.006 |
| 204 | 17.00 | 0.10 | 0.056 | ( | 0.064) | 0.050 | | 0.006 |
| 205 | 17.08 | 0.17 | 0.093 | | 0.064 | ( 0.084) | | 0.029 |
| 206 | 17.17 | 0.17 | 0.093 | | 0.063 | ( 0.084) | | 0.030 |
| 207 | 17.25 | 0.17 | 0.093 | | 0.063 | ( 0.084) | | 0.030 |
| 208 | 17.33 | 0.17 | 0.093 | | 0.063 | ( 0.084) | | 0.030 |
| 209 | 17.42 | 0.17 | 0.093 | | 0.062 | ( 0.084) | | 0.031 |
| 210 | 17.50 | 0.17 | 0.093 | | 0.062 | ( 0.084) | | 0.031 |
| 211 | 17.58 | 0.17 | 0.093 | | 0.062 | ( 0.084) | | 0.031 |
| 212 | 17.67 | 0.17 | 0.093 | | 0.062 | ( 0.084) | | 0.032 |
| 213 | 17.75 | 0.17 | 0.093 | | 0.061 | ( 0.084) | | 0.032 |
| 214 | 17.83 | 0.13 | 0.075 | | 0.061 | ( 0.067) | | 0.014 |
| 215 | 17.92 | 0.13 | 0.075 | | 0.061 | ( 0.067) | | 0.014 |
| 216 | 18.00 | 0.13 | 0.075 | | 0.060 | ( 0.067) | | 0.014 |
| 217 | 18.08 | 0.13 | 0.075 | | 0.060 | ( 0.067) | | 0.015 |
| 218 | 18.17 | 0.13 | 0.075 | | 0.060 | ( 0.067) | | 0.015 |
| 219 | 18.25 | 0.13 | 0.075 | | 0.059 | ( 0.067) | | 0.015 |
| 220 | 18.33 | 0.13 | 0.075 | | 0.059 | ( 0.067) | | 0.015 |
| 221 | 18.42 | 0.13 | 0.075 | | 0.059 | ( 0.067) | | 0.016 |
| 222 | 18.50 | 0.13 | 0.075 | | 0.059 | ( 0.067) | | 0.016 |
| 223 | 18.58 | 0.10 | 0.056 | ( | 0.058) | 0.050 | | 0.006 |
| 224 | 18.67 | 0.10 | 0.056 | ( | 0.058) | 0.050 | | 0.006 |
| 225 | 18.75 | 0.10 | 0.056 | ( | 0.058) | 0.050 | | 0.006 |
| 226 | 18.83 | 0.07 | 0.037 | ( | 0.057) | 0.034 | | 0.004 |
| 227 | 18.92 | 0.07 | 0.037 | ( | 0.057) | 0.034 | | 0.004 |
| 228 | 19.00 | 0.07 | 0.037 | ( | 0.057) | 0.034 | | 0.004 |
| 229 | 19.08 | 0.10 | 0.056 | ( | 0.057) | 0.050 | | 0.006 |
| 230 | 19.17 | 0.10 | 0.056 | ( | 0.056) | 0.050 | | 0.006 |
| 231 | 19.25 | 0.10 | 0.056 | ( | 0.056) | 0.050 | | 0.006 |
| 232 | 19.33 | 0.13 | 0.075 | | 0.056 | ( 0.067) | | 0.019 |
| 233 | 19.42 | 0.13 | 0.075 | | 0.056 | ( 0.067) | | 0.019 |
| 234 | 19.50 | 0.13 | 0.075 | | 0.055 | ( 0.067) | | 0.019 |
| 235 | 19.58 | 0.10 | 0.056 | ( | 0.055) | 0.050 | | 0.006 |
| 236 | 19.67 | 0.10 | 0.056 | ( | 0.055) | 0.050 | | 0.006 |
| 237 | 19.75 | 0.10 | 0.056 | ( | 0.055) | 0.050 | | 0.006 |
| 238 | 19.83 | 0.07 | 0.037 | ( | 0.054) | 0.034 | | 0.004 |
| 239 | 19.92 | 0.07 | 0.037 | ( | 0.054) | 0.034 | | 0.004 |
| 240 | 20.00 | 0.07 | 0.037 | ( | 0.054) | 0.034 | | 0.004 |
| 241 | 20.08 | 0.10 | 0.056 | ( | 0.054) | 0.050 | | 0.006 |
| 242 | 20.17 | 0.10 | 0.056 | ( | 0.053) | 0.050 | | 0.006 |
| 243 | 20.25 | 0.10 | 0.056 | ( | 0.053) | 0.050 | | 0.006 |
| 244 | 20.33 | 0.10 | 0.056 | ( | 0.053) | 0.050 | | 0.006 |
| 245 | 20.42 | 0.10 | 0.056 | ( | 0.053) | 0.050 | | 0.006 |
| 246 | 20.50 | 0.10 | 0.056 | ( | 0.052) | 0.050 | | 0.006 |
| 247 | 20.58 | 0.10 | 0.056 | ( | 0.052) | 0.050 | | 0.006 |
| 248 | 20.67 | 0.10 | 0.056 | ( | 0.052) | 0.050 | | 0.006 |
| 249 | 20.75 | 0.10 | 0.056 | ( | 0.052) | 0.050 | | 0.006 |
| 250 | 20.83 | 0.07 | 0.037 | ( | 0.052) | 0.034 | | 0.004 |
| 251 | 20.92 | 0.07 | 0.037 | ( | 0.051) | 0.034 | | 0.004 |
| 252 | 21.00 | 0.07 | 0.037 | ( | 0.051) | 0.034 | | 0.004 |
| 253 | 21.08 | 0.10 | 0.056 | ( | 0.051) | 0.050 | | 0.006 |
| 254 | 21.17 | 0.10 | 0.056 | ( | 0.051) | 0.050 | | 0.006 |
| 255 | 21.25 | 0.10 | 0.056 | ( | 0.051) | 0.050 | | 0.006 |
| 256 | 21.33 | 0.07 | 0.037 | ( | 0.050) | 0.034 | | 0.004 |
| 257 | 21.42 | 0.07 | 0.037 | ( | 0.050) | 0.034 | | 0.004 |
| 258 | 21.50 | 0.07 | 0.037 | ( | 0.050) | 0.034 | | 0.004 |
| 259 | 21.58 | 0.10 | 0.056 | | 0.050 | ( 0.050) | | 0.006 |
| 260 | 21.67 | 0.10 | 0.056 | | 0.050 | ( 0.050) | | 0.006 |
| 261 | 21.75 | 0.10 | 0.056 | | 0.049 | ( 0.050) | | 0.006 |
| 262 | 21.83 | 0.07 | 0.037 | ( | 0.049) | 0.034 | | 0.004 |
| 263 | 21.92 | 0.07 | 0.037 | ( | 0.049) | 0.034 | | 0.004 |
| 264 | 22.00 | 0.07 | 0.037 | ( | 0.049) | 0.034 | | 0.004 |
| 265 | 22.08 | 0.10 | 0.056 | | 0.049 | ( 0.050) | | 0.007 |
| 266 | 22.17 | 0.10 | 0.056 | | 0.049 | ( 0.050) | | 0.007 |
| 267 | 22.25 | 0.10 | 0.056 | | 0.048 | ( 0.050) | | 0.007 |
| 268 | 22.33 | 0.07 | 0.037 | ( | 0.048) | 0.034 | | 0.004 |
| 269 | 22.42 | 0.07 | 0.037 | ( | 0.048) | 0.034 | | 0.004 |
| 270 | 22.50 | 0.07 | 0.037 | ( | 0.048) | 0.034 | | 0.004 |
| 271 | 22.58 | 0.07 | 0.037 | ( | 0.048) | 0.034 | | 0.004 |
| 272 | 22.67 | 0.07 | 0.037 | ( | 0.048) | 0.034 | | 0.004 |
| 273 | 22.75 | 0.07 | 0.037 | ( | 0.048) | 0.034 | | 0.004 |
| 274 | 22.83 | 0.07 | 0.037 | ( | 0.048) | 0.034 | | 0.004 |
| 275 | 22.92 | 0.07 | 0.037 | ( | 0.047) | 0.034 | | 0.004 |
| 276 | 23.00 | 0.07 | 0.037 | ( | 0.047) | 0.034 | | 0.004 |
| 277 | 23.08 | 0.07 | 0.037 | ( | 0.047) | 0.034 | | 0.004 |
| 278 | 23.17 | 0.07 | 0.037 | ( | 0.047) | 0.034 | | 0.004 |
| 279 | 23.25 | 0.07 | 0.037 | ( | 0.047) | 0.034 | | 0.004 |
| 280 | 23.33 | 0.07 | 0.037 | ( | 0.047) | 0.034 | | 0.004 |

```
281  23.42     0.07      0.037       (  0.047)       0.034        0.004
282  23.50     0.07      0.037       (  0.047)       0.034        0.004
283  23.58     0.07      0.037       (  0.047)       0.034        0.004
284  23.67     0.07      0.037       (  0.047)       0.034        0.004
285  23.75     0.07      0.037       (  0.046)       0.034        0.004
286  23.83     0.07      0.037       (  0.046)       0.034        0.004
287  23.92     0.07      0.037       (  0.046)       0.034        0.004
288  24.00     0.07      0.037       (  0.046)       0.034        0.004
              (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    34.2
       Flood volume = Effective rainfall      2.85(In)
        times area      54.4(Ac.)/[(In)/(Ft.)] =      12.9(Ac.Ft)
       Total soil loss =      1.81(In)
       Total soil loss =     8.203(Ac.Ft)
       Total rainfall =      4.66(In)
       Flood volume =      562816.9 Cubic Feet
       Total soil loss =      357304.8 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =     30.230(CFS)
       ---------------------------------------------------------------------
       +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
       ---------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))

       ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0       10.0      20.0      30.0      40.0
 ----------------------------------------------------------------------------
   0+ 5       0.0001      0.01  Q         |         |         |         |
   0+10       0.0008      0.10  Q         |         |         |         |
   0+15       0.0019      0.16  Q         |         |         |         |
   0+20       0.0032      0.19  Q         |         |         |         |
   0+25       0.0049      0.24  Q         |         |         |         |
   0+30       0.0068      0.28  Q         |         |         |         |
   0+35       0.0088      0.29  Q         |         |         |         |
   0+40       0.0109      0.30  Q         |         |         |         |
   0+45       0.0129      0.30  Q         |         |         |         |
   0+50       0.0151      0.31  Q         |         |         |         |
   0+55       0.0176      0.36  Q         |         |         |         |
   1+ 0       0.0202      0.39  Q         |         |         |         |
   1+ 5       0.0229      0.39  Q         |         |         |         |
   1+10       0.0253      0.35  Q         |         |         |         |
   1+15       0.0276      0.33  Q         |         |         |         |
   1+20       0.0298      0.32  Q         |         |         |         |
   1+25       0.0319      0.31  Q         |         |         |         |
   1+30       0.0340      0.31  Q         |         |         |         |
   1+35       0.0362      0.31  Q         |         |         |         |
   1+40       0.0383      0.31  Q         |         |         |         |
   1+45       0.0404      0.31  Q         |         |         |         |
   1+50       0.0426      0.31  Q         |         |         |         |
   1+55       0.0450      0.36  Q         |         |         |         |
   2+ 0       0.0477      0.39  Q         |         |         |         |
   2+ 5       0.0504      0.40  Q         |         |         |         |
   2+10       0.0532      0.40  Q         |         |         |         |
   2+15       0.0560      0.41  Q         |         |         |         |
   2+20       0.0588      0.41  Q         |         |         |         |
   2+25       0.0616      0.41  Q         |         |         |         |
   2+30       0.0644      0.41  Q         |         |         |         |
   2+35       0.0673      0.42  Q         |         |         |         |
   2+40       0.0704      0.46  Q         |         |         |         |
   2+45       0.0738      0.49  Q         |         |         |         |
   2+50       0.0772      0.50  Q         |         |         |         |
   2+55       0.0807      0.51  Q         |         |         |         |
   3+ 0       0.0842      0.51  Q         |         |         |         |
   3+ 5       0.0877      0.51  Q         |         |         |         |
   3+10       0.0913      0.51  Q         |         |         |         |
   3+15       0.0948      0.51  Q         |         |         |         |
   3+20       0.0983      0.51  Q         |         |         |         |
   3+25       0.1018      0.51  Q         |         |         |         |
   3+30       0.1053      0.51  Q         |         |         |         |
   3+35       0.1089      0.51  Q         |         |         |         |
   3+40       0.1124      0.51  Q         |         |         |         |
   3+45       0.1159      0.51  Q         |         |         |         |
   3+50       0.1195      0.52  Q         |         |         |         |
   3+55       0.1233      0.56  Q         |         |         |         |
   4+ 0       0.1274      0.59  Q         |         |         |         |
   4+ 5       0.1316      0.60  Q         |         |         |         |
```

| | | | |
|---|---|---|---|
| 4+10 | 0.1357 | 0.61 | Q |
| 4+15 | 0.1399 | 0.61 | Q |
| 4+20 | 0.1442 | 0.62 | Q |
| 4+25 | 0.1488 | 0.66 | Q |
| 4+30 | 0.1535 | 0.69 | Q |
| 4+35 | 0.1584 | 0.70 | Q |
| 4+40 | 0.1633 | 0.71 | Q |
| 4+45 | 0.1682 | 0.71 | Q |
| 4+50 | 0.1733 | 0.74 | Q |
| 4+55 | 0.1793 | 0.88 | Q |
| 5+ 0 | 0.1861 | 0.98 | Q |
| 5+ 5 | 0.1930 | 1.00 | VQ |
| 5+10 | 0.1987 | 0.83 | Q |
| 5+15 | 0.2036 | 0.71 | Q |
| 5+20 | 0.2082 | 0.67 | Q |
| 5+25 | 0.2130 | 0.69 | Q |
| 5+30 | 0.2178 | 0.70 | Q |
| 5+35 | 0.2230 | 0.75 | Q |
| 5+40 | 0.2299 | 1.01 | VQ |
| 5+45 | 0.2382 | 1.20 | VQ |
| 5+50 | 0.2470 | 1.28 | VQ |
| 5+55 | 0.2563 | 1.35 | VQ |
| 6+ 0 | 0.2659 | 1.39 | VQ |
| 6+ 5 | 0.2763 | 1.50 | VQ |
| 6+10 | 0.2898 | 1.96 | VQ |
| 6+15 | 0.3056 | 2.29 | V Q |
| 6+20 | 0.3223 | 2.43 | V Q |
| 6+25 | 0.3397 | 2.52 | \|VQ |
| 6+30 | 0.3575 | 2.58 | \|VQ |
| 6+35 | 0.3761 | 2.70 | \|VQ |
| 6+40 | 0.3978 | 3.16 | \|V Q |
| 6+45 | 0.4219 | 3.49 | \|V Q |
| 6+50 | 0.4469 | 3.63 | \|V Q |
| 6+55 | 0.4725 | 3.72 | \|V Q |
| 7+ 0 | 0.4985 | 3.78 | \|V Q |
| 7+ 5 | 0.5249 | 3.82 | \|V Q |
| 7+10 | 0.5514 | 3.86 | \|V Q |
| 7+15 | 0.5782 | 3.89 | \|V Q |
| 7+20 | 0.6057 | 4.00 | \|V Q |
| 7+25 | 0.6364 | 4.45 | \|V  Q |
| 7+30 | 0.6693 | 4.77 | \| V Q |
| 7+35 | 0.7037 | 4.99 | \| V Q |
| 7+40 | 0.7416 | 5.51 | \| V  Q |
| 7+45 | 0.7819 | 5.86 | \| V  Q |
| 7+50 | 0.8238 | 6.08 | \| V   Q |
| 7+55 | 0.8693 | 6.60 | \| V   Q |
| 8+ 0 | 0.9172 | 6.96 | \| V   Q |
| 8+ 5 | 0.9672 | 7.26 | \| V    Q |
| 8+10 | 1.0238 | 8.21 | \|  V    Q |
| 8+15 | 1.0848 | 8.86 | \|  V    Q |
| 8+20 | 1.1477 | 9.13 | \|  V     Q\| |
| 8+25 | 1.2116 | 9.28 | \|  V     Q\| |
| 8+30 | 1.2762 | 9.38 | \|  V     Q\| |
| 8+35 | 1.3416 | 9.50 | \|   V    Q\| |
| 8+40 | 1.4103 | 9.97 | \|   V    Q\| |
| 8+45 | 1.4812 | 10.30 | \|   V     Q |
| 8+50 | 1.5537 | 10.52 | \|   V     Q |
| 8+55 | 1.6297 | 11.03 | \|    V    \|Q |
| 9+ 0 | 1.7081 | 11.39 | \|    V    \|Q |
| 9+ 5 | 1.7885 | 11.68 | \|    V    \|Q |
| 9+10 | 1.8755 | 12.63 | \|    V    \| Q |
| 9+15 | 1.9670 | 13.28 | \|     V   \|  Q |
| 9+20 | 2.0608 | 13.62 | \|     V   \|  Q |
| 9+25 | 2.1586 | 14.20 | \|     V   \|   Q |
| 9+30 | 2.2590 | 14.59 | \|     V   \|   Q |
| 9+35 | 2.3611 | 14.82 | \|      V  \|   Q |
| 9+40 | 2.4668 | 15.35 | \|      V  \|    Q |
| 9+45 | 2.5750 | 15.71 | \|      V  \|    Q |
| 9+50 | 2.6848 | 15.94 | \|       V \|    Q |
| 9+55 | 2.7982 | 16.46 | \|       V \|     Q |
| 10+ 0 | 2.9140 | 16.81 | \|        V\|     Q |
| 10+ 5 | 3.0272 | 16.44 | \|        V\|    Q |
| 10+10 | 3.1205 | 13.54 | \|        V\|  Q |
| 10+15 | 3.2001 | 11.56 | \|        V\|Q |
| 10+20 | 3.2746 | 10.82 | \|         Q |
| 10+25 | 3.3464 | 10.43 | \|         Q |
| 10+30 | 3.4170 | 10.24 | \|         Q |
| 10+35 | 3.4898 | 10.57 | \|         Q |

| | | | |
|---|---|---|---|
| 10+40 | 3.5772 | 12.69 | VQ |
| 10+45 | 3.6746 | 14.14 | V Q |
| 10+50 | 3.7758 | 14.70 | V Q |
| 10+55 | 3.8793 | 15.03 | V Q |
| 11+ 0 | 3.9840 | 15.21 | V Q |
| 11+ 5 | 4.0888 | 15.21 | V Q |
| 11+10 | 4.1910 | 14.84 | V Q |
| 11+15 | 4.2915 | 14.60 | VQ |
| 11+20 | 4.3916 | 14.53 | VQ |
| 11+25 | 4.4914 | 14.49 | VQ |
| 11+30 | 4.5912 | 14.49 | Q |
| 11+35 | 4.6900 | 14.35 | Q |
| 11+40 | 4.7831 | 13.51 | QV |
| 11+45 | 4.8723 | 12.95 | Q V |
| 11+50 | 4.9606 | 12.82 | Q V |
| 11+55 | 5.0512 | 13.15 | Q V |
| 12+ 0 | 5.1435 | 13.41 | Q V |
| 12+ 5 | 5.2402 | 14.04 | Q V |
| 12+10 | 5.3580 | 17.11 | VQ |
| 12+15 | 5.4903 | 19.20 | V Q |
| 12+20 | 5.6285 | 20.08 | V Q |
| 12+25 | 5.7729 | 20.96 | V Q |
| 12+30 | 5.9209 | 21.50 | V Q |
| 12+35 | 6.0715 | 21.86 | V Q |
| 12+40 | 6.2288 | 22.84 | V Q |
| 12+45 | 6.3908 | 23.52 | V Q |
| 12+50 | 6.5552 | 23.87 | V Q |
| 12+55 | 6.7236 | 24.45 | V Q |
| 13+ 0 | 6.8946 | 24.83 | V Q |
| 13+ 5 | 7.0693 | 25.36 | V Q |
| 13+10 | 7.2593 | 27.60 | V Q |
| 13+15 | 7.4599 | 29.12 | V Q |
| 13+20 | 7.6645 | 29.72 | V Q |
| 13+25 | 7.8715 | 30.05 | V Q |
| 13+30 | 8.0797 | 30.23 | V Q |
| 13+35 | 8.2828 | 29.49 | V Q |
| 13+40 | 8.4539 | 24.84 | Q V |
| 13+45 | 8.6031 | 21.67 | Q V |
| 13+50 | 8.7442 | 20.49 | Q V |
| 13+55 | 8.8809 | 19.85 | Q V |
| 14+ 0 | 9.0154 | 19.53 | Q V |
| 14+ 5 | 9.1513 | 19.73 | Q V |
| 14+10 | 9.2986 | 21.39 | Q V |
| 14+15 | 9.4537 | 22.53 | Q V |
| 14+20 | 9.6113 | 22.88 | Q V |
| 14+25 | 9.7677 | 22.72 | Q V |
| 14+30 | 9.9232 | 22.57 | Q V |
| 14+35 | 10.0783 | 22.52 | Q V |
| 14+40 | 10.2333 | 22.51 | Q V |
| 14+45 | 10.3884 | 22.52 | Q V |
| 14+50 | 10.5432 | 22.47 | Q V |
| 14+55 | 10.6951 | 22.05 | Q V |
| 15+ 0 | 10.8450 | 21.78 | Q V |
| 15+ 5 | 10.9939 | 21.61 | Q V |
| 15+10 | 11.1395 | 21.14 | Q V |
| 15+15 | 11.2830 | 20.84 | Q V |
| 15+20 | 11.4253 | 20.66 | Q V |
| 15+25 | 11.5644 | 20.19 | Q V |
| 15+30 | 11.7013 | 19.88 | Q V |
| 15+35 | 11.8354 | 19.48 | Q V |
| 15+40 | 11.9574 | 17.72 | Q V |
| 15+45 | 12.0713 | 16.53 | Q V |
| 15+50 | 12.1822 | 16.10 | Q V |
| 15+55 | 12.2915 | 15.87 | Q V |
| 16+ 0 | 12.4000 | 15.76 | Q V |
| 16+ 5 | 12.5006 | 14.61 | Q V |
| 16+10 | 12.5572 | 8.21 | Q V |
| 16+15 | 12.5835 | 3.82 | Q V |
| 16+20 | 12.5983 | 2.16 | Q V |
| 16+25 | 12.6070 | 1.26 | Q V |
| 16+30 | 12.6127 | 0.82 | Q V |
| 16+35 | 12.6172 | 0.65 | Q V |
| 16+40 | 12.6206 | 0.50 | Q V |
| 16+45 | 12.6233 | 0.39 | Q V |
| 16+50 | 12.6255 | 0.32 | Q V |
| 16+55 | 12.6277 | 0.31 | Q V |
| 17+ 0 | 12.6298 | 0.31 | Q V |
| 17+ 5 | 12.6326 | 0.40 | Q V |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+10 | 12.6392 | 0.95 | Q | \| | \| | \| | V\| |
| 17+15 | 12.6484 | 1.33 | \|Q | \| | \| | \| | V\| |
| 17+20 | 12.6586 | 1.49 | \|Q | \| | \| | \| | V\| |
| 17+25 | 12.6695 | 1.58 | \|Q | \| | \| | \| | V\| |
| 17+30 | 12.6808 | 1.64 | \|Q | \| | \| | \| | V\| |
| 17+35 | 12.6923 | 1.67 | \|Q | \| | \| | \| | V\| |
| 17+40 | 12.7040 | 1.69 | \|Q | \| | \| | \| | V\| |
| 17+45 | 12.7158 | 1.72 | \|Q | \| | \| | \| | V\| |
| 17+50 | 12.7272 | 1.66 | \|Q | \| | \| | \| | V\| |
| 17+55 | 12.7359 | 1.25 | \|Q | \| | \| | \| | V\| |
| 18+ 0 | 12.7426 | 0.98 | Q | \| | \| | \| | V\| |
| 18+ 5 | 12.7487 | 0.88 | Q | \| | \| | \| | V\| |
| 18+10 | 12.7545 | 0.84 | Q | \| | \| | \| | V\| |
| 18+15 | 12.7601 | 0.82 | Q | \| | \| | \| | V\| |
| 18+20 | 12.7659 | 0.83 | Q | \| | \| | \| | V\| |
| 18+25 | 12.7716 | 0.84 | Q | \| | \| | \| | V\| |
| 18+30 | 12.7775 | 0.85 | Q | \| | \| | \| | V\| |
| 18+35 | 12.7831 | 0.82 | Q | \| | \| | \| | V\| |
| 18+40 | 12.7872 | 0.59 | Q | \| | \| | \| | V\| |
| 18+45 | 12.7902 | 0.43 | Q | \| | \| | \| | V\| |
| 18+50 | 12.7927 | 0.36 | Q | \| | \| | \| | V\| |
| 18+55 | 12.7946 | 0.29 | Q | \| | \| | \| | V\| |
| 19+ 0 | 12.7963 | 0.24 | Q | \| | \| | \| | V\| |
| 19+ 5 | 12.7979 | 0.23 | Q | \| | \| | \| | V\| |
| 19+10 | 12.7997 | 0.26 | Q | \| | \| | \| | V\| |
| 19+15 | 12.8017 | 0.29 | Q | \| | \| | \| | V\| |
| 19+20 | 12.8041 | 0.35 | Q | \| | \| | \| | V\| |
| 19+25 | 12.8086 | 0.66 | Q | \| | \| | \| | V\| |
| 19+30 | 12.8146 | 0.87 | Q | \| | \| | \| | V\| |
| 19+35 | 12.8209 | 0.91 | Q | \| | \| | \| | V\| |
| 19+40 | 12.8253 | 0.64 | Q | \| | \| | \| | V\| |
| 19+45 | 12.8284 | 0.45 | Q | \| | \| | \| | V\| |
| 19+50 | 12.8310 | 0.37 | Q | \| | \| | \| | V\| |
| 19+55 | 12.8330 | 0.29 | Q | \| | \| | \| | V\| |
| 20+ 0 | 12.8346 | 0.24 | Q | \| | \| | \| | V\| |
| 20+ 5 | 12.8363 | 0.23 | Q | \| | \| | \| | V\| |
| 20+10 | 12.8381 | 0.27 | Q | \| | \| | \| | V\| |
| 20+15 | 12.8401 | 0.29 | Q | \| | \| | \| | V\| |
| 20+20 | 12.8421 | 0.30 | Q | \| | \| | \| | V\| |
| 20+25 | 12.8442 | 0.30 | Q | \| | \| | \| | V\| |
| 20+30 | 12.8463 | 0.30 | Q | \| | \| | \| | V\| |
| 20+35 | 12.8484 | 0.31 | Q | \| | \| | \| | V\| |
| 20+40 | 12.8505 | 0.31 | Q | \| | \| | \| | V\| |
| 20+45 | 12.8526 | 0.31 | Q | \| | \| | \| | V\| |
| 20+50 | 12.8547 | 0.30 | Q | \| | \| | \| | V\| |
| 20+55 | 12.8564 | 0.26 | Q | \| | \| | \| | V\| |
| 21+ 0 | 12.8580 | 0.23 | Q | \| | \| | \| | V\| |
| 21+ 5 | 12.8596 | 0.22 | Q | \| | \| | \| | V\| |
| 21+10 | 12.8613 | 0.26 | Q | \| | \| | \| | V\| |
| 21+15 | 12.8633 | 0.29 | Q | \| | \| | \| | V\| |
| 21+20 | 12.8653 | 0.29 | Q | \| | \| | \| | V\| |
| 21+25 | 12.8670 | 0.25 | Q | \| | \| | \| | V\| |
| 21+30 | 12.8686 | 0.23 | Q | \| | \| | \| | V\| |
| 21+35 | 12.8701 | 0.22 | Q | \| | \| | \| | V\| |
| 21+40 | 12.8720 | 0.27 | Q | \| | \| | \| | V\| |
| 21+45 | 12.8742 | 0.31 | Q | \| | \| | \| | V\| |
| 21+50 | 12.8764 | 0.32 | Q | \| | \| | \| | V\| |
| 21+55 | 12.8782 | 0.27 | Q | \| | \| | \| | V\| |
| 22+ 0 | 12.8799 | 0.23 | Q | \| | \| | \| | V\| |
| 22+ 5 | 12.8815 | 0.23 | Q | \| | \| | \| | V\| |
| 22+10 | 12.8835 | 0.30 | Q | \| | \| | \| | V\| |
| 22+15 | 12.8860 | 0.36 | Q | \| | \| | \| | V\| |
| 22+20 | 12.8885 | 0.37 | Q | \| | \| | \| | V\| |
| 22+25 | 12.8906 | 0.30 | Q | \| | \| | \| | V\| |
| 22+30 | 12.8922 | 0.24 | Q | \| | \| | \| | V\| |
| 22+35 | 12.8938 | 0.22 | Q | \| | \| | \| | V\| |
| 22+40 | 12.8953 | 0.21 | Q | \| | \| | \| | V\| |
| 22+45 | 12.8967 | 0.21 | Q | \| | \| | \| | V\| |
| 22+50 | 12.8981 | 0.21 | Q | \| | \| | \| | V\| |
| 22+55 | 12.8995 | 0.21 | Q | \| | \| | \| | V\| |
| 23+ 0 | 12.9010 | 0.21 | Q | \| | \| | \| | V\| |
| 23+ 5 | 12.9024 | 0.20 | Q | \| | \| | \| | V\| |
| 23+10 | 12.9038 | 0.20 | Q | \| | \| | \| | V\| |
| 23+15 | 12.9052 | 0.20 | Q | \| | \| | \| | V\| |
| 23+20 | 12.9066 | 0.20 | Q | \| | \| | \| | V\| |
| 23+25 | 12.9080 | 0.20 | Q | \| | \| | \| | V\| |
| 23+30 | 12.9094 | 0.20 | Q | \| | \| | \| | V\| |
| 23+35 | 12.9108 | 0.20 | Q | \| | \| | \| | V\| |

```
   23+40      12.9122      0.20  Q          |          |          |         V|
   23+45      12.9136      0.20  Q          |          |          |         V|
   23+50      12.9150      0.20  Q          |          |          |         V|
   23+55      12.9164      0.20  Q          |          |          |         V|
   24+ 0      12.9179      0.20  Q          |          |          |         V|
   24+ 5      12.9192      0.19  Q          |          |          |         V|
   24+10      12.9199      0.10  Q          |          |          |         V|
   24+15      12.9202      0.05  Q          |          |          |         V|
   24+20      12.9204      0.02  Q          |          |          |         V|
   24+25      12.9204      0.01  Q          |          |          |         V|
   24+30      12.9205      0.01  Q          |          |          |         V|
   24+35      12.9205      0.00  Q          |          |          |         V|
   24+40      12.9205      0.00  Q          |          |          |         V|
   24+45      12.9205      0.00  Q          |          |          |          V
-------------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA231100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 23
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

---

Drainage Area = 8.90(Ac.) = 0.014 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 8.90(Ac.) = 0.014 Sq. Mi.
Length along longest watercourse = 1240.00(Ft.)
Length along longest watercourse measured to centroid = 597.00(Ft.)
Length along longest watercourse = 0.235 Mi.
Length along longest watercourse measured to centroid = 0.113 Mi.
Difference in elevation = 340.00(Ft.)
Slope along watercourse = 1447.7419 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.053 Hr.
Lag time = 3.18 Min.
25% of lag time = 0.80 Min.
40% of lag time = 1.27 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 8.90 | 0.50 | 4.45 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 8.90 | 1.20 | 10.68 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 8.900 | 82.30 | 0.000 |

Total Area Entered = 8.90(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 82.3 | 92.4 | 0.099 | 0.000 | 0.099 | 1.000 | 0.099 |
| | | | | | Sum (F) = | 0.099 |

Area averaged mean soil loss (F) (In/Hr) = 0.099

Minimum soil loss rate ((In/Hr)) = 0.050
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

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| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 157.001 | 32.428 | 2.909 |
| 2 | 0.167 | 314.002 | 53.789 | 4.825 |
| 3 | 0.250 | 471.003 | 11.032 | 0.990 |
| 4 | 0.333 | 628.004 | 2.066 | 0.185 |
| 5 | 0.417 | 785.004 | 0.685 | 0.061 |
| | | Sum = 100.000 | Sum= | 8.970 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.099 | ( 0.544) | 0.506 |
| 2 | 0.17 | 4.30 | 0.619 | 0.099 | ( 0.557) | 0.520 |
| 3 | 0.25 | 5.00 | 0.720 | 0.099 | ( 0.648) | 0.621 |
| 4 | 0.33 | 5.00 | 0.720 | 0.099 | ( 0.648) | 0.621 |
| 5 | 0.42 | 5.80 | 0.835 | 0.099 | ( 0.752) | 0.736 |
| 6 | 0.50 | 6.50 | 0.936 | 0.099 | ( 0.842) | 0.837 |
| 7 | 0.58 | 7.40 | 1.066 | 0.099 | ( 0.959) | 0.966 |
| 8 | 0.67 | 8.60 | 1.238 | 0.099 | ( 1.114) | 1.139 |
| 9 | 0.75 | 12.30 | 1.771 | 0.099 | ( 1.594) | 1.672 |
| 10 | 0.83 | 29.10 | 4.190 | 0.099 | ( 3.771) | 4.091 |
| 11 | 0.92 | 6.80 | 0.979 | 0.099 | ( 0.881) | 0.880 |
| 12 | 1.00 | 5.00 | 0.720 | 0.099 | ( 0.648) | 0.621 |
| | (Loss Rate Not Used) | | | | | |
| Sum = | 100.0 | | | | Sum = | 13.2 |

Flood volume = Effective rainfall 1.10(In)
times area 8.9(Ac.)/[(In)/(Ft.)] = 0.8(Ac.Ft)
Total soil loss = 0.10(In)
Total soil loss = 0.073(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 35564.9 Cubic Feet
Total soil loss = 3200.3 Cubic Feet

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Peak flow rate of this hydrograph = 24.235(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

---

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 7.5 | 15.0 | 22.5 | 30.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0101 | 1.47 | VQ | | | | |
| 0+10 | 0.0374 | 3.95 | \|V Q | | | | |
| 0+15 | 0.0706 | 4.82 | \| V Q | | | | |
| 0+20 | 0.1078 | 5.41 | \| V Q | | | | |
| 0+25 | 0.1483 | 5.88 | \| Q | | | | |
| 0+30 | 0.1948 | 6.75 | \| Q\| | | | | |
| 0+35 | 0.2481 | 7.73 | \| Q V | | | | |
| 0+40 | 0.3100 | 8.98 | \| \|Q V | | | | |
| 0+45 | 0.3893 | 11.52 | \| \| Q V\| | | | |
| 0+50 | 0.5362 | 21.33 | \| \| \| V Q \| | | |
| 0+55 | 0.7032 | 24.23 | \| \| \| Q V \| | |
| 1+ 0 | 0.7754 | 10.49 | \| Q \| \| V \| |
| 1+ 5 | 0.8079 | 4.73 | \| Q \| \| V\| |
| 1+10 | 0.8150 | 1.03 | \|Q \| \| V\| |
| 1+15 | 0.8162 | 0.17 | Q \| \| V\| |
| 1+20 | 0.8165 | 0.04 | Q \| \| V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA233100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 23
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

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Drainage Area = 8.90(Ac.) = 0.014 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 8.90(Ac.) = 0.014 Sq. Mi.
Length along longest watercourse = 1240.00(Ft.)
Length along longest watercourse measured to centroid = 597.00(Ft.)
Length along longest watercourse = 0.235 Mi.
Length along longest watercourse measured to centroid = 0.113 Mi.
Difference in elevation = 340.00(Ft.)
Slope along watercourse = 1447.7419 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.053 Hr.
Lag time = 3.18 Min.
25% of lag time = 0.80 Min.
40% of lag time = 1.27 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 8.90 | 0.80 | 7.12 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 8.90 | 1.80 | 16.02 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 8.900 | 82.30 | 0.000 |

Total Area Entered = 8.90(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 82.3 | 92.4 | 0.099 | 0.000 | 0.099 | 1.000 | 0.099 |
| | | | | | Sum (F) = | 0.099 |

Area averaged mean soil loss (F) (In/Hr) = 0.099

Minimum soil loss rate ((In/Hr)) = 0.050
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 157.001 | 32.428 | 2.909 |
| 2 | 0.167 | 314.002 | 53.789 | 4.825 |
| 3 | 0.250 | 471.003 | 11.032 | 0.990 |
| 4 | 0.333 | 628.004 | 2.066 | 0.185 |
| 5 | 0.417 | 785.004 | 0.685 | 0.061 |
| | | | Sum = 100.000 Sum= | 8.970 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.281 | 0.099 | ( 0.253) | 0.182 |
| 2 | 0.17 | 1.30 | 0.281 | 0.099 | ( 0.253) | 0.182 |
| 3 | 0.25 | 1.10 | 0.238 | 0.099 | ( 0.214) | 0.139 |
| 4 | 0.33 | 1.50 | 0.324 | 0.099 | ( 0.292) | 0.225 |
| 5 | 0.42 | 1.50 | 0.324 | 0.099 | ( 0.292) | 0.225 |
| 6 | 0.50 | 1.80 | 0.389 | 0.099 | ( 0.350) | 0.290 |
| 7 | 0.58 | 1.50 | 0.324 | 0.099 | ( 0.292) | 0.225 |
| 8 | 0.67 | 1.80 | 0.389 | 0.099 | ( 0.350) | 0.290 |
| 9 | 0.75 | 1.80 | 0.389 | 0.099 | ( 0.350) | 0.290 |
| 10 | 0.83 | 1.50 | 0.324 | 0.099 | ( 0.292) | 0.225 |
| 11 | 0.92 | 1.60 | 0.346 | 0.099 | ( 0.311) | 0.247 |
| 12 | 1.00 | 1.80 | 0.389 | 0.099 | ( 0.350) | 0.290 |
| 13 | 1.08 | 2.20 | 0.475 | 0.099 | ( 0.428) | 0.376 |
| 14 | 1.17 | 2.20 | 0.475 | 0.099 | ( 0.428) | 0.376 |
| 15 | 1.25 | 2.20 | 0.475 | 0.099 | ( 0.428) | 0.376 |
| 16 | 1.33 | 2.00 | 0.432 | 0.099 | ( 0.389) | 0.333 |
| 17 | 1.42 | 2.60 | 0.562 | 0.099 | ( 0.505) | 0.463 |
| 18 | 1.50 | 2.70 | 0.583 | 0.099 | ( 0.525) | 0.484 |
| 19 | 1.58 | 2.40 | 0.518 | 0.099 | ( 0.467) | 0.419 |
| 20 | 1.67 | 2.70 | 0.583 | 0.099 | ( 0.525) | 0.484 |
| 21 | 1.75 | 3.30 | 0.713 | 0.099 | ( 0.641) | 0.614 |
| 22 | 1.83 | 3.10 | 0.670 | 0.099 | ( 0.603) | 0.571 |
| 23 | 1.92 | 2.90 | 0.626 | 0.099 | ( 0.564) | 0.527 |
| 24 | 2.00 | 3.00 | 0.648 | 0.099 | ( 0.583) | 0.549 |
| 25 | 2.08 | 3.10 | 0.670 | 0.099 | ( 0.603) | 0.571 |
| 26 | 2.17 | 4.20 | 0.907 | 0.099 | ( 0.816) | 0.808 |
| 27 | 2.25 | 5.00 | 1.080 | 0.099 | ( 0.972) | 0.981 |
| 28 | 2.33 | 3.50 | 0.756 | 0.099 | ( 0.680) | 0.657 |
| 29 | 2.42 | 6.80 | 1.469 | 0.099 | ( 1.322) | 1.370 |
| 30 | 2.50 | 7.30 | 1.577 | 0.099 | ( 1.419) | 1.478 |
| 31 | 2.58 | 8.20 | 1.771 | 0.099 | ( 1.594) | 1.672 |
| 32 | 2.67 | 5.90 | 1.274 | 0.099 | ( 1.147) | 1.175 |
| 33 | 2.75 | 2.00 | 0.432 | 0.099 | ( 0.389) | 0.333 |
| 34 | 2.83 | 1.80 | 0.389 | 0.099 | ( 0.350) | 0.290 |
| 35 | 2.92 | 1.80 | 0.389 | 0.099 | ( 0.350) | 0.290 |
| 36 | 3.00 | 0.60 | 0.130 | 0.099 | ( 0.117) | 0.031 |
| | | (Loss Rate Not Used) | | | |
| Sum = | | 100.0 | | | Sum = 18.0 |

Flood volume = Effective rainfall 1.50(In)
times area 8.9(Ac.)/[(In)/(Ft.)] = 1.1(Ac.Ft)
Total soil loss = 0.30(In)
Total soil loss = 0.220(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 48549.3 Cubic Feet
Total soil loss = 9601.0 Cubic Feet

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Peak flow rate of this hydrograph = 13.537(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 5.0 | 10.0 | 15.0 | 20.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0036 | 0.53 | VQ | | | | |
| 0+10 | 0.0133 | 1.41 | V Q | | | | |
| 0+15 | 0.0234 | 1.46 | V Q | | | | |
| 0+20 | 0.0340 | 1.54 | V Q | | | | |
| 0+25 | 0.0472 | 1.92 | V Q | | | | |
| 0+30 | 0.0623 | 2.19 | V Q | | | | |
| 0+35 | 0.0783 | 2.33 | V Q | | | | |
| 0+40 | 0.0939 | 2.27 | VQ | | | | |
| 0+45 | 0.1114 | 2.53 | V Q | | | | |
| 0+50 | 0.1279 | 2.40 | Q | | | | |
| 0+55 | 0.1428 | 2.16 | QV | | | | |
| 1+ 0 | 0.1588 | 2.33 | QV | | | | |
| 1+ 5 | 0.1781 | 2.80 | QV | | | | |
| 1+10 | 0.2005 | 3.26 | QV | | | | |
| 1+15 | 0.2236 | 3.35 | Q V | | | | |
| 1+20 | 0.2459 | 3.24 | Q V | | | | |
| 1+25 | 0.2694 | 3.42 | Q V | | | | |
| 1+30 | 0.2974 | 4.06 | Q V | | | | |
| 1+35 | 0.3257 | 4.10 | Q V | | | | |
| 1+40 | 0.3533 | 4.02 | Q V | | | | |
| 1+45 | 0.3854 | 4.66 | Q V | | | | |
| 1+50 | 0.4213 | 5.21 | Q V | | | | |
| 1+55 | 0.4558 | 5.01 | Q V | | | | |
| 2+ 0 | 0.4892 | 4.85 | Q V | | | | |
| 2+ 5 | 0.5235 | 4.98 | Q V | | | | |
| 2+10 | 0.5633 | 5.78 | Q V | | | | |
| 2+15 | 0.6146 | 7.45 | Q V | | | | |
| 2+20 | 0.6669 | 7.59 | Q V | | | | |
| 2+25 | 0.7241 | 8.31 | Q V | | | | |
| 2+30 | 0.8054 | 11.79 | Q V | | | | |
| 2+35 | 0.8986 | 13.54 | Q V | | | | |
| 2+40 | 0.9898 | 13.25 | Q V | | | | |
| 2+45 | 1.0495 | 8.66 | Q V | | | | |
| 2+50 | 1.0771 | 4.01 | Q V | | | | |
| 2+55 | 1.0970 | 2.89 | Q V | | | | |
| 3+ 0 | 1.1102 | 1.91 | Q V | | | | |
| 3+ 5 | 1.1137 | 0.51 | Q V | | | | |
| 3+10 | 1.1144 | 0.10 | Q V | | | | |
| 3+15 | 1.1145 | 0.02 | Q V | | | | |
| 3+20 | 1.1145 | 0.00 | Q V | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA236100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 23
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

---

Drainage Area = 8.90(Ac.) = 0.014 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 8.90(Ac.) = 0.014 Sq. Mi.
Length along longest watercourse = 1240.00(Ft.)
Length along longest watercourse measured to centroid = 597.00(Ft.)
Length along longest watercourse = 0.235 Mi.
Length along longest watercourse measured to centroid = 0.113 Mi.
Difference in elevation = 340.00(Ft.)
Slope along watercourse = 1447.7419 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.053 Hr.
Lag time = 3.18 Min.
25% of lag time = 0.80 Min.
40% of lag time = 1.27 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 8.90 | 1.14 | 10.15 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 8.90 | 2.50 | 22.25 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.140(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 8.900 | 82.30 | 0.000 |

Total Area Entered = 8.90(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 82.3 | 92.4 | 0.099 | 0.000 | 0.099 | 1.000 | 0.099 |
| | | | | | Sum (F) = | 0.099 |

Area averaged mean soil loss (F) (In/Hr) = 0.099

Minimum soil loss rate ((In/Hr)) = 0.050
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 157.001 | 32.428 | 2.909 |
| 2 | 0.167 | 314.002 | 53.789 | 4.825 |
| 3 | 0.250 | 471.003 | 11.032 | 0.990 |
| 4 | 0.333 | 628.004 | 2.066 | 0.185 |
| 5 | 0.417 | 785.004 | 0.685 | 0.061 |
| | | | Sum = 100.000 Sum= | 8.970 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.099 | ( 0.135) | 0.051 |
| 2 | 0.17 | 0.60 | 0.180 | 0.099 | ( 0.162) | 0.081 |
| 3 | 0.25 | 0.60 | 0.180 | 0.099 | ( 0.162) | 0.081 |
| 4 | 0.33 | 0.60 | 0.180 | 0.099 | ( 0.162) | 0.081 |
| 5 | 0.42 | 0.60 | 0.180 | 0.099 | ( 0.162) | 0.081 |
| 6 | 0.50 | 0.70 | 0.210 | 0.099 | ( 0.189) | 0.111 |
| 7 | 0.58 | 0.70 | 0.210 | 0.099 | ( 0.189) | 0.111 |
| 8 | 0.67 | 0.70 | 0.210 | 0.099 | ( 0.189) | 0.111 |
| 9 | 0.75 | 0.70 | 0.210 | 0.099 | ( 0.189) | 0.111 |
| 10 | 0.83 | 0.70 | 0.210 | 0.099 | ( 0.189) | 0.111 |
| 11 | 0.92 | 0.70 | 0.210 | 0.099 | ( 0.189) | 0.111 |
| 12 | 1.00 | 0.80 | 0.240 | 0.099 | ( 0.216) | 0.141 |
| 13 | 1.08 | 0.80 | 0.240 | 0.099 | ( 0.216) | 0.141 |
| 14 | 1.17 | 0.80 | 0.240 | 0.099 | ( 0.216) | 0.141 |
| 15 | 1.25 | 0.80 | 0.240 | 0.099 | ( 0.216) | 0.141 |
| 16 | 1.33 | 0.80 | 0.240 | 0.099 | ( 0.216) | 0.141 |
| 17 | 1.42 | 0.80 | 0.240 | 0.099 | ( 0.216) | 0.141 |
| 18 | 1.50 | 0.80 | 0.240 | 0.099 | ( 0.216) | 0.141 |
| 19 | 1.58 | 0.80 | 0.240 | 0.099 | ( 0.216) | 0.141 |
| 20 | 1.67 | 0.80 | 0.240 | 0.099 | ( 0.216) | 0.141 |
| 21 | 1.75 | 0.80 | 0.240 | 0.099 | ( 0.216) | 0.141 |
| 22 | 1.83 | 0.80 | 0.240 | 0.099 | ( 0.216) | 0.141 |
| 23 | 1.92 | 0.80 | 0.240 | 0.099 | ( 0.216) | 0.141 |
| 24 | 2.00 | 0.90 | 0.270 | 0.099 | ( 0.243) | 0.171 |
| 25 | 2.08 | 0.80 | 0.240 | 0.099 | ( 0.216) | 0.141 |
| 26 | 2.17 | 0.90 | 0.270 | 0.099 | ( 0.243) | 0.171 |
| 27 | 2.25 | 0.90 | 0.270 | 0.099 | ( 0.243) | 0.171 |
| 28 | 2.33 | 0.90 | 0.270 | 0.099 | ( 0.243) | 0.171 |
| 29 | 2.42 | 0.90 | 0.270 | 0.099 | ( 0.243) | 0.171 |
| 30 | 2.50 | 0.90 | 0.270 | 0.099 | ( 0.243) | 0.171 |
| 31 | 2.58 | 0.90 | 0.270 | 0.099 | ( 0.243) | 0.171 |
| 32 | 2.67 | 0.90 | 0.270 | 0.099 | ( 0.243) | 0.171 |
| 33 | 2.75 | 1.00 | 0.300 | 0.099 | ( 0.270) | 0.201 |
| 34 | 2.83 | 1.00 | 0.300 | 0.099 | ( 0.270) | 0.201 |
| 35 | 2.92 | 1.00 | 0.300 | 0.099 | ( 0.270) | 0.201 |
| 36 | 3.00 | 1.00 | 0.300 | 0.099 | ( 0.270) | 0.201 |
| 37 | 3.08 | 1.00 | 0.300 | 0.099 | ( 0.270) | 0.201 |
| 38 | 3.17 | 1.10 | 0.330 | 0.099 | ( 0.297) | 0.231 |
| 39 | 3.25 | 1.10 | 0.330 | 0.099 | ( 0.297) | 0.231 |
| 40 | 3.33 | 1.10 | 0.330 | 0.099 | ( 0.297) | 0.231 |
| 41 | 3.42 | 1.20 | 0.360 | 0.099 | ( 0.324) | 0.261 |
| 42 | 3.50 | 1.30 | 0.390 | 0.099 | ( 0.351) | 0.291 |
| 43 | 3.58 | 1.40 | 0.420 | 0.099 | ( 0.378) | 0.321 |
| 44 | 3.67 | 1.40 | 0.420 | 0.099 | ( 0.378) | 0.321 |
| 45 | 3.75 | 1.50 | 0.450 | 0.099 | ( 0.405) | 0.351 |
| 46 | 3.83 | 1.50 | 0.450 | 0.099 | ( 0.405) | 0.351 |
| 47 | 3.92 | 1.60 | 0.480 | 0.099 | ( 0.432) | 0.381 |
| 48 | 4.00 | 1.60 | 0.480 | 0.099 | ( 0.432) | 0.381 |
| 49 | 4.08 | 1.70 | 0.510 | 0.099 | ( 0.459) | 0.411 |
| 50 | 4.17 | 1.80 | 0.540 | 0.099 | ( 0.486) | 0.441 |
| 51 | 4.25 | 1.90 | 0.570 | 0.099 | ( 0.513) | 0.471 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 52 | 4.33 | 2.00 | 0.600 | 0.099 | ( 0.540) | 0.501 | |
| 53 | 4.42 | 2.10 | 0.630 | 0.099 | ( 0.567) | 0.531 | |
| 54 | 4.50 | 2.10 | 0.630 | 0.099 | ( 0.567) | 0.531 | |
| 55 | 4.58 | 2.20 | 0.660 | 0.099 | ( 0.594) | 0.561 | |
| 56 | 4.67 | 2.30 | 0.690 | 0.099 | ( 0.621) | 0.591 | |
| 57 | 4.75 | 2.40 | 0.720 | 0.099 | ( 0.648) | 0.621 | |
| 58 | 4.83 | 2.40 | 0.720 | 0.099 | ( 0.648) | 0.621 | |
| 59 | 4.92 | 2.50 | 0.750 | 0.099 | ( 0.675) | 0.651 | |
| 60 | 5.00 | 2.60 | 0.780 | 0.099 | ( 0.702) | 0.681 | |
| 61 | 5.08 | 3.10 | 0.930 | 0.099 | ( 0.837) | 0.831 | |
| 62 | 5.17 | 3.60 | 1.080 | 0.099 | ( 0.972) | 0.981 | |
| 63 | 5.25 | 3.90 | 1.170 | 0.099 | ( 1.053) | 1.071 | |
| 64 | 5.33 | 4.20 | 1.260 | 0.099 | ( 1.134) | 1.161 | |
| 65 | 5.42 | 4.70 | 1.410 | 0.099 | ( 1.269) | 1.311 | |
| 66 | 5.50 | 5.60 | 1.680 | 0.099 | ( 1.512) | 1.581 | |
| 67 | 5.58 | 1.90 | 0.570 | 0.099 | ( 0.513) | 0.471 | |
| 68 | 5.67 | 0.90 | 0.270 | 0.099 | ( 0.243) | 0.171 | |
| 69 | 5.75 | 0.60 | 0.180 | 0.099 | ( 0.162) | 0.081 | |
| 70 | 5.83 | 0.50 | 0.150 | 0.099 | ( 0.135) | 0.051 | |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.099) | 0.081 | 0.009 | |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.099) | 0.054 | 0.006 | |

(Loss Rate Not Used)

Sum = 100.0 Sum = 22.9

Flood volume = Effective rainfall 1.91(In)
times area 8.9(Ac.)/[(In)/(Ft.)] = 1.4(Ac.Ft)
Total soil loss = 0.59(In)
Total soil loss = 0.437(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 61733.0 Cubic Feet
Total soil loss = 19032.0 Cubic Feet

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Peak flow rate of this hydrograph = 12.337(CFS)

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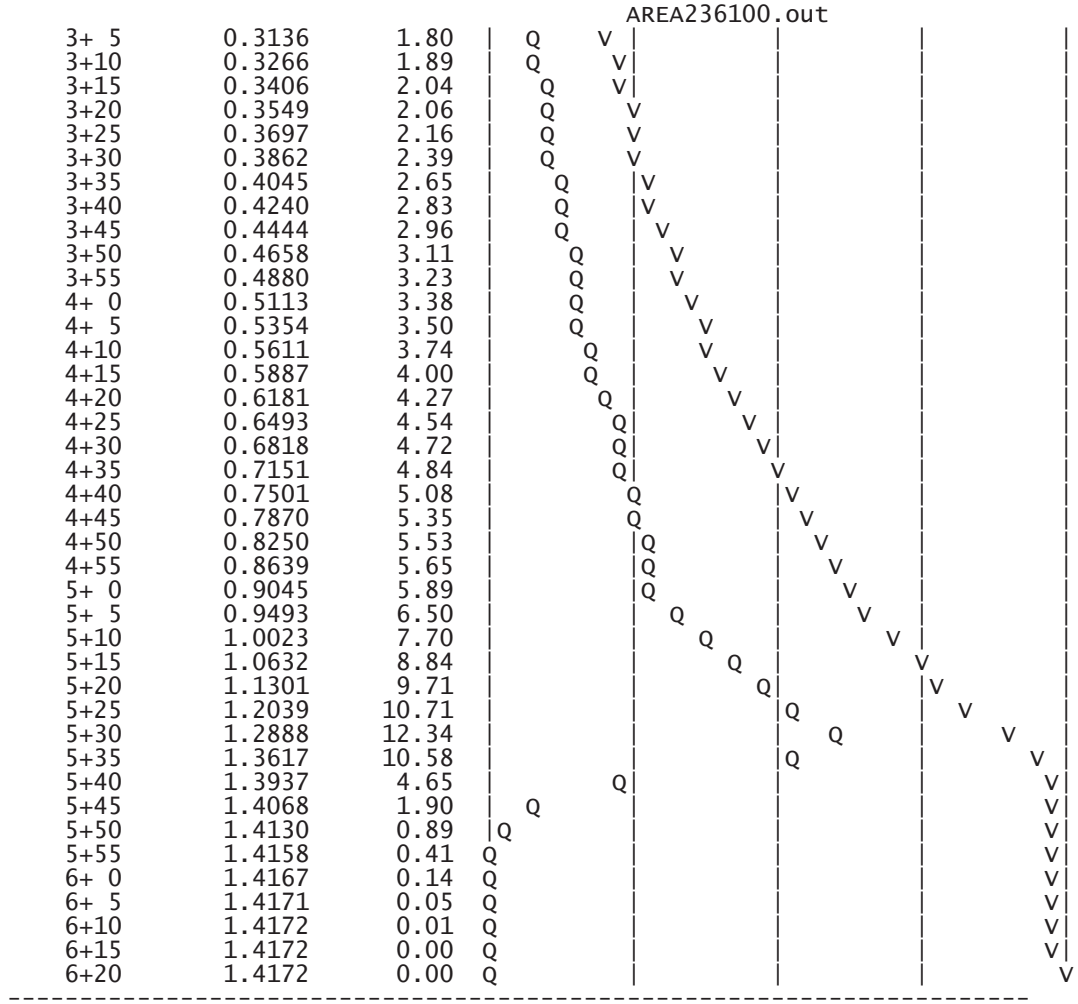
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 5.0 | 10.0 | 15.0 | 20.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0010 | 0.15 | Q | | | | |
| 0+10 | 0.0043 | 0.48 | Q | | | | |
| 0+15 | 0.0090 | 0.68 | VQ | | | | |
| 0+20 | 0.0139 | 0.72 | VQ | | | | |
| 0+25 | 0.0189 | 0.72 | VQ | | | | |
| 0+30 | 0.0245 | 0.81 | VQ | | | | |
| 0+35 | 0.0311 | 0.96 | VQ | | | | |
| 0+40 | 0.0379 | 0.99 | \|Q | | | | |
| 0+45 | 0.0448 | 0.99 | \|Q | | | | |
| 0+50 | 0.0516 | 1.00 | \|Q | | | | |
| 0+55 | 0.0585 | 1.00 | \|Q | | | | |
| 1+ 0 | 0.0659 | 1.08 | \|VQ | | | | |
| 1+ 5 | 0.0744 | 1.23 | \| Q | | | | |
| 1+10 | 0.0831 | 1.26 | \| Q | | | | |
| 1+15 | 0.0918 | 1.26 | \| Q | | | | |
| 1+20 | 0.1005 | 1.26 | \| Q | | | | |
| 1+25 | 0.1092 | 1.26 | \| QV | | | | |
| 1+30 | 0.1179 | 1.26 | \| QV | | | | |
| 1+35 | 0.1266 | 1.26 | \| QV | | | | |
| 1+40 | 0.1353 | 1.26 | \| QV | | | | |
| 1+45 | 0.1440 | 1.26 | \| Q V | | | | |
| 1+50 | 0.1527 | 1.26 | \| Q V | | | | |
| 1+55 | 0.1614 | 1.26 | \| Q V | | | | |
| 2+ 0 | 0.1707 | 1.35 | \| Q V | | | | |
| 2+ 5 | 0.1805 | 1.41 | \| Q V | | | | |
| 2+10 | 0.1900 | 1.38 | \| Q V | | | | |
| 2+15 | 0.2003 | 1.50 | \| Q V | | | | |
| 2+20 | 0.2108 | 1.53 | \| Q V | | | | |
| 2+25 | 0.2214 | 1.53 | \| Q V | | | | |
| 2+30 | 0.2320 | 1.53 | \| Q V | | | | |
| 2+35 | 0.2425 | 1.53 | \| Q V | | | | |
| 2+40 | 0.2531 | 1.53 | \| Q V | | | | |
| 2+45 | 0.2643 | 1.62 | \| Q V | | | | |
| 2+50 | 0.2764 | 1.77 | \| Q V | | | | |
| 2+55 | 0.2888 | 1.80 | \| Q V | | | | |
| 3+ 0 | 0.3012 | 1.80 | \| Q V | | | | |



| | | | |
|---|---|---|---|
| 3+ 5 | 0.3136 | 1.80 | |
| 3+10 | 0.3266 | 1.89 | |
| 3+15 | 0.3406 | 2.04 | |
| 3+20 | 0.3549 | 2.06 | |
| 3+25 | 0.3697 | 2.16 | |
| 3+30 | 0.3862 | 2.39 | |
| 3+35 | 0.4045 | 2.65 | |
| 3+40 | 0.4240 | 2.83 | |
| 3+45 | 0.4444 | 2.96 | |
| 3+50 | 0.4658 | 3.11 | |
| 3+55 | 0.4880 | 3.23 | |
| 4+ 0 | 0.5113 | 3.38 | |
| 4+ 5 | 0.5354 | 3.50 | |
| 4+10 | 0.5611 | 3.74 | |
| 4+15 | 0.5887 | 4.00 | |
| 4+20 | 0.6181 | 4.27 | |
| 4+25 | 0.6493 | 4.54 | |
| 4+30 | 0.6818 | 4.72 | |
| 4+35 | 0.7151 | 4.84 | |
| 4+40 | 0.7501 | 5.08 | |
| 4+45 | 0.7870 | 5.35 | |
| 4+50 | 0.8250 | 5.53 | |
| 4+55 | 0.8639 | 5.65 | |
| 5+ 0 | 0.9045 | 5.89 | |
| 5+ 5 | 0.9493 | 6.50 | |
| 5+10 | 1.0023 | 7.70 | |
| 5+15 | 1.0632 | 8.84 | |
| 5+20 | 1.1301 | 9.71 | |
| 5+25 | 1.2039 | 10.71 | |
| 5+30 | 1.2888 | 12.34 | |
| 5+35 | 1.3617 | 10.58 | |
| 5+40 | 1.3937 | 4.65 | |
| 5+45 | 1.4068 | 1.90 | |
| 5+50 | 1.4130 | 0.89 | |
| 5+55 | 1.4158 | 0.41 | |
| 6+ 0 | 1.4167 | 0.14 | |
| 6+ 5 | 1.4171 | 0.05 | |
| 6+10 | 1.4172 | 0.01 | |
| 6+15 | 1.4172 | 0.00 | |
| 6+20 | 1.4172 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/25/18 File: AREA2324100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
HISTORIC CONDITIONS AREA 23
100-YEAR STORM EVENT
BY: JDN, DATE: 11-16-17

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Drainage Area = 8.90(Ac.) = 0.014 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 8.90(Ac.) = 0.014 Sq. Mi.
Length along longest watercourse = 1240.00(Ft.)
Length along longest watercourse measured to centroid = 597.00(Ft.)
Length along longest watercourse = 0.235 Mi.
Length along longest watercourse measured to centroid = 0.113 Mi.
Difference in elevation = 340.00(Ft.)
Slope along watercourse = 1447.7419 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.053 Hr.
Lag time = 3.18 Min.
25% of lag time = 0.80 Min.
40% of lag time = 1.27 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 8.90 | 1.80 | 16.02 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 8.90 | 4.64 | 41.30 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.640(In)

Point rain (area averaged) = 4.640(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.640(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 8.900 | 82.30 | 0.000 |

Total Area Entered = 8.90(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 82.3 | 92.4 | 0.099 | 0.000 | 0.099 | 1.000 | 0.099 |
| | | | | | Sum (F) = | 0.099 |

Area averaged mean soil loss (F) (In/Hr) = 0.099

Minimum soil loss rate ((In/Hr)) = 0.050
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 157.001 | 32.428 | 2.909 |
| 2 | 0.167 | 314.002 | 53.789 | 4.825 |
| 3 | 0.250 | 471.003 | 11.032 | 0.990 |
| 4 | 0.333 | 628.004 | 2.066 | 0.185 |
| 5 | 0.417 | 785.004 | 0.685 | 0.061 |
| | | | Sum = 100.000 | Sum= 8.970 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.037 | ( 0.176) | 0.033 | 0.004 |
| 2 | 0.17 | 0.07 | 0.037 | ( 0.175) | 0.033 | 0.004 |
| 3 | 0.25 | 0.07 | 0.037 | ( 0.174) | 0.033 | 0.004 |
| 4 | 0.33 | 0.10 | 0.056 | ( 0.174) | 0.050 | 0.006 |
| 5 | 0.42 | 0.10 | 0.056 | ( 0.173) | 0.050 | 0.006 |
| 6 | 0.50 | 0.10 | 0.056 | ( 0.172) | 0.050 | 0.006 |
| 7 | 0.58 | 0.10 | 0.056 | ( 0.172) | 0.050 | 0.006 |
| 8 | 0.67 | 0.10 | 0.056 | ( 0.171) | 0.050 | 0.006 |
| 9 | 0.75 | 0.10 | 0.056 | ( 0.170) | 0.050 | 0.006 |
| 10 | 0.83 | 0.13 | 0.074 | ( 0.170) | 0.067 | 0.007 |
| 11 | 0.92 | 0.13 | 0.074 | ( 0.169) | 0.067 | 0.007 |
| 12 | 1.00 | 0.13 | 0.074 | ( 0.168) | 0.067 | 0.007 |
| 13 | 1.08 | 0.10 | 0.056 | ( 0.168) | 0.050 | 0.006 |
| 14 | 1.17 | 0.10 | 0.056 | ( 0.167) | 0.050 | 0.006 |
| 15 | 1.25 | 0.10 | 0.056 | ( 0.166) | 0.050 | 0.006 |
| 16 | 1.33 | 0.10 | 0.056 | ( 0.166) | 0.050 | 0.006 |
| 17 | 1.42 | 0.10 | 0.056 | ( 0.165) | 0.050 | 0.006 |
| 18 | 1.50 | 0.10 | 0.056 | ( 0.164) | 0.050 | 0.006 |
| 19 | 1.58 | 0.10 | 0.056 | ( 0.164) | 0.050 | 0.006 |
| 20 | 1.67 | 0.10 | 0.056 | ( 0.163) | 0.050 | 0.006 |
| 21 | 1.75 | 0.10 | 0.056 | ( 0.162) | 0.050 | 0.006 |
| 22 | 1.83 | 0.13 | 0.074 | ( 0.162) | 0.067 | 0.007 |
| 23 | 1.92 | 0.13 | 0.074 | ( 0.161) | 0.067 | 0.007 |
| 24 | 2.00 | 0.13 | 0.074 | ( 0.160) | 0.067 | 0.007 |
| 25 | 2.08 | 0.13 | 0.074 | ( 0.160) | 0.067 | 0.007 |
| 26 | 2.17 | 0.13 | 0.074 | ( 0.159) | 0.067 | 0.007 |
| 27 | 2.25 | 0.13 | 0.074 | ( 0.158) | 0.067 | 0.007 |
| 28 | 2.33 | 0.13 | 0.074 | ( 0.158) | 0.067 | 0.007 |
| 29 | 2.42 | 0.13 | 0.074 | ( 0.157) | 0.067 | 0.007 |
| 30 | 2.50 | 0.13 | 0.074 | ( 0.156) | 0.067 | 0.007 |
| 31 | 2.58 | 0.17 | 0.093 | ( 0.156) | 0.084 | 0.009 |
| 32 | 2.67 | 0.17 | 0.093 | ( 0.155) | 0.084 | 0.009 |
| 33 | 2.75 | 0.17 | 0.093 | ( 0.155) | 0.084 | 0.009 |
| 34 | 2.83 | 0.17 | 0.093 | ( 0.154) | 0.084 | 0.009 |
| 35 | 2.92 | 0.17 | 0.093 | ( 0.153) | 0.084 | 0.009 |
| 36 | 3.00 | 0.17 | 0.093 | ( 0.153) | 0.084 | 0.009 |
| 37 | 3.08 | 0.17 | 0.093 | ( 0.152) | 0.084 | 0.009 |
| 38 | 3.17 | 0.17 | 0.093 | ( 0.151) | 0.084 | 0.009 |
| 39 | 3.25 | 0.17 | 0.093 | ( 0.151) | 0.084 | 0.009 |
| 40 | 3.33 | 0.17 | 0.093 | ( 0.150) | 0.084 | 0.009 |
| 41 | 3.42 | 0.17 | 0.093 | ( 0.149) | 0.084 | 0.009 |
| 42 | 3.50 | 0.17 | 0.093 | ( 0.149) | 0.084 | 0.009 |
| 43 | 3.58 | 0.17 | 0.093 | ( 0.148) | 0.084 | 0.009 |
| 44 | 3.67 | 0.17 | 0.093 | ( 0.148) | 0.084 | 0.009 |
| 45 | 3.75 | 0.17 | 0.093 | ( 0.147) | 0.084 | 0.009 |
| 46 | 3.83 | 0.20 | 0.111 | ( 0.146) | 0.100 | 0.011 |
| 47 | 3.92 | 0.20 | 0.111 | ( 0.146) | 0.100 | 0.011 |
| 48 | 4.00 | 0.20 | 0.111 | ( 0.145) | 0.100 | 0.011 |
| 49 | 4.08 | 0.20 | 0.111 | ( 0.145) | 0.100 | 0.011 |
| 50 | 4.17 | 0.20 | 0.111 | ( 0.144) | 0.100 | 0.011 |
| 51 | 4.25 | 0.20 | 0.111 | ( 0.143) | 0.100 | 0.011 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 52 | 4.33 | 0.23 | 0.130 | ( | 0.143) | 0.117 | | 0.013 |
| 53 | 4.42 | 0.23 | 0.130 | ( | 0.142) | 0.117 | | 0.013 |
| 54 | 4.50 | 0.23 | 0.130 | ( | 0.141) | 0.117 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.130 | ( | 0.141) | 0.117 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.130 | ( | 0.140) | 0.117 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.130 | ( | 0.140) | 0.117 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.148 | ( | 0.139) | 0.134 | | 0.015 |
| 59 | 4.92 | 0.27 | 0.148 | ( | 0.138) | 0.134 | | 0.015 |
| 60 | 5.00 | 0.27 | 0.148 | ( | 0.138) | 0.134 | | 0.015 |
| 61 | 5.08 | 0.20 | 0.111 | ( | 0.137) | 0.100 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.111 | ( | 0.137) | 0.100 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.111 | ( | 0.136) | 0.100 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.130 | ( | 0.135) | 0.117 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.130 | ( | 0.135) | 0.117 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.130 | ( | 0.134) | 0.117 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.148 | ( | 0.134) | 0.134 | | 0.015 |
| 68 | 5.67 | 0.27 | 0.148 | | 0.133 | ( 0.134) | | 0.015 |
| 69 | 5.75 | 0.27 | 0.148 | | 0.133 | ( 0.134) | | 0.016 |
| 70 | 5.83 | 0.27 | 0.148 | | 0.132 | ( 0.134) | | 0.017 |
| 71 | 5.92 | 0.27 | 0.148 | | 0.131 | ( 0.134) | | 0.017 |
| 72 | 6.00 | 0.27 | 0.148 | | 0.131 | ( 0.134) | | 0.018 |
| 73 | 6.08 | 0.30 | 0.167 | | 0.130 | ( 0.150) | | 0.037 |
| 74 | 6.17 | 0.30 | 0.167 | | 0.130 | ( 0.150) | | 0.037 |
| 75 | 6.25 | 0.30 | 0.167 | | 0.129 | ( 0.150) | | 0.038 |
| 76 | 6.33 | 0.30 | 0.167 | | 0.128 | ( 0.150) | | 0.039 |
| 77 | 6.42 | 0.30 | 0.167 | | 0.128 | ( 0.150) | | 0.039 |
| 78 | 6.50 | 0.30 | 0.167 | | 0.127 | ( 0.150) | | 0.040 |
| 79 | 6.58 | 0.33 | 0.186 | | 0.127 | ( 0.167) | | 0.059 |
| 80 | 6.67 | 0.33 | 0.186 | | 0.126 | ( 0.167) | | 0.059 |
| 81 | 6.75 | 0.33 | 0.186 | | 0.126 | ( 0.167) | | 0.060 |
| 82 | 6.83 | 0.33 | 0.186 | | 0.125 | ( 0.167) | | 0.061 |
| 83 | 6.92 | 0.33 | 0.186 | | 0.124 | ( 0.167) | | 0.061 |
| 84 | 7.00 | 0.33 | 0.186 | | 0.124 | ( 0.167) | | 0.062 |
| 85 | 7.08 | 0.33 | 0.186 | | 0.123 | ( 0.167) | | 0.062 |
| 86 | 7.17 | 0.33 | 0.186 | | 0.123 | ( 0.167) | | 0.063 |
| 87 | 7.25 | 0.33 | 0.186 | | 0.122 | ( 0.167) | | 0.063 |
| 88 | 7.33 | 0.37 | 0.204 | | 0.122 | ( 0.184) | | 0.083 |
| 89 | 7.42 | 0.37 | 0.204 | | 0.121 | ( 0.184) | | 0.083 |
| 90 | 7.50 | 0.37 | 0.204 | | 0.121 | ( 0.184) | | 0.084 |
| 91 | 7.58 | 0.40 | 0.223 | | 0.120 | ( 0.200) | | 0.103 |
| 92 | 7.67 | 0.40 | 0.223 | | 0.119 | ( 0.200) | | 0.103 |
| 93 | 7.75 | 0.40 | 0.223 | | 0.119 | ( 0.200) | | 0.104 |
| 94 | 7.83 | 0.43 | 0.241 | | 0.118 | ( 0.217) | | 0.123 |
| 95 | 7.92 | 0.43 | 0.241 | | 0.118 | ( 0.217) | | 0.123 |
| 96 | 8.00 | 0.43 | 0.241 | | 0.117 | ( 0.217) | | 0.124 |
| 97 | 8.08 | 0.50 | 0.278 | | 0.117 | ( 0.251) | | 0.162 |
| 98 | 8.17 | 0.50 | 0.278 | | 0.116 | ( 0.251) | | 0.162 |
| 99 | 8.25 | 0.50 | 0.278 | | 0.116 | ( 0.251) | | 0.163 |
| 100 | 8.33 | 0.50 | 0.278 | | 0.115 | ( 0.251) | | 0.163 |
| 101 | 8.42 | 0.50 | 0.278 | | 0.115 | ( 0.251) | | 0.164 |
| 102 | 8.50 | 0.50 | 0.278 | | 0.114 | ( 0.251) | | 0.164 |
| 103 | 8.58 | 0.53 | 0.297 | | 0.113 | ( 0.267) | | 0.183 |
| 104 | 8.67 | 0.53 | 0.297 | | 0.113 | ( 0.267) | | 0.184 |
| 105 | 8.75 | 0.53 | 0.297 | | 0.112 | ( 0.267) | | 0.185 |
| 106 | 8.83 | 0.57 | 0.316 | | 0.112 | ( 0.284) | | 0.204 |
| 107 | 8.92 | 0.57 | 0.316 | | 0.111 | ( 0.284) | | 0.204 |
| 108 | 9.00 | 0.57 | 0.316 | | 0.111 | ( 0.284) | | 0.205 |
| 109 | 9.08 | 0.63 | 0.353 | | 0.110 | ( 0.317) | | 0.242 |
| 110 | 9.17 | 0.63 | 0.353 | | 0.110 | ( 0.317) | | 0.243 |
| 111 | 9.25 | 0.63 | 0.353 | | 0.109 | ( 0.317) | | 0.243 |
| 112 | 9.33 | 0.67 | 0.371 | | 0.109 | ( 0.334) | | 0.262 |
| 113 | 9.42 | 0.67 | 0.371 | | 0.108 | ( 0.334) | | 0.263 |
| 114 | 9.50 | 0.67 | 0.371 | | 0.108 | ( 0.334) | | 0.264 |
| 115 | 9.58 | 0.70 | 0.390 | | 0.107 | ( 0.351) | | 0.283 |
| 116 | 9.67 | 0.70 | 0.390 | | 0.107 | ( 0.351) | | 0.283 |
| 117 | 9.75 | 0.70 | 0.390 | | 0.106 | ( 0.351) | | 0.284 |
| 118 | 9.83 | 0.73 | 0.408 | | 0.106 | ( 0.367) | | 0.303 |
| 119 | 9.92 | 0.73 | 0.408 | | 0.105 | ( 0.367) | | 0.303 |
| 120 | 10.00 | 0.73 | 0.408 | | 0.105 | ( 0.367) | | 0.304 |
| 121 | 10.08 | 0.50 | 0.278 | | 0.104 | ( 0.251) | | 0.174 |
| 122 | 10.17 | 0.50 | 0.278 | | 0.104 | ( 0.251) | | 0.175 |
| 123 | 10.25 | 0.50 | 0.278 | | 0.103 | ( 0.251) | | 0.175 |
| 124 | 10.33 | 0.50 | 0.278 | | 0.103 | ( 0.251) | | 0.176 |
| 125 | 10.42 | 0.50 | 0.278 | | 0.102 | ( 0.251) | | 0.176 |
| 126 | 10.50 | 0.50 | 0.278 | | 0.102 | ( 0.251) | | 0.177 |
| 127 | 10.58 | 0.67 | 0.371 | | 0.101 | ( 0.334) | | 0.270 |
| 128 | 10.67 | 0.67 | 0.371 | | 0.101 | ( 0.334) | | 0.271 |
| 129 | 10.75 | 0.67 | 0.371 | | 0.100 | ( 0.334) | | 0.271 |

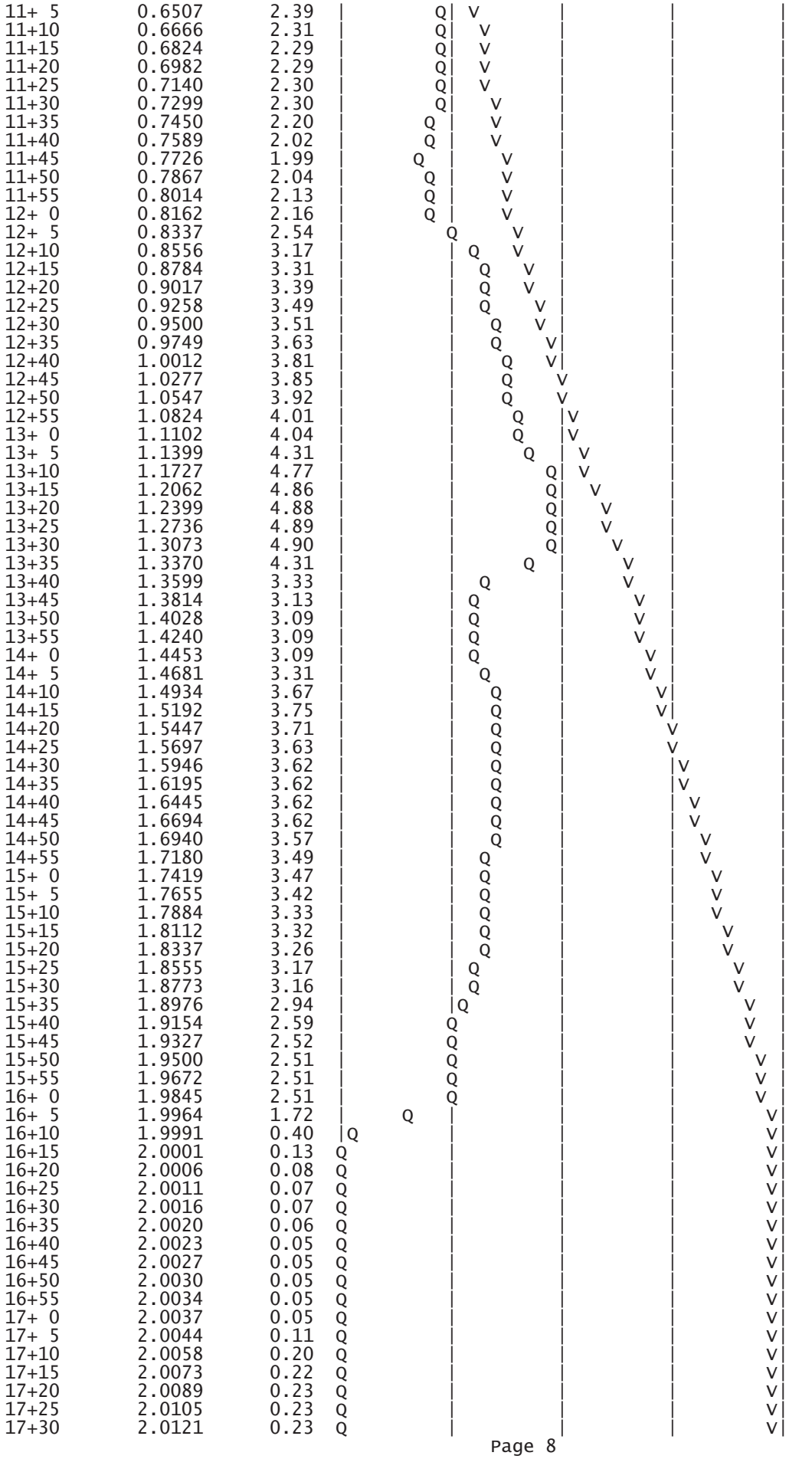
| | | | | | | |
|---|---|---|---|---|---|---|
| 130 | 10.83 | 0.67 | 0.371 | 0.100 | ( 0.334) | 0.272 |
| 131 | 10.92 | 0.67 | 0.371 | 0.099 | ( 0.334) | 0.272 |
| 132 | 11.00 | 0.67 | 0.371 | 0.099 | ( 0.334) | 0.273 |
| 133 | 11.08 | 0.63 | 0.353 | 0.098 | ( 0.317) | 0.254 |
| 134 | 11.17 | 0.63 | 0.353 | 0.098 | ( 0.317) | 0.255 |
| 135 | 11.25 | 0.63 | 0.353 | 0.097 | ( 0.317) | 0.255 |
| 136 | 11.33 | 0.63 | 0.353 | 0.097 | ( 0.317) | 0.256 |
| 137 | 11.42 | 0.63 | 0.353 | 0.096 | ( 0.317) | 0.256 |
| 138 | 11.50 | 0.63 | 0.353 | 0.096 | ( 0.317) | 0.257 |
| 139 | 11.58 | 0.57 | 0.316 | 0.095 | ( 0.284) | 0.220 |
| 140 | 11.67 | 0.57 | 0.316 | 0.095 | ( 0.284) | 0.221 |
| 141 | 11.75 | 0.57 | 0.316 | 0.094 | ( 0.284) | 0.221 |
| 142 | 11.83 | 0.60 | 0.334 | 0.094 | ( 0.301) | 0.240 |
| 143 | 11.92 | 0.60 | 0.334 | 0.093 | ( 0.301) | 0.241 |
| 144 | 12.00 | 0.60 | 0.334 | 0.093 | ( 0.301) | 0.241 |
| 145 | 12.08 | 0.83 | 0.464 | 0.092 | ( 0.418) | 0.372 |
| 146 | 12.17 | 0.83 | 0.464 | 0.092 | ( 0.418) | 0.372 |
| 147 | 12.25 | 0.83 | 0.464 | 0.092 | ( 0.418) | 0.372 |
| 148 | 12.33 | 0.87 | 0.483 | 0.091 | ( 0.434) | 0.391 |
| 149 | 12.42 | 0.87 | 0.483 | 0.091 | ( 0.434) | 0.392 |
| 150 | 12.50 | 0.87 | 0.483 | 0.090 | ( 0.434) | 0.392 |
| 151 | 12.58 | 0.93 | 0.520 | 0.090 | ( 0.468) | 0.430 |
| 152 | 12.67 | 0.93 | 0.520 | 0.089 | ( 0.468) | 0.430 |
| 153 | 12.75 | 0.93 | 0.520 | 0.089 | ( 0.468) | 0.431 |
| 154 | 12.83 | 0.97 | 0.538 | 0.088 | ( 0.484) | 0.450 |
| 155 | 12.92 | 0.97 | 0.538 | 0.088 | ( 0.484) | 0.450 |
| 156 | 13.00 | 0.97 | 0.538 | 0.087 | ( 0.484) | 0.451 |
| 157 | 13.08 | 1.13 | 0.631 | 0.087 | ( 0.568) | 0.544 |
| 158 | 13.17 | 1.13 | 0.631 | 0.087 | ( 0.568) | 0.544 |
| 159 | 13.25 | 1.13 | 0.631 | 0.086 | ( 0.568) | 0.545 |
| 160 | 13.33 | 1.13 | 0.631 | 0.086 | ( 0.568) | 0.545 |
| 161 | 13.42 | 1.13 | 0.631 | 0.085 | ( 0.568) | 0.546 |
| 162 | 13.50 | 1.13 | 0.631 | 0.085 | ( 0.568) | 0.546 |
| 163 | 13.58 | 0.77 | 0.427 | 0.084 | ( 0.384) | 0.342 |
| 164 | 13.67 | 0.77 | 0.427 | 0.084 | ( 0.384) | 0.343 |
| 165 | 13.75 | 0.77 | 0.427 | 0.084 | ( 0.384) | 0.343 |
| 166 | 13.83 | 0.77 | 0.427 | 0.083 | ( 0.384) | 0.344 |
| 167 | 13.92 | 0.77 | 0.427 | 0.083 | ( 0.384) | 0.344 |
| 168 | 14.00 | 0.77 | 0.427 | 0.082 | ( 0.384) | 0.345 |
| 169 | 14.08 | 0.90 | 0.501 | 0.082 | ( 0.451) | 0.419 |
| 170 | 14.17 | 0.90 | 0.501 | 0.081 | ( 0.451) | 0.420 |
| 171 | 14.25 | 0.90 | 0.501 | 0.081 | ( 0.451) | 0.420 |
| 172 | 14.33 | 0.87 | 0.483 | 0.081 | ( 0.434) | 0.402 |
| 173 | 14.42 | 0.87 | 0.483 | 0.080 | ( 0.434) | 0.402 |
| 174 | 14.50 | 0.87 | 0.483 | 0.080 | ( 0.434) | 0.403 |
| 175 | 14.58 | 0.87 | 0.483 | 0.079 | ( 0.434) | 0.403 |
| 176 | 14.67 | 0.87 | 0.483 | 0.079 | ( 0.434) | 0.404 |
| 177 | 14.75 | 0.87 | 0.483 | 0.079 | ( 0.434) | 0.404 |
| 178 | 14.83 | 0.83 | 0.464 | 0.078 | ( 0.418) | 0.386 |
| 179 | 14.92 | 0.83 | 0.464 | 0.078 | ( 0.418) | 0.386 |
| 180 | 15.00 | 0.83 | 0.464 | 0.077 | ( 0.418) | 0.387 |
| 181 | 15.08 | 0.80 | 0.445 | 0.077 | ( 0.401) | 0.368 |
| 182 | 15.17 | 0.80 | 0.445 | 0.077 | ( 0.401) | 0.369 |
| 183 | 15.25 | 0.80 | 0.445 | 0.076 | ( 0.401) | 0.369 |
| 184 | 15.33 | 0.77 | 0.427 | 0.076 | ( 0.384) | 0.351 |
| 185 | 15.42 | 0.77 | 0.427 | 0.075 | ( 0.384) | 0.351 |
| 186 | 15.50 | 0.77 | 0.427 | 0.075 | ( 0.384) | 0.352 |
| 187 | 15.58 | 0.63 | 0.353 | 0.075 | ( 0.317) | 0.278 |
| 188 | 15.67 | 0.63 | 0.353 | 0.074 | ( 0.317) | 0.278 |
| 189 | 15.75 | 0.63 | 0.353 | 0.074 | ( 0.317) | 0.279 |
| 190 | 15.83 | 0.63 | 0.353 | 0.073 | ( 0.317) | 0.279 |
| 191 | 15.92 | 0.63 | 0.353 | 0.073 | ( 0.317) | 0.280 |
| 192 | 16.00 | 0.63 | 0.353 | 0.073 | ( 0.317) | 0.280 |
| 193 | 16.08 | 0.13 | 0.074 | ( 0.072) | 0.067 | 0.007 |
| 194 | 16.17 | 0.13 | 0.074 | ( 0.072) | 0.067 | 0.007 |
| 195 | 16.25 | 0.13 | 0.074 | ( 0.072) | 0.067 | 0.007 |
| 196 | 16.33 | 0.13 | 0.074 | ( 0.071) | 0.067 | 0.007 |
| 197 | 16.42 | 0.13 | 0.074 | ( 0.071) | 0.067 | 0.007 |
| 198 | 16.50 | 0.13 | 0.074 | ( 0.071) | 0.067 | 0.007 |
| 199 | 16.58 | 0.10 | 0.056 | ( 0.070) | 0.050 | 0.006 |
| 200 | 16.67 | 0.10 | 0.056 | ( 0.070) | 0.050 | 0.006 |
| 201 | 16.75 | 0.10 | 0.056 | ( 0.069) | 0.050 | 0.006 |
| 202 | 16.83 | 0.10 | 0.056 | ( 0.069) | 0.050 | 0.006 |
| 203 | 16.92 | 0.10 | 0.056 | ( 0.069) | 0.050 | 0.006 |
| 204 | 17.00 | 0.10 | 0.056 | ( 0.068) | 0.050 | 0.006 |
| 205 | 17.08 | 0.17 | 0.093 | 0.068 | ( 0.084) | 0.025 |
| 206 | 17.17 | 0.17 | 0.093 | 0.068 | ( 0.084) | 0.025 |
| 207 | 17.25 | 0.17 | 0.093 | 0.067 | ( 0.084) | 0.025 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 208 | 17.33 | 0.17 | 0.093 | 0.067 | ( 0.084) | 0.026 |
| 209 | 17.42 | 0.17 | 0.093 | 0.067 | ( 0.084) | 0.026 |
| 210 | 17.50 | 0.17 | 0.093 | 0.066 | ( 0.084) | 0.026 |
| 211 | 17.58 | 0.17 | 0.093 | 0.066 | ( 0.084) | 0.027 |
| 212 | 17.67 | 0.17 | 0.093 | 0.066 | ( 0.084) | 0.027 |
| 213 | 17.75 | 0.17 | 0.093 | 0.065 | ( 0.084) | 0.027 |
| 214 | 17.83 | 0.13 | 0.074 | 0.065 | ( 0.067) | 0.009 |
| 215 | 17.92 | 0.13 | 0.074 | 0.065 | ( 0.067) | 0.009 |
| 216 | 18.00 | 0.13 | 0.074 | 0.064 | ( 0.067) | 0.010 |
| 217 | 18.08 | 0.13 | 0.074 | 0.064 | ( 0.067) | 0.010 |
| 218 | 18.17 | 0.13 | 0.074 | 0.064 | ( 0.067) | 0.010 |
| 219 | 18.25 | 0.13 | 0.074 | 0.063 | ( 0.067) | 0.011 |
| 220 | 18.33 | 0.13 | 0.074 | 0.063 | ( 0.067) | 0.011 |
| 221 | 18.42 | 0.13 | 0.074 | 0.063 | ( 0.067) | 0.011 |
| 222 | 18.50 | 0.13 | 0.074 | 0.063 | ( 0.067) | 0.012 |
| 223 | 18.58 | 0.10 | 0.056 | ( 0.062) | 0.050 | 0.006 |
| 224 | 18.67 | 0.10 | 0.056 | ( 0.062) | 0.050 | 0.006 |
| 225 | 18.75 | 0.10 | 0.056 | ( 0.062) | 0.050 | 0.006 |
| 226 | 18.83 | 0.07 | 0.037 | ( 0.061) | 0.033 | 0.004 |
| 227 | 18.92 | 0.07 | 0.037 | ( 0.061) | 0.033 | 0.004 |
| 228 | 19.00 | 0.07 | 0.037 | ( 0.061) | 0.033 | 0.004 |
| 229 | 19.08 | 0.10 | 0.056 | ( 0.061) | 0.050 | 0.006 |
| 230 | 19.17 | 0.10 | 0.056 | ( 0.060) | 0.050 | 0.006 |
| 231 | 19.25 | 0.10 | 0.056 | ( 0.060) | 0.050 | 0.006 |
| 232 | 19.33 | 0.13 | 0.074 | 0.060 | ( 0.067) | 0.015 |
| 233 | 19.42 | 0.13 | 0.074 | 0.059 | ( 0.067) | 0.015 |
| 234 | 19.50 | 0.13 | 0.074 | 0.059 | ( 0.067) | 0.015 |
| 235 | 19.58 | 0.10 | 0.056 | ( 0.059) | 0.050 | 0.006 |
| 236 | 19.67 | 0.10 | 0.056 | ( 0.059) | 0.050 | 0.006 |
| 237 | 19.75 | 0.10 | 0.056 | ( 0.058) | 0.050 | 0.006 |
| 238 | 19.83 | 0.07 | 0.037 | ( 0.058) | 0.033 | 0.004 |
| 239 | 19.92 | 0.07 | 0.037 | ( 0.058) | 0.033 | 0.004 |
| 240 | 20.00 | 0.07 | 0.037 | ( 0.058) | 0.033 | 0.004 |
| 241 | 20.08 | 0.10 | 0.056 | ( 0.057) | 0.050 | 0.006 |
| 242 | 20.17 | 0.10 | 0.056 | ( 0.057) | 0.050 | 0.006 |
| 243 | 20.25 | 0.10 | 0.056 | ( 0.057) | 0.050 | 0.006 |
| 244 | 20.33 | 0.10 | 0.056 | ( 0.057) | 0.050 | 0.006 |
| 245 | 20.42 | 0.10 | 0.056 | ( 0.056) | 0.050 | 0.006 |
| 246 | 20.50 | 0.10 | 0.056 | ( 0.056) | 0.050 | 0.006 |
| 247 | 20.58 | 0.10 | 0.056 | ( 0.056) | 0.050 | 0.006 |
| 248 | 20.67 | 0.10 | 0.056 | ( 0.056) | 0.050 | 0.006 |
| 249 | 20.75 | 0.10 | 0.056 | ( 0.055) | 0.050 | 0.006 |
| 250 | 20.83 | 0.07 | 0.037 | ( 0.055) | 0.033 | 0.004 |
| 251 | 20.92 | 0.07 | 0.037 | ( 0.055) | 0.033 | 0.004 |
| 252 | 21.00 | 0.07 | 0.037 | ( 0.055) | 0.033 | 0.004 |
| 253 | 21.08 | 0.10 | 0.056 | ( 0.054) | 0.050 | 0.006 |
| 254 | 21.17 | 0.10 | 0.056 | ( 0.054) | 0.050 | 0.006 |
| 255 | 21.25 | 0.10 | 0.056 | ( 0.054) | 0.050 | 0.006 |
| 256 | 21.33 | 0.07 | 0.037 | ( 0.054) | 0.033 | 0.004 |
| 257 | 21.42 | 0.07 | 0.037 | ( 0.054) | 0.033 | 0.004 |
| 258 | 21.50 | 0.07 | 0.037 | ( 0.053) | 0.033 | 0.004 |
| 259 | 21.58 | 0.10 | 0.056 | ( 0.053) | 0.050 | 0.006 |
| 260 | 21.67 | 0.10 | 0.056 | ( 0.053) | 0.050 | 0.006 |
| 261 | 21.75 | 0.10 | 0.056 | ( 0.053) | 0.050 | 0.006 |
| 262 | 21.83 | 0.07 | 0.037 | ( 0.053) | 0.033 | 0.004 |
| 263 | 21.92 | 0.07 | 0.037 | ( 0.052) | 0.033 | 0.004 |
| 264 | 22.00 | 0.07 | 0.037 | ( 0.052) | 0.033 | 0.004 |
| 265 | 22.08 | 0.10 | 0.056 | ( 0.052) | 0.050 | 0.006 |
| 266 | 22.17 | 0.10 | 0.056 | ( 0.052) | 0.050 | 0.006 |
| 267 | 22.25 | 0.10 | 0.056 | ( 0.052) | 0.050 | 0.006 |
| 268 | 22.33 | 0.07 | 0.037 | ( 0.052) | 0.033 | 0.004 |
| 269 | 22.42 | 0.07 | 0.037 | ( 0.051) | 0.033 | 0.004 |
| 270 | 22.50 | 0.07 | 0.037 | ( 0.051) | 0.033 | 0.004 |
| 271 | 22.58 | 0.07 | 0.037 | ( 0.051) | 0.033 | 0.004 |
| 272 | 22.67 | 0.07 | 0.037 | ( 0.051) | 0.033 | 0.004 |
| 273 | 22.75 | 0.07 | 0.037 | ( 0.051) | 0.033 | 0.004 |
| 274 | 22.83 | 0.07 | 0.037 | ( 0.051) | 0.033 | 0.004 |
| 275 | 22.92 | 0.07 | 0.037 | ( 0.051) | 0.033 | 0.004 |
| 276 | 23.00 | 0.07 | 0.037 | ( 0.051) | 0.033 | 0.004 |
| 277 | 23.08 | 0.07 | 0.037 | ( 0.050) | 0.033 | 0.004 |
| 278 | 23.17 | 0.07 | 0.037 | ( 0.050) | 0.033 | 0.004 |
| 279 | 23.25 | 0.07 | 0.037 | ( 0.050) | 0.033 | 0.004 |
| 280 | 23.33 | 0.07 | 0.037 | ( 0.050) | 0.033 | 0.004 |
| 281 | 23.42 | 0.07 | 0.037 | ( 0.050) | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.037 | ( 0.050) | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.037 | ( 0.050) | 0.033 | 0.004 |
| 284 | 23.67 | 0.07 | 0.037 | ( 0.050) | 0.033 | 0.004 |
| 285 | 23.75 | 0.07 | 0.037 | ( 0.050) | 0.033 | 0.004 |

```
286  23.83     0.07      0.037       (  0.050)       0.033        0.004
287  23.92     0.07      0.037       (  0.050)       0.033        0.004
288  24.00     0.07      0.037       (  0.050)       0.033        0.004
              (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    33.1
       Flood volume = Effective rainfall      2.76(In)
        times area       8.9(Ac.)/[(In)/(Ft.)] =       2.0(Ac.Ft)
       Total soil loss =      1.88(In)
       Total soil loss =     1.397(Ac.Ft)
       Total rainfall =      4.64(In)
       Flood volume =       89063.5 Cubic Feet
       Total soil loss =       60838.4 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =      4.898(CFS)
       ---------------------------------------------------------------------
       +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
       ---------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))

       ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ----------------------------------------------------------------------------
   0+ 5       0.0001      0.01  Q          |         |         |         |
   0+10       0.0003      0.03  Q          |         |         |         |
   0+15       0.0005      0.03  Q          |         |         |         |
   0+20       0.0008      0.04  Q          |         |         |         |
   0+25       0.0011      0.05  Q          |         |         |         |
   0+30       0.0014      0.05  Q          |         |         |         |
   0+35       0.0018      0.05  Q          |         |         |         |
   0+40       0.0021      0.05  Q          |         |         |         |
   0+45       0.0025      0.05  Q          |         |         |         |
   0+50       0.0028      0.06  Q          |         |         |         |
   0+55       0.0033      0.06  Q          |         |         |         |
   1+ 0       0.0037      0.07  Q          |         |         |         |
   1+ 5       0.0042      0.06  Q          |         |         |         |
   1+10       0.0045      0.05  Q          |         |         |         |
   1+15       0.0049      0.05  Q          |         |         |         |
   1+20       0.0052      0.05  Q          |         |         |         |
   1+25       0.0056      0.05  Q          |         |         |         |
   1+30       0.0059      0.05  Q          |         |         |         |
   1+35       0.0062      0.05  Q          |         |         |         |
   1+40       0.0066      0.05  Q          |         |         |         |
   1+45       0.0069      0.05  Q          |         |         |         |
   1+50       0.0073      0.06  Q          |         |         |         |
   1+55       0.0078      0.06  Q          |         |         |         |
   2+ 0       0.0082      0.07  Q          |         |         |         |
   2+ 5       0.0087      0.07  Q          |         |         |         |
   2+10       0.0091      0.07  Q          |         |         |         |
   2+15       0.0096      0.07  Q          |         |         |         |
   2+20       0.0100      0.07  Q          |         |         |         |
   2+25       0.0105      0.07  Q          |         |         |         |
   2+30       0.0110      0.07  Q          |         |         |         |
   2+35       0.0115      0.07  Q          |         |         |         |
   2+40       0.0120      0.08  Q          |         |         |         |
   2+45       0.0126      0.08  Q          |         |         |         |
   2+50       0.0132      0.08  Q          |         |         |         |
   2+55       0.0137      0.08  Q          |         |         |         |
   3+ 0       0.0143      0.08  Q          |         |         |         |
   3+ 5       0.0149      0.08  Q          |         |         |         |
   3+10       0.0155      0.08  Q          |         |         |         |
   3+15       0.0160      0.08  Q          |         |         |         |
   3+20       0.0166      0.08  Q          |         |         |         |
   3+25       0.0172      0.08  Q          |         |         |         |
   3+30       0.0178      0.08  Q          |         |         |         |
   3+35       0.0183      0.08  Q          |         |         |         |
   3+40       0.0189      0.08  Q          |         |         |         |
   3+45       0.0195      0.08  Q          |         |         |         |
   3+50       0.0201      0.09  Q          |         |         |         |
   3+55       0.0208      0.10  Q          |         |         |         |
   4+ 0       0.0214      0.10  Q          |         |         |         |
   4+ 5       0.0221      0.10  Q          |         |         |         |
   4+10       0.0228      0.10  Q          |         |         |         |
   4+15       0.0235      0.10  Q          |         |         |         |
   4+20       0.0242      0.11  Q          |         |         |         |
   4+25       0.0250      0.11  Q          |         |         |         |
   4+30       0.0258      0.12  Q          |         |         |         |
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 4+35       0.0266      0.12  Q          |          |          |          |
 4+40       0.0274      0.12  Q          |          |          |          |
 4+45       0.0282      0.12  Q          |          |          |          |
 4+50       0.0291      0.12  Q          |          |          |          |
 4+55       0.0300      0.13  Q          |          |          |          |
 5+ 0       0.0309      0.13  Q          |          |          |          |
 5+ 5       0.0317      0.12  Q          |          |          |          |
 5+10       0.0324      0.10  Q          |          |          |          |
 5+15       0.0331      0.10  Q          |          |          |          |
 5+20       0.0339      0.11  Q          |          |          |          |
 5+25       0.0347      0.11  Q          |          |          |          |
 5+30       0.0355      0.12  Q          |          |          |          |
 5+35       0.0363      0.12  Q          |          |          |          |
 5+40       0.0372      0.13  Q          |          |          |          |
 5+45       0.0382      0.14  Q          |          |          |          |
 5+50       0.0392      0.14  Q          |          |          |          |
 5+55       0.0402      0.15  Q          |          |          |          |
 6+ 0       0.0412      0.15  Q          |          |          |          |
 6+ 5       0.0427      0.21  Q          |          |          |          |
 6+10       0.0448      0.31  VQ         |          |          |          |
 6+15       0.0471      0.33  VQ         |          |          |          |
 6+20       0.0495      0.34  VQ         |          |          |          |
 6+25       0.0519      0.35  |Q         |          |          |          |
 6+30       0.0543      0.35  |Q         |          |          |          |
 6+35       0.0571      0.41  |Q         |          |          |          |
 6+40       0.0606      0.51  |VQ        |          |          |          |
 6+45       0.0643      0.53  |VQ        |          |          |          |
 6+50       0.0680      0.54  |VQ        |          |          |          |
 6+55       0.0717      0.54  |VQ        |          |          |          |
 7+ 0       0.0755      0.55  |VQ        |          |          |          |
 7+ 5       0.0793      0.55  |VQ        |          |          |          |
 7+10       0.0832      0.56  |VQ        |          |          |          |
 7+15       0.0871      0.56  |VQ        |          |          |          |
 7+20       0.0914      0.62  |VQ        |          |          |          |
 7+25       0.0963      0.72  |VQ        |          |          |          |
 7+30       0.1014      0.74  |VQ        |          |          |          |
 7+35       0.1070      0.80  | VQ       |          |          |          |
 7+40       0.1131      0.90  | VQ       |          |          |          |
 7+45       0.1195      0.92  | VQ       |          |          |          |
 7+50       0.1263      0.99  | VQ       |          |          |          |
 7+55       0.1337      1.08  | V Q      |          |          |          |
 8+ 0       0.1413      1.10  | V Q      |          |          |          |
 8+ 5       0.1498      1.22  | V Q      |          |          |          |
 8+10       0.1594      1.41  |  V Q     |          |          |          |
 8+15       0.1694      1.45  |  V Q     |          |          |          |
 8+20       0.1795      1.46  |  V Q     |          |          |          |
 8+25       0.1896      1.47  |  V Q     |          |          |          |
 8+30       0.1997      1.47  |  V Q     |          |          |          |
 8+35       0.2102      1.53  |   V Q    |          |          |          |
 8+40       0.2214      1.62  |   V Q    |          |          |          |
 8+45       0.2328      1.65  |   V Q    |          |          |          |
 8+50       0.2445      1.71  |   V Q    |          |          |          |
 8+55       0.2570      1.81  |    V Q   |          |          |          |
 9+ 0       0.2696      1.83  |    V Q   |          |          |          |
 9+ 5       0.2830      1.94  |    V Q   |          |          |          |
 9+10       0.2976      2.13  |    V  Q  |          |          |          |
 9+15       0.3126      2.17  |     V Q  |          |          |          |
 9+20       0.3280      2.24  |     V Q  |          |          |          |
 9+25       0.3441      2.33  |     V  Q|          |          |          |
 9+30       0.3603      2.36  |      V Q|          |          |          |
 9+35       0.3769      2.42  |      V Q|          |          |          |
 9+40       0.3943      2.51  |      V  Q          |          |          |
 9+45       0.4117      2.54  |       V Q          |          |          |
 9+50       0.4296      2.60  |       V Q          |          |          |
 9+55       0.4482      2.69  |       V Q          |          |          |
10+ 0       0.4669      2.72  |         VQ         |          |          |
10+ 5       0.4831      2.35  |         Q|         |          |          |
10+10       0.4949      1.73  |      Q  V|         |          |          |
10+15       0.5060      1.60  |      Q  V|         |          |          |
10+20       0.5169      1.58  |      Q   V         |          |          |
10+25       0.5277      1.58  |      Q   V         |          |          |
10+30       0.5386      1.58  |      Q   V         |          |          |
10+35       0.5514      1.86  |       Q  V         |          |          |
10+40       0.5673      2.31  |         Q|V        |          |          |
10+45       0.5839      2.41  |         Q|V        |          |          |
10+50       0.6006      2.43  |         Q|V        |          |          |
10+55       0.6174      2.44  |         Q| V       |          |          |
11+ 0       0.6342      2.44  |         Q| V       |          |          |
```



| | | | |
|---|---|---|---|
| 11+ 5 | 0.6507 | 2.39 | |
| 11+10 | 0.6666 | 2.31 | |
| 11+15 | 0.6824 | 2.29 | |
| 11+20 | 0.6982 | 2.29 | |
| 11+25 | 0.7140 | 2.30 | |
| 11+30 | 0.7299 | 2.30 | |
| 11+35 | 0.7450 | 2.20 | |
| 11+40 | 0.7589 | 2.02 | |
| 11+45 | 0.7726 | 1.99 | |
| 11+50 | 0.7867 | 2.04 | |
| 11+55 | 0.8014 | 2.13 | |
| 12+ 0 | 0.8162 | 2.16 | |
| 12+ 5 | 0.8337 | 2.54 | |
| 12+10 | 0.8556 | 3.17 | |
| 12+15 | 0.8784 | 3.31 | |
| 12+20 | 0.9017 | 3.39 | |
| 12+25 | 0.9258 | 3.49 | |
| 12+30 | 0.9500 | 3.51 | |
| 12+35 | 0.9749 | 3.63 | |
| 12+40 | 1.0012 | 3.81 | |
| 12+45 | 1.0277 | 3.85 | |
| 12+50 | 1.0547 | 3.92 | |
| 12+55 | 1.0824 | 4.01 | |
| 13+ 0 | 1.1102 | 4.04 | |
| 13+ 5 | 1.1399 | 4.31 | |
| 13+10 | 1.1727 | 4.77 | |
| 13+15 | 1.2062 | 4.86 | |
| 13+20 | 1.2399 | 4.88 | |
| 13+25 | 1.2736 | 4.89 | |
| 13+30 | 1.3073 | 4.90 | |
| 13+35 | 1.3370 | 4.31 | |
| 13+40 | 1.3599 | 3.33 | |
| 13+45 | 1.3814 | 3.13 | |
| 13+50 | 1.4028 | 3.09 | |
| 13+55 | 1.4240 | 3.09 | |
| 14+ 0 | 1.4453 | 3.09 | |
| 14+ 5 | 1.4681 | 3.31 | |
| 14+10 | 1.4934 | 3.67 | |
| 14+15 | 1.5192 | 3.75 | |
| 14+20 | 1.5447 | 3.71 | |
| 14+25 | 1.5697 | 3.63 | |
| 14+30 | 1.5946 | 3.62 | |
| 14+35 | 1.6195 | 3.62 | |
| 14+40 | 1.6445 | 3.62 | |
| 14+45 | 1.6694 | 3.62 | |
| 14+50 | 1.6940 | 3.57 | |
| 14+55 | 1.7180 | 3.49 | |
| 15+ 0 | 1.7419 | 3.47 | |
| 15+ 5 | 1.7655 | 3.42 | |
| 15+10 | 1.7884 | 3.33 | |
| 15+15 | 1.8112 | 3.32 | |
| 15+20 | 1.8337 | 3.26 | |
| 15+25 | 1.8555 | 3.17 | |
| 15+30 | 1.8773 | 3.16 | |
| 15+35 | 1.8976 | 2.94 | |
| 15+40 | 1.9154 | 2.59 | |
| 15+45 | 1.9327 | 2.52 | |
| 15+50 | 1.9500 | 2.51 | |
| 15+55 | 1.9672 | 2.51 | |
| 16+ 0 | 1.9845 | 2.51 | |
| 16+ 5 | 1.9964 | 1.72 | |
| 16+10 | 1.9991 | 0.40 | |
| 16+15 | 2.0001 | 0.13 | |
| 16+20 | 2.0006 | 0.08 | |
| 16+25 | 2.0011 | 0.07 | |
| 16+30 | 2.0016 | 0.07 | |
| 16+35 | 2.0020 | 0.06 | |
| 16+40 | 2.0023 | 0.05 | |
| 16+45 | 2.0027 | 0.05 | |
| 16+50 | 2.0030 | 0.05 | |
| 16+55 | 2.0034 | 0.05 | |
| 17+ 0 | 2.0037 | 0.05 | |
| 17+ 5 | 2.0044 | 0.11 | |
| 17+10 | 2.0058 | 0.20 | |
| 17+15 | 2.0073 | 0.22 | |
| 17+20 | 2.0089 | 0.23 | |
| 17+25 | 2.0105 | 0.23 | |
| 17+30 | 2.0121 | 0.23 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+35 | 2.0137 | 0.24 | Q | \| | \| | \| | V\| |
| 17+40 | 2.0154 | 0.24 | Q | \| | \| | \| | V\| |
| 17+45 | 2.0171 | 0.24 | Q | \| | \| | \| | V\| |
| 17+50 | 2.0184 | 0.19 | Q | \| | \| | \| | V\| |
| 17+55 | 2.0191 | 0.11 | Q | \| | \| | \| | V\| |
| 18+ 0 | 2.0197 | 0.09 | Q | \| | \| | \| | V\| |
| 18+ 5 | 2.0204 | 0.09 | Q | \| | \| | \| | V\| |
| 18+10 | 2.0210 | 0.09 | Q | \| | \| | \| | V\| |
| 18+15 | 2.0216 | 0.09 | Q | \| | \| | \| | V\| |
| 18+20 | 2.0223 | 0.10 | Q | \| | \| | \| | V\| |
| 18+25 | 2.0230 | 0.10 | Q | \| | \| | \| | V\| |
| 18+30 | 2.0237 | 0.10 | Q | \| | \| | \| | V\| |
| 18+35 | 2.0243 | 0.09 | Q | \| | \| | \| | V\| |
| 18+40 | 2.0247 | 0.06 | Q | \| | \| | \| | V\| |
| 18+45 | 2.0250 | 0.05 | Q | \| | \| | \| | V\| |
| 18+50 | 2.0254 | 0.04 | Q | \| | \| | \| | V\| |
| 18+55 | 2.0256 | 0.04 | Q | \| | \| | \| | V\| |
| 19+ 0 | 2.0258 | 0.03 | Q | \| | \| | \| | V\| |
| 19+ 5 | 2.0261 | 0.04 | Q | \| | \| | \| | V\| |
| 19+10 | 2.0264 | 0.05 | Q | \| | \| | \| | V\| |
| 19+15 | 2.0268 | 0.05 | Q | \| | \| | \| | V\| |
| 19+20 | 2.0273 | 0.08 | Q | \| | \| | \| | V\| |
| 19+25 | 2.0281 | 0.12 | Q | \| | \| | \| | V\| |
| 19+30 | 2.0290 | 0.13 | Q | \| | \| | \| | V\| |
| 19+35 | 2.0298 | 0.11 | Q | \| | \| | \| | V\| |
| 19+40 | 2.0302 | 0.06 | Q | \| | \| | \| | V\| |
| 19+45 | 2.0306 | 0.05 | Q | \| | \| | \| | V\| |
| 19+50 | 2.0309 | 0.05 | Q | \| | \| | \| | V\| |
| 19+55 | 2.0311 | 0.04 | Q | \| | \| | \| | V\| |
| 20+ 0 | 2.0313 | 0.03 | Q | \| | \| | \| | V\| |
| 20+ 5 | 2.0316 | 0.04 | Q | \| | \| | \| | V\| |
| 20+10 | 2.0319 | 0.05 | Q | \| | \| | \| | V\| |
| 20+15 | 2.0323 | 0.05 | Q | \| | \| | \| | V\| |
| 20+20 | 2.0326 | 0.05 | Q | \| | \| | \| | V\| |
| 20+25 | 2.0330 | 0.05 | Q | \| | \| | \| | V\| |
| 20+30 | 2.0333 | 0.05 | Q | \| | \| | \| | V\| |
| 20+35 | 2.0337 | 0.05 | Q | \| | \| | \| | V\| |
| 20+40 | 2.0340 | 0.05 | Q | \| | \| | \| | V\| |
| 20+45 | 2.0343 | 0.05 | Q | \| | \| | \| | V\| |
| 20+50 | 2.0347 | 0.04 | Q | \| | \| | \| | V\| |
| 20+55 | 2.0349 | 0.04 | Q | \| | \| | \| | V\| |
| 21+ 0 | 2.0351 | 0.03 | Q | \| | \| | \| | V\| |
| 21+ 5 | 2.0354 | 0.04 | Q | \| | \| | \| | V\| |
| 21+10 | 2.0357 | 0.05 | Q | \| | \| | \| | V\| |
| 21+15 | 2.0361 | 0.05 | Q | \| | \| | \| | V\| |
| 21+20 | 2.0364 | 0.04 | Q | \| | \| | \| | V\| |
| 21+25 | 2.0366 | 0.04 | Q | \| | \| | \| | V\| |
| 21+30 | 2.0368 | 0.03 | Q | \| | \| | \| | V\| |
| 21+35 | 2.0371 | 0.04 | Q | \| | \| | \| | V\| |
| 21+40 | 2.0374 | 0.05 | Q | \| | \| | \| | V\| |
| 21+45 | 2.0378 | 0.05 | Q | \| | \| | \| | V\| |
| 21+50 | 2.0381 | 0.04 | Q | \| | \| | \| | V\| |
| 21+55 | 2.0383 | 0.04 | Q | \| | \| | \| | V\| |
| 22+ 0 | 2.0386 | 0.03 | Q | \| | \| | \| | V\| |
| 22+ 5 | 2.0388 | 0.04 | Q | \| | \| | \| | V\| |
| 22+10 | 2.0392 | 0.05 | Q | \| | \| | \| | V\| |
| 22+15 | 2.0395 | 0.05 | Q | \| | \| | \| | V\| |
| 22+20 | 2.0398 | 0.04 | Q | \| | \| | \| | V\| |
| 22+25 | 2.0401 | 0.04 | Q | \| | \| | \| | V\| |
| 22+30 | 2.0403 | 0.03 | Q | \| | \| | \| | V\| |
| 22+35 | 2.0405 | 0.03 | Q | \| | \| | \| | V\| |
| 22+40 | 2.0408 | 0.03 | Q | \| | \| | \| | V\| |
| 22+45 | 2.0410 | 0.03 | Q | \| | \| | \| | V\| |
| 22+50 | 2.0412 | 0.03 | Q | \| | \| | \| | V\| |
| 22+55 | 2.0414 | 0.03 | Q | \| | \| | \| | V\| |
| 23+ 0 | 2.0417 | 0.03 | Q | \| | \| | \| | V\| |
| 23+ 5 | 2.0419 | 0.03 | Q | \| | \| | \| | V\| |
| 23+10 | 2.0421 | 0.03 | Q | \| | \| | \| | V\| |
| 23+15 | 2.0424 | 0.03 | Q | \| | \| | \| | V\| |
| 23+20 | 2.0426 | 0.03 | Q | \| | \| | \| | V\| |
| 23+25 | 2.0428 | 0.03 | Q | \| | \| | \| | V\| |
| 23+30 | 2.0430 | 0.03 | Q | \| | \| | \| | V\| |
| 23+35 | 2.0433 | 0.03 | Q | \| | \| | \| | V\| |
| 23+40 | 2.0435 | 0.03 | Q | \| | \| | \| | V\| |
| 23+45 | 2.0437 | 0.03 | Q | \| | \| | \| | V\| |
| 23+50 | 2.0440 | 0.03 | Q | \| | \| | \| | V\| |
| 23+55 | 2.0442 | 0.03 | Q | \| | \| | \| | V\| |
| 24+ 0 | 2.0444 | 0.03 | Q | \| | \| | \| | V\| |

```
   24+ 5       2.0446      0.02  Q          |          |          |         V|
   24+10       2.0446      0.00  Q          |          |          |         V|
   24+15       2.0446      0.00  Q          |          |          |         V|
   24+20       2.0446      0.00  Q          |          |          |         V|
-------------------------------------------------------------------------------
```

# ATTACHMENT NO. 4

Existing Conditions
100-Year Unit Hydrograph Calculations

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/19/17 File: EX11100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 1
100-YEAR STORM EVENT
BY: JDN, DATE: 12-19-17

---

Drainage Area = 2855.40(Ac.) = 4.462 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2855.40(Ac.) = 4.462 Sq. Mi.
Length along longest watercourse = 15691.00(Ft.)
Length along longest watercourse measured to centroid = 7916.00(Ft.)
Length along longest watercourse = 2.972 Mi.
Length along longest watercourse measured to centroid = 1.499 Mi.
Difference in elevation = 575.00(Ft.)
Slope along watercourse = 193.4867 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.545 Hr.
Lag time = 32.70 Min.
25% of lag time = 8.17 Min.
40% of lag time = 13.08 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2855.40 | 0.52 | 1484.81 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2855.40 | 1.20 | 3426.48 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.520(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 97.41 %
Adjusted average point rain = 1.169(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2855.400 | 80.59 | 0.000 |

Total Area Entered = 2855.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 80.6 | 91.4 | 0.112 | 0.000 | 0.112 | 1.000 | 0.112 |
| | | | | | Sum (F) = | 0.112 |

Area averaged mean soil loss (F) (In/Hr) = 0.112

Minimum soil loss rate ((In/Hr)) = 0.056
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 15.291 | 0.969 | 27.873 |
| 2 | 0.167 | 30.581 | 2.470 | 71.074 |
| 3 | 0.250 | 45.872 | 3.529 | 101.558 |
| 4 | 0.333 | 61.163 | 4.687 | 134.867 |
| 5 | 0.417 | 76.453 | 6.882 | 198.049 |
| 6 | 0.500 | 91.744 | 10.344 | 297.674 |
| 7 | 0.583 | 107.034 | 19.083 | 549.146 |
| 8 | 0.667 | 122.325 | 11.023 | 317.218 |
| 9 | 0.750 | 137.616 | 6.510 | 187.339 |
| 10 | 0.833 | 152.906 | 5.004 | 143.992 |
| 11 | 0.917 | 168.197 | 3.890 | 111.941 |
| 12 | 1.000 | 183.488 | 3.486 | 100.320 |
| 13 | 1.083 | 198.778 | 2.892 | 83.228 |
| 14 | 1.167 | 214.069 | 2.555 | 73.513 |
| 15 | 1.250 | 229.360 | 2.189 | 62.990 |
| 16 | 1.333 | 244.650 | 1.929 | 55.501 |
| 17 | 1.417 | 259.941 | 1.757 | 50.571 |
| 18 | 1.500 | 275.231 | 1.490 | 42.887 |
| 19 | 1.583 | 290.522 | 1.342 | 38.616 |
| 20 | 1.667 | 305.813 | 1.206 | 34.693 |
| 21 | 1.750 | 321.103 | 1.026 | 29.514 |
| 22 | 1.833 | 336.394 | 0.911 | 26.207 |
| 23 | 1.917 | 351.685 | 0.741 | 21.328 |
| 24 | 2.000 | 366.975 | 0.660 | 18.994 |
| 25 | 2.083 | 382.266 | 0.591 | 17.005 |
| 26 | 2.167 | 397.557 | 0.453 | 13.048 |
| 27 | 2.250 | 412.847 | 0.342 | 9.836 |
| 28 | 2.333 | 428.138 | 0.187 | 5.370 |
| 29 | 2.417 | 443.428 | 0.183 | 5.280 |
| 30 | 2.500 | 458.719 | 0.179 | 5.137 |
| 31 | 2.583 | 474.010 | 0.156 | 4.481 |
| 32 | 2.667 | 489.300 | 0.153 | 4.400 |
| 33 | 2.750 | 504.591 | 0.150 | 4.321 |
| 34 | 2.833 | 519.882 | 0.107 | 3.071 |
| 35 | 2.917 | 535.172 | 0.092 | 2.640 |
| 36 | 3.000 | 550.463 | 0.092 | 2.641 |
| 37 | 3.083 | 565.754 | 0.108 | 3.106 |
| 38 | 3.167 | 581.044 | 0.122 | 3.520 |
| 39 | 3.250 | 596.335 | 0.122 | 3.520 |
| 40 | 3.333 | 611.625 | 0.105 | 3.011 |
| 41 | 3.417 | 626.916 | 0.063 | 1.811 |
| 42 | 3.500 | 642.207 | 0.061 | 1.760 |
| 43 | 3.583 | 657.497 | 0.057 | 1.654 |
| 44 | 3.667 | 672.788 | 0.035 | 0.994 |
| 45 | 3.750 | 688.079 | 0.031 | 0.880 |
| 46 | 3.833 | 703.369 | 0.039 | 1.126 |
| | | | Sum = 100.000 | Sum= 2877.708 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.589 | 0.112 | ( 0.530) | 0.477 |
| 2 | 0.17 | 4.30 | 0.603 | 0.112 | ( 0.543) | 0.491 |
| 3 | 0.25 | 5.00 | 0.701 | 0.112 | ( 0.631) | 0.589 |
| 4 | 0.33 | 5.00 | 0.701 | 0.112 | ( 0.631) | 0.589 |
| 5 | 0.42 | 5.80 | 0.814 | 0.112 | ( 0.732) | 0.701 |
| 6 | 0.50 | 6.50 | 0.912 | 0.112 | ( 0.821) | 0.799 |
| 7 | 0.58 | 7.40 | 1.038 | 0.112 | ( 0.934) | 0.926 |
| 8 | 0.67 | 8.60 | 1.206 | 0.112 | ( 1.086) | 1.094 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 9 | 0.75 | 12.30 | 1.725 | 0.112 | ( 1.553) | | 1.613 |
| 10 | 0.83 | 29.10 | 4.082 | 0.112 | ( 3.674) | | 3.970 |
| 11 | 0.92 | 6.80 | 0.954 | 0.112 | ( 0.858) | | 0.841 |
| 12 | 1.00 | 5.00 | 0.701 | 0.112 | ( 0.631) | | 0.589 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 12.7

Flood volume = Effective rainfall 1.06(In)
times area 2855.4(Ac.)/[(In)/(Ft.)] = 251.4(Ac.Ft)
Total soil loss = 0.11(In)
Total soil loss = 26.745(Ac.Ft)
Total rainfall = 1.17(In)
Flood volume = 10951243.6 Cubic Feet
Total soil loss = 1165016.7 Cubic Feet

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Peak flow rate of this hydrograph = 3708.320(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

---

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 950.0 1900.0 2850.0 3800.0 |
|---|---|---|---|
| 0+ 5 | 0.0916 | 13.30 | Q |
| 0+10 | 0.4193 | 47.59 | Q |
| 0+15 | 1.1064 | 99.77 | VQ |
| 0+20 | 2.2945 | 172.51 | VQ |
| 0+25 | 4.2365 | 281.98 | V Q |
| 0+30 | 7.3405 | 450.71 | V Q |
| 0+35 | 12.5623 | 758.19 | V Q |
| 0+40 | 19.3477 | 985.25 | V Q |
| 0+45 | 27.6657 | 1207.77 | V Q |
| 0+50 | 37.9955 | 1499.89 | V Q |
| 0+55 | 50.7051 | 1845.42 | V Q |
| 1+ 0 | 65.5089 | 2149.52 | V Q |
| 1+ 5 | 82.3266 | 2441.93 | V Q |
| 1+10 | 101.5212 | 2787.05 | V Q |
| 1+15 | 123.5830 | 3203.37 | V Q |
| 1+20 | 149.1223 | 3708.32 | V Q |
| 1+25 | 167.9353 | 2731.64 | V Q |
| 1+30 | 181.8179 | 2015.76 | Q V |
| 1+35 | 192.0730 | 1489.03 | Q V |
| 1+40 | 200.1803 | 1177.18 | Q V |
| 1+45 | 207.1337 | 1009.64 | Q V |
| 1+50 | 213.0613 | 860.68 | Q V |
| 1+55 | 218.2449 | 752.66 | Q V |
| 2+ 0 | 222.7444 | 653.33 | Q V |
| 2+ 5 | 226.7044 | 575.00 | Q V |
| 2+10 | 230.2074 | 508.62 | Q V |
| 2+15 | 233.2478 | 441.47 | Q V |
| 2+20 | 235.9153 | 387.32 | Q V |
| 2+25 | 238.2390 | 337.40 | Q V |
| 2+30 | 240.2305 | 289.17 | Q V |
| 2+35 | 241.9426 | 248.60 | Q V |
| 2+40 | 243.3722 | 207.58 | Q V |
| 2+45 | 244.5951 | 177.56 | Q V |
| 2+50 | 245.6250 | 149.54 | Q V |
| 2+55 | 246.4454 | 119.13 | Q V |
| 3+ 0 | 247.0849 | 92.85 | Q V |
| 3+ 5 | 247.5552 | 68.29 | Q V |
| 3+10 | 247.9718 | 60.49 | Q V |
| 3+15 | 248.3517 | 55.17 | Q V |
| 3+20 | 248.7025 | 50.94 | Q V |
| 3+25 | 249.0320 | 47.84 | Q V |
| 3+30 | 249.3373 | 44.33 | Q V |
| 3+35 | 249.6006 | 38.24 | Q V |
| 3+40 | 249.8407 | 34.86 | Q V |
| 3+45 | 250.0696 | 33.24 | Q V |
| 3+50 | 250.3014 | 33.65 | Q V |
| 3+55 | 250.5289 | 33.03 | Q V |
| 4+ 0 | 250.7386 | 30.45 | Q V |
| 4+ 5 | 250.9139 | 25.46 | Q V |
| 4+10 | 251.0438 | 18.87 | Q V |
| 4+15 | 251.1524 | 15.76 | Q V |
| 4+20 | 251.2401 | 12.73 | Q V |
| 4+25 | 251.3023 | 9.03 | Q V |

```
    4+30     251.3513      7.12  Q         |          |          |         V|
    4+35     251.3913      5.80  Q         |          |          |         V|
    4+40     251.4014      1.47  Q         |          |          |         V|
    4+45     251.4060      0.66  Q         |          |          |          V
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/19/17 File: EX13100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 1
100-YEAR STORM EVENT
BY: JDN, DATE: 12-19-17

---

Drainage Area = 2855.40(Ac.) = 4.462 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2855.40(Ac.) = 4.462 Sq. Mi.
Length along longest watercourse = 15691.00(Ft.)
Length along longest watercourse measured to centroid = 7916.00(Ft.)
Length along longest watercourse = 2.972 Mi.
Length along longest watercourse measured to centroid = 1.499 Mi.
Difference in elevation = 575.00(Ft.)
Slope along watercourse = 193.4867 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.545 Hr.
Lag time = 32.70 Min.
25% of lag time = 8.17 Min.
40% of lag time = 13.08 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2855.40 | 0.86 | 2455.64 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2855.40 | 1.86 | 5311.04 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.860(In)
Area Averaged 100-Year Rainfall = 1.860(In)

Point rain (area averaged) = 1.860(In)
Areal adjustment factor = 98.75 %
Adjusted average point rain = 1.837(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2855.400 | 80.59 | 0.000 |

Total Area Entered = 2855.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 80.6 | 91.4 | 0.112 | 0.000 | 0.112 | 1.000 | 0.112 |
| | | | | | Sum (F) = | 0.112 |

Area averaged mean soil loss (F) (In/Hr) = 0.112

Minimum soil loss rate ((In/Hr)) = 0.056
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 15.291 | 0.969 | 27.873 |
| 2 | 0.167 | 30.581 | 2.470 | 71.074 |
| 3 | 0.250 | 45.872 | 3.529 | 101.558 |
| 4 | 0.333 | 61.163 | 4.687 | 134.867 |
| 5 | 0.417 | 76.453 | 6.882 | 198.049 |
| 6 | 0.500 | 91.744 | 10.344 | 297.674 |
| 7 | 0.583 | 107.034 | 19.083 | 549.146 |
| 8 | 0.667 | 122.325 | 11.023 | 317.218 |
| 9 | 0.750 | 137.616 | 6.510 | 187.339 |
| 10 | 0.833 | 152.906 | 5.004 | 143.992 |
| 11 | 0.917 | 168.197 | 3.890 | 111.941 |
| 12 | 1.000 | 183.488 | 3.486 | 100.320 |
| 13 | 1.083 | 198.778 | 2.892 | 83.228 |
| 14 | 1.167 | 214.069 | 2.555 | 73.513 |
| 15 | 1.250 | 229.360 | 2.189 | 62.990 |
| 16 | 1.333 | 244.650 | 1.929 | 55.501 |
| 17 | 1.417 | 259.941 | 1.757 | 50.571 |
| 18 | 1.500 | 275.231 | 1.490 | 42.887 |
| 19 | 1.583 | 290.522 | 1.342 | 38.616 |
| 20 | 1.667 | 305.813 | 1.206 | 34.693 |
| 21 | 1.750 | 321.103 | 1.026 | 29.514 |
| 22 | 1.833 | 336.394 | 0.911 | 26.207 |
| 23 | 1.917 | 351.685 | 0.741 | 21.328 |
| 24 | 2.000 | 366.975 | 0.660 | 18.994 |
| 25 | 2.083 | 382.266 | 0.591 | 17.005 |
| 26 | 2.167 | 397.557 | 0.453 | 13.048 |
| 27 | 2.250 | 412.847 | 0.342 | 9.836 |
| 28 | 2.333 | 428.138 | 0.187 | 5.370 |
| 29 | 2.417 | 443.428 | 0.183 | 5.280 |
| 30 | 2.500 | 458.719 | 0.179 | 5.137 |
| 31 | 2.583 | 474.010 | 0.156 | 4.481 |
| 32 | 2.667 | 489.300 | 0.153 | 4.400 |
| 33 | 2.750 | 504.591 | 0.150 | 4.321 |
| 34 | 2.833 | 519.882 | 0.107 | 3.071 |
| 35 | 2.917 | 535.172 | 0.092 | 2.640 |
| 36 | 3.000 | 550.463 | 0.092 | 2.641 |
| 37 | 3.083 | 565.754 | 0.108 | 3.106 |
| 38 | 3.167 | 581.044 | 0.122 | 3.520 |
| 39 | 3.250 | 596.335 | 0.122 | 3.520 |
| 40 | 3.333 | 611.625 | 0.105 | 3.011 |
| 41 | 3.417 | 626.916 | 0.063 | 1.811 |
| 42 | 3.500 | 642.207 | 0.061 | 1.760 |
| 43 | 3.583 | 657.497 | 0.057 | 1.654 |
| 44 | 3.667 | 672.788 | 0.035 | 0.994 |
| 45 | 3.750 | 688.079 | 0.031 | 0.880 |
| 46 | 3.833 | 703.369 | 0.039 | 1.126 |
| | | | Sum = 100.000 | Sum= 2877.708 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.287 | 0.112 | ( 0.258) | 0.174 |
| 2 | 0.17 | 1.30 | 0.287 | 0.112 | ( 0.258) | 0.174 |
| 3 | 0.25 | 1.10 | 0.242 | 0.112 | ( 0.218) | 0.130 |
| 4 | 0.33 | 1.50 | 0.331 | 0.112 | ( 0.298) | 0.218 |
| 5 | 0.42 | 1.50 | 0.331 | 0.112 | ( 0.298) | 0.218 |
| 6 | 0.50 | 1.80 | 0.397 | 0.112 | ( 0.357) | 0.284 |
| 7 | 0.58 | 1.50 | 0.331 | 0.112 | ( 0.298) | 0.218 |
| 8 | 0.67 | 1.80 | 0.397 | 0.112 | ( 0.357) | 0.284 |
| 9 | 0.75 | 1.80 | 0.397 | 0.112 | ( 0.357) | 0.284 |
| 10 | 0.83 | 1.50 | 0.331 | 0.112 | ( 0.298) | 0.218 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 11 | 0.92 | 1.60 | 0.353 | 0.112 | ( | 0.317) | 0.240 |
| 12 | 1.00 | 1.80 | 0.397 | 0.112 | ( | 0.357) | 0.284 |
| 13 | 1.08 | 2.20 | 0.485 | 0.112 | ( | 0.436) | 0.373 |
| 14 | 1.17 | 2.20 | 0.485 | 0.112 | ( | 0.436) | 0.373 |
| 15 | 1.25 | 2.20 | 0.485 | 0.112 | ( | 0.436) | 0.373 |
| 16 | 1.33 | 2.00 | 0.441 | 0.112 | ( | 0.397) | 0.328 |
| 17 | 1.42 | 2.60 | 0.573 | 0.112 | ( | 0.516) | 0.461 |
| 18 | 1.50 | 2.70 | 0.595 | 0.112 | ( | 0.536) | 0.483 |
| 19 | 1.58 | 2.40 | 0.529 | 0.112 | ( | 0.476) | 0.417 |
| 20 | 1.67 | 2.70 | 0.595 | 0.112 | ( | 0.536) | 0.483 |
| 21 | 1.75 | 3.30 | 0.727 | 0.112 | ( | 0.655) | 0.615 |
| 22 | 1.83 | 3.10 | 0.683 | 0.112 | ( | 0.615) | 0.571 |
| 23 | 1.92 | 2.90 | 0.639 | 0.112 | ( | 0.575) | 0.527 |
| 24 | 2.00 | 3.00 | 0.661 | 0.112 | ( | 0.595) | 0.549 |
| 25 | 2.08 | 3.10 | 0.683 | 0.112 | ( | 0.615) | 0.571 |
| 26 | 2.17 | 4.20 | 0.926 | 0.112 | ( | 0.833) | 0.813 |
| 27 | 2.25 | 5.00 | 1.102 | 0.112 | ( | 0.992) | 0.990 |
| 28 | 2.33 | 3.50 | 0.771 | 0.112 | ( | 0.694) | 0.659 |
| 29 | 2.42 | 6.80 | 1.499 | 0.112 | ( | 1.349) | 1.386 |
| 30 | 2.50 | 7.30 | 1.609 | 0.112 | ( | 1.448) | 1.497 |
| 31 | 2.58 | 8.20 | 1.807 | 0.112 | ( | 1.627) | 1.695 |
| 32 | 2.67 | 5.90 | 1.300 | 0.112 | ( | 1.170) | 1.188 |
| 33 | 2.75 | 2.00 | 0.441 | 0.112 | ( | 0.397) | 0.328 |
| 34 | 2.83 | 1.80 | 0.397 | 0.112 | ( | 0.357) | 0.284 |
| 35 | 2.92 | 1.80 | 0.397 | 0.112 | ( | 0.357) | 0.284 |
| 36 | 3.00 | 0.60 | 0.132 | 0.112 | ( | 0.119) | 0.020 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 18.0

Flood volume = Effective rainfall 1.50(In)
times area 2855.4(Ac.)/[(In)/(Ft.)] = 356.8(Ac.Ft)
Total soil loss = 0.34(In)
Total soil loss = 80.235(Ac.Ft)
Total rainfall = 1.84(In)
Flood volume = 15543197.9 Cubic Feet
Total soil loss = 3495050.2 Cubic Feet

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Peak flow rate of this hydrograph = 2795.783(CFS)

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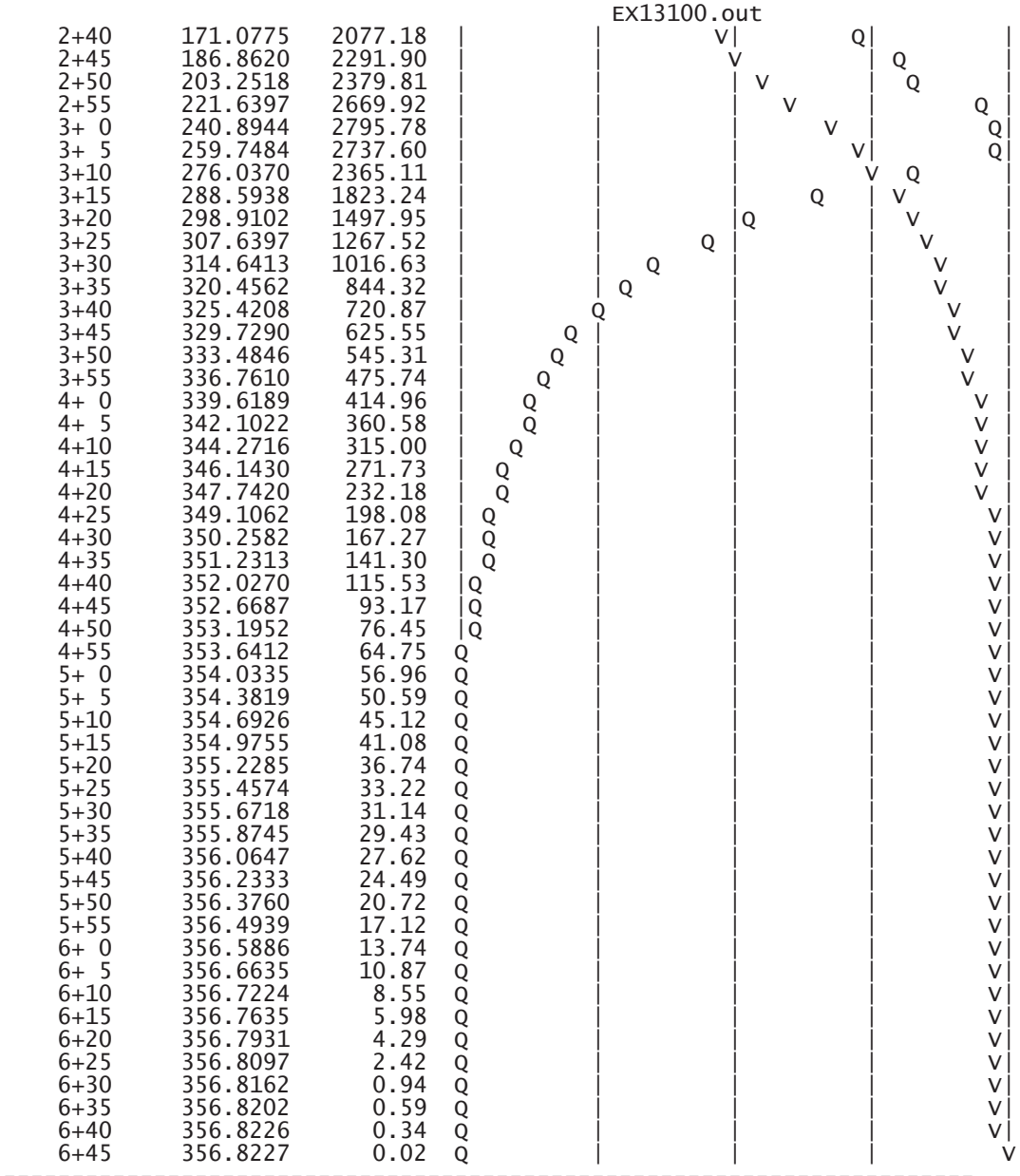
3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 700.0 | 1400.0 | 2100.0 | 2800.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0334 | 4.86 | Q | | | | |
| 0+10 | 0.1522 | 17.24 | Q | | | | |
| 0+15 | 0.3843 | 33.70 | Q | | | | |
| 0+20 | 0.7736 | 56.53 | Q | | | | |
| 0+25 | 1.4129 | 92.82 | VQ | | | | |
| 0+30 | 2.4427 | 149.54 | V Q | | | | |
| 0+35 | 4.1730 | 251.23 | V Q | | | | |
| 0+40 | 6.3404 | 314.70 | V Q | | | | |
| 0+45 | 8.7942 | 356.29 | V Q | | | | |
| 0+50 | 11.7203 | 424.88 | \|V Q | | | | |
| 0+55 | 14.9953 | 475.53 | \|V Q | | | | |
| 1+ 0 | 18.6385 | 529.00 | \| V Q | | | | |
| 1+ 5 | 22.4576 | 554.52 | \| V Q | | | | |
| 1+10 | 26.5976 | 601.14 | \| V Q | | | | |
| 1+15 | 30.9708 | 634.99 | \| V Q\| | | | | |
| 1+20 | 35.4383 | 648.67 | \| V Q\| | | | | |
| 1+25 | 40.2056 | 692.22 | \| V Q\| | | | | |
| 1+30 | 45.4377 | 759.70 | \| V Q | | | | |
| 1+35 | 51.2182 | 839.33 | \| V \|Q | | | | |
| 1+40 | 57.3701 | 893.26 | \| V \| Q | | | | |
| 1+45 | 63.8528 | 941.28 | \| V \| Q | | | | |
| 1+50 | 70.6807 | 991.41 | \| V \| Q | | | | |
| 1+55 | 78.1287 | 1081.45 | \| V \| Q | | | | |
| 2+ 0 | 86.0441 | 1149.32 | \| V\| Q | | | | |
| 2+ 5 | 94.2486 | 1191.29 | \| V Q | | | | |
| 2+10 | 103.0146 | 1272.82 | \| \|V Q | | | | |
| 2+15 | 112.5472 | 1384.14 | \| \| V Q\| | | | | |
| 2+20 | 122.5197 | 1448.01 | \| \| V Q | | | | |
| 2+25 | 132.9409 | 1513.15 | \| \| V \|Q | | | | |
| 2+30 | 144.2241 | 1638.32 | \| \| V \| Q | | | | |
| 2+35 | 156.7719 | 1821.94 | \| \| V \| Q | | | | |



| | | | |
|---|---|---|---|
| 2+40 | 171.0775 | 2077.18 | |
| 2+45 | 186.8620 | 2291.90 | |
| 2+50 | 203.2518 | 2379.81 | |
| 2+55 | 221.6397 | 2669.92 | |
| 3+ 0 | 240.8944 | 2795.78 | |
| 3+ 5 | 259.7484 | 2737.60 | |
| 3+10 | 276.0370 | 2365.11 | |
| 3+15 | 288.5938 | 1823.24 | |
| 3+20 | 298.9102 | 1497.95 | |
| 3+25 | 307.6397 | 1267.52 | |
| 3+30 | 314.6413 | 1016.63 | |
| 3+35 | 320.4562 | 844.32 | |
| 3+40 | 325.4208 | 720.87 | |
| 3+45 | 329.7290 | 625.55 | |
| 3+50 | 333.4846 | 545.31 | |
| 3+55 | 336.7610 | 475.74 | |
| 4+ 0 | 339.6189 | 414.96 | |
| 4+ 5 | 342.1022 | 360.58 | |
| 4+10 | 344.2716 | 315.00 | |
| 4+15 | 346.1430 | 271.73 | |
| 4+20 | 347.7420 | 232.18 | |
| 4+25 | 349.1062 | 198.08 | |
| 4+30 | 350.2582 | 167.27 | |
| 4+35 | 351.2313 | 141.30 | |
| 4+40 | 352.0270 | 115.53 | |
| 4+45 | 352.6687 | 93.17 | |
| 4+50 | 353.1952 | 76.45 | |
| 4+55 | 353.6412 | 64.75 | |
| 5+ 0 | 354.0335 | 56.96 | |
| 5+ 5 | 354.3819 | 50.59 | |
| 5+10 | 354.6926 | 45.12 | |
| 5+15 | 354.9755 | 41.08 | |
| 5+20 | 355.2285 | 36.74 | |
| 5+25 | 355.4574 | 33.22 | |
| 5+30 | 355.6718 | 31.14 | |
| 5+35 | 355.8745 | 29.43 | |
| 5+40 | 356.0647 | 27.62 | |
| 5+45 | 356.2333 | 24.49 | |
| 5+50 | 356.3760 | 20.72 | |
| 5+55 | 356.4939 | 17.12 | |
| 6+ 0 | 356.5886 | 13.74 | |
| 6+ 5 | 356.6635 | 10.87 | |
| 6+10 | 356.7224 | 8.55 | |
| 6+15 | 356.7635 | 5.98 | |
| 6+20 | 356.7931 | 4.29 | |
| 6+25 | 356.8097 | 2.42 | |
| 6+30 | 356.8162 | 0.94 | |
| 6+35 | 356.8202 | 0.59 | |
| 6+40 | 356.8226 | 0.34 | |
| 6+45 | 356.8227 | 0.02 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/19/17 File: EX16100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 1
100-YEAR STORM EVENT
BY: JDN, DATE: 12-19-17

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Drainage Area = 2855.40(Ac.) = 4.462 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2855.40(Ac.) = 4.462 Sq. Mi.
Length along longest watercourse = 15691.00(Ft.)
Length along longest watercourse measured to centroid = 7916.00(Ft.)
Length along longest watercourse = 2.972 Mi.
Length along longest watercourse measured to centroid = 1.499 Mi.
Difference in elevation = 575.00(Ft.)
Slope along watercourse = 193.4867 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.545 Hr.
Lag time = 32.70 Min.
25% of lag time = 8.17 Min.
40% of lag time = 13.08 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2855.40 | 1.20 | 3426.48 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2855.40 | 2.51 | 7167.05 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.200(In)
Area Averaged 100-Year Rainfall = 2.510(In)

Point rain (area averaged) = 2.510(In)
Areal adjustment factor = 99.02 %
Adjusted average point rain = 2.485(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2855.400 | 80.59 | 0.000 |

Total Area Entered = 2855.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 80.6 | 91.4 | 0.112 | 0.000 | 0.112 | 1.000 | 0.112 |
| | | | | | Sum (F) = | 0.112 |

Area averaged mean soil loss (F) (In/Hr) = 0.112

Minimum soil loss rate ((In/Hr)) = 0.056
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 15.291 | 0.969 | 27.873 |
| 2 0.167 | 30.581 | 2.470 | 71.074 |
| 3 0.250 | 45.872 | 3.529 | 101.558 |
| 4 0.333 | 61.163 | 4.687 | 134.867 |
| 5 0.417 | 76.453 | 6.882 | 198.049 |
| 6 0.500 | 91.744 | 10.344 | 297.674 |
| 7 0.583 | 107.034 | 19.083 | 549.146 |
| 8 0.667 | 122.325 | 11.023 | 317.218 |
| 9 0.750 | 137.616 | 6.510 | 187.339 |
| 10 0.833 | 152.906 | 5.004 | 143.992 |
| 11 0.917 | 168.197 | 3.890 | 111.941 |
| 12 1.000 | 183.488 | 3.486 | 100.320 |
| 13 1.083 | 198.778 | 2.892 | 83.228 |
| 14 1.167 | 214.069 | 2.555 | 73.513 |
| 15 1.250 | 229.360 | 2.189 | 62.990 |
| 16 1.333 | 244.650 | 1.929 | 55.501 |
| 17 1.417 | 259.941 | 1.757 | 50.571 |
| 18 1.500 | 275.231 | 1.490 | 42.887 |
| 19 1.583 | 290.522 | 1.342 | 38.616 |
| 20 1.667 | 305.813 | 1.206 | 34.693 |
| 21 1.750 | 321.103 | 1.026 | 29.514 |
| 22 1.833 | 336.394 | 0.911 | 26.207 |
| 23 1.917 | 351.685 | 0.741 | 21.328 |
| 24 2.000 | 366.975 | 0.660 | 18.994 |
| 25 2.083 | 382.266 | 0.591 | 17.005 |
| 26 2.167 | 397.557 | 0.453 | 13.048 |
| 27 2.250 | 412.847 | 0.342 | 9.836 |
| 28 2.333 | 428.138 | 0.187 | 5.370 |
| 29 2.417 | 443.428 | 0.183 | 5.280 |
| 30 2.500 | 458.719 | 0.179 | 5.137 |
| 31 2.583 | 474.010 | 0.156 | 4.481 |
| 32 2.667 | 489.300 | 0.153 | 4.400 |
| 33 2.750 | 504.591 | 0.150 | 4.321 |
| 34 2.833 | 519.882 | 0.107 | 3.071 |
| 35 2.917 | 535.172 | 0.092 | 2.640 |
| 36 3.000 | 550.463 | 0.092 | 2.641 |
| 37 3.083 | 565.754 | 0.108 | 3.106 |
| 38 3.167 | 581.044 | 0.122 | 3.520 |
| 39 3.250 | 596.335 | 0.122 | 3.520 |
| 40 3.333 | 611.625 | 0.105 | 3.011 |
| 41 3.417 | 626.916 | 0.063 | 1.811 |
| 42 3.500 | 642.207 | 0.061 | 1.760 |
| 43 3.583 | 657.497 | 0.057 | 1.654 |
| 44 3.667 | 672.788 | 0.035 | 0.994 |
| 45 3.750 | 688.079 | 0.031 | 0.880 |
| 46 3.833 | 703.369 | 0.039 | 1.126 |
| | | Sum = 100.000 | Sum= 2877.708 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.149 | 0.112 | ( 0.134) | 0.037 |
| 2 | 0.17 | 0.60 | 0.179 | 0.112 | ( 0.161) | 0.067 |
| 3 | 0.25 | 0.60 | 0.179 | 0.112 | ( 0.161) | 0.067 |
| 4 | 0.33 | 0.60 | 0.179 | 0.112 | ( 0.161) | 0.067 |
| 5 | 0.42 | 0.60 | 0.179 | 0.112 | ( 0.161) | 0.067 |
| 6 | 0.50 | 0.70 | 0.209 | 0.112 | ( 0.188) | 0.096 |
| 7 | 0.58 | 0.70 | 0.209 | 0.112 | ( 0.188) | 0.096 |
| 8 | 0.67 | 0.70 | 0.209 | 0.112 | ( 0.188) | 0.096 |
| 9 | 0.75 | 0.70 | 0.209 | 0.112 | ( 0.188) | 0.096 |
| 10 | 0.83 | 0.70 | 0.209 | 0.112 | ( 0.188) | 0.096 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 11 | 0.92 | 0.70 | 0.209 | 0.112 | ( | 0.188) | 0.096 |
| 12 | 1.00 | 0.80 | 0.239 | 0.112 | ( | 0.215) | 0.126 |
| 13 | 1.08 | 0.80 | 0.239 | 0.112 | ( | 0.215) | 0.126 |
| 14 | 1.17 | 0.80 | 0.239 | 0.112 | ( | 0.215) | 0.126 |
| 15 | 1.25 | 0.80 | 0.239 | 0.112 | ( | 0.215) | 0.126 |
| 16 | 1.33 | 0.80 | 0.239 | 0.112 | ( | 0.215) | 0.126 |
| 17 | 1.42 | 0.80 | 0.239 | 0.112 | ( | 0.215) | 0.126 |
| 18 | 1.50 | 0.80 | 0.239 | 0.112 | ( | 0.215) | 0.126 |
| 19 | 1.58 | 0.80 | 0.239 | 0.112 | ( | 0.215) | 0.126 |
| 20 | 1.67 | 0.80 | 0.239 | 0.112 | ( | 0.215) | 0.126 |
| 21 | 1.75 | 0.80 | 0.239 | 0.112 | ( | 0.215) | 0.126 |
| 22 | 1.83 | 0.80 | 0.239 | 0.112 | ( | 0.215) | 0.126 |
| 23 | 1.92 | 0.80 | 0.239 | 0.112 | ( | 0.215) | 0.126 |
| 24 | 2.00 | 0.90 | 0.268 | 0.112 | ( | 0.242) | 0.156 |
| 25 | 2.08 | 0.80 | 0.239 | 0.112 | ( | 0.215) | 0.126 |
| 26 | 2.17 | 0.90 | 0.268 | 0.112 | ( | 0.242) | 0.156 |
| 27 | 2.25 | 0.90 | 0.268 | 0.112 | ( | 0.242) | 0.156 |
| 28 | 2.33 | 0.90 | 0.268 | 0.112 | ( | 0.242) | 0.156 |
| 29 | 2.42 | 0.90 | 0.268 | 0.112 | ( | 0.242) | 0.156 |
| 30 | 2.50 | 0.90 | 0.268 | 0.112 | ( | 0.242) | 0.156 |
| 31 | 2.58 | 0.90 | 0.268 | 0.112 | ( | 0.242) | 0.156 |
| 32 | 2.67 | 0.90 | 0.268 | 0.112 | ( | 0.242) | 0.156 |
| 33 | 2.75 | 1.00 | 0.298 | 0.112 | ( | 0.268) | 0.186 |
| 34 | 2.83 | 1.00 | 0.298 | 0.112 | ( | 0.268) | 0.186 |
| 35 | 2.92 | 1.00 | 0.298 | 0.112 | ( | 0.268) | 0.186 |
| 36 | 3.00 | 1.00 | 0.298 | 0.112 | ( | 0.268) | 0.186 |
| 37 | 3.08 | 1.00 | 0.298 | 0.112 | ( | 0.268) | 0.186 |
| 38 | 3.17 | 1.10 | 0.328 | 0.112 | ( | 0.295) | 0.216 |
| 39 | 3.25 | 1.10 | 0.328 | 0.112 | ( | 0.295) | 0.216 |
| 40 | 3.33 | 1.10 | 0.328 | 0.112 | ( | 0.295) | 0.216 |
| 41 | 3.42 | 1.20 | 0.358 | 0.112 | ( | 0.322) | 0.245 |
| 42 | 3.50 | 1.30 | 0.388 | 0.112 | ( | 0.349) | 0.275 |
| 43 | 3.58 | 1.40 | 0.418 | 0.112 | ( | 0.376) | 0.305 |
| 44 | 3.67 | 1.40 | 0.418 | 0.112 | ( | 0.376) | 0.305 |
| 45 | 3.75 | 1.50 | 0.447 | 0.112 | ( | 0.403) | 0.335 |
| 46 | 3.83 | 1.50 | 0.447 | 0.112 | ( | 0.403) | 0.335 |
| 47 | 3.92 | 1.60 | 0.477 | 0.112 | ( | 0.429) | 0.365 |
| 48 | 4.00 | 1.60 | 0.477 | 0.112 | ( | 0.429) | 0.365 |
| 49 | 4.08 | 1.70 | 0.507 | 0.112 | ( | 0.456) | 0.395 |
| 50 | 4.17 | 1.80 | 0.537 | 0.112 | ( | 0.483) | 0.424 |
| 51 | 4.25 | 1.90 | 0.567 | 0.112 | ( | 0.510) | 0.454 |
| 52 | 4.33 | 2.00 | 0.596 | 0.112 | ( | 0.537) | 0.484 |
| 53 | 4.42 | 2.10 | 0.626 | 0.112 | ( | 0.564) | 0.514 |
| 54 | 4.50 | 2.10 | 0.626 | 0.112 | ( | 0.564) | 0.514 |
| 55 | 4.58 | 2.20 | 0.656 | 0.112 | ( | 0.591) | 0.544 |
| 56 | 4.67 | 2.30 | 0.686 | 0.112 | ( | 0.617) | 0.574 |
| 57 | 4.75 | 2.40 | 0.716 | 0.112 | ( | 0.644) | 0.603 |
| 58 | 4.83 | 2.40 | 0.716 | 0.112 | ( | 0.644) | 0.603 |
| 59 | 4.92 | 2.50 | 0.746 | 0.112 | ( | 0.671) | 0.633 |
| 60 | 5.00 | 2.60 | 0.775 | 0.112 | ( | 0.698) | 0.663 |
| 61 | 5.08 | 3.10 | 0.925 | 0.112 | ( | 0.832) | 0.812 |
| 62 | 5.17 | 3.60 | 1.074 | 0.112 | ( | 0.966) | 0.961 |
| 63 | 5.25 | 3.90 | 1.163 | 0.112 | ( | 1.047) | 1.051 |
| 64 | 5.33 | 4.20 | 1.253 | 0.112 | ( | 1.127) | 1.140 |
| 65 | 5.42 | 4.70 | 1.402 | 0.112 | ( | 1.262) | 1.289 |
| 66 | 5.50 | 5.60 | 1.670 | 0.112 | ( | 1.503) | 1.558 |
| 67 | 5.58 | 1.90 | 0.567 | 0.112 | ( | 0.510) | 0.454 |
| 68 | 5.67 | 0.90 | 0.268 | 0.112 | ( | 0.242) | 0.156 |
| 69 | 5.75 | 0.60 | 0.179 | 0.112 | ( | 0.161) | 0.067 |
| 70 | 5.83 | 0.50 | 0.149 | 0.112 | ( | 0.134) | 0.037 |
| 71 | 5.92 | 0.30 | 0.089 | ( 0.112) | | 0.081 | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.112) | | 0.054 | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 21.8

Flood volume = Effective rainfall 1.82(In)
times area 2855.4(Ac.)/[(In)/(Ft.)] = 432.7(Ac.Ft)
Total soil loss = 0.67(In)
Total soil loss = 158.674(Ac.Ft)
Total rainfall = 2.49(In)
Flood volume = 18849188.0 Cubic Feet
Total soil loss = 6911855.6 Cubic Feet

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Peak flow rate of this hydrograph = 2476.969(CFS)

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6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 625.0 | 1250.0 | 1875.0 | 2500.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0071 | 1.02 | Q | | | | |
| 0+10 | 0.0378 | 4.47 | Q | | | | |
| 0+15 | 0.1089 | 10.32 | Q | | | | |
| 0+20 | 0.2350 | 18.31 | Q | | | | |
| 0+25 | 0.4389 | 29.61 | Q | | | | |
| 0+30 | 0.7645 | 47.29 | Q | | | | |
| 0+35 | 1.3049 | 78.47 | VQ | | | | |
| 0+40 | 2.0593 | 109.54 | VQ | | | | |
| 0+45 | 2.9540 | 129.91 | V Q | | | | |
| 0+50 | 3.9644 | 146.70 | V Q | | | | |
| 0+55 | 5.0938 | 163.99 | V Q | | | | |
| 1+ 0 | 6.3902 | 188.24 | V Q | | | | |
| 1+ 5 | 7.8081 | 205.88 | V Q | | | | |
| 1+10 | 9.3211 | 219.68 | V Q | | | | |
| 1+15 | 10.9224 | 232.51 | \|V Q | | | | |
| 1+20 | 12.6144 | 245.68 | \|V Q | | | | |
| 1+25 | 14.4124 | 261.07 | \|V Q | | | | |
| 1+30 | 16.3616 | 283.03 | \|V Q | | | | |
| 1+35 | 18.4097 | 297.38 | \|V Q | | | | |
| 1+40 | 20.5260 | 307.28 | \|V Q | | | | |
| 1+45 | 22.6979 | 315.35 | \| V Q | | | | |
| 1+50 | 24.9158 | 322.05 | \| V Q | | | | |
| 1+55 | 27.1740 | 327.88 | \| V Q | | | | |
| 2+ 0 | 29.4721 | 333.69 | \| V Q | | | | |
| 2+ 5 | 31.8095 | 339.40 | \| V Q | | | | |
| 2+10 | 34.1848 | 344.88 | \| V Q | | | | |
| 2+15 | 36.6034 | 351.19 | \| V Q | | | | |
| 2+20 | 39.0741 | 358.74 | \| V Q | | | | |
| 2+25 | 41.6081 | 367.94 | \| V Q | | | | |
| 2+30 | 44.2483 | 383.36 | \| V Q | | | | |
| 2+35 | 46.9140 | 387.06 | \| V Q | | | | |
| 2+40 | 49.6760 | 401.04 | \| V Q | | | | |
| 2+45 | 52.5085 | 411.28 | \| V Q | | | | |
| 2+50 | 55.3947 | 419.07 | \| VQ | | | | |
| 2+55 | 58.3351 | 426.96 | \| VQ | | | | |
| 3+ 0 | 61.3285 | 434.63 | \| VQ | | | | |
| 3+ 5 | 64.3860 | 443.96 | \| V Q | | | | |
| 3+10 | 67.5298 | 456.49 | \| VQ | | | | |
| 3+15 | 70.8181 | 477.45 | \| VQ | | | | |
| 3+20 | 74.2074 | 492.13 | \| VQ | | | | |
| 3+25 | 77.6812 | 504.39 | \| VQ | | | | |
| 3+30 | 81.2574 | 519.28 | \| VQ | | | | |
| 3+35 | 84.9695 | 538.99 | \| VQ | | | | |
| 3+40 | 88.8874 | 568.87 | \| VQ | | | | |
| 3+45 | 92.9906 | 595.79 | \| VQ | | | | |
| 3+50 | 97.2981 | 625.45 | \| V Q | | | | |
| 3+55 | 101.8955 | 667.55 | \| VQ | | | | |
| 4+ 0 | 106.8139 | 714.14 | \| V\|Q | | | | |
| 4+ 5 | 112.0511 | 760.44 | \| V Q | | | | |
| 4+10 | 117.5604 | 799.96 | \| V Q | | | | |
| 4+15 | 123.3813 | 845.19 | \| \|V Q | | | | |
| 4+20 | 129.4931 | 887.44 | \| \|V Q | | | | |
| 4+25 | 135.9455 | 936.89 | \| \| V Q | | | | |
| 4+30 | 142.7277 | 984.77 | \| \| V Q | | | | |
| 4+35 | 149.9001 | 1041.42 | \| \| V Q | | | | |
| 4+40 | 157.5029 | 1103.94 | \| \| V Q | | | | |
| 4+45 | 165.5518 | 1168.70 | \| \| V Q | | | | |
| 4+50 | 174.0471 | 1233.51 | \| \| V Q\| | | | |
| 4+55 | 182.9717 | 1295.86 | \| \| V Q | | | | |
| 5+ 0 | 192.2797 | 1351.52 | \| \| V \|Q | | | | |
| 5+ 5 | 202.0454 | 1417.98 | \| \| V \| Q | | | | |
| 5+10 | 212.3501 | 1496.23 | \| \| V\| Q | | | | |
| 5+15 | 223.2614 | 1584.32 | \| \| V Q | | | | |
| 5+20 | 234.8220 | 1678.60 | \| \| \|V Q | | | | |
| 5+25 | 247.2202 | 1800.22 | \| \| \| V Q | | | | |
| 5+30 | 260.7328 | 1962.02 | \| \| \| V \|Q | | | | |
| 5+35 | 275.5810 | 2155.96 | \| \| \| V \| Q | | | | |
| 5+40 | 291.5372 | 2316.84 | \| \| \| V \| Q | | | | |
| 5+45 | 308.2034 | 2419.93 | \| \| \| V \| Q | | | | |
| 5+50 | 325.2624 | 2476.97 | \| \| \| V Q | | | | |
| 5+55 | 342.2582 | 2467.79 | \| \| \| \|V Q | | | | |
| 6+ 0 | 358.3269 | 2333.17 | \| \| \| \| V Q | | | | |
| 6+ 5 | 370.6471 | 1788.90 | \| \| \| Q \| V | | | | |

```
    6+10     380.0317   1362.65  |          |          |Q         |    V     |
    6+15     387.5947   1098.14  |          |       Q  |          |    V     |
    6+20     393.8869    913.62  |          |    Q     |          |     V    |
    6+25     399.2434    777.77  |          |  Q       |          |     V    |
    6+30     403.8349    666.68  |          |Q         |          |      V   |
    6+35     407.8086    576.99  |         Q|          |          |      V   |
    6+40     411.2598    501.10  |        Q |          |          |       V  |
    6+45     414.2736    437.61  |      Q   |          |          |       V  |
    6+50     416.9074    382.44  |     Q    |          |          |       V  |
    6+55     419.1918    331.68  |   Q      |          |          |       V  |
    7+ 0     421.1770    288.26  |  Q       |          |          |       V  |
    7+ 5     422.8946    249.39  |  Q       |          |          |        V |
    7+10     424.3651    213.52  |  Q       |          |          |        V |
    7+15     425.6192    182.10  | Q        |          |          |        V |
    7+20     426.6743    153.19  | Q        |          |          |        V |
    7+25     427.5629    129.03  | Q        |          |          |        V |
    7+30     428.3036    107.54  |Q         |          |          |        V |
    7+35     428.9062     87.50  |Q         |          |          |        V |
    7+40     429.3964     71.17  |Q         |          |          |        V |
    7+45     429.7997     58.56  Q          |          |          |        V |
    7+50     430.1578     52.00  Q          |          |          |        V |
    7+55     430.4807     46.89  Q          |          |          |        V |
    8+ 0     430.7709     42.13  Q          |          |          |        V |
    8+ 5     431.0341     38.22  Q          |          |          |        V |
    8+10     431.2724     34.59  Q          |          |          |        V |
    8+15     431.4843     30.77  Q          |          |          |        V |
    8+20     431.6788     28.24  Q          |          |          |        V |
    8+25     431.8606     26.40  Q          |          |          |        V |
    8+30     432.0308     24.72  Q          |          |          |        V |
    8+35     432.1856     22.48  Q          |          |          |        V |
    8+40     432.3192     19.39  Q          |          |          |        V |
    8+45     432.4272     15.69  Q          |          |          |        V |
    8+50     432.5105     12.09  Q          |          |          |        V |
    8+55     432.5775      9.72  Q          |          |          |        V |
    9+ 0     432.6292      7.51  Q          |          |          |        V |
    9+ 5     432.6656      5.28  Q          |          |          |        V |
    9+10     432.6915      3.77  Q          |          |          |        V |
    9+15     432.7088      2.52  Q          |          |          |        V |
    9+20     432.7144      0.80  Q          |          |          |        V |
    9+25     432.7164      0.30  Q          |          |          |        V |
    9+30     432.7173      0.13  Q          |          |          |        V |
    9+35     432.7177      0.06  Q          |          |          |        V |
    9+40     432.7178      0.02  Q          |          |          |        V |
    9+45     432.7178      0.01  Q          |          |          |        V |
-------------------------------------------------------------------------
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/19/17 File: EX124100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 1
100-YEAR STORM EVENT
BY: JDN, DATE: 12-19-17

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Drainage Area = 2855.40(Ac.) = 4.462 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2855.40(Ac.) = 4.462 Sq. Mi.
Length along longest watercourse = 15691.00(Ft.)
Length along longest watercourse measured to centroid = 7916.00(Ft.)
Length along longest watercourse = 2.972 Mi.
Length along longest watercourse measured to centroid = 1.499 Mi.
Difference in elevation = 575.00(Ft.)
Slope along watercourse = 193.4867 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.545 Hr.
Lag time = 32.70 Min.
25% of lag time = 8.17 Min.
40% of lag time = 13.08 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2855.40 | 2.06 | 5882.12 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2855.40 | 5.17 | 14762.42 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 2.060(In)
Area Averaged 100-Year Rainfall = 5.170(In)

Point rain (area averaged) = 5.170(In)
Areal adjustment factor = 99.44 %
Adjusted average point rain = 5.141(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2855.400 | 80.59 | 0.000 |

Total Area Entered = 2855.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 80.6 | 91.4 | 0.112 | 0.000 | 0.112 | 1.000 | 0.112 |
| | | | | | Sum (F) = | 0.112 |

Area averaged mean soil loss (F) (In/Hr) = 0.112

Minimum soil loss rate ((In/Hr)) = 0.056
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 15.291 | 0.969 | 27.873 |
| 2 | 0.167 | 30.581 | 2.470 | 71.074 |
| 3 | 0.250 | 45.872 | 3.529 | 101.558 |
| 4 | 0.333 | 61.163 | 4.687 | 134.867 |
| 5 | 0.417 | 76.453 | 6.882 | 198.049 |
| 6 | 0.500 | 91.744 | 10.344 | 297.674 |
| 7 | 0.583 | 107.034 | 19.083 | 549.146 |
| 8 | 0.667 | 122.325 | 11.023 | 317.218 |
| 9 | 0.750 | 137.616 | 6.510 | 187.339 |
| 10 | 0.833 | 152.906 | 5.004 | 143.992 |
| 11 | 0.917 | 168.197 | 3.890 | 111.941 |
| 12 | 1.000 | 183.488 | 3.486 | 100.320 |
| 13 | 1.083 | 198.778 | 2.892 | 83.228 |
| 14 | 1.167 | 214.069 | 2.555 | 73.513 |
| 15 | 1.250 | 229.360 | 2.189 | 62.990 |
| 16 | 1.333 | 244.650 | 1.929 | 55.501 |
| 17 | 1.417 | 259.941 | 1.757 | 50.571 |
| 18 | 1.500 | 275.231 | 1.490 | 42.887 |
| 19 | 1.583 | 290.522 | 1.342 | 38.616 |
| 20 | 1.667 | 305.813 | 1.206 | 34.693 |
| 21 | 1.750 | 321.103 | 1.026 | 29.514 |
| 22 | 1.833 | 336.394 | 0.911 | 26.207 |
| 23 | 1.917 | 351.685 | 0.741 | 21.328 |
| 24 | 2.000 | 366.975 | 0.660 | 18.994 |
| 25 | 2.083 | 382.266 | 0.591 | 17.005 |
| 26 | 2.167 | 397.557 | 0.453 | 13.048 |
| 27 | 2.250 | 412.847 | 0.342 | 9.836 |
| 28 | 2.333 | 428.138 | 0.187 | 5.370 |
| 29 | 2.417 | 443.428 | 0.183 | 5.280 |
| 30 | 2.500 | 458.719 | 0.179 | 5.137 |
| 31 | 2.583 | 474.010 | 0.156 | 4.481 |
| 32 | 2.667 | 489.300 | 0.153 | 4.400 |
| 33 | 2.750 | 504.591 | 0.150 | 4.321 |
| 34 | 2.833 | 519.882 | 0.107 | 3.071 |
| 35 | 2.917 | 535.172 | 0.092 | 2.640 |
| 36 | 3.000 | 550.463 | 0.092 | 2.641 |
| 37 | 3.083 | 565.754 | 0.108 | 3.106 |
| 38 | 3.167 | 581.044 | 0.122 | 3.520 |
| 39 | 3.250 | 596.335 | 0.122 | 3.520 |
| 40 | 3.333 | 611.625 | 0.105 | 3.011 |
| 41 | 3.417 | 626.916 | 0.063 | 1.811 |
| 42 | 3.500 | 642.207 | 0.061 | 1.760 |
| 43 | 3.583 | 657.497 | 0.057 | 1.654 |
| 44 | 3.667 | 672.788 | 0.035 | 0.994 |
| 45 | 3.750 | 688.079 | 0.031 | 0.880 |
| 46 | 3.833 | 703.369 | 0.039 | 1.126 |
| | | Sum = 100.000 | Sum= | 2877.708 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.041 | ( 0.199) | 0.037 | 0.004 |
| 2 | 0.17 | 0.07 | 0.041 | ( 0.198) | 0.037 | 0.004 |
| 3 | 0.25 | 0.07 | 0.041 | ( 0.198) | 0.037 | 0.004 |
| 4 | 0.33 | 0.10 | 0.062 | ( 0.197) | 0.056 | 0.006 |
| 5 | 0.42 | 0.10 | 0.062 | ( 0.196) | 0.056 | 0.006 |
| 6 | 0.50 | 0.10 | 0.062 | ( 0.195) | 0.056 | 0.006 |
| 7 | 0.58 | 0.10 | 0.062 | ( 0.195) | 0.056 | 0.006 |
| 8 | 0.67 | 0.10 | 0.062 | ( 0.194) | 0.056 | 0.006 |
| 9 | 0.75 | 0.10 | 0.062 | ( 0.193) | 0.056 | 0.006 |
| 10 | 0.83 | 0.13 | 0.082 | ( 0.192) | 0.074 | 0.008 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 11 | 0.92 | 0.13 | 0.082 | ( 0.192) | 0.074 | 0.008 |
| 12 | 1.00 | 0.13 | 0.082 | ( 0.191) | 0.074 | 0.008 |
| 13 | 1.08 | 0.10 | 0.062 | ( 0.190) | 0.056 | 0.006 |
| 14 | 1.17 | 0.10 | 0.062 | ( 0.189) | 0.056 | 0.006 |
| 15 | 1.25 | 0.10 | 0.062 | ( 0.189) | 0.056 | 0.006 |
| 16 | 1.33 | 0.10 | 0.062 | ( 0.188) | 0.056 | 0.006 |
| 17 | 1.42 | 0.10 | 0.062 | ( 0.187) | 0.056 | 0.006 |
| 18 | 1.50 | 0.10 | 0.062 | ( 0.186) | 0.056 | 0.006 |
| 19 | 1.58 | 0.10 | 0.062 | ( 0.186) | 0.056 | 0.006 |
| 20 | 1.67 | 0.10 | 0.062 | ( 0.185) | 0.056 | 0.006 |
| 21 | 1.75 | 0.10 | 0.062 | ( 0.184) | 0.056 | 0.006 |
| 22 | 1.83 | 0.13 | 0.082 | ( 0.183) | 0.074 | 0.008 |
| 23 | 1.92 | 0.13 | 0.082 | ( 0.183) | 0.074 | 0.008 |
| 24 | 2.00 | 0.13 | 0.082 | ( 0.182) | 0.074 | 0.008 |
| 25 | 2.08 | 0.13 | 0.082 | ( 0.181) | 0.074 | 0.008 |
| 26 | 2.17 | 0.13 | 0.082 | ( 0.180) | 0.074 | 0.008 |
| 27 | 2.25 | 0.13 | 0.082 | ( 0.180) | 0.074 | 0.008 |
| 28 | 2.33 | 0.13 | 0.082 | ( 0.179) | 0.074 | 0.008 |
| 29 | 2.42 | 0.13 | 0.082 | ( 0.178) | 0.074 | 0.008 |
| 30 | 2.50 | 0.13 | 0.082 | ( 0.178) | 0.074 | 0.008 |
| 31 | 2.58 | 0.17 | 0.103 | ( 0.177) | 0.093 | 0.010 |
| 32 | 2.67 | 0.17 | 0.103 | ( 0.176) | 0.093 | 0.010 |
| 33 | 2.75 | 0.17 | 0.103 | ( 0.175) | 0.093 | 0.010 |
| 34 | 2.83 | 0.17 | 0.103 | ( 0.175) | 0.093 | 0.010 |
| 35 | 2.92 | 0.17 | 0.103 | ( 0.174) | 0.093 | 0.010 |
| 36 | 3.00 | 0.17 | 0.103 | ( 0.173) | 0.093 | 0.010 |
| 37 | 3.08 | 0.17 | 0.103 | ( 0.172) | 0.093 | 0.010 |
| 38 | 3.17 | 0.17 | 0.103 | ( 0.172) | 0.093 | 0.010 |
| 39 | 3.25 | 0.17 | 0.103 | ( 0.171) | 0.093 | 0.010 |
| 40 | 3.33 | 0.17 | 0.103 | ( 0.170) | 0.093 | 0.010 |
| 41 | 3.42 | 0.17 | 0.103 | ( 0.170) | 0.093 | 0.010 |
| 42 | 3.50 | 0.17 | 0.103 | ( 0.169) | 0.093 | 0.010 |
| 43 | 3.58 | 0.17 | 0.103 | ( 0.168) | 0.093 | 0.010 |
| 44 | 3.67 | 0.17 | 0.103 | ( 0.167) | 0.093 | 0.010 |
| 45 | 3.75 | 0.17 | 0.103 | ( 0.167) | 0.093 | 0.010 |
| 46 | 3.83 | 0.20 | 0.123 | ( 0.166) | 0.111 | 0.012 |
| 47 | 3.92 | 0.20 | 0.123 | ( 0.165) | 0.111 | 0.012 |
| 48 | 4.00 | 0.20 | 0.123 | ( 0.165) | 0.111 | 0.012 |
| 49 | 4.08 | 0.20 | 0.123 | ( 0.164) | 0.111 | 0.012 |
| 50 | 4.17 | 0.20 | 0.123 | ( 0.163) | 0.111 | 0.012 |
| 51 | 4.25 | 0.20 | 0.123 | ( 0.163) | 0.111 | 0.012 |
| 52 | 4.33 | 0.23 | 0.144 | ( 0.162) | 0.130 | 0.014 |
| 53 | 4.42 | 0.23 | 0.144 | ( 0.161) | 0.130 | 0.014 |
| 54 | 4.50 | 0.23 | 0.144 | ( 0.161) | 0.130 | 0.014 |
| 55 | 4.58 | 0.23 | 0.144 | ( 0.160) | 0.130 | 0.014 |
| 56 | 4.67 | 0.23 | 0.144 | ( 0.159) | 0.130 | 0.014 |
| 57 | 4.75 | 0.23 | 0.144 | ( 0.158) | 0.130 | 0.014 |
| 58 | 4.83 | 0.27 | 0.165 | ( 0.158) | 0.148 | 0.016 |
| 59 | 4.92 | 0.27 | 0.165 | ( 0.157) | 0.148 | 0.016 |
| 60 | 5.00 | 0.27 | 0.165 | ( 0.156) | 0.148 | 0.016 |
| 61 | 5.08 | 0.20 | 0.123 | ( 0.156) | 0.111 | 0.012 |
| 62 | 5.17 | 0.20 | 0.123 | ( 0.155) | 0.111 | 0.012 |
| 63 | 5.25 | 0.20 | 0.123 | ( 0.154) | 0.111 | 0.012 |
| 64 | 5.33 | 0.23 | 0.144 | ( 0.154) | 0.130 | 0.014 |
| 65 | 5.42 | 0.23 | 0.144 | ( 0.153) | 0.130 | 0.014 |
| 66 | 5.50 | 0.23 | 0.144 | ( 0.152) | 0.130 | 0.014 |
| 67 | 5.58 | 0.27 | 0.165 | ( 0.152) | 0.148 | 0.016 |
| 68 | 5.67 | 0.27 | 0.165 | ( 0.151) | 0.148 | 0.016 |
| 69 | 5.75 | 0.27 | 0.165 | ( 0.150) | 0.148 | 0.016 |
| 70 | 5.83 | 0.27 | 0.165 | ( 0.150) | 0.148 | 0.016 |
| 71 | 5.92 | 0.27 | 0.165 | ( 0.149) | 0.148 | 0.016 |
| 72 | 6.00 | 0.27 | 0.165 | ( 0.148) | 0.148 | 0.016 |
| 73 | 6.08 | 0.30 | 0.185 | 0.148 | ( 0.167) | 0.037 |
| 74 | 6.17 | 0.30 | 0.185 | 0.147 | ( 0.167) | 0.038 |
| 75 | 6.25 | 0.30 | 0.185 | 0.146 | ( 0.167) | 0.039 |
| 76 | 6.33 | 0.30 | 0.185 | 0.146 | ( 0.167) | 0.039 |
| 77 | 6.42 | 0.30 | 0.185 | 0.145 | ( 0.167) | 0.040 |
| 78 | 6.50 | 0.30 | 0.185 | 0.144 | ( 0.167) | 0.041 |
| 79 | 6.58 | 0.33 | 0.206 | 0.144 | ( 0.185) | 0.062 |
| 80 | 6.67 | 0.33 | 0.206 | 0.143 | ( 0.185) | 0.063 |
| 81 | 6.75 | 0.33 | 0.206 | 0.142 | ( 0.185) | 0.063 |
| 82 | 6.83 | 0.33 | 0.206 | 0.142 | ( 0.185) | 0.064 |
| 83 | 6.92 | 0.33 | 0.206 | 0.141 | ( 0.185) | 0.064 |
| 84 | 7.00 | 0.33 | 0.206 | 0.141 | ( 0.185) | 0.065 |
| 85 | 7.08 | 0.33 | 0.206 | 0.140 | ( 0.185) | 0.066 |
| 86 | 7.17 | 0.33 | 0.206 | 0.139 | ( 0.185) | 0.066 |
| 87 | 7.25 | 0.33 | 0.206 | 0.139 | ( 0.185) | 0.067 |
| 88 | 7.33 | 0.37 | 0.226 | 0.138 | ( 0.204) | 0.088 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 89 | 7.42 | 0.37 | 0.226 | 0.137 | ( 0.204) | 0.089 |
| 90 | 7.50 | 0.37 | 0.226 | 0.137 | ( 0.204) | 0.089 |
| 91 | 7.58 | 0.40 | 0.247 | 0.136 | ( 0.222) | 0.111 |
| 92 | 7.67 | 0.40 | 0.247 | 0.136 | ( 0.222) | 0.111 |
| 93 | 7.75 | 0.40 | 0.247 | 0.135 | ( 0.222) | 0.112 |
| 94 | 7.83 | 0.43 | 0.267 | 0.134 | ( 0.241) | 0.133 |
| 95 | 7.92 | 0.43 | 0.267 | 0.134 | ( 0.241) | 0.134 |
| 96 | 8.00 | 0.43 | 0.267 | 0.133 | ( 0.241) | 0.134 |
| 97 | 8.08 | 0.50 | 0.308 | 0.132 | ( 0.278) | 0.176 |
| 98 | 8.17 | 0.50 | 0.308 | 0.132 | ( 0.278) | 0.177 |
| 99 | 8.25 | 0.50 | 0.308 | 0.131 | ( 0.278) | 0.177 |
| 100 | 8.33 | 0.50 | 0.308 | 0.131 | ( 0.278) | 0.178 |
| 101 | 8.42 | 0.50 | 0.308 | 0.130 | ( 0.278) | 0.179 |
| 102 | 8.50 | 0.50 | 0.308 | 0.129 | ( 0.278) | 0.179 |
| 103 | 8.58 | 0.53 | 0.329 | 0.129 | ( 0.296) | 0.200 |
| 104 | 8.67 | 0.53 | 0.329 | 0.128 | ( 0.296) | 0.201 |
| 105 | 8.75 | 0.53 | 0.329 | 0.128 | ( 0.296) | 0.202 |
| 106 | 8.83 | 0.57 | 0.350 | 0.127 | ( 0.315) | 0.223 |
| 107 | 8.92 | 0.57 | 0.350 | 0.126 | ( 0.315) | 0.223 |
| 108 | 9.00 | 0.57 | 0.350 | 0.126 | ( 0.315) | 0.224 |
| 109 | 9.08 | 0.63 | 0.391 | 0.125 | ( 0.352) | 0.266 |
| 110 | 9.17 | 0.63 | 0.391 | 0.125 | ( 0.352) | 0.266 |
| 111 | 9.25 | 0.63 | 0.391 | 0.124 | ( 0.352) | 0.267 |
| 112 | 9.33 | 0.67 | 0.411 | 0.123 | ( 0.370) | 0.288 |
| 113 | 9.42 | 0.67 | 0.411 | 0.123 | ( 0.370) | 0.289 |
| 114 | 9.50 | 0.67 | 0.411 | 0.122 | ( 0.370) | 0.289 |
| 115 | 9.58 | 0.70 | 0.432 | 0.122 | ( 0.389) | 0.310 |
| 116 | 9.67 | 0.70 | 0.432 | 0.121 | ( 0.389) | 0.311 |
| 117 | 9.75 | 0.70 | 0.432 | 0.120 | ( 0.389) | 0.311 |
| 118 | 9.83 | 0.73 | 0.452 | 0.120 | ( 0.407) | 0.333 |
| 119 | 9.92 | 0.73 | 0.452 | 0.119 | ( 0.407) | 0.333 |
| 120 | 10.00 | 0.73 | 0.452 | 0.119 | ( 0.407) | 0.334 |
| 121 | 10.08 | 0.50 | 0.308 | 0.118 | ( 0.278) | 0.190 |
| 122 | 10.17 | 0.50 | 0.308 | 0.118 | ( 0.278) | 0.191 |
| 123 | 10.25 | 0.50 | 0.308 | 0.117 | ( 0.278) | 0.191 |
| 124 | 10.33 | 0.50 | 0.308 | 0.116 | ( 0.278) | 0.192 |
| 125 | 10.42 | 0.50 | 0.308 | 0.116 | ( 0.278) | 0.193 |
| 126 | 10.50 | 0.50 | 0.308 | 0.115 | ( 0.278) | 0.193 |
| 127 | 10.58 | 0.67 | 0.411 | 0.115 | ( 0.370) | 0.297 |
| 128 | 10.67 | 0.67 | 0.411 | 0.114 | ( 0.370) | 0.297 |
| 129 | 10.75 | 0.67 | 0.411 | 0.114 | ( 0.370) | 0.298 |
| 130 | 10.83 | 0.67 | 0.411 | 0.113 | ( 0.370) | 0.298 |
| 131 | 10.92 | 0.67 | 0.411 | 0.112 | ( 0.370) | 0.299 |
| 132 | 11.00 | 0.67 | 0.411 | 0.112 | ( 0.370) | 0.299 |
| 133 | 11.08 | 0.63 | 0.391 | 0.111 | ( 0.352) | 0.279 |
| 134 | 11.17 | 0.63 | 0.391 | 0.111 | ( 0.352) | 0.280 |
| 135 | 11.25 | 0.63 | 0.391 | 0.110 | ( 0.352) | 0.280 |
| 136 | 11.33 | 0.63 | 0.391 | 0.110 | ( 0.352) | 0.281 |
| 137 | 11.42 | 0.63 | 0.391 | 0.109 | ( 0.352) | 0.282 |
| 138 | 11.50 | 0.63 | 0.391 | 0.109 | ( 0.352) | 0.282 |
| 139 | 11.58 | 0.57 | 0.350 | 0.108 | ( 0.315) | 0.241 |
| 140 | 11.67 | 0.57 | 0.350 | 0.108 | ( 0.315) | 0.242 |
| 141 | 11.75 | 0.57 | 0.350 | 0.107 | ( 0.315) | 0.243 |
| 142 | 11.83 | 0.60 | 0.370 | 0.107 | ( 0.333) | 0.264 |
| 143 | 11.92 | 0.60 | 0.370 | 0.106 | ( 0.333) | 0.264 |
| 144 | 12.00 | 0.60 | 0.370 | 0.105 | ( 0.333) | 0.265 |
| 145 | 12.08 | 0.83 | 0.514 | 0.105 | ( 0.463) | 0.409 |
| 146 | 12.17 | 0.83 | 0.514 | 0.104 | ( 0.463) | 0.410 |
| 147 | 12.25 | 0.83 | 0.514 | 0.104 | ( 0.463) | 0.410 |
| 148 | 12.33 | 0.87 | 0.535 | 0.103 | ( 0.481) | 0.431 |
| 149 | 12.42 | 0.87 | 0.535 | 0.103 | ( 0.481) | 0.432 |
| 150 | 12.50 | 0.87 | 0.535 | 0.102 | ( 0.481) | 0.432 |
| 151 | 12.58 | 0.93 | 0.576 | 0.102 | ( 0.518) | 0.474 |
| 152 | 12.67 | 0.93 | 0.576 | 0.101 | ( 0.518) | 0.475 |
| 153 | 12.75 | 0.93 | 0.576 | 0.101 | ( 0.518) | 0.475 |
| 154 | 12.83 | 0.97 | 0.596 | 0.100 | ( 0.537) | 0.496 |
| 155 | 12.92 | 0.97 | 0.596 | 0.100 | ( 0.537) | 0.497 |
| 156 | 13.00 | 0.97 | 0.596 | 0.099 | ( 0.537) | 0.497 |
| 157 | 13.08 | 1.13 | 0.699 | 0.099 | ( 0.629) | 0.600 |
| 158 | 13.17 | 1.13 | 0.699 | 0.098 | ( 0.629) | 0.601 |
| 159 | 13.25 | 1.13 | 0.699 | 0.098 | ( 0.629) | 0.601 |
| 160 | 13.33 | 1.13 | 0.699 | 0.097 | ( 0.629) | 0.602 |
| 161 | 13.42 | 1.13 | 0.699 | 0.097 | ( 0.629) | 0.602 |
| 162 | 13.50 | 1.13 | 0.699 | 0.096 | ( 0.629) | 0.603 |
| 163 | 13.58 | 0.77 | 0.473 | 0.096 | ( 0.426) | 0.377 |
| 164 | 13.67 | 0.77 | 0.473 | 0.095 | ( 0.426) | 0.378 |
| 165 | 13.75 | 0.77 | 0.473 | 0.095 | ( 0.426) | 0.378 |
| 166 | 13.83 | 0.77 | 0.473 | 0.094 | ( 0.426) | 0.379 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 167 | 13.92 | 0.77 | 0.473 | 0.094 | ( 0.426) | 0.379 |
| 168 | 14.00 | 0.77 | 0.473 | 0.093 | ( 0.426) | 0.380 |
| 169 | 14.08 | 0.90 | 0.555 | 0.093 | ( 0.500) | 0.462 |
| 170 | 14.17 | 0.90 | 0.555 | 0.092 | ( 0.500) | 0.463 |
| 171 | 14.25 | 0.90 | 0.555 | 0.092 | ( 0.500) | 0.463 |
| 172 | 14.33 | 0.87 | 0.535 | 0.091 | ( 0.481) | 0.443 |
| 173 | 14.42 | 0.87 | 0.535 | 0.091 | ( 0.481) | 0.444 |
| 174 | 14.50 | 0.87 | 0.535 | 0.091 | ( 0.481) | 0.444 |
| 175 | 14.58 | 0.87 | 0.535 | 0.090 | ( 0.481) | 0.445 |
| 176 | 14.67 | 0.87 | 0.535 | 0.090 | ( 0.481) | 0.445 |
| 177 | 14.75 | 0.87 | 0.535 | 0.089 | ( 0.481) | 0.446 |
| 178 | 14.83 | 0.83 | 0.514 | 0.089 | ( 0.463) | 0.425 |
| 179 | 14.92 | 0.83 | 0.514 | 0.088 | ( 0.463) | 0.426 |
| 180 | 15.00 | 0.83 | 0.514 | 0.088 | ( 0.463) | 0.426 |
| 181 | 15.08 | 0.80 | 0.494 | 0.087 | ( 0.444) | 0.406 |
| 182 | 15.17 | 0.80 | 0.494 | 0.087 | ( 0.444) | 0.407 |
| 183 | 15.25 | 0.80 | 0.494 | 0.086 | ( 0.444) | 0.407 |
| 184 | 15.33 | 0.77 | 0.473 | 0.086 | ( 0.426) | 0.387 |
| 185 | 15.42 | 0.77 | 0.473 | 0.086 | ( 0.426) | 0.387 |
| 186 | 15.50 | 0.77 | 0.473 | 0.085 | ( 0.426) | 0.388 |
| 187 | 15.58 | 0.63 | 0.391 | 0.085 | ( 0.352) | 0.306 |
| 188 | 15.67 | 0.63 | 0.391 | 0.084 | ( 0.352) | 0.306 |
| 189 | 15.75 | 0.63 | 0.391 | 0.084 | ( 0.352) | 0.307 |
| 190 | 15.83 | 0.63 | 0.391 | 0.083 | ( 0.352) | 0.307 |
| 191 | 15.92 | 0.63 | 0.391 | 0.083 | ( 0.352) | 0.308 |
| 192 | 16.00 | 0.63 | 0.391 | 0.083 | ( 0.352) | 0.308 |
| 193 | 16.08 | 0.13 | 0.082 | ( 0.082) | 0.074 | 0.008 |
| 194 | 16.17 | 0.13 | 0.082 | ( 0.082) | 0.074 | 0.008 |
| 195 | 16.25 | 0.13 | 0.082 | ( 0.081) | 0.074 | 0.008 |
| 196 | 16.33 | 0.13 | 0.082 | ( 0.081) | 0.074 | 0.008 |
| 197 | 16.42 | 0.13 | 0.082 | ( 0.080) | 0.074 | 0.008 |
| 198 | 16.50 | 0.13 | 0.082 | ( 0.080) | 0.074 | 0.008 |
| 199 | 16.58 | 0.10 | 0.062 | ( 0.080) | 0.056 | 0.006 |
| 200 | 16.67 | 0.10 | 0.062 | ( 0.079) | 0.056 | 0.006 |
| 201 | 16.75 | 0.10 | 0.062 | ( 0.079) | 0.056 | 0.006 |
| 202 | 16.83 | 0.10 | 0.062 | ( 0.078) | 0.056 | 0.006 |
| 203 | 16.92 | 0.10 | 0.062 | ( 0.078) | 0.056 | 0.006 |
| 204 | 17.00 | 0.10 | 0.062 | ( 0.078) | 0.056 | 0.006 |
| 205 | 17.08 | 0.17 | 0.103 | 0.077 | ( 0.093) | 0.026 |
| 206 | 17.17 | 0.17 | 0.103 | 0.077 | ( 0.093) | 0.026 |
| 207 | 17.25 | 0.17 | 0.103 | 0.076 | ( 0.093) | 0.026 |
| 208 | 17.33 | 0.17 | 0.103 | 0.076 | ( 0.093) | 0.027 |
| 209 | 17.42 | 0.17 | 0.103 | 0.076 | ( 0.093) | 0.027 |
| 210 | 17.50 | 0.17 | 0.103 | 0.075 | ( 0.093) | 0.027 |
| 211 | 17.58 | 0.17 | 0.103 | 0.075 | ( 0.093) | 0.028 |
| 212 | 17.67 | 0.17 | 0.103 | 0.075 | ( 0.093) | 0.028 |
| 213 | 17.75 | 0.17 | 0.103 | 0.074 | ( 0.093) | 0.029 |
| 214 | 17.83 | 0.13 | 0.082 | 0.074 | ( 0.074) | 0.008 |
| 215 | 17.92 | 0.13 | 0.082 | 0.073 | ( 0.074) | 0.009 |
| 216 | 18.00 | 0.13 | 0.082 | 0.073 | ( 0.074) | 0.009 |
| 217 | 18.08 | 0.13 | 0.082 | 0.073 | ( 0.074) | 0.010 |
| 218 | 18.17 | 0.13 | 0.082 | 0.072 | ( 0.074) | 0.010 |
| 219 | 18.25 | 0.13 | 0.082 | 0.072 | ( 0.074) | 0.010 |
| 220 | 18.33 | 0.13 | 0.082 | 0.072 | ( 0.074) | 0.011 |
| 221 | 18.42 | 0.13 | 0.082 | 0.071 | ( 0.074) | 0.011 |
| 222 | 18.50 | 0.13 | 0.082 | 0.071 | ( 0.074) | 0.011 |
| 223 | 18.58 | 0.10 | 0.062 | ( 0.071) | 0.056 | 0.006 |
| 224 | 18.67 | 0.10 | 0.062 | ( 0.070) | 0.056 | 0.006 |
| 225 | 18.75 | 0.10 | 0.062 | ( 0.070) | 0.056 | 0.006 |
| 226 | 18.83 | 0.07 | 0.041 | ( 0.070) | 0.037 | 0.004 |
| 227 | 18.92 | 0.07 | 0.041 | ( 0.069) | 0.037 | 0.004 |
| 228 | 19.00 | 0.07 | 0.041 | ( 0.069) | 0.037 | 0.004 |
| 229 | 19.08 | 0.10 | 0.062 | ( 0.069) | 0.056 | 0.006 |
| 230 | 19.17 | 0.10 | 0.062 | ( 0.068) | 0.056 | 0.006 |
| 231 | 19.25 | 0.10 | 0.062 | ( 0.068) | 0.056 | 0.006 |
| 232 | 19.33 | 0.13 | 0.082 | 0.068 | ( 0.074) | 0.015 |
| 233 | 19.42 | 0.13 | 0.082 | 0.067 | ( 0.074) | 0.015 |
| 234 | 19.50 | 0.13 | 0.082 | 0.067 | ( 0.074) | 0.015 |
| 235 | 19.58 | 0.10 | 0.062 | ( 0.067) | 0.056 | 0.006 |
| 236 | 19.67 | 0.10 | 0.062 | ( 0.066) | 0.056 | 0.006 |
| 237 | 19.75 | 0.10 | 0.062 | ( 0.066) | 0.056 | 0.006 |
| 238 | 19.83 | 0.07 | 0.041 | ( 0.066) | 0.037 | 0.004 |
| 239 | 19.92 | 0.07 | 0.041 | ( 0.066) | 0.037 | 0.004 |
| 240 | 20.00 | 0.07 | 0.041 | ( 0.065) | 0.037 | 0.004 |
| 241 | 20.08 | 0.10 | 0.062 | ( 0.065) | 0.056 | 0.006 |
| 242 | 20.17 | 0.10 | 0.062 | ( 0.065) | 0.056 | 0.006 |
| 243 | 20.25 | 0.10 | 0.062 | ( 0.064) | 0.056 | 0.006 |
| 244 | 20.33 | 0.10 | 0.062 | ( 0.064) | 0.056 | 0.006 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 245 | 20.42 | 0.10 | 0.062 | ( | 0.064) | 0.056 | 0.006 |
| 246 | 20.50 | 0.10 | 0.062 | ( | 0.064) | 0.056 | 0.006 |
| 247 | 20.58 | 0.10 | 0.062 | ( | 0.063) | 0.056 | 0.006 |
| 248 | 20.67 | 0.10 | 0.062 | ( | 0.063) | 0.056 | 0.006 |
| 249 | 20.75 | 0.10 | 0.062 | ( | 0.063) | 0.056 | 0.006 |
| 250 | 20.83 | 0.07 | 0.041 | ( | 0.063) | 0.037 | 0.004 |
| 251 | 20.92 | 0.07 | 0.041 | ( | 0.062) | 0.037 | 0.004 |
| 252 | 21.00 | 0.07 | 0.041 | ( | 0.062) | 0.037 | 0.004 |
| 253 | 21.08 | 0.10 | 0.062 | ( | 0.062) | 0.056 | 0.006 |
| 254 | 21.17 | 0.10 | 0.062 | ( | 0.062) | 0.056 | 0.006 |
| 255 | 21.25 | 0.10 | 0.062 | ( | 0.061) | 0.056 | 0.006 |
| 256 | 21.33 | 0.07 | 0.041 | ( | 0.061) | 0.037 | 0.004 |
| 257 | 21.42 | 0.07 | 0.041 | ( | 0.061) | 0.037 | 0.004 |
| 258 | 21.50 | 0.07 | 0.041 | ( | 0.061) | 0.037 | 0.004 |
| 259 | 21.58 | 0.10 | 0.062 | ( | 0.060) | 0.056 | 0.006 |
| 260 | 21.67 | 0.10 | 0.062 | ( | 0.060) | 0.056 | 0.006 |
| 261 | 21.75 | 0.10 | 0.062 | ( | 0.060) | 0.056 | 0.006 |
| 262 | 21.83 | 0.07 | 0.041 | ( | 0.060) | 0.037 | 0.004 |
| 263 | 21.92 | 0.07 | 0.041 | ( | 0.060) | 0.037 | 0.004 |
| 264 | 22.00 | 0.07 | 0.041 | ( | 0.059) | 0.037 | 0.004 |
| 265 | 22.08 | 0.10 | 0.062 | ( | 0.059) | 0.056 | 0.006 |
| 266 | 22.17 | 0.10 | 0.062 | ( | 0.059) | 0.056 | 0.006 |
| 267 | 22.25 | 0.10 | 0.062 | ( | 0.059) | 0.056 | 0.006 |
| 268 | 22.33 | 0.07 | 0.041 | ( | 0.059) | 0.037 | 0.004 |
| 269 | 22.42 | 0.07 | 0.041 | ( | 0.058) | 0.037 | 0.004 |
| 270 | 22.50 | 0.07 | 0.041 | ( | 0.058) | 0.037 | 0.004 |
| 271 | 22.58 | 0.07 | 0.041 | ( | 0.058) | 0.037 | 0.004 |
| 272 | 22.67 | 0.07 | 0.041 | ( | 0.058) | 0.037 | 0.004 |
| 273 | 22.75 | 0.07 | 0.041 | ( | 0.058) | 0.037 | 0.004 |
| 274 | 22.83 | 0.07 | 0.041 | ( | 0.058) | 0.037 | 0.004 |
| 275 | 22.92 | 0.07 | 0.041 | ( | 0.057) | 0.037 | 0.004 |
| 276 | 23.00 | 0.07 | 0.041 | ( | 0.057) | 0.037 | 0.004 |
| 277 | 23.08 | 0.07 | 0.041 | ( | 0.057) | 0.037 | 0.004 |
| 278 | 23.17 | 0.07 | 0.041 | ( | 0.057) | 0.037 | 0.004 |
| 279 | 23.25 | 0.07 | 0.041 | ( | 0.057) | 0.037 | 0.004 |
| 280 | 23.33 | 0.07 | 0.041 | ( | 0.057) | 0.037 | 0.004 |
| 281 | 23.42 | 0.07 | 0.041 | ( | 0.057) | 0.037 | 0.004 |
| 282 | 23.50 | 0.07 | 0.041 | ( | 0.057) | 0.037 | 0.004 |
| 283 | 23.58 | 0.07 | 0.041 | ( | 0.057) | 0.037 | 0.004 |
| 284 | 23.67 | 0.07 | 0.041 | ( | 0.056) | 0.037 | 0.004 |
| 285 | 23.75 | 0.07 | 0.041 | ( | 0.056) | 0.037 | 0.004 |
| 286 | 23.83 | 0.07 | 0.041 | ( | 0.056) | 0.037 | 0.004 |
| 287 | 23.92 | 0.07 | 0.041 | ( | 0.056) | 0.037 | 0.004 |
| 288 | 24.00 | 0.07 | 0.041 | ( | 0.056) | 0.037 | 0.004 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 36.3

Flood volume = Effective rainfall 3.02(In)
times area 2855.4(Ac.)/[(In)/(Ft.)] = 719.6(Ac.Ft)
Total soil loss = 2.12(In)
Total soil loss = 503.698(Ac.Ft)
Total rainfall = 5.14(In)
Flood volume = 31347647.2 Cubic Feet
Total soil loss = 21941074.8 Cubic Feet

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Peak flow rate of this hydrograph = 1520.583(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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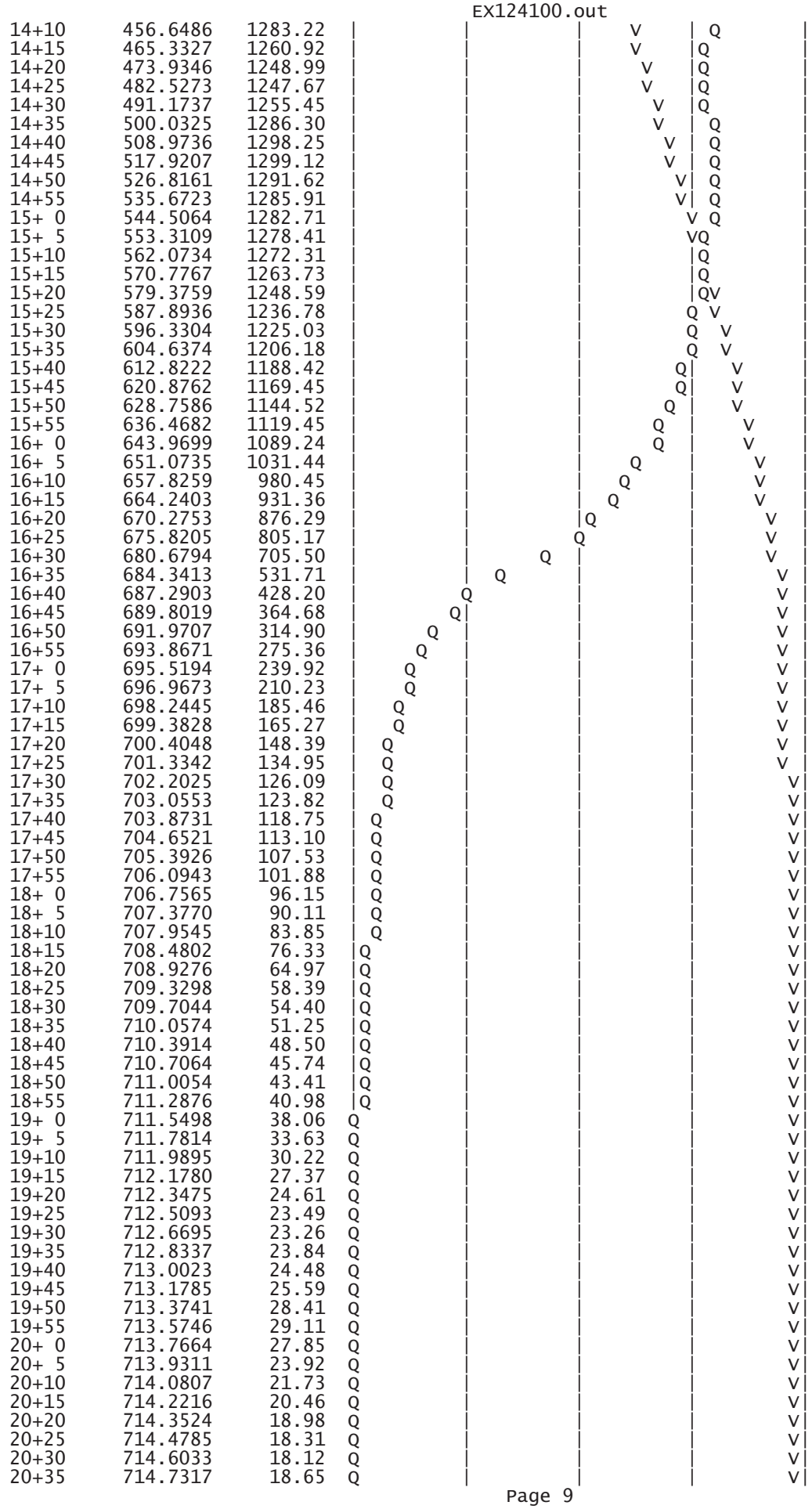
Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 400.0 | 800.0 | 1200.0 | 1600.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0008 | 0.11 | Q | \| | \| | \| | \| |
| 0+10 | 0.0036 | 0.41 | Q | \| | \| | \| | \| |
| 0+15 | 0.0093 | 0.83 | Q | \| | \| | \| | \| |
| 0+20 | 0.0192 | 1.44 | Q | \| | \| | \| | \| |
| 0+25 | 0.0357 | 2.40 | Q | \| | \| | \| | \| |
| 0+30 | 0.0621 | 3.83 | Q | \| | \| | \| | \| |
| 0+35 | 0.1060 | 6.37 | Q | \| | \| | \| | \| |
| 0+40 | 0.1616 | 8.08 | Q | \| | \| | \| | \| |
| 0+45 | 0.2268 | 9.47 | Q | \| | \| | \| | \| |
| 0+50 | 0.3043 | 11.25 | Q | \| | \| | \| | \| |
| 0+55 | 0.3904 | 12.51 | Q | \| | \| | \| | \| |
| 1+ 0 | 0.4835 | 13.51 | Q | \| | \| | \| | \| |
| 1+ 5 | 0.5824 | 14.37 | Q | \| | \| | \| | \| |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1+10 | 0.6869 | 15.17 | Q | | | | |
| 1+15 | 0.7973 | 16.03 | Q | | | | |
| 1+20 | 0.9164 | 17.29 | Q | | | | |
| 1+25 | 1.0396 | 17.89 | Q | | | | |
| 1+30 | 1.1634 | 17.97 | Q | | | | |
| 1+35 | 1.2833 | 17.41 | Q | | | | |
| 1+40 | 1.4019 | 17.23 | Q | | | | |
| 1+45 | 1.5209 | 17.26 | Q | | | | |
| 1+50 | 1.6406 | 17.38 | Q | | | | |
| 1+55 | 1.7619 | 17.61 | Q | | | | |
| 2+ 0 | 1.8850 | 17.88 | Q | | | | |
| 2+ 5 | 2.0105 | 18.23 | Q | | | | |
| 2+10 | 2.1392 | 18.68 | Q | | | | |
| 2+15 | 2.2724 | 19.33 | Q | | | | |
| 2+20 | 2.4135 | 20.49 | Q | | | | |
| 2+25 | 2.5592 | 21.16 | Q | | | | |
| 2+30 | 2.7076 | 21.55 | Q | | | | |
| 2+35 | 2.8585 | 21.91 | Q | | | | |
| 2+40 | 3.0121 | 22.29 | Q | | | | |
| 2+45 | 3.1685 | 22.71 | Q | | | | |
| 2+50 | 3.3280 | 23.16 | Q | | | | |
| 2+55 | 3.4914 | 23.73 | Q | | | | |
| 3+ 0 | 3.6599 | 24.47 | Q | | | | |
| 3+ 5 | 3.8370 | 25.71 | Q | | | | |
| 3+10 | 4.0193 | 26.47 | Q | | | | |
| 3+15 | 4.2049 | 26.95 | Q | | | | |
| 3+20 | 4.3932 | 27.35 | Q | | | | |
| 3+25 | 4.5837 | 27.66 | Q | | | | |
| 3+30 | 4.7762 | 27.94 | Q | | | | |
| 3+35 | 4.9702 | 28.18 | Q | | | | |
| 3+40 | 5.1656 | 28.37 | Q | | | | |
| 3+45 | 5.3622 | 28.55 | Q | | | | |
| 3+50 | 5.5603 | 28.76 | Q | | | | |
| 3+55 | 5.7603 | 29.04 | Q | | | | |
| 4+ 0 | 5.9626 | 29.36 | Q | | | | |
| 4+ 5 | 6.1673 | 29.73 | Q | | | | |
| 4+10 | 6.3755 | 30.22 | Q | | | | |
| 4+15 | 6.5883 | 30.90 | Q | | | | |
| 4+20 | 6.8097 | 32.15 | Q | | | | |
| 4+25 | 7.0369 | 33.00 | Q | | | | |
| 4+30 | 7.2686 | 33.64 | Q | | | | |
| 4+35 | 7.5045 | 34.25 | Q | | | | |
| 4+40 | 7.7450 | 34.92 | Q | | | | |
| 4+45 | 7.9913 | 35.76 | Q | | | | |
| 4+50 | 8.2471 | 37.14 | Q | | | | |
| 4+55 | 8.5095 | 38.11 | Q | | | | |
| 5+ 0 | 8.7771 | 38.85 | Q | | | | |
| 5+ 5 | 9.0487 | 39.44 | Q | | | | |
| 5+10 | 9.3234 | 39.90 | Q | | | | |
| 5+15 | 9.6017 | 40.40 | VQ | | | | |
| 5+20 | 9.8860 | 41.29 | VQ | | | | |
| 5+25 | 10.1719 | 41.51 | VQ | | | | |
| 5+30 | 10.4548 | 41.07 | VQ | | | | |
| 5+35 | 10.7277 | 39.62 | Q | | | | |
| 5+40 | 10.9980 | 39.26 | Q | | | | |
| 5+45 | 11.2711 | 39.65 | Q | | | | |
| 5+50 | 11.5517 | 40.75 | VQ | | | | |
| 5+55 | 11.8383 | 41.61 | VQ | | | | |
| 6+ 0 | 12.1303 | 42.41 | VQ | | | | |
| 6+ 5 | 12.4351 | 44.26 | VQ | | | | |
| 6+10 | 12.7554 | 46.50 | VQ | | | | |
| 6+15 | 13.0940 | 49.17 | VQ | | | | |
| 6+20 | 13.4555 | 52.49 | VQ | | | | |
| 6+25 | 13.8490 | 57.13 | VQ | | | | |
| 6+30 | 14.2895 | 63.97 | VQ | | | | |
| 6+35 | 14.8183 | 76.78 | VQ | | | | |
| 6+40 | 15.4103 | 85.96 | V Q | | | | |
| 6+45 | 16.0524 | 93.23 | V Q | | | | |
| 6+50 | 16.7438 | 100.39 | V Q | | | | |
| 6+55 | 17.4894 | 108.26 | V Q | | | | |
| 7+ 0 | 18.3020 | 117.99 | \|VQ | | | | |
| 7+ 5 | 19.2150 | 132.57 | \|V Q | | | | |
| 7+10 | 20.1945 | 142.22 | \|V Q | | | | |
| 7+15 | 21.2209 | 149.03 | \|V Q | | | | |
| 7+20 | 22.2911 | 155.40 | \|V Q | | | | |
| 7+25 | 23.4062 | 161.91 | \|V  Q | | | | |
| 7+30 | 24.5678 | 168.67 | \|V  Q | | | | |
| 7+35 | 25.7817 | 176.25 | \|v  Q | | | | |

| | | | |
|---|---|---|---|
| 7+40 | 27.0609 | 185.75 | V Q |
| 7+45 | 28.4219 | 197.61 | V Q |
| 7+50 | 29.9074 | 215.69 | V Q |
| 7+55 | 31.4983 | 231.00 | V Q |
| 8+ 0 | 33.1933 | 246.12 | V Q |
| 8+ 5 | 35.0337 | 267.22 | V Q |
| 8+10 | 37.0020 | 285.80 | V Q |
| 8+15 | 39.0998 | 304.61 | V Q |
| 8+20 | 41.3626 | 328.55 | V Q |
| 8+25 | 43.7687 | 349.37 | V Q |
| 8+30 | 46.3245 | 371.10 | V Q |
| 8+35 | 49.0953 | 402.31 | V Q |
| 8+40 | 52.0140 | 423.81 | V Q |
| 8+45 | 55.0437 | 439.91 | V Q |
| 8+50 | 58.1757 | 454.77 | V Q |
| 8+55 | 61.4133 | 470.10 | V Q |
| 9+ 0 | 64.7683 | 487.15 | V Q |
| 9+ 5 | 68.2820 | 510.18 | V Q |
| 9+10 | 71.9378 | 530.83 | V Q |
| 9+15 | 75.7351 | 551.37 | V Q |
| 9+20 | 79.7130 | 577.59 | V Q |
| 9+25 | 83.8546 | 601.36 | V Q |
| 9+30 | 88.1687 | 626.41 | V Q |
| 9+35 | 92.7241 | 661.44 | V Q |
| 9+40 | 97.4618 | 687.91 | V Q |
| 9+45 | 102.3579 | 710.92 | V Q |
| 9+50 | 107.4390 | 737.77 | V Q |
| 9+55 | 112.6737 | 760.09 | V Q |
| 10+ 0 | 118.0552 | 781.38 | V Q |
| 10+ 5 | 123.5818 | 802.46 | V Q |
| 10+10 | 129.1769 | 812.42 | V Q |
| 10+15 | 134.7986 | 816.27 | V Q |
| 10+20 | 140.4363 | 818.59 | V Q |
| 10+25 | 145.9856 | 805.75 | V Q |
| 10+30 | 151.3227 | 774.96 | V Q |
| 10+35 | 156.2061 | 709.07 | V Q |
| 10+40 | 160.8871 | 679.69 | V Q |
| 10+45 | 165.5097 | 671.20 | V Q |
| 10+50 | 170.1341 | 671.46 | V Q |
| 10+55 | 174.8319 | 682.12 | V Q |
| 11+ 0 | 179.6807 | 704.04 | V Q |
| 11+ 5 | 184.8683 | 753.24 | V Q |
| 11+10 | 190.2304 | 778.58 | V Q |
| 11+15 | 195.6781 | 791.00 | V Q |
| 11+20 | 201.1801 | 798.90 | V Q |
| 11+25 | 206.7073 | 802.55 | V Q |
| 11+30 | 212.2433 | 803.82 | V Q |
| 11+35 | 217.7348 | 797.38 | V Q |
| 11+40 | 223.1980 | 793.25 | V Q |
| 11+45 | 228.6393 | 790.08 | V Q |
| 11+50 | 234.0560 | 786.51 | V Q |
| 11+55 | 239.4411 | 781.91 | V Q |
| 12+ 0 | 244.7686 | 773.55 | V Q |
| 12+ 5 | 250.0001 | 759.61 | V Q |
| 12+10 | 255.2554 | 763.07 | V Q |
| 12+15 | 260.6166 | 778.44 | V Q |
| 12+20 | 266.1713 | 806.54 | V Q |
| 12+25 | 271.9612 | 840.70 | V Q |
| 12+30 | 278.0739 | 887.57 | V Q |
| 12+35 | 284.7698 | 972.24 | V Q |
| 12+40 | 291.8354 | 1025.93 | V Q |
| 12+45 | 299.1646 | 1064.19 | V Q |
| 12+50 | 306.7616 | 1103.08 | V Q |
| 12+55 | 314.5862 | 1136.13 | V Q |
| 13+ 0 | 322.6419 | 1169.70 | V Q |
| 13+ 5 | 331.0009 | 1213.72 | V Q |
| 13+10 | 339.6228 | 1251.89 | V Q |
| 13+15 | 348.4950 | 1288.26 | V Q |
| 13+20 | 357.6554 | 1330.09 | V Q |
| 13+25 | 367.1019 | 1371.62 | V Q |
| 13+30 | 376.8741 | 1418.93 | V Q |
| 13+35 | 387.0912 | 1483.52 | V Q |
| 13+40 | 397.5108 | 1512.92 | V Q |
| 13+45 | 407.9831 | 1520.58 | V Q |
| 13+50 | 418.4176 | 1515.10 | V Q |
| 13+55 | 428.6848 | 1490.79 | V Q |
| 14+ 0 | 438.6138 | 1441.69 | V Q |
| 14+ 5 | 447.8110 | 1335.44 | V Q |



| | | | |
|---|---|---|---|
| 14+10 | 456.6486 | 1283.22 | |
| 14+15 | 465.3327 | 1260.92 | |
| 14+20 | 473.9346 | 1248.99 | |
| 14+25 | 482.5273 | 1247.67 | |
| 14+30 | 491.1737 | 1255.45 | |
| 14+35 | 500.0325 | 1286.30 | |
| 14+40 | 508.9736 | 1298.25 | |
| 14+45 | 517.9207 | 1299.12 | |
| 14+50 | 526.8161 | 1291.62 | |
| 14+55 | 535.6723 | 1285.91 | |
| 15+ 0 | 544.5064 | 1282.71 | |
| 15+ 5 | 553.3109 | 1278.41 | |
| 15+10 | 562.0734 | 1272.31 | |
| 15+15 | 570.7767 | 1263.73 | |
| 15+20 | 579.3759 | 1248.59 | |
| 15+25 | 587.8936 | 1236.78 | |
| 15+30 | 596.3304 | 1225.03 | |
| 15+35 | 604.6374 | 1206.18 | |
| 15+40 | 612.8222 | 1188.42 | |
| 15+45 | 620.8762 | 1169.45 | |
| 15+50 | 628.7586 | 1144.52 | |
| 15+55 | 636.4682 | 1119.45 | |
| 16+ 0 | 643.9699 | 1089.24 | |
| 16+ 5 | 651.0735 | 1031.44 | |
| 16+10 | 657.8259 | 980.45 | |
| 16+15 | 664.2403 | 931.36 | |
| 16+20 | 670.2753 | 876.29 | |
| 16+25 | 675.8205 | 805.17 | |
| 16+30 | 680.6794 | 705.50 | |
| 16+35 | 684.3413 | 531.71 | |
| 16+40 | 687.2903 | 428.20 | |
| 16+45 | 689.8019 | 364.68 | |
| 16+50 | 691.9707 | 314.90 | |
| 16+55 | 693.8671 | 275.36 | |
| 17+ 0 | 695.5194 | 239.92 | |
| 17+ 5 | 696.9673 | 210.23 | |
| 17+10 | 698.2445 | 185.46 | |
| 17+15 | 699.3828 | 165.27 | |
| 17+20 | 700.4048 | 148.39 | |
| 17+25 | 701.3342 | 134.95 | |
| 17+30 | 702.2025 | 126.09 | |
| 17+35 | 703.0553 | 123.82 | |
| 17+40 | 703.8731 | 118.75 | |
| 17+45 | 704.6521 | 113.10 | |
| 17+50 | 705.3926 | 107.53 | |
| 17+55 | 706.0943 | 101.88 | |
| 18+ 0 | 706.7565 | 96.15 | |
| 18+ 5 | 707.3770 | 90.11 | |
| 18+10 | 707.9545 | 83.85 | |
| 18+15 | 708.4802 | 76.33 | |
| 18+20 | 708.9276 | 64.97 | |
| 18+25 | 709.3298 | 58.39 | |
| 18+30 | 709.7044 | 54.40 | |
| 18+35 | 710.0574 | 51.25 | |
| 18+40 | 710.3914 | 48.50 | |
| 18+45 | 710.7064 | 45.74 | |
| 18+50 | 711.0054 | 43.41 | |
| 18+55 | 711.2876 | 40.98 | |
| 19+ 0 | 711.5498 | 38.06 | |
| 19+ 5 | 711.7814 | 33.63 | |
| 19+10 | 711.9895 | 30.22 | |
| 19+15 | 712.1780 | 27.37 | |
| 19+20 | 712.3475 | 24.61 | |
| 19+25 | 712.5093 | 23.49 | |
| 19+30 | 712.6695 | 23.26 | |
| 19+35 | 712.8337 | 23.84 | |
| 19+40 | 713.0023 | 24.48 | |
| 19+45 | 713.1785 | 25.59 | |
| 19+50 | 713.3741 | 28.41 | |
| 19+55 | 713.5746 | 29.11 | |
| 20+ 0 | 713.7664 | 27.85 | |
| 20+ 5 | 713.9311 | 23.92 | |
| 20+10 | 714.0807 | 21.73 | |
| 20+15 | 714.2216 | 20.46 | |
| 20+20 | 714.3524 | 18.98 | |
| 20+25 | 714.4785 | 18.31 | |
| 20+30 | 714.6033 | 18.12 | |
| 20+35 | 714.7317 | 18.65 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 20+40 | 714.8612 | 18.82 | Q | \| | \| | \| | V\| |
| 20+45 | 714.9905 | 18.77 | Q | \| | \| | \| | V\| |
| 20+50 | 715.1191 | 18.66 | Q | \| | \| | \| | V\| |
| 20+55 | 715.2457 | 18.39 | Q | \| | \| | \| | V\| |
| 21+ 0 | 715.3703 | 18.08 | Q | \| | \| | \| | V\| |
| 21+ 5 | 715.4926 | 17.76 | Q | \| | \| | \| | V\| |
| 21+10 | 715.6124 | 17.40 | Q | \| | \| | \| | V\| |
| 21+15 | 715.7288 | 16.91 | Q | \| | \| | \| | V\| |
| 21+20 | 715.8384 | 15.91 | Q | \| | \| | \| | V\| |
| 21+25 | 715.9449 | 15.46 | Q | \| | \| | \| | V\| |
| 21+30 | 716.0509 | 15.40 | Q | \| | \| | \| | V\| |
| 21+35 | 716.1605 | 15.91 | Q | \| | \| | \| | V\| |
| 21+40 | 716.2708 | 16.02 | Q | \| | \| | \| | V\| |
| 21+45 | 716.3794 | 15.76 | Q | \| | \| | \| | V\| |
| 21+50 | 716.4826 | 14.98 | Q | \| | \| | \| | V\| |
| 21+55 | 716.5836 | 14.67 | Q | \| | \| | \| | V\| |
| 22+ 0 | 716.6853 | 14.76 | Q | \| | \| | \| | V\| |
| 22+ 5 | 716.7916 | 15.44 | Q | \| | \| | \| | V\| |
| 22+10 | 716.8994 | 15.65 | Q | \| | \| | \| | V\| |
| 22+15 | 717.0058 | 15.46 | Q | \| | \| | \| | V\| |
| 22+20 | 717.1071 | 14.71 | Q | \| | \| | \| | V\| |
| 22+25 | 717.2065 | 14.44 | Q | \| | \| | \| | V\| |
| 22+30 | 717.3069 | 14.57 | Q | \| | \| | \| | V\| |
| 22+35 | 717.4117 | 15.21 | Q | \| | \| | \| | V\| |
| 22+40 | 717.5170 | 15.30 | Q | \| | \| | \| | V\| |
| 22+45 | 717.6198 | 14.91 | Q | \| | \| | \| | V\| |
| 22+50 | 717.7159 | 13.95 | Q | \| | \| | \| | V\| |
| 22+55 | 717.8083 | 13.42 | Q | \| | \| | \| | V\| |
| 23+ 0 | 717.8988 | 13.15 | Q | \| | \| | \| | V\| |
| 23+ 5 | 717.9881 | 12.95 | Q | \| | \| | \| | V\| |
| 23+10 | 718.0763 | 12.81 | Q | \| | \| | \| | V\| |
| 23+15 | 718.1636 | 12.67 | Q | \| | \| | \| | V\| |
| 23+20 | 718.2500 | 12.55 | Q | \| | \| | \| | V\| |
| 23+25 | 718.3358 | 12.45 | Q | \| | \| | \| | V\| |
| 23+30 | 718.4210 | 12.37 | Q | \| | \| | \| | V\| |
| 23+35 | 718.5057 | 12.31 | Q | \| | \| | \| | V\| |
| 23+40 | 718.5902 | 12.26 | Q | \| | \| | \| | V\| |
| 23+45 | 718.6742 | 12.20 | Q | \| | \| | \| | V\| |
| 23+50 | 718.7579 | 12.15 | Q | \| | \| | \| | V\| |
| 23+55 | 718.8412 | 12.09 | Q | \| | \| | \| | V\| |
| 24+ 0 | 718.9242 | 12.05 | Q | \| | \| | \| | V\| |
| 24+ 5 | 719.0062 | 11.91 | Q | \| | \| | \| | V\| |
| 24+10 | 719.0861 | 11.60 | Q | \| | \| | \| | V\| |
| 24+15 | 719.1629 | 11.16 | Q | \| | \| | \| | V\| |
| 24+20 | 719.2357 | 10.57 | Q | \| | \| | \| | V\| |
| 24+25 | 719.3027 | 9.73 | Q | \| | \| | \| | V\| |
| 24+30 | 719.3612 | 8.49 | Q | \| | \| | \| | V\| |
| 24+35 | 719.4040 | 6.22 | Q | \| | \| | \| | V\| |
| 24+40 | 719.4378 | 4.91 | Q | \| | \| | \| | V\| |
| 24+45 | 719.4664 | 4.14 | Q | \| | \| | \| | V\| |
| 24+50 | 719.4908 | 3.54 | Q | \| | \| | \| | V\| |
| 24+55 | 719.5120 | 3.07 | Q | \| | \| | \| | V\| |
| 25+ 0 | 719.5302 | 2.65 | Q | \| | \| | \| | V\| |
| 25+ 5 | 719.5461 | 2.31 | Q | \| | \| | \| | V\| |
| 25+10 | 719.5599 | 2.00 | Q | \| | \| | \| | V\| |
| 25+15 | 719.5719 | 1.74 | Q | \| | \| | \| | V\| |
| 25+20 | 719.5823 | 1.51 | Q | \| | \| | \| | V\| |
| 25+25 | 719.5913 | 1.30 | Q | \| | \| | \| | V\| |
| 25+30 | 719.5990 | 1.12 | Q | \| | \| | \| | V\| |
| 25+35 | 719.6056 | 0.95 | Q | \| | \| | \| | V\| |
| 25+40 | 719.6111 | 0.81 | Q | \| | \| | \| | V\| |
| 25+45 | 719.6159 | 0.69 | Q | \| | \| | \| | V\| |
| 25+50 | 719.6199 | 0.58 | Q | \| | \| | \| | V\| |
| 25+55 | 719.6232 | 0.49 | Q | \| | \| | \| | V\| |
| 26+ 0 | 719.6260 | 0.41 | Q | \| | \| | \| | V\| |
| 26+ 5 | 719.6283 | 0.34 | Q | \| | \| | \| | V\| |
| 26+10 | 719.6303 | 0.28 | Q | \| | \| | \| | V\| |
| 26+15 | 719.6319 | 0.24 | Q | \| | \| | \| | V\| |
| 26+20 | 719.6335 | 0.22 | Q | \| | \| | \| | V\| |
| 26+25 | 719.6348 | 0.20 | Q | \| | \| | \| | V\| |
| 26+30 | 719.6360 | 0.18 | Q | \| | \| | \| | V\| |
| 26+35 | 719.6371 | 0.16 | Q | \| | \| | \| | V\| |
| 26+40 | 719.6381 | 0.14 | Q | \| | \| | \| | V\| |
| 26+45 | 719.6389 | 0.12 | Q | \| | \| | \| | V\| |
| 26+50 | 719.6397 | 0.11 | Q | \| | \| | \| | V\| |
| 26+55 | 719.6404 | 0.10 | Q | \| | \| | \| | V\| |
| 27+ 0 | 719.6410 | 0.09 | Q | \| | \| | \| | V\| |
| 27+ 5 | 719.6415 | 0.08 | Q | \| | \| | \| | V\| |

```
   27+10     719.6419      0.06  Q          |          |          |         V|
   27+15     719.6422      0.05  Q          |          |          |         V|
   27+20     719.6425      0.03  Q          |          |          |         V|
   27+25     719.6427      0.03  Q          |          |          |         V|
   27+30     719.6428      0.02  Q          |          |          |         V|
   27+35     719.6429      0.01  Q          |          |          |         V|
   27+40     719.6429      0.01  Q          |          |          |         V|
   27+45     719.6430      0.00  Q          |          |          |          V
-------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/19/17 File: EX21100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 2
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 12-19-17

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Drainage Area = 31.00(Ac.) = 0.048 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 31.00(Ac.) = 0.048 Sq. Mi.
Length along longest watercourse = 2195.00(Ft.)
Length along longest watercourse measured to centroid = 1000.00(Ft.)
Length along longest watercourse = 0.416 Mi.
Length along longest watercourse measured to centroid = 0.189 Mi.
Difference in elevation = 522.00(Ft.)
Slope along watercourse = 1255.6538 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.082 Hr.
Lag time = 4.95 Min.
25% of lag time = 1.24 Min.
40% of lag time = 1.98 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 31.00 | 0.50 | 15.50 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 31.00 | 1.20 | 37.20 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.97 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 31.000 | 83.73 | 0.000 |

Total Area Entered = 31.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.7 | 93.2 | 0.088 | 0.000 | 0.088 | 1.000 | 0.088 |
| | | | | | Sum (F) = | 0.088 |

Area averaged mean soil loss (F) (In/Hr) = 0.088

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

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| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 101.107 | 14.811 | 4.627 |
| 2 | 0.167 | 202.214 | 55.817 | 17.438 |
| 3 | 0.250 | 303.321 | 18.240 | 5.699 |
| 4 | 0.333 | 404.428 | 7.310 | 2.284 |
| 5 | 0.417 | 505.535 | 2.350 | 0.734 |
| 6 | 0.500 | 606.642 | 0.839 | 0.262 |
| 7 | 0.583 | 707.749 | 0.633 | 0.198 |
| | | Sum = 100.000 | Sum= | 31.242 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.088 | ( 0.544) | 0.517 |
| 2 | 0.17 | 4.30 | 0.619 | 0.088 | ( 0.557) | 0.531 |
| 3 | 0.25 | 5.00 | 0.720 | 0.088 | ( 0.648) | 0.632 |
| 4 | 0.33 | 5.00 | 0.720 | 0.088 | ( 0.648) | 0.632 |
| 5 | 0.42 | 5.80 | 0.835 | 0.088 | ( 0.751) | 0.747 |
| 6 | 0.50 | 6.50 | 0.936 | 0.088 | ( 0.842) | 0.848 |
| 7 | 0.58 | 7.40 | 1.065 | 0.088 | ( 0.959) | 0.977 |
| 8 | 0.67 | 8.60 | 1.238 | 0.088 | ( 1.114) | 1.150 |
| 9 | 0.75 | 12.30 | 1.771 | 0.088 | ( 1.594) | 1.683 |
| 10 | 0.83 | 29.10 | 4.189 | 0.088 | ( 3.770) | 4.101 |
| 11 | 0.92 | 6.80 | 0.979 | 0.088 | ( 0.881) | 0.891 |
| 12 | 1.00 | 5.00 | 0.720 | 0.088 | ( 0.648) | 0.632 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 13.3 |

Flood volume = Effective rainfall 1.11(In)
times area 31.0(Ac.)/[(In)/(Ft.)] = 2.9(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.227(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 125106.0 Cubic Feet
Total soil loss = 9892.1 Cubic Feet

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Peak flow rate of this hydrograph = 88.994(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 22.5 | 45.0 | 67.5 | 90.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0165 | 2.39 | VQ | | | | |
| 0+10 | 0.0955 | 11.47 | \|V Q | | | | |
| 0+15 | 0.1998 | 15.14 | \| V Q | | | | |
| 0+20 | 0.3248 | 18.16 | \| V Q | | | | |
| 0+25 | 0.4604 | 19.68 | \| V Q | | | | |
| 0+30 | 0.6155 | 22.53 | \| V Q | | | | |
| 0+35 | 0.7927 | 25.73 | \| Q | | | | |
| 0+40 | 0.9969 | 29.65 | \| Q | | | | |
| 0+45 | 1.2463 | 36.21 | \| QV | | | | |
| 0+50 | 1.6463 | 58.08 | \| V Q | | | | |
| 0+55 | 2.2592 | 88.99 | \| V Q |
| 1+ 0 | 2.5827 | 46.97 | \| Q V |
| 1+ 5 | 2.7701 | 27.21 | \| Q V |
| 1+10 | 2.8343 | 9.32 | \| Q V |

```
    1+15       2.8584      3.51  |Q        |          |          |        V|
    1+20       2.8688      1.51  Q         |          |          |        V|
    1+25       2.8712      0.34  Q         |          |          |        V|
    1+30       2.8720      0.12  Q         |          |          |        V|
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/19/17 File: EX23100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 2
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 12-19-17

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Drainage Area = 31.00(Ac.) = 0.048 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 31.00(Ac.) = 0.048 Sq. Mi.
Length along longest watercourse = 2195.00(Ft.)
Length along longest watercourse measured to centroid = 1000.00(Ft.)
Length along longest watercourse = 0.416 Mi.
Length along longest watercourse measured to centroid = 0.189 Mi.
Difference in elevation = 522.00(Ft.)
Slope along watercourse = 1255.6538 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.082 Hr.
Lag time = 4.95 Min.
25% of lag time = 1.24 Min.
40% of lag time = 1.98 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 31.00 | 0.81 | 25.11 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 31.00 | 1.81 | 56.11 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.810(In)
Area Averaged 100-Year Rainfall = 1.810(In)

Point rain (area averaged) = 1.810(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.810(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 31.000 | 83.73 | 0.000 |

Total Area Entered = 31.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.7 | 93.2 | 0.088 | 0.000 | 0.088 | 1.000 | 0.088 |
| | | | | | Sum (F) = | 0.088 |

Area averaged mean soil loss (F) (In/Hr) = 0.088

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 101.107 | 14.811 | 4.627 |
| 2 0.167 | 202.214 | 55.817 | 17.438 |
| 3 0.250 | 303.321 | 18.240 | 5.699 |
| 4 0.333 | 404.428 | 7.310 | 2.284 |
| 5 0.417 | 505.535 | 2.350 | 0.734 |
| 6 0.500 | 606.642 | 0.839 | 0.262 |
| 7 0.583 | 707.749 | 0.633 | 0.198 |
| | | Sum = 100.000 | Sum= 31.242 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.282 | 0.088 | ( 0.254) | 0.194 |
| 2 | 0.17 | 1.30 | 0.282 | 0.088 | ( 0.254) | 0.194 |
| 3 | 0.25 | 1.10 | 0.239 | 0.088 | ( 0.215) | 0.151 |
| 4 | 0.33 | 1.50 | 0.326 | 0.088 | ( 0.293) | 0.238 |
| 5 | 0.42 | 1.50 | 0.326 | 0.088 | ( 0.293) | 0.238 |
| 6 | 0.50 | 1.80 | 0.391 | 0.088 | ( 0.352) | 0.303 |
| 7 | 0.58 | 1.50 | 0.326 | 0.088 | ( 0.293) | 0.238 |
| 8 | 0.67 | 1.80 | 0.391 | 0.088 | ( 0.352) | 0.303 |
| 9 | 0.75 | 1.80 | 0.391 | 0.088 | ( 0.352) | 0.303 |
| 10 | 0.83 | 1.50 | 0.326 | 0.088 | ( 0.293) | 0.238 |
| 11 | 0.92 | 1.60 | 0.347 | 0.088 | ( 0.313) | 0.260 |
| 12 | 1.00 | 1.80 | 0.391 | 0.088 | ( 0.352) | 0.303 |
| 13 | 1.08 | 2.20 | 0.478 | 0.088 | ( 0.430) | 0.390 |
| 14 | 1.17 | 2.20 | 0.478 | 0.088 | ( 0.430) | 0.390 |
| 15 | 1.25 | 2.20 | 0.478 | 0.088 | ( 0.430) | 0.390 |
| 16 | 1.33 | 2.00 | 0.434 | 0.088 | ( 0.391) | 0.346 |
| 17 | 1.42 | 2.60 | 0.565 | 0.088 | ( 0.508) | 0.477 |
| 18 | 1.50 | 2.70 | 0.586 | 0.088 | ( 0.528) | 0.498 |
| 19 | 1.58 | 2.40 | 0.521 | 0.088 | ( 0.469) | 0.433 |
| 20 | 1.67 | 2.70 | 0.586 | 0.088 | ( 0.528) | 0.498 |
| 21 | 1.75 | 3.30 | 0.717 | 0.088 | ( 0.645) | 0.629 |
| 22 | 1.83 | 3.10 | 0.673 | 0.088 | ( 0.606) | 0.585 |
| 23 | 1.92 | 2.90 | 0.630 | 0.088 | ( 0.567) | 0.542 |
| 24 | 2.00 | 3.00 | 0.652 | 0.088 | ( 0.586) | 0.564 |
| 25 | 2.08 | 3.10 | 0.673 | 0.088 | ( 0.606) | 0.585 |
| 26 | 2.17 | 4.20 | 0.912 | 0.088 | ( 0.821) | 0.824 |
| 27 | 2.25 | 5.00 | 1.086 | 0.088 | ( 0.977) | 0.998 |
| 28 | 2.33 | 3.50 | 0.760 | 0.088 | ( 0.684) | 0.672 |
| 29 | 2.42 | 6.80 | 1.477 | 0.088 | ( 1.329) | 1.389 |
| 30 | 2.50 | 7.30 | 1.585 | 0.088 | ( 1.427) | 1.497 |
| 31 | 2.58 | 8.20 | 1.781 | 0.088 | ( 1.603) | 1.693 |
| 32 | 2.67 | 5.90 | 1.281 | 0.088 | ( 1.153) | 1.193 |
| 33 | 2.75 | 2.00 | 0.434 | 0.088 | ( 0.391) | 0.346 |
| 34 | 2.83 | 1.80 | 0.391 | 0.088 | ( 0.352) | 0.303 |
| 35 | 2.92 | 1.80 | 0.391 | 0.088 | ( 0.352) | 0.303 |
| 36 | 3.00 | 0.60 | 0.130 | 0.088 | ( 0.117) | 0.042 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 18.6 |

Flood volume = Effective rainfall 1.55(In)
times area 31.0(Ac.)/[(In)/(Ft.)] = 4.0(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.681(Ac.Ft)
Total rainfall = 1.81(In)
Flood volume = 173975.5 Cubic Feet
Total soil loss = 29676.2 Cubic Feet

Peak flow rate of this hydrograph = 47.692(CFS)

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3 - H O U R  S T O R M
R u n o f f  H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 12.5 | 25.0 | 37.5 | 50.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0062 | 0.90 | Q | | | | |
| 0+10 | 0.0358 | 4.29 | V Q | | | | |
| 0+15 | 0.0716 | 5.20 | V Q | | | | |
| 0+20 | 0.1080 | 5.29 | V Q | | | | |
| 0+25 | 0.1541 | 6.70 | V Q | | | | |
| 0+30 | 0.2054 | 7.45 | V Q | | | | |
| 0+35 | 0.2639 | 8.49 | V Q | | | | |
| 0+40 | 0.3195 | 8.08 | V Q | | | | |
| 0+45 | 0.3815 | 9.00 | V Q | | | | |
| 0+50 | 0.4434 | 8.99 | V Q | | | | |
| 0+55 | 0.4990 | 8.07 | V Q | | | | |
| 1+ 0 | 0.5564 | 8.32 | VQ | | | | |
| 1+ 5 | 0.6215 | 9.46 | VQ | | | | |
| 1+10 | 0.6990 | 11.24 | VQ | | | | |
| 1+15 | 0.7805 | 11.84 | V Q | | | | |
| 1+20 | 0.8621 | 11.86 | VQ | | | | |
| 1+25 | 0.9433 | 11.78 | Q | | | | |
| 1+30 | 1.0393 | 13.94 | VQ | | | | |
| 1+35 | 1.1404 | 14.68 | Q | | | | |
| 1+40 | 1.2384 | 14.23 | QV | | | | |
| 1+45 | 1.3468 | 15.74 | QV | | | | |
| 1+50 | 1.4712 | 18.07 | Q | | | | |
| 1+55 | 1.5951 | 17.99 | QV | | | | |
| 2+ 0 | 1.7151 | 17.42 | Q V | | | | |
| 2+ 5 | 1.8366 | 17.65 | Q V | | | | |
| 2+10 | 1.9687 | 19.17 | Q V | | | | |
| 2+15 | 2.1360 | 24.30 | Q V | | | | |
| 2+20 | 2.3236 | 27.23 | Q V | | | | |
| 2+25 | 2.5055 | 26.42 | Q V | | | | |
| 2+30 | 2.7682 | 38.15 | V Q | | | | |
| 2+35 | 3.0746 | 44.48 | V Q | | | | |
| 2+40 | 3.4031 | 47.69 | V Q | | | | |
| 2+45 | 3.6571 | 36.89 | Q V | | | | |
| 2+50 | 3.7929 | 19.72 | Q V | | | | |
| 2+55 | 3.8846 | 13.30 | Q V | | | | |
| 3+ 0 | 3.9508 | 9.62 | Q V | | | | |
| 3+ 5 | 3.9788 | 4.06 | Q V | | | | |
| 3+10 | 3.9890 | 1.48 | Q V | | | | |
| 3+15 | 3.9922 | 0.47 | Q V | | | | |
| 3+20 | 3.9934 | 0.17 | Q V | | | | |
| 3+25 | 3.9939 | 0.07 | Q V | | | | |
| 3+30 | 3.9939 | 0.01 | Q V | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/19/17 File: EX26100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 2
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 12-19-17

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Drainage Area = 31.00(Ac.) = 0.048 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 31.00(Ac.) = 0.048 Sq. Mi.
Length along longest watercourse = 2195.00(Ft.)
Length along longest watercourse measured to centroid = 1000.00(Ft.)
Length along longest watercourse = 0.416 Mi.
Length along longest watercourse measured to centroid = 0.189 Mi.
Difference in elevation = 522.00(Ft.)
Slope along watercourse = 1255.6538 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.082 Hr.
Lag time = 4.95 Min.
25% of lag time = 1.24 Min.
40% of lag time = 1.98 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 31.00 | 1.14 | 35.34 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 31.00 | 2.50 | 77.50 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.140(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 31.000 | 83.73 | 0.000 |

Total Area Entered = 31.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.7 | 93.2 | 0.088 | 0.000 | 0.088 | 1.000 | 0.088 |
| | | | | | Sum (F) = | 0.088 |

Area averaged mean soil loss (F) (In/Hr) = 0.088

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 101.107 | 14.811 | 4.627 |
| 2 | 0.167 | 202.214 | 55.817 | 17.438 |
| 3 | 0.250 | 303.321 | 18.240 | 5.699 |
| 4 | 0.333 | 404.428 | 7.310 | 2.284 |
| 5 | 0.417 | 505.535 | 2.350 | 0.734 |
| 6 | 0.500 | 606.642 | 0.839 | 0.262 |
| 7 | 0.583 | 707.749 | 0.633 | 0.198 |
| | | Sum = | 100.000 Sum= | 31.242 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.088 | ( 0.135) | 0.062 |
| 2 | 0.17 | 0.60 | 0.180 | 0.088 | ( 0.162) | 0.092 |
| 3 | 0.25 | 0.60 | 0.180 | 0.088 | ( 0.162) | 0.092 |
| 4 | 0.33 | 0.60 | 0.180 | 0.088 | ( 0.162) | 0.092 |
| 5 | 0.42 | 0.60 | 0.180 | 0.088 | ( 0.162) | 0.092 |
| 6 | 0.50 | 0.70 | 0.210 | 0.088 | ( 0.189) | 0.122 |
| 7 | 0.58 | 0.70 | 0.210 | 0.088 | ( 0.189) | 0.122 |
| 8 | 0.67 | 0.70 | 0.210 | 0.088 | ( 0.189) | 0.122 |
| 9 | 0.75 | 0.70 | 0.210 | 0.088 | ( 0.189) | 0.122 |
| 10 | 0.83 | 0.70 | 0.210 | 0.088 | ( 0.189) | 0.122 |
| 11 | 0.92 | 0.70 | 0.210 | 0.088 | ( 0.189) | 0.122 |
| 12 | 1.00 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 13 | 1.08 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 14 | 1.17 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 15 | 1.25 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 16 | 1.33 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 17 | 1.42 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 18 | 1.50 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 19 | 1.58 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 20 | 1.67 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 21 | 1.75 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 22 | 1.83 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 23 | 1.92 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 24 | 2.00 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 25 | 2.08 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 26 | 2.17 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 27 | 2.25 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 28 | 2.33 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 29 | 2.42 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 30 | 2.50 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 31 | 2.58 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 32 | 2.67 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 33 | 2.75 | 1.00 | 0.300 | 0.088 | ( 0.270) | 0.212 |
| 34 | 2.83 | 1.00 | 0.300 | 0.088 | ( 0.270) | 0.212 |
| 35 | 2.92 | 1.00 | 0.300 | 0.088 | ( 0.270) | 0.212 |
| 36 | 3.00 | 1.00 | 0.300 | 0.088 | ( 0.270) | 0.212 |
| 37 | 3.08 | 1.00 | 0.300 | 0.088 | ( 0.270) | 0.212 |
| 38 | 3.17 | 1.10 | 0.330 | 0.088 | ( 0.297) | 0.242 |
| 39 | 3.25 | 1.10 | 0.330 | 0.088 | ( 0.297) | 0.242 |
| 40 | 3.33 | 1.10 | 0.330 | 0.088 | ( 0.297) | 0.242 |
| 41 | 3.42 | 1.20 | 0.360 | 0.088 | ( 0.324) | 0.272 |
| 42 | 3.50 | 1.30 | 0.390 | 0.088 | ( 0.351) | 0.302 |
| 43 | 3.58 | 1.40 | 0.420 | 0.088 | ( 0.378) | 0.332 |
| 44 | 3.67 | 1.40 | 0.420 | 0.088 | ( 0.378) | 0.332 |
| 45 | 3.75 | 1.50 | 0.450 | 0.088 | ( 0.405) | 0.362 |
| 46 | 3.83 | 1.50 | 0.450 | 0.088 | ( 0.405) | 0.362 |
| 47 | 3.92 | 1.60 | 0.480 | 0.088 | ( 0.432) | 0.392 |
| 48 | 4.00 | 1.60 | 0.480 | 0.088 | ( 0.432) | 0.392 |
| 49 | 4.08 | 1.70 | 0.510 | 0.088 | ( 0.459) | 0.422 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 50 | 4.17 | 1.80 | 0.540 | 0.088 | ( 0.486) | 0.452 | |
| 51 | 4.25 | 1.90 | 0.570 | 0.088 | ( 0.513) | 0.482 | |
| 52 | 4.33 | 2.00 | 0.600 | 0.088 | ( 0.540) | 0.512 | |
| 53 | 4.42 | 2.10 | 0.630 | 0.088 | ( 0.567) | 0.542 | |
| 54 | 4.50 | 2.10 | 0.630 | 0.088 | ( 0.567) | 0.542 | |
| 55 | 4.58 | 2.20 | 0.660 | 0.088 | ( 0.594) | 0.572 | |
| 56 | 4.67 | 2.30 | 0.690 | 0.088 | ( 0.621) | 0.602 | |
| 57 | 4.75 | 2.40 | 0.720 | 0.088 | ( 0.648) | 0.632 | |
| 58 | 4.83 | 2.40 | 0.720 | 0.088 | ( 0.648) | 0.632 | |
| 59 | 4.92 | 2.50 | 0.750 | 0.088 | ( 0.675) | 0.662 | |
| 60 | 5.00 | 2.60 | 0.780 | 0.088 | ( 0.702) | 0.692 | |
| 61 | 5.08 | 3.10 | 0.930 | 0.088 | ( 0.837) | 0.842 | |
| 62 | 5.17 | 3.60 | 1.080 | 0.088 | ( 0.972) | 0.992 | |
| 63 | 5.25 | 3.90 | 1.170 | 0.088 | ( 1.053) | 1.082 | |
| 64 | 5.33 | 4.20 | 1.260 | 0.088 | ( 1.134) | 1.172 | |
| 65 | 5.42 | 4.70 | 1.410 | 0.088 | ( 1.269) | 1.322 | |
| 66 | 5.50 | 5.60 | 1.680 | 0.088 | ( 1.512) | 1.592 | |
| 67 | 5.58 | 1.90 | 0.570 | 0.088 | ( 0.513) | 0.482 | |
| 68 | 5.67 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 | |
| 69 | 5.75 | 0.60 | 0.180 | 0.088 | ( 0.162) | 0.092 | |
| 70 | 5.83 | 0.50 | 0.150 | 0.088 | ( 0.135) | 0.062 | |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.088) | 0.081 | 0.009 | |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.088) | 0.054 | 0.006 | |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.7

Flood volume = Effective rainfall 1.98(In)
times area 31.0(Ac.)/[(In)/(Ft.)] = 5.1(Ac.Ft)
Total soil loss = 0.52(In)
Total soil loss = 1.354(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 222325.5 Cubic Feet
Total soil loss = 58969.5 Cubic Feet

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Peak flow rate of this hydrograph = 41.443(CFS)

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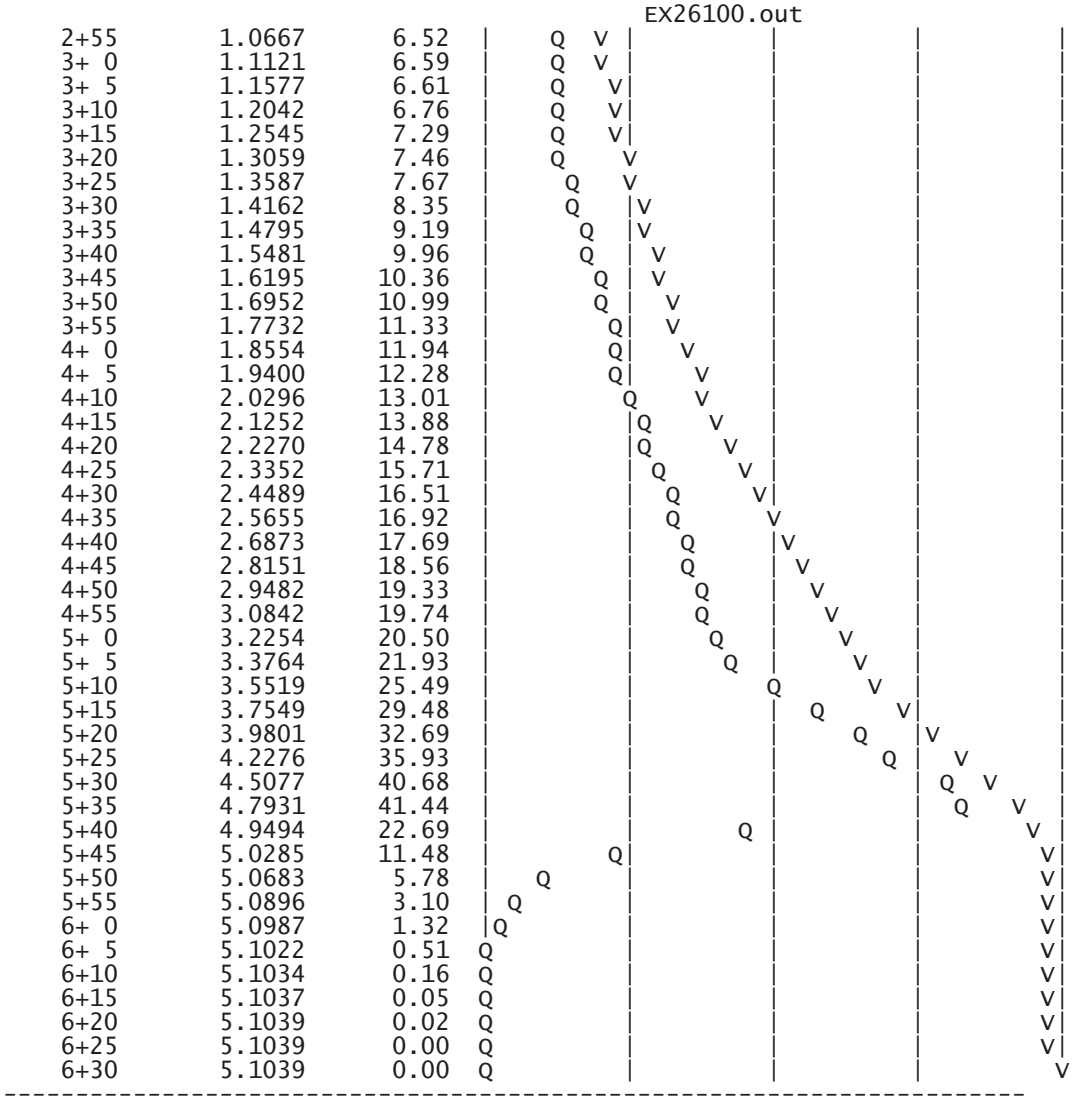
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 12.5 | 25.0 | 37.5 | 50.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0020 | 0.29 | Q | | | | |
| 0+10 | 0.0124 | 1.51 | VQ | | | | |
| 0+15 | 0.0288 | 2.39 | VQ | | | | |
| 0+20 | 0.0474 | 2.70 | V Q | | | | |
| 0+25 | 0.0668 | 2.81 | V Q | | | | |
| 0+30 | 0.0874 | 2.99 | V Q | | | | |
| 0+35 | 0.1117 | 3.53 | V Q | | | | |
| 0+40 | 0.1373 | 3.71 | \|VQ | | | | |
| 0+45 | 0.1633 | 3.78 | \|V Q | | | | |
| 0+50 | 0.1895 | 3.80 | \|V Q | | | | |
| 0+55 | 0.2157 | 3.81 | \|V Q | | | | |
| 1+ 0 | 0.2430 | 3.95 | \|V Q | | | | |
| 1+ 5 | 0.2738 | 4.48 | \| VQ | | | | |
| 1+10 | 0.3058 | 4.65 | \| VQ | | | | |
| 1+15 | 0.3383 | 4.72 | \| VQ | | | | |
| 1+20 | 0.3710 | 4.74 | \| VQ | | | | |
| 1+25 | 0.4037 | 4.75 | \| Q | | | | |
| 1+30 | 0.4364 | 4.75 | \| Q | | | | |
| 1+35 | 0.4691 | 4.75 | \| Q | | | | |
| 1+40 | 0.5019 | 4.75 | \| Q | | | | |
| 1+45 | 0.5346 | 4.75 | \| QV | | | | |
| 1+50 | 0.5673 | 4.75 | \| QV | | | | |
| 1+55 | 0.6001 | 4.75 | \| QV | | | | |
| 2+ 0 | 0.6338 | 4.89 | \| QV | | | | |
| 2+ 5 | 0.6701 | 5.28 | \| QV | | | | |
| 2+10 | 0.7050 | 5.06 | \| QV | | | | |
| 2+15 | 0.7428 | 5.48 | \| QV | | | | |
| 2+20 | 0.7814 | 5.61 | \| Q V | | | | |
| 2+25 | 0.8204 | 5.66 | \| Q V | | | | |
| 2+30 | 0.8595 | 5.68 | \| Q V | | | | |
| 2+35 | 0.8987 | 5.69 | \| Q V | | | | |
| 2+40 | 0.9379 | 5.69 | \| Q V | | | | |
| 2+45 | 0.9780 | 5.83 | \| Q V | | | | |
| 2+50 | 1.0218 | 6.35 | \| Q V \| | | | | |



| | | | |
|---|---|---|---|
| 2+55 | 1.0667 | 6.52 | |
| 3+ 0 | 1.1121 | 6.59 | |
| 3+ 5 | 1.1577 | 6.61 | |
| 3+10 | 1.2042 | 6.76 | |
| 3+15 | 1.2545 | 7.29 | |
| 3+20 | 1.3059 | 7.46 | |
| 3+25 | 1.3587 | 7.67 | |
| 3+30 | 1.4162 | 8.35 | |
| 3+35 | 1.4795 | 9.19 | |
| 3+40 | 1.5481 | 9.96 | |
| 3+45 | 1.6195 | 10.36 | |
| 3+50 | 1.6952 | 10.99 | |
| 3+55 | 1.7732 | 11.33 | |
| 4+ 0 | 1.8554 | 11.94 | |
| 4+ 5 | 1.9400 | 12.28 | |
| 4+10 | 2.0296 | 13.01 | |
| 4+15 | 2.1252 | 13.88 | |
| 4+20 | 2.2270 | 14.78 | |
| 4+25 | 2.3352 | 15.71 | |
| 4+30 | 2.4489 | 16.51 | |
| 4+35 | 2.5655 | 16.92 | |
| 4+40 | 2.6873 | 17.69 | |
| 4+45 | 2.8151 | 18.56 | |
| 4+50 | 2.9482 | 19.33 | |
| 4+55 | 3.0842 | 19.74 | |
| 5+ 0 | 3.2254 | 20.50 | |
| 5+ 5 | 3.3764 | 21.93 | |
| 5+10 | 3.5519 | 25.49 | |
| 5+15 | 3.7549 | 29.48 | |
| 5+20 | 3.9801 | 32.69 | |
| 5+25 | 4.2276 | 35.93 | |
| 5+30 | 4.5077 | 40.68 | |
| 5+35 | 4.7931 | 41.44 | |
| 5+40 | 4.9494 | 22.69 | |
| 5+45 | 5.0285 | 11.48 | |
| 5+50 | 5.0683 | 5.78 | |
| 5+55 | 5.0896 | 3.10 | |
| 6+ 0 | 5.0987 | 1.32 | |
| 6+ 5 | 5.1022 | 0.51 | |
| 6+10 | 5.1034 | 0.16 | |
| 6+15 | 5.1037 | 0.05 | |
| 6+20 | 5.1039 | 0.02 | |
| 6+25 | 5.1039 | 0.00 | |
| 6+30 | 5.1039 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/19/17 File: EX224100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 1
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 12-19-17

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Drainage Area = 31.00(Ac.) = 0.048 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 31.00(Ac.) = 0.048 Sq. Mi.
Length along longest watercourse = 2195.00(Ft.)
Length along longest watercourse measured to centroid = 1000.00(Ft.)
Length along longest watercourse = 0.416 Mi.
Length along longest watercourse measured to centroid = 0.189 Mi.
Difference in elevation = 522.00(Ft.)
Slope along watercourse = 1255.6538 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.082 Hr.
Lag time = 4.95 Min.
25% of lag time = 1.24 Min.
40% of lag time = 1.98 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 31.00 | 1.80 | 55.80 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 31.00 | 4.71 | 146.01 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.710(In)

Point rain (area averaged) = 4.710(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 4.710(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 31.000 | 83.73 | 0.000 |

Total Area Entered = 31.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.7 | 93.2 | 0.088 | 0.000 | 0.088 | 1.000 | 0.088 |
| | | | | | Sum (F) = | 0.088 |

Area averaged mean soil loss (F) (In/Hr) = 0.088

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 101.107 | 14.811 | 4.627 |
| 2 0.167 | 202.214 | 55.817 | 17.438 |
| 3 0.250 | 303.321 | 18.240 | 5.699 |
| 4 0.333 | 404.428 | 7.310 | 2.284 |
| 5 0.417 | 505.535 | 2.350 | 0.734 |
| 6 0.500 | 606.642 | 0.839 | 0.262 |
| 7 0.583 | 707.749 | 0.633 | 0.198 |
| | | Sum = 100.000 | Sum= 31.242 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.038 | ( 0.156) | 0.034 | 0.004 |
| 2 | 0.17 | 0.07 | 0.038 | ( 0.155) | 0.034 | 0.004 |
| 3 | 0.25 | 0.07 | 0.038 | ( 0.155) | 0.034 | 0.004 |
| 4 | 0.33 | 0.10 | 0.057 | ( 0.154) | 0.051 | 0.006 |
| 5 | 0.42 | 0.10 | 0.057 | ( 0.153) | 0.051 | 0.006 |
| 6 | 0.50 | 0.10 | 0.057 | ( 0.153) | 0.051 | 0.006 |
| 7 | 0.58 | 0.10 | 0.057 | ( 0.152) | 0.051 | 0.006 |
| 8 | 0.67 | 0.10 | 0.057 | ( 0.152) | 0.051 | 0.006 |
| 9 | 0.75 | 0.10 | 0.057 | ( 0.151) | 0.051 | 0.006 |
| 10 | 0.83 | 0.13 | 0.075 | ( 0.150) | 0.068 | 0.008 |
| 11 | 0.92 | 0.13 | 0.075 | ( 0.150) | 0.068 | 0.008 |
| 12 | 1.00 | 0.13 | 0.075 | ( 0.149) | 0.068 | 0.008 |
| 13 | 1.08 | 0.10 | 0.057 | ( 0.149) | 0.051 | 0.006 |
| 14 | 1.17 | 0.10 | 0.057 | ( 0.148) | 0.051 | 0.006 |
| 15 | 1.25 | 0.10 | 0.057 | ( 0.148) | 0.051 | 0.006 |
| 16 | 1.33 | 0.10 | 0.057 | ( 0.147) | 0.051 | 0.006 |
| 17 | 1.42 | 0.10 | 0.057 | ( 0.146) | 0.051 | 0.006 |
| 18 | 1.50 | 0.10 | 0.057 | ( 0.146) | 0.051 | 0.006 |
| 19 | 1.58 | 0.10 | 0.057 | ( 0.145) | 0.051 | 0.006 |
| 20 | 1.67 | 0.10 | 0.057 | ( 0.145) | 0.051 | 0.006 |
| 21 | 1.75 | 0.10 | 0.057 | ( 0.144) | 0.051 | 0.006 |
| 22 | 1.83 | 0.13 | 0.075 | ( 0.143) | 0.068 | 0.008 |
| 23 | 1.92 | 0.13 | 0.075 | ( 0.143) | 0.068 | 0.008 |
| 24 | 2.00 | 0.13 | 0.075 | ( 0.142) | 0.068 | 0.008 |
| 25 | 2.08 | 0.13 | 0.075 | ( 0.142) | 0.068 | 0.008 |
| 26 | 2.17 | 0.13 | 0.075 | ( 0.141) | 0.068 | 0.008 |
| 27 | 2.25 | 0.13 | 0.075 | ( 0.141) | 0.068 | 0.008 |
| 28 | 2.33 | 0.13 | 0.075 | ( 0.140) | 0.068 | 0.008 |
| 29 | 2.42 | 0.13 | 0.075 | ( 0.139) | 0.068 | 0.008 |
| 30 | 2.50 | 0.13 | 0.075 | ( 0.139) | 0.068 | 0.008 |
| 31 | 2.58 | 0.17 | 0.094 | ( 0.138) | 0.085 | 0.009 |
| 32 | 2.67 | 0.17 | 0.094 | ( 0.138) | 0.085 | 0.009 |
| 33 | 2.75 | 0.17 | 0.094 | ( 0.137) | 0.085 | 0.009 |
| 34 | 2.83 | 0.17 | 0.094 | ( 0.137) | 0.085 | 0.009 |
| 35 | 2.92 | 0.17 | 0.094 | ( 0.136) | 0.085 | 0.009 |
| 36 | 3.00 | 0.17 | 0.094 | ( 0.135) | 0.085 | 0.009 |
| 37 | 3.08 | 0.17 | 0.094 | ( 0.135) | 0.085 | 0.009 |
| 38 | 3.17 | 0.17 | 0.094 | ( 0.134) | 0.085 | 0.009 |
| 39 | 3.25 | 0.17 | 0.094 | ( 0.134) | 0.085 | 0.009 |
| 40 | 3.33 | 0.17 | 0.094 | ( 0.133) | 0.085 | 0.009 |
| 41 | 3.42 | 0.17 | 0.094 | ( 0.133) | 0.085 | 0.009 |
| 42 | 3.50 | 0.17 | 0.094 | ( 0.132) | 0.085 | 0.009 |
| 43 | 3.58 | 0.17 | 0.094 | ( 0.132) | 0.085 | 0.009 |
| 44 | 3.67 | 0.17 | 0.094 | ( 0.131) | 0.085 | 0.009 |
| 45 | 3.75 | 0.17 | 0.094 | ( 0.130) | 0.085 | 0.009 |
| 46 | 3.83 | 0.20 | 0.113 | ( 0.130) | 0.102 | 0.011 |
| 47 | 3.92 | 0.20 | 0.113 | ( 0.129) | 0.102 | 0.011 |
| 48 | 4.00 | 0.20 | 0.113 | ( 0.129) | 0.102 | 0.011 |
| 49 | 4.08 | 0.20 | 0.113 | ( 0.128) | 0.102 | 0.011 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 50 | 4.17 | 0.20 | 0.113 | ( | 0.128) | 0.102 | | 0.011 |
| 51 | 4.25 | 0.20 | 0.113 | ( | 0.127) | 0.102 | | 0.011 |
| 52 | 4.33 | 0.23 | 0.132 | ( | 0.127) | 0.119 | | 0.013 |
| 53 | 4.42 | 0.23 | 0.132 | ( | 0.126) | 0.119 | | 0.013 |
| 54 | 4.50 | 0.23 | 0.132 | ( | 0.126) | 0.119 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.132 | ( | 0.125) | 0.119 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.132 | ( | 0.124) | 0.119 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.132 | ( | 0.124) | 0.119 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.151 | | 0.123 | ( | 0.136) | 0.027 |
| 59 | 4.92 | 0.27 | 0.151 | | 0.123 | ( | 0.136) | 0.028 |
| 60 | 5.00 | 0.27 | 0.151 | | 0.122 | ( | 0.136) | 0.028 |
| 61 | 5.08 | 0.20 | 0.113 | ( | 0.122) | 0.102 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.113 | ( | 0.121) | 0.102 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.113 | ( | 0.121) | 0.102 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.132 | ( | 0.120) | 0.119 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.132 | ( | 0.120) | 0.119 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.132 | ( | 0.119) | 0.119 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.151 | | 0.119 | ( | 0.136) | 0.032 |
| 68 | 5.67 | 0.27 | 0.151 | | 0.118 | ( | 0.136) | 0.033 |
| 69 | 5.75 | 0.27 | 0.151 | | 0.118 | ( | 0.136) | 0.033 |
| 70 | 5.83 | 0.27 | 0.151 | | 0.117 | ( | 0.136) | 0.034 |
| 71 | 5.92 | 0.27 | 0.151 | | 0.117 | ( | 0.136) | 0.034 |
| 72 | 6.00 | 0.27 | 0.151 | | 0.116 | ( | 0.136) | 0.035 |
| 73 | 6.08 | 0.30 | 0.170 | | 0.116 | ( | 0.153) | 0.054 |
| 74 | 6.17 | 0.30 | 0.170 | | 0.115 | ( | 0.153) | 0.055 |
| 75 | 6.25 | 0.30 | 0.170 | | 0.114 | ( | 0.153) | 0.055 |
| 76 | 6.33 | 0.30 | 0.170 | | 0.114 | ( | 0.153) | 0.056 |
| 77 | 6.42 | 0.30 | 0.170 | | 0.113 | ( | 0.153) | 0.056 |
| 78 | 6.50 | 0.30 | 0.170 | | 0.113 | ( | 0.153) | 0.057 |
| 79 | 6.58 | 0.33 | 0.188 | | 0.112 | ( | 0.170) | 0.076 |
| 80 | 6.67 | 0.33 | 0.188 | | 0.112 | ( | 0.170) | 0.076 |
| 81 | 6.75 | 0.33 | 0.188 | | 0.111 | ( | 0.170) | 0.077 |
| 82 | 6.83 | 0.33 | 0.188 | | 0.111 | ( | 0.170) | 0.077 |
| 83 | 6.92 | 0.33 | 0.188 | | 0.110 | ( | 0.170) | 0.078 |
| 84 | 7.00 | 0.33 | 0.188 | | 0.110 | ( | 0.170) | 0.078 |
| 85 | 7.08 | 0.33 | 0.188 | | 0.109 | ( | 0.170) | 0.079 |
| 86 | 7.17 | 0.33 | 0.188 | | 0.109 | ( | 0.170) | 0.079 |
| 87 | 7.25 | 0.33 | 0.188 | | 0.108 | ( | 0.170) | 0.080 |
| 88 | 7.33 | 0.37 | 0.207 | | 0.108 | ( | 0.187) | 0.099 |
| 89 | 7.42 | 0.37 | 0.207 | | 0.107 | ( | 0.187) | 0.100 |
| 90 | 7.50 | 0.37 | 0.207 | | 0.107 | ( | 0.187) | 0.100 |
| 91 | 7.58 | 0.40 | 0.226 | | 0.106 | ( | 0.203) | 0.120 |
| 92 | 7.67 | 0.40 | 0.226 | | 0.106 | ( | 0.203) | 0.120 |
| 93 | 7.75 | 0.40 | 0.226 | | 0.105 | ( | 0.203) | 0.121 |
| 94 | 7.83 | 0.43 | 0.245 | | 0.105 | ( | 0.220) | 0.140 |
| 95 | 7.92 | 0.43 | 0.245 | | 0.105 | ( | 0.220) | 0.140 |
| 96 | 8.00 | 0.43 | 0.245 | | 0.104 | ( | 0.220) | 0.141 |
| 97 | 8.08 | 0.50 | 0.283 | | 0.104 | ( | 0.254) | 0.179 |
| 98 | 8.17 | 0.50 | 0.283 | | 0.103 | ( | 0.254) | 0.180 |
| 99 | 8.25 | 0.50 | 0.283 | | 0.103 | ( | 0.254) | 0.180 |
| 100 | 8.33 | 0.50 | 0.283 | | 0.102 | ( | 0.254) | 0.180 |
| 101 | 8.42 | 0.50 | 0.283 | | 0.102 | ( | 0.254) | 0.181 |
| 102 | 8.50 | 0.50 | 0.283 | | 0.101 | ( | 0.254) | 0.181 |
| 103 | 8.58 | 0.53 | 0.301 | | 0.101 | ( | 0.271) | 0.201 |
| 104 | 8.67 | 0.53 | 0.301 | | 0.100 | ( | 0.271) | 0.201 |
| 105 | 8.75 | 0.53 | 0.301 | | 0.100 | ( | 0.271) | 0.202 |
| 106 | 8.83 | 0.57 | 0.320 | | 0.099 | ( | 0.288) | 0.221 |
| 107 | 8.92 | 0.57 | 0.320 | | 0.099 | ( | 0.288) | 0.221 |
| 108 | 9.00 | 0.57 | 0.320 | | 0.098 | ( | 0.288) | 0.222 |
| 109 | 9.08 | 0.63 | 0.358 | | 0.098 | ( | 0.322) | 0.260 |
| 110 | 9.17 | 0.63 | 0.358 | | 0.097 | ( | 0.322) | 0.261 |
| 111 | 9.25 | 0.63 | 0.358 | | 0.097 | ( | 0.322) | 0.261 |
| 112 | 9.33 | 0.67 | 0.377 | | 0.096 | ( | 0.339) | 0.280 |
| 113 | 9.42 | 0.67 | 0.377 | | 0.096 | ( | 0.339) | 0.281 |
| 114 | 9.50 | 0.67 | 0.377 | | 0.096 | ( | 0.339) | 0.281 |
| 115 | 9.58 | 0.70 | 0.396 | | 0.095 | ( | 0.356) | 0.301 |
| 116 | 9.67 | 0.70 | 0.396 | | 0.095 | ( | 0.356) | 0.301 |
| 117 | 9.75 | 0.70 | 0.396 | | 0.094 | ( | 0.356) | 0.301 |
| 118 | 9.83 | 0.73 | 0.414 | | 0.094 | ( | 0.373) | 0.321 |
| 119 | 9.92 | 0.73 | 0.414 | | 0.093 | ( | 0.373) | 0.321 |
| 120 | 10.00 | 0.73 | 0.414 | | 0.093 | ( | 0.373) | 0.322 |
| 121 | 10.08 | 0.50 | 0.283 | | 0.092 | ( | 0.254) | 0.190 |
| 122 | 10.17 | 0.50 | 0.283 | | 0.092 | ( | 0.254) | 0.191 |
| 123 | 10.25 | 0.50 | 0.283 | | 0.091 | ( | 0.254) | 0.191 |
| 124 | 10.33 | 0.50 | 0.283 | | 0.091 | ( | 0.254) | 0.192 |
| 125 | 10.42 | 0.50 | 0.283 | | 0.091 | ( | 0.254) | 0.192 |
| 126 | 10.50 | 0.50 | 0.283 | | 0.090 | ( | 0.254) | 0.192 |
| 127 | 10.58 | 0.67 | 0.377 | | 0.090 | ( | 0.339) | 0.287 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 128 | 10.67 | 0.67 | 0.377 | 0.089 | ( 0.339) | 0.287 |
| 129 | 10.75 | 0.67 | 0.377 | 0.089 | ( 0.339) | 0.288 |
| 130 | 10.83 | 0.67 | 0.377 | 0.088 | ( 0.339) | 0.288 |
| 131 | 10.92 | 0.67 | 0.377 | 0.088 | ( 0.339) | 0.289 |
| 132 | 11.00 | 0.67 | 0.377 | 0.088 | ( 0.339) | 0.289 |
| 133 | 11.08 | 0.63 | 0.358 | 0.087 | ( 0.322) | 0.271 |
| 134 | 11.17 | 0.63 | 0.358 | 0.087 | ( 0.322) | 0.271 |
| 135 | 11.25 | 0.63 | 0.358 | 0.086 | ( 0.322) | 0.272 |
| 136 | 11.33 | 0.63 | 0.358 | 0.086 | ( 0.322) | 0.272 |
| 137 | 11.42 | 0.63 | 0.358 | 0.085 | ( 0.322) | 0.273 |
| 138 | 11.50 | 0.63 | 0.358 | 0.085 | ( 0.322) | 0.273 |
| 139 | 11.58 | 0.57 | 0.320 | 0.085 | ( 0.288) | 0.236 |
| 140 | 11.67 | 0.57 | 0.320 | 0.084 | ( 0.288) | 0.236 |
| 141 | 11.75 | 0.57 | 0.320 | 0.084 | ( 0.288) | 0.237 |
| 142 | 11.83 | 0.60 | 0.339 | 0.083 | ( 0.305) | 0.256 |
| 143 | 11.92 | 0.60 | 0.339 | 0.083 | ( 0.305) | 0.256 |
| 144 | 12.00 | 0.60 | 0.339 | 0.082 | ( 0.305) | 0.257 |
| 145 | 12.08 | 0.83 | 0.471 | 0.082 | ( 0.424) | 0.389 |
| 146 | 12.17 | 0.83 | 0.471 | 0.082 | ( 0.424) | 0.389 |
| 147 | 12.25 | 0.83 | 0.471 | 0.081 | ( 0.424) | 0.390 |
| 148 | 12.33 | 0.87 | 0.490 | 0.081 | ( 0.441) | 0.409 |
| 149 | 12.42 | 0.87 | 0.490 | 0.080 | ( 0.441) | 0.409 |
| 150 | 12.50 | 0.87 | 0.490 | 0.080 | ( 0.441) | 0.410 |
| 151 | 12.58 | 0.93 | 0.527 | 0.080 | ( 0.475) | 0.448 |
| 152 | 12.67 | 0.93 | 0.527 | 0.079 | ( 0.475) | 0.448 |
| 153 | 12.75 | 0.93 | 0.527 | 0.079 | ( 0.475) | 0.449 |
| 154 | 12.83 | 0.97 | 0.546 | 0.078 | ( 0.492) | 0.468 |
| 155 | 12.92 | 0.97 | 0.546 | 0.078 | ( 0.492) | 0.468 |
| 156 | 13.00 | 0.97 | 0.546 | 0.078 | ( 0.492) | 0.469 |
| 157 | 13.08 | 1.13 | 0.641 | 0.077 | ( 0.576) | 0.563 |
| 158 | 13.17 | 1.13 | 0.641 | 0.077 | ( 0.576) | 0.564 |
| 159 | 13.25 | 1.13 | 0.641 | 0.076 | ( 0.576) | 0.564 |
| 160 | 13.33 | 1.13 | 0.641 | 0.076 | ( 0.576) | 0.564 |
| 161 | 13.42 | 1.13 | 0.641 | 0.076 | ( 0.576) | 0.565 |
| 162 | 13.50 | 1.13 | 0.641 | 0.075 | ( 0.576) | 0.565 |
| 163 | 13.58 | 0.77 | 0.433 | 0.075 | ( 0.390) | 0.358 |
| 164 | 13.67 | 0.77 | 0.433 | 0.075 | ( 0.390) | 0.359 |
| 165 | 13.75 | 0.77 | 0.433 | 0.074 | ( 0.390) | 0.359 |
| 166 | 13.83 | 0.77 | 0.433 | 0.074 | ( 0.390) | 0.360 |
| 167 | 13.92 | 0.77 | 0.433 | 0.073 | ( 0.390) | 0.360 |
| 168 | 14.00 | 0.77 | 0.433 | 0.073 | ( 0.390) | 0.360 |
| 169 | 14.08 | 0.90 | 0.509 | 0.073 | ( 0.458) | 0.436 |
| 170 | 14.17 | 0.90 | 0.509 | 0.072 | ( 0.458) | 0.436 |
| 171 | 14.25 | 0.90 | 0.509 | 0.072 | ( 0.458) | 0.437 |
| 172 | 14.33 | 0.87 | 0.490 | 0.072 | ( 0.441) | 0.418 |
| 173 | 14.42 | 0.87 | 0.490 | 0.071 | ( 0.441) | 0.419 |
| 174 | 14.50 | 0.87 | 0.490 | 0.071 | ( 0.441) | 0.419 |
| 175 | 14.58 | 0.87 | 0.490 | 0.070 | ( 0.441) | 0.419 |
| 176 | 14.67 | 0.87 | 0.490 | 0.070 | ( 0.441) | 0.420 |
| 177 | 14.75 | 0.87 | 0.490 | 0.070 | ( 0.441) | 0.420 |
| 178 | 14.83 | 0.83 | 0.471 | 0.069 | ( 0.424) | 0.402 |
| 179 | 14.92 | 0.83 | 0.471 | 0.069 | ( 0.424) | 0.402 |
| 180 | 15.00 | 0.83 | 0.471 | 0.069 | ( 0.424) | 0.402 |
| 181 | 15.08 | 0.80 | 0.452 | 0.068 | ( 0.407) | 0.384 |
| 182 | 15.17 | 0.80 | 0.452 | 0.068 | ( 0.407) | 0.384 |
| 183 | 15.25 | 0.80 | 0.452 | 0.068 | ( 0.407) | 0.385 |
| 184 | 15.33 | 0.77 | 0.433 | 0.067 | ( 0.390) | 0.366 |
| 185 | 15.42 | 0.77 | 0.433 | 0.067 | ( 0.390) | 0.366 |
| 186 | 15.50 | 0.77 | 0.433 | 0.067 | ( 0.390) | 0.367 |
| 187 | 15.58 | 0.63 | 0.358 | 0.066 | ( 0.322) | 0.292 |
| 188 | 15.67 | 0.63 | 0.358 | 0.066 | ( 0.322) | 0.292 |
| 189 | 15.75 | 0.63 | 0.358 | 0.066 | ( 0.322) | 0.292 |
| 190 | 15.83 | 0.63 | 0.358 | 0.065 | ( 0.322) | 0.293 |
| 191 | 15.92 | 0.63 | 0.358 | 0.065 | ( 0.322) | 0.293 |
| 192 | 16.00 | 0.63 | 0.358 | 0.065 | ( 0.322) | 0.293 |
| 193 | 16.08 | 0.13 | 0.075 | 0.064 | ( 0.068) | 0.011 |
| 194 | 16.17 | 0.13 | 0.075 | 0.064 | ( 0.068) | 0.011 |
| 195 | 16.25 | 0.13 | 0.075 | 0.064 | ( 0.068) | 0.012 |
| 196 | 16.33 | 0.13 | 0.075 | 0.063 | ( 0.068) | 0.012 |
| 197 | 16.42 | 0.13 | 0.075 | 0.063 | ( 0.068) | 0.012 |
| 198 | 16.50 | 0.13 | 0.075 | 0.063 | ( 0.068) | 0.013 |
| 199 | 16.58 | 0.10 | 0.057 | ( 0.062) | 0.051 | 0.006 |
| 200 | 16.67 | 0.10 | 0.057 | ( 0.062) | 0.051 | 0.006 |
| 201 | 16.75 | 0.10 | 0.057 | ( 0.062) | 0.051 | 0.006 |
| 202 | 16.83 | 0.10 | 0.057 | ( 0.061) | 0.051 | 0.006 |
| 203 | 16.92 | 0.10 | 0.057 | ( 0.061) | 0.051 | 0.006 |
| 204 | 17.00 | 0.10 | 0.057 | ( 0.061) | 0.051 | 0.006 |
| 205 | 17.08 | 0.17 | 0.094 | 0.060 | ( 0.085) | 0.034 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 206 | 17.17 | 0.17 | 0.094 | | 0.060 | ( | 0.085) | 0.034 |
| 207 | 17.25 | 0.17 | 0.094 | | 0.060 | ( | 0.085) | 0.034 |
| 208 | 17.33 | 0.17 | 0.094 | | 0.060 | ( | 0.085) | 0.035 |
| 209 | 17.42 | 0.17 | 0.094 | | 0.059 | ( | 0.085) | 0.035 |
| 210 | 17.50 | 0.17 | 0.094 | | 0.059 | ( | 0.085) | 0.035 |
| 211 | 17.58 | 0.17 | 0.094 | | 0.059 | ( | 0.085) | 0.036 |
| 212 | 17.67 | 0.17 | 0.094 | | 0.058 | ( | 0.085) | 0.036 |
| 213 | 17.75 | 0.17 | 0.094 | | 0.058 | ( | 0.085) | 0.036 |
| 214 | 17.83 | 0.13 | 0.075 | | 0.058 | ( | 0.068) | 0.018 |
| 215 | 17.92 | 0.13 | 0.075 | | 0.057 | ( | 0.068) | 0.018 |
| 216 | 18.00 | 0.13 | 0.075 | | 0.057 | ( | 0.068) | 0.018 |
| 217 | 18.08 | 0.13 | 0.075 | | 0.057 | ( | 0.068) | 0.018 |
| 218 | 18.17 | 0.13 | 0.075 | | 0.057 | ( | 0.068) | 0.019 |
| 219 | 18.25 | 0.13 | 0.075 | | 0.056 | ( | 0.068) | 0.019 |
| 220 | 18.33 | 0.13 | 0.075 | | 0.056 | ( | 0.068) | 0.019 |
| 221 | 18.42 | 0.13 | 0.075 | | 0.056 | ( | 0.068) | 0.020 |
| 222 | 18.50 | 0.13 | 0.075 | | 0.056 | ( | 0.068) | 0.020 |
| 223 | 18.58 | 0.10 | 0.057 | ( | 0.055) | | 0.051 | 0.006 |
| 224 | 18.67 | 0.10 | 0.057 | ( | 0.055) | | 0.051 | 0.006 |
| 225 | 18.75 | 0.10 | 0.057 | ( | 0.055) | | 0.051 | 0.006 |
| 226 | 18.83 | 0.07 | 0.038 | ( | 0.054) | | 0.034 | 0.004 |
| 227 | 18.92 | 0.07 | 0.038 | ( | 0.054) | | 0.034 | 0.004 |
| 228 | 19.00 | 0.07 | 0.038 | ( | 0.054) | | 0.034 | 0.004 |
| 229 | 19.08 | 0.10 | 0.057 | ( | 0.054) | | 0.051 | 0.006 |
| 230 | 19.17 | 0.10 | 0.057 | ( | 0.053) | | 0.051 | 0.006 |
| 231 | 19.25 | 0.10 | 0.057 | ( | 0.053) | | 0.051 | 0.006 |
| 232 | 19.33 | 0.13 | 0.075 | | 0.053 | ( | 0.068) | 0.022 |
| 233 | 19.42 | 0.13 | 0.075 | | 0.053 | ( | 0.068) | 0.023 |
| 234 | 19.50 | 0.13 | 0.075 | | 0.052 | ( | 0.068) | 0.023 |
| 235 | 19.58 | 0.10 | 0.057 | ( | 0.052) | | 0.051 | 0.006 |
| 236 | 19.67 | 0.10 | 0.057 | ( | 0.052) | | 0.051 | 0.006 |
| 237 | 19.75 | 0.10 | 0.057 | ( | 0.052) | | 0.051 | 0.006 |
| 238 | 19.83 | 0.07 | 0.038 | ( | 0.052) | | 0.034 | 0.004 |
| 239 | 19.92 | 0.07 | 0.038 | ( | 0.051) | | 0.034 | 0.004 |
| 240 | 20.00 | 0.07 | 0.038 | ( | 0.051) | | 0.034 | 0.004 |
| 241 | 20.08 | 0.10 | 0.057 | | 0.051 | ( | 0.051) | 0.006 |
| 242 | 20.17 | 0.10 | 0.057 | | 0.051 | ( | 0.051) | 0.006 |
| 243 | 20.25 | 0.10 | 0.057 | | 0.050 | ( | 0.051) | 0.006 |
| 244 | 20.33 | 0.10 | 0.057 | | 0.050 | ( | 0.051) | 0.006 |
| 245 | 20.42 | 0.10 | 0.057 | | 0.050 | ( | 0.051) | 0.007 |
| 246 | 20.50 | 0.10 | 0.057 | | 0.050 | ( | 0.051) | 0.007 |
| 247 | 20.58 | 0.10 | 0.057 | | 0.050 | ( | 0.051) | 0.007 |
| 248 | 20.67 | 0.10 | 0.057 | | 0.049 | ( | 0.051) | 0.007 |
| 249 | 20.75 | 0.10 | 0.057 | | 0.049 | ( | 0.051) | 0.007 |
| 250 | 20.83 | 0.07 | 0.038 | ( | 0.049) | | 0.034 | 0.004 |
| 251 | 20.92 | 0.07 | 0.038 | ( | 0.049) | | 0.034 | 0.004 |
| 252 | 21.00 | 0.07 | 0.038 | ( | 0.049) | | 0.034 | 0.004 |
| 253 | 21.08 | 0.10 | 0.057 | | 0.048 | ( | 0.051) | 0.008 |
| 254 | 21.17 | 0.10 | 0.057 | | 0.048 | ( | 0.051) | 0.008 |
| 255 | 21.25 | 0.10 | 0.057 | | 0.048 | ( | 0.051) | 0.009 |
| 256 | 21.33 | 0.07 | 0.038 | ( | 0.048) | | 0.034 | 0.004 |
| 257 | 21.42 | 0.07 | 0.038 | ( | 0.048) | | 0.034 | 0.004 |
| 258 | 21.50 | 0.07 | 0.038 | ( | 0.047) | | 0.034 | 0.004 |
| 259 | 21.58 | 0.10 | 0.057 | | 0.047 | ( | 0.051) | 0.009 |
| 260 | 21.67 | 0.10 | 0.057 | | 0.047 | ( | 0.051) | 0.009 |
| 261 | 21.75 | 0.10 | 0.057 | | 0.047 | ( | 0.051) | 0.010 |
| 262 | 21.83 | 0.07 | 0.038 | ( | 0.047) | | 0.034 | 0.004 |
| 263 | 21.92 | 0.07 | 0.038 | ( | 0.047) | | 0.034 | 0.004 |
| 264 | 22.00 | 0.07 | 0.038 | ( | 0.046) | | 0.034 | 0.004 |
| 265 | 22.08 | 0.10 | 0.057 | | 0.046 | ( | 0.051) | 0.010 |
| 266 | 22.17 | 0.10 | 0.057 | | 0.046 | ( | 0.051) | 0.010 |
| 267 | 22.25 | 0.10 | 0.057 | | 0.046 | ( | 0.051) | 0.011 |
| 268 | 22.33 | 0.07 | 0.038 | ( | 0.046) | | 0.034 | 0.004 |
| 269 | 22.42 | 0.07 | 0.038 | ( | 0.046) | | 0.034 | 0.004 |
| 270 | 22.50 | 0.07 | 0.038 | ( | 0.046) | | 0.034 | 0.004 |
| 271 | 22.58 | 0.07 | 0.038 | ( | 0.045) | | 0.034 | 0.004 |
| 272 | 22.67 | 0.07 | 0.038 | ( | 0.045) | | 0.034 | 0.004 |
| 273 | 22.75 | 0.07 | 0.038 | ( | 0.045) | | 0.034 | 0.004 |
| 274 | 22.83 | 0.07 | 0.038 | ( | 0.045) | | 0.034 | 0.004 |
| 275 | 22.92 | 0.07 | 0.038 | ( | 0.045) | | 0.034 | 0.004 |
| 276 | 23.00 | 0.07 | 0.038 | ( | 0.045) | | 0.034 | 0.004 |
| 277 | 23.08 | 0.07 | 0.038 | ( | 0.045) | | 0.034 | 0.004 |
| 278 | 23.17 | 0.07 | 0.038 | ( | 0.045) | | 0.034 | 0.004 |
| 279 | 23.25 | 0.07 | 0.038 | ( | 0.045) | | 0.034 | 0.004 |
| 280 | 23.33 | 0.07 | 0.038 | ( | 0.044) | | 0.034 | 0.004 |
| 281 | 23.42 | 0.07 | 0.038 | ( | 0.044) | | 0.034 | 0.004 |
| 282 | 23.50 | 0.07 | 0.038 | ( | 0.044) | | 0.034 | 0.004 |
| 283 | 23.58 | 0.07 | 0.038 | ( | 0.044) | | 0.034 | 0.004 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 284 | 23.67 | 0.07 | 0.038 | ( | 0.044) | 0.034 | 0.004 |
| 285 | 23.75 | 0.07 | 0.038 | ( | 0.044) | 0.034 | 0.004 |
| 286 | 23.83 | 0.07 | 0.038 | ( | 0.044) | 0.034 | 0.004 |
| 287 | 23.92 | 0.07 | 0.038 | ( | 0.044) | 0.034 | 0.004 |
| 288 | 24.00 | 0.07 | 0.038 | ( | 0.044) | 0.034 | 0.004 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 35.5

Flood volume = Effective rainfall 2.96(In)
times area 31.0(Ac.)/[(In)/(Ft.)] = 7.6(Ac.Ft)
Total soil loss = 1.75(In)
Total soil loss = 4.528(Ac.Ft)
Total rainfall = 4.71(In)
Flood volume = 332740.8 Cubic Feet
Total soil loss = 197243.4 Cubic Feet

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Peak flow rate of this hydrograph = 17.634(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

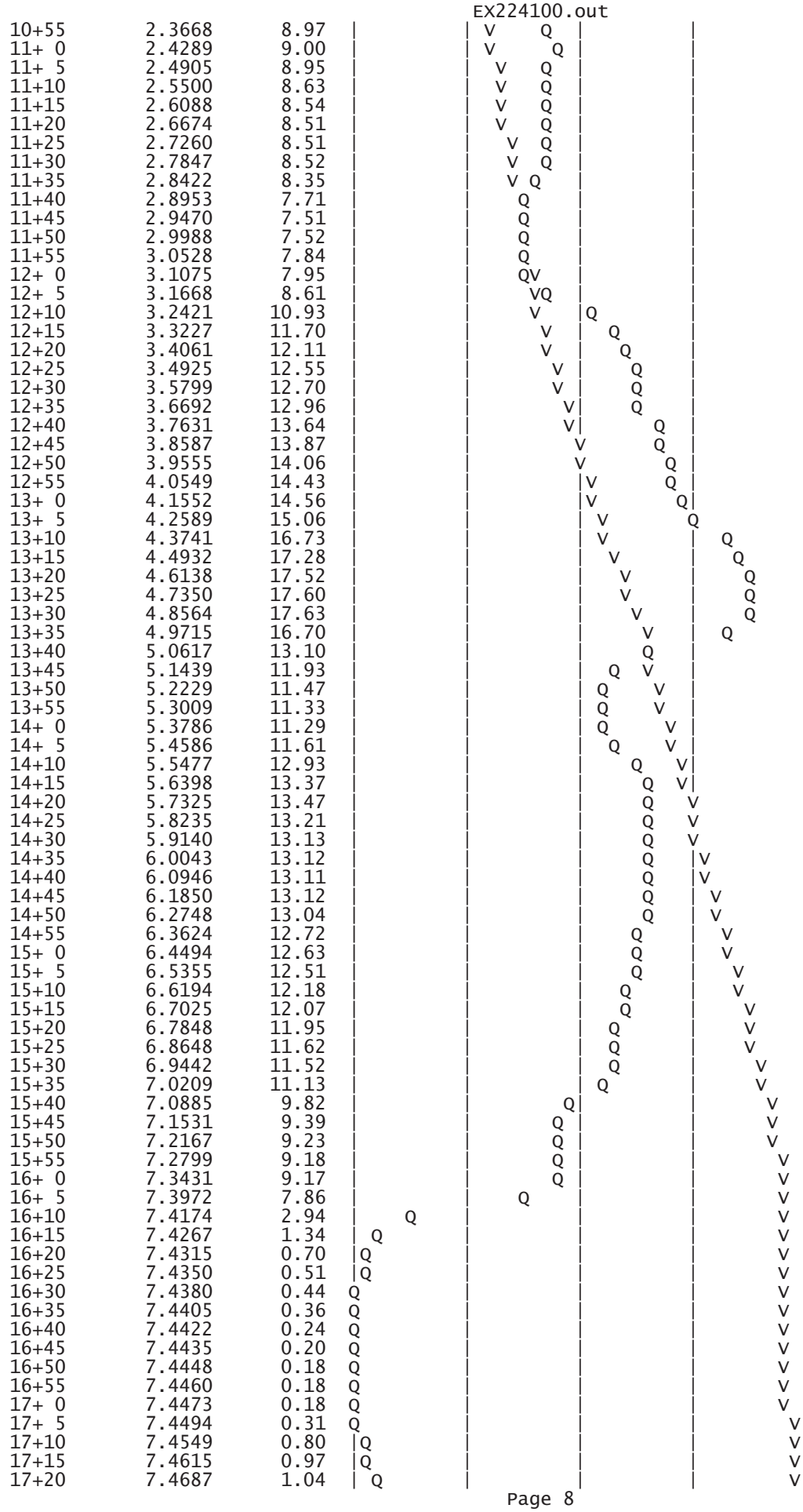
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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 5.0 | 10.0 | 15.0 | 20.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0001 | 0.02 | Q | | | | |
| 0+10 | 0.0007 | 0.08 | Q | | | | |
| 0+15 | 0.0014 | 0.10 | Q | | | | |
| 0+20 | 0.0023 | 0.12 | Q | | | | |
| 0+25 | 0.0033 | 0.16 | Q | | | | |
| 0+30 | 0.0045 | 0.17 | Q | | | | |
| 0+35 | 0.0057 | 0.17 | Q | | | | |
| 0+40 | 0.0069 | 0.18 | Q | | | | |
| 0+45 | 0.0081 | 0.18 | Q | | | | |
| 0+50 | 0.0094 | 0.19 | Q | | | | |
| 0+55 | 0.0109 | 0.22 | Q | | | | |
| 1+ 0 | 0.0125 | 0.23 | Q | | | | |
| 1+ 5 | 0.0140 | 0.22 | Q | | | | |
| 1+10 | 0.0154 | 0.19 | Q | | | | |
| 1+15 | 0.0166 | 0.18 | Q | | | | |
| 1+20 | 0.0179 | 0.18 | Q | | | | |
| 1+25 | 0.0191 | 0.18 | Q | | | | |
| 1+30 | 0.0203 | 0.18 | Q | | | | |
| 1+35 | 0.0215 | 0.18 | Q | | | | |
| 1+40 | 0.0227 | 0.18 | Q | | | | |
| 1+45 | 0.0239 | 0.18 | Q | | | | |
| 1+50 | 0.0252 | 0.19 | Q | | | | |
| 1+55 | 0.0267 | 0.22 | Q | | | | |
| 2+ 0 | 0.0283 | 0.23 | Q | | | | |
| 2+ 5 | 0.0299 | 0.23 | Q | | | | |
| 2+10 | 0.0315 | 0.23 | Q | | | | |
| 2+15 | 0.0331 | 0.24 | Q | | | | |
| 2+20 | 0.0348 | 0.24 | Q | | | | |
| 2+25 | 0.0364 | 0.24 | Q | | | | |
| 2+30 | 0.0380 | 0.24 | Q | | | | |
| 2+35 | 0.0397 | 0.24 | Q | | | | |
| 2+40 | 0.0416 | 0.28 | Q | | | | |
| 2+45 | 0.0436 | 0.29 | Q | | | | |
| 2+50 | 0.0456 | 0.29 | Q | | | | |
| 2+55 | 0.0476 | 0.29 | Q | | | | |
| 3+ 0 | 0.0496 | 0.29 | Q | | | | |
| 3+ 5 | 0.0517 | 0.29 | Q | | | | |
| 3+10 | 0.0537 | 0.29 | Q | | | | |
| 3+15 | 0.0557 | 0.29 | Q | | | | |
| 3+20 | 0.0578 | 0.29 | Q | | | | |
| 3+25 | 0.0598 | 0.29 | Q | | | | |
| 3+30 | 0.0618 | 0.29 | Q | | | | |
| 3+35 | 0.0638 | 0.29 | Q | | | | |
| 3+40 | 0.0659 | 0.29 | Q | | | | |
| 3+45 | 0.0679 | 0.29 | Q | | | | |
| 3+50 | 0.0700 | 0.30 | Q | | | | |
| 3+55 | 0.0723 | 0.34 | Q | | | | |
| 4+ 0 | 0.0747 | 0.35 | Q | | | | |
| 4+ 5 | 0.0771 | 0.35 | Q | | | | |
| 4+10 | 0.0795 | 0.35 | Q | | | | |
| 4+15 | 0.0820 | 0.35 | Q | | | | |
| 4+20 | 0.0845 | 0.36 | Q | | | | |

```
 4+25       0.0872      0.39  Q          |          |          |          |
 4+30       0.0900      0.41  Q          |          |          |          |
 4+35       0.0928      0.41  Q          |          |          |          |
 4+40       0.0956      0.41  Q          |          |          |          |
 4+45       0.0985      0.41  Q          |          |          |          |
 4+50       0.1018      0.48  Q          |          |          |          |
 4+55       0.1068      0.73  VQ         |          |          |          |
 5+ 0       0.1124      0.82  VQ         |          |          |          |
 5+ 5       0.1178      0.78  VQ         |          |          |          |
 5+10       0.1213      0.50  VQ         |          |          |          |
 5+15       0.1241      0.41  Q          |          |          |          |
 5+20       0.1267      0.38  Q          |          |          |          |
 5+25       0.1295      0.40  Q          |          |          |          |
 5+30       0.1323      0.41  Q          |          |          |          |
 5+35       0.1357      0.50  Q          |          |          |          |
 5+40       0.1414      0.83  VQ         |          |          |          |
 5+45       0.1480      0.95  VQ         |          |          |          |
 5+50       0.1549      1.01  V Q        |          |          |          |
 5+55       0.1621      1.04  V Q        |          |          |          |
 6+ 0       0.1694      1.06  V Q        |          |          |          |
 6+ 5       0.1774      1.17  V Q        |          |          |          |
 6+10       0.1878      1.51  V  Q       |          |          |          |
 6+15       0.1991      1.63  |V Q       |          |          |          |
 6+20       0.2107      1.69  |V Q       |          |          |          |
 6+25       0.2226      1.72  |V Q       |          |          |          |
 6+30       0.2346      1.74  |V Q       |          |          |          |
 6+35       0.2474      1.85  |V Q       |          |          |          |
 6+40       0.2625      2.20  |V  Q      |          |          |          |
 6+45       0.2785      2.32  |V  Q      |          |          |          |
 6+50       0.2948      2.38  |V  Q      |          |          |          |
 6+55       0.3114      2.41  |V  Q      |          |          |          |
 7+ 0       0.3281      2.43  |V  Q      |          |          |          |
 7+ 5       0.3450      2.45  |V  Q      |          |          |          |
 7+10       0.3619      2.46  |V  Q      |          |          |          |
 7+15       0.3790      2.48  |V  Q      |          |          |          |
 7+20       0.3968      2.58  | V  Q     |          |          |          |
 7+25       0.4169      2.93  | V  Q     |          |          |          |
 7+30       0.4379      3.05  | V   Q    |          |          |          |
 7+35       0.4599      3.19  | V   Q    |          |          |          |
 7+40       0.4844      3.55  | V    Q   |          |          |          |
 7+45       0.5097      3.68  | V    Q   |          |          |          |
 7+50       0.5361      3.83  | V    Q   |          |          |          |
 7+55       0.5649      4.19  | V     Q  |          |          |          |
 8+ 0       0.5947      4.31  |  V    Q  |          |          |          |
 8+ 5       0.6260      4.55  |  V     Q |          |          |          |
 8+10       0.6621      5.24  |  V      Q|          |          |          |
 8+15       0.6997      5.47  |  V      Q|          |          |          |
 8+20       0.7381      5.58  |  V      Q|          |          |          |
 8+25       0.7768      5.62  |   V     Q|          |          |          |
 8+30       0.8157      5.64  |   V     Q|          |          |          |
 8+35       0.8553      5.75  |   V     Q|          |          |          |
 8+40       0.8973      6.10  |   V     Q|          |          |          |
 8+45       0.9402      6.22  |   V     Q|          |          |          |
 8+50       0.9840      6.36  |    V    Q|          |          |          |
 8+55       1.0303      6.72  |    V    Q|          |          |          |
 9+ 0       1.0775      6.85  |    V    Q|          |          |          |
 9+ 5       1.1263      7.08  |    V    Q|          |          |          |
 9+10       1.1798      7.77  |     V   Q|          |          |          |
 9+15       1.2349      8.00  |     V    Q          |          |          |
 9+20       1.2913      8.20  |     V    Q          |          |          |
 9+25       1.3503      8.57  |      V    Q         |          |          |
 9+30       1.4103      8.70  |      V    Q         |          |          |
 9+35       1.4712      8.85  |      V    Q         |          |          |
 9+40       1.5346      9.21  |       V    Q        |          |          |
 9+45       1.5989      9.33  |       V    Q        |          |          |
 9+50       1.6642      9.48  |       V    Q        |          |          |
 9+55       1.7320      9.84  |        V    Q       |          |          |
10+ 0       1.8006      9.97  |        V    Q       |          |          |
10+ 5       1.8655      9.42  |        V   Q        |          |          |
10+10       1.9147      7.14  |         V  Q        |          |          |
10+15       1.9588      6.41  |         V Q         |          |          |
10+20       2.0010      6.13  |         V Q         |          |          |
10+25       2.0426      6.04  |         V Q         |          |          |
10+30       2.0841      6.02  |         V Q         |          |          |
10+35       2.1285      6.45  |         |VQ         |          |          |
10+40       2.1843      8.10  |         |V   Q      |          |          |
10+45       2.2439      8.65  |         |V    Q     |          |          |
10+50       2.3051      8.88  |         | V   Q     |          |          |
```



| | | | |
|---|---|---|---|
| 10+55 | 2.3668 | 8.97 | |
| 11+ 0 | 2.4289 | 9.00 | |
| 11+ 5 | 2.4905 | 8.95 | |
| 11+10 | 2.5500 | 8.63 | |
| 11+15 | 2.6088 | 8.54 | |
| 11+20 | 2.6674 | 8.51 | |
| 11+25 | 2.7260 | 8.51 | |
| 11+30 | 2.7847 | 8.52 | |
| 11+35 | 2.8422 | 8.35 | |
| 11+40 | 2.8953 | 7.71 | |
| 11+45 | 2.9470 | 7.51 | |
| 11+50 | 2.9988 | 7.52 | |
| 11+55 | 3.0528 | 7.84 | |
| 12+ 0 | 3.1075 | 7.95 | |
| 12+ 5 | 3.1668 | 8.61 | |
| 12+10 | 3.2421 | 10.93 | |
| 12+15 | 3.3227 | 11.70 | |
| 12+20 | 3.4061 | 12.11 | |
| 12+25 | 3.4925 | 12.55 | |
| 12+30 | 3.5799 | 12.70 | |
| 12+35 | 3.6692 | 12.96 | |
| 12+40 | 3.7631 | 13.64 | |
| 12+45 | 3.8587 | 13.87 | |
| 12+50 | 3.9555 | 14.06 | |
| 12+55 | 4.0549 | 14.43 | |
| 13+ 0 | 4.1552 | 14.56 | |
| 13+ 5 | 4.2589 | 15.06 | |
| 13+10 | 4.3741 | 16.73 | |
| 13+15 | 4.4932 | 17.28 | |
| 13+20 | 4.6138 | 17.52 | |
| 13+25 | 4.7350 | 17.60 | |
| 13+30 | 4.8564 | 17.63 | |
| 13+35 | 4.9715 | 16.70 | |
| 13+40 | 5.0617 | 13.10 | |
| 13+45 | 5.1439 | 11.93 | |
| 13+50 | 5.2229 | 11.47 | |
| 13+55 | 5.3009 | 11.33 | |
| 14+ 0 | 5.3786 | 11.29 | |
| 14+ 5 | 5.4586 | 11.61 | |
| 14+10 | 5.5477 | 12.93 | |
| 14+15 | 5.6398 | 13.37 | |
| 14+20 | 5.7325 | 13.47 | |
| 14+25 | 5.8235 | 13.21 | |
| 14+30 | 5.9140 | 13.13 | |
| 14+35 | 6.0043 | 13.12 | |
| 14+40 | 6.0946 | 13.11 | |
| 14+45 | 6.1850 | 13.12 | |
| 14+50 | 6.2748 | 13.04 | |
| 14+55 | 6.3624 | 12.72 | |
| 15+ 0 | 6.4494 | 12.63 | |
| 15+ 5 | 6.5355 | 12.51 | |
| 15+10 | 6.6194 | 12.18 | |
| 15+15 | 6.7025 | 12.07 | |
| 15+20 | 6.7848 | 11.95 | |
| 15+25 | 6.8648 | 11.62 | |
| 15+30 | 6.9442 | 11.52 | |
| 15+35 | 7.0209 | 11.13 | |
| 15+40 | 7.0885 | 9.82 | |
| 15+45 | 7.1531 | 9.39 | |
| 15+50 | 7.2167 | 9.23 | |
| 15+55 | 7.2799 | 9.18 | |
| 16+ 0 | 7.3431 | 9.17 | |
| 16+ 5 | 7.3972 | 7.86 | |
| 16+10 | 7.4174 | 2.94 | |
| 16+15 | 7.4267 | 1.34 | |
| 16+20 | 7.4315 | 0.70 | |
| 16+25 | 7.4350 | 0.51 | |
| 16+30 | 7.4380 | 0.44 | |
| 16+35 | 7.4405 | 0.36 | |
| 16+40 | 7.4422 | 0.24 | |
| 16+45 | 7.4435 | 0.20 | |
| 16+50 | 7.4448 | 0.18 | |
| 16+55 | 7.4460 | 0.18 | |
| 17+ 0 | 7.4473 | 0.18 | |
| 17+ 5 | 7.4494 | 0.31 | |
| 17+10 | 7.4549 | 0.80 | |
| 17+15 | 7.4615 | 0.97 | |
| 17+20 | 7.4687 | 1.04 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+25 | 7.4761 | 1.07 | \| Q | \| | \| | \| | V\| |
| 17+30 | 7.4835 | 1.09 | \| Q | \| | \| | \| | V\| |
| 17+35 | 7.4911 | 1.10 | \| Q | \| | \| | \| | V\| |
| 17+40 | 7.4987 | 1.11 | \| Q | \| | \| | \| | V\| |
| 17+45 | 7.5064 | 1.12 | \| Q | \| | \| | \| | V\| |
| 17+50 | 7.5136 | 1.04 | \| Q | \| | \| | \| | V\| |
| 17+55 | 7.5186 | 0.72 | \|Q | \| | \| | \| | V\| |
| 18+ 0 | 7.5229 | 0.62 | \|Q | \| | \| | \| | V\| |
| 18+ 5 | 7.5269 | 0.59 | \|Q | \| | \| | \| | V\| |
| 18+10 | 7.5309 | 0.58 | \|Q | \| | \| | \| | V\| |
| 18+15 | 7.5350 | 0.59 | \|Q | \| | \| | \| | V\| |
| 18+20 | 7.5390 | 0.59 | \|Q | \| | \| | \| | V\| |
| 18+25 | 7.5432 | 0.60 | \|Q | \| | \| | \| | V\| |
| 18+30 | 7.5474 | 0.61 | \|Q | \| | \| | \| | V\| |
| 18+35 | 7.5512 | 0.55 | \|Q | \| | \| | \| | V\| |
| 18+40 | 7.5533 | 0.31 | Q | \| | \| | \| | V\| |
| 18+45 | 7.5548 | 0.23 | Q | \| | \| | \| | V\| |
| 18+50 | 7.5561 | 0.18 | Q | \| | \| | \| | V\| |
| 18+55 | 7.5571 | 0.14 | Q | \| | \| | \| | V\| |
| 19+ 0 | 7.5579 | 0.13 | Q | \| | \| | \| | V\| |
| 19+ 5 | 7.5588 | 0.13 | Q | \| | \| | \| | V\| |
| 19+10 | 7.5599 | 0.16 | Q | \| | \| | \| | V\| |
| 19+15 | 7.5611 | 0.17 | Q | \| | \| | \| | V\| |
| 19+20 | 7.5628 | 0.25 | Q | \| | \| | \| | V\| |
| 19+25 | 7.5666 | 0.55 | \|Q | \| | \| | \| | V\| |
| 19+30 | 7.5711 | 0.65 | \|Q | \| | \| | \| | V\| |
| 19+35 | 7.5753 | 0.61 | \|Q | \| | \| | \| | V\| |
| 19+40 | 7.5775 | 0.33 | Q | \| | \| | \| | V\| |
| 19+45 | 7.5791 | 0.23 | Q | \| | \| | \| | V\| |
| 19+50 | 7.5804 | 0.19 | Q | \| | \| | \| | V\| |
| 19+55 | 7.5814 | 0.14 | Q | \| | \| | \| | V\| |
| 20+ 0 | 7.5823 | 0.13 | Q | \| | \| | \| | V\| |
| 20+ 5 | 7.5832 | 0.13 | Q | \| | \| | \| | V\| |
| 20+10 | 7.5843 | 0.16 | Q | \| | \| | \| | V\| |
| 20+15 | 7.5855 | 0.18 | Q | \| | \| | \| | V\| |
| 20+20 | 7.5868 | 0.19 | Q | \| | \| | \| | V\| |
| 20+25 | 7.5882 | 0.20 | Q | \| | \| | \| | V\| |
| 20+30 | 7.5896 | 0.20 | Q | \| | \| | \| | V\| |
| 20+35 | 7.5910 | 0.21 | Q | \| | \| | \| | V\| |
| 20+40 | 7.5925 | 0.22 | Q | \| | \| | \| | V\| |
| 20+45 | 7.5940 | 0.22 | Q | \| | \| | \| | V\| |
| 20+50 | 7.5955 | 0.21 | Q | \| | \| | \| | V\| |
| 20+55 | 7.5965 | 0.15 | Q | \| | \| | \| | V\| |
| 21+ 0 | 7.5974 | 0.13 | Q | \| | \| | \| | V\| |
| 21+ 5 | 7.5984 | 0.14 | Q | \| | \| | \| | V\| |
| 21+10 | 7.5999 | 0.22 | Q | \| | \| | \| | V\| |
| 21+15 | 7.6016 | 0.25 | Q | \| | \| | \| | V\| |
| 21+20 | 7.6032 | 0.24 | Q | \| | \| | \| | V\| |
| 21+25 | 7.6043 | 0.16 | Q | \| | \| | \| | V\| |
| 21+30 | 7.6053 | 0.13 | Q | \| | \| | \| | V\| |
| 21+35 | 7.6063 | 0.15 | Q | \| | \| | \| | V\| |
| 21+40 | 7.6080 | 0.24 | Q | \| | \| | \| | V\| |
| 21+45 | 7.6099 | 0.28 | Q | \| | \| | \| | V\| |
| 21+50 | 7.6117 | 0.26 | Q | \| | \| | \| | V\| |
| 21+55 | 7.6128 | 0.17 | Q | \| | \| | \| | V\| |
| 22+ 0 | 7.6138 | 0.14 | Q | \| | \| | \| | V\| |
| 22+ 5 | 7.6148 | 0.15 | Q | \| | \| | \| | V\| |
| 22+10 | 7.6167 | 0.26 | Q | \| | \| | \| | V\| |
| 22+15 | 7.6188 | 0.30 | Q | \| | \| | \| | V\| |
| 22+20 | 7.6207 | 0.29 | Q | \| | \| | \| | V\| |
| 22+25 | 7.6220 | 0.18 | Q | \| | \| | \| | V\| |
| 22+30 | 7.6229 | 0.14 | Q | \| | \| | \| | V\| |
| 22+35 | 7.6238 | 0.13 | Q | \| | \| | \| | V\| |
| 22+40 | 7.6246 | 0.12 | Q | \| | \| | \| | V\| |
| 22+45 | 7.6254 | 0.12 | Q | \| | \| | \| | V\| |
| 22+50 | 7.6263 | 0.12 | Q | \| | \| | \| | V\| |
| 22+55 | 7.6271 | 0.12 | Q | \| | \| | \| | V\| |
| 23+ 0 | 7.6279 | 0.12 | Q | \| | \| | \| | V\| |
| 23+ 5 | 7.6287 | 0.12 | Q | \| | \| | \| | V\| |
| 23+10 | 7.6295 | 0.12 | Q | \| | \| | \| | V\| |
| 23+15 | 7.6303 | 0.12 | Q | \| | \| | \| | V\| |
| 23+20 | 7.6311 | 0.12 | Q | \| | \| | \| | V\| |
| 23+25 | 7.6319 | 0.12 | Q | \| | \| | \| | V\| |
| 23+30 | 7.6327 | 0.12 | Q | \| | \| | \| | V\| |
| 23+35 | 7.6336 | 0.12 | Q | \| | \| | \| | V\| |
| 23+40 | 7.6344 | 0.12 | Q | \| | \| | \| | V\| |
| 23+45 | 7.6352 | 0.12 | Q | \| | \| | \| | V\| |
| 23+50 | 7.6360 | 0.12 | Q | \| | \| | \| | V\| |

```
   23+55       7.6368      0.12  Q          |          |          |         V|
   24+ 0       7.6376      0.12  Q          |          |          |         V|
   24+ 5       7.6383      0.10  Q          |          |          |         V|
   24+10       7.6385      0.03  Q          |          |          |         V|
   24+15       7.6386      0.01  Q          |          |          |         V|
   24+20       7.6387      0.00  Q          |          |          |         V|
   24+25       7.6387      0.00  Q          |          |          |         V|
   24+30       7.6387      0.00  Q          |          |          |         V|
-------------------------------------------------------------------------
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/19/17 File: EX31100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 3
100-YEAR STORM EVENT
BY: JDN, DATE: 12-19-17

---

Drainage Area = 6.40(Ac.) = 0.010 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 6.40(Ac.) = 0.010 Sq. Mi.
Length along longest watercourse = 991.00(Ft.)
Length along longest watercourse measured to centroid = 436.00(Ft.)
Length along longest watercourse = 0.188 Mi.
Length along longest watercourse measured to centroid = 0.083 Mi.
Difference in elevation = 142.00(Ft.)
Slope along watercourse = 756.5691 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.049 Hr.
Lag time = 2.94 Min.
25% of lag time = 0.73 Min.
40% of lag time = 1.17 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.40 | 0.50 | 3.20 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.40 | 1.20 | 7.68 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 6.400 | 83.81 | 0.000 |

Total Area Entered = 6.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.8 | 93.3 | 0.087 | 0.000 | 0.087 | 1.000 | 0.087 |
| | | | | | Sum (F) = | 0.087 |

Area averaged mean soil loss (F) (In/Hr) = 0.087

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

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| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 170.298 | 35.761 | 2.307 |
| 2 | 0.167 | 340.596 | 52.705 | 3.399 |
| 3 | 0.250 | 510.894 | 9.510 | 0.613 |
| 4 | 0.333 | 681.192 | 1.618 | 0.104 |
| 5 | 0.417 | 851.490 | 0.406 | 0.026 |
| | | Sum = 100.000 | Sum= | 6.450 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.087 | ( 0.544) | 0.517 |
| 2 | 0.17 | 4.30 | 0.619 | 0.087 | ( 0.557) | 0.532 |
| 3 | 0.25 | 5.00 | 0.720 | 0.087 | ( 0.648) | 0.633 |
| 4 | 0.33 | 5.00 | 0.720 | 0.087 | ( 0.648) | 0.633 |
| 5 | 0.42 | 5.80 | 0.835 | 0.087 | ( 0.752) | 0.748 |
| 6 | 0.50 | 6.50 | 0.936 | 0.087 | ( 0.842) | 0.849 |
| 7 | 0.58 | 7.40 | 1.066 | 0.087 | ( 0.959) | 0.978 |
| 8 | 0.67 | 8.60 | 1.238 | 0.087 | ( 1.114) | 1.151 |
| 9 | 0.75 | 12.30 | 1.771 | 0.087 | ( 1.594) | 1.684 |
| 10 | 0.83 | 29.10 | 4.190 | 0.087 | ( 3.771) | 4.103 |
| 11 | 0.92 | 6.80 | 0.979 | 0.087 | ( 0.881) | 0.892 |
| 12 | 1.00 | 5.00 | 0.720 | 0.087 | ( 0.648) | 0.633 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 13.4 |

Flood volume = Effective rainfall 1.11(In)
times area 6.4(Ac.)/[(In)/(Ft.)] = 0.6(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.047(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 25849.0 Cubic Feet
Total soil loss = 2027.7 Cubic Feet

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Peak flow rate of this hydrograph = 17.192(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 5.0 | 10.0 | 15.0 | 20.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0082 | 1.19 | V Q | | | | |
| 0+10 | 0.0288 | 2.99 | V Q | | | | |
| 0+15 | 0.0535 | 3.59 | V Q | | | | |
| 0+20 | 0.0810 | 3.99 | V Q | | | | |
| 0+25 | 0.1109 | 4.34 | VQ | | | | |
| 0+30 | 0.1451 | 4.97 | Q | | | | |
| 0+35 | 0.1842 | 5.69 | QV | | | | |
| 0+40 | 0.2297 | 6.60 | Q V | | | | |
| 0+45 | 0.2883 | 8.51 | Q V | | | | |
| 0+50 | 0.3987 | 16.03 | | | V | Q | |
| 0+55 | 0.5171 | 17.19 | | | | Q | |
| 1+ 0 | 0.5668 | 7.22 | Q | | | V | |
| 1+ 5 | 0.5886 | 3.17 | Q | | | V | |
| 1+10 | 0.5927 | 0.59 | Q | | | V | |
| 1+15 | 0.5933 | 0.09 | Q | | | V | |
| 1+20 | 0.5934 | 0.02 | Q | | | V | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/19/17 File: EX33100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 3
100-YEAR STORM EVENT
BY: JDN, DATE: 12-19-17

---

Drainage Area = 6.40(Ac.) = 0.010 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 6.40(Ac.) = 0.010 Sq. Mi.
Length along longest watercourse = 991.00(Ft.)
Length along longest watercourse measured to centroid = 436.00(Ft.)
Length along longest watercourse = 0.188 Mi.
Length along longest watercourse measured to centroid = 0.083 Mi.
Difference in elevation = 142.00(Ft.)
Slope along watercourse = 756.5691 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.049 Hr.
Lag time = 2.94 Min.
25% of lag time = 0.73 Min.
40% of lag time = 1.17 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.40 | 0.81 | 5.18 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.40 | 1.81 | 11.58 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.810(In)
Area Averaged 100-Year Rainfall = 1.810(In)

Point rain (area averaged) = 1.810(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.810(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 6.400 | 83.81 | 0.000 |

Total Area Entered = 6.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.8 | 93.3 | 0.087 | 0.000 | 0.087 | 1.000 | 0.087 |
| | | | | | Sum (F) = | 0.087 |

Area averaged mean soil loss (F) (In/Hr) = 0.087

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 170.298 | 35.761 | 2.307 |
| 2 | 0.167 | 340.596 | 52.705 | 3.399 |
| 3 | 0.250 | 510.894 | 9.510 | 0.613 |
| 4 | 0.333 | 681.192 | 1.618 | 0.104 |
| 5 | 0.417 | 851.490 | 0.406 | 0.026 |
| | | | Sum = 100.000 | Sum= 6.450 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.282 | 0.087 | ( 0.254) | 0.195 |
| 2 | 0.17 | 1.30 | 0.282 | 0.087 | ( 0.254) | 0.195 |
| 3 | 0.25 | 1.10 | 0.239 | 0.087 | ( 0.215) | 0.152 |
| 4 | 0.33 | 1.50 | 0.326 | 0.087 | ( 0.293) | 0.239 |
| 5 | 0.42 | 1.50 | 0.326 | 0.087 | ( 0.293) | 0.239 |
| 6 | 0.50 | 1.80 | 0.391 | 0.087 | ( 0.352) | 0.304 |
| 7 | 0.58 | 1.50 | 0.326 | 0.087 | ( 0.293) | 0.239 |
| 8 | 0.67 | 1.80 | 0.391 | 0.087 | ( 0.352) | 0.304 |
| 9 | 0.75 | 1.80 | 0.391 | 0.087 | ( 0.352) | 0.304 |
| 10 | 0.83 | 1.50 | 0.326 | 0.087 | ( 0.293) | 0.239 |
| 11 | 0.92 | 1.60 | 0.348 | 0.087 | ( 0.313) | 0.260 |
| 12 | 1.00 | 1.80 | 0.391 | 0.087 | ( 0.352) | 0.304 |
| 13 | 1.08 | 2.20 | 0.478 | 0.087 | ( 0.430) | 0.391 |
| 14 | 1.17 | 2.20 | 0.478 | 0.087 | ( 0.430) | 0.391 |
| 15 | 1.25 | 2.20 | 0.478 | 0.087 | ( 0.430) | 0.391 |
| 16 | 1.33 | 2.00 | 0.434 | 0.087 | ( 0.391) | 0.347 |
| 17 | 1.42 | 2.60 | 0.565 | 0.087 | ( 0.508) | 0.477 |
| 18 | 1.50 | 2.70 | 0.586 | 0.087 | ( 0.528) | 0.499 |
| 19 | 1.58 | 2.40 | 0.521 | 0.087 | ( 0.469) | 0.434 |
| 20 | 1.67 | 2.70 | 0.586 | 0.087 | ( 0.528) | 0.499 |
| 21 | 1.75 | 3.30 | 0.717 | 0.087 | ( 0.645) | 0.629 |
| 22 | 1.83 | 3.10 | 0.673 | 0.087 | ( 0.606) | 0.586 |
| 23 | 1.92 | 2.90 | 0.630 | 0.087 | ( 0.567) | 0.543 |
| 24 | 2.00 | 3.00 | 0.652 | 0.087 | ( 0.586) | 0.564 |
| 25 | 2.08 | 3.10 | 0.673 | 0.087 | ( 0.606) | 0.586 |
| 26 | 2.17 | 4.20 | 0.912 | 0.087 | ( 0.821) | 0.825 |
| 27 | 2.25 | 5.00 | 1.086 | 0.087 | ( 0.977) | 0.999 |
| 28 | 2.33 | 3.50 | 0.760 | 0.087 | ( 0.684) | 0.673 |
| 29 | 2.42 | 6.80 | 1.477 | 0.087 | ( 1.329) | 1.390 |
| 30 | 2.50 | 7.30 | 1.586 | 0.087 | ( 1.427) | 1.498 |
| 31 | 2.58 | 8.20 | 1.781 | 0.087 | ( 1.603) | 1.694 |
| 32 | 2.67 | 5.90 | 1.281 | 0.087 | ( 1.153) | 1.194 |
| 33 | 2.75 | 2.00 | 0.434 | 0.087 | ( 0.391) | 0.347 |
| 34 | 2.83 | 1.80 | 0.391 | 0.087 | ( 0.352) | 0.304 |
| 35 | 2.92 | 1.80 | 0.391 | 0.087 | ( 0.352) | 0.304 |
| 36 | 3.00 | 0.60 | 0.130 | 0.087 | ( 0.117) | 0.043 |
| | | (Loss Rate Not Used) | | | |
| Sum = | | 100.0 | | | Sum = 18.6 |

Flood volume = Effective rainfall 1.55(In)
times area 6.4(Ac.)/[(In)/(Ft.)] = 0.8(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.140(Ac.Ft)
Total rainfall = 1.81(In)
Flood volume = 35965.5 Cubic Feet
Total soil loss = 6083.2 Cubic Feet

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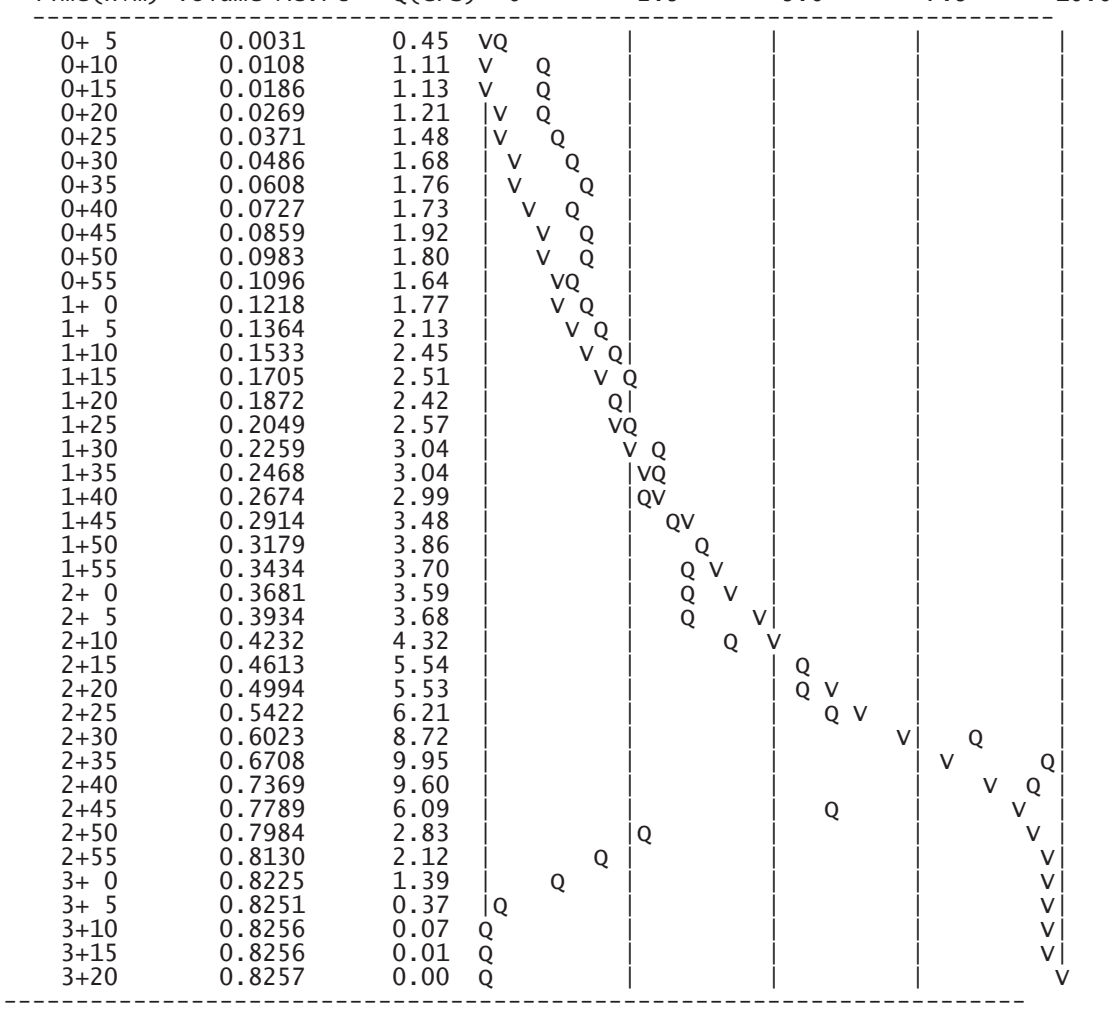
Peak flow rate of this hydrograph = 9.954(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))



U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/19/17 File: EX36100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 3
100-YEAR STORM EVENT
BY: JDN, DATE: 12-19-17

---

Drainage Area = 6.40(Ac.) = 0.010 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 6.40(Ac.) = 0.010 Sq. Mi.
Length along longest watercourse = 991.00(Ft.)
Length along longest watercourse measured to centroid = 436.00(Ft.)
Length along longest watercourse = 0.188 Mi.
Length along longest watercourse measured to centroid = 0.083 Mi.
Difference in elevation = 142.00(Ft.)
Slope along watercourse = 756.5691 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.049 Hr.
Lag time = 2.94 Min.
25% of lag time = 0.73 Min.
40% of lag time = 1.17 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.40 | 1.14 | 7.30 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.40 | 2.50 | 16.00 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.140(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 6.400 | 83.81 | 0.000 |

Total Area Entered = 6.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.8 | 93.3 | 0.087 | 0.000 | 0.087 | 1.000 | 0.087 |
| | | | | | Sum (F) = | 0.087 |

Area averaged mean soil loss (F) (In/Hr) = 0.087

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 170.298 | 35.761 | 2.307 |
| 2 0.167 | 340.596 | 52.705 | 3.399 |
| 3 0.250 | 510.894 | 9.510 | 0.613 |
| 4 0.333 | 681.192 | 1.618 | 0.104 |
| 5 0.417 | 851.490 | 0.406 | 0.026 |
| | Sum = | 100.000 Sum= | 6.450 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.087 | ( 0.135) | 0.063 |
| 2 | 0.17 | 0.60 | 0.180 | 0.087 | ( 0.162) | 0.093 |
| 3 | 0.25 | 0.60 | 0.180 | 0.087 | ( 0.162) | 0.093 |
| 4 | 0.33 | 0.60 | 0.180 | 0.087 | ( 0.162) | 0.093 |
| 5 | 0.42 | 0.60 | 0.180 | 0.087 | ( 0.162) | 0.093 |
| 6 | 0.50 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 7 | 0.58 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 8 | 0.67 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 9 | 0.75 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 10 | 0.83 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 11 | 0.92 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 12 | 1.00 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 13 | 1.08 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 14 | 1.17 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 15 | 1.25 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 16 | 1.33 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 17 | 1.42 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 18 | 1.50 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 19 | 1.58 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 20 | 1.67 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 21 | 1.75 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 22 | 1.83 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 23 | 1.92 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 24 | 2.00 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 25 | 2.08 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 26 | 2.17 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 27 | 2.25 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 28 | 2.33 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 29 | 2.42 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 30 | 2.50 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 31 | 2.58 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 32 | 2.67 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 33 | 2.75 | 1.00 | 0.300 | 0.087 | ( 0.270) | 0.213 |
| 34 | 2.83 | 1.00 | 0.300 | 0.087 | ( 0.270) | 0.213 |
| 35 | 2.92 | 1.00 | 0.300 | 0.087 | ( 0.270) | 0.213 |
| 36 | 3.00 | 1.00 | 0.300 | 0.087 | ( 0.270) | 0.213 |
| 37 | 3.08 | 1.00 | 0.300 | 0.087 | ( 0.270) | 0.213 |
| 38 | 3.17 | 1.10 | 0.330 | 0.087 | ( 0.297) | 0.243 |
| 39 | 3.25 | 1.10 | 0.330 | 0.087 | ( 0.297) | 0.243 |
| 40 | 3.33 | 1.10 | 0.330 | 0.087 | ( 0.297) | 0.243 |
| 41 | 3.42 | 1.20 | 0.360 | 0.087 | ( 0.324) | 0.273 |
| 42 | 3.50 | 1.30 | 0.390 | 0.087 | ( 0.351) | 0.303 |
| 43 | 3.58 | 1.40 | 0.420 | 0.087 | ( 0.378) | 0.333 |
| 44 | 3.67 | 1.40 | 0.420 | 0.087 | ( 0.378) | 0.333 |
| 45 | 3.75 | 1.50 | 0.450 | 0.087 | ( 0.405) | 0.363 |
| 46 | 3.83 | 1.50 | 0.450 | 0.087 | ( 0.405) | 0.363 |
| 47 | 3.92 | 1.60 | 0.480 | 0.087 | ( 0.432) | 0.393 |
| 48 | 4.00 | 1.60 | 0.480 | 0.087 | ( 0.432) | 0.393 |
| 49 | 4.08 | 1.70 | 0.510 | 0.087 | ( 0.459) | 0.423 |
| 50 | 4.17 | 1.80 | 0.540 | 0.087 | ( 0.486) | 0.453 |
| 51 | 4.25 | 1.90 | 0.570 | 0.087 | ( 0.513) | 0.483 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 52 | 4.33 | 2.00 | 0.600 | 0.087 | ( 0.540) | 0.513 | |
| 53 | 4.42 | 2.10 | 0.630 | 0.087 | ( 0.567) | 0.543 | |
| 54 | 4.50 | 2.10 | 0.630 | 0.087 | ( 0.567) | 0.543 | |
| 55 | 4.58 | 2.20 | 0.660 | 0.087 | ( 0.594) | 0.573 | |
| 56 | 4.67 | 2.30 | 0.690 | 0.087 | ( 0.621) | 0.603 | |
| 57 | 4.75 | 2.40 | 0.720 | 0.087 | ( 0.648) | 0.633 | |
| 58 | 4.83 | 2.40 | 0.720 | 0.087 | ( 0.648) | 0.633 | |
| 59 | 4.92 | 2.50 | 0.750 | 0.087 | ( 0.675) | 0.663 | |
| 60 | 5.00 | 2.60 | 0.780 | 0.087 | ( 0.702) | 0.693 | |
| 61 | 5.08 | 3.10 | 0.930 | 0.087 | ( 0.837) | 0.843 | |
| 62 | 5.17 | 3.60 | 1.080 | 0.087 | ( 0.972) | 0.993 | |
| 63 | 5.25 | 3.90 | 1.170 | 0.087 | ( 1.053) | 1.083 | |
| 64 | 5.33 | 4.20 | 1.260 | 0.087 | ( 1.134) | 1.173 | |
| 65 | 5.42 | 4.70 | 1.410 | 0.087 | ( 1.269) | 1.323 | |
| 66 | 5.50 | 5.60 | 1.680 | 0.087 | ( 1.512) | 1.593 | |
| 67 | 5.58 | 1.90 | 0.570 | 0.087 | ( 0.513) | 0.483 | |
| 68 | 5.67 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 | |
| 69 | 5.75 | 0.60 | 0.180 | 0.087 | ( 0.162) | 0.093 | |
| 70 | 5.83 | 0.50 | 0.150 | 0.087 | ( 0.135) | 0.063 | |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.087) | 0.081 | 0.009 | |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.087) | 0.054 | 0.006 | |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.8

Flood volume = Effective rainfall 1.98(In)
times area 6.4(Ac.)/[(In)/(Ft.)] = 1.1(Ac.Ft)
Total soil loss = 0.52(In)
Total soil loss = 0.278(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 45988.9 Cubic Feet
Total soil loss = 12089.8 Cubic Feet

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Peak flow rate of this hydrograph = 9.033(CFS)

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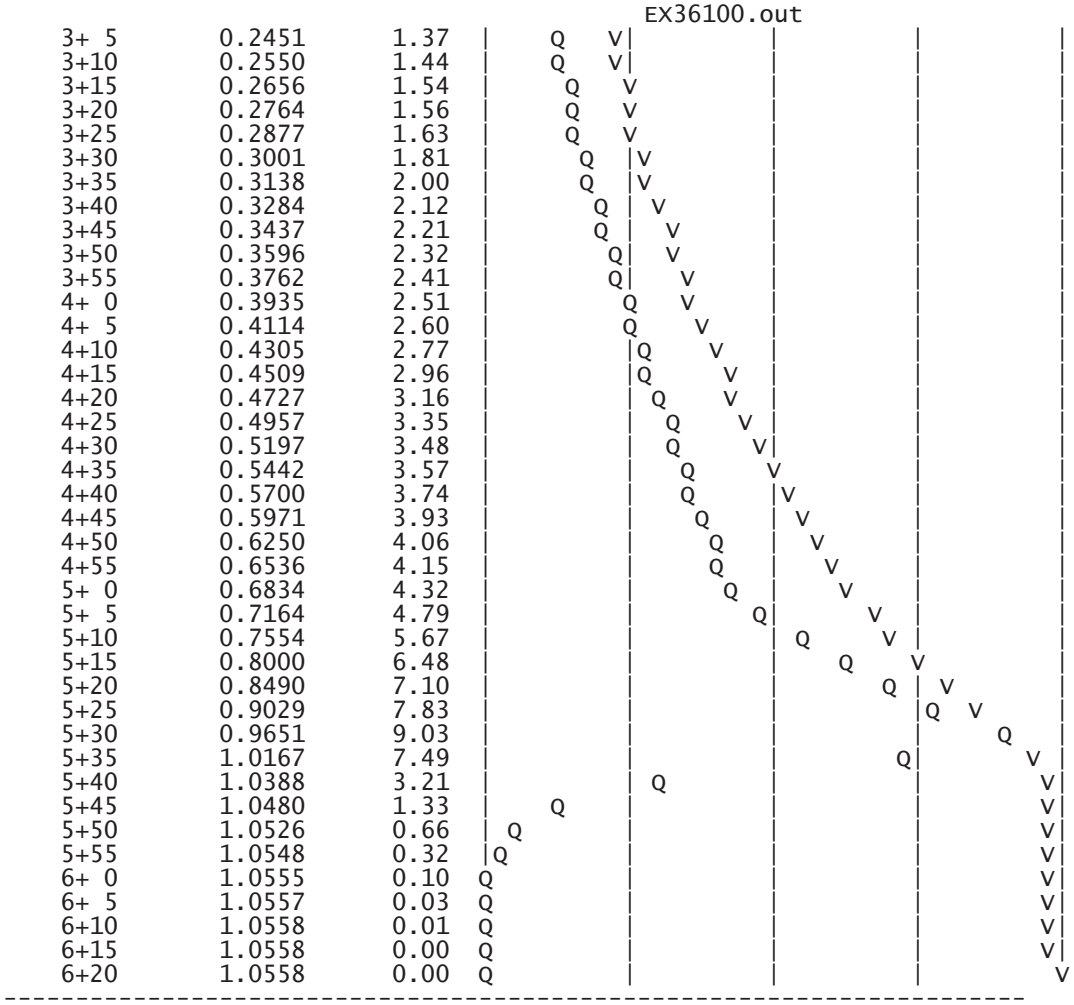
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0010 | 0.14 | Q | \| | \| | \| | \| |
| 0+10 | 0.0039 | 0.43 | VQ | \| | \| | \| | \| |
| 0+15 | 0.0078 | 0.57 | V Q | \| | \| | \| | \| |
| 0+20 | 0.0119 | 0.59 | V Q | \| | \| | \| | \| |
| 0+25 | 0.0160 | 0.60 | V Q | \| | \| | \| | \| |
| 0+30 | 0.0206 | 0.67 | V Q | \| | \| | \| | \| |
| 0+35 | 0.0259 | 0.77 | V Q | \| | \| | \| | \| |
| 0+40 | 0.0314 | 0.79 | \|V Q | \| | \| | \| | \| |
| 0+45 | 0.0368 | 0.79 | \|V Q | \| | \| | \| | \| |
| 0+50 | 0.0423 | 0.79 | \|V Q | \| | \| | \| | \| |
| 0+55 | 0.0477 | 0.79 | \|V Q | \| | \| | \| | \| |
| 1+ 0 | 0.0537 | 0.86 | \| VQ | \| | \| | \| | \| |
| 1+ 5 | 0.0603 | 0.96 | \| VQ | \| | \| | \| | \| |
| 1+10 | 0.0671 | 0.98 | \| VQ | \| | \| | \| | \| |
| 1+15 | 0.0738 | 0.98 | \| VQ | \| | \| | \| | \| |
| 1+20 | 0.0806 | 0.99 | \| Q | \| | \| | \| | \| |
| 1+25 | 0.0874 | 0.99 | \| Q | \| | \| | \| | \| |
| 1+30 | 0.0942 | 0.99 | \| Q | \| | \| | \| | \| |
| 1+35 | 0.1010 | 0.99 | \| Q | \| | \| | \| | \| |
| 1+40 | 0.1078 | 0.99 | \| QV | \| | \| | \| | \| |
| 1+45 | 0.1146 | 0.99 | \| QV | \| | \| | \| | \| |
| 1+50 | 0.1213 | 0.99 | \| QV | \| | \| | \| | \| |
| 1+55 | 0.1281 | 0.99 | \| QV | \| | \| | \| | \| |
| 2+ 0 | 0.1354 | 1.05 | \| QV | \| | \| | \| | \| |
| 2+ 5 | 0.1429 | 1.09 | \| QV | \| | \| | \| | \| |
| 2+10 | 0.1503 | 1.07 | \| QV | \| | \| | \| | \| |
| 2+15 | 0.1583 | 1.16 | \| QV | \| | \| | \| | \| |
| 2+20 | 0.1664 | 1.18 | \| Q V | \| | \| | \| | \| |
| 2+25 | 0.1745 | 1.18 | \| Q V | \| | \| | \| | \| |
| 2+30 | 0.1826 | 1.18 | \| Q V | \| | \| | \| | \| |
| 2+35 | 0.1907 | 1.18 | \| Q V | \| | \| | \| | \| |
| 2+40 | 0.1988 | 1.18 | \| Q V | \| | \| | \| | \| |
| 2+45 | 0.2074 | 1.25 | \| Q V | \| | \| | \| | \| |
| 2+50 | 0.2167 | 1.35 | \| Q V | \| | \| | \| | \| |
| 2+55 | 0.2262 | 1.37 | \| Q V | \| | \| | \| | \| |
| 3+ 0 | 0.2356 | 1.37 | \| Q V | \| | \| | \| | \| |



| | | | |
|---|---|---|---|
| 3+ 5 | 0.2451 | 1.37 | |
| 3+10 | 0.2550 | 1.44 | |
| 3+15 | 0.2656 | 1.54 | |
| 3+20 | 0.2764 | 1.56 | |
| 3+25 | 0.2877 | 1.63 | |
| 3+30 | 0.3001 | 1.81 | |
| 3+35 | 0.3138 | 2.00 | |
| 3+40 | 0.3284 | 2.12 | |
| 3+45 | 0.3437 | 2.21 | |
| 3+50 | 0.3596 | 2.32 | |
| 3+55 | 0.3762 | 2.41 | |
| 4+ 0 | 0.3935 | 2.51 | |
| 4+ 5 | 0.4114 | 2.60 | |
| 4+10 | 0.4305 | 2.77 | |
| 4+15 | 0.4509 | 2.96 | |
| 4+20 | 0.4727 | 3.16 | |
| 4+25 | 0.4957 | 3.35 | |
| 4+30 | 0.5197 | 3.48 | |
| 4+35 | 0.5442 | 3.57 | |
| 4+40 | 0.5700 | 3.74 | |
| 4+45 | 0.5971 | 3.93 | |
| 4+50 | 0.6250 | 4.06 | |
| 4+55 | 0.6536 | 4.15 | |
| 5+ 0 | 0.6834 | 4.32 | |
| 5+ 5 | 0.7164 | 4.79 | |
| 5+10 | 0.7554 | 5.67 | |
| 5+15 | 0.8000 | 6.48 | |
| 5+20 | 0.8490 | 7.10 | |
| 5+25 | 0.9029 | 7.83 | |
| 5+30 | 0.9651 | 9.03 | |
| 5+35 | 1.0167 | 7.49 | |
| 5+40 | 1.0388 | 3.21 | |
| 5+45 | 1.0480 | 1.33 | |
| 5+50 | 1.0526 | 0.66 | |
| 5+55 | 1.0548 | 0.32 | |
| 6+ 0 | 1.0555 | 0.10 | |
| 6+ 5 | 1.0557 | 0.03 | |
| 6+10 | 1.0558 | 0.01 | |
| 6+15 | 1.0558 | 0.00 | |
| 6+20 | 1.0558 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/19/17 File: EX324100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 3
100-YEAR STORM EVENT
BY: JDN, DATE: 12-19-17

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Drainage Area = 6.40(Ac.) = 0.010 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 6.40(Ac.) = 0.010 Sq. Mi.
Length along longest watercourse = 991.00(Ft.)
Length along longest watercourse measured to centroid = 436.00(Ft.)
Length along longest watercourse = 0.188 Mi.
Length along longest watercourse measured to centroid = 0.083 Mi.
Difference in elevation = 142.00(Ft.)
Slope along watercourse = 756.5691 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.049 Hr.
Lag time = 2.94 Min.
25% of lag time = 0.73 Min.
40% of lag time = 1.17 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.40 | 1.80 | 11.52 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.40 | 4.66 | 29.82 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.660(In)

Point rain (area averaged) = 4.660(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.660(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 6.400 | 83.81 | 0.000 |

Total Area Entered = 6.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.8 | 93.3 | 0.087 | 0.000 | 0.087 | 1.000 | 0.087 |
| | | | | | Sum (F) = | 0.087 |

Area averaged mean soil loss (F) (In/Hr) = 0.087

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 170.298 | 35.761 | 2.307 |
| 2 0.167 | 340.596 | 52.705 | 3.399 |
| 3 0.250 | 510.894 | 9.510 | 0.613 |
| 4 0.333 | 681.192 | 1.618 | 0.104 |
| 5 0.417 | 851.490 | 0.406 | 0.026 |
| | Sum = | 100.000 Sum= | 6.450 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 0.07 | 0.037 | ( 0.155) | 0.034 | 0.004 |
| 2 0.17 | 0.07 | 0.037 | ( 0.154) | 0.034 | 0.004 |
| 3 0.25 | 0.07 | 0.037 | ( 0.154) | 0.034 | 0.004 |
| 4 0.33 | 0.10 | 0.056 | ( 0.153) | 0.050 | 0.006 |
| 5 0.42 | 0.10 | 0.056 | ( 0.152) | 0.050 | 0.006 |
| 6 0.50 | 0.10 | 0.056 | ( 0.152) | 0.050 | 0.006 |
| 7 0.58 | 0.10 | 0.056 | ( 0.151) | 0.050 | 0.006 |
| 8 0.67 | 0.10 | 0.056 | ( 0.151) | 0.050 | 0.006 |
| 9 0.75 | 0.10 | 0.056 | ( 0.150) | 0.050 | 0.006 |
| 10 0.83 | 0.13 | 0.075 | ( 0.149) | 0.067 | 0.007 |
| 11 0.92 | 0.13 | 0.075 | ( 0.149) | 0.067 | 0.007 |
| 12 1.00 | 0.13 | 0.075 | ( 0.148) | 0.067 | 0.007 |
| 13 1.08 | 0.10 | 0.056 | ( 0.148) | 0.050 | 0.006 |
| 14 1.17 | 0.10 | 0.056 | ( 0.147) | 0.050 | 0.006 |
| 15 1.25 | 0.10 | 0.056 | ( 0.146) | 0.050 | 0.006 |
| 16 1.33 | 0.10 | 0.056 | ( 0.146) | 0.050 | 0.006 |
| 17 1.42 | 0.10 | 0.056 | ( 0.145) | 0.050 | 0.006 |
| 18 1.50 | 0.10 | 0.056 | ( 0.145) | 0.050 | 0.006 |
| 19 1.58 | 0.10 | 0.056 | ( 0.144) | 0.050 | 0.006 |
| 20 1.67 | 0.10 | 0.056 | ( 0.144) | 0.050 | 0.006 |
| 21 1.75 | 0.10 | 0.056 | ( 0.143) | 0.050 | 0.006 |
| 22 1.83 | 0.13 | 0.075 | ( 0.142) | 0.067 | 0.007 |
| 23 1.92 | 0.13 | 0.075 | ( 0.142) | 0.067 | 0.007 |
| 24 2.00 | 0.13 | 0.075 | ( 0.141) | 0.067 | 0.007 |
| 25 2.08 | 0.13 | 0.075 | ( 0.141) | 0.067 | 0.007 |
| 26 2.17 | 0.13 | 0.075 | ( 0.140) | 0.067 | 0.007 |
| 27 2.25 | 0.13 | 0.075 | ( 0.140) | 0.067 | 0.007 |
| 28 2.33 | 0.13 | 0.075 | ( 0.139) | 0.067 | 0.007 |
| 29 2.42 | 0.13 | 0.075 | ( 0.138) | 0.067 | 0.007 |
| 30 2.50 | 0.13 | 0.075 | ( 0.138) | 0.067 | 0.007 |
| 31 2.58 | 0.17 | 0.093 | ( 0.137) | 0.084 | 0.009 |
| 32 2.67 | 0.17 | 0.093 | ( 0.137) | 0.084 | 0.009 |
| 33 2.75 | 0.17 | 0.093 | ( 0.136) | 0.084 | 0.009 |
| 34 2.83 | 0.17 | 0.093 | ( 0.136) | 0.084 | 0.009 |
| 35 2.92 | 0.17 | 0.093 | ( 0.135) | 0.084 | 0.009 |
| 36 3.00 | 0.17 | 0.093 | ( 0.134) | 0.084 | 0.009 |
| 37 3.08 | 0.17 | 0.093 | ( 0.134) | 0.084 | 0.009 |
| 38 3.17 | 0.17 | 0.093 | ( 0.133) | 0.084 | 0.009 |
| 39 3.25 | 0.17 | 0.093 | ( 0.133) | 0.084 | 0.009 |
| 40 3.33 | 0.17 | 0.093 | ( 0.132) | 0.084 | 0.009 |
| 41 3.42 | 0.17 | 0.093 | ( 0.132) | 0.084 | 0.009 |
| 42 3.50 | 0.17 | 0.093 | ( 0.131) | 0.084 | 0.009 |
| 43 3.58 | 0.17 | 0.093 | ( 0.131) | 0.084 | 0.009 |
| 44 3.67 | 0.17 | 0.093 | ( 0.130) | 0.084 | 0.009 |
| 45 3.75 | 0.17 | 0.093 | ( 0.130) | 0.084 | 0.009 |
| 46 3.83 | 0.20 | 0.112 | ( 0.129) | 0.101 | 0.011 |
| 47 3.92 | 0.20 | 0.112 | ( 0.128) | 0.101 | 0.011 |
| 48 4.00 | 0.20 | 0.112 | ( 0.128) | 0.101 | 0.011 |
| 49 4.08 | 0.20 | 0.112 | ( 0.127) | 0.101 | 0.011 |
| 50 4.17 | 0.20 | 0.112 | ( 0.127) | 0.101 | 0.011 |
| 51 4.25 | 0.20 | 0.112 | ( 0.126) | 0.101 | 0.011 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 52 | 4.33 | 0.23 | 0.130 | ( | 0.126) | 0.117 | | 0.013 |
| 53 | 4.42 | 0.23 | 0.130 | ( | 0.125) | 0.117 | | 0.013 |
| 54 | 4.50 | 0.23 | 0.130 | ( | 0.125) | 0.117 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.130 | ( | 0.124) | 0.117 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.130 | ( | 0.124) | 0.117 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.130 | ( | 0.123) | 0.117 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.149 | | 0.123 | ( | 0.134) | 0.027 |
| 59 | 4.92 | 0.27 | 0.149 | | 0.122 | ( | 0.134) | 0.027 |
| 60 | 5.00 | 0.27 | 0.149 | | 0.121 | ( | 0.134) | 0.028 |
| 61 | 5.08 | 0.20 | 0.112 | ( | 0.121) | 0.101 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.112 | ( | 0.120) | 0.101 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.112 | ( | 0.120) | 0.101 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.130 | ( | 0.119) | 0.117 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.130 | ( | 0.119) | 0.117 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.130 | ( | 0.118) | 0.117 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.149 | | 0.118 | ( | 0.134) | 0.031 |
| 68 | 5.67 | 0.27 | 0.149 | | 0.117 | ( | 0.134) | 0.032 |
| 69 | 5.75 | 0.27 | 0.149 | | 0.117 | ( | 0.134) | 0.032 |
| 70 | 5.83 | 0.27 | 0.149 | | 0.116 | ( | 0.134) | 0.033 |
| 71 | 5.92 | 0.27 | 0.149 | | 0.116 | ( | 0.134) | 0.033 |
| 72 | 6.00 | 0.27 | 0.149 | | 0.115 | ( | 0.134) | 0.034 |
| 73 | 6.08 | 0.30 | 0.168 | | 0.115 | ( | 0.151) | 0.053 |
| 74 | 6.17 | 0.30 | 0.168 | | 0.114 | ( | 0.151) | 0.054 |
| 75 | 6.25 | 0.30 | 0.168 | | 0.114 | ( | 0.151) | 0.054 |
| 76 | 6.33 | 0.30 | 0.168 | | 0.113 | ( | 0.151) | 0.055 |
| 77 | 6.42 | 0.30 | 0.168 | | 0.113 | ( | 0.151) | 0.055 |
| 78 | 6.50 | 0.30 | 0.168 | | 0.112 | ( | 0.151) | 0.056 |
| 79 | 6.58 | 0.33 | 0.186 | | 0.112 | ( | 0.168) | 0.075 |
| 80 | 6.67 | 0.33 | 0.186 | | 0.111 | ( | 0.168) | 0.075 |
| 81 | 6.75 | 0.33 | 0.186 | | 0.111 | ( | 0.168) | 0.076 |
| 82 | 6.83 | 0.33 | 0.186 | | 0.110 | ( | 0.168) | 0.076 |
| 83 | 6.92 | 0.33 | 0.186 | | 0.110 | ( | 0.168) | 0.077 |
| 84 | 7.00 | 0.33 | 0.186 | | 0.109 | ( | 0.168) | 0.077 |
| 85 | 7.08 | 0.33 | 0.186 | | 0.109 | ( | 0.168) | 0.078 |
| 86 | 7.17 | 0.33 | 0.186 | | 0.108 | ( | 0.168) | 0.078 |
| 87 | 7.25 | 0.33 | 0.186 | | 0.108 | ( | 0.168) | 0.079 |
| 88 | 7.33 | 0.37 | 0.205 | | 0.107 | ( | 0.185) | 0.098 |
| 89 | 7.42 | 0.37 | 0.205 | | 0.107 | ( | 0.185) | 0.098 |
| 90 | 7.50 | 0.37 | 0.205 | | 0.106 | ( | 0.185) | 0.099 |
| 91 | 7.58 | 0.40 | 0.224 | | 0.106 | ( | 0.201) | 0.118 |
| 92 | 7.67 | 0.40 | 0.224 | | 0.105 | ( | 0.201) | 0.118 |
| 93 | 7.75 | 0.40 | 0.224 | | 0.105 | ( | 0.201) | 0.119 |
| 94 | 7.83 | 0.43 | 0.242 | | 0.104 | ( | 0.218) | 0.138 |
| 95 | 7.92 | 0.43 | 0.242 | | 0.104 | ( | 0.218) | 0.139 |
| 96 | 8.00 | 0.43 | 0.242 | | 0.103 | ( | 0.218) | 0.139 |
| 97 | 8.08 | 0.50 | 0.280 | | 0.103 | ( | 0.252) | 0.177 |
| 98 | 8.17 | 0.50 | 0.280 | | 0.102 | ( | 0.252) | 0.177 |
| 99 | 8.25 | 0.50 | 0.280 | | 0.102 | ( | 0.252) | 0.178 |
| 100 | 8.33 | 0.50 | 0.280 | | 0.101 | ( | 0.252) | 0.178 |
| 101 | 8.42 | 0.50 | 0.280 | | 0.101 | ( | 0.252) | 0.179 |
| 102 | 8.50 | 0.50 | 0.280 | | 0.100 | ( | 0.252) | 0.179 |
| 103 | 8.58 | 0.53 | 0.298 | | 0.100 | ( | 0.268) | 0.198 |
| 104 | 8.67 | 0.53 | 0.298 | | 0.099 | ( | 0.268) | 0.199 |
| 105 | 8.75 | 0.53 | 0.298 | | 0.099 | ( | 0.268) | 0.199 |
| 106 | 8.83 | 0.57 | 0.317 | | 0.099 | ( | 0.285) | 0.218 |
| 107 | 8.92 | 0.57 | 0.317 | | 0.098 | ( | 0.285) | 0.219 |
| 108 | 9.00 | 0.57 | 0.317 | | 0.098 | ( | 0.285) | 0.219 |
| 109 | 9.08 | 0.63 | 0.354 | | 0.097 | ( | 0.319) | 0.257 |
| 110 | 9.17 | 0.63 | 0.354 | | 0.097 | ( | 0.319) | 0.257 |
| 111 | 9.25 | 0.63 | 0.354 | | 0.096 | ( | 0.319) | 0.258 |
| 112 | 9.33 | 0.67 | 0.373 | | 0.096 | ( | 0.336) | 0.277 |
| 113 | 9.42 | 0.67 | 0.373 | | 0.095 | ( | 0.336) | 0.277 |
| 114 | 9.50 | 0.67 | 0.373 | | 0.095 | ( | 0.336) | 0.278 |
| 115 | 9.58 | 0.70 | 0.391 | | 0.094 | ( | 0.352) | 0.297 |
| 116 | 9.67 | 0.70 | 0.391 | | 0.094 | ( | 0.352) | 0.297 |
| 117 | 9.75 | 0.70 | 0.391 | | 0.094 | ( | 0.352) | 0.298 |
| 118 | 9.83 | 0.73 | 0.410 | | 0.093 | ( | 0.369) | 0.317 |
| 119 | 9.92 | 0.73 | 0.410 | | 0.093 | ( | 0.369) | 0.317 |
| 120 | 10.00 | 0.73 | 0.410 | | 0.092 | ( | 0.369) | 0.318 |
| 121 | 10.08 | 0.50 | 0.280 | | 0.092 | ( | 0.252) | 0.188 |
| 122 | 10.17 | 0.50 | 0.280 | | 0.091 | ( | 0.252) | 0.188 |
| 123 | 10.25 | 0.50 | 0.280 | | 0.091 | ( | 0.252) | 0.189 |
| 124 | 10.33 | 0.50 | 0.280 | | 0.090 | ( | 0.252) | 0.189 |
| 125 | 10.42 | 0.50 | 0.280 | | 0.090 | ( | 0.252) | 0.190 |
| 126 | 10.50 | 0.50 | 0.280 | | 0.090 | ( | 0.252) | 0.190 |
| 127 | 10.58 | 0.67 | 0.373 | | 0.089 | ( | 0.336) | 0.284 |
| 128 | 10.67 | 0.67 | 0.373 | | 0.089 | ( | 0.336) | 0.284 |
| 129 | 10.75 | 0.67 | 0.373 | | 0.088 | ( | 0.336) | 0.285 |

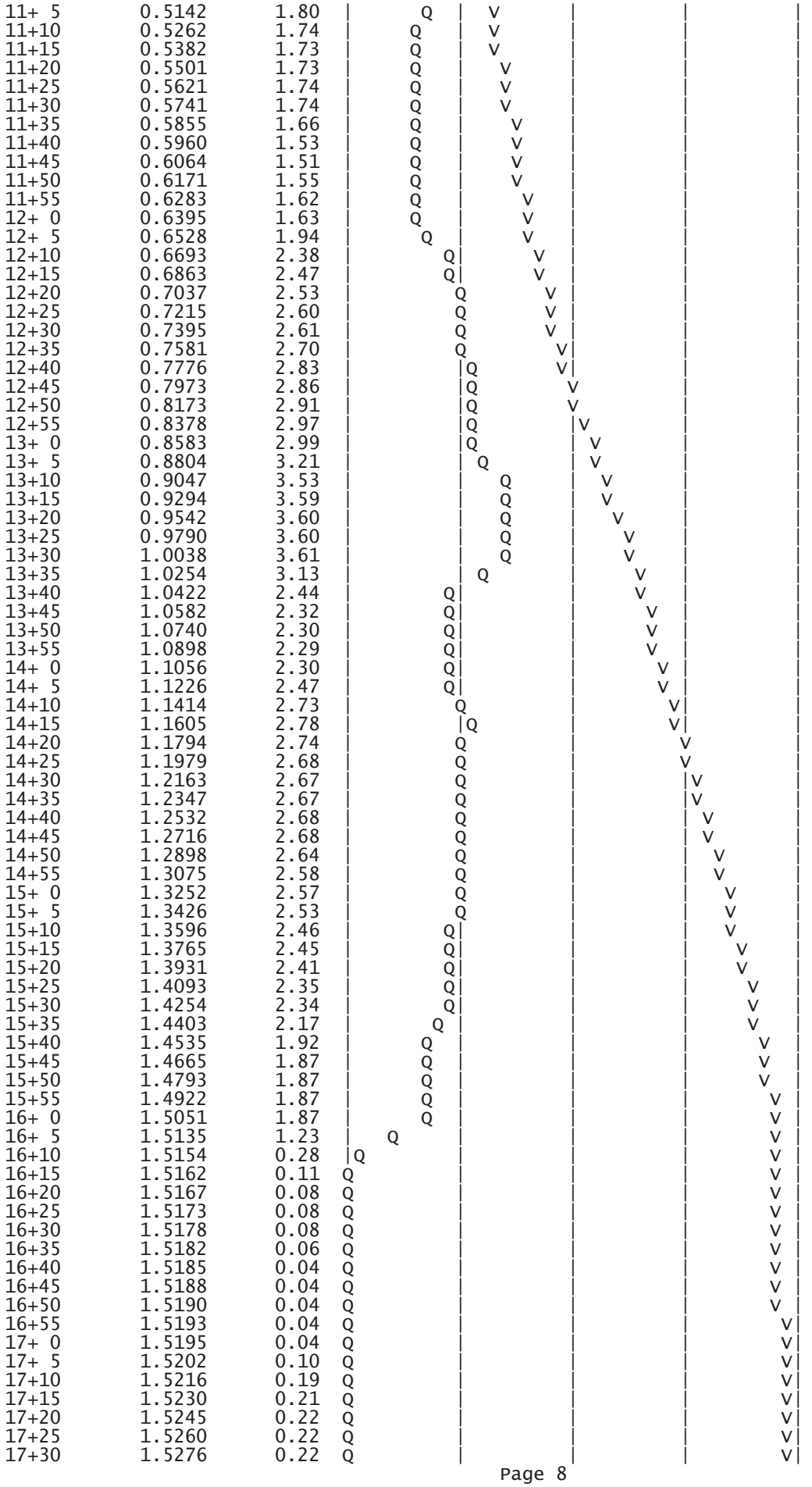
| | | | | | | |
|---|---|---|---|---|---|---|
| 130 | 10.83 | 0.67 | 0.373 | 0.088 | ( 0.336) | 0.285 |
| 131 | 10.92 | 0.67 | 0.373 | 0.087 | ( 0.336) | 0.285 |
| 132 | 11.00 | 0.67 | 0.373 | 0.087 | ( 0.336) | 0.286 |
| 133 | 11.08 | 0.63 | 0.354 | 0.086 | ( 0.319) | 0.268 |
| 134 | 11.17 | 0.63 | 0.354 | 0.086 | ( 0.319) | 0.268 |
| 135 | 11.25 | 0.63 | 0.354 | 0.086 | ( 0.319) | 0.269 |
| 136 | 11.33 | 0.63 | 0.354 | 0.085 | ( 0.319) | 0.269 |
| 137 | 11.42 | 0.63 | 0.354 | 0.085 | ( 0.319) | 0.269 |
| 138 | 11.50 | 0.63 | 0.354 | 0.084 | ( 0.319) | 0.270 |
| 139 | 11.58 | 0.57 | 0.317 | 0.084 | ( 0.285) | 0.233 |
| 140 | 11.67 | 0.57 | 0.317 | 0.084 | ( 0.285) | 0.233 |
| 141 | 11.75 | 0.57 | 0.317 | 0.083 | ( 0.285) | 0.234 |
| 142 | 11.83 | 0.60 | 0.336 | 0.083 | ( 0.302) | 0.253 |
| 143 | 11.92 | 0.60 | 0.336 | 0.082 | ( 0.302) | 0.253 |
| 144 | 12.00 | 0.60 | 0.336 | 0.082 | ( 0.302) | 0.254 |
| 145 | 12.08 | 0.83 | 0.466 | 0.081 | ( 0.419) | 0.385 |
| 146 | 12.17 | 0.83 | 0.466 | 0.081 | ( 0.419) | 0.385 |
| 147 | 12.25 | 0.83 | 0.466 | 0.081 | ( 0.419) | 0.385 |
| 148 | 12.33 | 0.87 | 0.485 | 0.080 | ( 0.436) | 0.404 |
| 149 | 12.42 | 0.87 | 0.485 | 0.080 | ( 0.436) | 0.405 |
| 150 | 12.50 | 0.87 | 0.485 | 0.079 | ( 0.436) | 0.405 |
| 151 | 12.58 | 0.93 | 0.522 | 0.079 | ( 0.470) | 0.443 |
| 152 | 12.67 | 0.93 | 0.522 | 0.079 | ( 0.470) | 0.443 |
| 153 | 12.75 | 0.93 | 0.522 | 0.078 | ( 0.470) | 0.444 |
| 154 | 12.83 | 0.97 | 0.541 | 0.078 | ( 0.486) | 0.463 |
| 155 | 12.92 | 0.97 | 0.541 | 0.077 | ( 0.486) | 0.463 |
| 156 | 13.00 | 0.97 | 0.541 | 0.077 | ( 0.486) | 0.463 |
| 157 | 13.08 | 1.13 | 0.634 | 0.077 | ( 0.570) | 0.557 |
| 158 | 13.17 | 1.13 | 0.634 | 0.076 | ( 0.570) | 0.557 |
| 159 | 13.25 | 1.13 | 0.634 | 0.076 | ( 0.570) | 0.558 |
| 160 | 13.33 | 1.13 | 0.634 | 0.076 | ( 0.570) | 0.558 |
| 161 | 13.42 | 1.13 | 0.634 | 0.075 | ( 0.570) | 0.559 |
| 162 | 13.50 | 1.13 | 0.634 | 0.075 | ( 0.570) | 0.559 |
| 163 | 13.58 | 0.77 | 0.429 | 0.074 | ( 0.386) | 0.354 |
| 164 | 13.67 | 0.77 | 0.429 | 0.074 | ( 0.386) | 0.355 |
| 165 | 13.75 | 0.77 | 0.429 | 0.074 | ( 0.386) | 0.355 |
| 166 | 13.83 | 0.77 | 0.429 | 0.073 | ( 0.386) | 0.355 |
| 167 | 13.92 | 0.77 | 0.429 | 0.073 | ( 0.386) | 0.356 |
| 168 | 14.00 | 0.77 | 0.429 | 0.073 | ( 0.386) | 0.356 |
| 169 | 14.08 | 0.90 | 0.503 | 0.072 | ( 0.453) | 0.431 |
| 170 | 14.17 | 0.90 | 0.503 | 0.072 | ( 0.453) | 0.432 |
| 171 | 14.25 | 0.90 | 0.503 | 0.071 | ( 0.453) | 0.432 |
| 172 | 14.33 | 0.87 | 0.485 | 0.071 | ( 0.436) | 0.414 |
| 173 | 14.42 | 0.87 | 0.485 | 0.071 | ( 0.436) | 0.414 |
| 174 | 14.50 | 0.87 | 0.485 | 0.070 | ( 0.436) | 0.414 |
| 175 | 14.58 | 0.87 | 0.485 | 0.070 | ( 0.436) | 0.415 |
| 176 | 14.67 | 0.87 | 0.485 | 0.070 | ( 0.436) | 0.415 |
| 177 | 14.75 | 0.87 | 0.485 | 0.069 | ( 0.436) | 0.415 |
| 178 | 14.83 | 0.83 | 0.466 | 0.069 | ( 0.419) | 0.397 |
| 179 | 14.92 | 0.83 | 0.466 | 0.069 | ( 0.419) | 0.397 |
| 180 | 15.00 | 0.83 | 0.466 | 0.068 | ( 0.419) | 0.398 |
| 181 | 15.08 | 0.80 | 0.447 | 0.068 | ( 0.403) | 0.380 |
| 182 | 15.17 | 0.80 | 0.447 | 0.067 | ( 0.403) | 0.380 |
| 183 | 15.25 | 0.80 | 0.447 | 0.067 | ( 0.403) | 0.380 |
| 184 | 15.33 | 0.77 | 0.429 | 0.067 | ( 0.386) | 0.362 |
| 185 | 15.42 | 0.77 | 0.429 | 0.066 | ( 0.386) | 0.362 |
| 186 | 15.50 | 0.77 | 0.429 | 0.066 | ( 0.386) | 0.363 |
| 187 | 15.58 | 0.63 | 0.354 | 0.066 | ( 0.319) | 0.288 |
| 188 | 15.67 | 0.63 | 0.354 | 0.065 | ( 0.319) | 0.289 |
| 189 | 15.75 | 0.63 | 0.354 | 0.065 | ( 0.319) | 0.289 |
| 190 | 15.83 | 0.63 | 0.354 | 0.065 | ( 0.319) | 0.289 |
| 191 | 15.92 | 0.63 | 0.354 | 0.064 | ( 0.319) | 0.290 |
| 192 | 16.00 | 0.63 | 0.354 | 0.064 | ( 0.319) | 0.290 |
| 193 | 16.08 | 0.13 | 0.075 | 0.064 | ( 0.067) | 0.011 |
| 194 | 16.17 | 0.13 | 0.075 | 0.063 | ( 0.067) | 0.011 |
| 195 | 16.25 | 0.13 | 0.075 | 0.063 | ( 0.067) | 0.011 |
| 196 | 16.33 | 0.13 | 0.075 | 0.063 | ( 0.067) | 0.012 |
| 197 | 16.42 | 0.13 | 0.075 | 0.062 | ( 0.067) | 0.012 |
| 198 | 16.50 | 0.13 | 0.075 | 0.062 | ( 0.067) | 0.012 |
| 199 | 16.58 | 0.10 | 0.056 | ( 0.062) | 0.050 | 0.006 |
| 200 | 16.67 | 0.10 | 0.056 | ( 0.062) | 0.050 | 0.006 |
| 201 | 16.75 | 0.10 | 0.056 | ( 0.061) | 0.050 | 0.006 |
| 202 | 16.83 | 0.10 | 0.056 | ( 0.061) | 0.050 | 0.006 |
| 203 | 16.92 | 0.10 | 0.056 | ( 0.061) | 0.050 | 0.006 |
| 204 | 17.00 | 0.10 | 0.056 | ( 0.060) | 0.050 | 0.006 |
| 205 | 17.08 | 0.17 | 0.093 | 0.060 | ( 0.084) | 0.033 |
| 206 | 17.17 | 0.17 | 0.093 | 0.060 | ( 0.084) | 0.034 |
| 207 | 17.25 | 0.17 | 0.093 | 0.059 | ( 0.084) | 0.034 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 208 | 17.33 | 0.17 | 0.093 | 0.059 | ( 0.084) | 0.034 |
| 209 | 17.42 | 0.17 | 0.093 | 0.059 | ( 0.084) | 0.034 |
| 210 | 17.50 | 0.17 | 0.093 | 0.058 | ( 0.084) | 0.035 |
| 211 | 17.58 | 0.17 | 0.093 | 0.058 | ( 0.084) | 0.035 |
| 212 | 17.67 | 0.17 | 0.093 | 0.058 | ( 0.084) | 0.035 |
| 213 | 17.75 | 0.17 | 0.093 | 0.058 | ( 0.084) | 0.036 |
| 214 | 17.83 | 0.13 | 0.075 | 0.057 | ( 0.067) | 0.017 |
| 215 | 17.92 | 0.13 | 0.075 | 0.057 | ( 0.067) | 0.018 |
| 216 | 18.00 | 0.13 | 0.075 | 0.057 | ( 0.067) | 0.018 |
| 217 | 18.08 | 0.13 | 0.075 | 0.056 | ( 0.067) | 0.018 |
| 218 | 18.17 | 0.13 | 0.075 | 0.056 | ( 0.067) | 0.018 |
| 219 | 18.25 | 0.13 | 0.075 | 0.056 | ( 0.067) | 0.019 |
| 220 | 18.33 | 0.13 | 0.075 | 0.056 | ( 0.067) | 0.019 |
| 221 | 18.42 | 0.13 | 0.075 | 0.055 | ( 0.067) | 0.019 |
| 222 | 18.50 | 0.13 | 0.075 | 0.055 | ( 0.067) | 0.019 |
| 223 | 18.58 | 0.10 | 0.056 | ( 0.055) | 0.050 | 0.006 |
| 224 | 18.67 | 0.10 | 0.056 | ( 0.055) | 0.050 | 0.006 |
| 225 | 18.75 | 0.10 | 0.056 | ( 0.054) | 0.050 | 0.006 |
| 226 | 18.83 | 0.07 | 0.037 | ( 0.054) | 0.034 | 0.004 |
| 227 | 18.92 | 0.07 | 0.037 | ( 0.054) | 0.034 | 0.004 |
| 228 | 19.00 | 0.07 | 0.037 | ( 0.054) | 0.034 | 0.004 |
| 229 | 19.08 | 0.10 | 0.056 | ( 0.053) | 0.050 | 0.006 |
| 230 | 19.17 | 0.10 | 0.056 | ( 0.053) | 0.050 | 0.006 |
| 231 | 19.25 | 0.10 | 0.056 | ( 0.053) | 0.050 | 0.006 |
| 232 | 19.33 | 0.13 | 0.075 | 0.053 | ( 0.067) | 0.022 |
| 233 | 19.42 | 0.13 | 0.075 | 0.052 | ( 0.067) | 0.022 |
| 234 | 19.50 | 0.13 | 0.075 | 0.052 | ( 0.067) | 0.022 |
| 235 | 19.58 | 0.10 | 0.056 | ( 0.052) | 0.050 | 0.006 |
| 236 | 19.67 | 0.10 | 0.056 | ( 0.052) | 0.050 | 0.006 |
| 237 | 19.75 | 0.10 | 0.056 | ( 0.051) | 0.050 | 0.006 |
| 238 | 19.83 | 0.07 | 0.037 | ( 0.051) | 0.034 | 0.004 |
| 239 | 19.92 | 0.07 | 0.037 | ( 0.051) | 0.034 | 0.004 |
| 240 | 20.00 | 0.07 | 0.037 | ( 0.051) | 0.034 | 0.004 |
| 241 | 20.08 | 0.10 | 0.056 | ( 0.050) | 0.050 | 0.006 |
| 242 | 20.17 | 0.10 | 0.056 | 0.050 | ( 0.050) | 0.006 |
| 243 | 20.25 | 0.10 | 0.056 | 0.050 | ( 0.050) | 0.006 |
| 244 | 20.33 | 0.10 | 0.056 | 0.050 | ( 0.050) | 0.006 |
| 245 | 20.42 | 0.10 | 0.056 | 0.050 | ( 0.050) | 0.006 |
| 246 | 20.50 | 0.10 | 0.056 | 0.049 | ( 0.050) | 0.007 |
| 247 | 20.58 | 0.10 | 0.056 | 0.049 | ( 0.050) | 0.007 |
| 248 | 20.67 | 0.10 | 0.056 | 0.049 | ( 0.050) | 0.007 |
| 249 | 20.75 | 0.10 | 0.056 | 0.049 | ( 0.050) | 0.007 |
| 250 | 20.83 | 0.07 | 0.037 | ( 0.049) | 0.034 | 0.004 |
| 251 | 20.92 | 0.07 | 0.037 | ( 0.048) | 0.034 | 0.004 |
| 252 | 21.00 | 0.07 | 0.037 | ( 0.048) | 0.034 | 0.004 |
| 253 | 21.08 | 0.10 | 0.056 | 0.048 | ( 0.050) | 0.008 |
| 254 | 21.17 | 0.10 | 0.056 | 0.048 | ( 0.050) | 0.008 |
| 255 | 21.25 | 0.10 | 0.056 | 0.048 | ( 0.050) | 0.008 |
| 256 | 21.33 | 0.07 | 0.037 | ( 0.047) | 0.034 | 0.004 |
| 257 | 21.42 | 0.07 | 0.037 | ( 0.047) | 0.034 | 0.004 |
| 258 | 21.50 | 0.07 | 0.037 | ( 0.047) | 0.034 | 0.004 |
| 259 | 21.58 | 0.10 | 0.056 | 0.047 | ( 0.050) | 0.009 |
| 260 | 21.67 | 0.10 | 0.056 | 0.047 | ( 0.050) | 0.009 |
| 261 | 21.75 | 0.10 | 0.056 | 0.047 | ( 0.050) | 0.009 |
| 262 | 21.83 | 0.07 | 0.037 | ( 0.046) | 0.034 | 0.004 |
| 263 | 21.92 | 0.07 | 0.037 | ( 0.046) | 0.034 | 0.004 |
| 264 | 22.00 | 0.07 | 0.037 | ( 0.046) | 0.034 | 0.004 |
| 265 | 22.08 | 0.10 | 0.056 | 0.046 | ( 0.050) | 0.010 |
| 266 | 22.17 | 0.10 | 0.056 | 0.046 | ( 0.050) | 0.010 |
| 267 | 22.25 | 0.10 | 0.056 | 0.046 | ( 0.050) | 0.010 |
| 268 | 22.33 | 0.07 | 0.037 | ( 0.045) | 0.034 | 0.004 |
| 269 | 22.42 | 0.07 | 0.037 | ( 0.045) | 0.034 | 0.004 |
| 270 | 22.50 | 0.07 | 0.037 | ( 0.045) | 0.034 | 0.004 |
| 271 | 22.58 | 0.07 | 0.037 | ( 0.045) | 0.034 | 0.004 |
| 272 | 22.67 | 0.07 | 0.037 | ( 0.045) | 0.034 | 0.004 |
| 273 | 22.75 | 0.07 | 0.037 | ( 0.045) | 0.034 | 0.004 |
| 274 | 22.83 | 0.07 | 0.037 | ( 0.045) | 0.034 | 0.004 |
| 275 | 22.92 | 0.07 | 0.037 | ( 0.045) | 0.034 | 0.004 |
| 276 | 23.00 | 0.07 | 0.037 | ( 0.045) | 0.034 | 0.004 |
| 277 | 23.08 | 0.07 | 0.037 | ( 0.044) | 0.034 | 0.004 |
| 278 | 23.17 | 0.07 | 0.037 | ( 0.044) | 0.034 | 0.004 |
| 279 | 23.25 | 0.07 | 0.037 | ( 0.044) | 0.034 | 0.004 |
| 280 | 23.33 | 0.07 | 0.037 | ( 0.044) | 0.034 | 0.004 |
| 281 | 23.42 | 0.07 | 0.037 | ( 0.044) | 0.034 | 0.004 |
| 282 | 23.50 | 0.07 | 0.037 | ( 0.044) | 0.034 | 0.004 |
| 283 | 23.58 | 0.07 | 0.037 | ( 0.044) | 0.034 | 0.004 |
| 284 | 23.67 | 0.07 | 0.037 | ( 0.044) | 0.034 | 0.004 |
| 285 | 23.75 | 0.07 | 0.037 | ( 0.044) | 0.034 | 0.004 |

```
286  23.83     0.07      0.037       (  0.044)       0.034        0.004
287  23.92     0.07      0.037       (  0.044)       0.034        0.004
288  24.00     0.07      0.037       (  0.044)       0.034        0.004
              (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    35.1
       Flood volume = Effective rainfall      2.92(In)
        times area       6.4(Ac.)/[(In)/(Ft.)] =       1.6(Ac.Ft)
       Total soil loss =      1.74(In)
       Total soil loss =     0.927(Ac.Ft)
       Total rainfall =      4.66(In)
       Flood volume =       67874.3 Cubic Feet
       Total soil loss =       40385.4 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =      3.605(CFS)
       ---------------------------------------------------------------------
       +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
       ---------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))

       ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ----------------------------------------------------------------------------
   0+ 5       0.0001      0.01  Q          |         |         |         |
   0+10       0.0002      0.02  Q          |         |         |         |
   0+15       0.0004      0.02  Q          |         |         |         |
   0+20       0.0006      0.03  Q          |         |         |         |
   0+25       0.0008      0.03  Q          |         |         |         |
   0+30       0.0010      0.04  Q          |         |         |         |
   0+35       0.0013      0.04  Q          |         |         |         |
   0+40       0.0015      0.04  Q          |         |         |         |
   0+45       0.0018      0.04  Q          |         |         |         |
   0+50       0.0021      0.04  Q          |         |         |         |
   0+55       0.0024      0.05  Q          |         |         |         |
   1+ 0       0.0027      0.05  Q          |         |         |         |
   1+ 5       0.0030      0.04  Q          |         |         |         |
   1+10       0.0033      0.04  Q          |         |         |         |
   1+15       0.0035      0.04  Q          |         |         |         |
   1+20       0.0038      0.04  Q          |         |         |         |
   1+25       0.0040      0.04  Q          |         |         |         |
   1+30       0.0043      0.04  Q          |         |         |         |
   1+35       0.0045      0.04  Q          |         |         |         |
   1+40       0.0048      0.04  Q          |         |         |         |
   1+45       0.0050      0.04  Q          |         |         |         |
   1+50       0.0053      0.04  Q          |         |         |         |
   1+55       0.0056      0.05  Q          |         |         |         |
   2+ 0       0.0060      0.05  Q          |         |         |         |
   2+ 5       0.0063      0.05  Q          |         |         |         |
   2+10       0.0066      0.05  Q          |         |         |         |
   2+15       0.0069      0.05  Q          |         |         |         |
   2+20       0.0073      0.05  Q          |         |         |         |
   2+25       0.0076      0.05  Q          |         |         |         |
   2+30       0.0079      0.05  Q          |         |         |         |
   2+35       0.0083      0.05  Q          |         |         |         |
   2+40       0.0087      0.06  Q          |         |         |         |
   2+45       0.0091      0.06  Q          |         |         |         |
   2+50       0.0095      0.06  Q          |         |         |         |
   2+55       0.0099      0.06  Q          |         |         |         |
   3+ 0       0.0104      0.06  Q          |         |         |         |
   3+ 5       0.0108      0.06  Q          |         |         |         |
   3+10       0.0112      0.06  Q          |         |         |         |
   3+15       0.0116      0.06  Q          |         |         |         |
   3+20       0.0120      0.06  Q          |         |         |         |
   3+25       0.0124      0.06  Q          |         |         |         |
   3+30       0.0128      0.06  Q          |         |         |         |
   3+35       0.0133      0.06  Q          |         |         |         |
   3+40       0.0137      0.06  Q          |         |         |         |
   3+45       0.0141      0.06  Q          |         |         |         |
   3+50       0.0145      0.06  Q          |         |         |         |
   3+55       0.0150      0.07  Q          |         |         |         |
   4+ 0       0.0155      0.07  Q          |         |         |         |
   4+ 5       0.0160      0.07  Q          |         |         |         |
   4+10       0.0165      0.07  Q          |         |         |         |
   4+15       0.0170      0.07  Q          |         |         |         |
   4+20       0.0175      0.08  Q          |         |         |         |
   4+25       0.0181      0.08  Q          |         |         |         |
   4+30       0.0187      0.08  Q          |         |         |         |
```

```
 4+35       0.0193      0.08  Q          |          |          |          |
 4+40       0.0198      0.08  Q          |          |          |          |
 4+45       0.0204      0.08  Q          |          |          |          |
 4+50       0.0212      0.12  Q          |          |          |          |
 4+55       0.0223      0.16  Q          |          |          |          |
 5+ 0       0.0235      0.17  Q          |          |          |          |
 5+ 5       0.0245      0.14  Q          |          |          |          |
 5+10       0.0251      0.08  Q          |          |          |          |
 5+15       0.0256      0.07  Q          |          |          |          |
 5+20       0.0261      0.08  Q          |          |          |          |
 5+25       0.0267      0.08  Q          |          |          |          |
 5+30       0.0273      0.08  Q          |          |          |          |
 5+35       0.0281      0.13  Q          |          |          |          |
 5+40       0.0294      0.19  Q          |          |          |          |
 5+45       0.0309      0.20  Q          |          |          |          |
 5+50       0.0323      0.21  Q          |          |          |          |
 5+55       0.0338      0.21  Q          |          |          |          |
 6+ 0       0.0352      0.22  Q          |          |          |          |
 6+ 5       0.0371      0.26  VQ         |          |          |          |
 6+10       0.0393      0.33  |Q         |          |          |          |
 6+15       0.0417      0.34  |Q         |          |          |          |
 6+20       0.0441      0.35  |Q         |          |          |          |
 6+25       0.0465      0.35  |Q         |          |          |          |
 6+30       0.0490      0.36  |Q         |          |          |          |
 6+35       0.0518      0.40  |Q         |          |          |          |
 6+40       0.0550      0.47  |Q         |          |          |          |
 6+45       0.0583      0.48  |Q         |          |          |          |
 6+50       0.0617      0.49  |Q         |          |          |          |
 6+55       0.0651      0.49  |Q         |          |          |          |
 7+ 0       0.0685      0.50  |Q         |          |          |          |
 7+ 5       0.0719      0.50  |Q         |          |          |          |
 7+10       0.0754      0.50  |VQ        |          |          |          |
 7+15       0.0789      0.51  | Q        |          |          |          |
 7+20       0.0827      0.55  | Q        |          |          |          |
 7+25       0.0869      0.62  | Q        |          |          |          |
 7+30       0.0913      0.63  | Q        |          |          |          |
 7+35       0.0960      0.68  | Q        |          |          |          |
 7+40       0.1011      0.75  | Q        |          |          |          |
 7+45       0.1064      0.76  | VQ       |          |          |          |
 7+50       0.1120      0.81  | VQ       |          |          |          |
 7+55       0.1180      0.88  |  Q       |          |          |          |
 8+ 0       0.1242      0.89  |  Q       |          |          |          |
 8+ 5       0.1309      0.98  |  Q       |          |          |          |
 8+10       0.1386      1.11  |  VQ      |          |          |          |
 8+15       0.1465      1.14  |  VQ      |          |          |          |
 8+20       0.1544      1.15  |  VQ      |          |          |          |
 8+25       0.1623      1.15  |   Q      |          |          |          |
 8+30       0.1702      1.15  |   Q      |          |          |          |
 8+35       0.1785      1.20  |   Q      |          |          |          |
 8+40       0.1872      1.27  |   VQ     |          |          |          |
 8+45       0.1960      1.28  |    Q     |          |          |          |
 8+50       0.2052      1.33  |    Q     |          |          |          |
 8+55       0.2148      1.40  |    Q     |          |          |          |
 9+ 0       0.2245      1.41  |    Q     |          |          |          |
 9+ 5       0.2348      1.50  |     Q    |          |          |          |
 9+10       0.2461      1.63  |     Q    |          |          |          |
 9+15       0.2575      1.66  |     Q    |          |          |          |
 9+20       0.2692      1.71  |     Q    |          |          |          |
 9+25       0.2815      1.77  |      Q   |          |          |          |
 9+30       0.2938      1.79  |      Q   |          |          |          |
 9+35       0.3064      1.84  |      Q   |          |          |          |
 9+40       0.3195      1.90  |      QV  |          |          |          |
 9+45       0.3328      1.92  |      QV  |          |          |          |
 9+50       0.3463      1.97  |      QV  |          |          |          |
 9+55       0.3603      2.03  |       QV |          |          |          |
10+ 0       0.3744      2.05  |       QV |          |          |          |
10+ 5       0.3864      1.75  |      Q V |          |          |          |
10+10       0.3955      1.31  |    Q    V          |          |          |
10+15       0.4040      1.23  |   Q     V          |          |          |
10+20       0.4124      1.22  |   Q     V          |          |          |
10+25       0.4208      1.22  |   Q     V          |          |          |
10+30       0.4292      1.22  |   Q     |V         |          |          |
10+35       0.4392      1.44  |    Q    |V         |          |          |
10+40       0.4513      1.76  |      Q  |V         |          |          |
10+45       0.4638      1.82  |      Q  |V         |          |          |
10+50       0.4765      1.83  |      Q  | V        |          |          |
10+55       0.4891      1.84  |      Q  | V        |          |          |
11+ 0       0.5018      1.84  |      Q  | V        |          |          |
```


11+ 5 0.5142 1.80
11+10 0.5262 1.74
11+15 0.5382 1.73
11+20 0.5501 1.73
11+25 0.5621 1.74
11+30 0.5741 1.74
11+35 0.5855 1.66
11+40 0.5960 1.53
11+45 0.6064 1.51
11+50 0.6171 1.55
11+55 0.6283 1.62
12+ 0 0.6395 1.63
12+ 5 0.6528 1.94
12+10 0.6693 2.38
12+15 0.6863 2.47
12+20 0.7037 2.53
12+25 0.7215 2.60
12+30 0.7395 2.61
12+35 0.7581 2.70
12+40 0.7776 2.83
12+45 0.7973 2.86
12+50 0.8173 2.91
12+55 0.8378 2.97
13+ 0 0.8583 2.99
13+ 5 0.8804 3.21
13+10 0.9047 3.53
13+15 0.9294 3.59
13+20 0.9542 3.60
13+25 0.9790 3.60
13+30 1.0038 3.61
13+35 1.0254 3.13
13+40 1.0422 2.44
13+45 1.0582 2.32
13+50 1.0740 2.30
13+55 1.0898 2.29
14+ 0 1.1056 2.30
14+ 5 1.1226 2.47
14+10 1.1414 2.73
14+15 1.1605 2.78
14+20 1.1794 2.74
14+25 1.1979 2.68
14+30 1.2163 2.67
14+35 1.2347 2.67
14+40 1.2532 2.68
14+45 1.2716 2.68
14+50 1.2898 2.64
14+55 1.3075 2.58
15+ 0 1.3252 2.57
15+ 5 1.3426 2.53
15+10 1.3596 2.46
15+15 1.3765 2.45
15+20 1.3931 2.41
15+25 1.4093 2.35
15+30 1.4254 2.34
15+35 1.4403 2.17
15+40 1.4535 1.92
15+45 1.4665 1.87
15+50 1.4793 1.87
15+55 1.4922 1.87
16+ 0 1.5051 1.87
16+ 5 1.5135 1.23
16+10 1.5154 0.28
16+15 1.5162 0.11
16+20 1.5167 0.08
16+25 1.5173 0.08
16+30 1.5178 0.08
16+35 1.5182 0.06
16+40 1.5185 0.04
16+45 1.5188 0.04
16+50 1.5190 0.04
16+55 1.5193 0.04
17+ 0 1.5195 0.04
17+ 5 1.5202 0.10
17+10 1.5216 0.19
17+15 1.5230 0.21
17+20 1.5245 0.22
17+25 1.5260 0.22
17+30 1.5276 0.22

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+35 | 1.5291 | 0.22 | Q | \| | \| | \| | V\| |
| 17+40 | 1.5307 | 0.23 | Q | \| | \| | \| | V\| |
| 17+45 | 1.5323 | 0.23 | Q | \| | \| | \| | V\| |
| 17+50 | 1.5335 | 0.19 | Q | \| | \| | \| | V\| |
| 17+55 | 1.5344 | 0.13 | Q | \| | \| | \| | V\| |
| 18+ 0 | 1.5352 | 0.12 | Q | \| | \| | \| | V\| |
| 18+ 5 | 1.5360 | 0.12 | Q | \| | \| | \| | V\| |
| 18+10 | 1.5368 | 0.12 | Q | \| | \| | \| | V\| |
| 18+15 | 1.5376 | 0.12 | Q | \| | \| | \| | V\| |
| 18+20 | 1.5384 | 0.12 | Q | \| | \| | \| | V\| |
| 18+25 | 1.5393 | 0.12 | Q | \| | \| | \| | V\| |
| 18+30 | 1.5401 | 0.12 | Q | \| | \| | \| | V\| |
| 18+35 | 1.5408 | 0.09 | Q | \| | \| | \| | V\| |
| 18+40 | 1.5411 | 0.05 | Q | \| | \| | \| | V\| |
| 18+45 | 1.5414 | 0.04 | Q | \| | \| | \| | V\| |
| 18+50 | 1.5416 | 0.03 | Q | \| | \| | \| | V\| |
| 18+55 | 1.5418 | 0.03 | Q | \| | \| | \| | V\| |
| 19+ 0 | 1.5419 | 0.02 | Q | \| | \| | \| | V\| |
| 19+ 5 | 1.5421 | 0.03 | Q | \| | \| | \| | V\| |
| 19+10 | 1.5424 | 0.03 | Q | \| | \| | \| | V\| |
| 19+15 | 1.5426 | 0.04 | Q | \| | \| | \| | V\| |
| 19+20 | 1.5431 | 0.07 | Q | \| | \| | \| | V\| |
| 19+25 | 1.5440 | 0.13 | Q | \| | \| | \| | V\| |
| 19+30 | 1.5450 | 0.14 | Q | \| | \| | \| | V\| |
| 19+35 | 1.5457 | 0.11 | Q | \| | \| | \| | V\| |
| 19+40 | 1.5461 | 0.05 | Q | \| | \| | \| | V\| |
| 19+45 | 1.5463 | 0.04 | Q | \| | \| | \| | V\| |
| 19+50 | 1.5465 | 0.03 | Q | \| | \| | \| | V\| |
| 19+55 | 1.5467 | 0.03 | Q | \| | \| | \| | V\| |
| 20+ 0 | 1.5469 | 0.02 | Q | \| | \| | \| | V\| |
| 20+ 5 | 1.5471 | 0.03 | Q | \| | \| | \| | V\| |
| 20+10 | 1.5473 | 0.03 | Q | \| | \| | \| | V\| |
| 20+15 | 1.5476 | 0.04 | Q | \| | \| | \| | V\| |
| 20+20 | 1.5478 | 0.04 | Q | \| | \| | \| | V\| |
| 20+25 | 1.5481 | 0.04 | Q | \| | \| | \| | V\| |
| 20+30 | 1.5484 | 0.04 | Q | \| | \| | \| | V\| |
| 20+35 | 1.5487 | 0.04 | Q | \| | \| | \| | V\| |
| 20+40 | 1.5490 | 0.04 | Q | \| | \| | \| | V\| |
| 20+45 | 1.5493 | 0.05 | Q | \| | \| | \| | V\| |
| 20+50 | 1.5496 | 0.04 | Q | \| | \| | \| | V\| |
| 20+55 | 1.5497 | 0.03 | Q | \| | \| | \| | V\| |
| 21+ 0 | 1.5499 | 0.02 | Q | \| | \| | \| | V\| |
| 21+ 5 | 1.5501 | 0.03 | Q | \| | \| | \| | V\| |
| 21+10 | 1.5505 | 0.05 | Q | \| | \| | \| | V\| |
| 21+15 | 1.5508 | 0.05 | Q | \| | \| | \| | V\| |
| 21+20 | 1.5511 | 0.04 | Q | \| | \| | \| | V\| |
| 21+25 | 1.5513 | 0.03 | Q | \| | \| | \| | V\| |
| 21+30 | 1.5515 | 0.02 | Q | \| | \| | \| | V\| |
| 21+35 | 1.5517 | 0.04 | Q | \| | \| | \| | V\| |
| 21+40 | 1.5521 | 0.05 | Q | \| | \| | \| | V\| |
| 21+45 | 1.5525 | 0.06 | Q | \| | \| | \| | V\| |
| 21+50 | 1.5529 | 0.05 | Q | \| | \| | \| | V\| |
| 21+55 | 1.5530 | 0.03 | Q | \| | \| | \| | V\| |
| 22+ 0 | 1.5532 | 0.02 | Q | \| | \| | \| | V\| |
| 22+ 5 | 1.5535 | 0.04 | Q | \| | \| | \| | V\| |
| 22+10 | 1.5539 | 0.06 | Q | \| | \| | \| | V\| |
| 22+15 | 1.5543 | 0.06 | Q | \| | \| | \| | V\| |
| 22+20 | 1.5547 | 0.05 | Q | \| | \| | \| | V\| |
| 22+25 | 1.5549 | 0.03 | Q | \| | \| | \| | V\| |
| 22+30 | 1.5551 | 0.02 | Q | \| | \| | \| | V\| |
| 22+35 | 1.5552 | 0.02 | Q | \| | \| | \| | V\| |
| 22+40 | 1.5554 | 0.02 | Q | \| | \| | \| | V\| |
| 22+45 | 1.5556 | 0.02 | Q | \| | \| | \| | V\| |
| 22+50 | 1.5557 | 0.02 | Q | \| | \| | \| | V\| |
| 22+55 | 1.5559 | 0.02 | Q | \| | \| | \| | V\| |
| 23+ 0 | 1.5561 | 0.02 | Q | \| | \| | \| | V\| |
| 23+ 5 | 1.5562 | 0.02 | Q | \| | \| | \| | V\| |
| 23+10 | 1.5564 | 0.02 | Q | \| | \| | \| | V\| |
| 23+15 | 1.5566 | 0.02 | Q | \| | \| | \| | V\| |
| 23+20 | 1.5567 | 0.02 | Q | \| | \| | \| | V\| |
| 23+25 | 1.5569 | 0.02 | Q | \| | \| | \| | V\| |
| 23+30 | 1.5571 | 0.02 | Q | \| | \| | \| | V\| |
| 23+35 | 1.5572 | 0.02 | Q | \| | \| | \| | V\| |
| 23+40 | 1.5574 | 0.02 | Q | \| | \| | \| | V\| |
| 23+45 | 1.5576 | 0.02 | Q | \| | \| | \| | V\| |
| 23+50 | 1.5577 | 0.02 | Q | \| | \| | \| | V\| |
| 23+55 | 1.5579 | 0.02 | Q | \| | \| | \| | V\| |
| 24+ 0 | 1.5581 | 0.02 | Q | \| | \| | \| | V\| |

```
   24+ 5       1.5582      0.02  Q         |          |          |         V|
   24+10       1.5582      0.00  Q         |          |          |         V|
   24+15       1.5582      0.00  Q         |          |          |         V|
   24+20       1.5582      0.00  Q         |          |          |          V
-------------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/19/17 File: EX41100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 4
100-YEAR STORM EVENT
BY: JDN, DATE: 12-19-17

---

Drainage Area = 0.70(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.70(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 426.00(Ft.)
Length along longest watercourse measured to centroid = 170.00(Ft.)
Length along longest watercourse = 0.081 Mi.
Length along longest watercourse measured to centroid = 0.032 Mi.
Difference in elevation = 88.00(Ft.)
Slope along watercourse = 1090.7042 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.023 Hr.
Lag time = 1.39 Min.
25% of lag time = 0.35 Min.
40% of lag time = 0.56 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.70 | 0.50 | 0.35 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.70 | 1.20 | 0.84 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.700 | 83.27 | 0.000 |

Total Area Entered = 0.70(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.3 | 93.0 | 0.091 | 0.000 | 0.091 | 1.000 | 0.091 |
| | | | | | Sum (F) = | 0.091 |

Area averaged mean soil loss (F) (In/Hr) = 0.091

Minimum soil loss rate ((In/Hr)) = 0.046
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

---

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 359.881 | 63.940 | 0.451 |
| 2 0.167 | 719.763 | 36.060 | 0.254 |
| | | Sum = 100.000 Sum= | 0.705 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 4.20 | 0.605 | 0.091 | ( 0.544) | 0.513 |
| 2 0.17 | 4.30 | 0.619 | 0.091 | ( 0.557) | 0.528 |
| 3 0.25 | 5.00 | 0.720 | 0.091 | ( 0.648) | 0.629 |
| 4 0.33 | 5.00 | 0.720 | 0.091 | ( 0.648) | 0.629 |
| 5 0.42 | 5.80 | 0.835 | 0.091 | ( 0.752) | 0.744 |
| 6 0.50 | 6.50 | 0.936 | 0.091 | ( 0.842) | 0.845 |
| 7 0.58 | 7.40 | 1.066 | 0.091 | ( 0.959) | 0.974 |
| 8 0.67 | 8.60 | 1.238 | 0.091 | ( 1.115) | 1.147 |
| 9 0.75 | 12.30 | 1.771 | 0.091 | ( 1.594) | 1.680 |
| 10 0.83 | 29.10 | 4.190 | 0.091 | ( 3.771) | 4.099 |
| 11 0.92 | 6.80 | 0.979 | 0.091 | ( 0.881) | 0.888 |
| 12 1.00 | 5.00 | 0.720 | 0.091 | ( 0.648) | 0.629 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 13.3 |

Flood volume = Effective rainfall 1.11(In)
times area 0.7(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.005(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 2816.7 Cubic Feet
Total soil loss = 232.5 Cubic Feet

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Peak flow rate of this hydrograph = 2.277(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0016 | 0.23 | Q | | | | |
| 0+10 | 0.0041 | 0.37 | QV | | | | |
| 0+15 | 0.0070 | 0.42 | Q V | | | | |
| 0+20 | 0.0101 | 0.44 | Q V | | | | |
| 0+25 | 0.0135 | 0.50 | Q V | | | | |
| 0+30 | 0.0174 | 0.57 | Q V | | | | |
| 0+35 | 0.0219 | 0.65 | Q V | | | | |
| 0+40 | 0.0272 | 0.77 | Q V | | | | |
| 0+45 | 0.0344 | 1.05 | Q V | | | | |
| 0+50 | 0.0501 | 2.28 | Q V | | | | |
| 0+55 | 0.0601 | 1.44 | Q V | | | | |
| 1+ 0 | 0.0636 | 0.51 | Q V | | | | |
| 1+ 5 | 0.0647 | 0.16 | Q V | | | | |

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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/19/17 File: EX43100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

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Length along longest watercourse measured to centroid = 0.032 Mi.
Difference in elevation = 88.00(Ft.)
Slope along watercourse = 1090.7042 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.023 Hr.
Lag time = 1.39 Min.
25% of lag time = 0.35 Min.
40% of lag time = 0.56 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.70 | 0.81 | 0.57 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.70 | 1.81 | 1.27 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.810(In)
Area Averaged 100-Year Rainfall = 1.810(In)

Point rain (area averaged) = 1.810(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.810(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.700 | 83.27 | 0.000 |

Total Area Entered = 0.70(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.3 | 93.0 | 0.091 | 0.000 | 0.091 | 1.000 | 0.091 |
| | | | | | Sum (F) = | 0.091 |

Area averaged mean soil loss (F) (In/Hr) = 0.091

Minimum soil loss rate ((In/Hr)) = 0.046
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 359.881 | 63.940 | 0.451 |
| 2 0.167 | 719.763 | 36.060 | 0.254 |
| | Sum = 100.000 | Sum= | 0.705 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 1.30 | 0.282 | 0.091 | ( 0.254) | 0.191 |
| 2 0.17 | 1.30 | 0.282 | 0.091 | ( 0.254) | 0.191 |
| 3 0.25 | 1.10 | 0.239 | 0.091 | ( 0.215) | 0.147 |
| 4 0.33 | 1.50 | 0.326 | 0.091 | ( 0.293) | 0.234 |
| 5 0.42 | 1.50 | 0.326 | 0.091 | ( 0.293) | 0.234 |
| 6 0.50 | 1.80 | 0.391 | 0.091 | ( 0.352) | 0.299 |
| 7 0.58 | 1.50 | 0.326 | 0.091 | ( 0.293) | 0.234 |
| 8 0.67 | 1.80 | 0.391 | 0.091 | ( 0.352) | 0.299 |
| 9 0.75 | 1.80 | 0.391 | 0.091 | ( 0.352) | 0.299 |
| 10 0.83 | 1.50 | 0.326 | 0.091 | ( 0.293) | 0.234 |
| 11 0.92 | 1.60 | 0.348 | 0.091 | ( 0.313) | 0.256 |
| 12 1.00 | 1.80 | 0.391 | 0.091 | ( 0.352) | 0.299 |
| 13 1.08 | 2.20 | 0.478 | 0.091 | ( 0.430) | 0.386 |
| 14 1.17 | 2.20 | 0.478 | 0.091 | ( 0.430) | 0.386 |
| 15 1.25 | 2.20 | 0.478 | 0.091 | ( 0.430) | 0.386 |
| 16 1.33 | 2.00 | 0.434 | 0.091 | ( 0.391) | 0.343 |
| 17 1.42 | 2.60 | 0.565 | 0.091 | ( 0.508) | 0.473 |
| 18 1.50 | 2.70 | 0.586 | 0.091 | ( 0.528) | 0.495 |
| 19 1.58 | 2.40 | 0.521 | 0.091 | ( 0.469) | 0.430 |
| 20 1.67 | 2.70 | 0.586 | 0.091 | ( 0.528) | 0.495 |
| 21 1.75 | 3.30 | 0.717 | 0.091 | ( 0.645) | 0.625 |
| 22 1.83 | 3.10 | 0.673 | 0.091 | ( 0.606) | 0.582 |
| 23 1.92 | 2.90 | 0.630 | 0.091 | ( 0.567) | 0.538 |
| 24 2.00 | 3.00 | 0.652 | 0.091 | ( 0.586) | 0.560 |
| 25 2.08 | 3.10 | 0.673 | 0.091 | ( 0.606) | 0.582 |
| 26 2.17 | 4.20 | 0.912 | 0.091 | ( 0.821) | 0.821 |
| 27 2.25 | 5.00 | 1.086 | 0.091 | ( 0.977) | 0.995 |
| 28 2.33 | 3.50 | 0.760 | 0.091 | ( 0.684) | 0.669 |
| 29 2.42 | 6.80 | 1.477 | 0.091 | ( 1.329) | 1.385 |
| 30 2.50 | 7.30 | 1.586 | 0.091 | ( 1.427) | 1.494 |
| 31 2.58 | 8.20 | 1.781 | 0.091 | ( 1.603) | 1.690 |
| 32 2.67 | 5.90 | 1.281 | 0.091 | ( 1.153) | 1.190 |
| 33 2.75 | 2.00 | 0.434 | 0.091 | ( 0.391) | 0.343 |
| 34 2.83 | 1.80 | 0.391 | 0.091 | ( 0.352) | 0.299 |
| 35 2.92 | 1.80 | 0.391 | 0.091 | ( 0.352) | 0.299 |
| 36 3.00 | 0.60 | 0.130 | 0.091 | ( 0.117) | 0.039 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 18.4 |

Flood volume = Effective rainfall 1.54(In)
times area 0.7(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.27(In)
Total soil loss = 0.016(Ac.Ft)
Total rainfall = 1.81(In)
Flood volume = 3901.7 Cubic Feet
Total soil loss = 697.5 Cubic Feet

---

Peak flow rate of this hydrograph = 1.143(CFS)

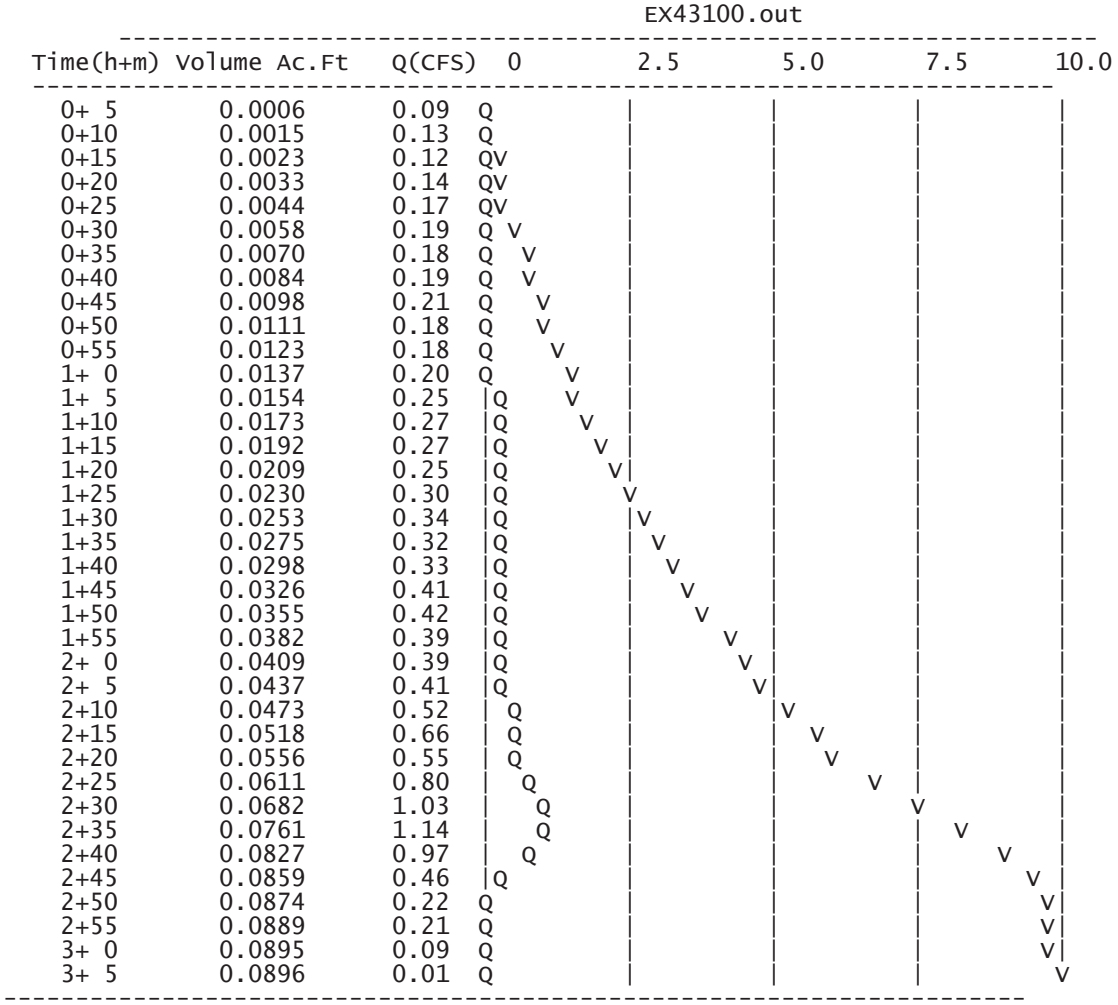
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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))


Time(h+m) Volume Ac.Ft Q(CFS) 0 2.5 5.0 7.5 10.0
0+ 5 0.0006 0.09
0+10 0.0015 0.13
0+15 0.0023 0.12
0+20 0.0033 0.14
0+25 0.0044 0.17
0+30 0.0058 0.19
0+35 0.0070 0.18
0+40 0.0084 0.19
0+45 0.0098 0.21
0+50 0.0111 0.18
0+55 0.0123 0.18
1+ 0 0.0137 0.20
1+ 5 0.0154 0.25
1+10 0.0173 0.27
1+15 0.0192 0.27
1+20 0.0209 0.25
1+25 0.0230 0.30
1+30 0.0253 0.34
1+35 0.0275 0.32
1+40 0.0298 0.33
1+45 0.0326 0.41
1+50 0.0355 0.42
1+55 0.0382 0.39
2+ 0 0.0409 0.39
2+ 5 0.0437 0.41
2+10 0.0473 0.52
2+15 0.0518 0.66
2+20 0.0556 0.55
2+25 0.0611 0.80
2+30 0.0682 1.03
2+35 0.0761 1.14
2+40 0.0827 0.97
2+45 0.0859 0.46
2+50 0.0874 0.22
2+55 0.0889 0.21
3+ 0 0.0895 0.09
3+ 5 0.0896 0.01

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/19/17 File: EX46100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 4
100-YEAR STORM EVENT
BY: JDN, DATE: 12-19-17

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Drainage Area = 0.70(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.70(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 426.00(Ft.)
Length along longest watercourse measured to centroid = 170.00(Ft.)
Length along longest watercourse = 0.081 Mi.
Length along longest watercourse measured to centroid = 0.032 Mi.
Difference in elevation = 88.00(Ft.)
Slope along watercourse = 1090.7042 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.023 Hr.
Lag time = 1.39 Min.
25% of lag time = 0.35 Min.
40% of lag time = 0.56 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.70 | 1.14 | 0.80 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.70 | 2.50 | 1.75 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.140(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.700 | 83.27 | 0.000 |

Total Area Entered = 0.70(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.3 | 93.0 | 0.091 | 0.000 | 0.091 | 1.000 | 0.091 |
| | | | | | Sum (F) = | 0.091 |

Area averaged mean soil loss (F) (In/Hr) = 0.091

Minimum soil loss rate ((In/Hr)) = 0.046
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 359.881 | 63.940 | 0.451 |
| 2 0.167 | 719.763 | 36.060 | 0.254 |
| | | Sum = 100.000 Sum= | 0.705 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 0.50 | 0.150 | 0.091 | ( 0.135) | 0.059 |
| 2 0.17 | 0.60 | 0.180 | 0.091 | ( 0.162) | 0.089 |
| 3 0.25 | 0.60 | 0.180 | 0.091 | ( 0.162) | 0.089 |
| 4 0.33 | 0.60 | 0.180 | 0.091 | ( 0.162) | 0.089 |
| 5 0.42 | 0.60 | 0.180 | 0.091 | ( 0.162) | 0.089 |
| 6 0.50 | 0.70 | 0.210 | 0.091 | ( 0.189) | 0.119 |
| 7 0.58 | 0.70 | 0.210 | 0.091 | ( 0.189) | 0.119 |
| 8 0.67 | 0.70 | 0.210 | 0.091 | ( 0.189) | 0.119 |
| 9 0.75 | 0.70 | 0.210 | 0.091 | ( 0.189) | 0.119 |
| 10 0.83 | 0.70 | 0.210 | 0.091 | ( 0.189) | 0.119 |
| 11 0.92 | 0.70 | 0.210 | 0.091 | ( 0.189) | 0.119 |
| 12 1.00 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 13 1.08 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 14 1.17 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 15 1.25 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 16 1.33 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 17 1.42 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 18 1.50 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 19 1.58 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 20 1.67 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 21 1.75 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 22 1.83 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 23 1.92 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 24 2.00 | 0.90 | 0.270 | 0.091 | ( 0.243) | 0.179 |
| 25 2.08 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 26 2.17 | 0.90 | 0.270 | 0.091 | ( 0.243) | 0.179 |
| 27 2.25 | 0.90 | 0.270 | 0.091 | ( 0.243) | 0.179 |
| 28 2.33 | 0.90 | 0.270 | 0.091 | ( 0.243) | 0.179 |
| 29 2.42 | 0.90 | 0.270 | 0.091 | ( 0.243) | 0.179 |
| 30 2.50 | 0.90 | 0.270 | 0.091 | ( 0.243) | 0.179 |
| 31 2.58 | 0.90 | 0.270 | 0.091 | ( 0.243) | 0.179 |
| 32 2.67 | 0.90 | 0.270 | 0.091 | ( 0.243) | 0.179 |
| 33 2.75 | 1.00 | 0.300 | 0.091 | ( 0.270) | 0.209 |
| 34 2.83 | 1.00 | 0.300 | 0.091 | ( 0.270) | 0.209 |
| 35 2.92 | 1.00 | 0.300 | 0.091 | ( 0.270) | 0.209 |
| 36 3.00 | 1.00 | 0.300 | 0.091 | ( 0.270) | 0.209 |
| 37 3.08 | 1.00 | 0.300 | 0.091 | ( 0.270) | 0.209 |
| 38 3.17 | 1.10 | 0.330 | 0.091 | ( 0.297) | 0.239 |
| 39 3.25 | 1.10 | 0.330 | 0.091 | ( 0.297) | 0.239 |
| 40 3.33 | 1.10 | 0.330 | 0.091 | ( 0.297) | 0.239 |
| 41 3.42 | 1.20 | 0.360 | 0.091 | ( 0.324) | 0.269 |
| 42 3.50 | 1.30 | 0.390 | 0.091 | ( 0.351) | 0.299 |
| 43 3.58 | 1.40 | 0.420 | 0.091 | ( 0.378) | 0.329 |
| 44 3.67 | 1.40 | 0.420 | 0.091 | ( 0.378) | 0.329 |
| 45 3.75 | 1.50 | 0.450 | 0.091 | ( 0.405) | 0.359 |
| 46 3.83 | 1.50 | 0.450 | 0.091 | ( 0.405) | 0.359 |
| 47 3.92 | 1.60 | 0.480 | 0.091 | ( 0.432) | 0.389 |
| 48 4.00 | 1.60 | 0.480 | 0.091 | ( 0.432) | 0.389 |
| 49 4.08 | 1.70 | 0.510 | 0.091 | ( 0.459) | 0.419 |
| 50 4.17 | 1.80 | 0.540 | 0.091 | ( 0.486) | 0.449 |
| 51 4.25 | 1.90 | 0.570 | 0.091 | ( 0.513) | 0.479 |
| 52 4.33 | 2.00 | 0.600 | 0.091 | ( 0.540) | 0.509 |
| 53 4.42 | 2.10 | 0.630 | 0.091 | ( 0.567) | 0.539 |
| 54 4.50 | 2.10 | 0.630 | 0.091 | ( 0.567) | 0.539 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 55 | 4.58 | 2.20 | 0.660 | 0.091 | ( 0.594) | 0.569 | |
| 56 | 4.67 | 2.30 | 0.690 | 0.091 | ( 0.621) | 0.599 | |
| 57 | 4.75 | 2.40 | 0.720 | 0.091 | ( 0.648) | 0.629 | |
| 58 | 4.83 | 2.40 | 0.720 | 0.091 | ( 0.648) | 0.629 | |
| 59 | 4.92 | 2.50 | 0.750 | 0.091 | ( 0.675) | 0.659 | |
| 60 | 5.00 | 2.60 | 0.780 | 0.091 | ( 0.702) | 0.689 | |
| 61 | 5.08 | 3.10 | 0.930 | 0.091 | ( 0.837) | 0.839 | |
| 62 | 5.17 | 3.60 | 1.080 | 0.091 | ( 0.972) | 0.989 | |
| 63 | 5.25 | 3.90 | 1.170 | 0.091 | ( 1.053) | 1.079 | |
| 64 | 5.33 | 4.20 | 1.260 | 0.091 | ( 1.134) | 1.169 | |
| 65 | 5.42 | 4.70 | 1.410 | 0.091 | ( 1.269) | 1.319 | |
| 66 | 5.50 | 5.60 | 1.680 | 0.091 | ( 1.512) | 1.589 | |
| 67 | 5.58 | 1.90 | 0.570 | 0.091 | ( 0.513) | 0.479 | |
| 68 | 5.67 | 0.90 | 0.270 | 0.091 | ( 0.243) | 0.179 | |
| 69 | 5.75 | 0.60 | 0.180 | 0.091 | ( 0.162) | 0.089 | |
| 70 | 5.83 | 0.50 | 0.150 | 0.091 | ( 0.135) | 0.059 | |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.091) | 0.081 | 0.009 | |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.091) | 0.054 | 0.006 | |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.5

Flood volume = Effective rainfall 1.96(In)
times area 0.7(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.54(In)
Total soil loss = 0.032(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 4967.7 Cubic Feet
Total soil loss = 1384.8 Cubic Feet

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Peak flow rate of this hydrograph = 1.052(CFS)

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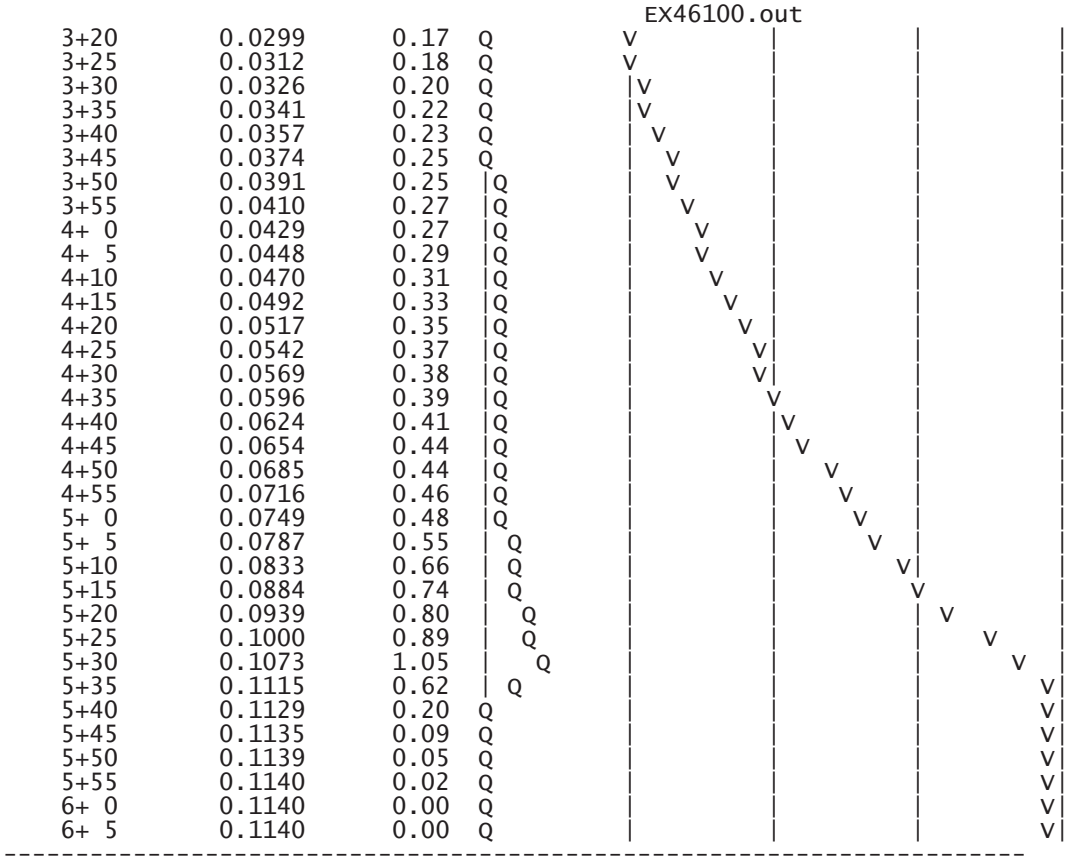
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0002 | 0.03 | Q | \| | \| | \| | \| |
| 0+10 | 0.0006 | 0.05 | Q | \| | \| | \| | \| |
| 0+15 | 0.0010 | 0.06 | Q | \| | \| | \| | \| |
| 0+20 | 0.0014 | 0.06 | Q | \| | \| | \| | \| |
| 0+25 | 0.0019 | 0.06 | Q | \| | \| | \| | \| |
| 0+30 | 0.0024 | 0.08 | Q | \| | \| | \| | \| |
| 0+35 | 0.0029 | 0.08 | QV | \| | \| | \| | \| |
| 0+40 | 0.0035 | 0.08 | QV | \| | \| | \| | \| |
| 0+45 | 0.0041 | 0.08 | QV | \| | \| | \| | \| |
| 0+50 | 0.0047 | 0.08 | QV | \| | \| | \| | \| |
| 0+55 | 0.0053 | 0.08 | QV | \| | \| | \| | \| |
| 1+ 0 | 0.0059 | 0.10 | Q V | \| | \| | \| | \| |
| 1+ 5 | 0.0066 | 0.10 | Q V | \| | \| | \| | \| |
| 1+10 | 0.0074 | 0.10 | Q V | \| | \| | \| | \| |
| 1+15 | 0.0081 | 0.10 | Q V | \| | \| | \| | \| |
| 1+20 | 0.0088 | 0.10 | Q V | \| | \| | \| | \| |
| 1+25 | 0.0095 | 0.10 | Q V | \| | \| | \| | \| |
| 1+30 | 0.0103 | 0.10 | Q V | \| | \| | \| | \| |
| 1+35 | 0.0110 | 0.10 | Q V | \| | \| | \| | \| |
| 1+40 | 0.0117 | 0.10 | Q V | \| | \| | \| | \| |
| 1+45 | 0.0124 | 0.10 | Q V | \| | \| | \| | \| |
| 1+50 | 0.0131 | 0.10 | Q V | \| | \| | \| | \| |
| 1+55 | 0.0139 | 0.10 | Q V | \| | \| | \| | \| |
| 2+ 0 | 0.0147 | 0.12 | Q V | \| | \| | \| | \| |
| 2+ 5 | 0.0155 | 0.11 | Q V | \| | \| | \| | \| |
| 2+10 | 0.0163 | 0.12 | Q V | \| | \| | \| | \| |
| 2+15 | 0.0171 | 0.13 | Q V | \| | \| | \| | \| |
| 2+20 | 0.0180 | 0.13 | Q V | \| | \| | \| | \| |
| 2+25 | 0.0189 | 0.13 | Q V | \| | \| | \| | \| |
| 2+30 | 0.0197 | 0.13 | Q V | \| | \| | \| | \| |
| 2+35 | 0.0206 | 0.13 | Q V | \| | \| | \| | \| |
| 2+40 | 0.0215 | 0.13 | Q V | \| | \| | \| | \| |
| 2+45 | 0.0224 | 0.14 | Q V | \| | \| | \| | \| |
| 2+50 | 0.0234 | 0.15 | Q V | \| | \| | \| | \| |
| 2+55 | 0.0245 | 0.15 | Q V | \| | \| | \| | \| |
| 3+ 0 | 0.0255 | 0.15 | Q V | \| | \| | \| | \| |
| 3+ 5 | 0.0265 | 0.15 | Q V | \| | \| | \| | \| |
| 3+10 | 0.0276 | 0.16 | Q V | \| | \| | \| | \| |
| 3+15 | 0.0288 | 0.17 | Q V | \| | \| | \| | \| |



| | | | |
|---|---|---|---|
| 3+20 | 0.0299 | 0.17 | Q |
| 3+25 | 0.0312 | 0.18 | Q |
| 3+30 | 0.0326 | 0.20 | Q |
| 3+35 | 0.0341 | 0.22 | Q |
| 3+40 | 0.0357 | 0.23 | Q |
| 3+45 | 0.0374 | 0.25 | Q |
| 3+50 | 0.0391 | 0.25 | Q |
| 3+55 | 0.0410 | 0.27 | Q |
| 4+ 0 | 0.0429 | 0.27 | Q |
| 4+ 5 | 0.0448 | 0.29 | Q |
| 4+10 | 0.0470 | 0.31 | Q |
| 4+15 | 0.0492 | 0.33 | Q |
| 4+20 | 0.0517 | 0.35 | Q |
| 4+25 | 0.0542 | 0.37 | Q |
| 4+30 | 0.0569 | 0.38 | Q |
| 4+35 | 0.0596 | 0.39 | Q |
| 4+40 | 0.0624 | 0.41 | Q |
| 4+45 | 0.0654 | 0.44 | Q |
| 4+50 | 0.0685 | 0.44 | Q |
| 4+55 | 0.0716 | 0.46 | Q |
| 5+ 0 | 0.0749 | 0.48 | Q |
| 5+ 5 | 0.0787 | 0.55 | Q |
| 5+10 | 0.0833 | 0.66 | Q |
| 5+15 | 0.0884 | 0.74 | Q |
| 5+20 | 0.0939 | 0.80 | Q |
| 5+25 | 0.1000 | 0.89 | Q |
| 5+30 | 0.1073 | 1.05 | Q |
| 5+35 | 0.1115 | 0.62 | Q |
| 5+40 | 0.1129 | 0.20 | Q |
| 5+45 | 0.1135 | 0.09 | Q |
| 5+50 | 0.1139 | 0.05 | Q |
| 5+55 | 0.1140 | 0.02 | Q |
| 6+ 0 | 0.1140 | 0.00 | Q |
| 6+ 5 | 0.1140 | 0.00 | Q |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/19/17 File: EX424100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 4
100-YEAR STORM EVENT
BY: JDN, DATE: 12-19-17

---

Drainage Area = 0.70(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.70(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 426.00(Ft.)
Length along longest watercourse measured to centroid = 170.00(Ft.)
Length along longest watercourse = 0.081 Mi.
Length along longest watercourse measured to centroid = 0.032 Mi.
Difference in elevation = 88.00(Ft.)
Slope along watercourse = 1090.7042 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.023 Hr.
Lag time = 1.39 Min.
25% of lag time = 0.35 Min.
40% of lag time = 0.56 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.70 | 1.80 | 1.26 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.70 | 4.64 | 3.25 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.640(In)

Point rain (area averaged) = 4.640(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.640(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.700 | 83.27 | 0.000 |

Total Area Entered = 0.70(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.3 | 93.0 | 0.091 | 0.000 | 0.091 | 1.000 | 0.091 |
| | | | | | Sum (F) = | 0.091 |

Area averaged mean soil loss (F) (In/Hr) = 0.091

Minimum soil loss rate ((In/Hr)) = 0.046
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 359.881 | 63.940 | 0.451 |
| 2 0.167 | 719.763 | 36.060 | 0.254 |
| | Sum = 100.000 | Sum= | 0.705 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 0.07 | 0.037 | ( 0.162) | 0.033 | 0.004 |
| 2 0.17 | 0.07 | 0.037 | ( 0.162) | 0.033 | 0.004 |
| 3 0.25 | 0.07 | 0.037 | ( 0.161) | 0.033 | 0.004 |
| 4 0.33 | 0.10 | 0.056 | ( 0.160) | 0.050 | 0.006 |
| 5 0.42 | 0.10 | 0.056 | ( 0.160) | 0.050 | 0.006 |
| 6 0.50 | 0.10 | 0.056 | ( 0.159) | 0.050 | 0.006 |
| 7 0.58 | 0.10 | 0.056 | ( 0.158) | 0.050 | 0.006 |
| 8 0.67 | 0.10 | 0.056 | ( 0.158) | 0.050 | 0.006 |
| 9 0.75 | 0.10 | 0.056 | ( 0.157) | 0.050 | 0.006 |
| 10 0.83 | 0.13 | 0.074 | ( 0.157) | 0.067 | 0.007 |
| 11 0.92 | 0.13 | 0.074 | ( 0.156) | 0.067 | 0.007 |
| 12 1.00 | 0.13 | 0.074 | ( 0.155) | 0.067 | 0.007 |
| 13 1.08 | 0.10 | 0.056 | ( 0.155) | 0.050 | 0.006 |
| 14 1.17 | 0.10 | 0.056 | ( 0.154) | 0.050 | 0.006 |
| 15 1.25 | 0.10 | 0.056 | ( 0.154) | 0.050 | 0.006 |
| 16 1.33 | 0.10 | 0.056 | ( 0.153) | 0.050 | 0.006 |
| 17 1.42 | 0.10 | 0.056 | ( 0.152) | 0.050 | 0.006 |
| 18 1.50 | 0.10 | 0.056 | ( 0.152) | 0.050 | 0.006 |
| 19 1.58 | 0.10 | 0.056 | ( 0.151) | 0.050 | 0.006 |
| 20 1.67 | 0.10 | 0.056 | ( 0.150) | 0.050 | 0.006 |
| 21 1.75 | 0.10 | 0.056 | ( 0.150) | 0.050 | 0.006 |
| 22 1.83 | 0.13 | 0.074 | ( 0.149) | 0.067 | 0.007 |
| 23 1.92 | 0.13 | 0.074 | ( 0.149) | 0.067 | 0.007 |
| 24 2.00 | 0.13 | 0.074 | ( 0.148) | 0.067 | 0.007 |
| 25 2.08 | 0.13 | 0.074 | ( 0.147) | 0.067 | 0.007 |
| 26 2.17 | 0.13 | 0.074 | ( 0.147) | 0.067 | 0.007 |
| 27 2.25 | 0.13 | 0.074 | ( 0.146) | 0.067 | 0.007 |
| 28 2.33 | 0.13 | 0.074 | ( 0.146) | 0.067 | 0.007 |
| 29 2.42 | 0.13 | 0.074 | ( 0.145) | 0.067 | 0.007 |
| 30 2.50 | 0.13 | 0.074 | ( 0.145) | 0.067 | 0.007 |
| 31 2.58 | 0.17 | 0.093 | ( 0.144) | 0.084 | 0.009 |
| 32 2.67 | 0.17 | 0.093 | ( 0.143) | 0.084 | 0.009 |
| 33 2.75 | 0.17 | 0.093 | ( 0.143) | 0.084 | 0.009 |
| 34 2.83 | 0.17 | 0.093 | ( 0.142) | 0.084 | 0.009 |
| 35 2.92 | 0.17 | 0.093 | ( 0.142) | 0.084 | 0.009 |
| 36 3.00 | 0.17 | 0.093 | ( 0.141) | 0.084 | 0.009 |
| 37 3.08 | 0.17 | 0.093 | ( 0.140) | 0.084 | 0.009 |
| 38 3.17 | 0.17 | 0.093 | ( 0.140) | 0.084 | 0.009 |
| 39 3.25 | 0.17 | 0.093 | ( 0.139) | 0.084 | 0.009 |
| 40 3.33 | 0.17 | 0.093 | ( 0.139) | 0.084 | 0.009 |
| 41 3.42 | 0.17 | 0.093 | ( 0.138) | 0.084 | 0.009 |
| 42 3.50 | 0.17 | 0.093 | ( 0.137) | 0.084 | 0.009 |
| 43 3.58 | 0.17 | 0.093 | ( 0.137) | 0.084 | 0.009 |
| 44 3.67 | 0.17 | 0.093 | ( 0.136) | 0.084 | 0.009 |
| 45 3.75 | 0.17 | 0.093 | ( 0.136) | 0.084 | 0.009 |
| 46 3.83 | 0.20 | 0.111 | ( 0.135) | 0.100 | 0.011 |
| 47 3.92 | 0.20 | 0.111 | ( 0.135) | 0.100 | 0.011 |
| 48 4.00 | 0.20 | 0.111 | ( 0.134) | 0.100 | 0.011 |
| 49 4.08 | 0.20 | 0.111 | ( 0.133) | 0.100 | 0.011 |
| 50 4.17 | 0.20 | 0.111 | ( 0.133) | 0.100 | 0.011 |
| 51 4.25 | 0.20 | 0.111 | ( 0.132) | 0.100 | 0.011 |
| 52 4.33 | 0.23 | 0.130 | ( 0.132) | 0.117 | 0.013 |
| 53 4.42 | 0.23 | 0.130 | ( 0.131) | 0.117 | 0.013 |
| 54 4.50 | 0.23 | 0.130 | ( 0.131) | 0.117 | 0.013 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 55 | 4.58 | 0.23 | 0.130 | ( | 0.130) | 0.117 | 0.013 |
| 56 | 4.67 | 0.23 | 0.130 | ( | 0.130) | 0.117 | 0.013 |
| 57 | 4.75 | 0.23 | 0.130 | ( | 0.129) | 0.117 | 0.013 |
| 58 | 4.83 | 0.27 | 0.148 | | 0.128 | ( 0.134) | 0.020 |
| 59 | 4.92 | 0.27 | 0.148 | | 0.128 | ( 0.134) | 0.021 |
| 60 | 5.00 | 0.27 | 0.148 | | 0.127 | ( 0.134) | 0.021 |
| 61 | 5.08 | 0.20 | 0.111 | ( | 0.127) | 0.100 | 0.011 |
| 62 | 5.17 | 0.20 | 0.111 | ( | 0.126) | 0.100 | 0.011 |
| 63 | 5.25 | 0.20 | 0.111 | ( | 0.126) | 0.100 | 0.011 |
| 64 | 5.33 | 0.23 | 0.130 | ( | 0.125) | 0.117 | 0.013 |
| 65 | 5.42 | 0.23 | 0.130 | ( | 0.125) | 0.117 | 0.013 |
| 66 | 5.50 | 0.23 | 0.130 | ( | 0.124) | 0.117 | 0.013 |
| 67 | 5.58 | 0.27 | 0.148 | | 0.123 | ( 0.134) | 0.025 |
| 68 | 5.67 | 0.27 | 0.148 | | 0.123 | ( 0.134) | 0.026 |
| 69 | 5.75 | 0.27 | 0.148 | | 0.122 | ( 0.134) | 0.026 |
| 70 | 5.83 | 0.27 | 0.148 | | 0.122 | ( 0.134) | 0.027 |
| 71 | 5.92 | 0.27 | 0.148 | | 0.121 | ( 0.134) | 0.027 |
| 72 | 6.00 | 0.27 | 0.148 | | 0.121 | ( 0.134) | 0.028 |
| 73 | 6.08 | 0.30 | 0.167 | | 0.120 | ( 0.150) | 0.047 |
| 74 | 6.17 | 0.30 | 0.167 | | 0.120 | ( 0.150) | 0.047 |
| 75 | 6.25 | 0.30 | 0.167 | | 0.119 | ( 0.150) | 0.048 |
| 76 | 6.33 | 0.30 | 0.167 | | 0.119 | ( 0.150) | 0.048 |
| 77 | 6.42 | 0.30 | 0.167 | | 0.118 | ( 0.150) | 0.049 |
| 78 | 6.50 | 0.30 | 0.167 | | 0.118 | ( 0.150) | 0.049 |
| 79 | 6.58 | 0.33 | 0.186 | | 0.117 | ( 0.167) | 0.069 |
| 80 | 6.67 | 0.33 | 0.186 | | 0.117 | ( 0.167) | 0.069 |
| 81 | 6.75 | 0.33 | 0.186 | | 0.116 | ( 0.167) | 0.070 |
| 82 | 6.83 | 0.33 | 0.186 | | 0.115 | ( 0.167) | 0.070 |
| 83 | 6.92 | 0.33 | 0.186 | | 0.115 | ( 0.167) | 0.071 |
| 84 | 7.00 | 0.33 | 0.186 | | 0.114 | ( 0.167) | 0.071 |
| 85 | 7.08 | 0.33 | 0.186 | | 0.114 | ( 0.167) | 0.072 |
| 86 | 7.17 | 0.33 | 0.186 | | 0.113 | ( 0.167) | 0.072 |
| 87 | 7.25 | 0.33 | 0.186 | | 0.113 | ( 0.167) | 0.073 |
| 88 | 7.33 | 0.37 | 0.204 | | 0.112 | ( 0.184) | 0.092 |
| 89 | 7.42 | 0.37 | 0.204 | | 0.112 | ( 0.184) | 0.092 |
| 90 | 7.50 | 0.37 | 0.204 | | 0.111 | ( 0.184) | 0.093 |
| 91 | 7.58 | 0.40 | 0.223 | | 0.111 | ( 0.200) | 0.112 |
| 92 | 7.67 | 0.40 | 0.223 | | 0.110 | ( 0.200) | 0.112 |
| 93 | 7.75 | 0.40 | 0.223 | | 0.110 | ( 0.200) | 0.113 |
| 94 | 7.83 | 0.43 | 0.241 | | 0.109 | ( 0.217) | 0.132 |
| 95 | 7.92 | 0.43 | 0.241 | | 0.109 | ( 0.217) | 0.132 |
| 96 | 8.00 | 0.43 | 0.241 | | 0.108 | ( 0.217) | 0.133 |
| 97 | 8.08 | 0.50 | 0.278 | | 0.108 | ( 0.251) | 0.171 |
| 98 | 8.17 | 0.50 | 0.278 | | 0.107 | ( 0.251) | 0.171 |
| 99 | 8.25 | 0.50 | 0.278 | | 0.107 | ( 0.251) | 0.172 |
| 100 | 8.33 | 0.50 | 0.278 | | 0.106 | ( 0.251) | 0.172 |
| 101 | 8.42 | 0.50 | 0.278 | | 0.106 | ( 0.251) | 0.173 |
| 102 | 8.50 | 0.50 | 0.278 | | 0.105 | ( 0.251) | 0.173 |
| 103 | 8.58 | 0.53 | 0.297 | | 0.105 | ( 0.267) | 0.192 |
| 104 | 8.67 | 0.53 | 0.297 | | 0.104 | ( 0.267) | 0.193 |
| 105 | 8.75 | 0.53 | 0.297 | | 0.104 | ( 0.267) | 0.193 |
| 106 | 8.83 | 0.57 | 0.316 | | 0.103 | ( 0.284) | 0.212 |
| 107 | 8.92 | 0.57 | 0.316 | | 0.103 | ( 0.284) | 0.213 |
| 108 | 9.00 | 0.57 | 0.316 | | 0.102 | ( 0.284) | 0.213 |
| 109 | 9.08 | 0.63 | 0.353 | | 0.102 | ( 0.317) | 0.251 |
| 110 | 9.17 | 0.63 | 0.353 | | 0.101 | ( 0.317) | 0.251 |
| 111 | 9.25 | 0.63 | 0.353 | | 0.101 | ( 0.317) | 0.252 |
| 112 | 9.33 | 0.67 | 0.371 | | 0.100 | ( 0.334) | 0.271 |
| 113 | 9.42 | 0.67 | 0.371 | | 0.100 | ( 0.334) | 0.271 |
| 114 | 9.50 | 0.67 | 0.371 | | 0.099 | ( 0.334) | 0.272 |
| 115 | 9.58 | 0.70 | 0.390 | | 0.099 | ( 0.351) | 0.291 |
| 116 | 9.67 | 0.70 | 0.390 | | 0.099 | ( 0.351) | 0.291 |
| 117 | 9.75 | 0.70 | 0.390 | | 0.098 | ( 0.351) | 0.292 |
| 118 | 9.83 | 0.73 | 0.408 | | 0.098 | ( 0.367) | 0.311 |
| 119 | 9.92 | 0.73 | 0.408 | | 0.097 | ( 0.367) | 0.311 |
| 120 | 10.00 | 0.73 | 0.408 | | 0.097 | ( 0.367) | 0.312 |
| 121 | 10.08 | 0.50 | 0.278 | | 0.096 | ( 0.251) | 0.182 |
| 122 | 10.17 | 0.50 | 0.278 | | 0.096 | ( 0.251) | 0.183 |
| 123 | 10.25 | 0.50 | 0.278 | | 0.095 | ( 0.251) | 0.183 |
| 124 | 10.33 | 0.50 | 0.278 | | 0.095 | ( 0.251) | 0.184 |
| 125 | 10.42 | 0.50 | 0.278 | | 0.094 | ( 0.251) | 0.184 |
| 126 | 10.50 | 0.50 | 0.278 | | 0.094 | ( 0.251) | 0.185 |
| 127 | 10.58 | 0.67 | 0.371 | | 0.093 | ( 0.334) | 0.278 |
| 128 | 10.67 | 0.67 | 0.371 | | 0.093 | ( 0.334) | 0.278 |
| 129 | 10.75 | 0.67 | 0.371 | | 0.092 | ( 0.334) | 0.279 |
| 130 | 10.83 | 0.67 | 0.371 | | 0.092 | ( 0.334) | 0.279 |
| 131 | 10.92 | 0.67 | 0.371 | | 0.092 | ( 0.334) | 0.280 |
| 132 | 11.00 | 0.67 | 0.371 | | 0.091 | ( 0.334) | 0.280 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 133 | 11.08 | 0.63 | 0.353 | 0.091 | ( 0.317) | 0.262 |
| 134 | 11.17 | 0.63 | 0.353 | 0.090 | ( 0.317) | 0.262 |
| 135 | 11.25 | 0.63 | 0.353 | 0.090 | ( 0.317) | 0.263 |
| 136 | 11.33 | 0.63 | 0.353 | 0.089 | ( 0.317) | 0.263 |
| 137 | 11.42 | 0.63 | 0.353 | 0.089 | ( 0.317) | 0.264 |
| 138 | 11.50 | 0.63 | 0.353 | 0.088 | ( 0.317) | 0.264 |
| 139 | 11.58 | 0.57 | 0.316 | 0.088 | ( 0.284) | 0.228 |
| 140 | 11.67 | 0.57 | 0.316 | 0.088 | ( 0.284) | 0.228 |
| 141 | 11.75 | 0.57 | 0.316 | 0.087 | ( 0.284) | 0.228 |
| 142 | 11.83 | 0.60 | 0.334 | 0.087 | ( 0.301) | 0.247 |
| 143 | 11.92 | 0.60 | 0.334 | 0.086 | ( 0.301) | 0.248 |
| 144 | 12.00 | 0.60 | 0.334 | 0.086 | ( 0.301) | 0.248 |
| 145 | 12.08 | 0.83 | 0.464 | 0.085 | ( 0.418) | 0.379 |
| 146 | 12.17 | 0.83 | 0.464 | 0.085 | ( 0.418) | 0.379 |
| 147 | 12.25 | 0.83 | 0.464 | 0.085 | ( 0.418) | 0.379 |
| 148 | 12.33 | 0.87 | 0.483 | 0.084 | ( 0.434) | 0.398 |
| 149 | 12.42 | 0.87 | 0.483 | 0.084 | ( 0.434) | 0.399 |
| 150 | 12.50 | 0.87 | 0.483 | 0.083 | ( 0.434) | 0.399 |
| 151 | 12.58 | 0.93 | 0.520 | 0.083 | ( 0.468) | 0.437 |
| 152 | 12.67 | 0.93 | 0.520 | 0.082 | ( 0.468) | 0.437 |
| 153 | 12.75 | 0.93 | 0.520 | 0.082 | ( 0.468) | 0.438 |
| 154 | 12.83 | 0.97 | 0.538 | 0.082 | ( 0.484) | 0.457 |
| 155 | 12.92 | 0.97 | 0.538 | 0.081 | ( 0.484) | 0.457 |
| 156 | 13.00 | 0.97 | 0.538 | 0.081 | ( 0.484) | 0.457 |
| 157 | 13.08 | 1.13 | 0.631 | 0.080 | ( 0.568) | 0.551 |
| 158 | 13.17 | 1.13 | 0.631 | 0.080 | ( 0.568) | 0.551 |
| 159 | 13.25 | 1.13 | 0.631 | 0.080 | ( 0.568) | 0.551 |
| 160 | 13.33 | 1.13 | 0.631 | 0.079 | ( 0.568) | 0.552 |
| 161 | 13.42 | 1.13 | 0.631 | 0.079 | ( 0.568) | 0.552 |
| 162 | 13.50 | 1.13 | 0.631 | 0.078 | ( 0.568) | 0.553 |
| 163 | 13.58 | 0.77 | 0.427 | 0.078 | ( 0.384) | 0.349 |
| 164 | 13.67 | 0.77 | 0.427 | 0.078 | ( 0.384) | 0.349 |
| 165 | 13.75 | 0.77 | 0.427 | 0.077 | ( 0.384) | 0.350 |
| 166 | 13.83 | 0.77 | 0.427 | 0.077 | ( 0.384) | 0.350 |
| 167 | 13.92 | 0.77 | 0.427 | 0.076 | ( 0.384) | 0.350 |
| 168 | 14.00 | 0.77 | 0.427 | 0.076 | ( 0.384) | 0.351 |
| 169 | 14.08 | 0.90 | 0.501 | 0.076 | ( 0.451) | 0.426 |
| 170 | 14.17 | 0.90 | 0.501 | 0.075 | ( 0.451) | 0.426 |
| 171 | 14.25 | 0.90 | 0.501 | 0.075 | ( 0.451) | 0.426 |
| 172 | 14.33 | 0.87 | 0.483 | 0.074 | ( 0.434) | 0.408 |
| 173 | 14.42 | 0.87 | 0.483 | 0.074 | ( 0.434) | 0.408 |
| 174 | 14.50 | 0.87 | 0.483 | 0.074 | ( 0.434) | 0.409 |
| 175 | 14.58 | 0.87 | 0.483 | 0.073 | ( 0.434) | 0.409 |
| 176 | 14.67 | 0.87 | 0.483 | 0.073 | ( 0.434) | 0.410 |
| 177 | 14.75 | 0.87 | 0.483 | 0.073 | ( 0.434) | 0.410 |
| 178 | 14.83 | 0.83 | 0.464 | 0.072 | ( 0.418) | 0.392 |
| 179 | 14.92 | 0.83 | 0.464 | 0.072 | ( 0.418) | 0.392 |
| 180 | 15.00 | 0.83 | 0.464 | 0.071 | ( 0.418) | 0.393 |
| 181 | 15.08 | 0.80 | 0.445 | 0.071 | ( 0.401) | 0.374 |
| 182 | 15.17 | 0.80 | 0.445 | 0.071 | ( 0.401) | 0.375 |
| 183 | 15.25 | 0.80 | 0.445 | 0.070 | ( 0.401) | 0.375 |
| 184 | 15.33 | 0.77 | 0.427 | 0.070 | ( 0.384) | 0.357 |
| 185 | 15.42 | 0.77 | 0.427 | 0.070 | ( 0.384) | 0.357 |
| 186 | 15.50 | 0.77 | 0.427 | 0.069 | ( 0.384) | 0.358 |
| 187 | 15.58 | 0.63 | 0.353 | 0.069 | ( 0.317) | 0.284 |
| 188 | 15.67 | 0.63 | 0.353 | 0.069 | ( 0.317) | 0.284 |
| 189 | 15.75 | 0.63 | 0.353 | 0.068 | ( 0.317) | 0.284 |
| 190 | 15.83 | 0.63 | 0.353 | 0.068 | ( 0.317) | 0.285 |
| 191 | 15.92 | 0.63 | 0.353 | 0.068 | ( 0.317) | 0.285 |
| 192 | 16.00 | 0.63 | 0.353 | 0.067 | ( 0.317) | 0.285 |
| 193 | 16.08 | 0.13 | 0.074 | ( 0.067) | 0.067 | 0.007 |
| 194 | 16.17 | 0.13 | 0.074 | 0.067 | ( 0.067) | 0.008 |
| 195 | 16.25 | 0.13 | 0.074 | 0.066 | ( 0.067) | 0.008 |
| 196 | 16.33 | 0.13 | 0.074 | 0.066 | ( 0.067) | 0.008 |
| 197 | 16.42 | 0.13 | 0.074 | 0.065 | ( 0.067) | 0.009 |
| 198 | 16.50 | 0.13 | 0.074 | 0.065 | ( 0.067) | 0.009 |
| 199 | 16.58 | 0.10 | 0.056 | ( 0.065) | 0.050 | 0.006 |
| 200 | 16.67 | 0.10 | 0.056 | ( 0.064) | 0.050 | 0.006 |
| 201 | 16.75 | 0.10 | 0.056 | ( 0.064) | 0.050 | 0.006 |
| 202 | 16.83 | 0.10 | 0.056 | ( 0.064) | 0.050 | 0.006 |
| 203 | 16.92 | 0.10 | 0.056 | ( 0.064) | 0.050 | 0.006 |
| 204 | 17.00 | 0.10 | 0.056 | ( 0.063) | 0.050 | 0.006 |
| 205 | 17.08 | 0.17 | 0.093 | 0.063 | ( 0.084) | 0.030 |
| 206 | 17.17 | 0.17 | 0.093 | 0.063 | ( 0.084) | 0.030 |
| 207 | 17.25 | 0.17 | 0.093 | 0.062 | ( 0.084) | 0.031 |
| 208 | 17.33 | 0.17 | 0.093 | 0.062 | ( 0.084) | 0.031 |
| 209 | 17.42 | 0.17 | 0.093 | 0.062 | ( 0.084) | 0.031 |
| 210 | 17.50 | 0.17 | 0.093 | 0.061 | ( 0.084) | 0.031 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 211 | 17.58 | 0.17 | 0.093 | 0.061 | ( 0.084) | 0.032 |
| 212 | 17.67 | 0.17 | 0.093 | 0.061 | ( 0.084) | 0.032 |
| 213 | 17.75 | 0.17 | 0.093 | 0.060 | ( 0.084) | 0.032 |
| 214 | 17.83 | 0.13 | 0.074 | 0.060 | ( 0.067) | 0.014 |
| 215 | 17.92 | 0.13 | 0.074 | 0.060 | ( 0.067) | 0.014 |
| 216 | 18.00 | 0.13 | 0.074 | 0.060 | ( 0.067) | 0.015 |
| 217 | 18.08 | 0.13 | 0.074 | 0.059 | ( 0.067) | 0.015 |
| 218 | 18.17 | 0.13 | 0.074 | 0.059 | ( 0.067) | 0.015 |
| 219 | 18.25 | 0.13 | 0.074 | 0.059 | ( 0.067) | 0.016 |
| 220 | 18.33 | 0.13 | 0.074 | 0.058 | ( 0.067) | 0.016 |
| 221 | 18.42 | 0.13 | 0.074 | 0.058 | ( 0.067) | 0.016 |
| 222 | 18.50 | 0.13 | 0.074 | 0.058 | ( 0.067) | 0.016 |
| 223 | 18.58 | 0.10 | 0.056 | ( 0.058) | 0.050 | 0.006 |
| 224 | 18.67 | 0.10 | 0.056 | ( 0.057) | 0.050 | 0.006 |
| 225 | 18.75 | 0.10 | 0.056 | ( 0.057) | 0.050 | 0.006 |
| 226 | 18.83 | 0.07 | 0.037 | ( 0.057) | 0.033 | 0.004 |
| 227 | 18.92 | 0.07 | 0.037 | ( 0.056) | 0.033 | 0.004 |
| 228 | 19.00 | 0.07 | 0.037 | ( 0.056) | 0.033 | 0.004 |
| 229 | 19.08 | 0.10 | 0.056 | ( 0.056) | 0.050 | 0.006 |
| 230 | 19.17 | 0.10 | 0.056 | ( 0.056) | 0.050 | 0.006 |
| 231 | 19.25 | 0.10 | 0.056 | ( 0.055) | 0.050 | 0.006 |
| 232 | 19.33 | 0.13 | 0.074 | 0.055 | ( 0.067) | 0.019 |
| 233 | 19.42 | 0.13 | 0.074 | 0.055 | ( 0.067) | 0.019 |
| 234 | 19.50 | 0.13 | 0.074 | 0.055 | ( 0.067) | 0.020 |
| 235 | 19.58 | 0.10 | 0.056 | ( 0.054) | 0.050 | 0.006 |
| 236 | 19.67 | 0.10 | 0.056 | ( 0.054) | 0.050 | 0.006 |
| 237 | 19.75 | 0.10 | 0.056 | ( 0.054) | 0.050 | 0.006 |
| 238 | 19.83 | 0.07 | 0.037 | ( 0.054) | 0.033 | 0.004 |
| 239 | 19.92 | 0.07 | 0.037 | ( 0.053) | 0.033 | 0.004 |
| 240 | 20.00 | 0.07 | 0.037 | ( 0.053) | 0.033 | 0.004 |
| 241 | 20.08 | 0.10 | 0.056 | ( 0.053) | 0.050 | 0.006 |
| 242 | 20.17 | 0.10 | 0.056 | ( 0.053) | 0.050 | 0.006 |
| 243 | 20.25 | 0.10 | 0.056 | ( 0.052) | 0.050 | 0.006 |
| 244 | 20.33 | 0.10 | 0.056 | ( 0.052) | 0.050 | 0.006 |
| 245 | 20.42 | 0.10 | 0.056 | ( 0.052) | 0.050 | 0.006 |
| 246 | 20.50 | 0.10 | 0.056 | ( 0.052) | 0.050 | 0.006 |
| 247 | 20.58 | 0.10 | 0.056 | ( 0.052) | 0.050 | 0.006 |
| 248 | 20.67 | 0.10 | 0.056 | ( 0.051) | 0.050 | 0.006 |
| 249 | 20.75 | 0.10 | 0.056 | ( 0.051) | 0.050 | 0.006 |
| 250 | 20.83 | 0.07 | 0.037 | ( 0.051) | 0.033 | 0.004 |
| 251 | 20.92 | 0.07 | 0.037 | ( 0.051) | 0.033 | 0.004 |
| 252 | 21.00 | 0.07 | 0.037 | ( 0.050) | 0.033 | 0.004 |
| 253 | 21.08 | 0.10 | 0.056 | ( 0.050) | 0.050 | 0.006 |
| 254 | 21.17 | 0.10 | 0.056 | 0.050 | ( 0.050) | 0.006 |
| 255 | 21.25 | 0.10 | 0.056 | 0.050 | ( 0.050) | 0.006 |
| 256 | 21.33 | 0.07 | 0.037 | ( 0.050) | 0.033 | 0.004 |
| 257 | 21.42 | 0.07 | 0.037 | ( 0.050) | 0.033 | 0.004 |
| 258 | 21.50 | 0.07 | 0.037 | ( 0.049) | 0.033 | 0.004 |
| 259 | 21.58 | 0.10 | 0.056 | 0.049 | ( 0.050) | 0.007 |
| 260 | 21.67 | 0.10 | 0.056 | 0.049 | ( 0.050) | 0.007 |
| 261 | 21.75 | 0.10 | 0.056 | 0.049 | ( 0.050) | 0.007 |
| 262 | 21.83 | 0.07 | 0.037 | ( 0.049) | 0.033 | 0.004 |
| 263 | 21.92 | 0.07 | 0.037 | ( 0.048) | 0.033 | 0.004 |
| 264 | 22.00 | 0.07 | 0.037 | ( 0.048) | 0.033 | 0.004 |
| 265 | 22.08 | 0.10 | 0.056 | 0.048 | ( 0.050) | 0.008 |
| 266 | 22.17 | 0.10 | 0.056 | 0.048 | ( 0.050) | 0.008 |
| 267 | 22.25 | 0.10 | 0.056 | 0.048 | ( 0.050) | 0.008 |
| 268 | 22.33 | 0.07 | 0.037 | ( 0.048) | 0.033 | 0.004 |
| 269 | 22.42 | 0.07 | 0.037 | ( 0.048) | 0.033 | 0.004 |
| 270 | 22.50 | 0.07 | 0.037 | ( 0.047) | 0.033 | 0.004 |
| 271 | 22.58 | 0.07 | 0.037 | ( 0.047) | 0.033 | 0.004 |
| 272 | 22.67 | 0.07 | 0.037 | ( 0.047) | 0.033 | 0.004 |
| 273 | 22.75 | 0.07 | 0.037 | ( 0.047) | 0.033 | 0.004 |
| 274 | 22.83 | 0.07 | 0.037 | ( 0.047) | 0.033 | 0.004 |
| 275 | 22.92 | 0.07 | 0.037 | ( 0.047) | 0.033 | 0.004 |
| 276 | 23.00 | 0.07 | 0.037 | ( 0.047) | 0.033 | 0.004 |
| 277 | 23.08 | 0.07 | 0.037 | ( 0.047) | 0.033 | 0.004 |
| 278 | 23.17 | 0.07 | 0.037 | ( 0.046) | 0.033 | 0.004 |
| 279 | 23.25 | 0.07 | 0.037 | ( 0.046) | 0.033 | 0.004 |
| 280 | 23.33 | 0.07 | 0.037 | ( 0.046) | 0.033 | 0.004 |
| 281 | 23.42 | 0.07 | 0.037 | ( 0.046) | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.037 | ( 0.046) | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.037 | ( 0.046) | 0.033 | 0.004 |
| 284 | 23.67 | 0.07 | 0.037 | ( 0.046) | 0.033 | 0.004 |
| 285 | 23.75 | 0.07 | 0.037 | ( 0.046) | 0.033 | 0.004 |
| 286 | 23.83 | 0.07 | 0.037 | ( 0.046) | 0.033 | 0.004 |
| 287 | 23.92 | 0.07 | 0.037 | ( 0.046) | 0.033 | 0.004 |
| 288 | 24.00 | 0.07 | 0.037 | ( 0.046) | 0.033 | 0.004 |

(Loss Rate Not Used)
Sum = 100.0 Sum = 34.2
Flood volume = Effective rainfall 2.85(In)
times area 0.7(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 1.79(In)
Total soil loss = 0.104(Ac.Ft)
Total rainfall = 4.64(In)
Flood volume = 7239.7 Cubic Feet
Total soil loss = 4550.6 Cubic Feet

Peak flow rate of this hydrograph = 0.390(CFS)

24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0000 | 0.00 | Q | | | | |
| 0+10 | 0.0000 | 0.00 | Q | | | | |
| 0+15 | 0.0000 | 0.00 | Q | | | | |
| 0+20 | 0.0001 | 0.00 | Q | | | | |
| 0+25 | 0.0001 | 0.00 | Q | | | | |
| 0+30 | 0.0001 | 0.00 | Q | | | | |
| 0+35 | 0.0002 | 0.00 | Q | | | | |
| 0+40 | 0.0002 | 0.00 | Q | | | | |
| 0+45 | 0.0002 | 0.00 | Q | | | | |
| 0+50 | 0.0002 | 0.00 | Q | | | | |
| 0+55 | 0.0003 | 0.01 | Q | | | | |
| 1+ 0 | 0.0003 | 0.01 | Q | | | | |
| 1+ 5 | 0.0003 | 0.00 | Q | | | | |
| 1+10 | 0.0004 | 0.00 | Q | | | | |
| 1+15 | 0.0004 | 0.00 | Q | | | | |
| 1+20 | 0.0004 | 0.00 | Q | | | | |
| 1+25 | 0.0005 | 0.00 | Q | | | | |
| 1+30 | 0.0005 | 0.00 | Q | | | | |
| 1+35 | 0.0005 | 0.00 | Q | | | | |
| 1+40 | 0.0005 | 0.00 | Q | | | | |
| 1+45 | 0.0006 | 0.00 | Q | | | | |
| 1+50 | 0.0006 | 0.00 | Q | | | | |
| 1+55 | 0.0006 | 0.01 | Q | | | | |
| 2+ 0 | 0.0007 | 0.01 | Q | | | | |
| 2+ 5 | 0.0007 | 0.01 | Q | | | | |
| 2+10 | 0.0007 | 0.01 | Q | | | | |
| 2+15 | 0.0008 | 0.01 | Q | | | | |
| 2+20 | 0.0008 | 0.01 | Q | | | | |
| 2+25 | 0.0008 | 0.01 | Q | | | | |
| 2+30 | 0.0009 | 0.01 | Q | | | | |
| 2+35 | 0.0009 | 0.01 | Q | | | | |
| 2+40 | 0.0010 | 0.01 | Q | | | | |
| 2+45 | 0.0010 | 0.01 | Q | | | | |
| 2+50 | 0.0011 | 0.01 | Q | | | | |
| 2+55 | 0.0011 | 0.01 | Q | | | | |
| 3+ 0 | 0.0011 | 0.01 | Q | | | | |
| 3+ 5 | 0.0012 | 0.01 | Q | | | | |
| 3+10 | 0.0012 | 0.01 | Q | | | | |
| 3+15 | 0.0013 | 0.01 | Q | | | | |
| 3+20 | 0.0013 | 0.01 | Q | | | | |
| 3+25 | 0.0014 | 0.01 | Q | | | | |
| 3+30 | 0.0014 | 0.01 | Q | | | | |
| 3+35 | 0.0015 | 0.01 | Q | | | | |
| 3+40 | 0.0015 | 0.01 | Q | | | | |
| 3+45 | 0.0016 | 0.01 | Q | | | | |
| 3+50 | 0.0016 | 0.01 | Q | | | | |
| 3+55 | 0.0017 | 0.01 | Q | | | | |
| 4+ 0 | 0.0017 | 0.01 | Q | | | | |
| 4+ 5 | 0.0018 | 0.01 | Q | | | | |
| 4+10 | 0.0018 | 0.01 | Q | | | | |
| 4+15 | 0.0019 | 0.01 | Q | | | | |
| 4+20 | 0.0019 | 0.01 | Q | | | | |
| 4+25 | 0.0020 | 0.01 | Q | | | | |
| 4+30 | 0.0021 | 0.01 | Q | | | | |
| 4+35 | 0.0021 | 0.01 | Q | | | | |
| 4+40 | 0.0022 | 0.01 | Q | | | | |
| 4+45 | 0.0023 | 0.01 | Q | | | | |

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 4+50       0.0023      0.01  Q          |          |          |          |
 4+55       0.0024      0.01  Q          |          |          |          |
 5+ 0       0.0025      0.01  Q          |          |          |          |
 5+ 5       0.0026      0.01  Q          |          |          |          |
 5+10       0.0027      0.01  Q          |          |          |          |
 5+15       0.0027      0.01  Q          |          |          |          |
 5+20       0.0028      0.01  Q          |          |          |          |
 5+25       0.0028      0.01  Q          |          |          |          |
 5+30       0.0029      0.01  Q          |          |          |          |
 5+35       0.0030      0.01  Q          |          |          |          |
 5+40       0.0031      0.02  Q          |          |          |          |
 5+45       0.0033      0.02  Q          |          |          |          |
 5+50       0.0034      0.02  Q          |          |          |          |
 5+55       0.0035      0.02  Q          |          |          |          |
 6+ 0       0.0036      0.02  Q          |          |          |          |
 6+ 5       0.0038      0.03  Q          |          |          |          |
 6+10       0.0041      0.03  Q          |          |          |          |
 6+15       0.0043      0.03  QV         |          |          |          |
 6+20       0.0045      0.03  QV         |          |          |          |
 6+25       0.0048      0.03  QV         |          |          |          |
 6+30       0.0050      0.03  QV         |          |          |          |
 6+35       0.0053      0.04  QV         |          |          |          |
 6+40       0.0056      0.05  QV         |          |          |          |
 6+45       0.0060      0.05  QV         |          |          |          |
 6+50       0.0063      0.05  QV         |          |          |          |
 6+55       0.0067      0.05  QV         |          |          |          |
 7+ 0       0.0070      0.05  QV         |          |          |          |
 7+ 5       0.0074      0.05  QV         |          |          |          |
 7+10       0.0077      0.05  QV         |          |          |          |
 7+15       0.0081      0.05  QV         |          |          |          |
 7+20       0.0085      0.06  Q V        |          |          |          |
 7+25       0.0089      0.07  Q V        |          |          |          |
 7+30       0.0094      0.07  Q V        |          |          |          |
 7+35       0.0099      0.07  Q V        |          |          |          |
 7+40       0.0104      0.08  Q V        |          |          |          |
 7+45       0.0110      0.08  Q V        |          |          |          |
 7+50       0.0116      0.09  Q V        |          |          |          |
 7+55       0.0122      0.09  Q V        |          |          |          |
 8+ 0       0.0129      0.09  Q  V       |          |          |          |
 8+ 5       0.0136      0.11  Q  V       |          |          |          |
 8+10       0.0145      0.12  Q  V       |          |          |          |
 8+15       0.0153      0.12  Q  V       |          |          |          |
 8+20       0.0161      0.12  Q  V       |          |          |          |
 8+25       0.0170      0.12  Q   V      |          |          |          |
 8+30       0.0178      0.12  Q   V      |          |          |          |
 8+35       0.0187      0.13  Q   V      |          |          |          |
 8+40       0.0197      0.14  Q   V      |          |          |          |
 8+45       0.0206      0.14  Q   V      |          |          |          |
 8+50       0.0216      0.14  Q    V     |          |          |          |
 8+55       0.0226      0.15  Q    V     |          |          |          |
 9+ 0       0.0237      0.15  Q    V     |          |          |          |
 9+ 5       0.0248      0.17  Q    V     |          |          |          |
 9+10       0.0260      0.18  Q     V    |          |          |          |
 9+15       0.0273      0.18  Q     V    |          |          |          |
 9+20       0.0285      0.19  Q     V    |          |          |          |
 9+25       0.0299      0.19  Q      V   |          |          |          |
 9+30       0.0312      0.19  Q      V   |          |          |          |
 9+35       0.0326      0.20  Q      V   |          |          |          |
 9+40       0.0340      0.21  Q       V  |          |          |          |
 9+45       0.0354      0.21  Q       V  |          |          |          |
 9+50       0.0369      0.21  Q       V  |          |          |          |
 9+55       0.0384      0.22  Q        V |          |          |          |
10+ 0       0.0399      0.22  Q        V |          |          |          |
10+ 5       0.0410      0.16  Q        V |          |          |          |
10+10       0.0419      0.13  Q         V          |          |          |
10+15       0.0428      0.13  Q         V          |          |          |
10+20       0.0437      0.13  Q         V          |          |          |
10+25       0.0446      0.13  Q         V          |          |          |
10+30       0.0455      0.13  Q         V          |          |          |
10+35       0.0467      0.17  Q         |V         |          |          |
10+40       0.0480      0.20  Q         |V         |          |          |
10+45       0.0494      0.20  Q         |V         |          |          |
10+50       0.0507      0.20  Q         | V        |          |          |
10+55       0.0521      0.20  Q         | V        |          |          |
11+ 0       0.0534      0.20  Q         | V        |          |          |
11+ 5       0.0547      0.19  Q         |  V       |          |          |
11+10       0.0560      0.19  Q         |  V       |          |          |
11+15       0.0573      0.19  Q         |  V       |          |          |
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11+20       0.0586      0.19  Q          |    V      |           |           |
11+25       0.0599      0.19  Q          |    V      |           |           |
11+30       0.0611      0.19  Q          |    V      |           |           |
11+35       0.0623      0.17  Q          |    V      |           |           |
11+40       0.0634      0.16  Q          |     V     |           |           |
11+45       0.0645      0.16  Q          |     V     |           |           |
11+50       0.0657      0.17  Q          |     V     |           |           |
11+55       0.0669      0.17  Q          |      V    |           |           |
12+ 0       0.0681      0.18  Q          |      V    |           |           |
12+ 5       0.0697      0.23  Q          |      V    |           |           |
12+10       0.0716      0.27  |Q         |       V   |           |           |
12+15       0.0734      0.27  |Q         |       V   |           |           |
12+20       0.0753      0.28  |Q         |        V  |           |           |
12+25       0.0772      0.28  |Q         |        V  |           |           |
12+30       0.0792      0.28  |Q         |         V |           |           |
12+35       0.0812      0.30  |Q         |         V |           |           |
12+40       0.0834      0.31  |Q         |          V|           |           |
12+45       0.0855      0.31  |Q         |          V|           |           |
12+50       0.0877      0.32  |Q         |           |V          |           |
12+55       0.0899      0.32  |Q         |           |V          |           |
13+ 0       0.0921      0.32  |Q         |           | V         |           |
13+ 5       0.0946      0.36  |Q         |           | V         |           |
13+10       0.0973      0.39  |Q         |           |  V        |           |
13+15       0.1000      0.39  |Q         |           |   V       |           |
13+20       0.1027      0.39  |Q         |           |   V       |           |
13+25       0.1054      0.39  |Q         |           |    V      |           |
13+30       0.1080      0.39  |Q         |           |     V     |           |
13+35       0.1101      0.30  |Q         |           |     V     |           |
13+40       0.1118      0.25  Q          |           |     V     |           |
13+45       0.1135      0.25  Q          |           |      V    |           |
13+50       0.1152      0.25  Q          |           |      V    |           |
13+55       0.1169      0.25  Q          |           |       V   |           |
14+ 0       0.1186      0.25  Q          |           |       V   |           |
14+ 5       0.1205      0.28  |Q         |           |        V  |           |
14+10       0.1226      0.30  |Q         |           |        V  |           |
14+15       0.1247      0.30  |Q         |           |         V |           |
14+20       0.1267      0.29  |Q         |           |         V |           |
14+25       0.1287      0.29  |Q         |           |         V |           |
14+30       0.1307      0.29  |Q         |           |          |V          |
14+35       0.1327      0.29  |Q         |           |          |V          |
14+40       0.1346      0.29  |Q         |           |          | V         |
14+45       0.1366      0.29  |Q         |           |          | V         |
14+50       0.1386      0.28  |Q         |           |          |  V        |
14+55       0.1405      0.28  |Q         |           |          |  V        |
15+ 0       0.1424      0.28  |Q         |           |          |   V       |
15+ 5       0.1442      0.27  |Q         |           |          |   V       |
15+10       0.1461      0.26  |Q         |           |          |    V      |
15+15       0.1479      0.26  |Q         |           |          |    V      |
15+20       0.1497      0.26  |Q         |           |          |     V     |
15+25       0.1514      0.25  |Q         |           |          |     V     |
15+30       0.1531      0.25  |Q         |           |          |     V     |
15+35       0.1546      0.22  Q          |           |          |      V    |
15+40       0.1560      0.20  Q          |           |          |      V    |
15+45       0.1574      0.20  Q          |           |          |      V    |
15+50       0.1588      0.20  Q          |           |          |       V   |
15+55       0.1602      0.20  Q          |           |          |       V   |
16+ 0       0.1616      0.20  Q          |           |          |       V   |
16+ 5       0.1621      0.08  Q          |           |          |        V  |
16+10       0.1621      0.01  Q          |           |          |        V  |
16+15       0.1622      0.01  Q          |           |          |        V  |
16+20       0.1622      0.01  Q          |           |          |        V  |
16+25       0.1622      0.01  Q          |           |          |        V  |
16+30       0.1623      0.01  Q          |           |          |        V  |
16+35       0.1623      0.00  Q          |           |          |        V  |
16+40       0.1623      0.00  Q          |           |          |        V  |
16+45       0.1624      0.00  Q          |           |          |        V  |
16+50       0.1624      0.00  Q          |           |          |        V  |
16+55       0.1624      0.00  Q          |           |          |        V  |
17+ 0       0.1624      0.00  Q          |           |          |        V  |
17+ 5       0.1625      0.01  Q          |           |          |        V  |
17+10       0.1627      0.02  Q          |           |          |        V  |
17+15       0.1628      0.02  Q          |           |          |        V  |
17+20       0.1630      0.02  Q          |           |          |        V  |
17+25       0.1631      0.02  Q          |           |          |        V  |
17+30       0.1633      0.02  Q          |           |          |        V  |
17+35       0.1634      0.02  Q          |           |          |        V  |
17+40       0.1636      0.02  Q          |           |          |        V  |
17+45       0.1638      0.02  Q          |           |          |        V  |
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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+50 | 0.1639 | 0.01 | Q | \| | \| | \| | V\| |
| 17+55 | 0.1639 | 0.01 | Q | \| | \| | \| | V\| |
| 18+ 0 | 0.1640 | 0.01 | Q | \| | \| | \| | V\| |
| 18+ 5 | 0.1641 | 0.01 | Q | \| | \| | \| | V\| |
| 18+10 | 0.1641 | 0.01 | Q | \| | \| | \| | V\| |
| 18+15 | 0.1642 | 0.01 | Q | \| | \| | \| | V\| |
| 18+20 | 0.1643 | 0.01 | Q | \| | \| | \| | V\| |
| 18+25 | 0.1644 | 0.01 | Q | \| | \| | \| | V\| |
| 18+30 | 0.1645 | 0.01 | Q | \| | \| | \| | V\| |
| 18+35 | 0.1645 | 0.01 | Q | \| | \| | \| | V\| |
| 18+40 | 0.1645 | 0.00 | Q | \| | \| | \| | V\| |
| 18+45 | 0.1646 | 0.00 | Q | \| | \| | \| | V\| |
| 18+50 | 0.1646 | 0.00 | Q | \| | \| | \| | V\| |
| 18+55 | 0.1646 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 0 | 0.1646 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 5 | 0.1646 | 0.00 | Q | \| | \| | \| | V\| |
| 19+10 | 0.1647 | 0.00 | Q | \| | \| | \| | V\| |
| 19+15 | 0.1647 | 0.00 | Q | \| | \| | \| | V\| |
| 19+20 | 0.1648 | 0.01 | Q | \| | \| | \| | V\| |
| 19+25 | 0.1649 | 0.01 | Q | \| | \| | \| | V\| |
| 19+30 | 0.1650 | 0.01 | Q | \| | \| | \| | V\| |
| 19+35 | 0.1650 | 0.01 | Q | \| | \| | \| | V\| |
| 19+40 | 0.1650 | 0.00 | Q | \| | \| | \| | V\| |
| 19+45 | 0.1651 | 0.00 | Q | \| | \| | \| | V\| |
| 19+50 | 0.1651 | 0.00 | Q | \| | \| | \| | V\| |
| 19+55 | 0.1651 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 0 | 0.1651 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 5 | 0.1651 | 0.00 | Q | \| | \| | \| | V\| |
| 20+10 | 0.1652 | 0.00 | Q | \| | \| | \| | V\| |
| 20+15 | 0.1652 | 0.00 | Q | \| | \| | \| | V\| |
| 20+20 | 0.1652 | 0.00 | Q | \| | \| | \| | V\| |
| 20+25 | 0.1652 | 0.00 | Q | \| | \| | \| | V\| |
| 20+30 | 0.1653 | 0.00 | Q | \| | \| | \| | V\| |
| 20+35 | 0.1653 | 0.00 | Q | \| | \| | \| | V\| |
| 20+40 | 0.1653 | 0.00 | Q | \| | \| | \| | V\| |
| 20+45 | 0.1654 | 0.00 | Q | \| | \| | \| | V\| |
| 20+50 | 0.1654 | 0.00 | Q | \| | \| | \| | V\| |
| 20+55 | 0.1654 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 0 | 0.1654 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 5 | 0.1654 | 0.00 | Q | \| | \| | \| | V\| |
| 21+10 | 0.1655 | 0.00 | Q | \| | \| | \| | V\| |
| 21+15 | 0.1655 | 0.00 | Q | \| | \| | \| | V\| |
| 21+20 | 0.1655 | 0.00 | Q | \| | \| | \| | V\| |
| 21+25 | 0.1655 | 0.00 | Q | \| | \| | \| | V\| |
| 21+30 | 0.1656 | 0.00 | Q | \| | \| | \| | V\| |
| 21+35 | 0.1656 | 0.00 | Q | \| | \| | \| | V\| |
| 21+40 | 0.1656 | 0.00 | Q | \| | \| | \| | V\| |
| 21+45 | 0.1656 | 0.00 | Q | \| | \| | \| | V\| |
| 21+50 | 0.1657 | 0.00 | Q | \| | \| | \| | V\| |
| 21+55 | 0.1657 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 0 | 0.1657 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 5 | 0.1657 | 0.00 | Q | \| | \| | \| | V\| |
| 22+10 | 0.1658 | 0.01 | Q | \| | \| | \| | V\| |
| 22+15 | 0.1658 | 0.01 | Q | \| | \| | \| | V\| |
| 22+20 | 0.1658 | 0.00 | Q | \| | \| | \| | V\| |
| 22+25 | 0.1659 | 0.00 | Q | \| | \| | \| | V\| |
| 22+30 | 0.1659 | 0.00 | Q | \| | \| | \| | V\| |
| 22+35 | 0.1659 | 0.00 | Q | \| | \| | \| | V\| |
| 22+40 | 0.1659 | 0.00 | Q | \| | \| | \| | V\| |
| 22+45 | 0.1659 | 0.00 | Q | \| | \| | \| | V\| |
| 22+50 | 0.1659 | 0.00 | Q | \| | \| | \| | V\| |
| 22+55 | 0.1660 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 0 | 0.1660 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 5 | 0.1660 | 0.00 | Q | \| | \| | \| | V\| |
| 23+10 | 0.1660 | 0.00 | Q | \| | \| | \| | V\| |
| 23+15 | 0.1660 | 0.00 | Q | \| | \| | \| | V\| |
| 23+20 | 0.1660 | 0.00 | Q | \| | \| | \| | V\| |
| 23+25 | 0.1661 | 0.00 | Q | \| | \| | \| | V\| |
| 23+30 | 0.1661 | 0.00 | Q | \| | \| | \| | V\| |
| 23+35 | 0.1661 | 0.00 | Q | \| | \| | \| | V\| |
| 23+40 | 0.1661 | 0.00 | Q | \| | \| | \| | V\| |
| 23+45 | 0.1661 | 0.00 | Q | \| | \| | \| | V\| |
| 23+50 | 0.1662 | 0.00 | Q | \| | \| | \| | V\| |
| 23+55 | 0.1662 | 0.00 | Q | \| | \| | \| | V\| |
| 24+ 0 | 0.1662 | 0.00 | Q | \| | \| | \| | V\| |
| 24+ 5 | 0.1662 | 0.00 | Q | \| | \| | \| | V\| |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/19/17 File: EX51100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 5
100-YEAR STORM EVENT
BY: JDN, DATE: 12-19-17

---

Drainage Area = 1.50(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.50(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 472.00(Ft.)
Length along longest watercourse measured to centroid = 283.00(Ft.)
Length along longest watercourse = 0.089 Mi.
Length along longest watercourse measured to centroid = 0.054 Mi.
Difference in elevation = 88.00(Ft.)
Slope along watercourse = 984.4068 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.030 Hr.
Lag time = 1.79 Min.
25% of lag time = 0.45 Min.
40% of lag time = 0.72 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.50 | 0.50 | 0.75 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.50 | 1.20 | 1.80 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 1.500 | 83.69 | 0.000 |

Total Area Entered = 1.50(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.7 | 93.2 | 0.088 | 0.000 | 0.088 | 1.000 | 0.088 |
| | | | | | Sum (F) = | 0.088 |

Area averaged mean soil loss (F) (In/Hr) = 0.088

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

---

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 279.684 | 55.177 | 0.834 |
| 2 | 0.167 | 559.368 | 42.139 | 0.637 |
| 3 | 0.250 | 839.052 | 2.684 | 0.041 |
| | | Sum = 100.000 | Sum= | 1.512 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.088 | ( 0.544) | 0.517 |
| 2 | 0.17 | 4.30 | 0.619 | 0.088 | ( 0.557) | 0.531 |
| 3 | 0.25 | 5.00 | 0.720 | 0.088 | ( 0.648) | 0.632 |
| 4 | 0.33 | 5.00 | 0.720 | 0.088 | ( 0.648) | 0.632 |
| 5 | 0.42 | 5.80 | 0.835 | 0.088 | ( 0.752) | 0.747 |
| 6 | 0.50 | 6.50 | 0.936 | 0.088 | ( 0.842) | 0.848 |
| 7 | 0.58 | 7.40 | 1.066 | 0.088 | ( 0.959) | 0.977 |
| 8 | 0.67 | 8.60 | 1.238 | 0.088 | ( 1.115) | 1.150 |
| 9 | 0.75 | 12.30 | 1.771 | 0.088 | ( 1.594) | 1.683 |
| 10 | 0.83 | 29.10 | 4.190 | 0.088 | ( 3.771) | 4.102 |
| 11 | 0.92 | 6.80 | 0.979 | 0.088 | ( 0.881) | 0.891 |
| 12 | 1.00 | 5.00 | 0.720 | 0.088 | ( 0.648) | 0.632 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 13.3 |

Flood volume = Effective rainfall 1.11(In)
times area 1.5(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.011(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 6053.6 Cubic Feet
Total soil loss = 480.3 Cubic Feet

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Peak flow rate of this hydrograph = 4.543(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0030 | 0.43 | VQ | | | | |
| 0+10 | 0.0083 | 0.77 | \| VQ | | | | |
| 0+15 | 0.0144 | 0.89 | \| QV | | | | |
| 0+20 | 0.0209 | 0.95 | \| Q V | | | | |
| 0+25 | 0.0282 | 1.05 | \| Q V | | | | |
| 0+30 | 0.0365 | 1.21 | \| Q V | | | | |
| 0+35 | 0.0461 | 1.39 | \| Q \| V | | | | |
| 0+40 | 0.0572 | 1.62 | \| Q \| V | | | | |
| 0+45 | 0.0722 | 2.18 | \| Q \| V | | | | |
| 0+50 | 0.1035 | 4.54 | \| \| Q \| V \| | | | |
| 0+55 | 0.1271 | 3.43 | \| \| Q \| \| V \| | | | |
| 1+ 0 | 0.1358 | 1.26 | \| Q \| \| \| V\| | | | |
| 1+ 5 | 0.1388 | 0.44 | \|Q \| \| \| V\| | | | |
| 1+10 | 0.1390 | 0.03 | Q \| \| \| V | | | | |

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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/19/17 File: EX53100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 5
100-YEAR STORM EVENT
BY: JDN, DATE: 12-19-17

---

Drainage Area = 1.50(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.50(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 472.00(Ft.)
Length along longest watercourse measured to centroid = 283.00(Ft.)
Length along longest watercourse = 0.089 Mi.
Length along longest watercourse measured to centroid = 0.054 Mi.
Difference in elevation = 88.00(Ft.)
Slope along watercourse = 984.4068 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.030 Hr.
Lag time = 1.79 Min.
25% of lag time = 0.45 Min.
40% of lag time = 0.72 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.50 | 0.81 | 1.22 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.50 | 1.81 | 2.71 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.810(In)
Area Averaged 100-Year Rainfall = 1.810(In)

Point rain (area averaged) = 1.810(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.810(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 1.500 | 83.69 | 0.000 |

Total Area Entered = 1.50(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.7 | 93.2 | 0.088 | 0.000 | 0.088 | 1.000 | 0.088 |
| | | | | | Sum (F) = | 0.088 |

Area averaged mean soil loss (F) (In/Hr) = 0.088

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 279.684 | 55.177 | 0.834 |
| 2 | 0.167 | 559.368 | 42.139 | 0.637 |
| 3 | 0.250 | 839.052 | 2.684 | 0.041 |
| | | | Sum = 100.000 Sum= | 1.512 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.282 | 0.088 | ( 0.254) | 0.194 |
| 2 | 0.17 | 1.30 | 0.282 | 0.088 | ( 0.254) | 0.194 |
| 3 | 0.25 | 1.10 | 0.239 | 0.088 | ( 0.215) | 0.151 |
| 4 | 0.33 | 1.50 | 0.326 | 0.088 | ( 0.293) | 0.238 |
| 5 | 0.42 | 1.50 | 0.326 | 0.088 | ( 0.293) | 0.238 |
| 6 | 0.50 | 1.80 | 0.391 | 0.088 | ( 0.352) | 0.303 |
| 7 | 0.58 | 1.50 | 0.326 | 0.088 | ( 0.293) | 0.238 |
| 8 | 0.67 | 1.80 | 0.391 | 0.088 | ( 0.352) | 0.303 |
| 9 | 0.75 | 1.80 | 0.391 | 0.088 | ( 0.352) | 0.303 |
| 10 | 0.83 | 1.50 | 0.326 | 0.088 | ( 0.293) | 0.238 |
| 11 | 0.92 | 1.60 | 0.348 | 0.088 | ( 0.313) | 0.259 |
| 12 | 1.00 | 1.80 | 0.391 | 0.088 | ( 0.352) | 0.303 |
| 13 | 1.08 | 2.20 | 0.478 | 0.088 | ( 0.430) | 0.390 |
| 14 | 1.17 | 2.20 | 0.478 | 0.088 | ( 0.430) | 0.390 |
| 15 | 1.25 | 2.20 | 0.478 | 0.088 | ( 0.430) | 0.390 |
| 16 | 1.33 | 2.00 | 0.434 | 0.088 | ( 0.391) | 0.346 |
| 17 | 1.42 | 2.60 | 0.565 | 0.088 | ( 0.508) | 0.476 |
| 18 | 1.50 | 2.70 | 0.586 | 0.088 | ( 0.528) | 0.498 |
| 19 | 1.58 | 2.40 | 0.521 | 0.088 | ( 0.469) | 0.433 |
| 20 | 1.67 | 2.70 | 0.586 | 0.088 | ( 0.528) | 0.498 |
| 21 | 1.75 | 3.30 | 0.717 | 0.088 | ( 0.645) | 0.629 |
| 22 | 1.83 | 3.10 | 0.673 | 0.088 | ( 0.606) | 0.585 |
| 23 | 1.92 | 2.90 | 0.630 | 0.088 | ( 0.567) | 0.542 |
| 24 | 2.00 | 3.00 | 0.652 | 0.088 | ( 0.586) | 0.563 |
| 25 | 2.08 | 3.10 | 0.673 | 0.088 | ( 0.606) | 0.585 |
| 26 | 2.17 | 4.20 | 0.912 | 0.088 | ( 0.821) | 0.824 |
| 27 | 2.25 | 5.00 | 1.086 | 0.088 | ( 0.977) | 0.998 |
| 28 | 2.33 | 3.50 | 0.760 | 0.088 | ( 0.684) | 0.672 |
| 29 | 2.42 | 6.80 | 1.477 | 0.088 | ( 1.329) | 1.389 |
| 30 | 2.50 | 7.30 | 1.586 | 0.088 | ( 1.427) | 1.497 |
| 31 | 2.58 | 8.20 | 1.781 | 0.088 | ( 1.603) | 1.693 |
| 32 | 2.67 | 5.90 | 1.281 | 0.088 | ( 1.153) | 1.193 |
| 33 | 2.75 | 2.00 | 0.434 | 0.088 | ( 0.391) | 0.346 |
| 34 | 2.83 | 1.80 | 0.391 | 0.088 | ( 0.352) | 0.303 |
| 35 | 2.92 | 1.80 | 0.391 | 0.088 | ( 0.352) | 0.303 |
| 36 | 3.00 | 0.60 | 0.130 | 0.088 | ( 0.117) | 0.042 |
| | | (Loss Rate Not Used) | | | |
| Sum = | | 100.0 | | | Sum = 18.5 |

Flood volume = Effective rainfall 1.55(In)
times area 1.5(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.033(Ac.Ft)
Total rainfall = 1.81(In)
Flood volume = 8414.3 Cubic Feet
Total soil loss = 1441.0 Cubic Feet

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Peak flow rate of this hydrograph = 2.423(CFS)

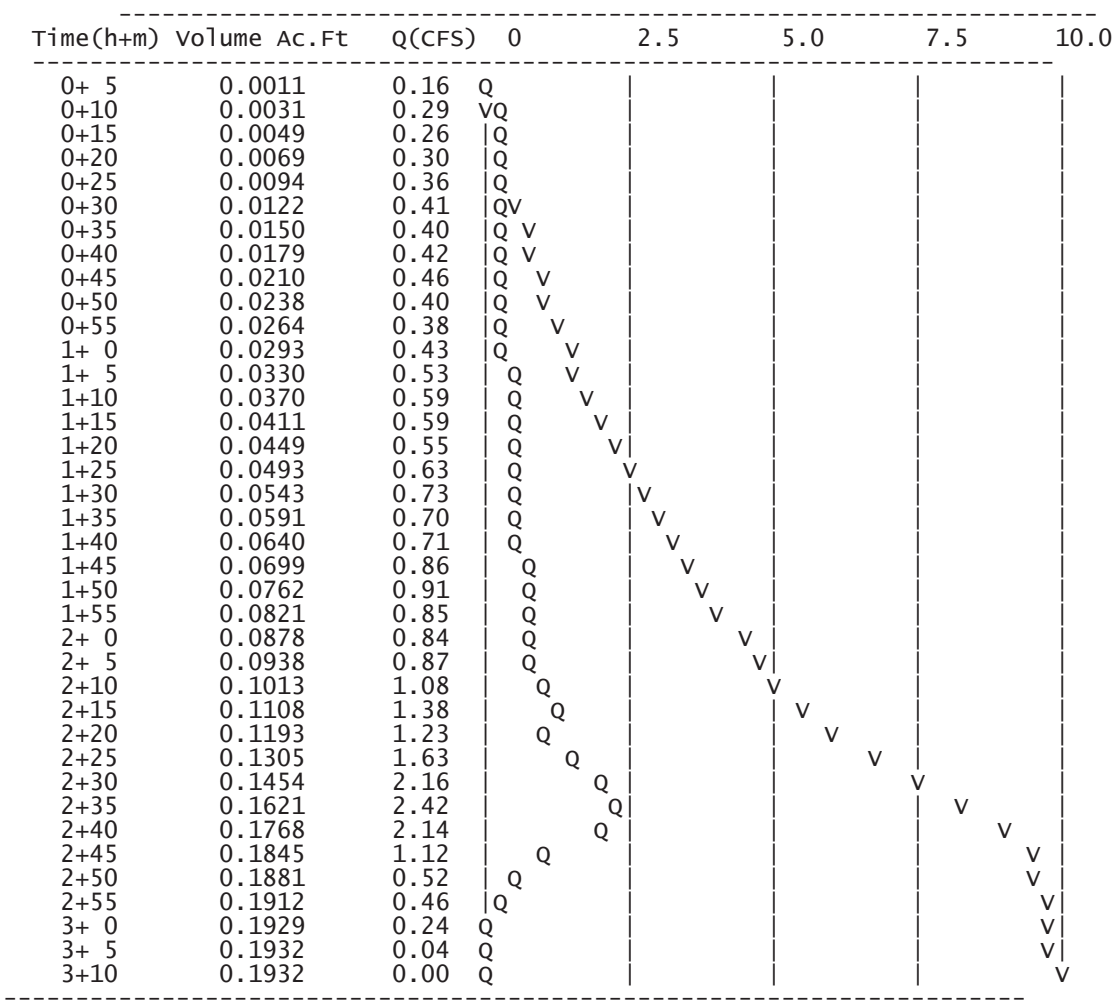
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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))


Time(h+m) Volume Ac.Ft Q(CFS) 0 2.5 5.0 7.5 10.0
0+ 5 0.0011 0.16
0+10 0.0031 0.29
0+15 0.0049 0.26
0+20 0.0069 0.30
0+25 0.0094 0.36
0+30 0.0122 0.41
0+35 0.0150 0.40
0+40 0.0179 0.42
0+45 0.0210 0.46
0+50 0.0238 0.40
0+55 0.0264 0.38
1+ 0 0.0293 0.43
1+ 5 0.0330 0.53
1+10 0.0370 0.59
1+15 0.0411 0.59
1+20 0.0449 0.55
1+25 0.0493 0.63
1+30 0.0543 0.73
1+35 0.0591 0.70
1+40 0.0640 0.71
1+45 0.0699 0.86
1+50 0.0762 0.91
1+55 0.0821 0.85
2+ 0 0.0878 0.84
2+ 5 0.0938 0.87
2+10 0.1013 1.08
2+15 0.1108 1.38
2+20 0.1193 1.23
2+25 0.1305 1.63
2+30 0.1454 2.16
2+35 0.1621 2.42
2+40 0.1768 2.14
2+45 0.1845 1.12
2+50 0.1881 0.52
2+55 0.1912 0.46
3+ 0 0.1929 0.24
3+ 5 0.1932 0.04
3+10 0.1932 0.00

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/19/17 File: EX56100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 5
100-YEAR STORM EVENT
BY: JDN, DATE: 12-19-17

---

Drainage Area = 1.50(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.50(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 472.00(Ft.)
Length along longest watercourse measured to centroid = 283.00(Ft.)
Length along longest watercourse = 0.089 Mi.
Length along longest watercourse measured to centroid = 0.054 Mi.
Difference in elevation = 88.00(Ft.)
Slope along watercourse = 984.4068 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.030 Hr.
Lag time = 1.79 Min.
25% of lag time = 0.45 Min.
40% of lag time = 0.72 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.50 | 1.13 | 1.69 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.50 | 2.50 | 3.75 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.130(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 1.500 | 83.69 | 0.000 |

Total Area Entered = 1.50(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.7 | 93.2 | 0.088 | 0.000 | 0.088 | 1.000 | 0.088 |
| | | | | | Sum (F) = | 0.088 |

Area averaged mean soil loss (F) (In/Hr) = 0.088

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 279.684 | 55.177 | 0.834 |
| 2 | 0.167 | 559.368 | 42.139 | 0.637 |
| 3 | 0.250 | 839.052 | 2.684 | 0.041 |
| | | | Sum = 100.000 Sum= | 1.512 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.088 | ( 0.135) | 0.062 |
| 2 | 0.17 | 0.60 | 0.180 | 0.088 | ( 0.162) | 0.092 |
| 3 | 0.25 | 0.60 | 0.180 | 0.088 | ( 0.162) | 0.092 |
| 4 | 0.33 | 0.60 | 0.180 | 0.088 | ( 0.162) | 0.092 |
| 5 | 0.42 | 0.60 | 0.180 | 0.088 | ( 0.162) | 0.092 |
| 6 | 0.50 | 0.70 | 0.210 | 0.088 | ( 0.189) | 0.122 |
| 7 | 0.58 | 0.70 | 0.210 | 0.088 | ( 0.189) | 0.122 |
| 8 | 0.67 | 0.70 | 0.210 | 0.088 | ( 0.189) | 0.122 |
| 9 | 0.75 | 0.70 | 0.210 | 0.088 | ( 0.189) | 0.122 |
| 10 | 0.83 | 0.70 | 0.210 | 0.088 | ( 0.189) | 0.122 |
| 11 | 0.92 | 0.70 | 0.210 | 0.088 | ( 0.189) | 0.122 |
| 12 | 1.00 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 13 | 1.08 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 14 | 1.17 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 15 | 1.25 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 16 | 1.33 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 17 | 1.42 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 18 | 1.50 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 19 | 1.58 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 20 | 1.67 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 21 | 1.75 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 22 | 1.83 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 23 | 1.92 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 24 | 2.00 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 25 | 2.08 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 26 | 2.17 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 27 | 2.25 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 28 | 2.33 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 29 | 2.42 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 30 | 2.50 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 31 | 2.58 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 32 | 2.67 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 33 | 2.75 | 1.00 | 0.300 | 0.088 | ( 0.270) | 0.212 |
| 34 | 2.83 | 1.00 | 0.300 | 0.088 | ( 0.270) | 0.212 |
| 35 | 2.92 | 1.00 | 0.300 | 0.088 | ( 0.270) | 0.212 |
| 36 | 3.00 | 1.00 | 0.300 | 0.088 | ( 0.270) | 0.212 |
| 37 | 3.08 | 1.00 | 0.300 | 0.088 | ( 0.270) | 0.212 |
| 38 | 3.17 | 1.10 | 0.330 | 0.088 | ( 0.297) | 0.242 |
| 39 | 3.25 | 1.10 | 0.330 | 0.088 | ( 0.297) | 0.242 |
| 40 | 3.33 | 1.10 | 0.330 | 0.088 | ( 0.297) | 0.242 |
| 41 | 3.42 | 1.20 | 0.360 | 0.088 | ( 0.324) | 0.272 |
| 42 | 3.50 | 1.30 | 0.390 | 0.088 | ( 0.351) | 0.302 |
| 43 | 3.58 | 1.40 | 0.420 | 0.088 | ( 0.378) | 0.332 |
| 44 | 3.67 | 1.40 | 0.420 | 0.088 | ( 0.378) | 0.332 |
| 45 | 3.75 | 1.50 | 0.450 | 0.088 | ( 0.405) | 0.362 |
| 46 | 3.83 | 1.50 | 0.450 | 0.088 | ( 0.405) | 0.362 |
| 47 | 3.92 | 1.60 | 0.480 | 0.088 | ( 0.432) | 0.392 |
| 48 | 4.00 | 1.60 | 0.480 | 0.088 | ( 0.432) | 0.392 |
| 49 | 4.08 | 1.70 | 0.510 | 0.088 | ( 0.459) | 0.422 |
| 50 | 4.17 | 1.80 | 0.540 | 0.088 | ( 0.486) | 0.452 |
| 51 | 4.25 | 1.90 | 0.570 | 0.088 | ( 0.513) | 0.482 |
| 52 | 4.33 | 2.00 | 0.600 | 0.088 | ( 0.540) | 0.512 |
| 53 | 4.42 | 2.10 | 0.630 | 0.088 | ( 0.567) | 0.542 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 54 | 4.50 | 2.10 | 0.630 | 0.088 | ( 0.567) | 0.542 | |
| 55 | 4.58 | 2.20 | 0.660 | 0.088 | ( 0.594) | 0.572 | |
| 56 | 4.67 | 2.30 | 0.690 | 0.088 | ( 0.621) | 0.602 | |
| 57 | 4.75 | 2.40 | 0.720 | 0.088 | ( 0.648) | 0.632 | |
| 58 | 4.83 | 2.40 | 0.720 | 0.088 | ( 0.648) | 0.632 | |
| 59 | 4.92 | 2.50 | 0.750 | 0.088 | ( 0.675) | 0.662 | |
| 60 | 5.00 | 2.60 | 0.780 | 0.088 | ( 0.702) | 0.692 | |
| 61 | 5.08 | 3.10 | 0.930 | 0.088 | ( 0.837) | 0.842 | |
| 62 | 5.17 | 3.60 | 1.080 | 0.088 | ( 0.972) | 0.992 | |
| 63 | 5.25 | 3.90 | 1.170 | 0.088 | ( 1.053) | 1.082 | |
| 64 | 5.33 | 4.20 | 1.260 | 0.088 | ( 1.134) | 1.172 | |
| 65 | 5.42 | 4.70 | 1.410 | 0.088 | ( 1.269) | 1.322 | |
| 66 | 5.50 | 5.60 | 1.680 | 0.088 | ( 1.512) | 1.592 | |
| 67 | 5.58 | 1.90 | 0.570 | 0.088 | ( 0.513) | 0.482 | |
| 68 | 5.67 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 | |
| 69 | 5.75 | 0.60 | 0.180 | 0.088 | ( 0.162) | 0.092 | |
| 70 | 5.83 | 0.50 | 0.150 | 0.088 | ( 0.135) | 0.062 | |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.088) | 0.081 | 0.009 | |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.088) | 0.054 | 0.006 | |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.7

Flood volume = Effective rainfall 1.97(In)
times area 1.5(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 0.53(In)
Total soil loss = 0.066(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 10749.1 Cubic Feet
Total soil loss = 2863.3 Cubic Feet

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Peak flow rate of this hydrograph = 2.218(CFS)

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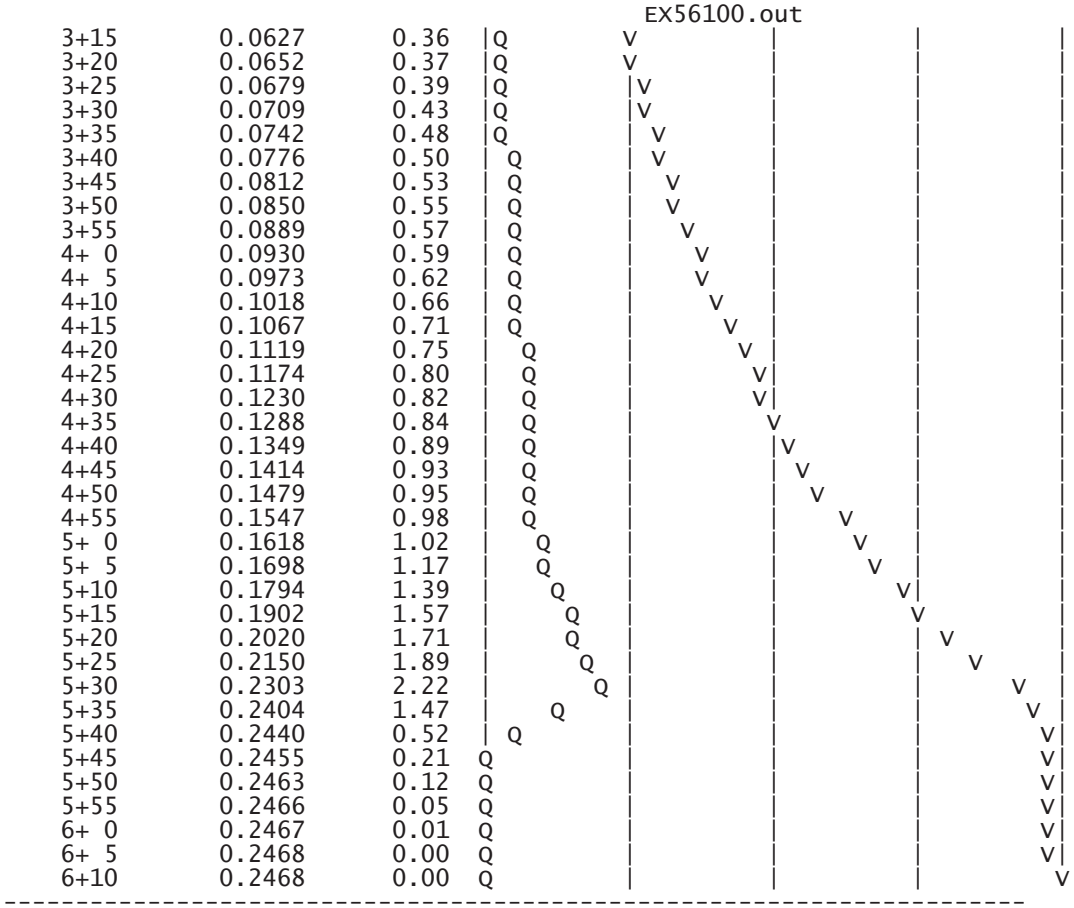
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0004 | 0.05 | Q | \| | \| | \| | \| |
| 0+10 | 0.0012 | 0.12 | Q | \| | \| | \| | \| |
| 0+15 | 0.0021 | 0.14 | Q | \| | \| | \| | \| |
| 0+20 | 0.0031 | 0.14 | Q | \| | \| | \| | \| |
| 0+25 | 0.0040 | 0.14 | Q | \| | \| | \| | \| |
| 0+30 | 0.0051 | 0.16 | Q | \| | \| | \| | \| |
| 0+35 | 0.0064 | 0.18 | QV | \| | \| | \| | \| |
| 0+40 | 0.0077 | 0.18 | QV | \| | \| | \| | \| |
| 0+45 | 0.0089 | 0.18 | QV | \| | \| | \| | \| |
| 0+50 | 0.0102 | 0.18 | QV | \| | \| | \| | \| |
| 0+55 | 0.0115 | 0.18 | QV | \| | \| | \| | \| |
| 1+ 0 | 0.0129 | 0.21 | Q V | \| | \| | \| | \| |
| 1+ 5 | 0.0145 | 0.23 | Q V | \| | \| | \| | \| |
| 1+10 | 0.0161 | 0.23 | Q V | \| | \| | \| | \| |
| 1+15 | 0.0177 | 0.23 | Q V | \| | \| | \| | \| |
| 1+20 | 0.0192 | 0.23 | Q V | \| | \| | \| | \| |
| 1+25 | 0.0208 | 0.23 | Q V | \| | \| | \| | \| |
| 1+30 | 0.0224 | 0.23 | Q V | \| | \| | \| | \| |
| 1+35 | 0.0240 | 0.23 | Q V | \| | \| | \| | \| |
| 1+40 | 0.0256 | 0.23 | Q V | \| | \| | \| | \| |
| 1+45 | 0.0271 | 0.23 | Q V | \| | \| | \| | \| |
| 1+50 | 0.0287 | 0.23 | Q V | \| | \| | \| | \| |
| 1+55 | 0.0303 | 0.23 | Q V | \| | \| | \| | \| |
| 2+ 0 | 0.0321 | 0.25 | \|Q V | \| | \| | \| | \| |
| 2+ 5 | 0.0338 | 0.25 | Q V | \| | \| | \| | \| |
| 2+10 | 0.0355 | 0.26 | \|Q V | \| | \| | \| | \| |
| 2+15 | 0.0374 | 0.27 | \|Q V | \| | \| | \| | \| |
| 2+20 | 0.0393 | 0.27 | \|Q V | \| | \| | \| | \| |
| 2+25 | 0.0412 | 0.27 | \|Q V | \| | \| | \| | \| |
| 2+30 | 0.0431 | 0.27 | \|Q V | \| | \| | \| | \| |
| 2+35 | 0.0450 | 0.27 | \|Q V | \| | \| | \| | \| |
| 2+40 | 0.0469 | 0.27 | \|Q V | \| | \| | \| | \| |
| 2+45 | 0.0489 | 0.30 | \|Q V | \| | \| | \| | \| |
| 2+50 | 0.0511 | 0.32 | \|Q V | \| | \| | \| | \| |
| 2+55 | 0.0534 | 0.32 | \|Q V | \| | \| | \| | \| |
| 3+ 0 | 0.0556 | 0.32 | \|Q V\| | \| | \| | \| | \| |
| 3+ 5 | 0.0578 | 0.32 | \|Q V\| | \| | \| | \| | \| |
| 3+10 | 0.0601 | 0.35 | \|Q V\| | \| | \| | \| | \| |


3+15 0.0627 0.36
3+20 0.0652 0.37
3+25 0.0679 0.39
3+30 0.0709 0.43
3+35 0.0742 0.48
3+40 0.0776 0.50
3+45 0.0812 0.53
3+50 0.0850 0.55
3+55 0.0889 0.57
4+ 0 0.0930 0.59
4+ 5 0.0973 0.62
4+10 0.1018 0.66
4+15 0.1067 0.71
4+20 0.1119 0.75
4+25 0.1174 0.80
4+30 0.1230 0.82
4+35 0.1288 0.84
4+40 0.1349 0.89
4+45 0.1414 0.93
4+50 0.1479 0.95
4+55 0.1547 0.98
5+ 0 0.1618 1.02
5+ 5 0.1698 1.17
5+10 0.1794 1.39
5+15 0.1902 1.57
5+20 0.2020 1.71
5+25 0.2150 1.89
5+30 0.2303 2.22
5+35 0.2404 1.47
5+40 0.2440 0.52
5+45 0.2455 0.21
5+50 0.2463 0.12
5+55 0.2466 0.05
6+ 0 0.2467 0.01
6+ 5 0.2468 0.00
6+10 0.2468 0.00

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/19/17 File: EX524100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 5
100-YEAR STORM EVENT
BY: JDN, DATE: 12-19-17

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Drainage Area = 1.50(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.50(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 472.00(Ft.)
Length along longest watercourse measured to centroid = 283.00(Ft.)
Length along longest watercourse = 0.089 Mi.
Length along longest watercourse measured to centroid = 0.054 Mi.
Difference in elevation = 88.00(Ft.)
Slope along watercourse = 984.4068 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.030 Hr.
Lag time = 1.79 Min.
25% of lag time = 0.45 Min.
40% of lag time = 0.72 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.50 | 1.80 | 2.70 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.50 | 4.64 | 6.96 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.640(In)

Point rain (area averaged) = 4.640(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.640(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 1.500 | 83.69 | 0.000 |

Total Area Entered = 1.50(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.7 | 93.2 | 0.088 | 0.000 | 0.088 | 1.000 | 0.088 |
| | | | | | Sum (F) = | 0.088 |

Area averaged mean soil loss (F) (In/Hr) = 0.088

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 279.684 | 55.177 | 0.834 |
| 2 | 0.167 | 559.368 | 42.139 | 0.637 |
| 3 | 0.250 | 839.052 | 2.684 | 0.041 |
| | | | Sum = 100.000 Sum= | 1.512 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.037 | ( 0.156) | 0.033 | 0.004 |
| 2 | 0.17 | 0.07 | 0.037 | ( 0.156) | 0.033 | 0.004 |
| 3 | 0.25 | 0.07 | 0.037 | ( 0.155) | 0.033 | 0.004 |
| 4 | 0.33 | 0.10 | 0.056 | ( 0.155) | 0.050 | 0.006 |
| 5 | 0.42 | 0.10 | 0.056 | ( 0.154) | 0.050 | 0.006 |
| 6 | 0.50 | 0.10 | 0.056 | ( 0.153) | 0.050 | 0.006 |
| 7 | 0.58 | 0.10 | 0.056 | ( 0.153) | 0.050 | 0.006 |
| 8 | 0.67 | 0.10 | 0.056 | ( 0.152) | 0.050 | 0.006 |
| 9 | 0.75 | 0.10 | 0.056 | ( 0.152) | 0.050 | 0.006 |
| 10 | 0.83 | 0.13 | 0.074 | ( 0.151) | 0.067 | 0.007 |
| 11 | 0.92 | 0.13 | 0.074 | ( 0.150) | 0.067 | 0.007 |
| 12 | 1.00 | 0.13 | 0.074 | ( 0.150) | 0.067 | 0.007 |
| 13 | 1.08 | 0.10 | 0.056 | ( 0.149) | 0.050 | 0.006 |
| 14 | 1.17 | 0.10 | 0.056 | ( 0.149) | 0.050 | 0.006 |
| 15 | 1.25 | 0.10 | 0.056 | ( 0.148) | 0.050 | 0.006 |
| 16 | 1.33 | 0.10 | 0.056 | ( 0.147) | 0.050 | 0.006 |
| 17 | 1.42 | 0.10 | 0.056 | ( 0.147) | 0.050 | 0.006 |
| 18 | 1.50 | 0.10 | 0.056 | ( 0.146) | 0.050 | 0.006 |
| 19 | 1.58 | 0.10 | 0.056 | ( 0.146) | 0.050 | 0.006 |
| 20 | 1.67 | 0.10 | 0.056 | ( 0.145) | 0.050 | 0.006 |
| 21 | 1.75 | 0.10 | 0.056 | ( 0.145) | 0.050 | 0.006 |
| 22 | 1.83 | 0.13 | 0.074 | ( 0.144) | 0.067 | 0.007 |
| 23 | 1.92 | 0.13 | 0.074 | ( 0.143) | 0.067 | 0.007 |
| 24 | 2.00 | 0.13 | 0.074 | ( 0.143) | 0.067 | 0.007 |
| 25 | 2.08 | 0.13 | 0.074 | ( 0.142) | 0.067 | 0.007 |
| 26 | 2.17 | 0.13 | 0.074 | ( 0.142) | 0.067 | 0.007 |
| 27 | 2.25 | 0.13 | 0.074 | ( 0.141) | 0.067 | 0.007 |
| 28 | 2.33 | 0.13 | 0.074 | ( 0.140) | 0.067 | 0.007 |
| 29 | 2.42 | 0.13 | 0.074 | ( 0.140) | 0.067 | 0.007 |
| 30 | 2.50 | 0.13 | 0.074 | ( 0.139) | 0.067 | 0.007 |
| 31 | 2.58 | 0.17 | 0.093 | ( 0.139) | 0.084 | 0.009 |
| 32 | 2.67 | 0.17 | 0.093 | ( 0.138) | 0.084 | 0.009 |
| 33 | 2.75 | 0.17 | 0.093 | ( 0.138) | 0.084 | 0.009 |
| 34 | 2.83 | 0.17 | 0.093 | ( 0.137) | 0.084 | 0.009 |
| 35 | 2.92 | 0.17 | 0.093 | ( 0.136) | 0.084 | 0.009 |
| 36 | 3.00 | 0.17 | 0.093 | ( 0.136) | 0.084 | 0.009 |
| 37 | 3.08 | 0.17 | 0.093 | ( 0.135) | 0.084 | 0.009 |
| 38 | 3.17 | 0.17 | 0.093 | ( 0.135) | 0.084 | 0.009 |
| 39 | 3.25 | 0.17 | 0.093 | ( 0.134) | 0.084 | 0.009 |
| 40 | 3.33 | 0.17 | 0.093 | ( 0.134) | 0.084 | 0.009 |
| 41 | 3.42 | 0.17 | 0.093 | ( 0.133) | 0.084 | 0.009 |
| 42 | 3.50 | 0.17 | 0.093 | ( 0.133) | 0.084 | 0.009 |
| 43 | 3.58 | 0.17 | 0.093 | ( 0.132) | 0.084 | 0.009 |
| 44 | 3.67 | 0.17 | 0.093 | ( 0.131) | 0.084 | 0.009 |
| 45 | 3.75 | 0.17 | 0.093 | ( 0.131) | 0.084 | 0.009 |
| 46 | 3.83 | 0.20 | 0.111 | ( 0.130) | 0.100 | 0.011 |
| 47 | 3.92 | 0.20 | 0.111 | ( 0.130) | 0.100 | 0.011 |
| 48 | 4.00 | 0.20 | 0.111 | ( 0.129) | 0.100 | 0.011 |
| 49 | 4.08 | 0.20 | 0.111 | ( 0.129) | 0.100 | 0.011 |
| 50 | 4.17 | 0.20 | 0.111 | ( 0.128) | 0.100 | 0.011 |
| 51 | 4.25 | 0.20 | 0.111 | ( 0.128) | 0.100 | 0.011 |
| 52 | 4.33 | 0.23 | 0.130 | ( 0.127) | 0.117 | 0.013 |
| 53 | 4.42 | 0.23 | 0.130 | ( 0.127) | 0.117 | 0.013 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 54 | 4.50 | 0.23 | 0.130 | ( | 0.126) | 0.117 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.130 | ( | 0.125) | 0.117 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.130 | ( | 0.125) | 0.117 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.130 | ( | 0.124) | 0.117 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.148 | | 0.124 | ( | 0.134) | 0.025 |
| 59 | 4.92 | 0.27 | 0.148 | | 0.123 | ( | 0.134) | 0.025 |
| 60 | 5.00 | 0.27 | 0.148 | | 0.123 | ( | 0.134) | 0.026 |
| 61 | 5.08 | 0.20 | 0.111 | ( | 0.122) | 0.100 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.111 | ( | 0.122) | 0.100 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.111 | ( | 0.121) | 0.100 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.130 | ( | 0.121) | 0.117 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.130 | ( | 0.120) | 0.117 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.130 | ( | 0.120) | 0.117 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.148 | | 0.119 | ( | 0.134) | 0.029 |
| 68 | 5.67 | 0.27 | 0.148 | | 0.119 | ( | 0.134) | 0.030 |
| 69 | 5.75 | 0.27 | 0.148 | | 0.118 | ( | 0.134) | 0.030 |
| 70 | 5.83 | 0.27 | 0.148 | | 0.117 | ( | 0.134) | 0.031 |
| 71 | 5.92 | 0.27 | 0.148 | | 0.117 | ( | 0.134) | 0.032 |
| 72 | 6.00 | 0.27 | 0.148 | | 0.116 | ( | 0.134) | 0.032 |
| 73 | 6.08 | 0.30 | 0.167 | | 0.116 | ( | 0.150) | 0.051 |
| 74 | 6.17 | 0.30 | 0.167 | | 0.115 | ( | 0.150) | 0.052 |
| 75 | 6.25 | 0.30 | 0.167 | | 0.115 | ( | 0.150) | 0.052 |
| 76 | 6.33 | 0.30 | 0.167 | | 0.114 | ( | 0.150) | 0.053 |
| 77 | 6.42 | 0.30 | 0.167 | | 0.114 | ( | 0.150) | 0.053 |
| 78 | 6.50 | 0.30 | 0.167 | | 0.113 | ( | 0.150) | 0.054 |
| 79 | 6.58 | 0.33 | 0.186 | | 0.113 | ( | 0.167) | 0.073 |
| 80 | 6.67 | 0.33 | 0.186 | | 0.112 | ( | 0.167) | 0.073 |
| 81 | 6.75 | 0.33 | 0.186 | | 0.112 | ( | 0.167) | 0.074 |
| 82 | 6.83 | 0.33 | 0.186 | | 0.111 | ( | 0.167) | 0.074 |
| 83 | 6.92 | 0.33 | 0.186 | | 0.111 | ( | 0.167) | 0.075 |
| 84 | 7.00 | 0.33 | 0.186 | | 0.110 | ( | 0.167) | 0.075 |
| 85 | 7.08 | 0.33 | 0.186 | | 0.110 | ( | 0.167) | 0.076 |
| 86 | 7.17 | 0.33 | 0.186 | | 0.109 | ( | 0.167) | 0.076 |
| 87 | 7.25 | 0.33 | 0.186 | | 0.109 | ( | 0.167) | 0.077 |
| 88 | 7.33 | 0.37 | 0.204 | | 0.108 | ( | 0.184) | 0.096 |
| 89 | 7.42 | 0.37 | 0.204 | | 0.108 | ( | 0.184) | 0.096 |
| 90 | 7.50 | 0.37 | 0.204 | | 0.107 | ( | 0.184) | 0.097 |
| 91 | 7.58 | 0.40 | 0.223 | | 0.107 | ( | 0.200) | 0.116 |
| 92 | 7.67 | 0.40 | 0.223 | | 0.106 | ( | 0.200) | 0.116 |
| 93 | 7.75 | 0.40 | 0.223 | | 0.106 | ( | 0.200) | 0.117 |
| 94 | 7.83 | 0.43 | 0.241 | | 0.105 | ( | 0.217) | 0.136 |
| 95 | 7.92 | 0.43 | 0.241 | | 0.105 | ( | 0.217) | 0.136 |
| 96 | 8.00 | 0.43 | 0.241 | | 0.104 | ( | 0.217) | 0.137 |
| 97 | 8.08 | 0.50 | 0.278 | | 0.104 | ( | 0.251) | 0.174 |
| 98 | 8.17 | 0.50 | 0.278 | | 0.103 | ( | 0.251) | 0.175 |
| 99 | 8.25 | 0.50 | 0.278 | | 0.103 | ( | 0.251) | 0.175 |
| 100 | 8.33 | 0.50 | 0.278 | | 0.102 | ( | 0.251) | 0.176 |
| 101 | 8.42 | 0.50 | 0.278 | | 0.102 | ( | 0.251) | 0.176 |
| 102 | 8.50 | 0.50 | 0.278 | | 0.102 | ( | 0.251) | 0.177 |
| 103 | 8.58 | 0.53 | 0.297 | | 0.101 | ( | 0.267) | 0.196 |
| 104 | 8.67 | 0.53 | 0.297 | | 0.101 | ( | 0.267) | 0.196 |
| 105 | 8.75 | 0.53 | 0.297 | | 0.100 | ( | 0.267) | 0.197 |
| 106 | 8.83 | 0.57 | 0.316 | | 0.100 | ( | 0.284) | 0.216 |
| 107 | 8.92 | 0.57 | 0.316 | | 0.099 | ( | 0.284) | 0.216 |
| 108 | 9.00 | 0.57 | 0.316 | | 0.099 | ( | 0.284) | 0.217 |
| 109 | 9.08 | 0.63 | 0.353 | | 0.098 | ( | 0.317) | 0.254 |
| 110 | 9.17 | 0.63 | 0.353 | | 0.098 | ( | 0.317) | 0.255 |
| 111 | 9.25 | 0.63 | 0.353 | | 0.097 | ( | 0.317) | 0.255 |
| 112 | 9.33 | 0.67 | 0.371 | | 0.097 | ( | 0.334) | 0.274 |
| 113 | 9.42 | 0.67 | 0.371 | | 0.096 | ( | 0.334) | 0.275 |
| 114 | 9.50 | 0.67 | 0.371 | | 0.096 | ( | 0.334) | 0.275 |
| 115 | 9.58 | 0.70 | 0.390 | | 0.095 | ( | 0.351) | 0.294 |
| 116 | 9.67 | 0.70 | 0.390 | | 0.095 | ( | 0.351) | 0.295 |
| 117 | 9.75 | 0.70 | 0.390 | | 0.095 | ( | 0.351) | 0.295 |
| 118 | 9.83 | 0.73 | 0.408 | | 0.094 | ( | 0.367) | 0.314 |
| 119 | 9.92 | 0.73 | 0.408 | | 0.094 | ( | 0.367) | 0.315 |
| 120 | 10.00 | 0.73 | 0.408 | | 0.093 | ( | 0.367) | 0.315 |
| 121 | 10.08 | 0.50 | 0.278 | | 0.093 | ( | 0.251) | 0.186 |
| 122 | 10.17 | 0.50 | 0.278 | | 0.092 | ( | 0.251) | 0.186 |
| 123 | 10.25 | 0.50 | 0.278 | | 0.092 | ( | 0.251) | 0.187 |
| 124 | 10.33 | 0.50 | 0.278 | | 0.091 | ( | 0.251) | 0.187 |
| 125 | 10.42 | 0.50 | 0.278 | | 0.091 | ( | 0.251) | 0.187 |
| 126 | 10.50 | 0.50 | 0.278 | | 0.090 | ( | 0.251) | 0.188 |
| 127 | 10.58 | 0.67 | 0.371 | | 0.090 | ( | 0.334) | 0.281 |
| 128 | 10.67 | 0.67 | 0.371 | | 0.090 | ( | 0.334) | 0.282 |
| 129 | 10.75 | 0.67 | 0.371 | | 0.089 | ( | 0.334) | 0.282 |
| 130 | 10.83 | 0.67 | 0.371 | | 0.089 | ( | 0.334) | 0.282 |
| 131 | 10.92 | 0.67 | 0.371 | | 0.088 | ( | 0.334) | 0.283 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 132 | 11.00 | 0.67 | 0.371 | 0.088 | ( 0.334) | 0.283 |
| 133 | 11.08 | 0.63 | 0.353 | 0.087 | ( 0.317) | 0.265 |
| 134 | 11.17 | 0.63 | 0.353 | 0.087 | ( 0.317) | 0.266 |
| 135 | 11.25 | 0.63 | 0.353 | 0.087 | ( 0.317) | 0.266 |
| 136 | 11.33 | 0.63 | 0.353 | 0.086 | ( 0.317) | 0.267 |
| 137 | 11.42 | 0.63 | 0.353 | 0.086 | ( 0.317) | 0.267 |
| 138 | 11.50 | 0.63 | 0.353 | 0.085 | ( 0.317) | 0.267 |
| 139 | 11.58 | 0.57 | 0.316 | 0.085 | ( 0.284) | 0.231 |
| 140 | 11.67 | 0.57 | 0.316 | 0.084 | ( 0.284) | 0.231 |
| 141 | 11.75 | 0.57 | 0.316 | 0.084 | ( 0.284) | 0.232 |
| 142 | 11.83 | 0.60 | 0.334 | 0.084 | ( 0.301) | 0.250 |
| 143 | 11.92 | 0.60 | 0.334 | 0.083 | ( 0.301) | 0.251 |
| 144 | 12.00 | 0.60 | 0.334 | 0.083 | ( 0.301) | 0.251 |
| 145 | 12.08 | 0.83 | 0.464 | 0.082 | ( 0.418) | 0.382 |
| 146 | 12.17 | 0.83 | 0.464 | 0.082 | ( 0.418) | 0.382 |
| 147 | 12.25 | 0.83 | 0.464 | 0.082 | ( 0.418) | 0.382 |
| 148 | 12.33 | 0.87 | 0.483 | 0.081 | ( 0.434) | 0.401 |
| 149 | 12.42 | 0.87 | 0.483 | 0.081 | ( 0.434) | 0.402 |
| 150 | 12.50 | 0.87 | 0.483 | 0.080 | ( 0.434) | 0.402 |
| 151 | 12.58 | 0.93 | 0.520 | 0.080 | ( 0.468) | 0.440 |
| 152 | 12.67 | 0.93 | 0.520 | 0.079 | ( 0.468) | 0.440 |
| 153 | 12.75 | 0.93 | 0.520 | 0.079 | ( 0.468) | 0.441 |
| 154 | 12.83 | 0.97 | 0.538 | 0.079 | ( 0.484) | 0.460 |
| 155 | 12.92 | 0.97 | 0.538 | 0.078 | ( 0.484) | 0.460 |
| 156 | 13.00 | 0.97 | 0.538 | 0.078 | ( 0.484) | 0.460 |
| 157 | 13.08 | 1.13 | 0.631 | 0.078 | ( 0.568) | 0.554 |
| 158 | 13.17 | 1.13 | 0.631 | 0.077 | ( 0.568) | 0.554 |
| 159 | 13.25 | 1.13 | 0.631 | 0.077 | ( 0.568) | 0.554 |
| 160 | 13.33 | 1.13 | 0.631 | 0.076 | ( 0.568) | 0.555 |
| 161 | 13.42 | 1.13 | 0.631 | 0.076 | ( 0.568) | 0.555 |
| 162 | 13.50 | 1.13 | 0.631 | 0.076 | ( 0.568) | 0.555 |
| 163 | 13.58 | 0.77 | 0.427 | 0.075 | ( 0.384) | 0.352 |
| 164 | 13.67 | 0.77 | 0.427 | 0.075 | ( 0.384) | 0.352 |
| 165 | 13.75 | 0.77 | 0.427 | 0.074 | ( 0.384) | 0.352 |
| 166 | 13.83 | 0.77 | 0.427 | 0.074 | ( 0.384) | 0.353 |
| 167 | 13.92 | 0.77 | 0.427 | 0.074 | ( 0.384) | 0.353 |
| 168 | 14.00 | 0.77 | 0.427 | 0.073 | ( 0.384) | 0.354 |
| 169 | 14.08 | 0.90 | 0.501 | 0.073 | ( 0.451) | 0.428 |
| 170 | 14.17 | 0.90 | 0.501 | 0.073 | ( 0.451) | 0.429 |
| 171 | 14.25 | 0.90 | 0.501 | 0.072 | ( 0.451) | 0.429 |
| 172 | 14.33 | 0.87 | 0.483 | 0.072 | ( 0.434) | 0.411 |
| 173 | 14.42 | 0.87 | 0.483 | 0.071 | ( 0.434) | 0.411 |
| 174 | 14.50 | 0.87 | 0.483 | 0.071 | ( 0.434) | 0.412 |
| 175 | 14.58 | 0.87 | 0.483 | 0.071 | ( 0.434) | 0.412 |
| 176 | 14.67 | 0.87 | 0.483 | 0.070 | ( 0.434) | 0.412 |
| 177 | 14.75 | 0.87 | 0.483 | 0.070 | ( 0.434) | 0.413 |
| 178 | 14.83 | 0.83 | 0.464 | 0.070 | ( 0.418) | 0.394 |
| 179 | 14.92 | 0.83 | 0.464 | 0.069 | ( 0.418) | 0.395 |
| 180 | 15.00 | 0.83 | 0.464 | 0.069 | ( 0.418) | 0.395 |
| 181 | 15.08 | 0.80 | 0.445 | 0.069 | ( 0.401) | 0.377 |
| 182 | 15.17 | 0.80 | 0.445 | 0.068 | ( 0.401) | 0.377 |
| 183 | 15.25 | 0.80 | 0.445 | 0.068 | ( 0.401) | 0.378 |
| 184 | 15.33 | 0.77 | 0.427 | 0.067 | ( 0.384) | 0.359 |
| 185 | 15.42 | 0.77 | 0.427 | 0.067 | ( 0.384) | 0.360 |
| 186 | 15.50 | 0.77 | 0.427 | 0.067 | ( 0.384) | 0.360 |
| 187 | 15.58 | 0.63 | 0.353 | 0.066 | ( 0.317) | 0.286 |
| 188 | 15.67 | 0.63 | 0.353 | 0.066 | ( 0.317) | 0.287 |
| 189 | 15.75 | 0.63 | 0.353 | 0.066 | ( 0.317) | 0.287 |
| 190 | 15.83 | 0.63 | 0.353 | 0.065 | ( 0.317) | 0.287 |
| 191 | 15.92 | 0.63 | 0.353 | 0.065 | ( 0.317) | 0.288 |
| 192 | 16.00 | 0.63 | 0.353 | 0.065 | ( 0.317) | 0.288 |
| 193 | 16.08 | 0.13 | 0.074 | 0.064 | ( 0.067) | 0.010 |
| 194 | 16.17 | 0.13 | 0.074 | 0.064 | ( 0.067) | 0.010 |
| 195 | 16.25 | 0.13 | 0.074 | 0.064 | ( 0.067) | 0.010 |
| 196 | 16.33 | 0.13 | 0.074 | 0.063 | ( 0.067) | 0.011 |
| 197 | 16.42 | 0.13 | 0.074 | 0.063 | ( 0.067) | 0.011 |
| 198 | 16.50 | 0.13 | 0.074 | 0.063 | ( 0.067) | 0.011 |
| 199 | 16.58 | 0.10 | 0.056 | ( 0.063) | 0.050 | 0.006 |
| 200 | 16.67 | 0.10 | 0.056 | ( 0.062) | 0.050 | 0.006 |
| 201 | 16.75 | 0.10 | 0.056 | ( 0.062) | 0.050 | 0.006 |
| 202 | 16.83 | 0.10 | 0.056 | ( 0.062) | 0.050 | 0.006 |
| 203 | 16.92 | 0.10 | 0.056 | ( 0.061) | 0.050 | 0.006 |
| 204 | 17.00 | 0.10 | 0.056 | ( 0.061) | 0.050 | 0.006 |
| 205 | 17.08 | 0.17 | 0.093 | 0.061 | ( 0.084) | 0.032 |
| 206 | 17.17 | 0.17 | 0.093 | 0.060 | ( 0.084) | 0.032 |
| 207 | 17.25 | 0.17 | 0.093 | 0.060 | ( 0.084) | 0.033 |
| 208 | 17.33 | 0.17 | 0.093 | 0.060 | ( 0.084) | 0.033 |
| 209 | 17.42 | 0.17 | 0.093 | 0.059 | ( 0.084) | 0.033 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 210 | 17.50 | 0.17 | 0.093 | 0.059 | ( 0.084) | 0.034 |
| 211 | 17.58 | 0.17 | 0.093 | 0.059 | ( 0.084) | 0.034 |
| 212 | 17.67 | 0.17 | 0.093 | 0.059 | ( 0.084) | 0.034 |
| 213 | 17.75 | 0.17 | 0.093 | 0.058 | ( 0.084) | 0.035 |
| 214 | 17.83 | 0.13 | 0.074 | 0.058 | ( 0.067) | 0.016 |
| 215 | 17.92 | 0.13 | 0.074 | 0.058 | ( 0.067) | 0.017 |
| 216 | 18.00 | 0.13 | 0.074 | 0.057 | ( 0.067) | 0.017 |
| 217 | 18.08 | 0.13 | 0.074 | 0.057 | ( 0.067) | 0.017 |
| 218 | 18.17 | 0.13 | 0.074 | 0.057 | ( 0.067) | 0.017 |
| 219 | 18.25 | 0.13 | 0.074 | 0.057 | ( 0.067) | 0.018 |
| 220 | 18.33 | 0.13 | 0.074 | 0.056 | ( 0.067) | 0.018 |
| 221 | 18.42 | 0.13 | 0.074 | 0.056 | ( 0.067) | 0.018 |
| 222 | 18.50 | 0.13 | 0.074 | 0.056 | ( 0.067) | 0.019 |
| 223 | 18.58 | 0.10 | 0.056 | ( 0.055) | 0.050 | 0.006 |
| 224 | 18.67 | 0.10 | 0.056 | ( 0.055) | 0.050 | 0.006 |
| 225 | 18.75 | 0.10 | 0.056 | ( 0.055) | 0.050 | 0.006 |
| 226 | 18.83 | 0.07 | 0.037 | ( 0.055) | 0.033 | 0.004 |
| 227 | 18.92 | 0.07 | 0.037 | ( 0.054) | 0.033 | 0.004 |
| 228 | 19.00 | 0.07 | 0.037 | ( 0.054) | 0.033 | 0.004 |
| 229 | 19.08 | 0.10 | 0.056 | ( 0.054) | 0.050 | 0.006 |
| 230 | 19.17 | 0.10 | 0.056 | ( 0.054) | 0.050 | 0.006 |
| 231 | 19.25 | 0.10 | 0.056 | ( 0.053) | 0.050 | 0.006 |
| 232 | 19.33 | 0.13 | 0.074 | 0.053 | ( 0.067) | 0.021 |
| 233 | 19.42 | 0.13 | 0.074 | 0.053 | ( 0.067) | 0.021 |
| 234 | 19.50 | 0.13 | 0.074 | 0.053 | ( 0.067) | 0.022 |
| 235 | 19.58 | 0.10 | 0.056 | ( 0.052) | 0.050 | 0.006 |
| 236 | 19.67 | 0.10 | 0.056 | ( 0.052) | 0.050 | 0.006 |
| 237 | 19.75 | 0.10 | 0.056 | ( 0.052) | 0.050 | 0.006 |
| 238 | 19.83 | 0.07 | 0.037 | ( 0.052) | 0.033 | 0.004 |
| 239 | 19.92 | 0.07 | 0.037 | ( 0.051) | 0.033 | 0.004 |
| 240 | 20.00 | 0.07 | 0.037 | ( 0.051) | 0.033 | 0.004 |
| 241 | 20.08 | 0.10 | 0.056 | ( 0.051) | 0.050 | 0.006 |
| 242 | 20.17 | 0.10 | 0.056 | ( 0.051) | 0.050 | 0.006 |
| 243 | 20.25 | 0.10 | 0.056 | ( 0.051) | 0.050 | 0.006 |
| 244 | 20.33 | 0.10 | 0.056 | ( 0.050) | 0.050 | 0.006 |
| 245 | 20.42 | 0.10 | 0.056 | ( 0.050) | 0.050 | 0.006 |
| 246 | 20.50 | 0.10 | 0.056 | 0.050 | ( 0.050) | 0.006 |
| 247 | 20.58 | 0.10 | 0.056 | 0.050 | ( 0.050) | 0.006 |
| 248 | 20.67 | 0.10 | 0.056 | 0.049 | ( 0.050) | 0.006 |
| 249 | 20.75 | 0.10 | 0.056 | 0.049 | ( 0.050) | 0.006 |
| 250 | 20.83 | 0.07 | 0.037 | ( 0.049) | 0.033 | 0.004 |
| 251 | 20.92 | 0.07 | 0.037 | ( 0.049) | 0.033 | 0.004 |
| 252 | 21.00 | 0.07 | 0.037 | ( 0.049) | 0.033 | 0.004 |
| 253 | 21.08 | 0.10 | 0.056 | 0.048 | ( 0.050) | 0.007 |
| 254 | 21.17 | 0.10 | 0.056 | 0.048 | ( 0.050) | 0.007 |
| 255 | 21.25 | 0.10 | 0.056 | 0.048 | ( 0.050) | 0.008 |
| 256 | 21.33 | 0.07 | 0.037 | ( 0.048) | 0.033 | 0.004 |
| 257 | 21.42 | 0.07 | 0.037 | ( 0.048) | 0.033 | 0.004 |
| 258 | 21.50 | 0.07 | 0.037 | ( 0.048) | 0.033 | 0.004 |
| 259 | 21.58 | 0.10 | 0.056 | 0.047 | ( 0.050) | 0.008 |
| 260 | 21.67 | 0.10 | 0.056 | 0.047 | ( 0.050) | 0.008 |
| 261 | 21.75 | 0.10 | 0.056 | 0.047 | ( 0.050) | 0.009 |
| 262 | 21.83 | 0.07 | 0.037 | ( 0.047) | 0.033 | 0.004 |
| 263 | 21.92 | 0.07 | 0.037 | ( 0.047) | 0.033 | 0.004 |
| 264 | 22.00 | 0.07 | 0.037 | ( 0.047) | 0.033 | 0.004 |
| 265 | 22.08 | 0.10 | 0.056 | 0.046 | ( 0.050) | 0.009 |
| 266 | 22.17 | 0.10 | 0.056 | 0.046 | ( 0.050) | 0.009 |
| 267 | 22.25 | 0.10 | 0.056 | 0.046 | ( 0.050) | 0.010 |
| 268 | 22.33 | 0.07 | 0.037 | ( 0.046) | 0.033 | 0.004 |
| 269 | 22.42 | 0.07 | 0.037 | ( 0.046) | 0.033 | 0.004 |
| 270 | 22.50 | 0.07 | 0.037 | ( 0.046) | 0.033 | 0.004 |
| 271 | 22.58 | 0.07 | 0.037 | ( 0.046) | 0.033 | 0.004 |
| 272 | 22.67 | 0.07 | 0.037 | ( 0.045) | 0.033 | 0.004 |
| 273 | 22.75 | 0.07 | 0.037 | ( 0.045) | 0.033 | 0.004 |
| 274 | 22.83 | 0.07 | 0.037 | ( 0.045) | 0.033 | 0.004 |
| 275 | 22.92 | 0.07 | 0.037 | ( 0.045) | 0.033 | 0.004 |
| 276 | 23.00 | 0.07 | 0.037 | ( 0.045) | 0.033 | 0.004 |
| 277 | 23.08 | 0.07 | 0.037 | ( 0.045) | 0.033 | 0.004 |
| 278 | 23.17 | 0.07 | 0.037 | ( 0.045) | 0.033 | 0.004 |
| 279 | 23.25 | 0.07 | 0.037 | ( 0.045) | 0.033 | 0.004 |
| 280 | 23.33 | 0.07 | 0.037 | ( 0.045) | 0.033 | 0.004 |
| 281 | 23.42 | 0.07 | 0.037 | ( 0.045) | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.037 | ( 0.044) | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.037 | ( 0.044) | 0.033 | 0.004 |
| 284 | 23.67 | 0.07 | 0.037 | ( 0.044) | 0.033 | 0.004 |
| 285 | 23.75 | 0.07 | 0.037 | ( 0.044) | 0.033 | 0.004 |
| 286 | 23.83 | 0.07 | 0.037 | ( 0.044) | 0.033 | 0.004 |
| 287 | 23.92 | 0.07 | 0.037 | ( 0.044) | 0.033 | 0.004 |

288 24.00 0.07 0.037 ( 0.044) 0.033 0.004
(Loss Rate Not Used)
Sum = 100.0 Sum = 34.7
Flood volume = Effective rainfall 2.89(In)
times area 1.5(Ac.)/[(In)/(Ft.)] = 0.4(Ac.Ft)
Total soil loss = 1.75(In)
Total soil loss = 0.219(Ac.Ft)
Total rainfall = 4.64(In)
Flood volume = 15745.4 Cubic Feet
Total soil loss = 9519.3 Cubic Feet

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Peak flow rate of this hydrograph = 0.840(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0000 | 0.00 | Q | | | | |
| 0+10 | 0.0001 | 0.01 | Q | | | | |
| 0+15 | 0.0001 | 0.01 | Q | | | | |
| 0+20 | 0.0001 | 0.01 | Q | | | | |
| 0+25 | 0.0002 | 0.01 | Q | | | | |
| 0+30 | 0.0003 | 0.01 | Q | | | | |
| 0+35 | 0.0003 | 0.01 | Q | | | | |
| 0+40 | 0.0004 | 0.01 | Q | | | | |
| 0+45 | 0.0004 | 0.01 | Q | | | | |
| 0+50 | 0.0005 | 0.01 | Q | | | | |
| 0+55 | 0.0006 | 0.01 | Q | | | | |
| 1+ 0 | 0.0007 | 0.01 | Q | | | | |
| 1+ 5 | 0.0007 | 0.01 | Q | | | | |
| 1+10 | 0.0008 | 0.01 | Q | | | | |
| 1+15 | 0.0008 | 0.01 | Q | | | | |
| 1+20 | 0.0009 | 0.01 | Q | | | | |
| 1+25 | 0.0010 | 0.01 | Q | | | | |
| 1+30 | 0.0010 | 0.01 | Q | | | | |
| 1+35 | 0.0011 | 0.01 | Q | | | | |
| 1+40 | 0.0011 | 0.01 | Q | | | | |
| 1+45 | 0.0012 | 0.01 | Q | | | | |
| 1+50 | 0.0013 | 0.01 | Q | | | | |
| 1+55 | 0.0013 | 0.01 | Q | | | | |
| 2+ 0 | 0.0014 | 0.01 | Q | | | | |
| 2+ 5 | 0.0015 | 0.01 | Q | | | | |
| 2+10 | 0.0016 | 0.01 | Q | | | | |
| 2+15 | 0.0016 | 0.01 | Q | | | | |
| 2+20 | 0.0017 | 0.01 | Q | | | | |
| 2+25 | 0.0018 | 0.01 | Q | | | | |
| 2+30 | 0.0019 | 0.01 | Q | | | | |
| 2+35 | 0.0020 | 0.01 | Q | | | | |
| 2+40 | 0.0021 | 0.01 | Q | | | | |
| 2+45 | 0.0022 | 0.01 | Q | | | | |
| 2+50 | 0.0023 | 0.01 | Q | | | | |
| 2+55 | 0.0024 | 0.01 | Q | | | | |
| 3+ 0 | 0.0024 | 0.01 | Q | | | | |
| 3+ 5 | 0.0025 | 0.01 | Q | | | | |
| 3+10 | 0.0026 | 0.01 | Q | | | | |
| 3+15 | 0.0027 | 0.01 | Q | | | | |
| 3+20 | 0.0028 | 0.01 | Q | | | | |
| 3+25 | 0.0029 | 0.01 | Q | | | | |
| 3+30 | 0.0030 | 0.01 | Q | | | | |
| 3+35 | 0.0031 | 0.01 | Q | | | | |
| 3+40 | 0.0032 | 0.01 | Q | | | | |
| 3+45 | 0.0033 | 0.01 | Q | | | | |
| 3+50 | 0.0034 | 0.02 | Q | | | | |
| 3+55 | 0.0035 | 0.02 | Q | | | | |
| 4+ 0 | 0.0037 | 0.02 | Q | | | | |
| 4+ 5 | 0.0038 | 0.02 | Q | | | | |
| 4+10 | 0.0039 | 0.02 | Q | | | | |
| 4+15 | 0.0040 | 0.02 | Q | | | | |
| 4+20 | 0.0041 | 0.02 | Q | | | | |
| 4+25 | 0.0043 | 0.02 | Q | | | | |
| 4+30 | 0.0044 | 0.02 | Q | | | | |
| 4+35 | 0.0045 | 0.02 | Q | | | | |
| 4+40 | 0.0047 | 0.02 | Q | | | | |

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 4+45       0.0048      0.02  Q          |          |          |          |
 4+50       0.0050      0.03  Q          |          |          |          |
 4+55       0.0053      0.04  Q          |          |          |          |
 5+ 0       0.0055      0.04  Q          |          |          |          |
 5+ 5       0.0057      0.03  Q          |          |          |          |
 5+10       0.0058      0.02  Q          |          |          |          |
 5+15       0.0060      0.02  Q          |          |          |          |
 5+20       0.0061      0.02  Q          |          |          |          |
 5+25       0.0062      0.02  Q          |          |          |          |
 5+30       0.0063      0.02  Q          |          |          |          |
 5+35       0.0066      0.03  Q          |          |          |          |
 5+40       0.0069      0.04  Q          |          |          |          |
 5+45       0.0072      0.05  Q          |          |          |          |
 5+50       0.0075      0.05  Q          |          |          |          |
 5+55       0.0078      0.05  Q          |          |          |          |
 6+ 0       0.0082      0.05  Q          |          |          |          |
 6+ 5       0.0086      0.06  Q          |          |          |          |
 6+10       0.0091      0.08  QV         |          |          |          |
 6+15       0.0097      0.08  QV         |          |          |          |
 6+20       0.0102      0.08  QV         |          |          |          |
 6+25       0.0108      0.08  QV         |          |          |          |
 6+30       0.0113      0.08  QV         |          |          |          |
 6+35       0.0120      0.10  QV         |          |          |          |
 6+40       0.0128      0.11  QV         |          |          |          |
 6+45       0.0135      0.11  QV         |          |          |          |
 6+50       0.0143      0.11  QV         |          |          |          |
 6+55       0.0151      0.11  QV         |          |          |          |
 7+ 0       0.0159      0.11  QV         |          |          |          |
 7+ 5       0.0166      0.11  QV         |          |          |          |
 7+10       0.0174      0.12  QV         |          |          |          |
 7+15       0.0182      0.12  Q V        |          |          |          |
 7+20       0.0191      0.13  Q V        |          |          |          |
 7+25       0.0201      0.14  Q V        |          |          |          |
 7+30       0.0211      0.15  Q V        |          |          |          |
 7+35       0.0223      0.16  Q V        |          |          |          |
 7+40       0.0235      0.17  Q V        |          |          |          |
 7+45       0.0247      0.18  Q V        |          |          |          |
 7+50       0.0260      0.19  Q V        |          |          |          |
 7+55       0.0274      0.21  Q  V       |          |          |          |
 8+ 0       0.0288      0.21  Q  V       |          |          |          |
 8+ 5       0.0305      0.24  Q  V       |          |          |          |
 8+10       0.0323      0.26  |Q V       |          |          |          |
 8+15       0.0341      0.27  |Q V       |          |          |          |
 8+20       0.0360      0.27  |Q V       |          |          |          |
 8+25       0.0378      0.27  |Q  V      |          |          |          |
 8+30       0.0396      0.27  |Q  V      |          |          |          |
 8+35       0.0416      0.28  |Q  V      |          |          |          |
 8+40       0.0436      0.30  |Q  V      |          |          |          |
 8+45       0.0457      0.30  |Q   V     |          |          |          |
 8+50       0.0478      0.31  |Q   V     |          |          |          |
 8+55       0.0501      0.33  |Q   V     |          |          |          |
 9+ 0       0.0523      0.33  |Q   V     |          |          |          |
 9+ 5       0.0548      0.36  |Q    V    |          |          |          |
 9+10       0.0575      0.38  |Q    V    |          |          |          |
 9+15       0.0601      0.39  |Q    V    |          |          |          |
 9+20       0.0629      0.40  |Q    V    |          |          |          |
 9+25       0.0657      0.41  |Q     V   |          |          |          |
 9+30       0.0686      0.42  |Q     V   |          |          |          |
 9+35       0.0716      0.43  |Q     V   |          |          |          |
 9+40       0.0746      0.44  |Q      V  |          |          |          |
 9+45       0.0777      0.45  |Q      V  |          |          |          |
 9+50       0.0809      0.46  |Q      V  |          |          |          |
 9+55       0.0842      0.47  |Q       V |          |          |          |
10+ 0       0.0874      0.48  |Q       V |          |          |          |
10+ 5       0.0900      0.37  |Q       V |          |          |          |
10+10       0.0920      0.29  |Q        V          |          |          |
10+15       0.0939      0.28  |Q        V          |          |          |
10+20       0.0958      0.28  |Q        V          |          |          |
10+25       0.0978      0.28  |Q        V          |          |          |
10+30       0.0998      0.28  |Q         |V         |          |          |
10+35       0.1022      0.36  |Q         |V         |          |          |
10+40       0.1052      0.42  |Q         |V         |          |          |
10+45       0.1081      0.43  |Q         |V         |          |          |
10+50       0.1110      0.43  |Q         | V        |          |          |
10+55       0.1140      0.43  |Q         | V        |          |          |
11+ 0       0.1169      0.43  |Q         | V        |          |          |
11+ 5       0.1198      0.41  |Q         |  V       |          |          |
11+10       0.1225      0.40  |Q         |  V       |          |          |
```

```
11+15       0.1253      0.40  |Q        |  V      |         |         |
11+20       0.1281      0.40  |Q        |   V     |         |         |
11+25       0.1309      0.40  |Q        |   V     |         |         |
11+30       0.1336      0.40  |Q        |   V     |         |         |
11+35       0.1362      0.37  |Q        |    V    |         |         |
11+40       0.1386      0.35  |Q        |    V    |         |         |
11+45       0.1410      0.35  |Q        |    V    |         |         |
11+50       0.1436      0.37  |Q        |    V    |         |         |
11+55       0.1462      0.38  |Q        |     V   |         |         |
12+ 0       0.1488      0.38  |Q        |     V   |         |         |
12+ 5       0.1522      0.49  |Q        |     V   |         |         |
12+10       0.1561      0.57  | Q       |      V  |         |         |
12+15       0.1601      0.58  | Q       |      V  |         |         |
12+20       0.1642      0.59  | Q       |       V |         |         |
12+25       0.1683      0.61  | Q       |       V |         |         |
12+30       0.1725      0.61  | Q       |        V|         |         |
12+35       0.1769      0.64  | Q       |        V|         |         |
12+40       0.1815      0.66  | Q       |         V         |         |
12+45       0.1861      0.67  | Q       |         V         |         |
12+50       0.1908      0.68  | Q       |          V        |         |
12+55       0.1956      0.69  | Q       |          V        |         |
13+ 0       0.2004      0.70  | Q       |           V       |         |
13+ 5       0.2057      0.77  |  Q      |           V       |         |
13+10       0.2114      0.83  |  Q      |            V      |         |
13+15       0.2172      0.84  |  Q      |             V     |         |
13+20       0.2230      0.84  |  Q      |             V     |         |
13+25       0.2288      0.84  |  Q      |              V    |         |
13+30       0.2346      0.84  |  Q      |              V    |         |
13+35       0.2392      0.67  | Q       |               V   |         |
13+40       0.2429      0.54  | Q       |               V   |         |
13+45       0.2466      0.53  | Q       |                V  |         |
13+50       0.2502      0.53  | Q       |                V  |         |
13+55       0.2539      0.53  | Q       |                 V |         |
14+ 0       0.2576      0.53  | Q       |                 V |         |
14+ 5       0.2617      0.60  | Q       |                 V |         |
14+10       0.2662      0.64  | Q       |                  V|         |
14+15       0.2706      0.65  | Q       |                  V|         |
14+20       0.2750      0.63  | Q       |                   V         |
14+25       0.2793      0.62  | Q       |                   V         |
14+30       0.2836      0.62  | Q       |                    V        |
14+35       0.2878      0.62  | Q       |                    V        |
14+40       0.2921      0.62  | Q       |                     V       |
14+45       0.2964      0.62  | Q       |                     V       |
14+50       0.3006      0.61  | Q       |                      V      |
14+55       0.3047      0.60  | Q       |                      V      |
15+ 0       0.3089      0.60  | Q       |                       V     |
15+ 5       0.3129      0.58  | Q       |                       V     |
15+10       0.3168      0.57  | Q       |                        V    |
15+15       0.3207      0.57  | Q       |                        V    |
15+20       0.3246      0.56  | Q       |                        V    |
15+25       0.3283      0.54  | Q       |                         V   |
15+30       0.3321      0.54  | Q       |                         V   |
15+35       0.3354      0.48  |Q        |                          V  |
15+40       0.3384      0.44  |Q        |                          V  |
15+45       0.3414      0.43  |Q        |                          V  |
15+50       0.3444      0.43  |Q        |                           V |
15+55       0.3474      0.43  |Q        |                           V |
16+ 0       0.3504      0.44  |Q        |                           V |
16+ 5       0.3518      0.20  Q         |                           V |
16+10       0.3519      0.03  Q         |                           V |
16+15       0.3520      0.02  Q         |                           V |
16+20       0.3522      0.02  Q         |                           V |
16+25       0.3523      0.02  Q         |                           V |
16+30       0.3524      0.02  Q         |                           V |
16+35       0.3525      0.01  Q         |                            V|
16+40       0.3525      0.01  Q         |                            V|
16+45       0.3526      0.01  Q         |                            V|
16+50       0.3526      0.01  Q         |                            V|
16+55       0.3527      0.01  Q         |                            V|
17+ 0       0.3528      0.01  Q         |                            V|
17+ 5       0.3530      0.03  Q         |                            V|
17+10       0.3533      0.05  Q         |                            V|
17+15       0.3536      0.05  Q         |                            V|
17+20       0.3540      0.05  Q         |                            V|
17+25       0.3543      0.05  Q         |                            V|
17+30       0.3547      0.05  Q         |                            V|
17+35       0.3550      0.05  Q         |                            V|
17+40       0.3554      0.05  Q         |                            V|
```

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+45 | 0.3557 | 0.05 | Q | \| | \| | \| | V\| |
| 17+50 | 0.3560 | 0.04 | Q | \| | \| | \| | V\| |
| 17+55 | 0.3562 | 0.03 | Q | \| | \| | \| | V\| |
| 18+ 0 | 0.3564 | 0.03 | Q | \| | \| | \| | V\| |
| 18+ 5 | 0.3565 | 0.03 | Q | \| | \| | \| | V\| |
| 18+10 | 0.3567 | 0.03 | Q | \| | \| | \| | V\| |
| 18+15 | 0.3569 | 0.03 | Q | \| | \| | \| | V\| |
| 18+20 | 0.3571 | 0.03 | Q | \| | \| | \| | V\| |
| 18+25 | 0.3573 | 0.03 | Q | \| | \| | \| | V\| |
| 18+30 | 0.3575 | 0.03 | Q | \| | \| | \| | V\| |
| 18+35 | 0.3576 | 0.02 | Q | \| | \| | \| | V\| |
| 18+40 | 0.3576 | 0.01 | Q | \| | \| | \| | V\| |
| 18+45 | 0.3577 | 0.01 | Q | \| | \| | \| | V\| |
| 18+50 | 0.3577 | 0.01 | Q | \| | \| | \| | V\| |
| 18+55 | 0.3578 | 0.01 | Q | \| | \| | \| | V\| |
| 19+ 0 | 0.3578 | 0.01 | Q | \| | \| | \| | V\| |
| 19+ 5 | 0.3579 | 0.01 | Q | \| | \| | \| | V\| |
| 19+10 | 0.3579 | 0.01 | Q | \| | \| | \| | V\| |
| 19+15 | 0.3580 | 0.01 | Q | \| | \| | \| | V\| |
| 19+20 | 0.3581 | 0.02 | Q | \| | \| | \| | V\| |
| 19+25 | 0.3584 | 0.03 | Q | \| | \| | \| | V\| |
| 19+30 | 0.3586 | 0.03 | Q | \| | \| | \| | V\| |
| 19+35 | 0.3587 | 0.02 | Q | \| | \| | \| | V\| |
| 19+40 | 0.3588 | 0.01 | Q | \| | \| | \| | V\| |
| 19+45 | 0.3588 | 0.01 | Q | \| | \| | \| | V\| |
| 19+50 | 0.3589 | 0.01 | Q | \| | \| | \| | V\| |
| 19+55 | 0.3589 | 0.01 | Q | \| | \| | \| | V\| |
| 20+ 0 | 0.3590 | 0.01 | Q | \| | \| | \| | V\| |
| 20+ 5 | 0.3590 | 0.01 | Q | \| | \| | \| | V\| |
| 20+10 | 0.3591 | 0.01 | Q | \| | \| | \| | V\| |
| 20+15 | 0.3591 | 0.01 | Q | \| | \| | \| | V\| |
| 20+20 | 0.3592 | 0.01 | Q | \| | \| | \| | V\| |
| 20+25 | 0.3592 | 0.01 | Q | \| | \| | \| | V\| |
| 20+30 | 0.3593 | 0.01 | Q | \| | \| | \| | V\| |
| 20+35 | 0.3594 | 0.01 | Q | \| | \| | \| | V\| |
| 20+40 | 0.3594 | 0.01 | Q | \| | \| | \| | V\| |
| 20+45 | 0.3595 | 0.01 | Q | \| | \| | \| | V\| |
| 20+50 | 0.3595 | 0.01 | Q | \| | \| | \| | V\| |
| 20+55 | 0.3596 | 0.01 | Q | \| | \| | \| | V\| |
| 21+ 0 | 0.3596 | 0.01 | Q | \| | \| | \| | V\| |
| 21+ 5 | 0.3597 | 0.01 | Q | \| | \| | \| | V\| |
| 21+10 | 0.3597 | 0.01 | Q | \| | \| | \| | V\| |
| 21+15 | 0.3598 | 0.01 | Q | \| | \| | \| | V\| |
| 21+20 | 0.3599 | 0.01 | Q | \| | \| | \| | V\| |
| 21+25 | 0.3599 | 0.01 | Q | \| | \| | \| | V\| |
| 21+30 | 0.3600 | 0.01 | Q | \| | \| | \| | V\| |
| 21+35 | 0.3600 | 0.01 | Q | \| | \| | \| | V\| |
| 21+40 | 0.3601 | 0.01 | Q | \| | \| | \| | V\| |
| 21+45 | 0.3602 | 0.01 | Q | \| | \| | \| | V\| |
| 21+50 | 0.3603 | 0.01 | Q | \| | \| | \| | V\| |
| 21+55 | 0.3603 | 0.01 | Q | \| | \| | \| | V\| |
| 22+ 0 | 0.3603 | 0.01 | Q | \| | \| | \| | V\| |
| 22+ 5 | 0.3604 | 0.01 | Q | \| | \| | \| | V\| |
| 22+10 | 0.3605 | 0.01 | Q | \| | \| | \| | V\| |
| 22+15 | 0.3606 | 0.01 | Q | \| | \| | \| | V\| |
| 22+20 | 0.3607 | 0.01 | Q | \| | \| | \| | V\| |
| 22+25 | 0.3607 | 0.01 | Q | \| | \| | \| | V\| |
| 22+30 | 0.3608 | 0.01 | Q | \| | \| | \| | V\| |
| 22+35 | 0.3608 | 0.01 | Q | \| | \| | \| | V\| |
| 22+40 | 0.3608 | 0.01 | Q | \| | \| | \| | V\| |
| 22+45 | 0.3609 | 0.01 | Q | \| | \| | \| | V\| |
| 22+50 | 0.3609 | 0.01 | Q | \| | \| | \| | V\| |
| 22+55 | 0.3609 | 0.01 | Q | \| | \| | \| | V\| |
| 23+ 0 | 0.3610 | 0.01 | Q | \| | \| | \| | V\| |
| 23+ 5 | 0.3610 | 0.01 | Q | \| | \| | \| | V\| |
| 23+10 | 0.3611 | 0.01 | Q | \| | \| | \| | V\| |
| 23+15 | 0.3611 | 0.01 | Q | \| | \| | \| | V\| |
| 23+20 | 0.3611 | 0.01 | Q | \| | \| | \| | V\| |
| 23+25 | 0.3612 | 0.01 | Q | \| | \| | \| | V\| |
| 23+30 | 0.3612 | 0.01 | Q | \| | \| | \| | V\| |
| 23+35 | 0.3613 | 0.01 | Q | \| | \| | \| | V\| |
| 23+40 | 0.3613 | 0.01 | Q | \| | \| | \| | V\| |
| 23+45 | 0.3613 | 0.01 | Q | \| | \| | \| | V\| |
| 23+50 | 0.3614 | 0.01 | Q | \| | \| | \| | V\| |
| 23+55 | 0.3614 | 0.01 | Q | \| | \| | \| | V\| |
| 24+ 0 | 0.3614 | 0.01 | Q | \| | \| | \| | V\| |
| 24+ 5 | 0.3615 | 0.00 | Q | \| | \| | \| | V\| |
| 24+10 | 0.3615 | 0.00 | Q | \| | \| | \| | V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX61100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS ARA 6
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 4.50(Ac.) = 0.007 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 4.50(Ac.) = 0.007 Sq. Mi.
Length along longest watercourse = 735.00(Ft.)
Length along longest watercourse measured to centroid = 371.00(Ft.)
Length along longest watercourse = 0.139 Mi.
Length along longest watercourse measured to centroid = 0.070 Mi.
Difference in elevation = 62.00(Ft.)
Slope along watercourse = 445.3878 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.045 Hr.
Lag time = 2.73 Min.
25% of lag time = 0.68 Min.
40% of lag time = 1.09 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 4.50 | 0.50 | 2.25 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 4.50 | 1.20 | 5.40 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 4.500 | 84.00 | 0.000 |

Total Area Entered = 4.50(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 183.422 | 38.790 | 1.759 |
| 2 | 0.167 | 366.843 | 51.544 | 2.338 |
| 3 | 0.250 | 550.265 | 8.136 | 0.369 |
| 4 | 0.333 | 733.686 | 1.530 | 0.069 |
| | | Sum = 100.000 | Sum= | 4.535 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.086 | ( 0.544) | 0.519 |
| 2 | 0.17 | 4.30 | 0.619 | 0.086 | ( 0.557) | 0.533 |
| 3 | 0.25 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 4 | 0.33 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 5 | 0.42 | 5.80 | 0.835 | 0.086 | ( 0.752) | 0.749 |
| 6 | 0.50 | 6.50 | 0.936 | 0.086 | ( 0.842) | 0.850 |
| 7 | 0.58 | 7.40 | 1.066 | 0.086 | ( 0.959) | 0.980 |
| 8 | 0.67 | 8.60 | 1.238 | 0.086 | ( 1.115) | 1.153 |
| 9 | 0.75 | 12.30 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 10 | 0.83 | 29.10 | 4.190 | 0.086 | ( 3.771) | 4.104 |
| 11 | 0.92 | 6.80 | 0.979 | 0.086 | ( 0.881) | 0.893 |
| 12 | 1.00 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 13.4 |

Flood volume = Effective rainfall 1.11(In)
times area 4.5(Ac.)/[(In)/(Ft.)] = 0.4(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.032(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 18199.7 Cubic Feet
Total soil loss = 1401.5 Cubic Feet

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Peak flow rate of this hydrograph = 11.874(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 5.0 10.0 15.0 20.0 |
|---|---|---|---|
| 0+ 5 | 0.0063 | 0.91 | VQ |
| 0+10 | 0.0211 | 2.15 | V Q |
| 0+15 | 0.0387 | 2.56 | V Q |
| 0+20 | 0.0582 | 2.83 | Q |
| 0+25 | 0.0794 | 3.07 | QV |
| 0+30 | 0.1037 | 3.53 | Q V |
| 0+35 | 0.1315 | 4.03 | Q V |
| 0+40 | 0.1637 | 4.69 | Q V |
| 0+45 | 0.2056 | 6.08 | Q V |
| 0+50 | 0.2859 | 11.66 | Q V |
| 0+55 | 0.3677 | 11.87 | Q V |
| 1+ 0 | 0.4010 | 4.84 | Q V |
| 1+ 5 | 0.4155 | 2.10 | Q V |
| 1+10 | 0.4175 | 0.30 | Q V |
| 1+15 | 0.4178 | 0.04 | Q V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX63100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS ARA 6
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 4.50(Ac.) = 0.007 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 4.50(Ac.) = 0.007 Sq. Mi.
Length along longest watercourse = 735.00(Ft.)
Length along longest watercourse measured to centroid = 371.00(Ft.)
Length along longest watercourse = 0.139 Mi.
Length along longest watercourse measured to centroid = 0.070 Mi.
Difference in elevation = 62.00(Ft.)
Slope along watercourse = 445.3878 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.045 Hr.
Lag time = 2.73 Min.
25% of lag time = 0.68 Min.
40% of lag time = 1.09 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 4.50 | 0.81 | 3.65 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 4.50 | 1.81 | 8.14 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.810(In)
Area Averaged 100-Year Rainfall = 1.810(In)

Point rain (area averaged) = 1.810(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.810(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 4.500 | 84.00 | 0.000 |

Total Area Entered = 4.50(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 183.422 | 38.790 | 1.759 |
| 2 | 0.167 | 366.843 | 51.544 | 2.338 |
| 3 | 0.250 | 550.265 | 8.136 | 0.369 |
| 4 | 0.333 | 733.686 | 1.530 | 0.069 |
| | | | Sum = 100.000 Sum= | 4.535 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.282 | 0.086 | ( 0.254) | 0.197 |
| 2 | 0.17 | 1.30 | 0.282 | 0.086 | ( 0.254) | 0.197 |
| 3 | 0.25 | 1.10 | 0.239 | 0.086 | ( 0.215) | 0.153 |
| 4 | 0.33 | 1.50 | 0.326 | 0.086 | ( 0.293) | 0.240 |
| 5 | 0.42 | 1.50 | 0.326 | 0.086 | ( 0.293) | 0.240 |
| 6 | 0.50 | 1.80 | 0.391 | 0.086 | ( 0.352) | 0.305 |
| 7 | 0.58 | 1.50 | 0.326 | 0.086 | ( 0.293) | 0.240 |
| 8 | 0.67 | 1.80 | 0.391 | 0.086 | ( 0.352) | 0.305 |
| 9 | 0.75 | 1.80 | 0.391 | 0.086 | ( 0.352) | 0.305 |
| 10 | 0.83 | 1.50 | 0.326 | 0.086 | ( 0.293) | 0.240 |
| 11 | 0.92 | 1.60 | 0.348 | 0.086 | ( 0.313) | 0.262 |
| 12 | 1.00 | 1.80 | 0.391 | 0.086 | ( 0.352) | 0.305 |
| 13 | 1.08 | 2.20 | 0.478 | 0.086 | ( 0.430) | 0.392 |
| 14 | 1.17 | 2.20 | 0.478 | 0.086 | ( 0.430) | 0.392 |
| 15 | 1.25 | 2.20 | 0.478 | 0.086 | ( 0.430) | 0.392 |
| 16 | 1.33 | 2.00 | 0.434 | 0.086 | ( 0.391) | 0.349 |
| 17 | 1.42 | 2.60 | 0.565 | 0.086 | ( 0.508) | 0.479 |
| 18 | 1.50 | 2.70 | 0.586 | 0.086 | ( 0.528) | 0.501 |
| 19 | 1.58 | 2.40 | 0.521 | 0.086 | ( 0.469) | 0.435 |
| 20 | 1.67 | 2.70 | 0.586 | 0.086 | ( 0.528) | 0.501 |
| 21 | 1.75 | 3.30 | 0.717 | 0.086 | ( 0.645) | 0.631 |
| 22 | 1.83 | 3.10 | 0.673 | 0.086 | ( 0.606) | 0.588 |
| 23 | 1.92 | 2.90 | 0.630 | 0.086 | ( 0.567) | 0.544 |
| 24 | 2.00 | 3.00 | 0.652 | 0.086 | ( 0.586) | 0.566 |
| 25 | 2.08 | 3.10 | 0.673 | 0.086 | ( 0.606) | 0.588 |
| 26 | 2.17 | 4.20 | 0.912 | 0.086 | ( 0.821) | 0.826 |
| 27 | 2.25 | 5.00 | 1.086 | 0.086 | ( 0.977) | 1.000 |
| 28 | 2.33 | 3.50 | 0.760 | 0.086 | ( 0.684) | 0.674 |
| 29 | 2.42 | 6.80 | 1.477 | 0.086 | ( 1.329) | 1.391 |
| 30 | 2.50 | 7.30 | 1.586 | 0.086 | ( 1.427) | 1.500 |
| 31 | 2.58 | 8.20 | 1.781 | 0.086 | ( 1.603) | 1.695 |
| 32 | 2.67 | 5.90 | 1.281 | 0.086 | ( 1.153) | 1.196 |
| 33 | 2.75 | 2.00 | 0.434 | 0.086 | ( 0.391) | 0.349 |
| 34 | 2.83 | 1.80 | 0.391 | 0.086 | ( 0.352) | 0.305 |
| 35 | 2.92 | 1.80 | 0.391 | 0.086 | ( 0.352) | 0.305 |
| 36 | 3.00 | 0.60 | 0.130 | 0.086 | ( 0.117) | 0.045 |
| | | (Loss Rate Not Used) | | | |
| Sum = | | 100.0 | | | Sum = 18.6 |

Flood volume = Effective rainfall 1.55(In)
times area 4.5(Ac.)/[(In)/(Ft.)] = 0.6(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.097(Ac.Ft)
Total rainfall = 1.81(In)
Flood volume = 25361.1 Cubic Feet
Total soil loss = 4204.6 Cubic Feet

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Peak flow rate of this hydrograph = 7.052(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0024 | 0.35 | VQ | | | | |
| 0+10 | 0.0079 | 0.81 | V Q | | | | |
| 0+15 | 0.0135 | 0.80 | V Q | | | | |
| 0+20 | 0.0194 | 0.87 | V Q | | | | |
| 0+25 | 0.0267 | 1.05 | V Q | | | | |
| 0+30 | 0.0349 | 1.20 | V Q | | | | |
| 0+35 | 0.0435 | 1.24 | V Q | | | | |
| 0+40 | 0.0519 | 1.23 | VQ | | | | |
| 0+45 | 0.0613 | 1.36 | VQ | | | | |
| 0+50 | 0.0700 | 1.27 | VQ | | | | |
| 0+55 | 0.0780 | 1.16 | QV | | | | |
| 1+ 0 | 0.0866 | 1.26 | Q | | | | |
| 1+ 5 | 0.0971 | 1.52 | Q | | | | |
| 1+10 | 0.1091 | 1.74 | QV | | | | |
| 1+15 | 0.1213 | 1.77 | QV | | | | |
| 1+20 | 0.1330 | 1.70 | Q V | | | | |
| 1+25 | 0.1456 | 1.83 | Q V | | | | |
| 1+30 | 0.1605 | 2.16 | Q V | | | | |
| 1+35 | 0.1752 | 2.14 | Q V | | | | |
| 1+40 | 0.1898 | 2.12 | Q V | | | | |
| 1+45 | 0.2068 | 2.48 | Q V | | | | |
| 1+50 | 0.2256 | 2.72 | Q V | | | | |
| 1+55 | 0.2435 | 2.60 | Q V | | | | |
| 2+ 0 | 0.2609 | 2.53 | Q V | | | | |
| 2+ 5 | 0.2788 | 2.60 | Q V | | | | |
| 2+10 | 0.3000 | 3.08 | Q V | | | | |
| 2+15 | 0.3272 | 3.95 | Q V | | | | |
| 2+20 | 0.3539 | 3.87 | Q V | | | | |
| 2+25 | 0.3845 | 4.45 | Q V | | | | |
| 2+30 | 0.4273 | 6.21 | Q V | | | | |
| 2+35 | 0.4759 | 7.05 | Q V | | | | |
| 2+40 | 0.5221 | 6.72 | Q V | | | | |
| 2+45 | 0.5507 | 4.14 | Q V | | | | |
| 2+50 | 0.5638 | 1.91 | Q V | | | | |
| 2+55 | 0.5739 | 1.46 | Q V | | | | |
| 3+ 0 | 0.5803 | 0.93 | Q V | | | | |
| 3+ 5 | 0.5819 | 0.24 | Q V | | | | |
| 3+10 | 0.5822 | 0.04 | Q V | | | | |
| 3+15 | 0.5822 | 0.00 | Q V | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX66100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS ARA 6
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 4.50(Ac.) = 0.007 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 4.50(Ac.) = 0.007 Sq. Mi.
Length along longest watercourse = 735.00(Ft.)
Length along longest watercourse measured to centroid = 371.00(Ft.)
Length along longest watercourse = 0.139 Mi.
Length along longest watercourse measured to centroid = 0.070 Mi.
Difference in elevation = 62.00(Ft.)
Slope along watercourse = 445.3878 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.045 Hr.
Lag time = 2.73 Min.
25% of lag time = 0.68 Min.
40% of lag time = 1.09 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 4.50 | 1.13 | 5.08 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 4.50 | 2.50 | 11.25 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.130(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 4.500 | 84.00 | 0.000 |

Total Area Entered = 4.50(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 183.422 | 38.790 | 1.759 |
| 2 0.167 | 366.843 | 51.544 | 2.338 |
| 3 0.250 | 550.265 | 8.136 | 0.369 |
| 4 0.333 | 733.686 | 1.530 | 0.069 |
| | | Sum = 100.000 Sum= | 4.535 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.086 | ( 0.135) | 0.064 |
| 2 | 0.17 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 3 | 0.25 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 4 | 0.33 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 5 | 0.42 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 6 | 0.50 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 7 | 0.58 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 8 | 0.67 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 9 | 0.75 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 10 | 0.83 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 11 | 0.92 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 12 | 1.00 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 13 | 1.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 14 | 1.17 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 15 | 1.25 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 16 | 1.33 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 17 | 1.42 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 18 | 1.50 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 19 | 1.58 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 20 | 1.67 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 21 | 1.75 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 22 | 1.83 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 23 | 1.92 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 24 | 2.00 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 25 | 2.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 26 | 2.17 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 27 | 2.25 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 28 | 2.33 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 29 | 2.42 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 30 | 2.50 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 31 | 2.58 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 32 | 2.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 33 | 2.75 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 34 | 2.83 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 35 | 2.92 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 36 | 3.00 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 37 | 3.08 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 38 | 3.17 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 39 | 3.25 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 40 | 3.33 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 41 | 3.42 | 1.20 | 0.360 | 0.086 | ( 0.324) | 0.274 |
| 42 | 3.50 | 1.30 | 0.390 | 0.086 | ( 0.351) | 0.304 |
| 43 | 3.58 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 44 | 3.67 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 45 | 3.75 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 46 | 3.83 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 47 | 3.92 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 48 | 4.00 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 49 | 4.08 | 1.70 | 0.510 | 0.086 | ( 0.459) | 0.424 |
| 50 | 4.17 | 1.80 | 0.540 | 0.086 | ( 0.486) | 0.454 |
| 51 | 4.25 | 1.90 | 0.570 | 0.086 | ( 0.513) | 0.484 |
| 52 | 4.33 | 2.00 | 0.600 | 0.086 | ( 0.540) | 0.514 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 53 | 4.42 | 2.10 | 0.630 | 0.086 | ( 0.567) | | 0.544 |
| 54 | 4.50 | 2.10 | 0.630 | 0.086 | ( 0.567) | | 0.544 |
| 55 | 4.58 | 2.20 | 0.660 | 0.086 | ( 0.594) | | 0.574 |
| 56 | 4.67 | 2.30 | 0.690 | 0.086 | ( 0.621) | | 0.604 |
| 57 | 4.75 | 2.40 | 0.720 | 0.086 | ( 0.648) | | 0.634 |
| 58 | 4.83 | 2.40 | 0.720 | 0.086 | ( 0.648) | | 0.634 |
| 59 | 4.92 | 2.50 | 0.750 | 0.086 | ( 0.675) | | 0.664 |
| 60 | 5.00 | 2.60 | 0.780 | 0.086 | ( 0.702) | | 0.694 |
| 61 | 5.08 | 3.10 | 0.930 | 0.086 | ( 0.837) | | 0.844 |
| 62 | 5.17 | 3.60 | 1.080 | 0.086 | ( 0.972) | | 0.994 |
| 63 | 5.25 | 3.90 | 1.170 | 0.086 | ( 1.053) | | 1.084 |
| 64 | 5.33 | 4.20 | 1.260 | 0.086 | ( 1.134) | | 1.174 |
| 65 | 5.42 | 4.70 | 1.410 | 0.086 | ( 1.269) | | 1.324 |
| 66 | 5.50 | 5.60 | 1.680 | 0.086 | ( 1.512) | | 1.594 |
| 67 | 5.58 | 1.90 | 0.570 | 0.086 | ( 0.513) | | 0.484 |
| 68 | 5.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | | 0.184 |
| 69 | 5.75 | 0.60 | 0.180 | 0.086 | ( 0.162) | | 0.094 |
| 70 | 5.83 | 0.50 | 0.150 | 0.086 | ( 0.135) | | 0.064 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.086) | 0.081 | | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.086) | 0.054 | | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.9

Flood volume = Effective rainfall 1.99(In)
times area 4.5(Ac.)/[(In)/(Ft.)] = 0.7(Ac.Ft)
Total soil loss = 0.51(In)
Total soil loss = 0.192(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 32477.4 Cubic Feet
Total soil loss = 8359.4 Cubic Feet

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Peak flow rate of this hydrograph = 6.412(CFS)

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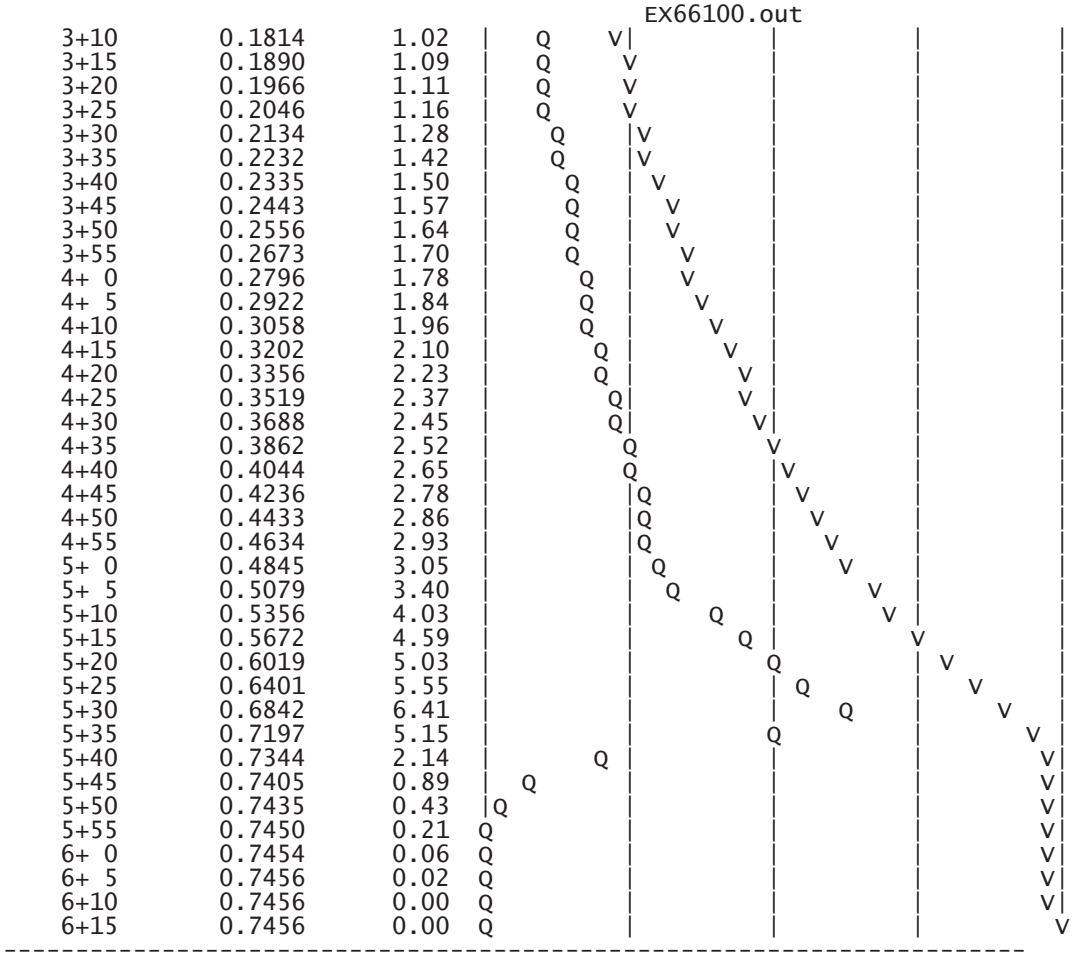
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

---

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0008 | 0.11 | Q | \| | \| | \| | \| |
| 0+10 | 0.0030 | 0.32 | VQ | \| | \| | \| | \| |
| 0+15 | 0.0058 | 0.41 | VQ | \| | \| | \| | \| |
| 0+20 | 0.0087 | 0.43 | VQ | \| | \| | \| | \| |
| 0+25 | 0.0116 | 0.43 | VQ | \| | \| | \| | \| |
| 0+30 | 0.0150 | 0.48 | VQ | \| | \| | \| | \| |
| 0+35 | 0.0187 | 0.55 | \|VQ | \| | \| | \| | \| |
| 0+40 | 0.0226 | 0.56 | \|VQ | \| | \| | \| | \| |
| 0+45 | 0.0265 | 0.56 | \|VQ | \| | \| | \| | \| |
| 0+50 | 0.0304 | 0.56 | \|VQ | \| | \| | \| | \| |
| 0+55 | 0.0343 | 0.56 | \|VQ | \| | \| | \| | \| |
| 1+ 0 | 0.0385 | 0.62 | \| Q | \| | \| | \| | \| |
| 1+ 5 | 0.0432 | 0.69 | \| Q | \| | \| | \| | \| |
| 1+10 | 0.0480 | 0.70 | \| Q | \| | \| | \| | \| |
| 1+15 | 0.0529 | 0.70 | \| Q | \| | \| | \| | \| |
| 1+20 | 0.0577 | 0.70 | \| QV | \| | \| | \| | \| |
| 1+25 | 0.0625 | 0.70 | \| QV | \| | \| | \| | \| |
| 1+30 | 0.0673 | 0.70 | \| QV | \| | \| | \| | \| |
| 1+35 | 0.0721 | 0.70 | \| QV | \| | \| | \| | \| |
| 1+40 | 0.0769 | 0.70 | \| Q V | \| | \| | \| | \| |
| 1+45 | 0.0818 | 0.70 | \| Q V | \| | \| | \| | \| |
| 1+50 | 0.0866 | 0.70 | \| Q V | \| | \| | \| | \| |
| 1+55 | 0.0914 | 0.70 | \| Q V | \| | \| | \| | \| |
| 2+ 0 | 0.0966 | 0.75 | \| Q V | \| | \| | \| | \| |
| 2+ 5 | 0.1019 | 0.77 | \| Q V | \| | \| | \| | \| |
| 2+10 | 0.1071 | 0.76 | \| Q V | \| | \| | \| | \| |
| 2+15 | 0.1128 | 0.82 | \| Q V | \| | \| | \| | \| |
| 2+20 | 0.1186 | 0.83 | \| Q V | \| | \| | \| | \| |
| 2+25 | 0.1243 | 0.84 | \| Q V | \| | \| | \| | \| |
| 2+30 | 0.1301 | 0.84 | \| Q V | \| | \| | \| | \| |
| 2+35 | 0.1358 | 0.84 | \| Q V | \| | \| | \| | \| |
| 2+40 | 0.1416 | 0.84 | \| Q V | \| | \| | \| | \| |
| 2+45 | 0.1477 | 0.89 | \| Q V | \| | \| | \| | \| |
| 2+50 | 0.1543 | 0.96 | \| Q V | \| | \| | \| | \| |
| 2+55 | 0.1610 | 0.97 | \| Q V | \| | \| | \| | \| |
| 3+ 0 | 0.1677 | 0.97 | \| Q V | \| | \| | \| | \| |
| 3+ 5 | 0.1744 | 0.97 | \| Q V\| | \| | \| | \| | \| |



| | | | |
|---|---|---|---|
| 3+10 | 0.1814 | 1.02 | |
| 3+15 | 0.1890 | 1.09 | |
| 3+20 | 0.1966 | 1.11 | |
| 3+25 | 0.2046 | 1.16 | |
| 3+30 | 0.2134 | 1.28 | |
| 3+35 | 0.2232 | 1.42 | |
| 3+40 | 0.2335 | 1.50 | |
| 3+45 | 0.2443 | 1.57 | |
| 3+50 | 0.2556 | 1.64 | |
| 3+55 | 0.2673 | 1.70 | |
| 4+ 0 | 0.2796 | 1.78 | |
| 4+ 5 | 0.2922 | 1.84 | |
| 4+10 | 0.3058 | 1.96 | |
| 4+15 | 0.3202 | 2.10 | |
| 4+20 | 0.3356 | 2.23 | |
| 4+25 | 0.3519 | 2.37 | |
| 4+30 | 0.3688 | 2.45 | |
| 4+35 | 0.3862 | 2.52 | |
| 4+40 | 0.4044 | 2.65 | |
| 4+45 | 0.4236 | 2.78 | |
| 4+50 | 0.4433 | 2.86 | |
| 4+55 | 0.4634 | 2.93 | |
| 5+ 0 | 0.4845 | 3.05 | |
| 5+ 5 | 0.5079 | 3.40 | |
| 5+10 | 0.5356 | 4.03 | |
| 5+15 | 0.5672 | 4.59 | |
| 5+20 | 0.6019 | 5.03 | |
| 5+25 | 0.6401 | 5.55 | |
| 5+30 | 0.6842 | 6.41 | |
| 5+35 | 0.7197 | 5.15 | |
| 5+40 | 0.7344 | 2.14 | |
| 5+45 | 0.7405 | 0.89 | |
| 5+50 | 0.7435 | 0.43 | |
| 5+55 | 0.7450 | 0.21 | |
| 6+ 0 | 0.7454 | 0.06 | |
| 6+ 5 | 0.7456 | 0.02 | |
| 6+10 | 0.7456 | 0.00 | |
| 6+15 | 0.7456 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX624100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS ARA 6
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 4.50(Ac.) = 0.007 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 4.50(Ac.) = 0.007 Sq. Mi.
Length along longest watercourse = 735.00(Ft.)
Length along longest watercourse measured to centroid = 371.00(Ft.)
Length along longest watercourse = 0.139 Mi.
Length along longest watercourse measured to centroid = 0.070 Mi.
Difference in elevation = 62.00(Ft.)
Slope along watercourse = 445.3878 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.045 Hr.
Lag time = 2.73 Min.
25% of lag time = 0.68 Min.
40% of lag time = 1.09 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 4.50 | 1.80 | 8.10 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 4.50 | 4.63 | 20.84 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.630(In)

Point rain (area averaged) = 4.630(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.630(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 4.500 | 84.00 | 0.000 |

Total Area Entered = 4.50(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 183.422 | 38.790 | 1.759 |
| 2 0.167 | 366.843 | 51.544 | 2.338 |
| 3 0.250 | 550.265 | 8.136 | 0.369 |
| 4 0.333 | 733.686 | 1.530 | 0.069 |
| | | Sum = 100.000 Sum= | 4.535 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.037 | ( 0.152) | 0.033 | 0.004 |
| 2 | 0.17 | 0.07 | 0.037 | ( 0.152) | 0.033 | 0.004 |
| 3 | 0.25 | 0.07 | 0.037 | ( 0.151) | 0.033 | 0.004 |
| 4 | 0.33 | 0.10 | 0.056 | ( 0.150) | 0.050 | 0.006 |
| 5 | 0.42 | 0.10 | 0.056 | ( 0.150) | 0.050 | 0.006 |
| 6 | 0.50 | 0.10 | 0.056 | ( 0.149) | 0.050 | 0.006 |
| 7 | 0.58 | 0.10 | 0.056 | ( 0.149) | 0.050 | 0.006 |
| 8 | 0.67 | 0.10 | 0.056 | ( 0.148) | 0.050 | 0.006 |
| 9 | 0.75 | 0.10 | 0.056 | ( 0.147) | 0.050 | 0.006 |
| 10 | 0.83 | 0.13 | 0.074 | ( 0.147) | 0.067 | 0.007 |
| 11 | 0.92 | 0.13 | 0.074 | ( 0.146) | 0.067 | 0.007 |
| 12 | 1.00 | 0.13 | 0.074 | ( 0.146) | 0.067 | 0.007 |
| 13 | 1.08 | 0.10 | 0.056 | ( 0.145) | 0.050 | 0.006 |
| 14 | 1.17 | 0.10 | 0.056 | ( 0.145) | 0.050 | 0.006 |
| 15 | 1.25 | 0.10 | 0.056 | ( 0.144) | 0.050 | 0.006 |
| 16 | 1.33 | 0.10 | 0.056 | ( 0.143) | 0.050 | 0.006 |
| 17 | 1.42 | 0.10 | 0.056 | ( 0.143) | 0.050 | 0.006 |
| 18 | 1.50 | 0.10 | 0.056 | ( 0.142) | 0.050 | 0.006 |
| 19 | 1.58 | 0.10 | 0.056 | ( 0.142) | 0.050 | 0.006 |
| 20 | 1.67 | 0.10 | 0.056 | ( 0.141) | 0.050 | 0.006 |
| 21 | 1.75 | 0.10 | 0.056 | ( 0.141) | 0.050 | 0.006 |
| 22 | 1.83 | 0.13 | 0.074 | ( 0.140) | 0.067 | 0.007 |
| 23 | 1.92 | 0.13 | 0.074 | ( 0.139) | 0.067 | 0.007 |
| 24 | 2.00 | 0.13 | 0.074 | ( 0.139) | 0.067 | 0.007 |
| 25 | 2.08 | 0.13 | 0.074 | ( 0.138) | 0.067 | 0.007 |
| 26 | 2.17 | 0.13 | 0.074 | ( 0.138) | 0.067 | 0.007 |
| 27 | 2.25 | 0.13 | 0.074 | ( 0.137) | 0.067 | 0.007 |
| 28 | 2.33 | 0.13 | 0.074 | ( 0.137) | 0.067 | 0.007 |
| 29 | 2.42 | 0.13 | 0.074 | ( 0.136) | 0.067 | 0.007 |
| 30 | 2.50 | 0.13 | 0.074 | ( 0.136) | 0.067 | 0.007 |
| 31 | 2.58 | 0.17 | 0.093 | ( 0.135) | 0.083 | 0.009 |
| 32 | 2.67 | 0.17 | 0.093 | ( 0.134) | 0.083 | 0.009 |
| 33 | 2.75 | 0.17 | 0.093 | ( 0.134) | 0.083 | 0.009 |
| 34 | 2.83 | 0.17 | 0.093 | ( 0.133) | 0.083 | 0.009 |
| 35 | 2.92 | 0.17 | 0.093 | ( 0.133) | 0.083 | 0.009 |
| 36 | 3.00 | 0.17 | 0.093 | ( 0.132) | 0.083 | 0.009 |
| 37 | 3.08 | 0.17 | 0.093 | ( 0.132) | 0.083 | 0.009 |
| 38 | 3.17 | 0.17 | 0.093 | ( 0.131) | 0.083 | 0.009 |
| 39 | 3.25 | 0.17 | 0.093 | ( 0.131) | 0.083 | 0.009 |
| 40 | 3.33 | 0.17 | 0.093 | ( 0.130) | 0.083 | 0.009 |
| 41 | 3.42 | 0.17 | 0.093 | ( 0.129) | 0.083 | 0.009 |
| 42 | 3.50 | 0.17 | 0.093 | ( 0.129) | 0.083 | 0.009 |
| 43 | 3.58 | 0.17 | 0.093 | ( 0.128) | 0.083 | 0.009 |
| 44 | 3.67 | 0.17 | 0.093 | ( 0.128) | 0.083 | 0.009 |
| 45 | 3.75 | 0.17 | 0.093 | ( 0.127) | 0.083 | 0.009 |
| 46 | 3.83 | 0.20 | 0.111 | ( 0.127) | 0.100 | 0.011 |
| 47 | 3.92 | 0.20 | 0.111 | ( 0.126) | 0.100 | 0.011 |
| 48 | 4.00 | 0.20 | 0.111 | ( 0.126) | 0.100 | 0.011 |
| 49 | 4.08 | 0.20 | 0.111 | ( 0.125) | 0.100 | 0.011 |
| 50 | 4.17 | 0.20 | 0.111 | ( 0.125) | 0.100 | 0.011 |
| 51 | 4.25 | 0.20 | 0.111 | ( 0.124) | 0.100 | 0.011 |
| 52 | 4.33 | 0.23 | 0.130 | ( 0.124) | 0.117 | 0.013 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 53 | 4.42 | 0.23 | 0.130 | ( | 0.123) | 0.117 | | 0.013 |
| 54 | 4.50 | 0.23 | 0.130 | ( | 0.123) | 0.117 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.130 | ( | 0.122) | 0.117 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.130 | ( | 0.121) | 0.117 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.130 | ( | 0.121) | 0.117 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.148 | | 0.120 | ( | 0.133) | 0.028 |
| 59 | 4.92 | 0.27 | 0.148 | | 0.120 | ( | 0.133) | 0.028 |
| 60 | 5.00 | 0.27 | 0.148 | | 0.119 | ( | 0.133) | 0.029 |
| 61 | 5.08 | 0.20 | 0.111 | ( | 0.119) | 0.100 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.111 | ( | 0.118) | 0.100 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.111 | ( | 0.118) | 0.100 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.130 | ( | 0.117) | 0.117 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.130 | ( | 0.117) | 0.117 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.130 | | 0.116 | ( | 0.117) | 0.013 |
| 67 | 5.58 | 0.27 | 0.148 | | 0.116 | ( | 0.133) | 0.032 |
| 68 | 5.67 | 0.27 | 0.148 | | 0.115 | ( | 0.133) | 0.033 |
| 69 | 5.75 | 0.27 | 0.148 | | 0.115 | ( | 0.133) | 0.033 |
| 70 | 5.83 | 0.27 | 0.148 | | 0.114 | ( | 0.133) | 0.034 |
| 71 | 5.92 | 0.27 | 0.148 | | 0.114 | ( | 0.133) | 0.034 |
| 72 | 6.00 | 0.27 | 0.148 | | 0.113 | ( | 0.133) | 0.035 |
| 73 | 6.08 | 0.30 | 0.167 | | 0.113 | ( | 0.150) | 0.054 |
| 74 | 6.17 | 0.30 | 0.167 | | 0.112 | ( | 0.150) | 0.054 |
| 75 | 6.25 | 0.30 | 0.167 | | 0.112 | ( | 0.150) | 0.055 |
| 76 | 6.33 | 0.30 | 0.167 | | 0.111 | ( | 0.150) | 0.055 |
| 77 | 6.42 | 0.30 | 0.167 | | 0.111 | ( | 0.150) | 0.056 |
| 78 | 6.50 | 0.30 | 0.167 | | 0.110 | ( | 0.150) | 0.056 |
| 79 | 6.58 | 0.33 | 0.185 | | 0.110 | ( | 0.167) | 0.075 |
| 80 | 6.67 | 0.33 | 0.185 | | 0.109 | ( | 0.167) | 0.076 |
| 81 | 6.75 | 0.33 | 0.185 | | 0.109 | ( | 0.167) | 0.076 |
| 82 | 6.83 | 0.33 | 0.185 | | 0.108 | ( | 0.167) | 0.077 |
| 83 | 6.92 | 0.33 | 0.185 | | 0.108 | ( | 0.167) | 0.077 |
| 84 | 7.00 | 0.33 | 0.185 | | 0.107 | ( | 0.167) | 0.078 |
| 85 | 7.08 | 0.33 | 0.185 | | 0.107 | ( | 0.167) | 0.078 |
| 86 | 7.17 | 0.33 | 0.185 | | 0.106 | ( | 0.167) | 0.079 |
| 87 | 7.25 | 0.33 | 0.185 | | 0.106 | ( | 0.167) | 0.079 |
| 88 | 7.33 | 0.37 | 0.204 | | 0.105 | ( | 0.183) | 0.098 |
| 89 | 7.42 | 0.37 | 0.204 | | 0.105 | ( | 0.183) | 0.099 |
| 90 | 7.50 | 0.37 | 0.204 | | 0.104 | ( | 0.183) | 0.099 |
| 91 | 7.58 | 0.40 | 0.222 | | 0.104 | ( | 0.200) | 0.118 |
| 92 | 7.67 | 0.40 | 0.222 | | 0.103 | ( | 0.200) | 0.119 |
| 93 | 7.75 | 0.40 | 0.222 | | 0.103 | ( | 0.200) | 0.119 |
| 94 | 7.83 | 0.43 | 0.241 | | 0.102 | ( | 0.217) | 0.138 |
| 95 | 7.92 | 0.43 | 0.241 | | 0.102 | ( | 0.217) | 0.139 |
| 96 | 8.00 | 0.43 | 0.241 | | 0.102 | ( | 0.217) | 0.139 |
| 97 | 8.08 | 0.50 | 0.278 | | 0.101 | ( | 0.250) | 0.177 |
| 98 | 8.17 | 0.50 | 0.278 | | 0.101 | ( | 0.250) | 0.177 |
| 99 | 8.25 | 0.50 | 0.278 | | 0.100 | ( | 0.250) | 0.178 |
| 100 | 8.33 | 0.50 | 0.278 | | 0.100 | ( | 0.250) | 0.178 |
| 101 | 8.42 | 0.50 | 0.278 | | 0.099 | ( | 0.250) | 0.179 |
| 102 | 8.50 | 0.50 | 0.278 | | 0.099 | ( | 0.250) | 0.179 |
| 103 | 8.58 | 0.53 | 0.296 | | 0.098 | ( | 0.267) | 0.198 |
| 104 | 8.67 | 0.53 | 0.296 | | 0.098 | ( | 0.267) | 0.199 |
| 105 | 8.75 | 0.53 | 0.296 | | 0.097 | ( | 0.267) | 0.199 |
| 106 | 8.83 | 0.57 | 0.315 | | 0.097 | ( | 0.283) | 0.218 |
| 107 | 8.92 | 0.57 | 0.315 | | 0.096 | ( | 0.283) | 0.218 |
| 108 | 9.00 | 0.57 | 0.315 | | 0.096 | ( | 0.283) | 0.219 |
| 109 | 9.08 | 0.63 | 0.352 | | 0.096 | ( | 0.317) | 0.256 |
| 110 | 9.17 | 0.63 | 0.352 | | 0.095 | ( | 0.317) | 0.257 |
| 111 | 9.25 | 0.63 | 0.352 | | 0.095 | ( | 0.317) | 0.257 |
| 112 | 9.33 | 0.67 | 0.370 | | 0.094 | ( | 0.333) | 0.276 |
| 113 | 9.42 | 0.67 | 0.370 | | 0.094 | ( | 0.333) | 0.277 |
| 114 | 9.50 | 0.67 | 0.370 | | 0.093 | ( | 0.333) | 0.277 |
| 115 | 9.58 | 0.70 | 0.389 | | 0.093 | ( | 0.350) | 0.296 |
| 116 | 9.67 | 0.70 | 0.389 | | 0.092 | ( | 0.350) | 0.297 |
| 117 | 9.75 | 0.70 | 0.389 | | 0.092 | ( | 0.350) | 0.297 |
| 118 | 9.83 | 0.73 | 0.407 | | 0.091 | ( | 0.367) | 0.316 |
| 119 | 9.92 | 0.73 | 0.407 | | 0.091 | ( | 0.367) | 0.316 |
| 120 | 10.00 | 0.73 | 0.407 | | 0.091 | ( | 0.367) | 0.317 |
| 121 | 10.08 | 0.50 | 0.278 | | 0.090 | ( | 0.250) | 0.188 |
| 122 | 10.17 | 0.50 | 0.278 | | 0.090 | ( | 0.250) | 0.188 |
| 123 | 10.25 | 0.50 | 0.278 | | 0.089 | ( | 0.250) | 0.189 |
| 124 | 10.33 | 0.50 | 0.278 | | 0.089 | ( | 0.250) | 0.189 |
| 125 | 10.42 | 0.50 | 0.278 | | 0.088 | ( | 0.250) | 0.189 |
| 126 | 10.50 | 0.50 | 0.278 | | 0.088 | ( | 0.250) | 0.190 |
| 127 | 10.58 | 0.67 | 0.370 | | 0.088 | ( | 0.333) | 0.283 |
| 128 | 10.67 | 0.67 | 0.370 | | 0.087 | ( | 0.333) | 0.283 |
| 129 | 10.75 | 0.67 | 0.370 | | 0.087 | ( | 0.333) | 0.284 |
| 130 | 10.83 | 0.67 | 0.370 | | 0.086 | ( | 0.333) | 0.284 |

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|---|---|---|---|---|---|---|
| 131 | 10.92 | 0.67 | 0.370 | 0.086 | ( 0.333) | 0.285 |
| 132 | 11.00 | 0.67 | 0.370 | 0.085 | ( 0.333) | 0.285 |
| 133 | 11.08 | 0.63 | 0.352 | 0.085 | ( 0.317) | 0.267 |
| 134 | 11.17 | 0.63 | 0.352 | 0.085 | ( 0.317) | 0.267 |
| 135 | 11.25 | 0.63 | 0.352 | 0.084 | ( 0.317) | 0.268 |
| 136 | 11.33 | 0.63 | 0.352 | 0.084 | ( 0.317) | 0.268 |
| 137 | 11.42 | 0.63 | 0.352 | 0.083 | ( 0.317) | 0.269 |
| 138 | 11.50 | 0.63 | 0.352 | 0.083 | ( 0.317) | 0.269 |
| 139 | 11.58 | 0.57 | 0.315 | 0.083 | ( 0.283) | 0.232 |
| 140 | 11.67 | 0.57 | 0.315 | 0.082 | ( 0.283) | 0.233 |
| 141 | 11.75 | 0.57 | 0.315 | 0.082 | ( 0.283) | 0.233 |
| 142 | 11.83 | 0.60 | 0.333 | 0.081 | ( 0.300) | 0.252 |
| 143 | 11.92 | 0.60 | 0.333 | 0.081 | ( 0.300) | 0.252 |
| 144 | 12.00 | 0.60 | 0.333 | 0.080 | ( 0.300) | 0.253 |
| 145 | 12.08 | 0.83 | 0.463 | 0.080 | ( 0.417) | 0.383 |
| 146 | 12.17 | 0.83 | 0.463 | 0.080 | ( 0.417) | 0.383 |
| 147 | 12.25 | 0.83 | 0.463 | 0.079 | ( 0.417) | 0.384 |
| 148 | 12.33 | 0.87 | 0.482 | 0.079 | ( 0.433) | 0.403 |
| 149 | 12.42 | 0.87 | 0.482 | 0.078 | ( 0.433) | 0.403 |
| 150 | 12.50 | 0.87 | 0.482 | 0.078 | ( 0.433) | 0.403 |
| 151 | 12.58 | 0.93 | 0.519 | 0.078 | ( 0.467) | 0.441 |
| 152 | 12.67 | 0.93 | 0.519 | 0.077 | ( 0.467) | 0.441 |
| 153 | 12.75 | 0.93 | 0.519 | 0.077 | ( 0.467) | 0.442 |
| 154 | 12.83 | 0.97 | 0.537 | 0.077 | ( 0.483) | 0.461 |
| 155 | 12.92 | 0.97 | 0.537 | 0.076 | ( 0.483) | 0.461 |
| 156 | 13.00 | 0.97 | 0.537 | 0.076 | ( 0.483) | 0.461 |
| 157 | 13.08 | 1.13 | 0.630 | 0.075 | ( 0.567) | 0.554 |
| 158 | 13.17 | 1.13 | 0.630 | 0.075 | ( 0.567) | 0.555 |
| 159 | 13.25 | 1.13 | 0.630 | 0.075 | ( 0.567) | 0.555 |
| 160 | 13.33 | 1.13 | 0.630 | 0.074 | ( 0.567) | 0.555 |
| 161 | 13.42 | 1.13 | 0.630 | 0.074 | ( 0.567) | 0.556 |
| 162 | 13.50 | 1.13 | 0.630 | 0.073 | ( 0.567) | 0.556 |
| 163 | 13.58 | 0.77 | 0.426 | 0.073 | ( 0.383) | 0.353 |
| 164 | 13.67 | 0.77 | 0.426 | 0.073 | ( 0.383) | 0.353 |
| 165 | 13.75 | 0.77 | 0.426 | 0.072 | ( 0.383) | 0.354 |
| 166 | 13.83 | 0.77 | 0.426 | 0.072 | ( 0.383) | 0.354 |
| 167 | 13.92 | 0.77 | 0.426 | 0.072 | ( 0.383) | 0.354 |
| 168 | 14.00 | 0.77 | 0.426 | 0.071 | ( 0.383) | 0.355 |
| 169 | 14.08 | 0.90 | 0.500 | 0.071 | ( 0.450) | 0.429 |
| 170 | 14.17 | 0.90 | 0.500 | 0.071 | ( 0.450) | 0.429 |
| 171 | 14.25 | 0.90 | 0.500 | 0.070 | ( 0.450) | 0.430 |
| 172 | 14.33 | 0.87 | 0.482 | 0.070 | ( 0.433) | 0.412 |
| 173 | 14.42 | 0.87 | 0.482 | 0.069 | ( 0.433) | 0.412 |
| 174 | 14.50 | 0.87 | 0.482 | 0.069 | ( 0.433) | 0.412 |
| 175 | 14.58 | 0.87 | 0.482 | 0.069 | ( 0.433) | 0.413 |
| 176 | 14.67 | 0.87 | 0.482 | 0.068 | ( 0.433) | 0.413 |
| 177 | 14.75 | 0.87 | 0.482 | 0.068 | ( 0.433) | 0.413 |
| 178 | 14.83 | 0.83 | 0.463 | 0.068 | ( 0.417) | 0.395 |
| 179 | 14.92 | 0.83 | 0.463 | 0.067 | ( 0.417) | 0.396 |
| 180 | 15.00 | 0.83 | 0.463 | 0.067 | ( 0.417) | 0.396 |
| 181 | 15.08 | 0.80 | 0.444 | 0.067 | ( 0.400) | 0.378 |
| 182 | 15.17 | 0.80 | 0.444 | 0.066 | ( 0.400) | 0.378 |
| 183 | 15.25 | 0.80 | 0.444 | 0.066 | ( 0.400) | 0.378 |
| 184 | 15.33 | 0.77 | 0.426 | 0.066 | ( 0.383) | 0.360 |
| 185 | 15.42 | 0.77 | 0.426 | 0.065 | ( 0.383) | 0.361 |
| 186 | 15.50 | 0.77 | 0.426 | 0.065 | ( 0.383) | 0.361 |
| 187 | 15.58 | 0.63 | 0.352 | 0.065 | ( 0.317) | 0.287 |
| 188 | 15.67 | 0.63 | 0.352 | 0.064 | ( 0.317) | 0.288 |
| 189 | 15.75 | 0.63 | 0.352 | 0.064 | ( 0.317) | 0.288 |
| 190 | 15.83 | 0.63 | 0.352 | 0.064 | ( 0.317) | 0.288 |
| 191 | 15.92 | 0.63 | 0.352 | 0.063 | ( 0.317) | 0.289 |
| 192 | 16.00 | 0.63 | 0.352 | 0.063 | ( 0.317) | 0.289 |
| 193 | 16.08 | 0.13 | 0.074 | 0.063 | ( 0.067) | 0.011 |
| 194 | 16.17 | 0.13 | 0.074 | 0.062 | ( 0.067) | 0.012 |
| 195 | 16.25 | 0.13 | 0.074 | 0.062 | ( 0.067) | 0.012 |
| 196 | 16.33 | 0.13 | 0.074 | 0.062 | ( 0.067) | 0.012 |
| 197 | 16.42 | 0.13 | 0.074 | 0.061 | ( 0.067) | 0.013 |
| 198 | 16.50 | 0.13 | 0.074 | 0.061 | ( 0.067) | 0.013 |
| 199 | 16.58 | 0.10 | 0.056 | ( 0.061) | 0.050 | 0.006 |
| 200 | 16.67 | 0.10 | 0.056 | ( 0.060) | 0.050 | 0.006 |
| 201 | 16.75 | 0.10 | 0.056 | ( 0.060) | 0.050 | 0.006 |
| 202 | 16.83 | 0.10 | 0.056 | ( 0.060) | 0.050 | 0.006 |
| 203 | 16.92 | 0.10 | 0.056 | ( 0.060) | 0.050 | 0.006 |
| 204 | 17.00 | 0.10 | 0.056 | ( 0.059) | 0.050 | 0.006 |
| 205 | 17.08 | 0.17 | 0.093 | 0.059 | ( 0.083) | 0.034 |
| 206 | 17.17 | 0.17 | 0.093 | 0.059 | ( 0.083) | 0.034 |
| 207 | 17.25 | 0.17 | 0.093 | 0.058 | ( 0.083) | 0.034 |
| 208 | 17.33 | 0.17 | 0.093 | 0.058 | ( 0.083) | 0.035 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 209 | 17.42 | 0.17 | 0.093 | | 0.058 | ( | 0.083) | 0.035 |
| 210 | 17.50 | 0.17 | 0.093 | | 0.058 | ( | 0.083) | 0.035 |
| 211 | 17.58 | 0.17 | 0.093 | | 0.057 | ( | 0.083) | 0.035 |
| 212 | 17.67 | 0.17 | 0.093 | | 0.057 | ( | 0.083) | 0.036 |
| 213 | 17.75 | 0.17 | 0.093 | | 0.057 | ( | 0.083) | 0.036 |
| 214 | 17.83 | 0.13 | 0.074 | | 0.056 | ( | 0.067) | 0.018 |
| 215 | 17.92 | 0.13 | 0.074 | | 0.056 | ( | 0.067) | 0.018 |
| 216 | 18.00 | 0.13 | 0.074 | | 0.056 | ( | 0.067) | 0.018 |
| 217 | 18.08 | 0.13 | 0.074 | | 0.056 | ( | 0.067) | 0.019 |
| 218 | 18.17 | 0.13 | 0.074 | | 0.055 | ( | 0.067) | 0.019 |
| 219 | 18.25 | 0.13 | 0.074 | | 0.055 | ( | 0.067) | 0.019 |
| 220 | 18.33 | 0.13 | 0.074 | | 0.055 | ( | 0.067) | 0.019 |
| 221 | 18.42 | 0.13 | 0.074 | | 0.054 | ( | 0.067) | 0.020 |
| 222 | 18.50 | 0.13 | 0.074 | | 0.054 | ( | 0.067) | 0.020 |
| 223 | 18.58 | 0.10 | 0.056 | ( | 0.054) | | 0.050 | 0.006 |
| 224 | 18.67 | 0.10 | 0.056 | ( | 0.054) | | 0.050 | 0.006 |
| 225 | 18.75 | 0.10 | 0.056 | ( | 0.053) | | 0.050 | 0.006 |
| 226 | 18.83 | 0.07 | 0.037 | ( | 0.053) | | 0.033 | 0.004 |
| 227 | 18.92 | 0.07 | 0.037 | ( | 0.053) | | 0.033 | 0.004 |
| 228 | 19.00 | 0.07 | 0.037 | ( | 0.053) | | 0.033 | 0.004 |
| 229 | 19.08 | 0.10 | 0.056 | ( | 0.052) | | 0.050 | 0.006 |
| 230 | 19.17 | 0.10 | 0.056 | ( | 0.052) | | 0.050 | 0.006 |
| 231 | 19.25 | 0.10 | 0.056 | ( | 0.052) | | 0.050 | 0.006 |
| 232 | 19.33 | 0.13 | 0.074 | | 0.052 | ( | 0.067) | 0.022 |
| 233 | 19.42 | 0.13 | 0.074 | | 0.051 | ( | 0.067) | 0.023 |
| 234 | 19.50 | 0.13 | 0.074 | | 0.051 | ( | 0.067) | 0.023 |
| 235 | 19.58 | 0.10 | 0.056 | ( | 0.051) | | 0.050 | 0.006 |
| 236 | 19.67 | 0.10 | 0.056 | ( | 0.051) | | 0.050 | 0.006 |
| 237 | 19.75 | 0.10 | 0.056 | ( | 0.050) | | 0.050 | 0.006 |
| 238 | 19.83 | 0.07 | 0.037 | ( | 0.050) | | 0.033 | 0.004 |
| 239 | 19.92 | 0.07 | 0.037 | ( | 0.050) | | 0.033 | 0.004 |
| 240 | 20.00 | 0.07 | 0.037 | ( | 0.050) | | 0.033 | 0.004 |
| 241 | 20.08 | 0.10 | 0.056 | | 0.050 | ( | 0.050) | 0.006 |
| 242 | 20.17 | 0.10 | 0.056 | | 0.049 | ( | 0.050) | 0.006 |
| 243 | 20.25 | 0.10 | 0.056 | | 0.049 | ( | 0.050) | 0.006 |
| 244 | 20.33 | 0.10 | 0.056 | | 0.049 | ( | 0.050) | 0.007 |
| 245 | 20.42 | 0.10 | 0.056 | | 0.049 | ( | 0.050) | 0.007 |
| 246 | 20.50 | 0.10 | 0.056 | | 0.049 | ( | 0.050) | 0.007 |
| 247 | 20.58 | 0.10 | 0.056 | | 0.048 | ( | 0.050) | 0.007 |
| 248 | 20.67 | 0.10 | 0.056 | | 0.048 | ( | 0.050) | 0.007 |
| 249 | 20.75 | 0.10 | 0.056 | | 0.048 | ( | 0.050) | 0.008 |
| 250 | 20.83 | 0.07 | 0.037 | ( | 0.048) | | 0.033 | 0.004 |
| 251 | 20.92 | 0.07 | 0.037 | ( | 0.048) | | 0.033 | 0.004 |
| 252 | 21.00 | 0.07 | 0.037 | ( | 0.047) | | 0.033 | 0.004 |
| 253 | 21.08 | 0.10 | 0.056 | | 0.047 | ( | 0.050) | 0.008 |
| 254 | 21.17 | 0.10 | 0.056 | | 0.047 | ( | 0.050) | 0.009 |
| 255 | 21.25 | 0.10 | 0.056 | | 0.047 | ( | 0.050) | 0.009 |
| 256 | 21.33 | 0.07 | 0.037 | ( | 0.047) | | 0.033 | 0.004 |
| 257 | 21.42 | 0.07 | 0.037 | ( | 0.046) | | 0.033 | 0.004 |
| 258 | 21.50 | 0.07 | 0.037 | ( | 0.046) | | 0.033 | 0.004 |
| 259 | 21.58 | 0.10 | 0.056 | | 0.046 | ( | 0.050) | 0.009 |
| 260 | 21.67 | 0.10 | 0.056 | | 0.046 | ( | 0.050) | 0.010 |
| 261 | 21.75 | 0.10 | 0.056 | | 0.046 | ( | 0.050) | 0.010 |
| 262 | 21.83 | 0.07 | 0.037 | ( | 0.046) | | 0.033 | 0.004 |
| 263 | 21.92 | 0.07 | 0.037 | ( | 0.045) | | 0.033 | 0.004 |
| 264 | 22.00 | 0.07 | 0.037 | ( | 0.045) | | 0.033 | 0.004 |
| 265 | 22.08 | 0.10 | 0.056 | | 0.045 | ( | 0.050) | 0.010 |
| 266 | 22.17 | 0.10 | 0.056 | | 0.045 | ( | 0.050) | 0.011 |
| 267 | 22.25 | 0.10 | 0.056 | | 0.045 | ( | 0.050) | 0.011 |
| 268 | 22.33 | 0.07 | 0.037 | ( | 0.045) | | 0.033 | 0.004 |
| 269 | 22.42 | 0.07 | 0.037 | ( | 0.045) | | 0.033 | 0.004 |
| 270 | 22.50 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 271 | 22.58 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 272 | 22.67 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 273 | 22.75 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 274 | 22.83 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 275 | 22.92 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 276 | 23.00 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 277 | 23.08 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 278 | 23.17 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 279 | 23.25 | 0.07 | 0.037 | ( | 0.043) | | 0.033 | 0.004 |
| 280 | 23.33 | 0.07 | 0.037 | ( | 0.043) | | 0.033 | 0.004 |
| 281 | 23.42 | 0.07 | 0.037 | ( | 0.043) | | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.037 | ( | 0.043) | | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.037 | ( | 0.043) | | 0.033 | 0.004 |
| 284 | 23.67 | 0.07 | 0.037 | ( | 0.043) | | 0.033 | 0.004 |
| 285 | 23.75 | 0.07 | 0.037 | ( | 0.043) | | 0.033 | 0.004 |
| 286 | 23.83 | 0.07 | 0.037 | ( | 0.043) | | 0.033 | 0.004 |

```
287  23.92     0.07      0.037       (  0.043)       0.033        0.004
288  24.00     0.07      0.037       (  0.043)       0.033        0.004
               (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    35.0
       Flood volume = Effective rainfall      2.92(In)
        times area       4.5(Ac.)/[(In)/(Ft.)] =       1.1(Ac.Ft)
       Total soil loss =      1.71(In)
       Total soil loss =     0.643(Ac.Ft)
       Total rainfall =      4.63(In)
       Flood volume =       47618.6 Cubic Feet
       Total soil loss =       28011.8 Cubic Feet
       --------------------------------------------------------------------
        Peak flow rate of this hydrograph =      2.522(CFS)
       --------------------------------------------------------------------
       ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                           24 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
       --------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))

       --------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ----------------------------------------------------------------------
   0+ 5       0.0000      0.01  Q          |         |         |         |
   0+10       0.0001      0.02  Q          |         |         |         |
   0+15       0.0003      0.02  Q          |         |         |         |
   0+20       0.0004      0.02  Q          |         |         |         |
   0+25       0.0006      0.02  Q          |         |         |         |
   0+30       0.0007      0.03  Q          |         |         |         |
   0+35       0.0009      0.03  Q          |         |         |         |
   0+40       0.0011      0.03  Q          |         |         |         |
   0+45       0.0013      0.03  Q          |         |         |         |
   0+50       0.0015      0.03  Q          |         |         |         |
   0+55       0.0017      0.03  Q          |         |         |         |
   1+ 0       0.0019      0.03  Q          |         |         |         |
   1+ 5       0.0021      0.03  Q          |         |         |         |
   1+10       0.0023      0.03  Q          |         |         |         |
   1+15       0.0025      0.03  Q          |         |         |         |
   1+20       0.0027      0.03  Q          |         |         |         |
   1+25       0.0028      0.03  Q          |         |         |         |
   1+30       0.0030      0.03  Q          |         |         |         |
   1+35       0.0032      0.03  Q          |         |         |         |
   1+40       0.0033      0.03  Q          |         |         |         |
   1+45       0.0035      0.03  Q          |         |         |         |
   1+50       0.0037      0.03  Q          |         |         |         |
   1+55       0.0039      0.03  Q          |         |         |         |
   2+ 0       0.0042      0.03  Q          |         |         |         |
   2+ 5       0.0044      0.03  Q          |         |         |         |
   2+10       0.0046      0.03  Q          |         |         |         |
   2+15       0.0049      0.03  Q          |         |         |         |
   2+20       0.0051      0.03  Q          |         |         |         |
   2+25       0.0053      0.03  Q          |         |         |         |
   2+30       0.0056      0.03  Q          |         |         |         |
   2+35       0.0058      0.04  Q          |         |         |         |
   2+40       0.0061      0.04  Q          |         |         |         |
   2+45       0.0064      0.04  Q          |         |         |         |
   2+50       0.0067      0.04  Q          |         |         |         |
   2+55       0.0070      0.04  Q          |         |         |         |
   3+ 0       0.0073      0.04  Q          |         |         |         |
   3+ 5       0.0075      0.04  Q          |         |         |         |
   3+10       0.0078      0.04  Q          |         |         |         |
   3+15       0.0081      0.04  Q          |         |         |         |
   3+20       0.0084      0.04  Q          |         |         |         |
   3+25       0.0087      0.04  Q          |         |         |         |
   3+30       0.0090      0.04  Q          |         |         |         |
   3+35       0.0093      0.04  Q          |         |         |         |
   3+40       0.0096      0.04  Q          |         |         |         |
   3+45       0.0099      0.04  Q          |         |         |         |
   3+50       0.0102      0.05  Q          |         |         |         |
   3+55       0.0105      0.05  Q          |         |         |         |
   4+ 0       0.0109      0.05  Q          |         |         |         |
   4+ 5       0.0112      0.05  Q          |         |         |         |
   4+10       0.0116      0.05  Q          |         |         |         |
   4+15       0.0119      0.05  Q          |         |         |         |
   4+20       0.0123      0.05  Q          |         |         |         |
   4+25       0.0127      0.06  Q          |         |         |         |
   4+30       0.0131      0.06  Q          |         |         |         |
   4+35       0.0135      0.06  Q          |         |         |         |
```

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 4+40       0.0139      0.06  Q          |          |          |          |
 4+45       0.0143      0.06  Q          |          |          |          |
 4+50       0.0149      0.08  Q          |          |          |          |
 4+55       0.0157      0.12  Q          |          |          |          |
 5+ 0       0.0166      0.13  Q          |          |          |          |
 5+ 5       0.0173      0.10  Q          |          |          |          |
 5+10       0.0177      0.06  Q          |          |          |          |
 5+15       0.0180      0.05  Q          |          |          |          |
 5+20       0.0184      0.05  Q          |          |          |          |
 5+25       0.0188      0.06  Q          |          |          |          |
 5+30       0.0192      0.06  Q          |          |          |          |
 5+35       0.0198      0.09  Q          |          |          |          |
 5+40       0.0208      0.14  Q          |          |          |          |
 5+45       0.0218      0.15  Q          |          |          |          |
 5+50       0.0229      0.15  Q          |          |          |          |
 5+55       0.0239      0.15  Q          |          |          |          |
 6+ 0       0.0250      0.16  Q          |          |          |          |
 6+ 5       0.0263      0.19  Q          |          |          |          |
 6+10       0.0280      0.24  QV         |          |          |          |
 6+15       0.0297      0.25  QV         |          |          |          |
 6+20       0.0314      0.25  QV         |          |          |          |
 6+25       0.0331      0.25  |Q         |          |          |          |
 6+30       0.0349      0.25  |Q         |          |          |          |
 6+35       0.0369      0.29  |Q         |          |          |          |
 6+40       0.0392      0.33  |Q         |          |          |          |
 6+45       0.0415      0.34  |Q         |          |          |          |
 6+50       0.0439      0.35  |Q         |          |          |          |
 6+55       0.0463      0.35  |Q         |          |          |          |
 7+ 0       0.0488      0.35  |Q         |          |          |          |
 7+ 5       0.0512      0.35  |Q         |          |          |          |
 7+10       0.0537      0.36  |Q         |          |          |          |
 7+15       0.0561      0.36  |QV        |          |          |          |
 7+20       0.0588      0.39  |QV        |          |          |          |
 7+25       0.0619      0.44  |QV        |          |          |          |
 7+30       0.0649      0.45  |QV        |          |          |          |
 7+35       0.0683      0.48  |QV        |          |          |          |
 7+40       0.0719      0.53  | Q        |          |          |          |
 7+45       0.0756      0.54  | Q        |          |          |          |
 7+50       0.0796      0.57  | Q        |          |          |          |
 7+55       0.0839      0.62  | QV       |          |          |          |
 8+ 0       0.0882      0.63  | QV       |          |          |          |
 8+ 5       0.0930      0.70  | QV       |          |          |          |
 8+10       0.0984      0.79  |  Q       |          |          |          |
 8+15       0.1039      0.80  |  Q       |          |          |          |
 8+20       0.1095      0.81  |  QV      |          |          |          |
 8+25       0.1151      0.81  |  QV      |          |          |          |
 8+30       0.1206      0.81  |  QV      |          |          |          |
 8+35       0.1265      0.85  |  QV      |          |          |          |
 8+40       0.1326      0.89  |  QV      |          |          |          |
 8+45       0.1388      0.90  |  Q V     |          |          |          |
 8+50       0.1452      0.94  |  Q V     |          |          |          |
 8+55       0.1520      0.98  |  Q V     |          |          |          |
 9+ 0       0.1588      0.99  |  Q V     |          |          |          |
 9+ 5       0.1661      1.06  |   Q V    |          |          |          |
 9+10       0.1740      1.15  |   Q V    |          |          |          |
 9+15       0.1820      1.16  |   Q V    |          |          |          |
 9+20       0.1903      1.20  |   Q V    |          |          |          |
 9+25       0.1989      1.25  |   Q  V   |          |          |          |
 9+30       0.2075      1.25  |    Q V   |          |          |          |
 9+35       0.2164      1.29  |    Q V   |          |          |          |
 9+40       0.2256      1.34  |    Q  V  |          |          |          |
 9+45       0.2349      1.34  |    Q  V  |          |          |          |
 9+50       0.2444      1.38  |    Q  V  |          |          |          |
 9+55       0.2542      1.43  |    Q   V |          |          |          |
10+ 0       0.2641      1.43  |    Q   V |          |          |          |
10+ 5       0.2724      1.21  |   Q    V |          |          |          |
10+10       0.2787      0.91  |  Q      V          |          |          |
10+15       0.2846      0.86  |  Q      V          |          |          |
10+20       0.2905      0.86  |  Q      V          |          |          |
10+25       0.2964      0.86  |  Q      V          |          |          |
10+30       0.3023      0.86  |  Q      |V         |          |          |
10+35       0.3094      1.02  |   Q     |V         |          |          |
10+40       0.3180      1.24  |   Q     |V         |          |          |
10+45       0.3268      1.28  |    Q    |V         |          |          |
10+50       0.3356      1.29  |    Q    | V        |          |          |
10+55       0.3445      1.29  |    Q    | V        |          |          |
11+ 0       0.3534      1.29  |    Q    | V        |          |          |
11+ 5       0.3621      1.26  |    Q    |  V       |          |          |
```

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11+10       0.3705      1.22  |   Q     |  V      |         |         |
11+15       0.3789      1.21  |   Q     |  V      |         |         |
11+20       0.3872      1.22  |   Q     |   V     |         |         |
11+25       0.3956      1.22  |   Q     |   V     |         |         |
11+30       0.4040      1.22  |   Q     |   V     |         |         |
11+35       0.4120      1.16  |   Q     |    V    |         |         |
11+40       0.4194      1.07  |   Q     |    V    |         |         |
11+45       0.4266      1.06  |   Q     |    V    |         |         |
11+50       0.4342      1.09  |   Q     |    V    |         |         |
11+55       0.4420      1.14  |   Q     |     V   |         |         |
12+ 0       0.4499      1.14  |   Q     |     V   |         |         |
12+ 5       0.4593      1.38  |    Q    |     V   |         |         |
12+10       0.4709      1.68  |     Q   |      V  |         |         |
12+15       0.4828      1.73  |     Q   |      V  |         |         |
12+20       0.4951      1.77  |      Q  |       V |         |         |
12+25       0.5076      1.82  |      Q  |       V |         |         |
12+30       0.5202      1.83  |      Q  |        V|         |         |
12+35       0.5332      1.90  |      Q  |        V|         |         |
12+40       0.5469      1.98  |      Q  |         V         |         |
12+45       0.5607      2.00  |       Q |         V         |         |
12+50       0.5747      2.04  |       Q |         |V        |         |
12+55       0.5890      2.08  |       Q |         |V        |         |
13+ 0       0.6034      2.09  |       Q |         | V       |         |
13+ 5       0.6190      2.26  |        Q|         | V       |         |
13+10       0.6360      2.47  |        Q|         |  V      |         |
13+15       0.6533      2.51  |         Q         |  V      |         |
13+20       0.6707      2.52  |         Q         |   V     |         |
13+25       0.6880      2.52  |         Q         |    V    |         |
13+30       0.7054      2.52  |         Q         |    V    |         |
13+35       0.7203      2.17  |        Q  |       |     V   |         |
13+40       0.7320      1.69  |     Q     |       |     V   |         |
13+45       0.7431      1.62  |     Q     |       |      V  |         |
13+50       0.7542      1.60  |     Q     |       |      V  |         |
13+55       0.7652      1.61  |     Q     |       |      V  |         |
14+ 0       0.7763      1.61  |     Q     |       |       V |         |
14+ 5       0.7883      1.74  |     Q     |       |       V |         |
14+10       0.8015      1.92  |      Q    |       |        V|         |
14+15       0.8149      1.94  |      Q    |       |        V|         |
14+20       0.8281      1.92  |      Q    |       |         V         |
14+25       0.8410      1.88  |      Q    |       |         V         |
14+30       0.8539      1.87  |      Q    |       |          |V       |
14+35       0.8668      1.87  |      Q    |       |          |V       |
14+40       0.8797      1.87  |      Q    |       |          | V      |
14+45       0.8926      1.87  |      Q    |       |          | V      |
14+50       0.9053      1.84  |      Q    |       |          |  V     |
14+55       0.9177      1.80  |      Q    |       |          |  V     |
15+ 0       0.9301      1.80  |      Q    |       |          |   V    |
15+ 5       0.9422      1.76  |      Q    |       |          |   V    |
15+10       0.9541      1.72  |     Q     |       |          |   V    |
15+15       0.9659      1.72  |     Q     |       |          |    V   |
15+20       0.9775      1.69  |     Q     |       |          |    V   |
15+25       0.9888      1.64  |     Q     |       |          |     V  |
15+30       1.0001      1.64  |     Q     |       |          |     V  |
15+35       1.0105      1.51  |     Q     |       |          |     V  |
15+40       1.0197      1.34  |    Q      |       |          |      V |
15+45       1.0287      1.31  |    Q      |       |          |      V |
15+50       1.0377      1.31  |    Q      |       |          |      V |
15+55       1.0468      1.31  |    Q      |       |          |       V|
16+ 0       1.0558      1.31  |    Q      |       |          |       V|
16+ 5       1.0614      0.82  |  Q        |       |          |       V|
16+10       1.0626      0.17  Q           |       |          |       V|
16+15       1.0631      0.07  Q           |       |          |       V|
16+20       1.0635      0.05  Q           |       |          |       V|
16+25       1.0639      0.06  Q           |       |          |       V|
16+30       1.0643      0.06  Q           |       |          |       V|
16+35       1.0646      0.05  Q           |       |          |       V|
16+40       1.0648      0.03  Q           |       |          |       V|
16+45       1.0650      0.03  Q           |       |          |       V|
16+50       1.0652      0.03  Q           |       |          |       V|
16+55       1.0653      0.03  Q           |       |          |       V|
17+ 0       1.0655      0.03  Q           |       |          |       V|
17+ 5       1.0660      0.07  Q           |       |          |        V|
17+10       1.0670      0.14  Q           |       |          |        V|
17+15       1.0680      0.15  Q           |       |          |        V|
17+20       1.0691      0.16  Q           |       |          |        V|
17+25       1.0702      0.16  Q           |       |          |        V|
17+30       1.0713      0.16  Q           |       |          |        V|
17+35       1.0724      0.16  Q           |       |          |        V|
```

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+40 | 1.0735 | 0.16 | Q | \| | \| | \| | V\| |
| 17+45 | 1.0746 | 0.16 | Q | \| | \| | \| | V\| |
| 17+50 | 1.0755 | 0.13 | Q | \| | \| | \| | V\| |
| 17+55 | 1.0761 | 0.09 | Q | \| | \| | \| | V\| |
| 18+ 0 | 1.0767 | 0.08 | Q | \| | \| | \| | V\| |
| 18+ 5 | 1.0773 | 0.08 | Q | \| | \| | \| | V\| |
| 18+10 | 1.0779 | 0.08 | Q | \| | \| | \| | V\| |
| 18+15 | 1.0784 | 0.09 | Q | \| | \| | \| | V\| |
| 18+20 | 1.0790 | 0.09 | Q | \| | \| | \| | V\| |
| 18+25 | 1.0796 | 0.09 | Q | \| | \| | \| | V\| |
| 18+30 | 1.0803 | 0.09 | Q | \| | \| | \| | V\| |
| 18+35 | 1.0807 | 0.06 | Q | \| | \| | \| | V\| |
| 18+40 | 1.0809 | 0.03 | Q | \| | \| | \| | V\| |
| 18+45 | 1.0811 | 0.03 | Q | \| | \| | \| | V\| |
| 18+50 | 1.0813 | 0.02 | Q | \| | \| | \| | V\| |
| 18+55 | 1.0814 | 0.02 | Q | \| | \| | \| | V\| |
| 19+ 0 | 1.0815 | 0.02 | Q | \| | \| | \| | V\| |
| 19+ 5 | 1.0816 | 0.02 | Q | \| | \| | \| | V\| |
| 19+10 | 1.0818 | 0.02 | Q | \| | \| | \| | V\| |
| 19+15 | 1.0820 | 0.03 | Q | \| | \| | \| | V\| |
| 19+20 | 1.0824 | 0.05 | Q | \| | \| | \| | V\| |
| 19+25 | 1.0830 | 0.09 | Q | \| | \| | \| | V\| |
| 19+30 | 1.0837 | 0.10 | Q | \| | \| | \| | V\| |
| 19+35 | 1.0842 | 0.07 | Q | \| | \| | \| | V\| |
| 19+40 | 1.0844 | 0.03 | Q | \| | \| | \| | V\| |
| 19+45 | 1.0846 | 0.03 | Q | \| | \| | \| | V\| |
| 19+50 | 1.0848 | 0.02 | Q | \| | \| | \| | V\| |
| 19+55 | 1.0849 | 0.02 | Q | \| | \| | \| | V\| |
| 20+ 0 | 1.0850 | 0.02 | Q | \| | \| | \| | V\| |
| 20+ 5 | 1.0852 | 0.02 | Q | \| | \| | \| | V\| |
| 20+10 | 1.0853 | 0.03 | Q | \| | \| | \| | V\| |
| 20+15 | 1.0855 | 0.03 | Q | \| | \| | \| | V\| |
| 20+20 | 1.0857 | 0.03 | Q | \| | \| | \| | V\| |
| 20+25 | 1.0859 | 0.03 | Q | \| | \| | \| | V\| |
| 20+30 | 1.0862 | 0.03 | Q | \| | \| | \| | V\| |
| 20+35 | 1.0864 | 0.03 | Q | \| | \| | \| | V\| |
| 20+40 | 1.0866 | 0.03 | Q | \| | \| | \| | V\| |
| 20+45 | 1.0868 | 0.03 | Q | \| | \| | \| | V\| |
| 20+50 | 1.0870 | 0.03 | Q | \| | \| | \| | V\| |
| 20+55 | 1.0872 | 0.02 | Q | \| | \| | \| | V\| |
| 21+ 0 | 1.0873 | 0.02 | Q | \| | \| | \| | V\| |
| 21+ 5 | 1.0874 | 0.03 | Q | \| | \| | \| | V\| |
| 21+10 | 1.0877 | 0.04 | Q | \| | \| | \| | V\| |
| 21+15 | 1.0880 | 0.04 | Q | \| | \| | \| | V\| |
| 21+20 | 1.0882 | 0.03 | Q | \| | \| | \| | V\| |
| 21+25 | 1.0883 | 0.02 | Q | \| | \| | \| | V\| |
| 21+30 | 1.0884 | 0.02 | Q | \| | \| | \| | V\| |
| 21+35 | 1.0886 | 0.03 | Q | \| | \| | \| | V\| |
| 21+40 | 1.0889 | 0.04 | Q | \| | \| | \| | V\| |
| 21+45 | 1.0892 | 0.04 | Q | \| | \| | \| | V\| |
| 21+50 | 1.0894 | 0.03 | Q | \| | \| | \| | V\| |
| 21+55 | 1.0896 | 0.02 | Q | \| | \| | \| | V\| |
| 22+ 0 | 1.0897 | 0.02 | Q | \| | \| | \| | V\| |
| 22+ 5 | 1.0899 | 0.03 | Q | \| | \| | \| | V\| |
| 22+10 | 1.0902 | 0.04 | Q | \| | \| | \| | V\| |
| 22+15 | 1.0905 | 0.05 | Q | \| | \| | \| | V\| |
| 22+20 | 1.0907 | 0.04 | Q | \| | \| | \| | V\| |
| 22+25 | 1.0909 | 0.02 | Q | \| | \| | \| | V\| |
| 22+30 | 1.0910 | 0.02 | Q | \| | \| | \| | V\| |
| 22+35 | 1.0911 | 0.02 | Q | \| | \| | \| | V\| |
| 22+40 | 1.0912 | 0.02 | Q | \| | \| | \| | V\| |
| 22+45 | 1.0914 | 0.02 | Q | \| | \| | \| | V\| |
| 22+50 | 1.0915 | 0.02 | Q | \| | \| | \| | V\| |
| 22+55 | 1.0916 | 0.02 | Q | \| | \| | \| | V\| |
| 23+ 0 | 1.0917 | 0.02 | Q | \| | \| | \| | V\| |
| 23+ 5 | 1.0918 | 0.02 | Q | \| | \| | \| | V\| |
| 23+10 | 1.0919 | 0.02 | Q | \| | \| | \| | V\| |
| 23+15 | 1.0920 | 0.02 | Q | \| | \| | \| | V\| |
| 23+20 | 1.0922 | 0.02 | Q | \| | \| | \| | V\| |
| 23+25 | 1.0923 | 0.02 | Q | \| | \| | \| | V\| |
| 23+30 | 1.0924 | 0.02 | Q | \| | \| | \| | V\| |
| 23+35 | 1.0925 | 0.02 | Q | \| | \| | \| | V\| |
| 23+40 | 1.0926 | 0.02 | Q | \| | \| | \| | V\| |
| 23+45 | 1.0927 | 0.02 | Q | \| | \| | \| | V\| |
| 23+50 | 1.0929 | 0.02 | Q | \| | \| | \| | V\| |
| 23+55 | 1.0930 | 0.02 | Q | \| | \| | \| | V\| |
| 24+ 0 | 1.0931 | 0.02 | Q | \| | \| | \| | V\| |
| 24+ 5 | 1.0932 | 0.01 | Q | \| | \| | \| | V\| |

```
   24+10       1.0932      0.00  Q         |          |          |        V|
   24+15       1.0932      0.00  Q         |          |          |        V|
-----------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX71100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 7
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 102.60(Ac.) = 0.160 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 102.60(Ac.) = 0.160 Sq. Mi.
Length along longest watercourse = 5340.00(Ft.)
Length along longest watercourse measured to centroid = 3092.00(Ft.)
Length along longest watercourse = 1.011 Mi.
Length along longest watercourse measured to centroid = 0.586 Mi.
Difference in elevation = 680.00(Ft.)
Slope along watercourse = 672.3596 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.200 Hr.
Lag time = 11.99 Min.
25% of lag time = 3.00 Min.
40% of lag time = 4.80 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 102.60 | 0.50 | 51.30 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 102.60 | 1.20 | 123.12 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.91 %
Adjusted average point rain = 1.199(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 102.600 | 83.69 | 0.000 |

Total Area Entered = 102.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.7 | 93.2 | 0.088 | 0.000 | 0.088 | 1.000 | 0.088 |
| | | | | | Sum (F) = | 0.088 |

Area averaged mean soil loss (F) (In/Hr) = 0.088

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 41.709 | 3.320 | 3.432 |
| 2 | 0.167 | 83.418 | 12.824 | 13.260 |
| 3 | 0.250 | 125.127 | 33.673 | 34.819 |
| 4 | 0.333 | 166.836 | 20.584 | 21.284 |
| 5 | 0.417 | 208.545 | 9.658 | 9.986 |
| 6 | 0.500 | 250.253 | 6.392 | 6.609 |
| 7 | 0.583 | 291.962 | 4.521 | 4.675 |
| 8 | 0.667 | 333.671 | 3.222 | 3.332 |
| 9 | 0.750 | 375.380 | 2.162 | 2.236 |
| 10 | 0.833 | 417.089 | 1.383 | 1.430 |
| 11 | 0.917 | 458.798 | 0.615 | 0.636 |
| 12 | 1.000 | 500.507 | 0.443 | 0.458 |
| 13 | 1.083 | 542.216 | 0.332 | 0.343 |
| 14 | 1.167 | 583.925 | 0.278 | 0.287 |
| 15 | 1.250 | 625.634 | 0.301 | 0.311 |
| 16 | 1.333 | 667.343 | 0.172 | 0.178 |
| 17 | 1.417 | 709.052 | 0.121 | 0.125 |
| | | Sum = 100.000 | Sum= | 103.402 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.604 | 0.088 | ( 0.544) | 0.516 |
| 2 | 0.17 | 4.30 | 0.619 | 0.088 | ( 0.557) | 0.530 |
| 3 | 0.25 | 5.00 | 0.719 | 0.088 | ( 0.647) | 0.631 |
| 4 | 0.33 | 5.00 | 0.719 | 0.088 | ( 0.647) | 0.631 |
| 5 | 0.42 | 5.80 | 0.834 | 0.088 | ( 0.751) | 0.746 |
| 6 | 0.50 | 6.50 | 0.935 | 0.088 | ( 0.842) | 0.847 |
| 7 | 0.58 | 7.40 | 1.065 | 0.088 | ( 0.958) | 0.976 |
| 8 | 0.67 | 8.60 | 1.237 | 0.088 | ( 1.114) | 1.149 |
| 9 | 0.75 | 12.30 | 1.770 | 0.088 | ( 1.593) | 1.681 |
| 10 | 0.83 | 29.10 | 4.187 | 0.088 | ( 3.768) | 4.098 |
| 11 | 0.92 | 6.80 | 0.978 | 0.088 | ( 0.880) | 0.890 |
| 12 | 1.00 | 5.00 | 0.719 | 0.088 | ( 0.647) | 0.631 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 13.3 |

Flood volume = Effective rainfall 1.11(In)
times area 102.6(Ac.)/[(In)/(Ft.)] = 9.5(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.754(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 413654.3 Cubic Feet
Total soil loss = 32855.7 Cubic Feet

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Peak flow rate of this hydrograph = 219.826(CFS)

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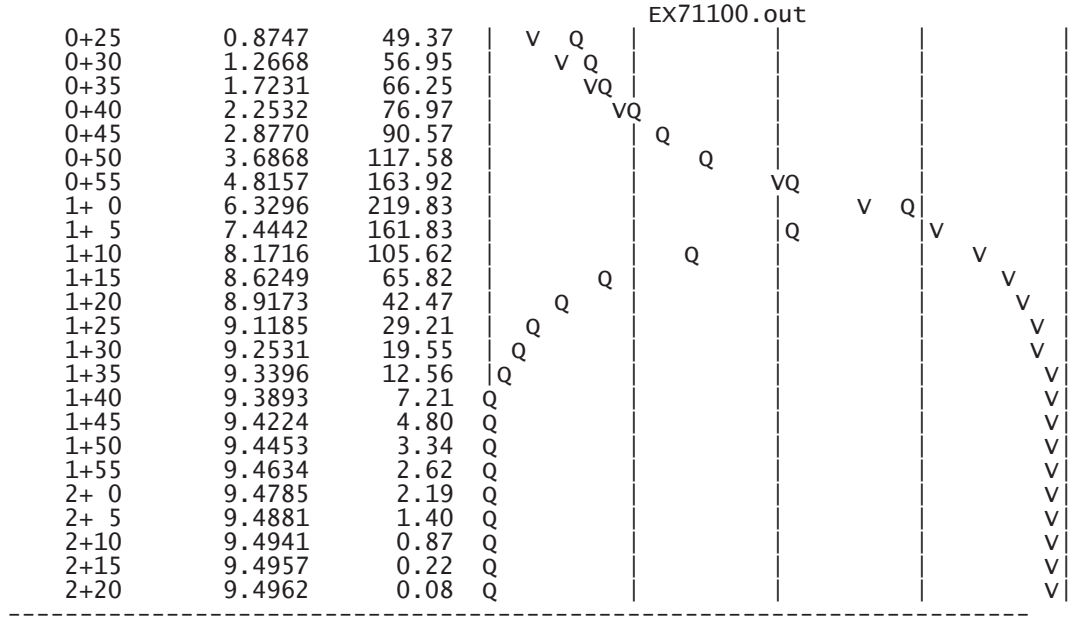
1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

---

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 75.0 | 150.0 | 225.0 | 300.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0122 | 1.77 | Q | | | | |
| 0+10 | 0.0719 | 8.67 | VQ | | | | |
| 0+15 | 0.2591 | 27.18 | \|V Q | | | | |
| 0+20 | 0.5346 | 40.01 | \| V Q | | | | |


0+25 0.8747 49.37
0+30 1.2668 56.95
0+35 1.7231 66.25
0+40 2.2532 76.97
0+45 2.8770 90.57
0+50 3.6868 117.58
0+55 4.8157 163.92
1+ 0 6.3296 219.83
1+ 5 7.4442 161.83
1+10 8.1716 105.62
1+15 8.6249 65.82
1+20 8.9173 42.47
1+25 9.1185 29.21
1+30 9.2531 19.55
1+35 9.3396 12.56
1+40 9.3893 7.21
1+45 9.4224 4.80
1+50 9.4453 3.34
1+55 9.4634 2.62
2+ 0 9.4785 2.19
2+ 5 9.4881 1.40
2+10 9.4941 0.87
2+15 9.4957 0.22
2+20 9.4962 0.08

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX73100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 7
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 102.60(Ac.) = 0.160 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 102.60(Ac.) = 0.160 Sq. Mi.
Length along longest watercourse = 5340.00(Ft.)
Length along longest watercourse measured to centroid = 3092.00(Ft.)
Length along longest watercourse = 1.011 Mi.
Length along longest watercourse measured to centroid = 0.586 Mi.
Difference in elevation = 680.00(Ft.)
Slope along watercourse = 672.3596 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.200 Hr.
Lag time = 11.99 Min.
25% of lag time = 3.00 Min.
40% of lag time = 4.80 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 102.60 | 0.81 | 83.11 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 102.60 | 1.81 | 185.71 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.810(In)
Area Averaged 100-Year Rainfall = 1.810(In)

Point rain (area averaged) = 1.810(In)
Areal adjustment factor = 99.96 %
Adjusted average point rain = 1.809(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 102.600 | 83.69 | 0.000 |

Total Area Entered = 102.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.7 | 93.2 | 0.088 | 0.000 | 0.088 | 1.000 | 0.088 |
| | | | | | Sum (F) = | 0.088 |

Area averaged mean soil loss (F) (In/Hr) = 0.088

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 41.709 | 3.320 | 3.432 |
| 2 | 0.167 | 83.418 | 12.824 | 13.260 |
| 3 | 0.250 | 125.127 | 33.673 | 34.819 |
| 4 | 0.333 | 166.836 | 20.584 | 21.284 |
| 5 | 0.417 | 208.545 | 9.658 | 9.986 |
| 6 | 0.500 | 250.253 | 6.392 | 6.609 |
| 7 | 0.583 | 291.962 | 4.521 | 4.675 |
| 8 | 0.667 | 333.671 | 3.222 | 3.332 |
| 9 | 0.750 | 375.380 | 2.162 | 2.236 |
| 10 | 0.833 | 417.089 | 1.383 | 1.430 |
| 11 | 0.917 | 458.798 | 0.615 | 0.636 |
| 12 | 1.000 | 500.507 | 0.443 | 0.458 |
| 13 | 1.083 | 542.216 | 0.332 | 0.343 |
| 14 | 1.167 | 583.925 | 0.278 | 0.287 |
| 15 | 1.250 | 625.634 | 0.301 | 0.311 |
| 16 | 1.333 | 667.343 | 0.172 | 0.178 |
| 17 | 1.417 | 709.052 | 0.121 | 0.125 |
| | | | Sum = 100.000 | Sum= 103.402 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.282 | 0.088 | ( 0.254) | 0.194 |
| 2 | 0.17 | 1.30 | 0.282 | 0.088 | ( 0.254) | 0.194 |
| 3 | 0.25 | 1.10 | 0.239 | 0.088 | ( 0.215) | 0.151 |
| 4 | 0.33 | 1.50 | 0.326 | 0.088 | ( 0.293) | 0.237 |
| 5 | 0.42 | 1.50 | 0.326 | 0.088 | ( 0.293) | 0.237 |
| 6 | 0.50 | 1.80 | 0.391 | 0.088 | ( 0.352) | 0.303 |
| 7 | 0.58 | 1.50 | 0.326 | 0.088 | ( 0.293) | 0.237 |
| 8 | 0.67 | 1.80 | 0.391 | 0.088 | ( 0.352) | 0.303 |
| 9 | 0.75 | 1.80 | 0.391 | 0.088 | ( 0.352) | 0.303 |
| 10 | 0.83 | 1.50 | 0.326 | 0.088 | ( 0.293) | 0.237 |
| 11 | 0.92 | 1.60 | 0.347 | 0.088 | ( 0.313) | 0.259 |
| 12 | 1.00 | 1.80 | 0.391 | 0.088 | ( 0.352) | 0.303 |
| 13 | 1.08 | 2.20 | 0.478 | 0.088 | ( 0.430) | 0.389 |
| 14 | 1.17 | 2.20 | 0.478 | 0.088 | ( 0.430) | 0.389 |
| 15 | 1.25 | 2.20 | 0.478 | 0.088 | ( 0.430) | 0.389 |
| 16 | 1.33 | 2.00 | 0.434 | 0.088 | ( 0.391) | 0.346 |
| 17 | 1.42 | 2.60 | 0.564 | 0.088 | ( 0.508) | 0.476 |
| 18 | 1.50 | 2.70 | 0.586 | 0.088 | ( 0.528) | 0.498 |
| 19 | 1.58 | 2.40 | 0.521 | 0.088 | ( 0.469) | 0.433 |
| 20 | 1.67 | 2.70 | 0.586 | 0.088 | ( 0.528) | 0.498 |
| 21 | 1.75 | 3.30 | 0.716 | 0.088 | ( 0.645) | 0.628 |
| 22 | 1.83 | 3.10 | 0.673 | 0.088 | ( 0.606) | 0.585 |
| 23 | 1.92 | 2.90 | 0.630 | 0.088 | ( 0.567) | 0.541 |
| 24 | 2.00 | 3.00 | 0.651 | 0.088 | ( 0.586) | 0.563 |
| 25 | 2.08 | 3.10 | 0.673 | 0.088 | ( 0.606) | 0.585 |
| 26 | 2.17 | 4.20 | 0.912 | 0.088 | ( 0.821) | 0.824 |
| 27 | 2.25 | 5.00 | 1.086 | 0.088 | ( 0.977) | 0.997 |
| 28 | 2.33 | 3.50 | 0.760 | 0.088 | ( 0.684) | 0.672 |
| 29 | 2.42 | 6.80 | 1.476 | 0.088 | ( 1.329) | 1.388 |
| 30 | 2.50 | 7.30 | 1.585 | 0.088 | ( 1.426) | 1.497 |
| 31 | 2.58 | 8.20 | 1.780 | 0.088 | ( 1.602) | 1.692 |
| 32 | 2.67 | 5.90 | 1.281 | 0.088 | ( 1.153) | 1.193 |
| 33 | 2.75 | 2.00 | 0.434 | 0.088 | ( 0.391) | 0.346 |
| 34 | 2.83 | 1.80 | 0.391 | 0.088 | ( 0.352) | 0.303 |
| 35 | 2.92 | 1.80 | 0.391 | 0.088 | ( 0.352) | 0.303 |
| 36 | 3.00 | 0.60 | 0.130 | 0.088 | ( 0.117) | 0.042 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 18.5 |

Flood volume = Effective rainfall 1.54(In)

```
 times area     102.6(Ac.)/[(In)/(Ft.)] =      13.2(Ac.Ft)
Total soil loss =      0.26(In)
Total soil loss =     2.263(Ac.Ft)
Total rainfall =      1.81(In)
Flood volume =      575243.0 Cubic Feet
Total soil loss =       98567.2 Cubic Feet
------------------------------------------------------------------------
 Peak flow rate of this hydrograph =    136.915(CFS)
------------------------------------------------------------------------
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                    3 - H O U R    S T O R M
                 R u n o f f      H y d r o g r a p h
------------------------------------------------------------------------
             Hydrograph in   5   Minute intervals ((CFS))

------------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0       50.0     100.0     150.0     200.0
------------------------------------------------------------------------
  0+ 5       0.0046      0.67  Q         |         |         |         |
  0+10       0.0269      3.24  Q         |         |         |         |
  0+15       0.0947      9.85  VQ        |         |         |         |
  0+20       0.1891     13.70  V Q       |         |         |         |
  0+25       0.2944     15.28  V  Q      |         |         |         |
  0+30       0.4245     18.89  |V Q      |         |         |         |
  0+35       0.5750     21.85  |V  Q     |         |         |         |
  0+40       0.7451     24.71  | V Q     |         |         |         |
  0+45       0.9207     25.50  | V  Q    |         |         |         |
  0+50       1.1090     27.34  |  V Q    |         |         |         |
  0+55       1.3021     28.04  |  V Q    |         |         |         |
  1+ 0       1.4877     26.95  |   VQ    |         |         |         |
  1+ 5       1.6785     27.70  |    Q    |         |         |         |
  1+10       1.8886     30.50  |    VQ   |         |         |         |
  1+15       2.1261     34.49  |     Q   |         |         |         |
  1+20       2.3782     36.61  |      Q  |         |         |         |
  1+25       2.6374     37.63  |      Q  |         |         |         |
  1+30       2.9038     38.68  |      QV |         |         |         |
  1+35       3.1992     42.90  |       QV|         |         |         |
  1+40       3.5144     45.77  |        QV         |         |         |
  1+45       3.8350     46.54  |        Q|V        |         |         |
  1+50       4.1795     50.03  |         Q V       |         |         |
  1+55       4.5601     55.25  |         |Q V      |         |         |
  2+ 0       4.9507     56.72  |         |Q  V     |         |         |
  2+ 5       5.3392     56.41  |         |Q    V   |         |         |
  2+10       5.7394     58.11  |         |Q     V  |         |         |
  2+15       6.1746     63.19  |         | Q      V|         |         |
  2+20       6.6804     73.45  |         |   Q     V         |         |
  2+25       7.2529     83.13  |         |     Q   |V        |         |
  2+30       7.8589     87.98  |         |      Q  |  V      |         |
  2+35       8.6273    111.57  |         |         | Q   V   |         |
  2+40       9.5269    130.62  |         |         |     Q V |         |
  2+45      10.4698    136.92  |         |         |      Q  |V        |
  2+50      11.2809    117.77  |         |         |  Q      |   V     |
  2+55      11.8509     82.77  |         |      Q  |         |    V    |
  3+ 0      12.2726     61.23  |         | Q       |         |      V  |
  3+ 5      12.6003     47.58  |        Q|         |         |       V |
  3+10      12.8169     31.45  |     Q   |         |         |       V |
  3+15      12.9516     19.56  |  Q      |         |         |        V|
  3+20      13.0385     12.61  | Q       |         |         |        V|
  3+25      13.0946      8.14  |Q        |         |         |        V|
  3+30      13.1312      5.31  |Q        |         |         |        V|
  3+35      13.1567      3.70  Q         |         |         |        V|
  3+40      13.1744      2.57  Q         |         |         |        V|
  3+45      13.1869      1.82  Q         |         |         |        V|
  3+50      13.1954      1.23  Q         |         |         |        V|
  3+55      13.2005      0.74  Q         |         |         |        V|
  4+ 0      13.2033      0.41  Q         |         |         |        V|
  4+ 5      13.2047      0.20  Q         |         |         |        V|
  4+10      13.2054      0.10  Q         |         |         |        V|
  4+15      13.2057      0.05  Q         |         |         |        V|
  4+20      13.2058      0.01  Q         |         |         |         V
------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX76100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 7
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 102.60(Ac.) = 0.160 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 102.60(Ac.) = 0.160 Sq. Mi.
Length along longest watercourse = 5340.00(Ft.)
Length along longest watercourse measured to centroid = 3092.00(Ft.)
Length along longest watercourse = 1.011 Mi.
Length along longest watercourse measured to centroid = 0.586 Mi.
Difference in elevation = 680.00(Ft.)
Slope along watercourse = 672.3596 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.200 Hr.
Lag time = 11.99 Min.
25% of lag time = 3.00 Min.
40% of lag time = 4.80 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 102.60 | 1.14 | 116.96 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 102.60 | 2.50 | 256.50 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.140(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 99.96 %
Adjusted average point rain = 2.499(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 102.600 | 83.69 | 0.000 |

Total Area Entered = 102.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.7 | 93.2 | 0.088 | 0.000 | 0.088 | 1.000 | 0.088 |
| | | | | | Sum (F) = | 0.088 |

Area averaged mean soil loss (F) (In/Hr) = 0.088

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 41.709 | 3.320 | 3.432 |
| 2 | 0.167 | 83.418 | 12.824 | 13.260 |
| 3 | 0.250 | 125.127 | 33.673 | 34.819 |
| 4 | 0.333 | 166.836 | 20.584 | 21.284 |
| 5 | 0.417 | 208.545 | 9.658 | 9.986 |
| 6 | 0.500 | 250.253 | 6.392 | 6.609 |
| 7 | 0.583 | 291.962 | 4.521 | 4.675 |
| 8 | 0.667 | 333.671 | 3.222 | 3.332 |
| 9 | 0.750 | 375.380 | 2.162 | 2.236 |
| 10 | 0.833 | 417.089 | 1.383 | 1.430 |
| 11 | 0.917 | 458.798 | 0.615 | 0.636 |
| 12 | 1.000 | 500.507 | 0.443 | 0.458 |
| 13 | 1.083 | 542.216 | 0.332 | 0.343 |
| 14 | 1.167 | 583.925 | 0.278 | 0.287 |
| 15 | 1.250 | 625.634 | 0.301 | 0.311 |
| 16 | 1.333 | 667.343 | 0.172 | 0.178 |
| 17 | 1.417 | 709.052 | 0.121 | 0.125 |
| | | | Sum = 100.000 | Sum= 103.402 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.088 | ( 0.135) | 0.062 |
| 2 | 0.17 | 0.60 | 0.180 | 0.088 | ( 0.162) | 0.092 |
| 3 | 0.25 | 0.60 | 0.180 | 0.088 | ( 0.162) | 0.092 |
| 4 | 0.33 | 0.60 | 0.180 | 0.088 | ( 0.162) | 0.092 |
| 5 | 0.42 | 0.60 | 0.180 | 0.088 | ( 0.162) | 0.092 |
| 6 | 0.50 | 0.70 | 0.210 | 0.088 | ( 0.189) | 0.122 |
| 7 | 0.58 | 0.70 | 0.210 | 0.088 | ( 0.189) | 0.122 |
| 8 | 0.67 | 0.70 | 0.210 | 0.088 | ( 0.189) | 0.122 |
| 9 | 0.75 | 0.70 | 0.210 | 0.088 | ( 0.189) | 0.122 |
| 10 | 0.83 | 0.70 | 0.210 | 0.088 | ( 0.189) | 0.122 |
| 11 | 0.92 | 0.70 | 0.210 | 0.088 | ( 0.189) | 0.122 |
| 12 | 1.00 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 13 | 1.08 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 14 | 1.17 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 15 | 1.25 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 16 | 1.33 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 17 | 1.42 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 18 | 1.50 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 19 | 1.58 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 20 | 1.67 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 21 | 1.75 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 22 | 1.83 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 23 | 1.92 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 24 | 2.00 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 25 | 2.08 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 26 | 2.17 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 27 | 2.25 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 28 | 2.33 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 29 | 2.42 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 30 | 2.50 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 31 | 2.58 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 32 | 2.67 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 33 | 2.75 | 1.00 | 0.300 | 0.088 | ( 0.270) | 0.212 |
| 34 | 2.83 | 1.00 | 0.300 | 0.088 | ( 0.270) | 0.212 |
| 35 | 2.92 | 1.00 | 0.300 | 0.088 | ( 0.270) | 0.212 |
| 36 | 3.00 | 1.00 | 0.300 | 0.088 | ( 0.270) | 0.212 |
| 37 | 3.08 | 1.00 | 0.300 | 0.088 | ( 0.270) | 0.212 |
| 38 | 3.17 | 1.10 | 0.330 | 0.088 | ( 0.297) | 0.242 |
| 39 | 3.25 | 1.10 | 0.330 | 0.088 | ( 0.297) | 0.242 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 40 | 3.33 | 1.10 | 0.330 | 0.088 | ( 0.297) | 0.242 | |
| 41 | 3.42 | 1.20 | 0.360 | 0.088 | ( 0.324) | 0.272 | |
| 42 | 3.50 | 1.30 | 0.390 | 0.088 | ( 0.351) | 0.302 | |
| 43 | 3.58 | 1.40 | 0.420 | 0.088 | ( 0.378) | 0.332 | |
| 44 | 3.67 | 1.40 | 0.420 | 0.088 | ( 0.378) | 0.332 | |
| 45 | 3.75 | 1.50 | 0.450 | 0.088 | ( 0.405) | 0.362 | |
| 46 | 3.83 | 1.50 | 0.450 | 0.088 | ( 0.405) | 0.362 | |
| 47 | 3.92 | 1.60 | 0.480 | 0.088 | ( 0.432) | 0.392 | |
| 48 | 4.00 | 1.60 | 0.480 | 0.088 | ( 0.432) | 0.392 | |
| 49 | 4.08 | 1.70 | 0.510 | 0.088 | ( 0.459) | 0.422 | |
| 50 | 4.17 | 1.80 | 0.540 | 0.088 | ( 0.486) | 0.452 | |
| 51 | 4.25 | 1.90 | 0.570 | 0.088 | ( 0.513) | 0.482 | |
| 52 | 4.33 | 2.00 | 0.600 | 0.088 | ( 0.540) | 0.512 | |
| 53 | 4.42 | 2.10 | 0.630 | 0.088 | ( 0.567) | 0.542 | |
| 54 | 4.50 | 2.10 | 0.630 | 0.088 | ( 0.567) | 0.542 | |
| 55 | 4.58 | 2.20 | 0.660 | 0.088 | ( 0.594) | 0.572 | |
| 56 | 4.67 | 2.30 | 0.690 | 0.088 | ( 0.621) | 0.602 | |
| 57 | 4.75 | 2.40 | 0.720 | 0.088 | ( 0.648) | 0.632 | |
| 58 | 4.83 | 2.40 | 0.720 | 0.088 | ( 0.648) | 0.632 | |
| 59 | 4.92 | 2.50 | 0.750 | 0.088 | ( 0.675) | 0.662 | |
| 60 | 5.00 | 2.60 | 0.780 | 0.088 | ( 0.702) | 0.692 | |
| 61 | 5.08 | 3.10 | 0.930 | 0.088 | ( 0.837) | 0.841 | |
| 62 | 5.17 | 3.60 | 1.080 | 0.088 | ( 0.972) | 0.991 | |
| 63 | 5.25 | 3.90 | 1.170 | 0.088 | ( 1.053) | 1.081 | |
| 64 | 5.33 | 4.20 | 1.260 | 0.088 | ( 1.134) | 1.171 | |
| 65 | 5.42 | 4.70 | 1.410 | 0.088 | ( 1.269) | 1.321 | |
| 66 | 5.50 | 5.60 | 1.679 | 0.088 | ( 1.511) | 1.591 | |
| 67 | 5.58 | 1.90 | 0.570 | 0.088 | ( 0.513) | 0.482 | |
| 68 | 5.67 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 | |
| 69 | 5.75 | 0.60 | 0.180 | 0.088 | ( 0.162) | 0.092 | |
| 70 | 5.83 | 0.50 | 0.150 | 0.088 | ( 0.135) | 0.062 | |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.088) | 0.081 | 0.009 | |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.088) | 0.054 | 0.006 | |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.7

Flood volume = Effective rainfall 1.97(In)
times area 102.6(Ac.)/[(In)/(Ft.)] = 16.9(Ac.Ft)
Total soil loss = 0.53(In)
Total soil loss = 4.496(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 734919.7 Cubic Feet
Total soil loss = 195846.9 Cubic Feet

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Peak flow rate of this hydrograph = 121.071(CFS)

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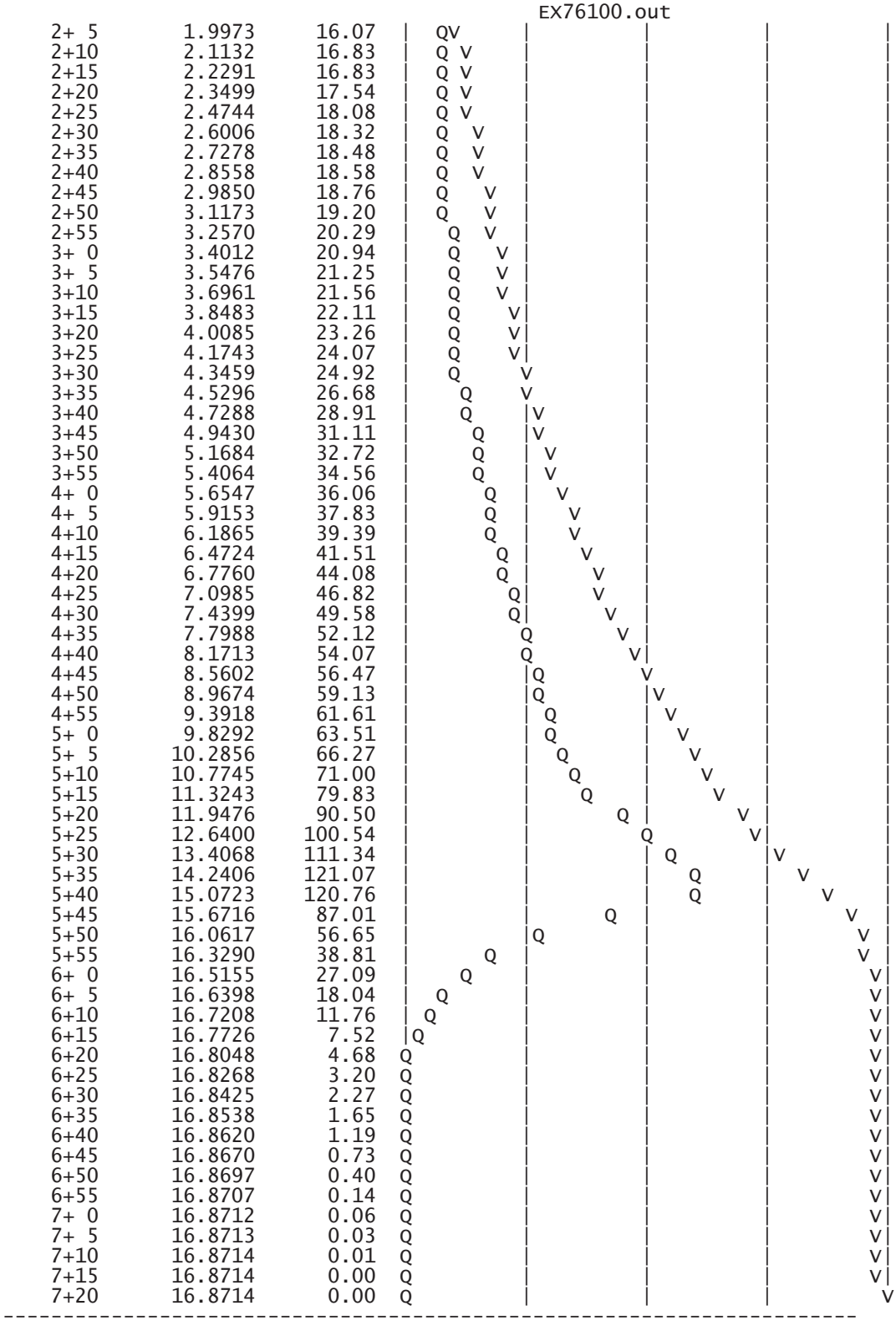
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

---

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 50.0 | 100.0 | 150.0 | 200.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0015 | 0.21 | Q | | | | |
| 0+10 | 0.0093 | 1.13 | Q | | | | |
| 0+15 | 0.0346 | 3.68 | Q | | | | |
| 0+20 | 0.0762 | 6.04 | VQ | | | | |
| 0+25 | 0.1265 | 7.30 | VQ | | | | |
| 0+30 | 0.1823 | 8.11 | VQ | | | | |
| 0+35 | 0.2443 | 8.99 | VQ | | | | |
| 0+40 | 0.3158 | 10.38 | V Q | | | | |
| 0+45 | 0.3933 | 11.26 | V Q | | | | |
| 0+50 | 0.4740 | 11.72 | \|VQ | | | | |
| 0+55 | 0.5566 | 12.00 | \|VQ | | | | |
| 1+ 0 | 0.6412 | 12.29 | \|VQ | | | | |
| 1+ 5 | 0.7295 | 12.82 | \|VQ | | | | |
| 1+10 | 0.8257 | 13.96 | \|VQ | | | | |
| 1+15 | 0.9267 | 14.67 | \| Q | | | | |
| 1+20 | 1.0300 | 15.01 | \| VQ | | | | |
| 1+25 | 1.1349 | 15.23 | \| VQ | | | | |
| 1+30 | 1.2409 | 15.39 | \| VQ | | | | |
| 1+35 | 1.3476 | 15.50 | \| Q | | | | |
| 1+40 | 1.4549 | 15.57 | \| Q | | | | |
| 1+45 | 1.5624 | 15.62 | \| Q | | | | |
| 1+50 | 1.6702 | 15.64 | \| Q | | | | |
| 1+55 | 1.7780 | 15.66 | \| QV | | | | |
| 2+ 0 | 1.8866 | 15.77 | \| QV | | | | |



| | | | |
|---|---|---|---|
| 2+ 5 | 1.9973 | 16.07 | |
| 2+10 | 2.1132 | 16.83 | |
| 2+15 | 2.2291 | 16.83 | |
| 2+20 | 2.3499 | 17.54 | |
| 2+25 | 2.4744 | 18.08 | |
| 2+30 | 2.6006 | 18.32 | |
| 2+35 | 2.7278 | 18.48 | |
| 2+40 | 2.8558 | 18.58 | |
| 2+45 | 2.9850 | 18.76 | |
| 2+50 | 3.1173 | 19.20 | |
| 2+55 | 3.2570 | 20.29 | |
| 3+ 0 | 3.4012 | 20.94 | |
| 3+ 5 | 3.5476 | 21.25 | |
| 3+10 | 3.6961 | 21.56 | |
| 3+15 | 3.8483 | 22.11 | |
| 3+20 | 4.0085 | 23.26 | |
| 3+25 | 4.1743 | 24.07 | |
| 3+30 | 4.3459 | 24.92 | |
| 3+35 | 4.5296 | 26.68 | |
| 3+40 | 4.7288 | 28.91 | |
| 3+45 | 4.9430 | 31.11 | |
| 3+50 | 5.1684 | 32.72 | |
| 3+55 | 5.4064 | 34.56 | |
| 4+ 0 | 5.6547 | 36.06 | |
| 4+ 5 | 5.9153 | 37.83 | |
| 4+10 | 6.1865 | 39.39 | |
| 4+15 | 6.4724 | 41.51 | |
| 4+20 | 6.7760 | 44.08 | |
| 4+25 | 7.0985 | 46.82 | |
| 4+30 | 7.4399 | 49.58 | |
| 4+35 | 7.7988 | 52.12 | |
| 4+40 | 8.1713 | 54.07 | |
| 4+45 | 8.5602 | 56.47 | |
| 4+50 | 8.9674 | 59.13 | |
| 4+55 | 9.3918 | 61.61 | |
| 5+ 0 | 9.8292 | 63.51 | |
| 5+ 5 | 10.2856 | 66.27 | |
| 5+10 | 10.7745 | 71.00 | |
| 5+15 | 11.3243 | 79.83 | |
| 5+20 | 11.9476 | 90.50 | |
| 5+25 | 12.6400 | 100.54 | |
| 5+30 | 13.4068 | 111.34 | |
| 5+35 | 14.2406 | 121.07 | |
| 5+40 | 15.0723 | 120.76 | |
| 5+45 | 15.6716 | 87.01 | |
| 5+50 | 16.0617 | 56.65 | |
| 5+55 | 16.3290 | 38.81 | |
| 6+ 0 | 16.5155 | 27.09 | |
| 6+ 5 | 16.6398 | 18.04 | |
| 6+10 | 16.7208 | 11.76 | |
| 6+15 | 16.7726 | 7.52 | |
| 6+20 | 16.8048 | 4.68 | |
| 6+25 | 16.8268 | 3.20 | |
| 6+30 | 16.8425 | 2.27 | |
| 6+35 | 16.8538 | 1.65 | |
| 6+40 | 16.8620 | 1.19 | |
| 6+45 | 16.8670 | 0.73 | |
| 6+50 | 16.8697 | 0.40 | |
| 6+55 | 16.8707 | 0.14 | |
| 7+ 0 | 16.8712 | 0.06 | |
| 7+ 5 | 16.8713 | 0.03 | |
| 7+10 | 16.8714 | 0.01 | |
| 7+15 | 16.8714 | 0.00 | |
| 7+20 | 16.8714 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX724100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 7
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 102.60(Ac.) = 0.160 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 102.60(Ac.) = 0.160 Sq. Mi.
Length along longest watercourse = 5340.00(Ft.)
Length along longest watercourse measured to centroid = 3092.00(Ft.)
Length along longest watercourse = 1.011 Mi.
Length along longest watercourse measured to centroid = 0.586 Mi.
Difference in elevation = 680.00(Ft.)
Slope along watercourse = 672.3596 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.200 Hr.
Lag time = 11.99 Min.
25% of lag time = 3.00 Min.
40% of lag time = 4.80 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 102.60 | 1.80 | 184.68 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 102.60 | 4.69 | 481.19 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.690(In)

Point rain (area averaged) = 4.690(In)
Areal adjustment factor = 99.98 %
Adjusted average point rain = 4.689(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 102.600 | 83.69 | 0.000 |

Total Area Entered = 102.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.7 | 93.2 | 0.088 | 0.000 | 0.088 | 1.000 | 0.088 |
| | | | | | Sum (F) = | 0.088 |

Area averaged mean soil loss (F) (In/Hr) = 0.088

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 41.709 | 3.320 | 3.432 |
| 2 | 0.167 | 83.418 | 12.824 | 13.260 |
| 3 | 0.250 | 125.127 | 33.673 | 34.819 |
| 4 | 0.333 | 166.836 | 20.584 | 21.284 |
| 5 | 0.417 | 208.545 | 9.658 | 9.986 |
| 6 | 0.500 | 250.253 | 6.392 | 6.609 |
| 7 | 0.583 | 291.962 | 4.521 | 4.675 |
| 8 | 0.667 | 333.671 | 3.222 | 3.332 |
| 9 | 0.750 | 375.380 | 2.162 | 2.236 |
| 10 | 0.833 | 417.089 | 1.383 | 1.430 |
| 11 | 0.917 | 458.798 | 0.615 | 0.636 |
| 12 | 1.000 | 500.507 | 0.443 | 0.458 |
| 13 | 1.083 | 542.216 | 0.332 | 0.343 |
| 14 | 1.167 | 583.925 | 0.278 | 0.287 |
| 15 | 1.250 | 625.634 | 0.301 | 0.311 |
| 16 | 1.333 | 667.343 | 0.172 | 0.178 |
| 17 | 1.417 | 709.052 | 0.121 | 0.125 |
| | | | Sum = 100.000 | Sum= 103.402 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.038 | ( 0.156) | 0.034 | 0.004 |
| 2 | 0.17 | 0.07 | 0.038 | ( 0.156) | 0.034 | 0.004 |
| 3 | 0.25 | 0.07 | 0.038 | ( 0.155) | 0.034 | 0.004 |
| 4 | 0.33 | 0.10 | 0.056 | ( 0.155) | 0.051 | 0.006 |
| 5 | 0.42 | 0.10 | 0.056 | ( 0.154) | 0.051 | 0.006 |
| 6 | 0.50 | 0.10 | 0.056 | ( 0.153) | 0.051 | 0.006 |
| 7 | 0.58 | 0.10 | 0.056 | ( 0.153) | 0.051 | 0.006 |
| 8 | 0.67 | 0.10 | 0.056 | ( 0.152) | 0.051 | 0.006 |
| 9 | 0.75 | 0.10 | 0.056 | ( 0.152) | 0.051 | 0.006 |
| 10 | 0.83 | 0.13 | 0.075 | ( 0.151) | 0.068 | 0.008 |
| 11 | 0.92 | 0.13 | 0.075 | ( 0.150) | 0.068 | 0.008 |
| 12 | 1.00 | 0.13 | 0.075 | ( 0.150) | 0.068 | 0.008 |
| 13 | 1.08 | 0.10 | 0.056 | ( 0.149) | 0.051 | 0.006 |
| 14 | 1.17 | 0.10 | 0.056 | ( 0.149) | 0.051 | 0.006 |
| 15 | 1.25 | 0.10 | 0.056 | ( 0.148) | 0.051 | 0.006 |
| 16 | 1.33 | 0.10 | 0.056 | ( 0.147) | 0.051 | 0.006 |
| 17 | 1.42 | 0.10 | 0.056 | ( 0.147) | 0.051 | 0.006 |
| 18 | 1.50 | 0.10 | 0.056 | ( 0.146) | 0.051 | 0.006 |
| 19 | 1.58 | 0.10 | 0.056 | ( 0.146) | 0.051 | 0.006 |
| 20 | 1.67 | 0.10 | 0.056 | ( 0.145) | 0.051 | 0.006 |
| 21 | 1.75 | 0.10 | 0.056 | ( 0.145) | 0.051 | 0.006 |
| 22 | 1.83 | 0.13 | 0.075 | ( 0.144) | 0.068 | 0.008 |
| 23 | 1.92 | 0.13 | 0.075 | ( 0.143) | 0.068 | 0.008 |
| 24 | 2.00 | 0.13 | 0.075 | ( 0.143) | 0.068 | 0.008 |
| 25 | 2.08 | 0.13 | 0.075 | ( 0.142) | 0.068 | 0.008 |
| 26 | 2.17 | 0.13 | 0.075 | ( 0.142) | 0.068 | 0.008 |
| 27 | 2.25 | 0.13 | 0.075 | ( 0.141) | 0.068 | 0.008 |
| 28 | 2.33 | 0.13 | 0.075 | ( 0.140) | 0.068 | 0.008 |
| 29 | 2.42 | 0.13 | 0.075 | ( 0.140) | 0.068 | 0.008 |
| 30 | 2.50 | 0.13 | 0.075 | ( 0.139) | 0.068 | 0.008 |
| 31 | 2.58 | 0.17 | 0.094 | ( 0.139) | 0.084 | 0.009 |
| 32 | 2.67 | 0.17 | 0.094 | ( 0.138) | 0.084 | 0.009 |
| 33 | 2.75 | 0.17 | 0.094 | ( 0.138) | 0.084 | 0.009 |
| 34 | 2.83 | 0.17 | 0.094 | ( 0.137) | 0.084 | 0.009 |
| 35 | 2.92 | 0.17 | 0.094 | ( 0.136) | 0.084 | 0.009 |
| 36 | 3.00 | 0.17 | 0.094 | ( 0.136) | 0.084 | 0.009 |
| 37 | 3.08 | 0.17 | 0.094 | ( 0.135) | 0.084 | 0.009 |
| 38 | 3.17 | 0.17 | 0.094 | ( 0.135) | 0.084 | 0.009 |
| 39 | 3.25 | 0.17 | 0.094 | ( 0.134) | 0.084 | 0.009 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 40 | 3.33 | 0.17 | 0.094 | ( | 0.134) | 0.084 | 0.009 |
| 41 | 3.42 | 0.17 | 0.094 | ( | 0.133) | 0.084 | 0.009 |
| 42 | 3.50 | 0.17 | 0.094 | ( | 0.133) | 0.084 | 0.009 |
| 43 | 3.58 | 0.17 | 0.094 | ( | 0.132) | 0.084 | 0.009 |
| 44 | 3.67 | 0.17 | 0.094 | ( | 0.131) | 0.084 | 0.009 |
| 45 | 3.75 | 0.17 | 0.094 | ( | 0.131) | 0.084 | 0.009 |
| 46 | 3.83 | 0.20 | 0.113 | ( | 0.130) | 0.101 | 0.011 |
| 47 | 3.92 | 0.20 | 0.113 | ( | 0.130) | 0.101 | 0.011 |
| 48 | 4.00 | 0.20 | 0.113 | ( | 0.129) | 0.101 | 0.011 |
| 49 | 4.08 | 0.20 | 0.113 | ( | 0.129) | 0.101 | 0.011 |
| 50 | 4.17 | 0.20 | 0.113 | ( | 0.128) | 0.101 | 0.011 |
| 51 | 4.25 | 0.20 | 0.113 | ( | 0.128) | 0.101 | 0.011 |
| 52 | 4.33 | 0.23 | 0.131 | ( | 0.127) | 0.118 | 0.013 |
| 53 | 4.42 | 0.23 | 0.131 | ( | 0.127) | 0.118 | 0.013 |
| 54 | 4.50 | 0.23 | 0.131 | ( | 0.126) | 0.118 | 0.013 |
| 55 | 4.58 | 0.23 | 0.131 | ( | 0.125) | 0.118 | 0.013 |
| 56 | 4.67 | 0.23 | 0.131 | ( | 0.125) | 0.118 | 0.013 |
| 57 | 4.75 | 0.23 | 0.131 | ( | 0.124) | 0.118 | 0.013 |
| 58 | 4.83 | 0.27 | 0.150 | | 0.124 | ( 0.135) | 0.026 |
| 59 | 4.92 | 0.27 | 0.150 | | 0.123 | ( 0.135) | 0.027 |
| 60 | 5.00 | 0.27 | 0.150 | | 0.123 | ( 0.135) | 0.027 |
| 61 | 5.08 | 0.20 | 0.113 | ( | 0.122) | 0.101 | 0.011 |
| 62 | 5.17 | 0.20 | 0.113 | ( | 0.122) | 0.101 | 0.011 |
| 63 | 5.25 | 0.20 | 0.113 | ( | 0.121) | 0.101 | 0.011 |
| 64 | 5.33 | 0.23 | 0.131 | ( | 0.121) | 0.118 | 0.013 |
| 65 | 5.42 | 0.23 | 0.131 | ( | 0.120) | 0.118 | 0.013 |
| 66 | 5.50 | 0.23 | 0.131 | ( | 0.120) | 0.118 | 0.013 |
| 67 | 5.58 | 0.27 | 0.150 | | 0.119 | ( 0.135) | 0.031 |
| 68 | 5.67 | 0.27 | 0.150 | | 0.119 | ( 0.135) | 0.032 |
| 69 | 5.75 | 0.27 | 0.150 | | 0.118 | ( 0.135) | 0.032 |
| 70 | 5.83 | 0.27 | 0.150 | | 0.117 | ( 0.135) | 0.033 |
| 71 | 5.92 | 0.27 | 0.150 | | 0.117 | ( 0.135) | 0.033 |
| 72 | 6.00 | 0.27 | 0.150 | | 0.116 | ( 0.135) | 0.034 |
| 73 | 6.08 | 0.30 | 0.169 | | 0.116 | ( 0.152) | 0.053 |
| 74 | 6.17 | 0.30 | 0.169 | | 0.115 | ( 0.152) | 0.053 |
| 75 | 6.25 | 0.30 | 0.169 | | 0.115 | ( 0.152) | 0.054 |
| 76 | 6.33 | 0.30 | 0.169 | | 0.114 | ( 0.152) | 0.054 |
| 77 | 6.42 | 0.30 | 0.169 | | 0.114 | ( 0.152) | 0.055 |
| 78 | 6.50 | 0.30 | 0.169 | | 0.113 | ( 0.152) | 0.055 |
| 79 | 6.58 | 0.33 | 0.188 | | 0.113 | ( 0.169) | 0.075 |
| 80 | 6.67 | 0.33 | 0.188 | | 0.112 | ( 0.169) | 0.075 |
| 81 | 6.75 | 0.33 | 0.188 | | 0.112 | ( 0.169) | 0.076 |
| 82 | 6.83 | 0.33 | 0.188 | | 0.111 | ( 0.169) | 0.076 |
| 83 | 6.92 | 0.33 | 0.188 | | 0.111 | ( 0.169) | 0.077 |
| 84 | 7.00 | 0.33 | 0.188 | | 0.110 | ( 0.169) | 0.077 |
| 85 | 7.08 | 0.33 | 0.188 | | 0.110 | ( 0.169) | 0.078 |
| 86 | 7.17 | 0.33 | 0.188 | | 0.109 | ( 0.169) | 0.078 |
| 87 | 7.25 | 0.33 | 0.188 | | 0.109 | ( 0.169) | 0.079 |
| 88 | 7.33 | 0.37 | 0.206 | | 0.108 | ( 0.186) | 0.098 |
| 89 | 7.42 | 0.37 | 0.206 | | 0.108 | ( 0.186) | 0.098 |
| 90 | 7.50 | 0.37 | 0.206 | | 0.107 | ( 0.186) | 0.099 |
| 91 | 7.58 | 0.40 | 0.225 | | 0.107 | ( 0.203) | 0.118 |
| 92 | 7.67 | 0.40 | 0.225 | | 0.106 | ( 0.203) | 0.119 |
| 93 | 7.75 | 0.40 | 0.225 | | 0.106 | ( 0.203) | 0.119 |
| 94 | 7.83 | 0.43 | 0.244 | | 0.105 | ( 0.219) | 0.138 |
| 95 | 7.92 | 0.43 | 0.244 | | 0.105 | ( 0.219) | 0.139 |
| 96 | 8.00 | 0.43 | 0.244 | | 0.104 | ( 0.219) | 0.139 |
| 97 | 8.08 | 0.50 | 0.281 | | 0.104 | ( 0.253) | 0.177 |
| 98 | 8.17 | 0.50 | 0.281 | | 0.103 | ( 0.253) | 0.178 |
| 99 | 8.25 | 0.50 | 0.281 | | 0.103 | ( 0.253) | 0.178 |
| 100 | 8.33 | 0.50 | 0.281 | | 0.102 | ( 0.253) | 0.179 |
| 101 | 8.42 | 0.50 | 0.281 | | 0.102 | ( 0.253) | 0.179 |
| 102 | 8.50 | 0.50 | 0.281 | | 0.102 | ( 0.253) | 0.180 |
| 103 | 8.58 | 0.53 | 0.300 | | 0.101 | ( 0.270) | 0.199 |
| 104 | 8.67 | 0.53 | 0.300 | | 0.101 | ( 0.270) | 0.200 |
| 105 | 8.75 | 0.53 | 0.300 | | 0.100 | ( 0.270) | 0.200 |
| 106 | 8.83 | 0.57 | 0.319 | | 0.100 | ( 0.287) | 0.219 |
| 107 | 8.92 | 0.57 | 0.319 | | 0.099 | ( 0.287) | 0.220 |
| 108 | 9.00 | 0.57 | 0.319 | | 0.099 | ( 0.287) | 0.220 |
| 109 | 9.08 | 0.63 | 0.356 | | 0.098 | ( 0.321) | 0.258 |
| 110 | 9.17 | 0.63 | 0.356 | | 0.098 | ( 0.321) | 0.259 |
| 111 | 9.25 | 0.63 | 0.356 | | 0.097 | ( 0.321) | 0.259 |
| 112 | 9.33 | 0.67 | 0.375 | | 0.097 | ( 0.338) | 0.278 |
| 113 | 9.42 | 0.67 | 0.375 | | 0.096 | ( 0.338) | 0.279 |
| 114 | 9.50 | 0.67 | 0.375 | | 0.096 | ( 0.338) | 0.279 |
| 115 | 9.58 | 0.70 | 0.394 | | 0.095 | ( 0.354) | 0.298 |
| 116 | 9.67 | 0.70 | 0.394 | | 0.095 | ( 0.354) | 0.299 |
| 117 | 9.75 | 0.70 | 0.394 | | 0.095 | ( 0.354) | 0.299 |

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|---|---|---|---|---|---|---|
| 118 | 9.83 | 0.73 | 0.413 | 0.094 | ( 0.371) | 0.319 |
| 119 | 9.92 | 0.73 | 0.413 | 0.094 | ( 0.371) | 0.319 |
| 120 | 10.00 | 0.73 | 0.413 | 0.093 | ( 0.371) | 0.319 |
| 121 | 10.08 | 0.50 | 0.281 | 0.093 | ( 0.253) | 0.189 |
| 122 | 10.17 | 0.50 | 0.281 | 0.092 | ( 0.253) | 0.189 |
| 123 | 10.25 | 0.50 | 0.281 | 0.092 | ( 0.253) | 0.190 |
| 124 | 10.33 | 0.50 | 0.281 | 0.091 | ( 0.253) | 0.190 |
| 125 | 10.42 | 0.50 | 0.281 | 0.091 | ( 0.253) | 0.190 |
| 126 | 10.50 | 0.50 | 0.281 | 0.090 | ( 0.253) | 0.191 |
| 127 | 10.58 | 0.67 | 0.375 | 0.090 | ( 0.338) | 0.285 |
| 128 | 10.67 | 0.67 | 0.375 | 0.090 | ( 0.338) | 0.286 |
| 129 | 10.75 | 0.67 | 0.375 | 0.089 | ( 0.338) | 0.286 |
| 130 | 10.83 | 0.67 | 0.375 | 0.089 | ( 0.338) | 0.286 |
| 131 | 10.92 | 0.67 | 0.375 | 0.088 | ( 0.338) | 0.287 |
| 132 | 11.00 | 0.67 | 0.375 | 0.088 | ( 0.338) | 0.287 |
| 133 | 11.08 | 0.63 | 0.356 | 0.087 | ( 0.321) | 0.269 |
| 134 | 11.17 | 0.63 | 0.356 | 0.087 | ( 0.321) | 0.269 |
| 135 | 11.25 | 0.63 | 0.356 | 0.087 | ( 0.321) | 0.270 |
| 136 | 11.33 | 0.63 | 0.356 | 0.086 | ( 0.321) | 0.270 |
| 137 | 11.42 | 0.63 | 0.356 | 0.086 | ( 0.321) | 0.271 |
| 138 | 11.50 | 0.63 | 0.356 | 0.085 | ( 0.321) | 0.271 |
| 139 | 11.58 | 0.57 | 0.319 | 0.085 | ( 0.287) | 0.234 |
| 140 | 11.67 | 0.57 | 0.319 | 0.084 | ( 0.287) | 0.234 |
| 141 | 11.75 | 0.57 | 0.319 | 0.084 | ( 0.287) | 0.235 |
| 142 | 11.83 | 0.60 | 0.338 | 0.084 | ( 0.304) | 0.254 |
| 143 | 11.92 | 0.60 | 0.338 | 0.083 | ( 0.304) | 0.254 |
| 144 | 12.00 | 0.60 | 0.338 | 0.083 | ( 0.304) | 0.255 |
| 145 | 12.08 | 0.83 | 0.469 | 0.082 | ( 0.422) | 0.387 |
| 146 | 12.17 | 0.83 | 0.469 | 0.082 | ( 0.422) | 0.387 |
| 147 | 12.25 | 0.83 | 0.469 | 0.082 | ( 0.422) | 0.387 |
| 148 | 12.33 | 0.87 | 0.488 | 0.081 | ( 0.439) | 0.407 |
| 149 | 12.42 | 0.87 | 0.488 | 0.081 | ( 0.439) | 0.407 |
| 150 | 12.50 | 0.87 | 0.488 | 0.080 | ( 0.439) | 0.407 |
| 151 | 12.58 | 0.93 | 0.525 | 0.080 | ( 0.473) | 0.445 |
| 152 | 12.67 | 0.93 | 0.525 | 0.079 | ( 0.473) | 0.446 |
| 153 | 12.75 | 0.93 | 0.525 | 0.079 | ( 0.473) | 0.446 |
| 154 | 12.83 | 0.97 | 0.544 | 0.079 | ( 0.490) | 0.465 |
| 155 | 12.92 | 0.97 | 0.544 | 0.078 | ( 0.490) | 0.466 |
| 156 | 13.00 | 0.97 | 0.544 | 0.078 | ( 0.490) | 0.466 |
| 157 | 13.08 | 1.13 | 0.638 | 0.078 | ( 0.574) | 0.560 |
| 158 | 13.17 | 1.13 | 0.638 | 0.077 | ( 0.574) | 0.561 |
| 159 | 13.25 | 1.13 | 0.638 | 0.077 | ( 0.574) | 0.561 |
| 160 | 13.33 | 1.13 | 0.638 | 0.076 | ( 0.574) | 0.561 |
| 161 | 13.42 | 1.13 | 0.638 | 0.076 | ( 0.574) | 0.562 |
| 162 | 13.50 | 1.13 | 0.638 | 0.076 | ( 0.574) | 0.562 |
| 163 | 13.58 | 0.77 | 0.431 | 0.075 | ( 0.388) | 0.356 |
| 164 | 13.67 | 0.77 | 0.431 | 0.075 | ( 0.388) | 0.357 |
| 165 | 13.75 | 0.77 | 0.431 | 0.074 | ( 0.388) | 0.357 |
| 166 | 13.83 | 0.77 | 0.431 | 0.074 | ( 0.388) | 0.357 |
| 167 | 13.92 | 0.77 | 0.431 | 0.074 | ( 0.388) | 0.358 |
| 168 | 14.00 | 0.77 | 0.431 | 0.073 | ( 0.388) | 0.358 |
| 169 | 14.08 | 0.90 | 0.506 | 0.073 | ( 0.456) | 0.434 |
| 170 | 14.17 | 0.90 | 0.506 | 0.073 | ( 0.456) | 0.434 |
| 171 | 14.25 | 0.90 | 0.506 | 0.072 | ( 0.456) | 0.434 |
| 172 | 14.33 | 0.87 | 0.488 | 0.072 | ( 0.439) | 0.416 |
| 173 | 14.42 | 0.87 | 0.488 | 0.071 | ( 0.439) | 0.416 |
| 174 | 14.50 | 0.87 | 0.488 | 0.071 | ( 0.439) | 0.417 |
| 175 | 14.58 | 0.87 | 0.488 | 0.071 | ( 0.439) | 0.417 |
| 176 | 14.67 | 0.87 | 0.488 | 0.070 | ( 0.439) | 0.417 |
| 177 | 14.75 | 0.87 | 0.488 | 0.070 | ( 0.439) | 0.418 |
| 178 | 14.83 | 0.83 | 0.469 | 0.070 | ( 0.422) | 0.399 |
| 179 | 14.92 | 0.83 | 0.469 | 0.069 | ( 0.422) | 0.400 |
| 180 | 15.00 | 0.83 | 0.469 | 0.069 | ( 0.422) | 0.400 |
| 181 | 15.08 | 0.80 | 0.450 | 0.069 | ( 0.405) | 0.382 |
| 182 | 15.17 | 0.80 | 0.450 | 0.068 | ( 0.405) | 0.382 |
| 183 | 15.25 | 0.80 | 0.450 | 0.068 | ( 0.405) | 0.382 |
| 184 | 15.33 | 0.77 | 0.431 | 0.067 | ( 0.388) | 0.364 |
| 185 | 15.42 | 0.77 | 0.431 | 0.067 | ( 0.388) | 0.364 |
| 186 | 15.50 | 0.77 | 0.431 | 0.067 | ( 0.388) | 0.365 |
| 187 | 15.58 | 0.63 | 0.356 | 0.066 | ( 0.321) | 0.290 |
| 188 | 15.67 | 0.63 | 0.356 | 0.066 | ( 0.321) | 0.290 |
| 189 | 15.75 | 0.63 | 0.356 | 0.066 | ( 0.321) | 0.291 |
| 190 | 15.83 | 0.63 | 0.356 | 0.065 | ( 0.321) | 0.291 |
| 191 | 15.92 | 0.63 | 0.356 | 0.065 | ( 0.321) | 0.291 |
| 192 | 16.00 | 0.63 | 0.356 | 0.065 | ( 0.321) | 0.292 |
| 193 | 16.08 | 0.13 | 0.075 | 0.064 | ( 0.068) | 0.011 |
| 194 | 16.17 | 0.13 | 0.075 | 0.064 | ( 0.068) | 0.011 |
| 195 | 16.25 | 0.13 | 0.075 | 0.064 | ( 0.068) | 0.011 |

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| 196 | 16.33 | 0.13 | 0.075 | 0.063 | ( 0.068) | 0.012 |
| 197 | 16.42 | 0.13 | 0.075 | 0.063 | ( 0.068) | 0.012 |
| 198 | 16.50 | 0.13 | 0.075 | 0.063 | ( 0.068) | 0.012 |
| 199 | 16.58 | 0.10 | 0.056 | ( 0.063) | 0.051 | 0.006 |
| 200 | 16.67 | 0.10 | 0.056 | ( 0.062) | 0.051 | 0.006 |
| 201 | 16.75 | 0.10 | 0.056 | ( 0.062) | 0.051 | 0.006 |
| 202 | 16.83 | 0.10 | 0.056 | ( 0.062) | 0.051 | 0.006 |
| 203 | 16.92 | 0.10 | 0.056 | ( 0.061) | 0.051 | 0.006 |
| 204 | 17.00 | 0.10 | 0.056 | ( 0.061) | 0.051 | 0.006 |
| 205 | 17.08 | 0.17 | 0.094 | 0.061 | ( 0.084) | 0.033 |
| 206 | 17.17 | 0.17 | 0.094 | 0.060 | ( 0.084) | 0.033 |
| 207 | 17.25 | 0.17 | 0.094 | 0.060 | ( 0.084) | 0.034 |
| 208 | 17.33 | 0.17 | 0.094 | 0.060 | ( 0.084) | 0.034 |
| 209 | 17.42 | 0.17 | 0.094 | 0.059 | ( 0.084) | 0.034 |
| 210 | 17.50 | 0.17 | 0.094 | 0.059 | ( 0.084) | 0.035 |
| 211 | 17.58 | 0.17 | 0.094 | 0.059 | ( 0.084) | 0.035 |
| 212 | 17.67 | 0.17 | 0.094 | 0.059 | ( 0.084) | 0.035 |
| 213 | 17.75 | 0.17 | 0.094 | 0.058 | ( 0.084) | 0.036 |
| 214 | 17.83 | 0.13 | 0.075 | 0.058 | ( 0.068) | 0.017 |
| 215 | 17.92 | 0.13 | 0.075 | 0.058 | ( 0.068) | 0.017 |
| 216 | 18.00 | 0.13 | 0.075 | 0.057 | ( 0.068) | 0.018 |
| 217 | 18.08 | 0.13 | 0.075 | 0.057 | ( 0.068) | 0.018 |
| 218 | 18.17 | 0.13 | 0.075 | 0.057 | ( 0.068) | 0.018 |
| 219 | 18.25 | 0.13 | 0.075 | 0.057 | ( 0.068) | 0.018 |
| 220 | 18.33 | 0.13 | 0.075 | 0.056 | ( 0.068) | 0.019 |
| 221 | 18.42 | 0.13 | 0.075 | 0.056 | ( 0.068) | 0.019 |
| 222 | 18.50 | 0.13 | 0.075 | 0.056 | ( 0.068) | 0.019 |
| 223 | 18.58 | 0.10 | 0.056 | ( 0.055) | 0.051 | 0.006 |
| 224 | 18.67 | 0.10 | 0.056 | ( 0.055) | 0.051 | 0.006 |
| 225 | 18.75 | 0.10 | 0.056 | ( 0.055) | 0.051 | 0.006 |
| 226 | 18.83 | 0.07 | 0.038 | ( 0.055) | 0.034 | 0.004 |
| 227 | 18.92 | 0.07 | 0.038 | ( 0.054) | 0.034 | 0.004 |
| 228 | 19.00 | 0.07 | 0.038 | ( 0.054) | 0.034 | 0.004 |
| 229 | 19.08 | 0.10 | 0.056 | ( 0.054) | 0.051 | 0.006 |
| 230 | 19.17 | 0.10 | 0.056 | ( 0.054) | 0.051 | 0.006 |
| 231 | 19.25 | 0.10 | 0.056 | ( 0.053) | 0.051 | 0.006 |
| 232 | 19.33 | 0.13 | 0.075 | 0.053 | ( 0.068) | 0.022 |
| 233 | 19.42 | 0.13 | 0.075 | 0.053 | ( 0.068) | 0.022 |
| 234 | 19.50 | 0.13 | 0.075 | 0.053 | ( 0.068) | 0.022 |
| 235 | 19.58 | 0.10 | 0.056 | ( 0.052) | 0.051 | 0.006 |
| 236 | 19.67 | 0.10 | 0.056 | ( 0.052) | 0.051 | 0.006 |
| 237 | 19.75 | 0.10 | 0.056 | ( 0.052) | 0.051 | 0.006 |
| 238 | 19.83 | 0.07 | 0.038 | ( 0.052) | 0.034 | 0.004 |
| 239 | 19.92 | 0.07 | 0.038 | ( 0.051) | 0.034 | 0.004 |
| 240 | 20.00 | 0.07 | 0.038 | ( 0.051) | 0.034 | 0.004 |
| 241 | 20.08 | 0.10 | 0.056 | ( 0.051) | 0.051 | 0.006 |
| 242 | 20.17 | 0.10 | 0.056 | ( 0.051) | 0.051 | 0.006 |
| 243 | 20.25 | 0.10 | 0.056 | 0.051 | ( 0.051) | 0.006 |
| 244 | 20.33 | 0.10 | 0.056 | 0.050 | ( 0.051) | 0.006 |
| 245 | 20.42 | 0.10 | 0.056 | 0.050 | ( 0.051) | 0.006 |
| 246 | 20.50 | 0.10 | 0.056 | 0.050 | ( 0.051) | 0.006 |
| 247 | 20.58 | 0.10 | 0.056 | 0.050 | ( 0.051) | 0.007 |
| 248 | 20.67 | 0.10 | 0.056 | 0.049 | ( 0.051) | 0.007 |
| 249 | 20.75 | 0.10 | 0.056 | 0.049 | ( 0.051) | 0.007 |
| 250 | 20.83 | 0.07 | 0.038 | ( 0.049) | 0.034 | 0.004 |
| 251 | 20.92 | 0.07 | 0.038 | ( 0.049) | 0.034 | 0.004 |
| 252 | 21.00 | 0.07 | 0.038 | ( 0.049) | 0.034 | 0.004 |
| 253 | 21.08 | 0.10 | 0.056 | 0.048 | ( 0.051) | 0.008 |
| 254 | 21.17 | 0.10 | 0.056 | 0.048 | ( 0.051) | 0.008 |
| 255 | 21.25 | 0.10 | 0.056 | 0.048 | ( 0.051) | 0.008 |
| 256 | 21.33 | 0.07 | 0.038 | ( 0.048) | 0.034 | 0.004 |
| 257 | 21.42 | 0.07 | 0.038 | ( 0.048) | 0.034 | 0.004 |
| 258 | 21.50 | 0.07 | 0.038 | ( 0.048) | 0.034 | 0.004 |
| 259 | 21.58 | 0.10 | 0.056 | 0.047 | ( 0.051) | 0.009 |
| 260 | 21.67 | 0.10 | 0.056 | 0.047 | ( 0.051) | 0.009 |
| 261 | 21.75 | 0.10 | 0.056 | 0.047 | ( 0.051) | 0.009 |
| 262 | 21.83 | 0.07 | 0.038 | ( 0.047) | 0.034 | 0.004 |
| 263 | 21.92 | 0.07 | 0.038 | ( 0.047) | 0.034 | 0.004 |
| 264 | 22.00 | 0.07 | 0.038 | ( 0.047) | 0.034 | 0.004 |
| 265 | 22.08 | 0.10 | 0.056 | 0.046 | ( 0.051) | 0.010 |
| 266 | 22.17 | 0.10 | 0.056 | 0.046 | ( 0.051) | 0.010 |
| 267 | 22.25 | 0.10 | 0.056 | 0.046 | ( 0.051) | 0.010 |
| 268 | 22.33 | 0.07 | 0.038 | ( 0.046) | 0.034 | 0.004 |
| 269 | 22.42 | 0.07 | 0.038 | ( 0.046) | 0.034 | 0.004 |
| 270 | 22.50 | 0.07 | 0.038 | ( 0.046) | 0.034 | 0.004 |
| 271 | 22.58 | 0.07 | 0.038 | ( 0.046) | 0.034 | 0.004 |
| 272 | 22.67 | 0.07 | 0.038 | ( 0.045) | 0.034 | 0.004 |
| 273 | 22.75 | 0.07 | 0.038 | ( 0.045) | 0.034 | 0.004 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 274 | 22.83 | 0.07 | 0.038 | ( 0.045) | 0.034 | 0.004 |
| 275 | 22.92 | 0.07 | 0.038 | ( 0.045) | 0.034 | 0.004 |
| 276 | 23.00 | 0.07 | 0.038 | ( 0.045) | 0.034 | 0.004 |
| 277 | 23.08 | 0.07 | 0.038 | ( 0.045) | 0.034 | 0.004 |
| 278 | 23.17 | 0.07 | 0.038 | ( 0.045) | 0.034 | 0.004 |
| 279 | 23.25 | 0.07 | 0.038 | ( 0.045) | 0.034 | 0.004 |
| 280 | 23.33 | 0.07 | 0.038 | ( 0.045) | 0.034 | 0.004 |
| 281 | 23.42 | 0.07 | 0.038 | ( 0.045) | 0.034 | 0.004 |
| 282 | 23.50 | 0.07 | 0.038 | ( 0.044) | 0.034 | 0.004 |
| 283 | 23.58 | 0.07 | 0.038 | ( 0.044) | 0.034 | 0.004 |
| 284 | 23.67 | 0.07 | 0.038 | ( 0.044) | 0.034 | 0.004 |
| 285 | 23.75 | 0.07 | 0.038 | ( 0.044) | 0.034 | 0.004 |
| 286 | 23.83 | 0.07 | 0.038 | ( 0.044) | 0.034 | 0.004 |
| 287 | 23.92 | 0.07 | 0.038 | ( 0.044) | 0.034 | 0.004 |
| 288 | 24.00 | 0.07 | 0.038 | ( 0.044) | 0.034 | 0.004 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 35.2

Flood volume = Effective rainfall 2.93(In)
times area 102.6(Ac.)/[(In)/(Ft.)] = 25.1(Ac.Ft)
Total soil loss = 1.75(In)
Total soil loss = 15.000(Ac.Ft)
Total rainfall = 4.69(In)
Flood volume = 1092974.1 Cubic Feet
Total soil loss = 653410.1 Cubic Feet

---

Peak flow rate of this hydrograph = 56.591(CFS)

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++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++

24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

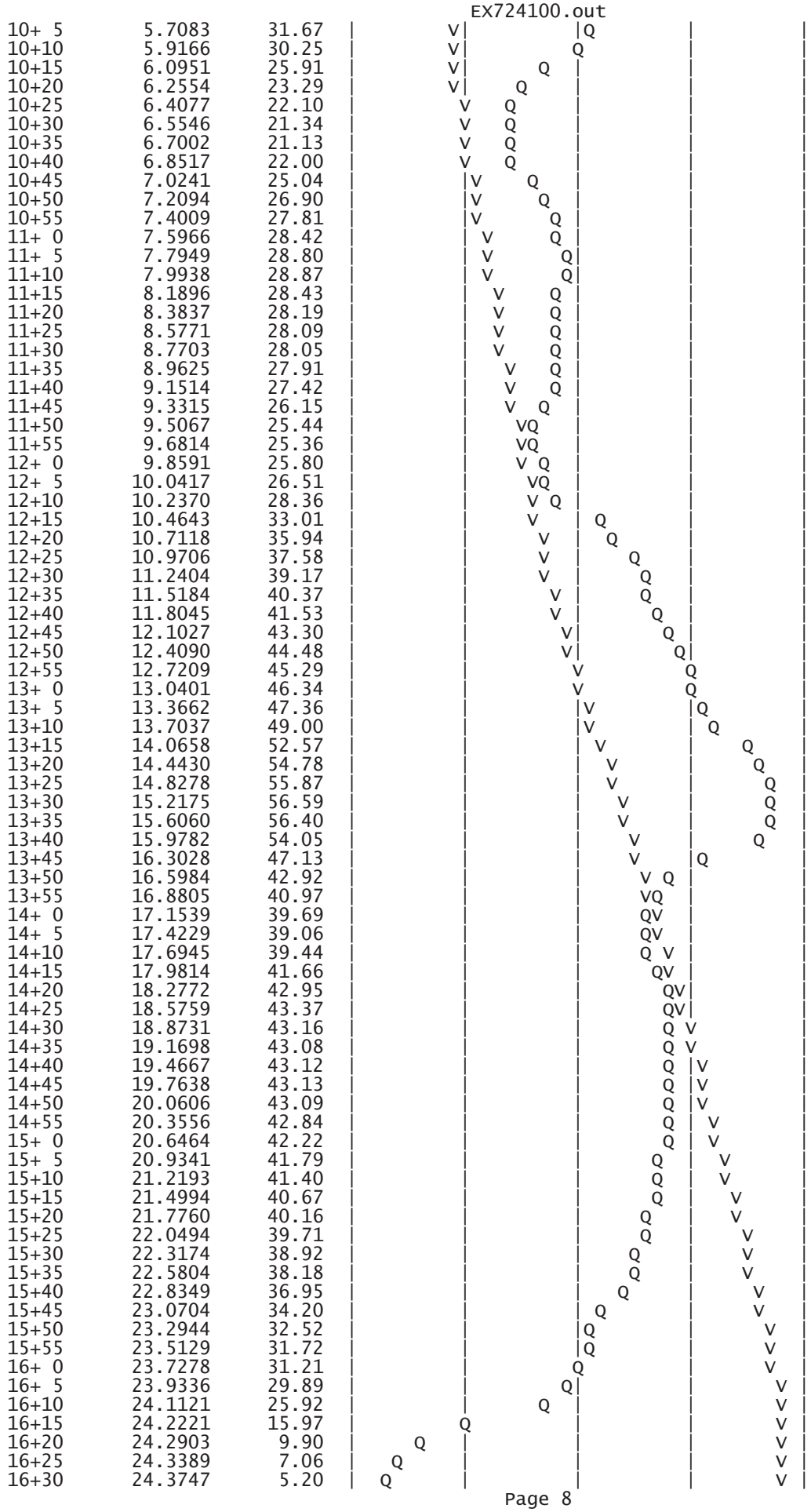
---

Hydrograph in 5 Minute intervals ((CFS))

---

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 15.0 | 30.0 | 45.0 | 60.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0001 | 0.01 | Q | | | | |
| 0+10 | 0.0005 | 0.06 | Q | | | | |
| 0+15 | 0.0019 | 0.19 | Q | | | | |
| 0+20 | 0.0038 | 0.28 | Q | | | | |
| 0+25 | 0.0061 | 0.34 | Q | | | | |
| 0+30 | 0.0091 | 0.43 | Q | | | | |
| 0+35 | 0.0125 | 0.49 | Q | | | | |
| 0+40 | 0.0161 | 0.52 | Q | | | | |
| 0+45 | 0.0198 | 0.54 | Q | | | | |
| 0+50 | 0.0237 | 0.56 | Q | | | | |
| 0+55 | 0.0278 | 0.60 | Q | | | | |
| 1+ 0 | 0.0324 | 0.67 | Q | | | | |
| 1+ 5 | 0.0372 | 0.70 | Q | | | | |
| 1+10 | 0.0420 | 0.70 | Q | | | | |
| 1+15 | 0.0465 | 0.65 | Q | | | | |
| 1+20 | 0.0508 | 0.62 | Q | | | | |
| 1+25 | 0.0550 | 0.61 | Q | | | | |
| 1+30 | 0.0591 | 0.60 | Q | | | | |
| 1+35 | 0.0632 | 0.60 | Q | | | | |
| 1+40 | 0.0673 | 0.59 | Q | | | | |
| 1+45 | 0.0713 | 0.59 | Q | | | | |
| 1+50 | 0.0754 | 0.59 | Q | | | | |
| 1+55 | 0.0796 | 0.62 | Q | | | | |
| 2+ 0 | 0.0843 | 0.68 | Q | | | | |
| 2+ 5 | 0.0893 | 0.72 | Q | | | | |
| 2+10 | 0.0944 | 0.74 | Q | | | | |
| 2+15 | 0.0995 | 0.75 | Q | | | | |
| 2+20 | 0.1048 | 0.76 | Q | | | | |
| 2+25 | 0.1100 | 0.76 | Q | | | | |
| 2+30 | 0.1153 | 0.77 | Q | | | | |
| 2+35 | 0.1207 | 0.78 | Q | | | | |
| 2+40 | 0.1262 | 0.80 | Q | | | | |
| 2+45 | 0.1322 | 0.87 | Q | | | | |
| 2+50 | 0.1385 | 0.91 | Q | | | | |
| 2+55 | 0.1449 | 0.93 | Q | | | | |
| 3+ 0 | 0.1514 | 0.94 | Q | | | | |
| 3+ 5 | 0.1580 | 0.95 | Q | | | | |
| 3+10 | 0.1646 | 0.96 | Q | | | | |
| 3+15 | 0.1712 | 0.96 | Q | | | | |
| 3+20 | 0.1778 | 0.97 | Q | | | | |
| 3+25 | 0.1845 | 0.97 | Q | | | | |
| 3+30 | 0.1912 | 0.97 | Q | | | | |

| | | | |
|---|---|---|---|
| 3+35 | 0.1978 | 0.97 | Q |
| 3+40 | 0.2045 | 0.97 | Q |
| 3+45 | 0.2112 | 0.97 | Q |
| 3+50 | 0.2179 | 0.98 | Q |
| 3+55 | 0.2248 | 1.00 | Q |
| 4+ 0 | 0.2322 | 1.07 | Q |
| 4+ 5 | 0.2398 | 1.11 | Q |
| 4+10 | 0.2475 | 1.13 | Q |
| 4+15 | 0.2554 | 1.14 | Q |
| 4+20 | 0.2633 | 1.15 | Q |
| 4+25 | 0.2715 | 1.18 | Q |
| 4+30 | 0.2801 | 1.25 | Q |
| 4+35 | 0.2890 | 1.30 | Q |
| 4+40 | 0.2981 | 1.32 | Q |
| 4+45 | 0.3073 | 1.33 | Q |
| 4+50 | 0.3168 | 1.38 | Q |
| 4+55 | 0.3276 | 1.57 | VQ |
| 5+ 0 | 0.3416 | 2.04 | VQ |
| 5+ 5 | 0.3574 | 2.29 | VQ |
| 5+10 | 0.3728 | 2.24 | VQ |
| 5+15 | 0.3851 | 1.78 | VQ |
| 5+20 | 0.3955 | 1.52 | VQ |
| 5+25 | 0.4054 | 1.43 | Q |
| 5+30 | 0.4152 | 1.43 | Q |
| 5+35 | 0.4254 | 1.48 | Q |
| 5+40 | 0.4371 | 1.69 | VQ |
| 5+45 | 0.4529 | 2.31 | VQ |
| 5+50 | 0.4716 | 2.70 | VQ |
| 5+55 | 0.4917 | 2.92 | VQ |
| 6+ 0 | 0.5129 | 3.08 | V Q |
| 6+ 5 | 0.5355 | 3.28 | V Q |
| 6+10 | 0.5605 | 3.63 | V Q |
| 6+15 | 0.5906 | 4.37 | V Q |
| 6+20 | 0.6240 | 4.85 | V  Q |
| 6+25 | 0.6591 | 5.10 | \|V Q |
| 6+30 | 0.6955 | 5.28 | \|V Q |
| 6+35 | 0.7333 | 5.49 | \|V Q |
| 6+40 | 0.7737 | 5.86 | \|V Q |
| 6+45 | 0.8193 | 6.62 | \|V  Q |
| 6+50 | 0.8682 | 7.10 | \|V  Q |
| 6+55 | 0.9188 | 7.35 | \|V  Q |
| 7+ 0 | 0.9707 | 7.54 | \|V   Q |
| 7+ 5 | 1.0236 | 7.68 | \|V   Q |
| 7+10 | 1.0774 | 7.80 | \|V   Q |
| 7+15 | 1.1318 | 7.90 | \|V   Q |
| 7+20 | 1.1872 | 8.05 | \|V   Q |
| 7+25 | 1.2448 | 8.36 | \|V   Q |
| 7+30 | 1.3074 | 9.08 | \| V   Q |
| 7+35 | 1.3735 | 9.60 | \| V   Q |
| 7+40 | 1.4430 | 10.09 | \| V   Q |
| 7+45 | 1.5183 | 10.93 | \| V    Q |
| 7+50 | 1.5977 | 11.53 | \| V    Q |
| 7+55 | 1.6809 | 12.09 | \| V     Q |
| 8+ 0 | 1.7701 | 12.96 | \| V     Q |
| 8+ 5 | 1.8642 | 13.65 | \| V      Q\| |
| 8+10 | 1.9637 | 14.46 | \|  V     Q\| |
| 8+15 | 2.0739 | 15.99 | \|  V      Q |
| 8+20 | 2.1907 | 16.96 | \|  V      \|Q |
| 8+25 | 2.3110 | 17.47 | \|  V      \|Q |
| 8+30 | 2.4337 | 17.82 | \|  V      \|Q |
| 8+35 | 2.5587 | 18.15 | \|   V     \| Q |
| 8+40 | 2.6867 | 18.59 | \|   V     \| Q |
| 8+45 | 2.8202 | 19.39 | \|   V     \| Q |
| 8+50 | 2.9577 | 19.97 | \|   V     \|  Q |
| 8+55 | 3.0988 | 20.48 | \|   V     \|  Q |
| 9+ 0 | 3.2457 | 21.33 | \|    V    \|   Q |
| 9+ 5 | 3.3974 | 22.01 | \|    V    \|   Q |
| 9+10 | 3.5545 | 22.82 | \|    V    \|    Q |
| 9+15 | 3.7223 | 24.36 | \|    V    \|     Q |
| 9+20 | 3.8972 | 25.39 | \|     V   \|     Q |
| 9+25 | 4.0772 | 26.14 | \|     V   \|      Q |
| 9+30 | 4.2641 | 27.14 | \|     V   \|       Q |
| 9+35 | 4.4560 | 27.86 | \|      V  \|       Q |
| 9+40 | 4.6522 | 28.49 | \|      V  \|       Q |
| 9+45 | 4.8548 | 29.41 | \|      V  \|        Q\| |
| 9+50 | 5.0619 | 30.07 | \|       V \|         Q |
| 9+55 | 5.2730 | 30.65 | \|       V \|         Q |
| 10+ 0 | 5.4902 | 31.54 | \|       V \|          \|Q |



| | | | |
|---|---|---|---|
| 10+ 5 | 5.7083 | 31.67 | |
| 10+10 | 5.9166 | 30.25 | |
| 10+15 | 6.0951 | 25.91 | |
| 10+20 | 6.2554 | 23.29 | |
| 10+25 | 6.4077 | 22.10 | |
| 10+30 | 6.5546 | 21.34 | |
| 10+35 | 6.7002 | 21.13 | |
| 10+40 | 6.8517 | 22.00 | |
| 10+45 | 7.0241 | 25.04 | |
| 10+50 | 7.2094 | 26.90 | |
| 10+55 | 7.4009 | 27.81 | |
| 11+ 0 | 7.5966 | 28.42 | |
| 11+ 5 | 7.7949 | 28.80 | |
| 11+10 | 7.9938 | 28.87 | |
| 11+15 | 8.1896 | 28.43 | |
| 11+20 | 8.3837 | 28.19 | |
| 11+25 | 8.5771 | 28.09 | |
| 11+30 | 8.7703 | 28.05 | |
| 11+35 | 8.9625 | 27.91 | |
| 11+40 | 9.1514 | 27.42 | |
| 11+45 | 9.3315 | 26.15 | |
| 11+50 | 9.5067 | 25.44 | |
| 11+55 | 9.6814 | 25.36 | |
| 12+ 0 | 9.8591 | 25.80 | |
| 12+ 5 | 10.0417 | 26.51 | |
| 12+10 | 10.2370 | 28.36 | |
| 12+15 | 10.4643 | 33.01 | |
| 12+20 | 10.7118 | 35.94 | |
| 12+25 | 10.9706 | 37.58 | |
| 12+30 | 11.2404 | 39.17 | |
| 12+35 | 11.5184 | 40.37 | |
| 12+40 | 11.8045 | 41.53 | |
| 12+45 | 12.1027 | 43.30 | |
| 12+50 | 12.4090 | 44.48 | |
| 12+55 | 12.7209 | 45.29 | |
| 13+ 0 | 13.0401 | 46.34 | |
| 13+ 5 | 13.3662 | 47.36 | |
| 13+10 | 13.7037 | 49.00 | |
| 13+15 | 14.0658 | 52.57 | |
| 13+20 | 14.4430 | 54.78 | |
| 13+25 | 14.8278 | 55.87 | |
| 13+30 | 15.2175 | 56.59 | |
| 13+35 | 15.6060 | 56.40 | |
| 13+40 | 15.9782 | 54.05 | |
| 13+45 | 16.3028 | 47.13 | |
| 13+50 | 16.5984 | 42.92 | |
| 13+55 | 16.8805 | 40.97 | |
| 14+ 0 | 17.1539 | 39.69 | |
| 14+ 5 | 17.4229 | 39.06 | |
| 14+10 | 17.6945 | 39.44 | |
| 14+15 | 17.9814 | 41.66 | |
| 14+20 | 18.2772 | 42.95 | |
| 14+25 | 18.5759 | 43.37 | |
| 14+30 | 18.8731 | 43.16 | |
| 14+35 | 19.1698 | 43.08 | |
| 14+40 | 19.4667 | 43.12 | |
| 14+45 | 19.7638 | 43.13 | |
| 14+50 | 20.0606 | 43.09 | |
| 14+55 | 20.3556 | 42.84 | |
| 15+ 0 | 20.6464 | 42.22 | |
| 15+ 5 | 20.9341 | 41.79 | |
| 15+10 | 21.2193 | 41.40 | |
| 15+15 | 21.4994 | 40.67 | |
| 15+20 | 21.7760 | 40.16 | |
| 15+25 | 22.0494 | 39.71 | |
| 15+30 | 22.3174 | 38.92 | |
| 15+35 | 22.5804 | 38.18 | |
| 15+40 | 22.8349 | 36.95 | |
| 15+45 | 23.0704 | 34.20 | |
| 15+50 | 23.2944 | 32.52 | |
| 15+55 | 23.5129 | 31.72 | |
| 16+ 0 | 23.7278 | 31.21 | |
| 16+ 5 | 23.9336 | 29.89 | |
| 16+10 | 24.1121 | 25.92 | |
| 16+15 | 24.2221 | 15.97 | |
| 16+20 | 24.2903 | 9.90 | |
| 16+25 | 24.3389 | 7.06 | |
| 16+30 | 24.3747 | 5.20 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 16+35 | 24.4013 | 3.86 | \| Q | \| | \| | \| | V \| |
| 16+40 | 24.4209 | 2.84 | \|Q | \| | \| | \| | V \| |
| 16+45 | 24.4345 | 1.98 | \|Q | \| | \| | \| | V \| |
| 16+50 | 24.4444 | 1.43 | Q | \| | \| | \| | V \| |
| 16+55 | 24.4525 | 1.18 | Q | \| | \| | \| | V \| |
| 17+ 0 | 24.4595 | 1.02 | Q | \| | \| | \| | V \| |
| 17+ 5 | 24.4663 | 0.99 | Q | \| | \| | \| | V\| |
| 17+10 | 24.4749 | 1.25 | Q | \| | \| | \| | V\| |
| 17+15 | 24.4895 | 2.11 | \|Q | \| | \| | \| | V\| |
| 17+20 | 24.5078 | 2.66 | \|Q | \| | \| | \| | V\| |
| 17+25 | 24.5279 | 2.92 | \|Q | \| | \| | \| | V\| |
| 17+30 | 24.5494 | 3.12 | \| Q | \| | \| | \| | V\| |
| 17+35 | 24.5719 | 3.27 | \| Q | \| | \| | \| | V\| |
| 17+40 | 24.5953 | 3.39 | \| Q | \| | \| | \| | V\| |
| 17+45 | 24.6193 | 3.48 | \| Q | \| | \| | \| | V\| |
| 17+50 | 24.6433 | 3.48 | \| Q | \| | \| | \| | V\| |
| 17+55 | 24.6659 | 3.28 | \| Q | \| | \| | \| | V\| |
| 18+ 0 | 24.6842 | 2.67 | \|Q | \| | \| | \| | V\| |
| 18+ 5 | 24.7002 | 2.31 | \|Q | \| | \| | \| | V\| |
| 18+10 | 24.7150 | 2.16 | \|Q | \| | \| | \| | V\| |
| 18+15 | 24.7293 | 2.07 | \|Q | \| | \| | \| | V\| |
| 18+20 | 24.7432 | 2.02 | \|Q | \| | \| | \| | V\| |
| 18+25 | 24.7569 | 1.99 | \|Q | \| | \| | \| | V\| |
| 18+30 | 24.7705 | 1.98 | \|Q | \| | \| | \| | V\| |
| 18+35 | 24.7838 | 1.93 | \|Q | \| | \| | \| | V\| |
| 18+40 | 24.7960 | 1.76 | \|Q | \| | \| | \| | V\| |
| 18+45 | 24.8049 | 1.29 | Q | \| | \| | \| | V\| |
| 18+50 | 24.8117 | 0.99 | Q | \| | \| | \| | V\| |
| 18+55 | 24.8175 | 0.83 | Q | \| | \| | \| | V\| |
| 19+ 0 | 24.8221 | 0.68 | Q | \| | \| | \| | V\| |
| 19+ 5 | 24.8261 | 0.58 | Q | \| | \| | \| | V\| |
| 19+10 | 24.8298 | 0.54 | Q | \| | \| | \| | V\| |
| 19+15 | 24.8336 | 0.56 | Q | \| | \| | \| | V\| |
| 19+20 | 24.8380 | 0.63 | Q | \| | \| | \| | V\| |
| 19+25 | 24.8438 | 0.85 | Q | \| | \| | \| | V\| |
| 19+30 | 24.8536 | 1.42 | Q | \| | \| | \| | V\| |
| 19+35 | 24.8655 | 1.73 | \|Q | \| | \| | \| | V\| |
| 19+40 | 24.8771 | 1.68 | \|Q | \| | \| | \| | V\| |
| 19+45 | 24.8854 | 1.21 | Q | \| | \| | \| | V\| |
| 19+50 | 24.8918 | 0.93 | Q | \| | \| | \| | V\| |
| 19+55 | 24.8973 | 0.79 | Q | \| | \| | \| | V\| |
| 20+ 0 | 24.9018 | 0.65 | Q | \| | \| | \| | V\| |
| 20+ 5 | 24.9057 | 0.57 | Q | \| | \| | \| | V\| |
| 20+10 | 24.9093 | 0.53 | Q | \| | \| | \| | V\| |
| 20+15 | 24.9131 | 0.55 | Q | \| | \| | \| | V\| |
| 20+20 | 24.9170 | 0.57 | Q | \| | \| | \| | V\| |
| 20+25 | 24.9210 | 0.58 | Q | \| | \| | \| | V\| |
| 20+30 | 24.9252 | 0.60 | Q | \| | \| | \| | V\| |
| 20+35 | 24.9294 | 0.62 | Q | \| | \| | \| | V\| |
| 20+40 | 24.9339 | 0.64 | Q | \| | \| | \| | V\| |
| 20+45 | 24.9384 | 0.66 | Q | \| | \| | \| | V\| |
| 20+50 | 24.9430 | 0.67 | Q | \| | \| | \| | V\| |
| 20+55 | 24.9474 | 0.64 | Q | \| | \| | \| | V\| |
| 21+ 0 | 24.9511 | 0.54 | Q | \| | \| | \| | V\| |
| 21+ 5 | 24.9544 | 0.49 | Q | \| | \| | \| | V\| |
| 21+10 | 24.9580 | 0.51 | Q | \| | \| | \| | V\| |
| 21+15 | 24.9624 | 0.64 | Q | \| | \| | \| | V\| |
| 21+20 | 24.9672 | 0.71 | Q | \| | \| | \| | V\| |
| 21+25 | 24.9720 | 0.69 | Q | \| | \| | \| | V\| |
| 21+30 | 24.9758 | 0.56 | Q | \| | \| | \| | V\| |
| 21+35 | 24.9793 | 0.50 | Q | \| | \| | \| | V\| |
| 21+40 | 24.9830 | 0.54 | Q | \| | \| | \| | V\| |
| 21+45 | 24.9878 | 0.70 | Q | \| | \| | \| | V\| |
| 21+50 | 24.9933 | 0.79 | Q | \| | \| | \| | V\| |
| 21+55 | 24.9985 | 0.76 | Q | \| | \| | \| | V\| |
| 22+ 0 | 25.0027 | 0.60 | Q | \| | \| | \| | V\| |
| 22+ 5 | 25.0063 | 0.53 | Q | \| | \| | \| | V\| |
| 22+10 | 25.0102 | 0.57 | Q | \| | \| | \| | V\| |
| 22+15 | 25.0155 | 0.76 | Q | \| | \| | \| | V\| |
| 22+20 | 25.0214 | 0.86 | Q | \| | \| | \| | V\| |
| 22+25 | 25.0271 | 0.83 | Q | \| | \| | \| | V\| |
| 22+30 | 25.0316 | 0.64 | Q | \| | \| | \| | V\| |
| 22+35 | 25.0352 | 0.53 | Q | \| | \| | \| | V\| |
| 22+40 | 25.0386 | 0.49 | Q | \| | \| | \| | V\| |
| 22+45 | 25.0417 | 0.46 | Q | \| | \| | \| | V\| |
| 22+50 | 25.0447 | 0.44 | Q | \| | \| | \| | V\| |
| 22+55 | 25.0476 | 0.42 | Q | \| | \| | \| | V\| |
| 23+ 0 | 25.0504 | 0.41 | Q | \| | \| | \| | V\| |

```
   23+ 5      25.0531      0.40  Q          |          |          |         V|
   23+10      25.0559      0.39  Q          |          |          |         V|
   23+15      25.0586      0.39  Q          |          |          |         V|
   23+20      25.0613      0.39  Q          |          |          |         V|
   23+25      25.0640      0.39  Q          |          |          |         V|
   23+30      25.0667      0.39  Q          |          |          |         V|
   23+35      25.0693      0.39  Q          |          |          |         V|
   23+40      25.0720      0.39  Q          |          |          |         V|
   23+45      25.0747      0.39  Q          |          |          |         V|
   23+50      25.0774      0.39  Q          |          |          |         V|
   23+55      25.0800      0.39  Q          |          |          |         V|
   24+ 0      25.0827      0.39  Q          |          |          |         V|
   24+ 5      25.0853      0.38  Q          |          |          |         V|
   24+10      25.0875      0.33  Q          |          |          |         V|
   24+15      25.0889      0.19  Q          |          |          |         V|
   24+20      25.0897      0.11  Q          |          |          |         V|
   24+25      25.0902      0.08  Q          |          |          |         V|
   24+30      25.0906      0.05  Q          |          |          |         V|
   24+35      25.0908      0.04  Q          |          |          |         V|
   24+40      25.0909      0.02  Q          |          |          |         V|
   24+45      25.0910      0.01  Q          |          |          |         V|
   24+50      25.0911      0.01  Q          |          |          |         V|
   24+55      25.0912      0.01  Q          |          |          |         V|
   25+ 0      25.0912      0.00  Q          |          |          |         V|
   25+ 5      25.0912      0.00  Q          |          |          |         V|
   25+10      25.0912      0.00  Q          |          |          |         V|
   25+15      25.0912      0.00  Q          |          |          |         V|
   25+20      25.0912      0.00  Q          |          |          |          V
-------------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 03/29/18 File: EX81100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 8
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 115.50(Ac.) = 0.180 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 115.50(Ac.) = 0.180 Sq. Mi.
Length along longest watercourse = 3982.00(Ft.)
Length along longest watercourse measured to centroid = 1842.00(Ft.)
Length along longest watercourse = 0.754 Mi.
Length along longest watercourse measured to centroid = 0.349 Mi.
Difference in elevation = 652.00(Ft.)
Slope along watercourse = 864.5304 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.140 Hr.
Lag time = 8.40 Min.
25% of lag time = 2.10 Min.
40% of lag time = 3.36 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 115.50 | 0.50 | 57.75 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 115.50 | 1.20 | 138.60 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.90 %
Adjusted average point rain = 1.199(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 115.500 | 83.55 | 0.000 |

Total Area Entered = 115.50(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.5 | 93.1 | 0.089 | 0.000 | 0.089 | 1.000 | 0.089 |
| | | | | | Sum (F) = | 0.089 |

Area averaged mean soil loss (F) (In/Hr) = 0.089

Minimum soil loss rate ((In/Hr)) = 0.045
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 59.550 | 5.529 | 6.436 |
| 2 | 0.167 | 119.100 | 31.144 | 36.252 |
| 3 | 0.250 | 178.650 | 34.282 | 39.905 |
| 4 | 0.333 | 238.200 | 12.470 | 14.516 |
| 5 | 0.417 | 297.749 | 7.203 | 8.384 |
| 6 | 0.500 | 357.299 | 4.389 | 5.109 |
| 7 | 0.583 | 416.849 | 2.451 | 2.853 |
| 8 | 0.667 | 476.399 | 0.979 | 1.140 |
| 9 | 0.750 | 535.949 | 0.571 | 0.664 |
| 10 | 0.833 | 595.499 | 0.411 | 0.478 |
| 11 | 0.917 | 655.049 | 0.371 | 0.432 |
| 12 | 1.000 | 714.599 | 0.200 | 0.233 |
| | | Sum = 100.000 | Sum= | 116.402 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.604 | 0.089 | ( 0.544) | 0.515 |
| 2 | 0.17 | 4.30 | 0.619 | 0.089 | ( 0.557) | 0.529 |
| 3 | 0.25 | 5.00 | 0.719 | 0.089 | ( 0.647) | 0.630 |
| 4 | 0.33 | 5.00 | 0.719 | 0.089 | ( 0.647) | 0.630 |
| 5 | 0.42 | 5.80 | 0.834 | 0.089 | ( 0.751) | 0.745 |
| 6 | 0.50 | 6.50 | 0.935 | 0.089 | ( 0.842) | 0.846 |
| 7 | 0.58 | 7.40 | 1.064 | 0.089 | ( 0.958) | 0.975 |
| 8 | 0.67 | 8.60 | 1.237 | 0.089 | ( 1.113) | 1.148 |
| 9 | 0.75 | 12.30 | 1.769 | 0.089 | ( 1.592) | 1.680 |
| 10 | 0.83 | 29.10 | 4.186 | 0.089 | ( 3.767) | 4.097 |
| 11 | 0.92 | 6.80 | 0.978 | 0.089 | ( 0.880) | 0.889 |
| 12 | 1.00 | 5.00 | 0.719 | 0.089 | ( 0.647) | 0.630 |
| | (Loss Rate Not Used) | | | | | |
| Sum = | 100.0 | | | | Sum = | 13.3 |

Flood volume = Effective rainfall 1.11(In)
times area 115.5(Ac.)/[(In)/(Ft.)] = 10.7(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.860(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 465146.8 Cubic Feet
Total soil loss = 37444.6 Cubic Feet

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Peak flow rate of this hydrograph = 254.303(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 75.0 | 150.0 | 225.0 | 300.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0228 | 3.32 | Q | | | | |
| 0+10 | 0.1749 | 22.08 | V Q | | | | |
| 0+15 | 0.4766 | 43.81 | \|V Q | | | | |
| 0+20 | 0.8589 | 55.51 | \| V Q | | | | |
| 0+25 | 1.3052 | 64.80 | \| V Q | | | | |
| 0+30 | 1.8138 | 73.84 | \| V Q\| | | | | |
| 0+35 | 2.4013 | 85.31 | \| V \|Q | | | | |
| 0+40 | 3.0759 | 97.95 | \| \|V Q | | | | |
| 0+45 | 3.8739 | 115.88 | \| \| VQ | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 03/29/18 File: EX83100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 8
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 115.50(Ac.) = 0.180 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 115.50(Ac.) = 0.180 Sq. Mi.
Length along longest watercourse = 3982.00(Ft.)
Length along longest watercourse measured to centroid = 1842.00(Ft.)
Length along longest watercourse = 0.754 Mi.
Length along longest watercourse measured to centroid = 0.349 Mi.
Difference in elevation = 652.00(Ft.)
Slope along watercourse = 864.5304 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.140 Hr.
Lag time = 8.40 Min.
25% of lag time = 2.10 Min.
40% of lag time = 3.36 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 115.50 | 0.80 | 92.40 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 115.50 | 1.81 | 209.06 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.810(In)

Point rain (area averaged) = 1.810(In)
Areal adjustment factor = 99.95 %
Adjusted average point rain = 1.809(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 115.500 | 83.55 | 0.000 |

Total Area Entered = 115.50(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.5 | 93.1 | 0.089 | 0.000 | 0.089 | 1.000 | 0.089 |
| | | | | | Sum (F) = | 0.089 |

Area averaged mean soil loss (F) (In/Hr) = 0.089

Minimum soil loss rate ((In/Hr)) = 0.045
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 59.550 | 5.529 | 6.436 |
| 2 0.167 | 119.100 | 31.144 | 36.252 |
| 3 0.250 | 178.650 | 34.282 | 39.905 |
| 4 0.333 | 238.200 | 12.470 | 14.516 |
| 5 0.417 | 297.749 | 7.203 | 8.384 |
| 6 0.500 | 357.299 | 4.389 | 5.109 |
| 7 0.583 | 416.849 | 2.451 | 2.853 |
| 8 0.667 | 476.399 | 0.979 | 1.140 |
| 9 0.750 | 535.949 | 0.571 | 0.664 |
| 10 0.833 | 595.499 | 0.411 | 0.478 |
| 11 0.917 | 655.049 | 0.371 | 0.432 |
| 12 1.000 | 714.599 | 0.200 | 0.233 |
| | | Sum = 100.000 | Sum= 116.402 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 1.30 | 0.282 | 0.089 | ( 0.254) | 0.193 |
| 2 0.17 | 1.30 | 0.282 | 0.089 | ( 0.254) | 0.193 |
| 3 0.25 | 1.10 | 0.239 | 0.089 | ( 0.215) | 0.149 |
| 4 0.33 | 1.50 | 0.326 | 0.089 | ( 0.293) | 0.236 |
| 5 0.42 | 1.50 | 0.326 | 0.089 | ( 0.293) | 0.236 |
| 6 0.50 | 1.80 | 0.391 | 0.089 | ( 0.352) | 0.301 |
| 7 0.58 | 1.50 | 0.326 | 0.089 | ( 0.293) | 0.236 |
| 8 0.67 | 1.80 | 0.391 | 0.089 | ( 0.352) | 0.301 |
| 9 0.75 | 1.80 | 0.391 | 0.089 | ( 0.352) | 0.301 |
| 10 0.83 | 1.50 | 0.326 | 0.089 | ( 0.293) | 0.236 |
| 11 0.92 | 1.60 | 0.347 | 0.089 | ( 0.313) | 0.258 |
| 12 1.00 | 1.80 | 0.391 | 0.089 | ( 0.352) | 0.301 |
| 13 1.08 | 2.20 | 0.478 | 0.089 | ( 0.430) | 0.388 |
| 14 1.17 | 2.20 | 0.478 | 0.089 | ( 0.430) | 0.388 |
| 15 1.25 | 2.20 | 0.478 | 0.089 | ( 0.430) | 0.388 |
| 16 1.33 | 2.00 | 0.434 | 0.089 | ( 0.391) | 0.345 |
| 17 1.42 | 2.60 | 0.564 | 0.089 | ( 0.508) | 0.475 |
| 18 1.50 | 2.70 | 0.586 | 0.089 | ( 0.528) | 0.497 |
| 19 1.58 | 2.40 | 0.521 | 0.089 | ( 0.469) | 0.432 |
| 20 1.67 | 2.70 | 0.586 | 0.089 | ( 0.528) | 0.497 |
| 21 1.75 | 3.30 | 0.716 | 0.089 | ( 0.645) | 0.627 |
| 22 1.83 | 3.10 | 0.673 | 0.089 | ( 0.606) | 0.584 |
| 23 1.92 | 2.90 | 0.630 | 0.089 | ( 0.567) | 0.540 |
| 24 2.00 | 3.00 | 0.651 | 0.089 | ( 0.586) | 0.562 |
| 25 2.08 | 3.10 | 0.673 | 0.089 | ( 0.606) | 0.584 |
| 26 2.17 | 4.20 | 0.912 | 0.089 | ( 0.821) | 0.822 |
| 27 2.25 | 5.00 | 1.085 | 0.089 | ( 0.977) | 0.996 |
| 28 2.33 | 3.50 | 0.760 | 0.089 | ( 0.684) | 0.671 |
| 29 2.42 | 6.80 | 1.476 | 0.089 | ( 1.329) | 1.387 |
| 30 2.50 | 7.30 | 1.585 | 0.089 | ( 1.426) | 1.495 |
| 31 2.58 | 8.20 | 1.780 | 0.089 | ( 1.602) | 1.691 |
| 32 2.67 | 5.90 | 1.281 | 0.089 | ( 1.153) | 1.192 |
| 33 2.75 | 2.00 | 0.434 | 0.089 | ( 0.391) | 0.345 |
| 34 2.83 | 1.80 | 0.391 | 0.089 | ( 0.352) | 0.301 |
| 35 2.92 | 1.80 | 0.391 | 0.089 | ( 0.352) | 0.301 |
| 36 3.00 | 0.60 | 0.130 | 0.089 | ( 0.117) | 0.041 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 18.5 |

Flood volume = Effective rainfall 1.54(In)
times area 115.5(Ac.)/[(In)/(Ft.)] = 14.8(Ac.Ft)
Total soil loss = 0.27(In)
Total soil loss = 2.579(Ac.Ft)
Total rainfall = 1.81(In)
Flood volume = 646152.5 Cubic Feet

Total soil loss = 112333.7 Cubic Feet

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Peak flow rate of this hydrograph = 163.610(CFS)

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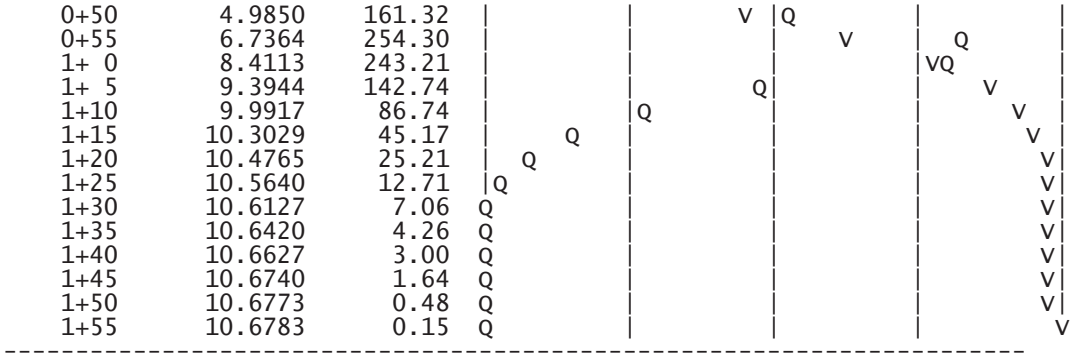
3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 50.0 100.0 150.0 200.0 |
|---|---|---|---|
| 0+ 5 | 0.0086 | 1.24 | Q |
| 0+10 | 0.0653 | 8.24 | VQ |
| 0+15 | 0.1732 | 15.66 | V Q |
| 0+20 | 0.2933 | 17.45 | V Q |
| 0+25 | 0.4344 | 20.48 | V Q |
| 0+30 | 0.6047 | 24.72 | V Q |
| 0+35 | 0.7983 | 28.11 | V Q |
| 0+40 | 1.0014 | 29.50 | V Q |
| 0+45 | 1.2125 | 30.65 | V Q |
| 0+50 | 1.4379 | 32.73 | V Q |
| 0+55 | 1.6541 | 31.39 | V Q |
| 1+ 0 | 1.8630 | 30.34 | VQ |
| 1+ 5 | 2.0878 | 32.64 | VQ |
| 1+10 | 2.3459 | 37.47 | VQ |
| 1+15 | 2.6317 | 41.50 | VQ |
| 1+20 | 2.9265 | 42.81 | VQ |
| 1+25 | 3.2229 | 43.03 | Q |
| 1+30 | 3.5447 | 46.72 | Q |
| 1+35 | 3.9025 | 51.96 | Q |
| 1+40 | 4.2642 | 52.52 | QV |
| 1+45 | 4.6387 | 54.38 | Q V |
| 1+50 | 5.0607 | 61.27 | QV |
| 1+55 | 5.5118 | 65.49 | QV |
| 2+ 0 | 5.9569 | 64.63 | Q V |
| 2+ 5 | 6.4013 | 64.53 | Q V |
| 2+10 | 6.8666 | 67.56 | Q V |
| 2+15 | 7.4064 | 78.39 | Q V |
| 2+20 | 8.0434 | 92.48 | Q V |
| 2+25 | 8.7038 | 95.90 | Q V |
| 2+30 | 9.4909 | 114.28 | Q V |
| 2+35 | 10.4973 | 146.13 | VQ |
| 2+40 | 11.6241 | 163.61 | VQ |
| 2+45 | 12.6884 | 154.53 | Q V |
| 2+50 | 13.4491 | 110.46 | Q V |
| 2+55 | 13.9446 | 71.94 | Q V |
| 3+ 0 | 14.3175 | 54.14 | Q V |
| 3+ 5 | 14.5604 | 35.28 | Q V |
| 3+10 | 14.6831 | 17.81 | Q V |
| 3+15 | 14.7492 | 9.60 | Q V |
| 3+20 | 14.7886 | 5.71 | Q V |
| 3+25 | 14.8112 | 3.29 | Q V |
| 3+30 | 14.8232 | 1.73 | Q V |
| 3+35 | 14.8288 | 0.82 | Q V |
| 3+40 | 14.8314 | 0.38 | Q V |
| 3+45 | 14.8329 | 0.22 | Q V |
| 3+50 | 14.8336 | 0.09 | Q V |
| 3+55 | 14.8336 | 0.01 | Q V |


0+50 4.9850 161.32
0+55 6.7364 254.30
1+ 0 8.4113 243.21
1+ 5 9.3944 142.74
1+10 9.9917 86.74
1+15 10.3029 45.17
1+20 10.4765 25.21
1+25 10.5640 12.71
1+30 10.6127 7.06
1+35 10.6420 4.26
1+40 10.6627 3.00
1+45 10.6740 1.64
1+50 10.6773 0.48
1+55 10.6783 0.15

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 03/29/18 File: EX86100.out

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Lag time = 8.40 Min.
25% of lag time = 2.10 Min.
40% of lag time = 3.36 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 115.50 | 1.13 | 130.51 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 115.50 | 2.50 | 288.75 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.130(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 99.96 %
Adjusted average point rain = 2.499(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 115.500 | 83.55 | 0.000 |

Total Area Entered = 115.50(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.5 | 93.1 | 0.089 | 0.000 | 0.089 | 1.000 | 0.089 |
| | | | | | Sum (F) = | 0.089 |

Area averaged mean soil loss (F) (In/Hr) = 0.089

Minimum soil loss rate ((In/Hr)) = 0.045
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
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| 2 0.167 | 119.100 | 31.144 | 36.252 |
| 3 0.250 | 178.650 | 34.282 | 39.905 |
| 4 0.333 | 238.200 | 12.470 | 14.516 |
| 5 0.417 | 297.749 | 7.203 | 8.384 |
| 6 0.500 | 357.299 | 4.389 | 5.109 |
| 7 0.583 | 416.849 | 2.451 | 2.853 |
| 8 0.667 | 476.399 | 0.979 | 1.140 |
| 9 0.750 | 535.949 | 0.571 | 0.664 |
| 10 0.833 | 595.499 | 0.411 | 0.478 |
| 11 0.917 | 655.049 | 0.371 | 0.432 |
| 12 1.000 | 714.599 | 0.200 | 0.233 |
| | | Sum = 100.000 | Sum= 116.402 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 0.50 | 0.150 | 0.089 | ( 0.135) | 0.061 |
| 2 0.17 | 0.60 | 0.180 | 0.089 | ( 0.162) | 0.091 |
| 3 0.25 | 0.60 | 0.180 | 0.089 | ( 0.162) | 0.091 |
| 4 0.33 | 0.60 | 0.180 | 0.089 | ( 0.162) | 0.091 |
| 5 0.42 | 0.60 | 0.180 | 0.089 | ( 0.162) | 0.091 |
| 6 0.50 | 0.70 | 0.210 | 0.089 | ( 0.189) | 0.121 |
| 7 0.58 | 0.70 | 0.210 | 0.089 | ( 0.189) | 0.121 |
| 8 0.67 | 0.70 | 0.210 | 0.089 | ( 0.189) | 0.121 |
| 9 0.75 | 0.70 | 0.210 | 0.089 | ( 0.189) | 0.121 |
| 10 0.83 | 0.70 | 0.210 | 0.089 | ( 0.189) | 0.121 |
| 11 0.92 | 0.70 | 0.210 | 0.089 | ( 0.189) | 0.121 |
| 12 1.00 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 13 1.08 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 14 1.17 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 15 1.25 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 16 1.33 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 17 1.42 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 18 1.50 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 19 1.58 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 20 1.67 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 21 1.75 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 22 1.83 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 23 1.92 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 24 2.00 | 0.90 | 0.270 | 0.089 | ( 0.243) | 0.181 |
| 25 2.08 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 26 2.17 | 0.90 | 0.270 | 0.089 | ( 0.243) | 0.181 |
| 27 2.25 | 0.90 | 0.270 | 0.089 | ( 0.243) | 0.181 |
| 28 2.33 | 0.90 | 0.270 | 0.089 | ( 0.243) | 0.181 |
| 29 2.42 | 0.90 | 0.270 | 0.089 | ( 0.243) | 0.181 |
| 30 2.50 | 0.90 | 0.270 | 0.089 | ( 0.243) | 0.181 |
| 31 2.58 | 0.90 | 0.270 | 0.089 | ( 0.243) | 0.181 |
| 32 2.67 | 0.90 | 0.270 | 0.089 | ( 0.243) | 0.181 |
| 33 2.75 | 1.00 | 0.300 | 0.089 | ( 0.270) | 0.211 |
| 34 2.83 | 1.00 | 0.300 | 0.089 | ( 0.270) | 0.211 |
| 35 2.92 | 1.00 | 0.300 | 0.089 | ( 0.270) | 0.211 |
| 36 3.00 | 1.00 | 0.300 | 0.089 | ( 0.270) | 0.211 |
| 37 3.08 | 1.00 | 0.300 | 0.089 | ( 0.270) | 0.211 |
| 38 3.17 | 1.10 | 0.330 | 0.089 | ( 0.297) | 0.241 |
| 39 3.25 | 1.10 | 0.330 | 0.089 | ( 0.297) | 0.241 |
| 40 3.33 | 1.10 | 0.330 | 0.089 | ( 0.297) | 0.241 |
| 41 3.42 | 1.20 | 0.360 | 0.089 | ( 0.324) | 0.271 |
| 42 3.50 | 1.30 | 0.390 | 0.089 | ( 0.351) | 0.301 |
| 43 3.58 | 1.40 | 0.420 | 0.089 | ( 0.378) | 0.331 |
| 44 3.67 | 1.40 | 0.420 | 0.089 | ( 0.378) | 0.331 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 45 | 3.75 | 1.50 | 0.450 | 0.089 | ( 0.405) | 0.361 | |
| 46 | 3.83 | 1.50 | 0.450 | 0.089 | ( 0.405) | 0.361 | |
| 47 | 3.92 | 1.60 | 0.480 | 0.089 | ( 0.432) | 0.390 | |
| 48 | 4.00 | 1.60 | 0.480 | 0.089 | ( 0.432) | 0.390 | |
| 49 | 4.08 | 1.70 | 0.510 | 0.089 | ( 0.459) | 0.420 | |
| 50 | 4.17 | 1.80 | 0.540 | 0.089 | ( 0.486) | 0.450 | |
| 51 | 4.25 | 1.90 | 0.570 | 0.089 | ( 0.513) | 0.480 | |
| 52 | 4.33 | 2.00 | 0.600 | 0.089 | ( 0.540) | 0.510 | |
| 53 | 4.42 | 2.10 | 0.630 | 0.089 | ( 0.567) | 0.540 | |
| 54 | 4.50 | 2.10 | 0.630 | 0.089 | ( 0.567) | 0.540 | |
| 55 | 4.58 | 2.20 | 0.660 | 0.089 | ( 0.594) | 0.570 | |
| 56 | 4.67 | 2.30 | 0.690 | 0.089 | ( 0.621) | 0.600 | |
| 57 | 4.75 | 2.40 | 0.720 | 0.089 | ( 0.648) | 0.630 | |
| 58 | 4.83 | 2.40 | 0.720 | 0.089 | ( 0.648) | 0.630 | |
| 59 | 4.92 | 2.50 | 0.750 | 0.089 | ( 0.675) | 0.660 | |
| 60 | 5.00 | 2.60 | 0.780 | 0.089 | ( 0.702) | 0.690 | |
| 61 | 5.08 | 3.10 | 0.930 | 0.089 | ( 0.837) | 0.840 | |
| 62 | 5.17 | 3.60 | 1.080 | 0.089 | ( 0.972) | 0.990 | |
| 63 | 5.25 | 3.90 | 1.170 | 0.089 | ( 1.053) | 1.080 | |
| 64 | 5.33 | 4.20 | 1.259 | 0.089 | ( 1.134) | 1.170 | |
| 65 | 5.42 | 4.70 | 1.409 | 0.089 | ( 1.268) | 1.320 | |
| 66 | 5.50 | 5.60 | 1.679 | 0.089 | ( 1.511) | 1.590 | |
| 67 | 5.58 | 1.90 | 0.570 | 0.089 | ( 0.513) | 0.480 | |
| 68 | 5.67 | 0.90 | 0.270 | 0.089 | ( 0.243) | 0.181 | |
| 69 | 5.75 | 0.60 | 0.180 | 0.089 | ( 0.162) | 0.091 | |
| 70 | 5.83 | 0.50 | 0.150 | 0.089 | ( 0.135) | 0.061 | |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.089) | 0.081 | 0.009 | |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.089) | 0.054 | 0.006 | |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.6

Flood volume = Effective rainfall 1.97(In)
times area 115.5(Ac.)/[(In)/(Ft.)] = 18.9(Ac.Ft)
Total soil loss = 0.53(In)
Total soil loss = 5.123(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 824604.9 Cubic Feet
Total soil loss = 223141.4 Cubic Feet

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Peak flow rate of this hydrograph = 148.930(CFS)

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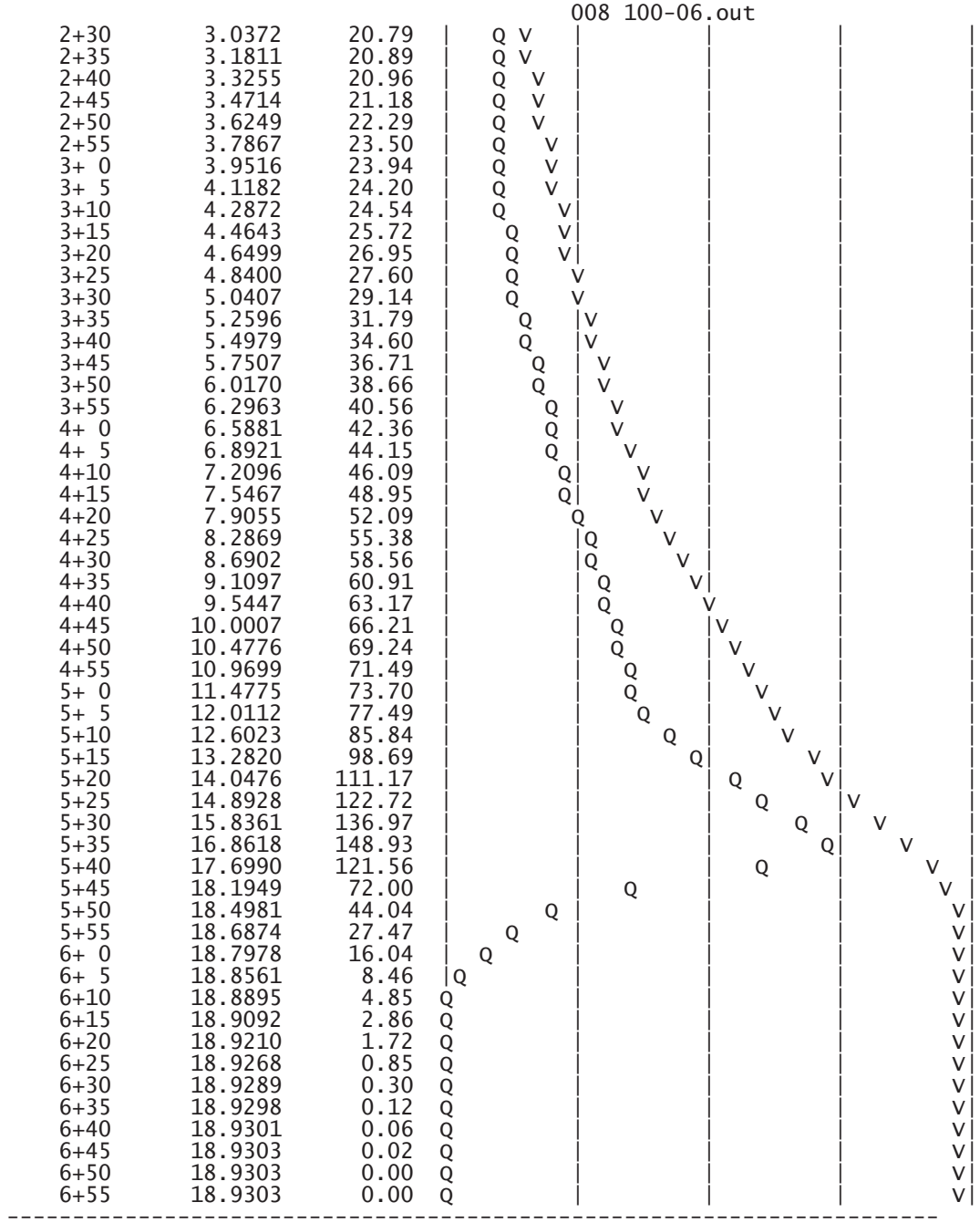
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 50.0 | 100.0 | 150.0 | 200.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0027 | 0.39 | Q | | | | |
| 0+10 | 0.0219 | 2.78 | Q | | | | |
| 0+15 | 0.0652 | 6.29 | VQ | | | | |
| 0+20 | 0.1228 | 8.37 | VQ | | | | |
| 0+25 | 0.1870 | 9.31 | VQ | | | | |
| 0+30 | 0.2563 | 10.07 | V Q | | | | |
| 0+35 | 0.3354 | 11.48 | V Q | | | | |
| 0+40 | 0.4238 | 12.83 | V Q | | | | |
| 0+45 | 0.5157 | 13.34 | \|VQ | | | | |
| 0+50 | 0.6096 | 13.64 | \|VQ | | | | |
| 0+55 | 0.7049 | 13.84 | \|VQ | | | | |
| 1+ 0 | 0.8023 | 14.14 | \|VQ | | | | |
| 1+ 5 | 0.9075 | 15.27 | \|V Q | | | | |
| 1+10 | 1.0211 | 16.49 | \| VQ | | | | |
| 1+15 | 1.1377 | 16.94 | \| VQ | | | | |
| 1+20 | 1.2562 | 17.20 | \| VQ | | | | |
| 1+25 | 1.3758 | 17.36 | \| VQ | | | | |
| 1+30 | 1.4960 | 17.45 | \| Q | | | | |
| 1+35 | 1.6164 | 17.48 | \| Q | | | | |
| 1+40 | 1.7370 | 17.50 | \| Q | | | | |
| 1+45 | 1.8576 | 17.52 | \| Q | | | | |
| 1+50 | 1.9784 | 17.53 | \| QV | | | | |
| 1+55 | 2.0992 | 17.54 | \| QV | | | | |
| 2+ 0 | 2.2213 | 17.73 | \| QV | | | | |
| 2+ 5 | 2.3496 | 18.63 | \| QV | | | | |
| 2+10 | 2.4799 | 18.93 | \| Q V | | | | |
| 2+15 | 2.6125 | 19.25 | \| Q V | | | | |
| 2+20 | 2.7521 | 20.27 | \| QV | | | | |
| 2+25 | 2.8940 | 20.61 | \| Q V | | | | |



| | | | |
|---|---|---|---|
| 2+30 | 3.0372 | 20.79 | |
| 2+35 | 3.1811 | 20.89 | |
| 2+40 | 3.3255 | 20.96 | |
| 2+45 | 3.4714 | 21.18 | |
| 2+50 | 3.6249 | 22.29 | |
| 2+55 | 3.7867 | 23.50 | |
| 3+ 0 | 3.9516 | 23.94 | |
| 3+ 5 | 4.1182 | 24.20 | |
| 3+10 | 4.2872 | 24.54 | |
| 3+15 | 4.4643 | 25.72 | |
| 3+20 | 4.6499 | 26.95 | |
| 3+25 | 4.8400 | 27.60 | |
| 3+30 | 5.0407 | 29.14 | |
| 3+35 | 5.2596 | 31.79 | |
| 3+40 | 5.4979 | 34.60 | |
| 3+45 | 5.7507 | 36.71 | |
| 3+50 | 6.0170 | 38.66 | |
| 3+55 | 6.2963 | 40.56 | |
| 4+ 0 | 6.5881 | 42.36 | |
| 4+ 5 | 6.8921 | 44.15 | |
| 4+10 | 7.2096 | 46.09 | |
| 4+15 | 7.5467 | 48.95 | |
| 4+20 | 7.9055 | 52.09 | |
| 4+25 | 8.2869 | 55.38 | |
| 4+30 | 8.6902 | 58.56 | |
| 4+35 | 9.1097 | 60.91 | |
| 4+40 | 9.5447 | 63.17 | |
| 4+45 | 10.0007 | 66.21 | |
| 4+50 | 10.4776 | 69.24 | |
| 4+55 | 10.9699 | 71.49 | |
| 5+ 0 | 11.4775 | 73.70 | |
| 5+ 5 | 12.0112 | 77.49 | |
| 5+10 | 12.6023 | 85.84 | |
| 5+15 | 13.2820 | 98.69 | |
| 5+20 | 14.0476 | 111.17 | |
| 5+25 | 14.8928 | 122.72 | |
| 5+30 | 15.8361 | 136.97 | |
| 5+35 | 16.8618 | 148.93 | |
| 5+40 | 17.6990 | 121.56 | |
| 5+45 | 18.1949 | 72.00 | |
| 5+50 | 18.4981 | 44.04 | |
| 5+55 | 18.6874 | 27.47 | |
| 6+ 0 | 18.7978 | 16.04 | |
| 6+ 5 | 18.8561 | 8.46 | |
| 6+10 | 18.8895 | 4.85 | |
| 6+15 | 18.9092 | 2.86 | |
| 6+20 | 18.9210 | 1.72 | |
| 6+25 | 18.9268 | 0.85 | |
| 6+30 | 18.9289 | 0.30 | |
| 6+35 | 18.9298 | 0.12 | |
| 6+40 | 18.9301 | 0.06 | |
| 6+45 | 18.9303 | 0.02 | |
| 6+50 | 18.9303 | 0.00 | |
| 6+55 | 18.9303 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 03/29/18 File: EX824100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 8
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 115.50(Ac.) = 0.180 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 115.50(Ac.) = 0.180 Sq. Mi.
Length along longest watercourse = 3982.00(Ft.)
Length along longest watercourse measured to centroid = 1842.00(Ft.)
Length along longest watercourse = 0.754 Mi.
Length along longest watercourse measured to centroid = 0.349 Mi.
Difference in elevation = 652.00(Ft.)
Slope along watercourse = 864.5304 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.140 Hr.
Lag time = 8.40 Min.
25% of lag time = 2.10 Min.
40% of lag time = 3.36 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 115.50 | 1.80 | 207.90 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 115.50 | 4.63 | 534.76 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.630(In)

Point rain (area averaged) = 4.630(In)
Areal adjustment factor = 99.98 %
Adjusted average point rain = 4.629(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 115.500 | 83.55 | 0.000 |

Total Area Entered = 115.50(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.5 | 93.1 | 0.089 | 0.000 | 0.089 | 1.000 | 0.089 |
| | | | | | Sum (F) = | 0.089 |

Area averaged mean soil loss (F) (In/Hr) = 0.089

Minimum soil loss rate ((In/Hr)) = 0.045
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 59.550 | 5.529 | 6.436 |
| 2 | 0.167 | 119.100 | 31.144 | 36.252 |
| 3 | 0.250 | 178.650 | 34.282 | 39.905 |
| 4 | 0.333 | 238.200 | 12.470 | 14.516 |
| 5 | 0.417 | 297.749 | 7.203 | 8.384 |
| 6 | 0.500 | 357.299 | 4.389 | 5.109 |
| 7 | 0.583 | 416.849 | 2.451 | 2.853 |
| 8 | 0.667 | 476.399 | 0.979 | 1.140 |
| 9 | 0.750 | 535.949 | 0.571 | 0.664 |
| 10 | 0.833 | 595.499 | 0.411 | 0.478 |
| 11 | 0.917 | 655.049 | 0.371 | 0.432 |
| 12 | 1.000 | 714.599 | 0.200 | 0.233 |
| | | | Sum = 100.000 | Sum= 116.402 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.037 | ( 0.158) | 0.033 | 0.004 |
| 2 | 0.17 | 0.07 | 0.037 | ( 0.158) | 0.033 | 0.004 |
| 3 | 0.25 | 0.07 | 0.037 | ( 0.157) | 0.033 | 0.004 |
| 4 | 0.33 | 0.10 | 0.056 | ( 0.156) | 0.050 | 0.006 |
| 5 | 0.42 | 0.10 | 0.056 | ( 0.156) | 0.050 | 0.006 |
| 6 | 0.50 | 0.10 | 0.056 | ( 0.155) | 0.050 | 0.006 |
| 7 | 0.58 | 0.10 | 0.056 | ( 0.155) | 0.050 | 0.006 |
| 8 | 0.67 | 0.10 | 0.056 | ( 0.154) | 0.050 | 0.006 |
| 9 | 0.75 | 0.10 | 0.056 | ( 0.153) | 0.050 | 0.006 |
| 10 | 0.83 | 0.13 | 0.074 | ( 0.153) | 0.067 | 0.007 |
| 11 | 0.92 | 0.13 | 0.074 | ( 0.152) | 0.067 | 0.007 |
| 12 | 1.00 | 0.13 | 0.074 | ( 0.152) | 0.067 | 0.007 |
| 13 | 1.08 | 0.10 | 0.056 | ( 0.151) | 0.050 | 0.006 |
| 14 | 1.17 | 0.10 | 0.056 | ( 0.150) | 0.050 | 0.006 |
| 15 | 1.25 | 0.10 | 0.056 | ( 0.150) | 0.050 | 0.006 |
| 16 | 1.33 | 0.10 | 0.056 | ( 0.149) | 0.050 | 0.006 |
| 17 | 1.42 | 0.10 | 0.056 | ( 0.149) | 0.050 | 0.006 |
| 18 | 1.50 | 0.10 | 0.056 | ( 0.148) | 0.050 | 0.006 |
| 19 | 1.58 | 0.10 | 0.056 | ( 0.147) | 0.050 | 0.006 |
| 20 | 1.67 | 0.10 | 0.056 | ( 0.147) | 0.050 | 0.006 |
| 21 | 1.75 | 0.10 | 0.056 | ( 0.146) | 0.050 | 0.006 |
| 22 | 1.83 | 0.13 | 0.074 | ( 0.146) | 0.067 | 0.007 |
| 23 | 1.92 | 0.13 | 0.074 | ( 0.145) | 0.067 | 0.007 |
| 24 | 2.00 | 0.13 | 0.074 | ( 0.145) | 0.067 | 0.007 |
| 25 | 2.08 | 0.13 | 0.074 | ( 0.144) | 0.067 | 0.007 |
| 26 | 2.17 | 0.13 | 0.074 | ( 0.143) | 0.067 | 0.007 |
| 27 | 2.25 | 0.13 | 0.074 | ( 0.143) | 0.067 | 0.007 |
| 28 | 2.33 | 0.13 | 0.074 | ( 0.142) | 0.067 | 0.007 |
| 29 | 2.42 | 0.13 | 0.074 | ( 0.142) | 0.067 | 0.007 |
| 30 | 2.50 | 0.13 | 0.074 | ( 0.141) | 0.067 | 0.007 |
| 31 | 2.58 | 0.17 | 0.093 | ( 0.140) | 0.083 | 0.009 |
| 32 | 2.67 | 0.17 | 0.093 | ( 0.140) | 0.083 | 0.009 |
| 33 | 2.75 | 0.17 | 0.093 | ( 0.139) | 0.083 | 0.009 |
| 34 | 2.83 | 0.17 | 0.093 | ( 0.139) | 0.083 | 0.009 |
| 35 | 2.92 | 0.17 | 0.093 | ( 0.138) | 0.083 | 0.009 |
| 36 | 3.00 | 0.17 | 0.093 | ( 0.138) | 0.083 | 0.009 |
| 37 | 3.08 | 0.17 | 0.093 | ( 0.137) | 0.083 | 0.009 |
| 38 | 3.17 | 0.17 | 0.093 | ( 0.136) | 0.083 | 0.009 |
| 39 | 3.25 | 0.17 | 0.093 | ( 0.136) | 0.083 | 0.009 |
| 40 | 3.33 | 0.17 | 0.093 | ( 0.135) | 0.083 | 0.009 |
| 41 | 3.42 | 0.17 | 0.093 | ( 0.135) | 0.083 | 0.009 |
| 42 | 3.50 | 0.17 | 0.093 | ( 0.134) | 0.083 | 0.009 |
| 43 | 3.58 | 0.17 | 0.093 | ( 0.134) | 0.083 | 0.009 |
| 44 | 3.67 | 0.17 | 0.093 | ( 0.133) | 0.083 | 0.009 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 45 | 3.75 | 0.17 | 0.093 | ( | 0.133) | 0.083 | | 0.009 |
| 46 | 3.83 | 0.20 | 0.111 | ( | 0.132) | 0.100 | | 0.011 |
| 47 | 3.92 | 0.20 | 0.111 | ( | 0.131) | 0.100 | | 0.011 |
| 48 | 4.00 | 0.20 | 0.111 | ( | 0.131) | 0.100 | | 0.011 |
| 49 | 4.08 | 0.20 | 0.111 | ( | 0.130) | 0.100 | | 0.011 |
| 50 | 4.17 | 0.20 | 0.111 | ( | 0.130) | 0.100 | | 0.011 |
| 51 | 4.25 | 0.20 | 0.111 | ( | 0.129) | 0.100 | | 0.011 |
| 52 | 4.33 | 0.23 | 0.130 | ( | 0.129) | 0.117 | | 0.013 |
| 53 | 4.42 | 0.23 | 0.130 | ( | 0.128) | 0.117 | | 0.013 |
| 54 | 4.50 | 0.23 | 0.130 | ( | 0.128) | 0.117 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.130 | ( | 0.127) | 0.117 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.130 | ( | 0.126) | 0.117 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.130 | ( | 0.126) | 0.117 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.148 | | 0.125 | ( 0.133) | | 0.023 |
| 59 | 4.92 | 0.27 | 0.148 | | 0.125 | ( 0.133) | | 0.023 |
| 60 | 5.00 | 0.27 | 0.148 | | 0.124 | ( 0.133) | | 0.024 |
| 61 | 5.08 | 0.20 | 0.111 | ( | 0.124) | 0.100 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.111 | ( | 0.123) | 0.100 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.111 | ( | 0.123) | 0.100 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.130 | ( | 0.122) | 0.117 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.130 | ( | 0.122) | 0.117 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.130 | ( | 0.121) | 0.117 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.148 | | 0.121 | ( 0.133) | | 0.028 |
| 68 | 5.67 | 0.27 | 0.148 | | 0.120 | ( 0.133) | | 0.028 |
| 69 | 5.75 | 0.27 | 0.148 | | 0.119 | ( 0.133) | | 0.029 |
| 70 | 5.83 | 0.27 | 0.148 | | 0.119 | ( 0.133) | | 0.029 |
| 71 | 5.92 | 0.27 | 0.148 | | 0.118 | ( 0.133) | | 0.030 |
| 72 | 6.00 | 0.27 | 0.148 | | 0.118 | ( 0.133) | | 0.030 |
| 73 | 6.08 | 0.30 | 0.167 | | 0.117 | ( 0.150) | | 0.049 |
| 74 | 6.17 | 0.30 | 0.167 | | 0.117 | ( 0.150) | | 0.050 |
| 75 | 6.25 | 0.30 | 0.167 | | 0.116 | ( 0.150) | | 0.050 |
| 76 | 6.33 | 0.30 | 0.167 | | 0.116 | ( 0.150) | | 0.051 |
| 77 | 6.42 | 0.30 | 0.167 | | 0.115 | ( 0.150) | | 0.051 |
| 78 | 6.50 | 0.30 | 0.167 | | 0.115 | ( 0.150) | | 0.052 |
| 79 | 6.58 | 0.33 | 0.185 | | 0.114 | ( 0.167) | | 0.071 |
| 80 | 6.67 | 0.33 | 0.185 | | 0.114 | ( 0.167) | | 0.071 |
| 81 | 6.75 | 0.33 | 0.185 | | 0.113 | ( 0.167) | | 0.072 |
| 82 | 6.83 | 0.33 | 0.185 | | 0.113 | ( 0.167) | | 0.072 |
| 83 | 6.92 | 0.33 | 0.185 | | 0.112 | ( 0.167) | | 0.073 |
| 84 | 7.00 | 0.33 | 0.185 | | 0.112 | ( 0.167) | | 0.073 |
| 85 | 7.08 | 0.33 | 0.185 | | 0.111 | ( 0.167) | | 0.074 |
| 86 | 7.17 | 0.33 | 0.185 | | 0.111 | ( 0.167) | | 0.074 |
| 87 | 7.25 | 0.33 | 0.185 | | 0.110 | ( 0.167) | | 0.075 |
| 88 | 7.33 | 0.37 | 0.204 | | 0.110 | ( 0.183) | | 0.094 |
| 89 | 7.42 | 0.37 | 0.204 | | 0.109 | ( 0.183) | | 0.095 |
| 90 | 7.50 | 0.37 | 0.204 | | 0.109 | ( 0.183) | | 0.095 |
| 91 | 7.58 | 0.40 | 0.222 | | 0.108 | ( 0.200) | | 0.114 |
| 92 | 7.67 | 0.40 | 0.222 | | 0.108 | ( 0.200) | | 0.115 |
| 93 | 7.75 | 0.40 | 0.222 | | 0.107 | ( 0.200) | | 0.115 |
| 94 | 7.83 | 0.43 | 0.241 | | 0.107 | ( 0.217) | | 0.134 |
| 95 | 7.92 | 0.43 | 0.241 | | 0.106 | ( 0.217) | | 0.135 |
| 96 | 8.00 | 0.43 | 0.241 | | 0.106 | ( 0.217) | | 0.135 |
| 97 | 8.08 | 0.50 | 0.278 | | 0.105 | ( 0.250) | | 0.173 |
| 98 | 8.17 | 0.50 | 0.278 | | 0.105 | ( 0.250) | | 0.173 |
| 99 | 8.25 | 0.50 | 0.278 | | 0.104 | ( 0.250) | | 0.174 |
| 100 | 8.33 | 0.50 | 0.278 | | 0.104 | ( 0.250) | | 0.174 |
| 101 | 8.42 | 0.50 | 0.278 | | 0.103 | ( 0.250) | | 0.174 |
| 102 | 8.50 | 0.50 | 0.278 | | 0.103 | ( 0.250) | | 0.175 |
| 103 | 8.58 | 0.53 | 0.296 | | 0.102 | ( 0.267) | | 0.194 |
| 104 | 8.67 | 0.53 | 0.296 | | 0.102 | ( 0.267) | | 0.194 |
| 105 | 8.75 | 0.53 | 0.296 | | 0.101 | ( 0.267) | | 0.195 |
| 106 | 8.83 | 0.57 | 0.315 | | 0.101 | ( 0.283) | | 0.214 |
| 107 | 8.92 | 0.57 | 0.315 | | 0.100 | ( 0.283) | | 0.214 |
| 108 | 9.00 | 0.57 | 0.315 | | 0.100 | ( 0.283) | | 0.215 |
| 109 | 9.08 | 0.63 | 0.352 | | 0.099 | ( 0.317) | | 0.252 |
| 110 | 9.17 | 0.63 | 0.352 | | 0.099 | ( 0.317) | | 0.253 |
| 111 | 9.25 | 0.63 | 0.352 | | 0.098 | ( 0.317) | | 0.253 |
| 112 | 9.33 | 0.67 | 0.370 | | 0.098 | ( 0.333) | | 0.272 |
| 113 | 9.42 | 0.67 | 0.370 | | 0.098 | ( 0.333) | | 0.273 |
| 114 | 9.50 | 0.67 | 0.370 | | 0.097 | ( 0.333) | | 0.273 |
| 115 | 9.58 | 0.70 | 0.389 | | 0.097 | ( 0.350) | | 0.292 |
| 116 | 9.67 | 0.70 | 0.389 | | 0.096 | ( 0.350) | | 0.293 |
| 117 | 9.75 | 0.70 | 0.389 | | 0.096 | ( 0.350) | | 0.293 |
| 118 | 9.83 | 0.73 | 0.407 | | 0.095 | ( 0.367) | | 0.312 |
| 119 | 9.92 | 0.73 | 0.407 | | 0.095 | ( 0.367) | | 0.313 |
| 120 | 10.00 | 0.73 | 0.407 | | 0.094 | ( 0.367) | | 0.313 |
| 121 | 10.08 | 0.50 | 0.278 | | 0.094 | ( 0.250) | | 0.184 |
| 122 | 10.17 | 0.50 | 0.278 | | 0.093 | ( 0.250) | | 0.184 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 123 | 10.25 | 0.50 | 0.278 | 0.093 | ( | 0.250) | 0.185 |
| 124 | 10.33 | 0.50 | 0.278 | 0.092 | ( | 0.250) | 0.185 |
| 125 | 10.42 | 0.50 | 0.278 | 0.092 | ( | 0.250) | 0.186 |
| 126 | 10.50 | 0.50 | 0.278 | 0.092 | ( | 0.250) | 0.186 |
| 127 | 10.58 | 0.67 | 0.370 | 0.091 | ( | 0.333) | 0.279 |
| 128 | 10.67 | 0.67 | 0.370 | 0.091 | ( | 0.333) | 0.280 |
| 129 | 10.75 | 0.67 | 0.370 | 0.090 | ( | 0.333) | 0.280 |
| 130 | 10.83 | 0.67 | 0.370 | 0.090 | ( | 0.333) | 0.280 |
| 131 | 10.92 | 0.67 | 0.370 | 0.089 | ( | 0.333) | 0.281 |
| 132 | 11.00 | 0.67 | 0.370 | 0.089 | ( | 0.333) | 0.281 |
| 133 | 11.08 | 0.63 | 0.352 | 0.089 | ( | 0.317) | 0.263 |
| 134 | 11.17 | 0.63 | 0.352 | 0.088 | ( | 0.317) | 0.264 |
| 135 | 11.25 | 0.63 | 0.352 | 0.088 | ( | 0.317) | 0.264 |
| 136 | 11.33 | 0.63 | 0.352 | 0.087 | ( | 0.317) | 0.265 |
| 137 | 11.42 | 0.63 | 0.352 | 0.087 | ( | 0.317) | 0.265 |
| 138 | 11.50 | 0.63 | 0.352 | 0.086 | ( | 0.317) | 0.265 |
| 139 | 11.58 | 0.57 | 0.315 | 0.086 | ( | 0.283) | 0.229 |
| 140 | 11.67 | 0.57 | 0.315 | 0.085 | ( | 0.283) | 0.229 |
| 141 | 11.75 | 0.57 | 0.315 | 0.085 | ( | 0.283) | 0.230 |
| 142 | 11.83 | 0.60 | 0.333 | 0.085 | ( | 0.300) | 0.249 |
| 143 | 11.92 | 0.60 | 0.333 | 0.084 | ( | 0.300) | 0.249 |
| 144 | 12.00 | 0.60 | 0.333 | 0.084 | ( | 0.300) | 0.249 |
| 145 | 12.08 | 0.83 | 0.463 | 0.083 | ( | 0.417) | 0.380 |
| 146 | 12.17 | 0.83 | 0.463 | 0.083 | ( | 0.417) | 0.380 |
| 147 | 12.25 | 0.83 | 0.463 | 0.083 | ( | 0.417) | 0.380 |
| 148 | 12.33 | 0.87 | 0.481 | 0.082 | ( | 0.433) | 0.399 |
| 149 | 12.42 | 0.87 | 0.481 | 0.082 | ( | 0.433) | 0.400 |
| 150 | 12.50 | 0.87 | 0.481 | 0.081 | ( | 0.433) | 0.400 |
| 151 | 12.58 | 0.93 | 0.518 | 0.081 | ( | 0.467) | 0.438 |
| 152 | 12.67 | 0.93 | 0.518 | 0.080 | ( | 0.467) | 0.438 |
| 153 | 12.75 | 0.93 | 0.518 | 0.080 | ( | 0.467) | 0.438 |
| 154 | 12.83 | 0.97 | 0.537 | 0.080 | ( | 0.483) | 0.457 |
| 155 | 12.92 | 0.97 | 0.537 | 0.079 | ( | 0.483) | 0.458 |
| 156 | 13.00 | 0.97 | 0.537 | 0.079 | ( | 0.483) | 0.458 |
| 157 | 13.08 | 1.13 | 0.630 | 0.078 | ( | 0.567) | 0.551 |
| 158 | 13.17 | 1.13 | 0.630 | 0.078 | ( | 0.567) | 0.551 |
| 159 | 13.25 | 1.13 | 0.630 | 0.078 | ( | 0.567) | 0.552 |
| 160 | 13.33 | 1.13 | 0.630 | 0.077 | ( | 0.567) | 0.552 |
| 161 | 13.42 | 1.13 | 0.630 | 0.077 | ( | 0.567) | 0.553 |
| 162 | 13.50 | 1.13 | 0.630 | 0.076 | ( | 0.567) | 0.553 |
| 163 | 13.58 | 0.77 | 0.426 | 0.076 | ( | 0.383) | 0.350 |
| 164 | 13.67 | 0.77 | 0.426 | 0.076 | ( | 0.383) | 0.350 |
| 165 | 13.75 | 0.77 | 0.426 | 0.075 | ( | 0.383) | 0.351 |
| 166 | 13.83 | 0.77 | 0.426 | 0.075 | ( | 0.383) | 0.351 |
| 167 | 13.92 | 0.77 | 0.426 | 0.075 | ( | 0.383) | 0.351 |
| 168 | 14.00 | 0.77 | 0.426 | 0.074 | ( | 0.383) | 0.352 |
| 169 | 14.08 | 0.90 | 0.500 | 0.074 | ( | 0.450) | 0.426 |
| 170 | 14.17 | 0.90 | 0.500 | 0.073 | ( | 0.450) | 0.426 |
| 171 | 14.25 | 0.90 | 0.500 | 0.073 | ( | 0.450) | 0.427 |
| 172 | 14.33 | 0.87 | 0.481 | 0.073 | ( | 0.433) | 0.409 |
| 173 | 14.42 | 0.87 | 0.481 | 0.072 | ( | 0.433) | 0.409 |
| 174 | 14.50 | 0.87 | 0.481 | 0.072 | ( | 0.433) | 0.409 |
| 175 | 14.58 | 0.87 | 0.481 | 0.072 | ( | 0.433) | 0.410 |
| 176 | 14.67 | 0.87 | 0.481 | 0.071 | ( | 0.433) | 0.410 |
| 177 | 14.75 | 0.87 | 0.481 | 0.071 | ( | 0.433) | 0.411 |
| 178 | 14.83 | 0.83 | 0.463 | 0.070 | ( | 0.417) | 0.392 |
| 179 | 14.92 | 0.83 | 0.463 | 0.070 | ( | 0.417) | 0.393 |
| 180 | 15.00 | 0.83 | 0.463 | 0.070 | ( | 0.417) | 0.393 |
| 181 | 15.08 | 0.80 | 0.444 | 0.069 | ( | 0.400) | 0.375 |
| 182 | 15.17 | 0.80 | 0.444 | 0.069 | ( | 0.400) | 0.375 |
| 183 | 15.25 | 0.80 | 0.444 | 0.069 | ( | 0.400) | 0.376 |
| 184 | 15.33 | 0.77 | 0.426 | 0.068 | ( | 0.383) | 0.358 |
| 185 | 15.42 | 0.77 | 0.426 | 0.068 | ( | 0.383) | 0.358 |
| 186 | 15.50 | 0.77 | 0.426 | 0.068 | ( | 0.383) | 0.358 |
| 187 | 15.58 | 0.63 | 0.352 | 0.067 | ( | 0.317) | 0.285 |
| 188 | 15.67 | 0.63 | 0.352 | 0.067 | ( | 0.317) | 0.285 |
| 189 | 15.75 | 0.63 | 0.352 | 0.067 | ( | 0.317) | 0.285 |
| 190 | 15.83 | 0.63 | 0.352 | 0.066 | ( | 0.317) | 0.286 |
| 191 | 15.92 | 0.63 | 0.352 | 0.066 | ( | 0.317) | 0.286 |
| 192 | 16.00 | 0.63 | 0.352 | 0.066 | ( | 0.317) | 0.286 |
| 193 | 16.08 | 0.13 | 0.074 | 0.065 | ( | 0.067) | 0.009 |
| 194 | 16.17 | 0.13 | 0.074 | 0.065 | ( | 0.067) | 0.009 |
| 195 | 16.25 | 0.13 | 0.074 | 0.065 | ( | 0.067) | 0.009 |
| 196 | 16.33 | 0.13 | 0.074 | 0.064 | ( | 0.067) | 0.010 |
| 197 | 16.42 | 0.13 | 0.074 | 0.064 | ( | 0.067) | 0.010 |
| 198 | 16.50 | 0.13 | 0.074 | 0.064 | ( | 0.067) | 0.010 |
| 199 | 16.58 | 0.10 | 0.056 | ( 0.063) | | 0.050 | 0.006 |
| 200 | 16.67 | 0.10 | 0.056 | ( 0.063) | | 0.050 | 0.006 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 201 | 16.75 | 0.10 | 0.056 | ( | 0.063) | 0.050 | | 0.006 |
| 202 | 16.83 | 0.10 | 0.056 | ( | 0.062) | 0.050 | | 0.006 |
| 203 | 16.92 | 0.10 | 0.056 | ( | 0.062) | 0.050 | | 0.006 |
| 204 | 17.00 | 0.10 | 0.056 | ( | 0.062) | 0.050 | | 0.006 |
| 205 | 17.08 | 0.17 | 0.093 | | 0.061 | ( 0.083) | | 0.031 |
| 206 | 17.17 | 0.17 | 0.093 | | 0.061 | ( 0.083) | | 0.032 |
| 207 | 17.25 | 0.17 | 0.093 | | 0.061 | ( 0.083) | | 0.032 |
| 208 | 17.33 | 0.17 | 0.093 | | 0.060 | ( 0.083) | | 0.032 |
| 209 | 17.42 | 0.17 | 0.093 | | 0.060 | ( 0.083) | | 0.032 |
| 210 | 17.50 | 0.17 | 0.093 | | 0.060 | ( 0.083) | | 0.033 |
| 211 | 17.58 | 0.17 | 0.093 | | 0.060 | ( 0.083) | | 0.033 |
| 212 | 17.67 | 0.17 | 0.093 | | 0.059 | ( 0.083) | | 0.033 |
| 213 | 17.75 | 0.17 | 0.093 | | 0.059 | ( 0.083) | | 0.034 |
| 214 | 17.83 | 0.13 | 0.074 | | 0.059 | ( 0.067) | | 0.015 |
| 215 | 17.92 | 0.13 | 0.074 | | 0.058 | ( 0.067) | | 0.016 |
| 216 | 18.00 | 0.13 | 0.074 | | 0.058 | ( 0.067) | | 0.016 |
| 217 | 18.08 | 0.13 | 0.074 | | 0.058 | ( 0.067) | | 0.016 |
| 218 | 18.17 | 0.13 | 0.074 | | 0.058 | ( 0.067) | | 0.017 |
| 219 | 18.25 | 0.13 | 0.074 | | 0.057 | ( 0.067) | | 0.017 |
| 220 | 18.33 | 0.13 | 0.074 | | 0.057 | ( 0.067) | | 0.017 |
| 221 | 18.42 | 0.13 | 0.074 | | 0.057 | ( 0.067) | | 0.017 |
| 222 | 18.50 | 0.13 | 0.074 | | 0.056 | ( 0.067) | | 0.018 |
| 223 | 18.58 | 0.10 | 0.056 | ( | 0.056) | 0.050 | | 0.006 |
| 224 | 18.67 | 0.10 | 0.056 | ( | 0.056) | 0.050 | | 0.006 |
| 225 | 18.75 | 0.10 | 0.056 | ( | 0.056) | 0.050 | | 0.006 |
| 226 | 18.83 | 0.07 | 0.037 | ( | 0.055) | 0.033 | | 0.004 |
| 227 | 18.92 | 0.07 | 0.037 | ( | 0.055) | 0.033 | | 0.004 |
| 228 | 19.00 | 0.07 | 0.037 | ( | 0.055) | 0.033 | | 0.004 |
| 229 | 19.08 | 0.10 | 0.056 | ( | 0.055) | 0.050 | | 0.006 |
| 230 | 19.17 | 0.10 | 0.056 | ( | 0.054) | 0.050 | | 0.006 |
| 231 | 19.25 | 0.10 | 0.056 | ( | 0.054) | 0.050 | | 0.006 |
| 232 | 19.33 | 0.13 | 0.074 | | 0.054 | ( 0.067) | | 0.020 |
| 233 | 19.42 | 0.13 | 0.074 | | 0.054 | ( 0.067) | | 0.021 |
| 234 | 19.50 | 0.13 | 0.074 | | 0.053 | ( 0.067) | | 0.021 |
| 235 | 19.58 | 0.10 | 0.056 | ( | 0.053) | 0.050 | | 0.006 |
| 236 | 19.67 | 0.10 | 0.056 | ( | 0.053) | 0.050 | | 0.006 |
| 237 | 19.75 | 0.10 | 0.056 | ( | 0.053) | 0.050 | | 0.006 |
| 238 | 19.83 | 0.07 | 0.037 | ( | 0.052) | 0.033 | | 0.004 |
| 239 | 19.92 | 0.07 | 0.037 | ( | 0.052) | 0.033 | | 0.004 |
| 240 | 20.00 | 0.07 | 0.037 | ( | 0.052) | 0.033 | | 0.004 |
| 241 | 20.08 | 0.10 | 0.056 | ( | 0.052) | 0.050 | | 0.006 |
| 242 | 20.17 | 0.10 | 0.056 | ( | 0.051) | 0.050 | | 0.006 |
| 243 | 20.25 | 0.10 | 0.056 | ( | 0.051) | 0.050 | | 0.006 |
| 244 | 20.33 | 0.10 | 0.056 | ( | 0.051) | 0.050 | | 0.006 |
| 245 | 20.42 | 0.10 | 0.056 | ( | 0.051) | 0.050 | | 0.006 |
| 246 | 20.50 | 0.10 | 0.056 | ( | 0.051) | 0.050 | | 0.006 |
| 247 | 20.58 | 0.10 | 0.056 | ( | 0.050) | 0.050 | | 0.006 |
| 248 | 20.67 | 0.10 | 0.056 | ( | 0.050) | 0.050 | | 0.006 |
| 249 | 20.75 | 0.10 | 0.056 | | 0.050 | ( 0.050) | | 0.006 |
| 250 | 20.83 | 0.07 | 0.037 | ( | 0.050) | 0.033 | | 0.004 |
| 251 | 20.92 | 0.07 | 0.037 | ( | 0.049) | 0.033 | | 0.004 |
| 252 | 21.00 | 0.07 | 0.037 | ( | 0.049) | 0.033 | | 0.004 |
| 253 | 21.08 | 0.10 | 0.056 | | 0.049 | ( 0.050) | | 0.006 |
| 254 | 21.17 | 0.10 | 0.056 | | 0.049 | ( 0.050) | | 0.007 |
| 255 | 21.25 | 0.10 | 0.056 | | 0.049 | ( 0.050) | | 0.007 |
| 256 | 21.33 | 0.07 | 0.037 | ( | 0.049) | 0.033 | | 0.004 |
| 257 | 21.42 | 0.07 | 0.037 | ( | 0.048) | 0.033 | | 0.004 |
| 258 | 21.50 | 0.07 | 0.037 | ( | 0.048) | 0.033 | | 0.004 |
| 259 | 21.58 | 0.10 | 0.056 | | 0.048 | ( 0.050) | | 0.008 |
| 260 | 21.67 | 0.10 | 0.056 | | 0.048 | ( 0.050) | | 0.008 |
| 261 | 21.75 | 0.10 | 0.056 | | 0.048 | ( 0.050) | | 0.008 |
| 262 | 21.83 | 0.07 | 0.037 | ( | 0.047) | 0.033 | | 0.004 |
| 263 | 21.92 | 0.07 | 0.037 | ( | 0.047) | 0.033 | | 0.004 |
| 264 | 22.00 | 0.07 | 0.037 | ( | 0.047) | 0.033 | | 0.004 |
| 265 | 22.08 | 0.10 | 0.056 | | 0.047 | ( 0.050) | | 0.009 |
| 266 | 22.17 | 0.10 | 0.056 | | 0.047 | ( 0.050) | | 0.009 |
| 267 | 22.25 | 0.10 | 0.056 | | 0.047 | ( 0.050) | | 0.009 |
| 268 | 22.33 | 0.07 | 0.037 | ( | 0.047) | 0.033 | | 0.004 |
| 269 | 22.42 | 0.07 | 0.037 | ( | 0.046) | 0.033 | | 0.004 |
| 270 | 22.50 | 0.07 | 0.037 | ( | 0.046) | 0.033 | | 0.004 |
| 271 | 22.58 | 0.07 | 0.037 | ( | 0.046) | 0.033 | | 0.004 |
| 272 | 22.67 | 0.07 | 0.037 | ( | 0.046) | 0.033 | | 0.004 |
| 273 | 22.75 | 0.07 | 0.037 | ( | 0.046) | 0.033 | | 0.004 |
| 274 | 22.83 | 0.07 | 0.037 | ( | 0.046) | 0.033 | | 0.004 |
| 275 | 22.92 | 0.07 | 0.037 | ( | 0.046) | 0.033 | | 0.004 |
| 276 | 23.00 | 0.07 | 0.037 | ( | 0.046) | 0.033 | | 0.004 |
| 277 | 23.08 | 0.07 | 0.037 | ( | 0.045) | 0.033 | | 0.004 |
| 278 | 23.17 | 0.07 | 0.037 | ( | 0.045) | 0.033 | | 0.004 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 279 | 23.25 | 0.07 | 0.037 | ( | 0.045) | 0.033 | 0.004 |
| 280 | 23.33 | 0.07 | 0.037 | ( | 0.045) | 0.033 | 0.004 |
| 281 | 23.42 | 0.07 | 0.037 | ( | 0.045) | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.037 | ( | 0.045) | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.037 | ( | 0.045) | 0.033 | 0.004 |
| 284 | 23.67 | 0.07 | 0.037 | ( | 0.045) | 0.033 | 0.004 |
| 285 | 23.75 | 0.07 | 0.037 | ( | 0.045) | 0.033 | 0.004 |
| 286 | 23.83 | 0.07 | 0.037 | ( | 0.045) | 0.033 | 0.004 |
| 287 | 23.92 | 0.07 | 0.037 | ( | 0.045) | 0.033 | 0.004 |
| 288 | 24.00 | 0.07 | 0.037 | ( | 0.045) | 0.033 | 0.004 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 34.4

Flood volume = Effective rainfall 2.87(In)
times area 115.5(Ac.)/[(In)/(Ft.)] = 27.6(Ac.Ft)
Total soil loss = 1.76(In)
Total soil loss = 16.951(Ac.Ft)
Total rainfall = 4.63(In)
Flood volume = 1202377.5 Cubic Feet
Total soil loss = 738381.6 Cubic Feet

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Peak flow rate of this hydrograph = 63.748(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

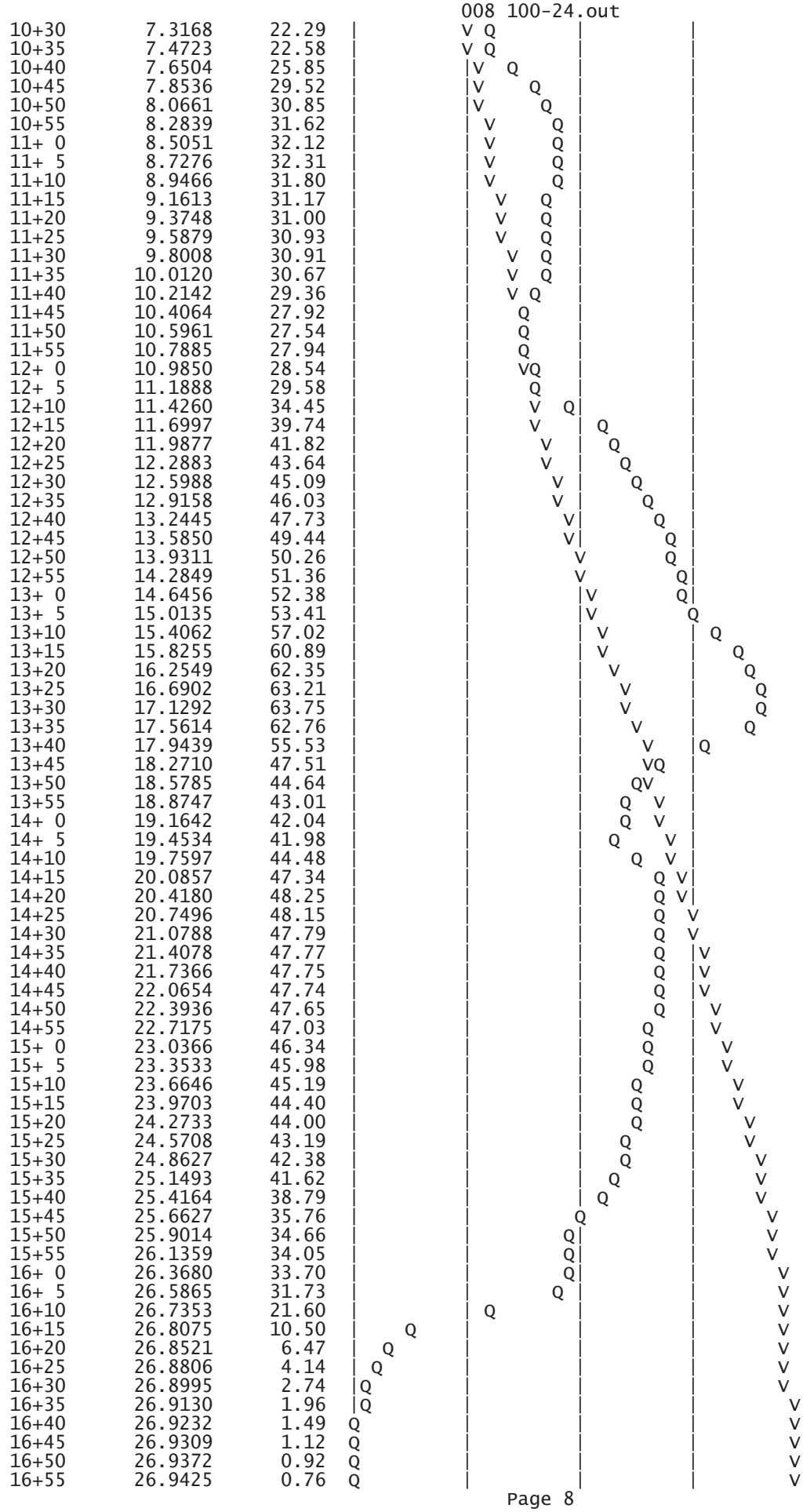
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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 17.5 | 35.0 | 52.5 | 70.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0002 | 0.02 | Q | | | | |
| 0+10 | 0.0013 | 0.16 | Q | | | | |
| 0+15 | 0.0034 | 0.31 | Q | | | | |
| 0+20 | 0.0059 | 0.37 | Q | | | | |
| 0+25 | 0.0092 | 0.47 | Q | | | | |
| 0+30 | 0.0130 | 0.56 | Q | | | | |
| 0+35 | 0.0172 | 0.60 | Q | | | | |
| 0+40 | 0.0214 | 0.62 | Q | | | | |
| 0+45 | 0.0258 | 0.63 | Q | | | | |
| 0+50 | 0.0303 | 0.65 | Q | | | | |
| 0+55 | 0.0352 | 0.72 | Q | | | | |
| 1+ 0 | 0.0407 | 0.80 | Q | | | | |
| 1+ 5 | 0.0463 | 0.81 | Q | | | | |
| 1+10 | 0.0516 | 0.76 | Q | | | | |
| 1+15 | 0.0564 | 0.70 | Q | | | | |
| 1+20 | 0.0611 | 0.68 | Q | | | | |
| 1+25 | 0.0656 | 0.66 | Q | | | | |
| 1+30 | 0.0702 | 0.66 | Q | | | | |
| 1+35 | 0.0746 | 0.65 | Q | | | | |
| 1+40 | 0.0791 | 0.65 | Q | | | | |
| 1+45 | 0.0836 | 0.65 | Q | | | | |
| 1+50 | 0.0881 | 0.66 | Q | | | | |
| 1+55 | 0.0931 | 0.73 | Q | | | | |
| 2+ 0 | 0.0986 | 0.80 | Q | | | | |
| 2+ 5 | 0.1043 | 0.83 | Q | | | | |
| 2+10 | 0.1101 | 0.84 | Q | | | | |
| 2+15 | 0.1160 | 0.85 | Q | | | | |
| 2+20 | 0.1219 | 0.86 | Q | | | | |
| 2+25 | 0.1278 | 0.86 | Q | | | | |
| 2+30 | 0.1338 | 0.86 | Q | | | | |
| 2+35 | 0.1398 | 0.87 | Q | | | | |
| 2+40 | 0.1463 | 0.94 | Q | | | | |
| 2+45 | 0.1532 | 1.02 | Q | | | | |
| 2+50 | 0.1604 | 1.04 | Q | | | | |
| 2+55 | 0.1677 | 1.06 | Q | | | | |
| 3+ 0 | 0.1751 | 1.07 | Q | | | | |
| 3+ 5 | 0.1825 | 1.07 | Q | | | | |
| 3+10 | 0.1899 | 1.07 | Q | | | | |
| 3+15 | 0.1973 | 1.08 | Q | | | | |
| 3+20 | 0.2047 | 1.08 | Q | | | | |
| 3+25 | 0.2121 | 1.08 | Q | | | | |
| 3+30 | 0.2195 | 1.08 | Q | | | | |
| 3+35 | 0.2270 | 1.08 | Q | | | | |
| 3+40 | 0.2344 | 1.08 | Q | | | | |
| 3+45 | 0.2418 | 1.08 | Q | | | | |
| 3+50 | 0.2493 | 1.09 | Q | | | | |
| 3+55 | 0.2573 | 1.16 | Q | | | | |

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 4+ 0       0.2658      1.23  Q          |          |          |          |
 4+ 5       0.2744      1.26  Q          |          |          |          |
 4+10       0.2832      1.27  Q          |          |          |          |
 4+15       0.2920      1.28  Q          |          |          |          |
 4+20       0.3010      1.30  Q          |          |          |          |
 4+25       0.3104      1.37  Q          |          |          |          |
 4+30       0.3204      1.44  Q          |          |          |          |
 4+35       0.3305      1.47  Q          |          |          |          |
 4+40       0.3408      1.49  Q          |          |          |          |
 4+45       0.3511      1.50  Q          |          |          |          |
 4+50       0.3619      1.57  Q          |          |          |          |
 4+55       0.3752      1.93  VQ         |          |          |          |
 5+ 0       0.3913      2.34  VQ         |          |          |          |
 5+ 5       0.4082      2.45  VQ         |          |          |          |
 5+10       0.4226      2.10  VQ         |          |          |          |
 5+15       0.4340      1.65  Q          |          |          |          |
 5+20       0.4444      1.51  Q          |          |          |          |
 5+25       0.4547      1.49  Q          |          |          |          |
 5+30       0.4650      1.51  Q          |          |          |          |
 5+35       0.4761      1.60  Q          |          |          |          |
 5+40       0.4908      2.14  VQ         |          |          |          |
 5+45       0.5097      2.75  VQ         |          |          |          |
 5+50       0.5304      3.00  VQ         |          |          |          |
 5+55       0.5523      3.18  VQ         |          |          |          |
 6+ 0       0.5750      3.30  VQ         |          |          |          |
 6+ 5       0.5993      3.52  V Q        |          |          |          |
 6+10       0.6287      4.27  V Q        |          |          |          |
 6+15       0.6637      5.08  V Q        |          |          |          |
 6+20       0.7010      5.42  |V Q        |          |          |          |
 6+25       0.7399      5.64  |V Q        |          |          |          |
 6+30       0.7798      5.80  |V Q        |          |          |          |
 6+35       0.8214      6.03  |V Q        |          |          |          |
 6+40       0.8681      6.78  |V Q        |          |          |          |
 6+45       0.9204      7.60  |V  Q       |          |          |          |
 6+50       0.9751      7.93  |V  Q       |          |          |          |
 6+55       1.0312      8.16  |V  Q       |          |          |          |
 7+ 0       1.0885      8.32  |V  Q       |          |          |          |
 7+ 5       1.1465      8.43  |V  Q       |          |          |          |
 7+10       1.2051      8.51  |V  Q       |          |          |          |
 7+15       1.2642      8.58  |V  Q       |          |          |          |
 7+20       1.3246      8.77  |V   Q      |          |          |          |
 7+25       1.3901      9.51  | V  Q      |          |          |          |
 7+30       1.4611     10.31  | V  Q      |          |          |          |
 7+35       1.5351     10.75  | V   Q     |          |          |          |
 7+40       1.6153     11.64  | V   Q     |          |          |          |
 7+45       1.7016     12.53  | V    Q    |          |          |          |
 7+50       1.7913     13.03  | V    Q    |          |          |          |
 7+55       1.8873     13.94  | V    Q    |          |          |          |
 8+ 0       1.9895     14.84  | V     Q   |          |          |          |
 8+ 5       2.0960     15.47  |  V    Q   |          |          |          |
 8+10       2.2135     17.05  |  V     Q| |          |          |          |
 8+15       2.3422     18.70  |  V      Q |          |          |          |
 8+20       2.4755     19.36  |  V       |Q         |          |          |
 8+25       2.6116     19.75  |  V       |Q         |          |          |
 8+30       2.7494     20.01  |  V       |Q         |          |          |
 8+35       2.8893     20.30  |   V      |Q         |          |          |
 8+40       3.0345     21.08  |   V      | Q        |          |          |
 8+45       3.1853     21.91  |   V      | Q        |          |          |
 8+50       3.3394     22.37  |   V      | Q        |          |          |
 8+55       3.4996     23.27  |    V     |  Q       |          |          |
 9+ 0       3.6661     24.17  |    V     |  Q       |          |          |
 9+ 5       3.8368     24.78  |    V     |   Q      |          |          |
 9+10       4.0183     26.36  |    V     |    Q     |          |          |
 9+15       4.2111     28.00  |     V    |    Q     |          |          |
 9+20       4.4092     28.77  |     V    |     Q    |          |          |
 9+25       4.6147     29.84  |     V    |      Q   |          |          |
 9+30       4.8271     30.84  |     V    |      Q   |          |          |
 9+35       5.0433     31.39  |      V   |      Q   |          |          |
 9+40       5.2660     32.33  |      V   |       Q  |          |          |
 9+45       5.4949     33.24  |      V   |       Q  |          |          |
 9+50       5.7274     33.76  |       V  |        Q |          |          |
 9+55       5.9662     34.67  |       V  |        Q |          |          |
10+ 0       6.2113     35.58  |        V |         Q|          |          |
10+ 5       6.4532     35.13  |        V |         Q|          |          |
10+10       6.6644     30.67  |        V |       Q  |          |          |
10+15       6.8411     25.66  |        V |   Q      |          |          |
10+20       7.0057     23.89  |         V  Q        |          |          |
10+25       7.1633     22.89  |         V  Q        |          |          |
```



| | | | |
|---|---|---|---|
| 10+30 | 7.3168 | 22.29 | |
| 10+35 | 7.4723 | 22.58 | |
| 10+40 | 7.6504 | 25.85 | |
| 10+45 | 7.8536 | 29.52 | |
| 10+50 | 8.0661 | 30.85 | |
| 10+55 | 8.2839 | 31.62 | |
| 11+ 0 | 8.5051 | 32.12 | |
| 11+ 5 | 8.7276 | 32.31 | |
| 11+10 | 8.9466 | 31.80 | |
| 11+15 | 9.1613 | 31.17 | |
| 11+20 | 9.3748 | 31.00 | |
| 11+25 | 9.5879 | 30.93 | |
| 11+30 | 9.8008 | 30.91 | |
| 11+35 | 10.0120 | 30.67 | |
| 11+40 | 10.2142 | 29.36 | |
| 11+45 | 10.4064 | 27.92 | |
| 11+50 | 10.5961 | 27.54 | |
| 11+55 | 10.7885 | 27.94 | |
| 12+ 0 | 10.9850 | 28.54 | |
| 12+ 5 | 11.1888 | 29.58 | |
| 12+10 | 11.4260 | 34.45 | |
| 12+15 | 11.6997 | 39.74 | |
| 12+20 | 11.9877 | 41.82 | |
| 12+25 | 12.2883 | 43.64 | |
| 12+30 | 12.5988 | 45.09 | |
| 12+35 | 12.9158 | 46.03 | |
| 12+40 | 13.2445 | 47.73 | |
| 12+45 | 13.5850 | 49.44 | |
| 12+50 | 13.9311 | 50.26 | |
| 12+55 | 14.2849 | 51.36 | |
| 13+ 0 | 14.6456 | 52.38 | |
| 13+ 5 | 15.0135 | 53.41 | |
| 13+10 | 15.4062 | 57.02 | |
| 13+15 | 15.8255 | 60.89 | |
| 13+20 | 16.2549 | 62.35 | |
| 13+25 | 16.6902 | 63.21 | |
| 13+30 | 17.1292 | 63.75 | |
| 13+35 | 17.5614 | 62.76 | |
| 13+40 | 17.9439 | 55.53 | |
| 13+45 | 18.2710 | 47.51 | |
| 13+50 | 18.5785 | 44.64 | |
| 13+55 | 18.8747 | 43.01 | |
| 14+ 0 | 19.1642 | 42.04 | |
| 14+ 5 | 19.4534 | 41.98 | |
| 14+10 | 19.7597 | 44.48 | |
| 14+15 | 20.0857 | 47.34 | |
| 14+20 | 20.4180 | 48.25 | |
| 14+25 | 20.7496 | 48.15 | |
| 14+30 | 21.0788 | 47.79 | |
| 14+35 | 21.4078 | 47.77 | |
| 14+40 | 21.7366 | 47.75 | |
| 14+45 | 22.0654 | 47.74 | |
| 14+50 | 22.3936 | 47.65 | |
| 14+55 | 22.7175 | 47.03 | |
| 15+ 0 | 23.0366 | 46.34 | |
| 15+ 5 | 23.3533 | 45.98 | |
| 15+10 | 23.6646 | 45.19 | |
| 15+15 | 23.9703 | 44.40 | |
| 15+20 | 24.2733 | 44.00 | |
| 15+25 | 24.5708 | 43.19 | |
| 15+30 | 24.8627 | 42.38 | |
| 15+35 | 25.1493 | 41.62 | |
| 15+40 | 25.4164 | 38.79 | |
| 15+45 | 25.6627 | 35.76 | |
| 15+50 | 25.9014 | 34.66 | |
| 15+55 | 26.1359 | 34.05 | |
| 16+ 0 | 26.3680 | 33.70 | |
| 16+ 5 | 26.5865 | 31.73 | |
| 16+10 | 26.7353 | 21.60 | |
| 16+15 | 26.8075 | 10.50 | |
| 16+20 | 26.8521 | 6.47 | |
| 16+25 | 26.8806 | 4.14 | |
| 16+30 | 26.8995 | 2.74 | |
| 16+35 | 26.9130 | 1.96 | |
| 16+40 | 26.9232 | 1.49 | |
| 16+45 | 26.9309 | 1.12 | |
| 16+50 | 26.9372 | 0.92 | |
| 16+55 | 26.9425 | 0.76 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+ 0 | 26.9471 | 0.67 | Q | \| | \| | \| | V\| |
| 17+ 5 | 26.9528 | 0.83 | Q | \| | \| | \| | V\| |
| 17+10 | 26.9649 | 1.75 | \|Q | \| | \| | \| | V\| |
| 17+15 | 26.9841 | 2.79 | \|Q | \| | \| | \| | V\| |
| 17+20 | 27.0060 | 3.18 | \|Q | \| | \| | \| | V\| |
| 17+25 | 27.0296 | 3.43 | \|Q | \| | \| | \| | V\| |
| 17+30 | 27.0543 | 3.59 | \| Q | \| | \| | \| | V\| |
| 17+35 | 27.0797 | 3.69 | \| Q | \| | \| | \| | V\| |
| 17+40 | 27.1056 | 3.76 | \| Q | \| | \| | \| | V\| |
| 17+45 | 27.1318 | 3.81 | \| Q | \| | \| | \| | V\| |
| 17+50 | 27.1576 | 3.74 | \| Q | \| | \| | \| | V\| |
| 17+55 | 27.1790 | 3.11 | \|Q | \| | \| | \| | V\| |
| 18+ 0 | 27.1956 | 2.41 | \|Q | \| | \| | \| | V\| |
| 18+ 5 | 27.2106 | 2.18 | \|Q | \| | \| | \| | V\| |
| 18+10 | 27.2247 | 2.05 | \|Q | \| | \| | \| | V\| |
| 18+15 | 27.2384 | 1.99 | \|Q | \| | \| | \| | V\| |
| 18+20 | 27.2520 | 1.97 | \|Q | \| | \| | \| | V\| |
| 18+25 | 27.2657 | 1.98 | \|Q | \| | \| | \| | V\| |
| 18+30 | 27.2795 | 2.01 | \|Q | \| | \| | \| | V\| |
| 18+35 | 27.2929 | 1.95 | \|Q | \| | \| | \| | V\| |
| 18+40 | 27.3034 | 1.52 | Q | \| | \| | \| | V\| |
| 18+45 | 27.3106 | 1.04 | Q | \| | \| | \| | V\| |
| 18+50 | 27.3165 | 0.86 | Q | \| | \| | \| | V\| |
| 18+55 | 27.3213 | 0.70 | Q | \| | \| | \| | V\| |
| 19+ 0 | 27.3252 | 0.56 | Q | \| | \| | \| | V\| |
| 19+ 5 | 27.3287 | 0.51 | Q | \| | \| | \| | V\| |
| 19+10 | 27.3325 | 0.55 | Q | \| | \| | \| | V\| |
| 19+15 | 27.3367 | 0.61 | Q | \| | \| | \| | V\| |
| 19+20 | 27.3417 | 0.72 | Q | \| | \| | \| | V\| |
| 19+25 | 27.3504 | 1.26 | Q | \| | \| | \| | V\| |
| 19+30 | 27.3633 | 1.87 | \|Q | \| | \| | \| | V\| |
| 19+35 | 27.3771 | 2.01 | \|Q | \| | \| | \| | V\| |
| 19+40 | 27.3880 | 1.59 | Q | \| | \| | \| | V\| |
| 19+45 | 27.3954 | 1.07 | Q | \| | \| | \| | V\| |
| 19+50 | 27.4014 | 0.88 | Q | \| | \| | \| | V\| |
| 19+55 | 27.4063 | 0.70 | Q | \| | \| | \| | V\| |
| 20+ 0 | 27.4102 | 0.56 | Q | \| | \| | \| | V\| |
| 20+ 5 | 27.4137 | 0.51 | Q | \| | \| | \| | V\| |
| 20+10 | 27.4175 | 0.55 | Q | \| | \| | \| | V\| |
| 20+15 | 27.4218 | 0.61 | Q | \| | \| | \| | V\| |
| 20+20 | 27.4261 | 0.63 | Q | \| | \| | \| | V\| |
| 20+25 | 27.4304 | 0.63 | Q | \| | \| | \| | V\| |
| 20+30 | 27.4348 | 0.64 | Q | \| | \| | \| | V\| |
| 20+35 | 27.4393 | 0.64 | Q | \| | \| | \| | V\| |
| 20+40 | 27.4437 | 0.64 | Q | \| | \| | \| | V\| |
| 20+45 | 27.4481 | 0.65 | Q | \| | \| | \| | V\| |
| 20+50 | 27.4525 | 0.64 | Q | \| | \| | \| | V\| |
| 20+55 | 27.4565 | 0.57 | Q | \| | \| | \| | V\| |
| 21+ 0 | 27.4599 | 0.50 | Q | \| | \| | \| | V\| |
| 21+ 5 | 27.4632 | 0.49 | Q | \| | \| | \| | V\| |
| 21+10 | 27.4671 | 0.57 | Q | \| | \| | \| | V\| |
| 21+15 | 27.4718 | 0.68 | Q | \| | \| | \| | V\| |
| 21+20 | 27.4767 | 0.71 | Q | \| | \| | \| | V\| |
| 21+25 | 27.4810 | 0.63 | Q | \| | \| | \| | V\| |
| 21+30 | 27.4846 | 0.52 | Q | \| | \| | \| | V\| |
| 21+35 | 27.4881 | 0.51 | Q | \| | \| | \| | V\| |
| 21+40 | 27.4924 | 0.63 | Q | \| | \| | \| | V\| |
| 21+45 | 27.4977 | 0.77 | Q | \| | \| | \| | V\| |
| 21+50 | 27.5032 | 0.81 | Q | \| | \| | \| | V\| |
| 21+55 | 27.5080 | 0.69 | Q | \| | \| | \| | V\| |
| 22+ 0 | 27.5118 | 0.55 | Q | \| | \| | \| | V\| |
| 22+ 5 | 27.5155 | 0.53 | Q | \| | \| | \| | V\| |
| 22+10 | 27.5201 | 0.68 | Q | \| | \| | \| | V\| |
| 22+15 | 27.5260 | 0.86 | Q | \| | \| | \| | V\| |
| 22+20 | 27.5322 | 0.90 | Q | \| | \| | \| | V\| |
| 22+25 | 27.5374 | 0.76 | Q | \| | \| | \| | V\| |
| 22+30 | 27.5414 | 0.58 | Q | \| | \| | \| | V\| |
| 22+35 | 27.5450 | 0.52 | Q | \| | \| | \| | V\| |
| 22+40 | 27.5483 | 0.48 | Q | \| | \| | \| | V\| |
| 22+45 | 27.5514 | 0.45 | Q | \| | \| | \| | V\| |
| 22+50 | 27.5544 | 0.44 | Q | \| | \| | \| | V\| |
| 22+55 | 27.5575 | 0.44 | Q | \| | \| | \| | V\| |
| 23+ 0 | 27.5605 | 0.44 | Q | \| | \| | \| | V\| |
| 23+ 5 | 27.5635 | 0.43 | Q | \| | \| | \| | V\| |
| 23+10 | 27.5664 | 0.43 | Q | \| | \| | \| | V\| |
| 23+15 | 27.5694 | 0.43 | Q | \| | \| | \| | V\| |
| 23+20 | 27.5724 | 0.43 | Q | \| | \| | \| | V\| |
| 23+25 | 27.5754 | 0.43 | Q | \| | \| | \| | V\| |

```
   23+30      27.5783      0.43  Q          |          |          |         V|
   23+35      27.5813      0.43  Q          |          |          |         V|
   23+40      27.5843      0.43  Q          |          |          |         V|
   23+45      27.5872      0.43  Q          |          |          |         V|
   23+50      27.5902      0.43  Q          |          |          |         V|
   23+55      27.5932      0.43  Q          |          |          |         V|
   24+ 0      27.5961      0.43  Q          |          |          |         V|
   24+ 5      27.5990      0.41  Q          |          |          |         V|
   24+10      27.6008      0.27  Q          |          |          |         V|
   24+15      27.6017      0.13  Q          |          |          |         V|
   24+20      27.6022      0.07  Q          |          |          |         V|
   24+25      27.6025      0.04  Q          |          |          |         V|
   24+30      27.6026      0.02  Q          |          |          |         V|
   24+35      27.6027      0.01  Q          |          |          |         V|
   24+40      27.6027      0.01  Q          |          |          |         V|
   24+45      27.6028      0.00  Q          |          |          |         V|
   24+50      27.6028      0.00  Q          |          |          |         V|
   24+55      27.6028      0.00  Q          |          |          |          V
-------------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX91100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 9
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 1.50(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.50(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 435.00(Ft.)
Length along longest watercourse measured to centroid = 196.00(Ft.)
Length along longest watercourse = 0.082 Mi.
Length along longest watercourse measured to centroid = 0.037 Mi.
Difference in elevation = 260.00(Ft.)
Slope along watercourse = 3155.8621 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.020 Hr.
Lag time = 1.21 Min.
25% of lag time = 0.30 Min.
40% of lag time = 0.48 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.50 | 0.49 | 0.73 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.50 | 1.20 | 1.80 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.490(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 1.500 | 83.34 | 0.000 |

Total Area Entered = 1.50(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.3 | 93.0 | 0.091 | 0.000 | 0.091 | 1.000 | 0.091 |
| | | | | | Sum (F) = | 0.091 |

Area averaged mean soil loss (F) (In/Hr) = 0.091

Minimum soil loss rate ((In/Hr)) = 0.045
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

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| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 413.895 | 68.317 | 1.033 |
| 2 | 0.167 | 827.791 | 31.683 | 0.479 |
| | | Sum = 100.000 | Sum= | 1.512 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.091 | ( 0.544) | 0.514 |
| 2 | 0.17 | 4.30 | 0.619 | 0.091 | ( 0.557) | 0.528 |
| 3 | 0.25 | 5.00 | 0.720 | 0.091 | ( 0.648) | 0.629 |
| 4 | 0.33 | 5.00 | 0.720 | 0.091 | ( 0.648) | 0.629 |
| 5 | 0.42 | 5.80 | 0.835 | 0.091 | ( 0.752) | 0.744 |
| 6 | 0.50 | 6.50 | 0.936 | 0.091 | ( 0.842) | 0.845 |
| 7 | 0.58 | 7.40 | 1.066 | 0.091 | ( 0.959) | 0.975 |
| 8 | 0.67 | 8.60 | 1.238 | 0.091 | ( 1.115) | 1.147 |
| 9 | 0.75 | 12.30 | 1.771 | 0.091 | ( 1.594) | 1.680 |
| 10 | 0.83 | 29.10 | 4.190 | 0.091 | ( 3.771) | 4.099 |
| 11 | 0.92 | 6.80 | 0.979 | 0.091 | ( 0.881) | 0.888 |
| 12 | 1.00 | 5.00 | 0.720 | 0.091 | ( 0.648) | 0.629 |
| | | (Loss Rate Not Used) | | | |
| Sum = | | 100.0 | | | Sum = | 13.3 |

Flood volume = Effective rainfall 1.11(In)
times area 1.5(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.011(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 6038.7 Cubic Feet
Total soil loss = 495.2 Cubic Feet

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Peak flow rate of this hydrograph = 5.041(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0037 | 0.53 | VQ | | | | |
| 0+10 | 0.0091 | 0.79 | VQ | | | | |
| 0+15 | 0.0153 | 0.90 | QV | | | | |
| 0+20 | 0.0219 | 0.95 | Q V | | | | |
| 0+25 | 0.0293 | 1.07 | Q V | | | | |
| 0+30 | 0.0377 | 1.23 | Q V | | | | |
| 0+35 | 0.0475 | 1.41 | Q V | | | | |
| 0+40 | 0.0588 | 1.65 | Q V | | | | |
| 0+45 | 0.0746 | 2.29 | Q V | | | | |
| 0+50 | 0.1093 | 5.04 | Q V | | | | |
| 0+55 | 0.1291 | 2.88 | Q V | | | | |
| 1+ 0 | 0.1366 | 1.08 | Q V | | | | |
| 1+ 5 | 0.1386 | 0.30 | Q V | | | | |

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U n i t  H y d r o g r a p h  A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

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EXISTING CONDITIONS AREA 9
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Length along longest watercourse = 0.082 Mi.
Length along longest watercourse measured to centroid = 0.037 Mi.
Difference in elevation = 260.00(Ft.)
Slope along watercourse = 3155.8621 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.020 Hr.
Lag time = 1.21 Min.
25% of lag time = 0.30 Min.
40% of lag time = 0.48 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.50 | 0.80 | 1.20 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.50 | 1.80 | 2.70 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 1.500 | 83.34 | 0.000 |

Total Area Entered = 1.50(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.3 | 93.0 | 0.091 | 0.000 | 0.091 | 1.000 | 0.091 |
| | | | | | Sum (F) = | 0.091 |

Area averaged mean soil loss (F) (In/Hr) = 0.091

Minimum soil loss rate ((In/Hr)) = 0.045
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 413.895 | 68.317 | 1.033 |
| 2 0.167 | 827.791 | 31.683 | 0.479 |
| | Sum = 100.000 | Sum= | 1.512 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 1.30 | 0.281 | 0.091 | ( 0.253) | 0.190 |
| 2 0.17 | 1.30 | 0.281 | 0.091 | ( 0.253) | 0.190 |
| 3 0.25 | 1.10 | 0.238 | 0.091 | ( 0.214) | 0.147 |
| 4 0.33 | 1.50 | 0.324 | 0.091 | ( 0.292) | 0.233 |
| 5 0.42 | 1.50 | 0.324 | 0.091 | ( 0.292) | 0.233 |
| 6 0.50 | 1.80 | 0.389 | 0.091 | ( 0.350) | 0.298 |
| 7 0.58 | 1.50 | 0.324 | 0.091 | ( 0.292) | 0.233 |
| 8 0.67 | 1.80 | 0.389 | 0.091 | ( 0.350) | 0.298 |
| 9 0.75 | 1.80 | 0.389 | 0.091 | ( 0.350) | 0.298 |
| 10 0.83 | 1.50 | 0.324 | 0.091 | ( 0.292) | 0.233 |
| 11 0.92 | 1.60 | 0.346 | 0.091 | ( 0.311) | 0.255 |
| 12 1.00 | 1.80 | 0.389 | 0.091 | ( 0.350) | 0.298 |
| 13 1.08 | 2.20 | 0.475 | 0.091 | ( 0.428) | 0.384 |
| 14 1.17 | 2.20 | 0.475 | 0.091 | ( 0.428) | 0.384 |
| 15 1.25 | 2.20 | 0.475 | 0.091 | ( 0.428) | 0.384 |
| 16 1.33 | 2.00 | 0.432 | 0.091 | ( 0.389) | 0.341 |
| 17 1.42 | 2.60 | 0.562 | 0.091 | ( 0.505) | 0.471 |
| 18 1.50 | 2.70 | 0.583 | 0.091 | ( 0.525) | 0.492 |
| 19 1.58 | 2.40 | 0.518 | 0.091 | ( 0.467) | 0.427 |
| 20 1.67 | 2.70 | 0.583 | 0.091 | ( 0.525) | 0.492 |
| 21 1.75 | 3.30 | 0.713 | 0.091 | ( 0.642) | 0.622 |
| 22 1.83 | 3.10 | 0.670 | 0.091 | ( 0.603) | 0.579 |
| 23 1.92 | 2.90 | 0.626 | 0.091 | ( 0.564) | 0.535 |
| 24 2.00 | 3.00 | 0.648 | 0.091 | ( 0.583) | 0.557 |
| 25 2.08 | 3.10 | 0.670 | 0.091 | ( 0.603) | 0.579 |
| 26 2.17 | 4.20 | 0.907 | 0.091 | ( 0.816) | 0.816 |
| 27 2.25 | 5.00 | 1.080 | 0.091 | ( 0.972) | 0.989 |
| 28 2.33 | 3.50 | 0.756 | 0.091 | ( 0.680) | 0.665 |
| 29 2.42 | 6.80 | 1.469 | 0.091 | ( 1.322) | 1.378 |
| 30 2.50 | 7.30 | 1.577 | 0.091 | ( 1.419) | 1.486 |
| 31 2.58 | 8.20 | 1.771 | 0.091 | ( 1.594) | 1.680 |
| 32 2.67 | 5.90 | 1.274 | 0.091 | ( 1.147) | 1.183 |
| 33 2.75 | 2.00 | 0.432 | 0.091 | ( 0.389) | 0.341 |
| 34 2.83 | 1.80 | 0.389 | 0.091 | ( 0.350) | 0.298 |
| 35 2.92 | 1.80 | 0.389 | 0.091 | ( 0.350) | 0.298 |
| 36 3.00 | 0.60 | 0.130 | 0.091 | ( 0.117) | 0.039 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 18.3 |

Flood volume = Effective rainfall 1.53(In)
times area 1.5(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 0.27(In)
Total soil loss = 0.034(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 8315.3 Cubic Feet
Total soil loss = 1485.6 Cubic Feet

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Peak flow rate of this hydrograph = 2.448(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0014 | 0.20 | Q | \| | \| | \| | \| |
| 0+10 | 0.0033 | 0.29 | VQ | \| | \| | \| | \| |
| 0+15 | 0.0050 | 0.24 | QV | \| | \| | \| | \| |
| 0+20 | 0.0071 | 0.31 | \|Q | \| | \| | \| | \| |
| 0+25 | 0.0096 | 0.35 | \|QV | \| | \| | \| | \| |
| 0+30 | 0.0125 | 0.42 | \|QV | \| | \| | \| | \| |
| 0+35 | 0.0151 | 0.38 | \|Q V | \| | \| | \| | \| |
| 0+40 | 0.0180 | 0.42 | \|Q V | \| | \| | \| | \| |
| 0+45 | 0.0211 | 0.45 | \|Q  V | \| | \| | \| | \| |
| 0+50 | 0.0237 | 0.38 | \|Q  V | \| | \| | \| | \| |
| 0+55 | 0.0263 | 0.37 | \|Q   V | \| | \| | \| | \| |
| 1+ 0 | 0.0293 | 0.43 | \|Q    V | \| | \| | \| | \| |
| 1+ 5 | 0.0330 | 0.54 | \| Q   V | \| | \| | \| | \| |
| 1+10 | 0.0370 | 0.58 | \| Q    V | \| | \| | \| | \| |
| 1+15 | 0.0410 | 0.58 | \| Q     V | \| | \| | \| | \| |
| 1+20 | 0.0447 | 0.54 | \| Q      V\| | \| | \| | \| |
| 1+25 | 0.0492 | 0.65 | \| Q       V | \| | \| | \| |
| 1+30 | 0.0542 | 0.73 | \| Q       \|V | \| | \| | \| |
| 1+35 | 0.0589 | 0.68 | \| Q       \| V | \| | \| | \| |
| 1+40 | 0.0638 | 0.71 | \| Q       \|  V | \| | \| | \| |
| 1+45 | 0.0699 | 0.88 | \|  Q       \|   V | \| | \| | \| |
| 1+50 | 0.0760 | 0.90 | \|  Q       \|    V | \| | \| | \| |
| 1+55 | 0.0817 | 0.83 | \|  Q       \|     V \| | \| | \| |
| 2+ 0 | 0.0875 | 0.83 | \|  Q       \|      V \| | \| | \| |
| 2+ 5 | 0.0934 | 0.86 | \|  Q       \|       V\| | \| | \| |
| 2+10 | 0.1011 | 1.12 | \|   Q      \|        \|V | \| | \| |
| 2+15 | 0.1109 | 1.41 | \|    Q     \|        \|  V | \| | \| |
| 2+20 | 0.1189 | 1.16 | \|   Q      \|        \|   V | \| | \| |
| 2+25 | 0.1309 | 1.74 | \|     Q    \|        \|     V \| | \| |
| 2+30 | 0.1460 | 2.20 | \|       Q \|        \|       V | \| |
| 2+35 | 0.1629 | 2.45 | \|        Q\|        \|         \| V | \| |
| 2+40 | 0.1768 | 2.03 | \|       Q \|        \|         \|    V | \| |
| 2+45 | 0.1832 | 0.92 | \|  Q      \|        \|         \|      V \| |
| 2+50 | 0.1864 | 0.47 | \|Q        \|        \|         \|       V\| |
| 2+55 | 0.1895 | 0.45 | \|Q        \|        \|         \|       V\| |
| 3+ 0 | 0.1908 | 0.18 | Q          \|        \|         \|       V\| |
| 3+ 5 | 0.1909 | 0.02 | Q          \|        \|         \|       V\| |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX96100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 9
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 1.50(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.50(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 435.00(Ft.)
Length along longest watercourse measured to centroid = 196.00(Ft.)
Length along longest watercourse = 0.082 Mi.
Length along longest watercourse measured to centroid = 0.037 Mi.
Difference in elevation = 260.00(Ft.)
Slope along watercourse = 3155.8621 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.020 Hr.
Lag time = 1.21 Min.
25% of lag time = 0.30 Min.
40% of lag time = 0.48 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.50 | 1.12 | 1.68 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.50 | 2.50 | 3.75 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.120(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 1.500 | 83.34 | 0.000 |

Total Area Entered = 1.50(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.3 | 93.0 | 0.091 | 0.000 | 0.091 | 1.000 | 0.091 |
| | | | | | Sum (F) = | 0.091 |

Area averaged mean soil loss (F) (In/Hr) = 0.091

Minimum soil loss rate ((In/Hr)) = 0.045
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 413.895 | 68.317 | 1.033 |
| 2 | 0.167 | 827.791 | 31.683 | 0.479 |
| | | | Sum = 100.000 Sum= | 1.512 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.091 | ( 0.135) | 0.059 |
| 2 | 0.17 | 0.60 | 0.180 | 0.091 | ( 0.162) | 0.089 |
| 3 | 0.25 | 0.60 | 0.180 | 0.091 | ( 0.162) | 0.089 |
| 4 | 0.33 | 0.60 | 0.180 | 0.091 | ( 0.162) | 0.089 |
| 5 | 0.42 | 0.60 | 0.180 | 0.091 | ( 0.162) | 0.089 |
| 6 | 0.50 | 0.70 | 0.210 | 0.091 | ( 0.189) | 0.119 |
| 7 | 0.58 | 0.70 | 0.210 | 0.091 | ( 0.189) | 0.119 |
| 8 | 0.67 | 0.70 | 0.210 | 0.091 | ( 0.189) | 0.119 |
| 9 | 0.75 | 0.70 | 0.210 | 0.091 | ( 0.189) | 0.119 |
| 10 | 0.83 | 0.70 | 0.210 | 0.091 | ( 0.189) | 0.119 |
| 11 | 0.92 | 0.70 | 0.210 | 0.091 | ( 0.189) | 0.119 |
| 12 | 1.00 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 13 | 1.08 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 14 | 1.17 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 15 | 1.25 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 16 | 1.33 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 17 | 1.42 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 18 | 1.50 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 19 | 1.58 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 20 | 1.67 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 21 | 1.75 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 22 | 1.83 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 23 | 1.92 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 24 | 2.00 | 0.90 | 0.270 | 0.091 | ( 0.243) | 0.179 |
| 25 | 2.08 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 26 | 2.17 | 0.90 | 0.270 | 0.091 | ( 0.243) | 0.179 |
| 27 | 2.25 | 0.90 | 0.270 | 0.091 | ( 0.243) | 0.179 |
| 28 | 2.33 | 0.90 | 0.270 | 0.091 | ( 0.243) | 0.179 |
| 29 | 2.42 | 0.90 | 0.270 | 0.091 | ( 0.243) | 0.179 |
| 30 | 2.50 | 0.90 | 0.270 | 0.091 | ( 0.243) | 0.179 |
| 31 | 2.58 | 0.90 | 0.270 | 0.091 | ( 0.243) | 0.179 |
| 32 | 2.67 | 0.90 | 0.270 | 0.091 | ( 0.243) | 0.179 |
| 33 | 2.75 | 1.00 | 0.300 | 0.091 | ( 0.270) | 0.209 |
| 34 | 2.83 | 1.00 | 0.300 | 0.091 | ( 0.270) | 0.209 |
| 35 | 2.92 | 1.00 | 0.300 | 0.091 | ( 0.270) | 0.209 |
| 36 | 3.00 | 1.00 | 0.300 | 0.091 | ( 0.270) | 0.209 |
| 37 | 3.08 | 1.00 | 0.300 | 0.091 | ( 0.270) | 0.209 |
| 38 | 3.17 | 1.10 | 0.330 | 0.091 | ( 0.297) | 0.239 |
| 39 | 3.25 | 1.10 | 0.330 | 0.091 | ( 0.297) | 0.239 |
| 40 | 3.33 | 1.10 | 0.330 | 0.091 | ( 0.297) | 0.239 |
| 41 | 3.42 | 1.20 | 0.360 | 0.091 | ( 0.324) | 0.269 |
| 42 | 3.50 | 1.30 | 0.390 | 0.091 | ( 0.351) | 0.299 |
| 43 | 3.58 | 1.40 | 0.420 | 0.091 | ( 0.378) | 0.329 |
| 44 | 3.67 | 1.40 | 0.420 | 0.091 | ( 0.378) | 0.329 |
| 45 | 3.75 | 1.50 | 0.450 | 0.091 | ( 0.405) | 0.359 |
| 46 | 3.83 | 1.50 | 0.450 | 0.091 | ( 0.405) | 0.359 |
| 47 | 3.92 | 1.60 | 0.480 | 0.091 | ( 0.432) | 0.389 |
| 48 | 4.00 | 1.60 | 0.480 | 0.091 | ( 0.432) | 0.389 |
| 49 | 4.08 | 1.70 | 0.510 | 0.091 | ( 0.459) | 0.419 |
| 50 | 4.17 | 1.80 | 0.540 | 0.091 | ( 0.486) | 0.449 |
| 51 | 4.25 | 1.90 | 0.570 | 0.091 | ( 0.513) | 0.479 |
| 52 | 4.33 | 2.00 | 0.600 | 0.091 | ( 0.540) | 0.509 |
| 53 | 4.42 | 2.10 | 0.630 | 0.091 | ( 0.567) | 0.539 |
| 54 | 4.50 | 2.10 | 0.630 | 0.091 | ( 0.567) | 0.539 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 55 | 4.58 | 2.20 | 0.660 | 0.091 | ( 0.594) | 0.569 | |
| 56 | 4.67 | 2.30 | 0.690 | 0.091 | ( 0.621) | 0.599 | |
| 57 | 4.75 | 2.40 | 0.720 | 0.091 | ( 0.648) | 0.629 | |
| 58 | 4.83 | 2.40 | 0.720 | 0.091 | ( 0.648) | 0.629 | |
| 59 | 4.92 | 2.50 | 0.750 | 0.091 | ( 0.675) | 0.659 | |
| 60 | 5.00 | 2.60 | 0.780 | 0.091 | ( 0.702) | 0.689 | |
| 61 | 5.08 | 3.10 | 0.930 | 0.091 | ( 0.837) | 0.839 | |
| 62 | 5.17 | 3.60 | 1.080 | 0.091 | ( 0.972) | 0.989 | |
| 63 | 5.25 | 3.90 | 1.170 | 0.091 | ( 1.053) | 1.079 | |
| 64 | 5.33 | 4.20 | 1.260 | 0.091 | ( 1.134) | 1.169 | |
| 65 | 5.42 | 4.70 | 1.410 | 0.091 | ( 1.269) | 1.319 | |
| 66 | 5.50 | 5.60 | 1.680 | 0.091 | ( 1.512) | 1.589 | |
| 67 | 5.58 | 1.90 | 0.570 | 0.091 | ( 0.513) | 0.479 | |
| 68 | 5.67 | 0.90 | 0.270 | 0.091 | ( 0.243) | 0.179 | |
| 69 | 5.75 | 0.60 | 0.180 | 0.091 | ( 0.162) | 0.089 | |
| 70 | 5.83 | 0.50 | 0.150 | 0.091 | ( 0.135) | 0.059 | |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.091) | 0.081 | 0.009 | |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.091) | 0.054 | 0.006 | |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.5

Flood volume = Effective rainfall 1.96(In)
times area 1.5(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 0.54(In)
Total soil loss = 0.068(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 10662.4 Cubic Feet
Total soil loss = 2950.0 Cubic Feet

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Peak flow rate of this hydrograph = 2.274(CFS)

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6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0004 | 0.06 | Q | | | | |
| 0+10 | 0.0012 | 0.12 | Q | | | | |
| 0+15 | 0.0022 | 0.13 | Q | | | | |
| 0+20 | 0.0031 | 0.13 | Q | | | | |
| 0+25 | 0.0040 | 0.13 | Q | | | | |
| 0+30 | 0.0052 | 0.17 | Q | | | | |
| 0+35 | 0.0064 | 0.18 | QV | | | | |
| 0+40 | 0.0077 | 0.18 | QV | | | | |
| 0+45 | 0.0089 | 0.18 | QV | | | | |
| 0+50 | 0.0101 | 0.18 | QV | | | | |
| 0+55 | 0.0114 | 0.18 | QV | | | | |
| 1+ 0 | 0.0128 | 0.21 | Q V | | | | |
| 1+ 5 | 0.0144 | 0.23 | Q V | | | | |
| 1+10 | 0.0159 | 0.23 | Q V | | | | |
| 1+15 | 0.0175 | 0.23 | Q V | | | | |
| 1+20 | 0.0190 | 0.23 | Q V | | | | |
| 1+25 | 0.0206 | 0.23 | Q V | | | | |
| 1+30 | 0.0221 | 0.23 | Q V | | | | |
| 1+35 | 0.0237 | 0.23 | Q V | | | | |
| 1+40 | 0.0252 | 0.23 | Q V | | | | |
| 1+45 | 0.0268 | 0.23 | Q V | | | | |
| 1+50 | 0.0284 | 0.23 | Q V | | | | |
| 1+55 | 0.0299 | 0.23 | Q V | | | | |
| 2+ 0 | 0.0317 | 0.26 | \|Q V | | | | |
| 2+ 5 | 0.0333 | 0.24 | Q V | | | | |
| 2+10 | 0.0351 | 0.26 | \|Q V | | | | |
| 2+15 | 0.0370 | 0.27 | \|Q V | | | | |
| 2+20 | 0.0388 | 0.27 | \|Q V | | | | |
| 2+25 | 0.0407 | 0.27 | \|Q V | | | | |
| 2+30 | 0.0425 | 0.27 | \|Q V | | | | |
| 2+35 | 0.0444 | 0.27 | \|Q V | | | | |
| 2+40 | 0.0463 | 0.27 | \|Q V | | | | |
| 2+45 | 0.0484 | 0.30 | \|Q V | | | | |
| 2+50 | 0.0505 | 0.32 | \|Q V | | | | |
| 2+55 | 0.0527 | 0.32 | \|Q V | | | | |
| 3+ 0 | 0.0549 | 0.32 | \|Q V | | | | |
| 3+ 5 | 0.0571 | 0.32 | \|Q V | | | | |
| 3+10 | 0.0595 | 0.35 | \|Q V | | | | |
| 3+15 | 0.0620 | 0.36 | \|Q V | | | | |

```
    3+20       0.0644      0.36  |Q        V          |          |          |
    3+25       0.0671      0.39  |Q        V          |          |          |
    3+30       0.0702      0.44  |Q        |V         |          |          |
    3+35       0.0735      0.48  |Q        | V        |          |          |
    3+40       0.0769      0.50  |Q        | V        |          |          |
    3+45       0.0806      0.53  | Q       |  V       |          |          |
    3+50       0.0843      0.54  | Q       |  V       |          |          |
    3+55       0.0883      0.57  | Q       |   V      |          |          |
    4+ 0       0.0923      0.59  | Q       |    V     |          |          |
    4+ 5       0.0966      0.62  | Q       |    V     |          |          |
    4+10       0.1011      0.66  | Q       |     V    |          |          |
    4+15       0.1060      0.71  | Q       |      V   |          |          |
    4+20       0.1112      0.76  |  Q      |       V  |          |          |
    4+25       0.1168      0.80  |  Q      |        V |          |          |
    4+30       0.1224      0.82  |  Q      |        V |          |          |
    4+35       0.1282      0.85  |  Q      |         V|          |          |
    4+40       0.1343      0.89  |  Q      |          |V         |          |
    4+45       0.1408      0.94  |  Q      |          |  V       |          |
    4+50       0.1474      0.95  |  Q      |          |   V      |          |
    4+55       0.1541      0.98  |  Q      |          |    V     |          |
    5+ 0       0.1612      1.03  |   Q     |          |     V    |          |
    5+ 5       0.1694      1.20  |   Q     |          |      V   |          |
    5+10       0.1792      1.42  |    Q    |          |       V  |          |
    5+15       0.1902      1.59  |     Q   |          |        V |          |
    5+20       0.2021      1.73  |     Q   |          |          |  V       |
    5+25       0.2153      1.92  |      Q  |          |          |   V      |
    5+30       0.2310      2.27  |       Q |          |          |    V     |
    5+35       0.2396      1.26  |    Q    |          |          |     V    |
    5+40       0.2425      0.41  |Q        |          |          |     V    |
    5+45       0.2437      0.18  Q         |          |          |     V    |
    5+50       0.2444      0.10  Q         |          |          |     V    |
    5+55       0.2447      0.04  Q         |          |          |     V    |
    6+ 0       0.2448      0.01  Q         |          |          |     V    |
    6+ 5       0.2448      0.00  Q         |          |          |     V    |
-------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX924100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 9
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 1.50(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.50(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 435.00(Ft.)
Length along longest watercourse measured to centroid = 196.00(Ft.)
Length along longest watercourse = 0.082 Mi.
Length along longest watercourse measured to centroid = 0.037 Mi.
Difference in elevation = 260.00(Ft.)
Slope along watercourse = 3155.8621 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.020 Hr.
Lag time = 1.21 Min.
25% of lag time = 0.30 Min.
40% of lag time = 0.48 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.50 | 1.80 | 2.70 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.50 | 4.55 | 6.82 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.550(In)

Point rain (area averaged) = 4.550(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.550(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 1.500 | 83.34 | 0.000 |

Total Area Entered = 1.50(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.3 | 93.0 | 0.091 | 0.000 | 0.091 | 1.000 | 0.091 |
| | | | | | Sum (F) = | 0.091 |

Area averaged mean soil loss (F) (In/Hr) = 0.091

Minimum soil loss rate ((In/Hr)) = 0.045
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 413.895 | 68.317 | 1.033 |
| 2 | 0.167 | 827.791 | 31.683 | 0.479 |
| | | | Sum = 100.000 Sum= | 1.512 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.036 | ( 0.161) | 0.033 | 0.004 |
| 2 | 0.17 | 0.07 | 0.036 | ( 0.161) | 0.033 | 0.004 |
| 3 | 0.25 | 0.07 | 0.036 | ( 0.160) | 0.033 | 0.004 |
| 4 | 0.33 | 0.10 | 0.055 | ( 0.159) | 0.049 | 0.005 |
| 5 | 0.42 | 0.10 | 0.055 | ( 0.159) | 0.049 | 0.005 |
| 6 | 0.50 | 0.10 | 0.055 | ( 0.158) | 0.049 | 0.005 |
| 7 | 0.58 | 0.10 | 0.055 | ( 0.158) | 0.049 | 0.005 |
| 8 | 0.67 | 0.10 | 0.055 | ( 0.157) | 0.049 | 0.005 |
| 9 | 0.75 | 0.10 | 0.055 | ( 0.156) | 0.049 | 0.005 |
| 10 | 0.83 | 0.13 | 0.073 | ( 0.156) | 0.066 | 0.007 |
| 11 | 0.92 | 0.13 | 0.073 | ( 0.155) | 0.066 | 0.007 |
| 12 | 1.00 | 0.13 | 0.073 | ( 0.154) | 0.066 | 0.007 |
| 13 | 1.08 | 0.10 | 0.055 | ( 0.154) | 0.049 | 0.005 |
| 14 | 1.17 | 0.10 | 0.055 | ( 0.153) | 0.049 | 0.005 |
| 15 | 1.25 | 0.10 | 0.055 | ( 0.153) | 0.049 | 0.005 |
| 16 | 1.33 | 0.10 | 0.055 | ( 0.152) | 0.049 | 0.005 |
| 17 | 1.42 | 0.10 | 0.055 | ( 0.151) | 0.049 | 0.005 |
| 18 | 1.50 | 0.10 | 0.055 | ( 0.151) | 0.049 | 0.005 |
| 19 | 1.58 | 0.10 | 0.055 | ( 0.150) | 0.049 | 0.005 |
| 20 | 1.67 | 0.10 | 0.055 | ( 0.150) | 0.049 | 0.005 |
| 21 | 1.75 | 0.10 | 0.055 | ( 0.149) | 0.049 | 0.005 |
| 22 | 1.83 | 0.13 | 0.073 | ( 0.148) | 0.066 | 0.007 |
| 23 | 1.92 | 0.13 | 0.073 | ( 0.148) | 0.066 | 0.007 |
| 24 | 2.00 | 0.13 | 0.073 | ( 0.147) | 0.066 | 0.007 |
| 25 | 2.08 | 0.13 | 0.073 | ( 0.147) | 0.066 | 0.007 |
| 26 | 2.17 | 0.13 | 0.073 | ( 0.146) | 0.066 | 0.007 |
| 27 | 2.25 | 0.13 | 0.073 | ( 0.145) | 0.066 | 0.007 |
| 28 | 2.33 | 0.13 | 0.073 | ( 0.145) | 0.066 | 0.007 |
| 29 | 2.42 | 0.13 | 0.073 | ( 0.144) | 0.066 | 0.007 |
| 30 | 2.50 | 0.13 | 0.073 | ( 0.144) | 0.066 | 0.007 |
| 31 | 2.58 | 0.17 | 0.091 | ( 0.143) | 0.082 | 0.009 |
| 32 | 2.67 | 0.17 | 0.091 | ( 0.142) | 0.082 | 0.009 |
| 33 | 2.75 | 0.17 | 0.091 | ( 0.142) | 0.082 | 0.009 |
| 34 | 2.83 | 0.17 | 0.091 | ( 0.141) | 0.082 | 0.009 |
| 35 | 2.92 | 0.17 | 0.091 | ( 0.141) | 0.082 | 0.009 |
| 36 | 3.00 | 0.17 | 0.091 | ( 0.140) | 0.082 | 0.009 |
| 37 | 3.08 | 0.17 | 0.091 | ( 0.140) | 0.082 | 0.009 |
| 38 | 3.17 | 0.17 | 0.091 | ( 0.139) | 0.082 | 0.009 |
| 39 | 3.25 | 0.17 | 0.091 | ( 0.138) | 0.082 | 0.009 |
| 40 | 3.33 | 0.17 | 0.091 | ( 0.138) | 0.082 | 0.009 |
| 41 | 3.42 | 0.17 | 0.091 | ( 0.137) | 0.082 | 0.009 |
| 42 | 3.50 | 0.17 | 0.091 | ( 0.137) | 0.082 | 0.009 |
| 43 | 3.58 | 0.17 | 0.091 | ( 0.136) | 0.082 | 0.009 |
| 44 | 3.67 | 0.17 | 0.091 | ( 0.136) | 0.082 | 0.009 |
| 45 | 3.75 | 0.17 | 0.091 | ( 0.135) | 0.082 | 0.009 |
| 46 | 3.83 | 0.20 | 0.109 | ( 0.134) | 0.098 | 0.011 |
| 47 | 3.92 | 0.20 | 0.109 | ( 0.134) | 0.098 | 0.011 |
| 48 | 4.00 | 0.20 | 0.109 | ( 0.133) | 0.098 | 0.011 |
| 49 | 4.08 | 0.20 | 0.109 | ( 0.133) | 0.098 | 0.011 |
| 50 | 4.17 | 0.20 | 0.109 | ( 0.132) | 0.098 | 0.011 |
| 51 | 4.25 | 0.20 | 0.109 | ( 0.132) | 0.098 | 0.011 |
| 52 | 4.33 | 0.23 | 0.127 | ( 0.131) | 0.115 | 0.013 |
| 53 | 4.42 | 0.23 | 0.127 | ( 0.130) | 0.115 | 0.013 |
| 54 | 4.50 | 0.23 | 0.127 | ( 0.130) | 0.115 | 0.013 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 55 | 4.58 | 0.23 | 0.127 | ( | 0.129) | 0.115 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.127 | ( | 0.129) | 0.115 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.127 | ( | 0.128) | 0.115 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.146 | | 0.128 | ( | 0.131) | 0.018 |
| 59 | 4.92 | 0.27 | 0.146 | | 0.127 | ( | 0.131) | 0.018 |
| 60 | 5.00 | 0.27 | 0.146 | | 0.127 | ( | 0.131) | 0.019 |
| 61 | 5.08 | 0.20 | 0.109 | ( | 0.126) | 0.098 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.109 | ( | 0.125) | 0.098 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.109 | ( | 0.125) | 0.098 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.127 | ( | 0.124) | 0.115 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.127 | ( | 0.124) | 0.115 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.127 | ( | 0.123) | 0.115 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.146 | | 0.123 | ( | 0.131) | 0.023 |
| 68 | 5.67 | 0.27 | 0.146 | | 0.122 | ( | 0.131) | 0.023 |
| 69 | 5.75 | 0.27 | 0.146 | | 0.122 | ( | 0.131) | 0.024 |
| 70 | 5.83 | 0.27 | 0.146 | | 0.121 | ( | 0.131) | 0.024 |
| 71 | 5.92 | 0.27 | 0.146 | | 0.121 | ( | 0.131) | 0.025 |
| 72 | 6.00 | 0.27 | 0.146 | | 0.120 | ( | 0.131) | 0.026 |
| 73 | 6.08 | 0.30 | 0.164 | | 0.120 | ( | 0.147) | 0.044 |
| 74 | 6.17 | 0.30 | 0.164 | | 0.119 | ( | 0.147) | 0.045 |
| 75 | 6.25 | 0.30 | 0.164 | | 0.118 | ( | 0.147) | 0.045 |
| 76 | 6.33 | 0.30 | 0.164 | | 0.118 | ( | 0.147) | 0.046 |
| 77 | 6.42 | 0.30 | 0.164 | | 0.117 | ( | 0.147) | 0.046 |
| 78 | 6.50 | 0.30 | 0.164 | | 0.117 | ( | 0.147) | 0.047 |
| 79 | 6.58 | 0.33 | 0.182 | | 0.116 | ( | 0.164) | 0.066 |
| 80 | 6.67 | 0.33 | 0.182 | | 0.116 | ( | 0.164) | 0.066 |
| 81 | 6.75 | 0.33 | 0.182 | | 0.115 | ( | 0.164) | 0.067 |
| 82 | 6.83 | 0.33 | 0.182 | | 0.115 | ( | 0.164) | 0.067 |
| 83 | 6.92 | 0.33 | 0.182 | | 0.114 | ( | 0.164) | 0.068 |
| 84 | 7.00 | 0.33 | 0.182 | | 0.114 | ( | 0.164) | 0.068 |
| 85 | 7.08 | 0.33 | 0.182 | | 0.113 | ( | 0.164) | 0.069 |
| 86 | 7.17 | 0.33 | 0.182 | | 0.113 | ( | 0.164) | 0.069 |
| 87 | 7.25 | 0.33 | 0.182 | | 0.112 | ( | 0.164) | 0.070 |
| 88 | 7.33 | 0.37 | 0.200 | | 0.112 | ( | 0.180) | 0.089 |
| 89 | 7.42 | 0.37 | 0.200 | | 0.111 | ( | 0.180) | 0.089 |
| 90 | 7.50 | 0.37 | 0.200 | | 0.111 | ( | 0.180) | 0.090 |
| 91 | 7.58 | 0.40 | 0.218 | | 0.110 | ( | 0.197) | 0.108 |
| 92 | 7.67 | 0.40 | 0.218 | | 0.110 | ( | 0.197) | 0.109 |
| 93 | 7.75 | 0.40 | 0.218 | | 0.109 | ( | 0.197) | 0.109 |
| 94 | 7.83 | 0.43 | 0.237 | | 0.109 | ( | 0.213) | 0.128 |
| 95 | 7.92 | 0.43 | 0.237 | | 0.108 | ( | 0.213) | 0.128 |
| 96 | 8.00 | 0.43 | 0.237 | | 0.108 | ( | 0.213) | 0.129 |
| 97 | 8.08 | 0.50 | 0.273 | | 0.107 | ( | 0.246) | 0.166 |
| 98 | 8.17 | 0.50 | 0.273 | | 0.107 | ( | 0.246) | 0.166 |
| 99 | 8.25 | 0.50 | 0.273 | | 0.106 | ( | 0.246) | 0.167 |
| 100 | 8.33 | 0.50 | 0.273 | | 0.106 | ( | 0.246) | 0.167 |
| 101 | 8.42 | 0.50 | 0.273 | | 0.105 | ( | 0.246) | 0.168 |
| 102 | 8.50 | 0.50 | 0.273 | | 0.105 | ( | 0.246) | 0.168 |
| 103 | 8.58 | 0.53 | 0.291 | | 0.104 | ( | 0.262) | 0.187 |
| 104 | 8.67 | 0.53 | 0.291 | | 0.104 | ( | 0.262) | 0.188 |
| 105 | 8.75 | 0.53 | 0.291 | | 0.103 | ( | 0.262) | 0.188 |
| 106 | 8.83 | 0.57 | 0.309 | | 0.103 | ( | 0.278) | 0.207 |
| 107 | 8.92 | 0.57 | 0.309 | | 0.102 | ( | 0.278) | 0.207 |
| 108 | 9.00 | 0.57 | 0.309 | | 0.102 | ( | 0.278) | 0.208 |
| 109 | 9.08 | 0.63 | 0.346 | | 0.101 | ( | 0.311) | 0.245 |
| 110 | 9.17 | 0.63 | 0.346 | | 0.101 | ( | 0.311) | 0.245 |
| 111 | 9.25 | 0.63 | 0.346 | | 0.100 | ( | 0.311) | 0.246 |
| 112 | 9.33 | 0.67 | 0.364 | | 0.100 | ( | 0.328) | 0.264 |
| 113 | 9.42 | 0.67 | 0.364 | | 0.099 | ( | 0.328) | 0.265 |
| 114 | 9.50 | 0.67 | 0.364 | | 0.099 | ( | 0.328) | 0.265 |
| 115 | 9.58 | 0.70 | 0.382 | | 0.098 | ( | 0.344) | 0.284 |
| 116 | 9.67 | 0.70 | 0.382 | | 0.098 | ( | 0.344) | 0.284 |
| 117 | 9.75 | 0.70 | 0.382 | | 0.097 | ( | 0.344) | 0.285 |
| 118 | 9.83 | 0.73 | 0.400 | | 0.097 | ( | 0.360) | 0.303 |
| 119 | 9.92 | 0.73 | 0.400 | | 0.097 | ( | 0.360) | 0.304 |
| 120 | 10.00 | 0.73 | 0.400 | | 0.096 | ( | 0.360) | 0.304 |
| 121 | 10.08 | 0.50 | 0.273 | | 0.096 | ( | 0.246) | 0.177 |
| 122 | 10.17 | 0.50 | 0.273 | | 0.095 | ( | 0.246) | 0.178 |
| 123 | 10.25 | 0.50 | 0.273 | | 0.095 | ( | 0.246) | 0.178 |
| 124 | 10.33 | 0.50 | 0.273 | | 0.094 | ( | 0.246) | 0.179 |
| 125 | 10.42 | 0.50 | 0.273 | | 0.094 | ( | 0.246) | 0.179 |
| 126 | 10.50 | 0.50 | 0.273 | | 0.093 | ( | 0.246) | 0.180 |
| 127 | 10.58 | 0.67 | 0.364 | | 0.093 | ( | 0.328) | 0.271 |
| 128 | 10.67 | 0.67 | 0.364 | | 0.092 | ( | 0.328) | 0.272 |
| 129 | 10.75 | 0.67 | 0.364 | | 0.092 | ( | 0.328) | 0.272 |
| 130 | 10.83 | 0.67 | 0.364 | | 0.091 | ( | 0.328) | 0.273 |
| 131 | 10.92 | 0.67 | 0.364 | | 0.091 | ( | 0.328) | 0.273 |
| 132 | 11.00 | 0.67 | 0.364 | | 0.091 | ( | 0.328) | 0.273 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 133 | 11.08 | 0.63 | 0.346 | 0.090 | ( 0.311) | 0.256 |
| 134 | 11.17 | 0.63 | 0.346 | 0.090 | ( 0.311) | 0.256 |
| 135 | 11.25 | 0.63 | 0.346 | 0.089 | ( 0.311) | 0.257 |
| 136 | 11.33 | 0.63 | 0.346 | 0.089 | ( 0.311) | 0.257 |
| 137 | 11.42 | 0.63 | 0.346 | 0.088 | ( 0.311) | 0.257 |
| 138 | 11.50 | 0.63 | 0.346 | 0.088 | ( 0.311) | 0.258 |
| 139 | 11.58 | 0.57 | 0.309 | 0.087 | ( 0.278) | 0.222 |
| 140 | 11.67 | 0.57 | 0.309 | 0.087 | ( 0.278) | 0.222 |
| 141 | 11.75 | 0.57 | 0.309 | 0.087 | ( 0.278) | 0.223 |
| 142 | 11.83 | 0.60 | 0.328 | 0.086 | ( 0.295) | 0.241 |
| 143 | 11.92 | 0.60 | 0.328 | 0.086 | ( 0.295) | 0.242 |
| 144 | 12.00 | 0.60 | 0.328 | 0.085 | ( 0.295) | 0.242 |
| 145 | 12.08 | 0.83 | 0.455 | 0.085 | ( 0.409) | 0.370 |
| 146 | 12.17 | 0.83 | 0.455 | 0.084 | ( 0.409) | 0.371 |
| 147 | 12.25 | 0.83 | 0.455 | 0.084 | ( 0.409) | 0.371 |
| 148 | 12.33 | 0.87 | 0.473 | 0.084 | ( 0.426) | 0.390 |
| 149 | 12.42 | 0.87 | 0.473 | 0.083 | ( 0.426) | 0.390 |
| 150 | 12.50 | 0.87 | 0.473 | 0.083 | ( 0.426) | 0.390 |
| 151 | 12.58 | 0.93 | 0.510 | 0.082 | ( 0.459) | 0.427 |
| 152 | 12.67 | 0.93 | 0.510 | 0.082 | ( 0.459) | 0.428 |
| 153 | 12.75 | 0.93 | 0.510 | 0.082 | ( 0.459) | 0.428 |
| 154 | 12.83 | 0.97 | 0.528 | 0.081 | ( 0.475) | 0.447 |
| 155 | 12.92 | 0.97 | 0.528 | 0.081 | ( 0.475) | 0.447 |
| 156 | 13.00 | 0.97 | 0.528 | 0.080 | ( 0.475) | 0.447 |
| 157 | 13.08 | 1.13 | 0.619 | 0.080 | ( 0.557) | 0.539 |
| 158 | 13.17 | 1.13 | 0.619 | 0.080 | ( 0.557) | 0.539 |
| 159 | 13.25 | 1.13 | 0.619 | 0.079 | ( 0.557) | 0.540 |
| 160 | 13.33 | 1.13 | 0.619 | 0.079 | ( 0.557) | 0.540 |
| 161 | 13.42 | 1.13 | 0.619 | 0.078 | ( 0.557) | 0.541 |
| 162 | 13.50 | 1.13 | 0.619 | 0.078 | ( 0.557) | 0.541 |
| 163 | 13.58 | 0.77 | 0.419 | 0.078 | ( 0.377) | 0.341 |
| 164 | 13.67 | 0.77 | 0.419 | 0.077 | ( 0.377) | 0.341 |
| 165 | 13.75 | 0.77 | 0.419 | 0.077 | ( 0.377) | 0.342 |
| 166 | 13.83 | 0.77 | 0.419 | 0.076 | ( 0.377) | 0.342 |
| 167 | 13.92 | 0.77 | 0.419 | 0.076 | ( 0.377) | 0.343 |
| 168 | 14.00 | 0.77 | 0.419 | 0.076 | ( 0.377) | 0.343 |
| 169 | 14.08 | 0.90 | 0.491 | 0.075 | ( 0.442) | 0.416 |
| 170 | 14.17 | 0.90 | 0.491 | 0.075 | ( 0.442) | 0.417 |
| 171 | 14.25 | 0.90 | 0.491 | 0.074 | ( 0.442) | 0.417 |
| 172 | 14.33 | 0.87 | 0.473 | 0.074 | ( 0.426) | 0.399 |
| 173 | 14.42 | 0.87 | 0.473 | 0.074 | ( 0.426) | 0.400 |
| 174 | 14.50 | 0.87 | 0.473 | 0.073 | ( 0.426) | 0.400 |
| 175 | 14.58 | 0.87 | 0.473 | 0.073 | ( 0.426) | 0.400 |
| 176 | 14.67 | 0.87 | 0.473 | 0.073 | ( 0.426) | 0.401 |
| 177 | 14.75 | 0.87 | 0.473 | 0.072 | ( 0.426) | 0.401 |
| 178 | 14.83 | 0.83 | 0.455 | 0.072 | ( 0.409) | 0.383 |
| 179 | 14.92 | 0.83 | 0.455 | 0.071 | ( 0.409) | 0.384 |
| 180 | 15.00 | 0.83 | 0.455 | 0.071 | ( 0.409) | 0.384 |
| 181 | 15.08 | 0.80 | 0.437 | 0.071 | ( 0.393) | 0.366 |
| 182 | 15.17 | 0.80 | 0.437 | 0.070 | ( 0.393) | 0.366 |
| 183 | 15.25 | 0.80 | 0.437 | 0.070 | ( 0.393) | 0.367 |
| 184 | 15.33 | 0.77 | 0.419 | 0.070 | ( 0.377) | 0.349 |
| 185 | 15.42 | 0.77 | 0.419 | 0.069 | ( 0.377) | 0.349 |
| 186 | 15.50 | 0.77 | 0.419 | 0.069 | ( 0.377) | 0.350 |
| 187 | 15.58 | 0.63 | 0.346 | 0.069 | ( 0.311) | 0.277 |
| 188 | 15.67 | 0.63 | 0.346 | 0.068 | ( 0.311) | 0.278 |
| 189 | 15.75 | 0.63 | 0.346 | 0.068 | ( 0.311) | 0.278 |
| 190 | 15.83 | 0.63 | 0.346 | 0.067 | ( 0.311) | 0.278 |
| 191 | 15.92 | 0.63 | 0.346 | 0.067 | ( 0.311) | 0.279 |
| 192 | 16.00 | 0.63 | 0.346 | 0.067 | ( 0.311) | 0.279 |
| 193 | 16.08 | 0.13 | 0.073 | ( 0.066) | 0.066 | 0.007 |
| 194 | 16.17 | 0.13 | 0.073 | ( 0.066) | 0.066 | 0.007 |
| 195 | 16.25 | 0.13 | 0.073 | ( 0.066) | 0.066 | 0.007 |
| 196 | 16.33 | 0.13 | 0.073 | 0.065 | ( 0.066) | 0.007 |
| 197 | 16.42 | 0.13 | 0.073 | 0.065 | ( 0.066) | 0.008 |
| 198 | 16.50 | 0.13 | 0.073 | 0.065 | ( 0.066) | 0.008 |
| 199 | 16.58 | 0.10 | 0.055 | ( 0.064) | 0.049 | 0.005 |
| 200 | 16.67 | 0.10 | 0.055 | ( 0.064) | 0.049 | 0.005 |
| 201 | 16.75 | 0.10 | 0.055 | ( 0.064) | 0.049 | 0.005 |
| 202 | 16.83 | 0.10 | 0.055 | ( 0.063) | 0.049 | 0.005 |
| 203 | 16.92 | 0.10 | 0.055 | ( 0.063) | 0.049 | 0.005 |
| 204 | 17.00 | 0.10 | 0.055 | ( 0.063) | 0.049 | 0.005 |
| 205 | 17.08 | 0.17 | 0.091 | 0.063 | ( 0.082) | 0.028 |
| 206 | 17.17 | 0.17 | 0.091 | 0.062 | ( 0.082) | 0.029 |
| 207 | 17.25 | 0.17 | 0.091 | 0.062 | ( 0.082) | 0.029 |
| 208 | 17.33 | 0.17 | 0.091 | 0.062 | ( 0.082) | 0.029 |
| 209 | 17.42 | 0.17 | 0.091 | 0.061 | ( 0.082) | 0.030 |
| 210 | 17.50 | 0.17 | 0.091 | 0.061 | ( 0.082) | 0.030 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 211 | 17.58 | 0.17 | 0.091 | | 0.061 | ( | 0.082) | 0.030 |
| 212 | 17.67 | 0.17 | 0.091 | | 0.060 | ( | 0.082) | 0.031 |
| 213 | 17.75 | 0.17 | 0.091 | | 0.060 | ( | 0.082) | 0.031 |
| 214 | 17.83 | 0.13 | 0.073 | | 0.060 | ( | 0.066) | 0.013 |
| 215 | 17.92 | 0.13 | 0.073 | | 0.059 | ( | 0.066) | 0.013 |
| 216 | 18.00 | 0.13 | 0.073 | | 0.059 | ( | 0.066) | 0.014 |
| 217 | 18.08 | 0.13 | 0.073 | | 0.059 | ( | 0.066) | 0.014 |
| 218 | 18.17 | 0.13 | 0.073 | | 0.059 | ( | 0.066) | 0.014 |
| 219 | 18.25 | 0.13 | 0.073 | | 0.058 | ( | 0.066) | 0.015 |
| 220 | 18.33 | 0.13 | 0.073 | | 0.058 | ( | 0.066) | 0.015 |
| 221 | 18.42 | 0.13 | 0.073 | | 0.058 | ( | 0.066) | 0.015 |
| 222 | 18.50 | 0.13 | 0.073 | | 0.057 | ( | 0.066) | 0.015 |
| 223 | 18.58 | 0.10 | 0.055 | ( | 0.057) | | 0.049 | 0.005 |
| 224 | 18.67 | 0.10 | 0.055 | ( | 0.057) | | 0.049 | 0.005 |
| 225 | 18.75 | 0.10 | 0.055 | ( | 0.057) | | 0.049 | 0.005 |
| 226 | 18.83 | 0.07 | 0.036 | ( | 0.056) | | 0.033 | 0.004 |
| 227 | 18.92 | 0.07 | 0.036 | ( | 0.056) | | 0.033 | 0.004 |
| 228 | 19.00 | 0.07 | 0.036 | ( | 0.056) | | 0.033 | 0.004 |
| 229 | 19.08 | 0.10 | 0.055 | ( | 0.056) | | 0.049 | 0.005 |
| 230 | 19.17 | 0.10 | 0.055 | ( | 0.055) | | 0.049 | 0.005 |
| 231 | 19.25 | 0.10 | 0.055 | ( | 0.055) | | 0.049 | 0.005 |
| 232 | 19.33 | 0.13 | 0.073 | | 0.055 | ( | 0.066) | 0.018 |
| 233 | 19.42 | 0.13 | 0.073 | | 0.055 | ( | 0.066) | 0.018 |
| 234 | 19.50 | 0.13 | 0.073 | | 0.054 | ( | 0.066) | 0.019 |
| 235 | 19.58 | 0.10 | 0.055 | ( | 0.054) | | 0.049 | 0.005 |
| 236 | 19.67 | 0.10 | 0.055 | ( | 0.054) | | 0.049 | 0.005 |
| 237 | 19.75 | 0.10 | 0.055 | ( | 0.054) | | 0.049 | 0.005 |
| 238 | 19.83 | 0.07 | 0.036 | ( | 0.053) | | 0.033 | 0.004 |
| 239 | 19.92 | 0.07 | 0.036 | ( | 0.053) | | 0.033 | 0.004 |
| 240 | 20.00 | 0.07 | 0.036 | ( | 0.053) | | 0.033 | 0.004 |
| 241 | 20.08 | 0.10 | 0.055 | ( | 0.053) | | 0.049 | 0.005 |
| 242 | 20.17 | 0.10 | 0.055 | ( | 0.052) | | 0.049 | 0.005 |
| 243 | 20.25 | 0.10 | 0.055 | ( | 0.052) | | 0.049 | 0.005 |
| 244 | 20.33 | 0.10 | 0.055 | ( | 0.052) | | 0.049 | 0.005 |
| 245 | 20.42 | 0.10 | 0.055 | ( | 0.052) | | 0.049 | 0.005 |
| 246 | 20.50 | 0.10 | 0.055 | ( | 0.051) | | 0.049 | 0.005 |
| 247 | 20.58 | 0.10 | 0.055 | ( | 0.051) | | 0.049 | 0.005 |
| 248 | 20.67 | 0.10 | 0.055 | ( | 0.051) | | 0.049 | 0.005 |
| 249 | 20.75 | 0.10 | 0.055 | ( | 0.051) | | 0.049 | 0.005 |
| 250 | 20.83 | 0.07 | 0.036 | ( | 0.051) | | 0.033 | 0.004 |
| 251 | 20.92 | 0.07 | 0.036 | ( | 0.050) | | 0.033 | 0.004 |
| 252 | 21.00 | 0.07 | 0.036 | ( | 0.050) | | 0.033 | 0.004 |
| 253 | 21.08 | 0.10 | 0.055 | ( | 0.050) | | 0.049 | 0.005 |
| 254 | 21.17 | 0.10 | 0.055 | ( | 0.050) | | 0.049 | 0.005 |
| 255 | 21.25 | 0.10 | 0.055 | ( | 0.050) | | 0.049 | 0.005 |
| 256 | 21.33 | 0.07 | 0.036 | ( | 0.049) | | 0.033 | 0.004 |
| 257 | 21.42 | 0.07 | 0.036 | ( | 0.049) | | 0.033 | 0.004 |
| 258 | 21.50 | 0.07 | 0.036 | ( | 0.049) | | 0.033 | 0.004 |
| 259 | 21.58 | 0.10 | 0.055 | | 0.049 | ( | 0.049) | 0.006 |
| 260 | 21.67 | 0.10 | 0.055 | | 0.049 | ( | 0.049) | 0.006 |
| 261 | 21.75 | 0.10 | 0.055 | | 0.049 | ( | 0.049) | 0.006 |
| 262 | 21.83 | 0.07 | 0.036 | ( | 0.048) | | 0.033 | 0.004 |
| 263 | 21.92 | 0.07 | 0.036 | ( | 0.048) | | 0.033 | 0.004 |
| 264 | 22.00 | 0.07 | 0.036 | ( | 0.048) | | 0.033 | 0.004 |
| 265 | 22.08 | 0.10 | 0.055 | | 0.048 | ( | 0.049) | 0.007 |
| 266 | 22.17 | 0.10 | 0.055 | | 0.048 | ( | 0.049) | 0.007 |
| 267 | 22.25 | 0.10 | 0.055 | | 0.048 | ( | 0.049) | 0.007 |
| 268 | 22.33 | 0.07 | 0.036 | ( | 0.047) | | 0.033 | 0.004 |
| 269 | 22.42 | 0.07 | 0.036 | ( | 0.047) | | 0.033 | 0.004 |
| 270 | 22.50 | 0.07 | 0.036 | ( | 0.047) | | 0.033 | 0.004 |
| 271 | 22.58 | 0.07 | 0.036 | ( | 0.047) | | 0.033 | 0.004 |
| 272 | 22.67 | 0.07 | 0.036 | ( | 0.047) | | 0.033 | 0.004 |
| 273 | 22.75 | 0.07 | 0.036 | ( | 0.047) | | 0.033 | 0.004 |
| 274 | 22.83 | 0.07 | 0.036 | ( | 0.047) | | 0.033 | 0.004 |
| 275 | 22.92 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 276 | 23.00 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 277 | 23.08 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 278 | 23.17 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 279 | 23.25 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 280 | 23.33 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 281 | 23.42 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 284 | 23.67 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 285 | 23.75 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 286 | 23.83 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 287 | 23.92 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 288 | 24.00 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |

(Loss Rate Not Used)
Sum = 100.0 Sum = 33.3
Flood volume = Effective rainfall 2.78(In)
times area 1.5(Ac.)/[(In)/(Ft.)] = 0.3(Ac.Ft)
Total soil loss = 1.77(In)
Total soil loss = 0.221(Ac.Ft)
Total rainfall = 4.55(In)
Flood volume = 15127.5 Cubic Feet
Total soil loss = 9647.1 Cubic Feet

Peak flow rate of this hydrograph = 0.818(CFS)

24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0000 | 0.00 | Q | | | | |
| 0+10 | 0.0001 | 0.01 | Q | | | | |
| 0+15 | 0.0001 | 0.01 | Q | | | | |
| 0+20 | 0.0002 | 0.01 | Q | | | | |
| 0+25 | 0.0002 | 0.01 | Q | | | | |
| 0+30 | 0.0003 | 0.01 | Q | | | | |
| 0+35 | 0.0003 | 0.01 | Q | | | | |
| 0+40 | 0.0004 | 0.01 | Q | | | | |
| 0+45 | 0.0004 | 0.01 | Q | | | | |
| 0+50 | 0.0005 | 0.01 | Q | | | | |
| 0+55 | 0.0006 | 0.01 | Q | | | | |
| 1+ 0 | 0.0007 | 0.01 | Q | | | | |
| 1+ 5 | 0.0007 | 0.01 | Q | | | | |
| 1+10 | 0.0008 | 0.01 | Q | | | | |
| 1+15 | 0.0008 | 0.01 | Q | | | | |
| 1+20 | 0.0009 | 0.01 | Q | | | | |
| 1+25 | 0.0009 | 0.01 | Q | | | | |
| 1+30 | 0.0010 | 0.01 | Q | | | | |
| 1+35 | 0.0011 | 0.01 | Q | | | | |
| 1+40 | 0.0011 | 0.01 | Q | | | | |
| 1+45 | 0.0012 | 0.01 | Q | | | | |
| 1+50 | 0.0012 | 0.01 | Q | | | | |
| 1+55 | 0.0013 | 0.01 | Q | | | | |
| 2+ 0 | 0.0014 | 0.01 | Q | | | | |
| 2+ 5 | 0.0015 | 0.01 | Q | | | | |
| 2+10 | 0.0015 | 0.01 | Q | | | | |
| 2+15 | 0.0016 | 0.01 | Q | | | | |
| 2+20 | 0.0017 | 0.01 | Q | | | | |
| 2+25 | 0.0018 | 0.01 | Q | | | | |
| 2+30 | 0.0019 | 0.01 | Q | | | | |
| 2+35 | 0.0019 | 0.01 | Q | | | | |
| 2+40 | 0.0020 | 0.01 | Q | | | | |
| 2+45 | 0.0021 | 0.01 | Q | | | | |
| 2+50 | 0.0022 | 0.01 | Q | | | | |
| 2+55 | 0.0023 | 0.01 | Q | | | | |
| 3+ 0 | 0.0024 | 0.01 | Q | | | | |
| 3+ 5 | 0.0025 | 0.01 | Q | | | | |
| 3+10 | 0.0026 | 0.01 | Q | | | | |
| 3+15 | 0.0027 | 0.01 | Q | | | | |
| 3+20 | 0.0028 | 0.01 | Q | | | | |
| 3+25 | 0.0029 | 0.01 | Q | | | | |
| 3+30 | 0.0030 | 0.01 | Q | | | | |
| 3+35 | 0.0031 | 0.01 | Q | | | | |
| 3+40 | 0.0032 | 0.01 | Q | | | | |
| 3+45 | 0.0033 | 0.01 | Q | | | | |
| 3+50 | 0.0034 | 0.02 | Q | | | | |
| 3+55 | 0.0035 | 0.02 | Q | | | | |
| 4+ 0 | 0.0036 | 0.02 | Q | | | | |
| 4+ 5 | 0.0037 | 0.02 | Q | | | | |
| 4+10 | 0.0038 | 0.02 | Q | | | | |
| 4+15 | 0.0039 | 0.02 | Q | | | | |
| 4+20 | 0.0041 | 0.02 | Q | | | | |
| 4+25 | 0.0042 | 0.02 | Q | | | | |
| 4+30 | 0.0043 | 0.02 | Q | | | | |
| 4+35 | 0.0045 | 0.02 | Q | | | | |
| 4+40 | 0.0046 | 0.02 | Q | | | | |
| 4+45 | 0.0047 | 0.02 | Q | | | | |

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 4+50       0.0049      0.02  Q          |          |          |          |
 4+55       0.0051      0.03  Q          |          |          |          |
 5+ 0       0.0053      0.03  Q          |          |          |          |
 5+ 5       0.0054      0.02  Q          |          |          |          |
 5+10       0.0055      0.02  Q          |          |          |          |
 5+15       0.0057      0.02  Q          |          |          |          |
 5+20       0.0058      0.02  Q          |          |          |          |
 5+25       0.0059      0.02  Q          |          |          |          |
 5+30       0.0061      0.02  Q          |          |          |          |
 5+35       0.0063      0.03  Q          |          |          |          |
 5+40       0.0065      0.04  Q          |          |          |          |
 5+45       0.0067      0.04  Q          |          |          |          |
 5+50       0.0070      0.04  Q          |          |          |          |
 5+55       0.0073      0.04  Q          |          |          |          |
 6+ 0       0.0075      0.04  Q          |          |          |          |
 6+ 5       0.0079      0.06  Q          |          |          |          |
 6+10       0.0084      0.07  Q          |          |          |          |
 6+15       0.0089      0.07  QV         |          |          |          |
 6+20       0.0093      0.07  QV         |          |          |          |
 6+25       0.0098      0.07  QV         |          |          |          |
 6+30       0.0103      0.07  QV         |          |          |          |
 6+35       0.0109      0.09  QV         |          |          |          |
 6+40       0.0116      0.10  QV         |          |          |          |
 6+45       0.0123      0.10  QV         |          |          |          |
 6+50       0.0130      0.10  QV         |          |          |          |
 6+55       0.0137      0.10  QV         |          |          |          |
 7+ 0       0.0144      0.10  QV         |          |          |          |
 7+ 5       0.0151      0.10  QV         |          |          |          |
 7+10       0.0159      0.10  QV         |          |          |          |
 7+15       0.0166      0.11  QV         |          |          |          |
 7+20       0.0174      0.12  Q V        |          |          |          |
 7+25       0.0184      0.13  Q V        |          |          |          |
 7+30       0.0193      0.14  Q V        |          |          |          |
 7+35       0.0204      0.15  Q V        |          |          |          |
 7+40       0.0215      0.16  Q V        |          |          |          |
 7+45       0.0226      0.17  Q V        |          |          |          |
 7+50       0.0239      0.18  Q V        |          |          |          |
 7+55       0.0252      0.19  Q V        |          |          |          |
 8+ 0       0.0266      0.19  Q  V       |          |          |          |
 8+ 5       0.0282      0.23  Q  V       |          |          |          |
 8+10       0.0299      0.25  |Q V       |          |          |          |
 8+15       0.0317      0.25  |Q V       |          |          |          |
 8+20       0.0334      0.25  |Q V       |          |          |          |
 8+25       0.0351      0.25  |Q  V      |          |          |          |
 8+30       0.0369      0.25  |Q  V      |          |          |          |
 8+35       0.0388      0.27  |Q  V      |          |          |          |
 8+40       0.0407      0.28  |Q  V      |          |          |          |
 8+45       0.0427      0.28  |Q  V      |          |          |          |
 8+50       0.0448      0.30  |Q   V     |          |          |          |
 8+55       0.0469      0.31  |Q   V     |          |          |          |
 9+ 0       0.0491      0.31  |Q   V     |          |          |          |
 9+ 5       0.0515      0.35  |Q   V     |          |          |          |
 9+10       0.0541      0.37  |Q    V    |          |          |          |
 9+15       0.0566      0.37  |Q    V    |          |          |          |
 9+20       0.0593      0.39  |Q    V    |          |          |          |
 9+25       0.0621      0.40  |Q     V   |          |          |          |
 9+30       0.0648      0.40  |Q     V   |          |          |          |
 9+35       0.0677      0.42  |Q     V   |          |          |          |
 9+40       0.0707      0.43  |Q      V  |          |          |          |
 9+45       0.0737      0.43  |Q      V  |          |          |          |
 9+50       0.0768      0.45  |Q      V  |          |          |          |
 9+55       0.0799      0.46  |Q       V |          |          |          |
10+ 0       0.0831      0.46  |Q       V |          |          |          |
10+ 5       0.0854      0.33  |Q       V |          |          |          |
10+10       0.0872      0.27  |Q        V          |          |          |
10+15       0.0891      0.27  |Q        V          |          |          |
10+20       0.0909      0.27  |Q        V          |          |          |
10+25       0.0928      0.27  |Q        V          |          |          |
10+30       0.0947      0.27  |Q        V          |          |          |
10+35       0.0972      0.37  |Q        |V         |          |          |
10+40       0.1000      0.41  |Q        |V         |          |          |
10+45       0.1028      0.41  |Q        |V         |          |          |
10+50       0.1057      0.41  |Q        | V        |          |          |
10+55       0.1085      0.41  |Q        | V        |          |          |
11+ 0       0.1114      0.41  |Q        | V        |          |          |
11+ 5       0.1141      0.40  |Q        |  V       |          |          |
11+10       0.1168      0.39  |Q        |  V       |          |          |
11+15       0.1194      0.39  |Q        |  V       |          |          |
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11+20       0.1221      0.39  |Q        |   V     |         |         |
11+25       0.1248      0.39  |Q        |   V     |         |         |
11+30       0.1275      0.39  |Q        |   V     |         |         |
11+35       0.1299      0.35  |Q        |   V     |         |         |
11+40       0.1322      0.34  |Q        |    V    |         |         |
11+45       0.1345      0.34  |Q        |    V    |         |         |
11+50       0.1370      0.36  |Q        |    V    |         |         |
11+55       0.1395      0.37  |Q        |     V   |         |         |
12+ 0       0.1420      0.37  |Q        |     V   |         |         |
12+ 5       0.1455      0.50  |Q        |     V   |         |         |
12+10       0.1493      0.56  | Q       |      V  |         |         |
12+15       0.1532      0.56  | Q       |      V  |         |         |
12+20       0.1572      0.58  | Q       |       V |         |         |
12+25       0.1612      0.59  | Q       |       V |         |         |
12+30       0.1653      0.59  | Q       |        V|         |         |
12+35       0.1696      0.63  | Q       |        V|         |         |
12+40       0.1741      0.65  | Q       |         V         |         |
12+45       0.1785      0.65  | Q       |         V         |         |
12+50       0.1831      0.67  | Q       |         |V        |         |
12+55       0.1878      0.68  | Q       |         |V        |         |
13+ 0       0.1924      0.68  | Q       |         | V       |         |
13+ 5       0.1978      0.77  |  Q      |         | V       |         |
13+10       0.2034      0.82  |  Q      |         |  V      |         |
13+15       0.2090      0.82  |  Q      |         |   V     |         |
13+20       0.2146      0.82  |  Q      |         |   V     |         |
13+25       0.2203      0.82  |  Q      |         |    V    |         |
13+30       0.2259      0.82  |  Q      |         |     V   |         |
13+35       0.2301      0.61  | Q       |         |     V   |         |
13+40       0.2337      0.52  | Q       |         |     V   |         |
13+45       0.2372      0.52  | Q       |         |      V  |         |
13+50       0.2408      0.52  | Q       |         |      V  |         |
13+55       0.2443      0.52  | Q       |         |       V |         |
14+ 0       0.2479      0.52  | Q       |         |       V |         |
14+ 5       0.2520      0.59  | Q       |         |        V|         |
14+10       0.2564      0.63  | Q       |         |        V|         |
14+15       0.2607      0.63  | Q       |         |         V         |
14+20       0.2649      0.61  | Q       |         |         V         |
14+25       0.2691      0.60  | Q       |         |         V         |
14+30       0.2732      0.60  | Q       |         |         |V        |
14+35       0.2774      0.61  | Q       |         |         |V        |
14+40       0.2816      0.61  | Q       |         |         | V       |
14+45       0.2858      0.61  | Q       |         |         | V       |
14+50       0.2898      0.59  | Q       |         |         |  V      |
14+55       0.2938      0.58  | Q       |         |         |  V      |
15+ 0       0.2978      0.58  | Q       |         |         |   V     |
15+ 5       0.3017      0.56  | Q       |         |         |   V     |
15+10       0.3055      0.55  | Q       |         |         |    V    |
15+15       0.3093      0.55  | Q       |         |         |    V    |
15+20       0.3130      0.54  | Q       |         |         |     V   |
15+25       0.3166      0.53  | Q       |         |         |     V   |
15+30       0.3203      0.53  | Q       |         |         |     V   |
15+35       0.3234      0.45  |Q        |         |         |      V  |
15+40       0.3263      0.42  |Q        |         |         |      V  |
15+45       0.3292      0.42  |Q        |         |         |      V  |
15+50       0.3321      0.42  |Q        |         |         |       V |
15+55       0.3350      0.42  |Q        |         |         |       V |
16+ 0       0.3379      0.42  |Q        |         |         |       V |
16+ 5       0.3389      0.14  Q        |         |         |        V|
16+10       0.3389      0.01  Q        |         |         |        V|
16+15       0.3390      0.01  Q        |         |         |        V|
16+20       0.3391      0.01  Q        |         |         |        V|
16+25       0.3392      0.01  Q        |         |         |        V|
16+30       0.3393      0.01  Q        |         |         |        V|
16+35       0.3393      0.01  Q        |         |         |        V|
16+40       0.3394      0.01  Q        |         |         |        V|
16+45       0.3394      0.01  Q        |         |         |        V|
16+50       0.3395      0.01  Q        |         |         |        V|
16+55       0.3396      0.01  Q        |         |         |        V|
17+ 0       0.3396      0.01  Q        |         |         |        V|
17+ 5       0.3398      0.03  Q        |         |         |        V|
17+10       0.3401      0.04  Q        |         |         |        V|
17+15       0.3404      0.04  Q        |         |         |        V|
17+20       0.3407      0.04  Q        |         |         |        V|
17+25       0.3410      0.04  Q        |         |         |        V|
17+30       0.3414      0.05  Q        |         |         |        V|
17+35       0.3417      0.05  Q        |         |         |        V|
17+40       0.3420      0.05  Q        |         |         |        V|
17+45       0.3423      0.05  Q        |         |         |        V|
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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+50 | 0.3425 | 0.03 | Q | \| | \| | \| | V\| |
| 17+55 | 0.3426 | 0.02 | Q | \| | \| | \| | V\| |
| 18+ 0 | 0.3428 | 0.02 | Q | \| | \| | \| | V\| |
| 18+ 5 | 0.3429 | 0.02 | Q | \| | \| | \| | V\| |
| 18+10 | 0.3431 | 0.02 | Q | \| | \| | \| | V\| |
| 18+15 | 0.3432 | 0.02 | Q | \| | \| | \| | V\| |
| 18+20 | 0.3434 | 0.02 | Q | \| | \| | \| | V\| |
| 18+25 | 0.3435 | 0.02 | Q | \| | \| | \| | V\| |
| 18+30 | 0.3437 | 0.02 | Q | \| | \| | \| | V\| |
| 18+35 | 0.3438 | 0.01 | Q | \| | \| | \| | V\| |
| 18+40 | 0.3438 | 0.01 | Q | \| | \| | \| | V\| |
| 18+45 | 0.3439 | 0.01 | Q | \| | \| | \| | V\| |
| 18+50 | 0.3439 | 0.01 | Q | \| | \| | \| | V\| |
| 18+55 | 0.3440 | 0.01 | Q | \| | \| | \| | V\| |
| 19+ 0 | 0.3440 | 0.01 | Q | \| | \| | \| | V\| |
| 19+ 5 | 0.3441 | 0.01 | Q | \| | \| | \| | V\| |
| 19+10 | 0.3441 | 0.01 | Q | \| | \| | \| | V\| |
| 19+15 | 0.3442 | 0.01 | Q | \| | \| | \| | V\| |
| 19+20 | 0.3443 | 0.02 | Q | \| | \| | \| | V\| |
| 19+25 | 0.3445 | 0.03 | Q | \| | \| | \| | V\| |
| 19+30 | 0.3447 | 0.03 | Q | \| | \| | \| | V\| |
| 19+35 | 0.3448 | 0.01 | Q | \| | \| | \| | V\| |
| 19+40 | 0.3449 | 0.01 | Q | \| | \| | \| | V\| |
| 19+45 | 0.3449 | 0.01 | Q | \| | \| | \| | V\| |
| 19+50 | 0.3450 | 0.01 | Q | \| | \| | \| | V\| |
| 19+55 | 0.3450 | 0.01 | Q | \| | \| | \| | V\| |
| 20+ 0 | 0.3450 | 0.01 | Q | \| | \| | \| | V\| |
| 20+ 5 | 0.3451 | 0.01 | Q | \| | \| | \| | V\| |
| 20+10 | 0.3452 | 0.01 | Q | \| | \| | \| | V\| |
| 20+15 | 0.3452 | 0.01 | Q | \| | \| | \| | V\| |
| 20+20 | 0.3453 | 0.01 | Q | \| | \| | \| | V\| |
| 20+25 | 0.3453 | 0.01 | Q | \| | \| | \| | V\| |
| 20+30 | 0.3454 | 0.01 | Q | \| | \| | \| | V\| |
| 20+35 | 0.3454 | 0.01 | Q | \| | \| | \| | V\| |
| 20+40 | 0.3455 | 0.01 | Q | \| | \| | \| | V\| |
| 20+45 | 0.3456 | 0.01 | Q | \| | \| | \| | V\| |
| 20+50 | 0.3456 | 0.01 | Q | \| | \| | \| | V\| |
| 20+55 | 0.3456 | 0.01 | Q | \| | \| | \| | V\| |
| 21+ 0 | 0.3457 | 0.01 | Q | \| | \| | \| | V\| |
| 21+ 5 | 0.3457 | 0.01 | Q | \| | \| | \| | V\| |
| 21+10 | 0.3458 | 0.01 | Q | \| | \| | \| | V\| |
| 21+15 | 0.3458 | 0.01 | Q | \| | \| | \| | V\| |
| 21+20 | 0.3459 | 0.01 | Q | \| | \| | \| | V\| |
| 21+25 | 0.3459 | 0.01 | Q | \| | \| | \| | V\| |
| 21+30 | 0.3460 | 0.01 | Q | \| | \| | \| | V\| |
| 21+35 | 0.3460 | 0.01 | Q | \| | \| | \| | V\| |
| 21+40 | 0.3461 | 0.01 | Q | \| | \| | \| | V\| |
| 21+45 | 0.3461 | 0.01 | Q | \| | \| | \| | V\| |
| 21+50 | 0.3462 | 0.01 | Q | \| | \| | \| | V\| |
| 21+55 | 0.3462 | 0.01 | Q | \| | \| | \| | V\| |
| 22+ 0 | 0.3463 | 0.01 | Q | \| | \| | \| | V\| |
| 22+ 5 | 0.3463 | 0.01 | Q | \| | \| | \| | V\| |
| 22+10 | 0.3464 | 0.01 | Q | \| | \| | \| | V\| |
| 22+15 | 0.3465 | 0.01 | Q | \| | \| | \| | V\| |
| 22+20 | 0.3465 | 0.01 | Q | \| | \| | \| | V\| |
| 22+25 | 0.3465 | 0.01 | Q | \| | \| | \| | V\| |
| 22+30 | 0.3466 | 0.01 | Q | \| | \| | \| | V\| |
| 22+35 | 0.3466 | 0.01 | Q | \| | \| | \| | V\| |
| 22+40 | 0.3467 | 0.01 | Q | \| | \| | \| | V\| |
| 22+45 | 0.3467 | 0.01 | Q | \| | \| | \| | V\| |
| 22+50 | 0.3467 | 0.01 | Q | \| | \| | \| | V\| |
| 22+55 | 0.3468 | 0.01 | Q | \| | \| | \| | V\| |
| 23+ 0 | 0.3468 | 0.01 | Q | \| | \| | \| | V\| |
| 23+ 5 | 0.3469 | 0.01 | Q | \| | \| | \| | V\| |
| 23+10 | 0.3469 | 0.01 | Q | \| | \| | \| | V\| |
| 23+15 | 0.3469 | 0.01 | Q | \| | \| | \| | V\| |
| 23+20 | 0.3470 | 0.01 | Q | \| | \| | \| | V\| |
| 23+25 | 0.3470 | 0.01 | Q | \| | \| | \| | V\| |
| 23+30 | 0.3470 | 0.01 | Q | \| | \| | \| | V\| |
| 23+35 | 0.3471 | 0.01 | Q | \| | \| | \| | V\| |
| 23+40 | 0.3471 | 0.01 | Q | \| | \| | \| | V\| |
| 23+45 | 0.3472 | 0.01 | Q | \| | \| | \| | V\| |
| 23+50 | 0.3472 | 0.01 | Q | \| | \| | \| | V\| |
| 23+55 | 0.3472 | 0.01 | Q | \| | \| | \| | V\| |
| 24+ 0 | 0.3473 | 0.01 | Q | \| | \| | \| | V\| |
| 24+ 5 | 0.3473 | 0.00 | Q | \| | \| | \| | V\| |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX101100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 10
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 2.60(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.60(Ac.) = 0.004 Sq. Mi.
Length along longest watercourse = 639.00(Ft.)
Length along longest watercourse measured to centroid = 308.00(Ft.)
Length along longest watercourse = 0.121 Mi.
Length along longest watercourse measured to centroid = 0.058 Mi.
Difference in elevation = 330.00(Ft.)
Slope along watercourse = 2726.7606 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.028 Hr.
Lag time = 1.71 Min.
25% of lag time = 0.43 Min.
40% of lag time = 0.68 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.60 | 0.49 | 1.27 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.60 | 1.20 | 3.12 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.490(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2.600 | 83.98 | 0.000 |

Total Area Entered = 2.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

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| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 292.937 | 56.857 | 1.490 |
| 2 | 0.167 | 585.874 | 40.882 | 1.071 |
| 3 | 0.250 | 878.812 | 2.261 | 0.059 |
| | | Sum = 100.000 | Sum= | 2.620 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.086 | ( 0.544) | 0.519 |
| 2 | 0.17 | 4.30 | 0.619 | 0.086 | ( 0.557) | 0.533 |
| 3 | 0.25 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 4 | 0.33 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 5 | 0.42 | 5.80 | 0.835 | 0.086 | ( 0.752) | 0.749 |
| 6 | 0.50 | 6.50 | 0.936 | 0.086 | ( 0.842) | 0.850 |
| 7 | 0.58 | 7.40 | 1.066 | 0.086 | ( 0.959) | 0.980 |
| 8 | 0.67 | 8.60 | 1.238 | 0.086 | ( 1.115) | 1.152 |
| 9 | 0.75 | 12.30 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 10 | 0.83 | 29.10 | 4.190 | 0.086 | ( 3.771) | 4.104 |
| 11 | 0.92 | 6.80 | 0.979 | 0.086 | ( 0.881) | 0.893 |
| 12 | 1.00 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 13.4 |

Flood volume = Effective rainfall 1.11(In)
times area 2.6(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.019(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 10514.1 Cubic Feet
Total soil loss = 811.3 Cubic Feet

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Peak flow rate of this hydrograph = 7.992(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0053 | 0.77 | V Q | | | | |
| 0+10 | 0.0146 | 1.35 | V Q | | | | |
| 0+15 | 0.0253 | 1.55 | V Q | | | | |
| 0+20 | 0.0367 | 1.66 | Q | | | | |
| 0+25 | 0.0493 | 1.83 | QV | | | | |
| 0+30 | 0.0638 | 2.11 | Q V | | | | |
| 0+35 | 0.0805 | 2.42 | Q V | | | | |
| 0+40 | 0.0999 | 2.82 | Q V | | | | |
| 0+45 | 0.1261 | 3.81 | Q V | | | | |
| 0+50 | 0.1811 | 7.99 | VQ | | | | |
| 0+55 | 0.2213 | 5.83 | Q V | | | | |
| 1+ 0 | 0.2361 | 2.15 | Q V | | | | |
| 1+ 5 | 0.2411 | 0.73 | Q V | | | | |
| 1+10 | 0.2414 | 0.04 | Q V | | | | |

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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX103100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 10
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 2.60(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.60(Ac.) = 0.004 Sq. Mi.
Length along longest watercourse = 639.00(Ft.)
Length along longest watercourse measured to centroid = 308.00(Ft.)
Length along longest watercourse = 0.121 Mi.
Length along longest watercourse measured to centroid = 0.058 Mi.
Difference in elevation = 330.00(Ft.)
Slope along watercourse = 2726.7606 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.028 Hr.
Lag time = 1.71 Min.
25% of lag time = 0.43 Min.
40% of lag time = 0.68 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.60 | 0.80 | 2.08 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.60 | 1.80 | 4.68 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2.600 | 83.98 | 0.000 |

Total Area Entered = 2.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 292.937 | 56.857 | 1.490 |
| 2 0.167 | 585.874 | 40.882 | 1.071 |
| 3 0.250 | 878.812 | 2.261 | 0.059 |
| | Sum = 100.000 | Sum= | 2.620 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 1.30 | 0.281 | 0.086 | ( 0.253) | 0.195 |
| 2 0.17 | 1.30 | 0.281 | 0.086 | ( 0.253) | 0.195 |
| 3 0.25 | 1.10 | 0.238 | 0.086 | ( 0.214) | 0.152 |
| 4 0.33 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 5 0.42 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 6 0.50 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 7 0.58 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 8 0.67 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 9 0.75 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 10 0.83 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 11 0.92 | 1.60 | 0.346 | 0.086 | ( 0.311) | 0.260 |
| 12 1.00 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 13 1.08 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 14 1.17 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 15 1.25 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 16 1.33 | 2.00 | 0.432 | 0.086 | ( 0.389) | 0.346 |
| 17 1.42 | 2.60 | 0.562 | 0.086 | ( 0.505) | 0.476 |
| 18 1.50 | 2.70 | 0.583 | 0.086 | ( 0.525) | 0.497 |
| 19 1.58 | 2.40 | 0.518 | 0.086 | ( 0.467) | 0.432 |
| 20 1.67 | 2.70 | 0.583 | 0.086 | ( 0.525) | 0.497 |
| 21 1.75 | 3.30 | 0.713 | 0.086 | ( 0.642) | 0.627 |
| 22 1.83 | 3.10 | 0.670 | 0.086 | ( 0.603) | 0.584 |
| 23 1.92 | 2.90 | 0.626 | 0.086 | ( 0.564) | 0.540 |
| 24 2.00 | 3.00 | 0.648 | 0.086 | ( 0.583) | 0.562 |
| 25 2.08 | 3.10 | 0.670 | 0.086 | ( 0.603) | 0.584 |
| 26 2.17 | 4.20 | 0.907 | 0.086 | ( 0.816) | 0.821 |
| 27 2.25 | 5.00 | 1.080 | 0.086 | ( 0.972) | 0.994 |
| 28 2.33 | 3.50 | 0.756 | 0.086 | ( 0.680) | 0.670 |
| 29 2.42 | 6.80 | 1.469 | 0.086 | ( 1.322) | 1.383 |
| 30 2.50 | 7.30 | 1.577 | 0.086 | ( 1.419) | 1.491 |
| 31 2.58 | 8.20 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 32 2.67 | 5.90 | 1.274 | 0.086 | ( 1.147) | 1.188 |
| 33 2.75 | 2.00 | 0.432 | 0.086 | ( 0.389) | 0.346 |
| 34 2.83 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 35 2.92 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 36 3.00 | 0.60 | 0.130 | 0.086 | ( 0.117) | 0.044 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 18.5 |

Flood volume = Effective rainfall 1.54(In)
times area 2.6(Ac.)/[(In)/(Ft.)] = 0.3(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.056(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 14554.4 Cubic Feet
Total soil loss = 2433.8 Cubic Feet

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Peak flow rate of this hydrograph = 4.192(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0020 | 0.29 | VQ | | | | |
| 0+10 | 0.0054 | 0.50 | VQ | | | | |
| 0+15 | 0.0085 | 0.45 | \|Q | | | | |
| 0+20 | 0.0122 | 0.53 | \|VQ | | | | |
| 0+25 | 0.0164 | 0.62 | \|VQ | | | | |
| 0+30 | 0.0214 | 0.72 | \| Q | | | | |
| 0+35 | 0.0262 | 0.69 | \| QV | | | | |
| 0+40 | 0.0311 | 0.72 | \| QV | | | | |
| 0+45 | 0.0366 | 0.79 | \| QV | | | | |
| 0+50 | 0.0414 | 0.70 | \| Q V | | | | |
| 0+55 | 0.0459 | 0.66 | \| Q V | | | | |
| 1+ 0 | 0.0511 | 0.74 | \| Q V | | | | |
| 1+ 5 | 0.0574 | 0.92 | \| Q V | | | | |
| 1+10 | 0.0644 | 1.02 | \| Q V | | | | |
| 1+15 | 0.0714 | 1.02 | \| Q V | | | | |
| 1+20 | 0.0780 | 0.96 | \| Q V | | | | |
| 1+25 | 0.0856 | 1.10 | \| Q V | | | | |
| 1+30 | 0.0944 | 1.27 | \| Q V | | | | |
| 1+35 | 0.1027 | 1.21 | \| Q V | | | | |
| 1+40 | 0.1112 | 1.23 | \| Q V | | | | |
| 1+45 | 0.1214 | 1.49 | \| Q V | | | | |
| 1+50 | 0.1323 | 1.57 | \| Q V | | | | |
| 1+55 | 0.1424 | 1.47 | \| Q V | | | | |
| 2+ 0 | 0.1524 | 1.45 | \| Q V | | | | |
| 2+ 5 | 0.1627 | 1.50 | \| Q V | | | | |
| 2+10 | 0.1757 | 1.88 | \| Q V | | | | |
| 2+15 | 0.1922 | 2.40 | \| Q V | | | | |
| 2+20 | 0.2068 | 2.11 | \| Q V | | | | |
| 2+25 | 0.2263 | 2.84 | \| Q V | | | | |
| 2+30 | 0.2521 | 3.74 | \| Q V | | | | |
| 2+35 | 0.2810 | 4.19 | \| Q V | | | | |
| 2+40 | 0.3062 | 3.67 | \| Q V | | | | |
| 2+45 | 0.3192 | 1.89 | \| Q V | | | | |
| 2+50 | 0.3254 | 0.89 | \| Q V | | | | |
| 2+55 | 0.3309 | 0.80 | \| Q V | | | | |
| 3+ 0 | 0.3337 | 0.41 | \|Q V | | | | |
| 3+ 5 | 0.3341 | 0.06 | Q V | | | | |
| 3+10 | 0.3341 | 0.00 | Q V | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX106100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 10
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 2.60(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.60(Ac.) = 0.004 Sq. Mi.
Length along longest watercourse = 639.00(Ft.)
Length along longest watercourse measured to centroid = 308.00(Ft.)
Length along longest watercourse = 0.121 Mi.
Length along longest watercourse measured to centroid = 0.058 Mi.
Difference in elevation = 330.00(Ft.)
Slope along watercourse = 2726.7606 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.028 Hr.
Lag time = 1.71 Min.
25% of lag time = 0.43 Min.
40% of lag time = 0.68 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.60 | 1.12 | 2.91 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.60 | 2.50 | 6.50 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.120(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2.600 | 83.98 | 0.000 |

Total Area Entered = 2.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 292.937 | 56.857 | 1.490 |
| 2 | 0.167 | 585.874 | 40.882 | 1.071 |
| 3 | 0.250 | 878.812 | 2.261 | 0.059 |
| | | | Sum = 100.000 Sum= | 2.620 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.086 | ( 0.135) | 0.064 |
| 2 | 0.17 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 3 | 0.25 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 4 | 0.33 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 5 | 0.42 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 6 | 0.50 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 7 | 0.58 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 8 | 0.67 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 9 | 0.75 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 10 | 0.83 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 11 | 0.92 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 12 | 1.00 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 13 | 1.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 14 | 1.17 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 15 | 1.25 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 16 | 1.33 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 17 | 1.42 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 18 | 1.50 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 19 | 1.58 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 20 | 1.67 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 21 | 1.75 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 22 | 1.83 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 23 | 1.92 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 24 | 2.00 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 25 | 2.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 26 | 2.17 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 27 | 2.25 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 28 | 2.33 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 29 | 2.42 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 30 | 2.50 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 31 | 2.58 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 32 | 2.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 33 | 2.75 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 34 | 2.83 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 35 | 2.92 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 36 | 3.00 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 37 | 3.08 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 38 | 3.17 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 39 | 3.25 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 40 | 3.33 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 41 | 3.42 | 1.20 | 0.360 | 0.086 | ( 0.324) | 0.274 |
| 42 | 3.50 | 1.30 | 0.390 | 0.086 | ( 0.351) | 0.304 |
| 43 | 3.58 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 44 | 3.67 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 45 | 3.75 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 46 | 3.83 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 47 | 3.92 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 48 | 4.00 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 49 | 4.08 | 1.70 | 0.510 | 0.086 | ( 0.459) | 0.424 |
| 50 | 4.17 | 1.80 | 0.540 | 0.086 | ( 0.486) | 0.454 |
| 51 | 4.25 | 1.90 | 0.570 | 0.086 | ( 0.513) | 0.484 |
| 52 | 4.33 | 2.00 | 0.600 | 0.086 | ( 0.540) | 0.514 |
| 53 | 4.42 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 54 | 4.50 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 | |
| 55 | 4.58 | 2.20 | 0.660 | 0.086 | ( 0.594) | 0.574 | |
| 56 | 4.67 | 2.30 | 0.690 | 0.086 | ( 0.621) | 0.604 | |
| 57 | 4.75 | 2.40 | 0.720 | 0.086 | ( 0.648) | 0.634 | |
| 58 | 4.83 | 2.40 | 0.720 | 0.086 | ( 0.648) | 0.634 | |
| 59 | 4.92 | 2.50 | 0.750 | 0.086 | ( 0.675) | 0.664 | |
| 60 | 5.00 | 2.60 | 0.780 | 0.086 | ( 0.702) | 0.694 | |
| 61 | 5.08 | 3.10 | 0.930 | 0.086 | ( 0.837) | 0.844 | |
| 62 | 5.17 | 3.60 | 1.080 | 0.086 | ( 0.972) | 0.994 | |
| 63 | 5.25 | 3.90 | 1.170 | 0.086 | ( 1.053) | 1.084 | |
| 64 | 5.33 | 4.20 | 1.260 | 0.086 | ( 1.134) | 1.174 | |
| 65 | 5.42 | 4.70 | 1.410 | 0.086 | ( 1.269) | 1.324 | |
| 66 | 5.50 | 5.60 | 1.680 | 0.086 | ( 1.512) | 1.594 | |
| 67 | 5.58 | 1.90 | 0.570 | 0.086 | ( 0.513) | 0.484 | |
| 68 | 5.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 | |
| 69 | 5.75 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 | |
| 70 | 5.83 | 0.50 | 0.150 | 0.086 | ( 0.135) | 0.064 | |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.086) | 0.081 | 0.009 | |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.086) | 0.054 | 0.006 | |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.8

Flood volume = Effective rainfall 1.99(In)
times area 2.6(Ac.)/[(In)/(Ft.)] = 0.4(Ac.Ft)
Total soil loss = 0.51(In)
Total soil loss = 0.111(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 18756.3 Cubic Feet
Total soil loss = 4838.5 Cubic Feet

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Peak flow rate of this hydrograph = 3.865(CFS)

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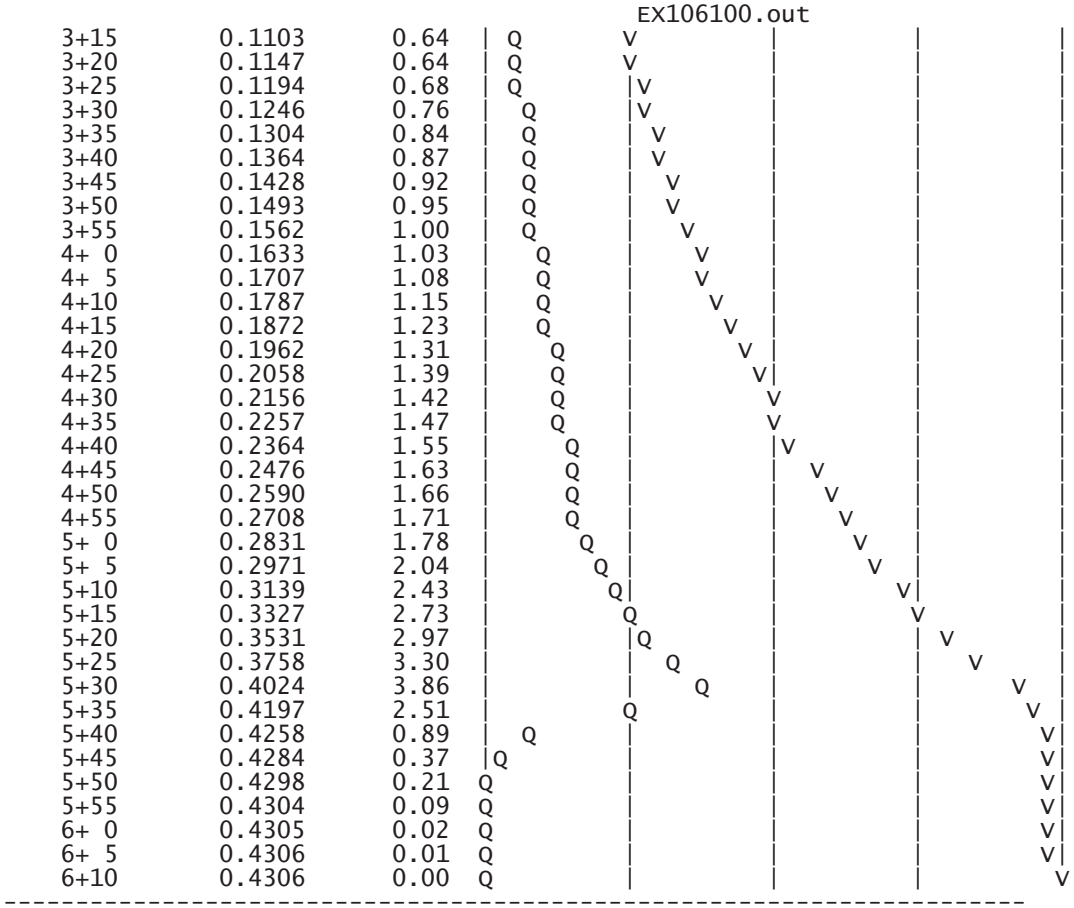
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0007 | 0.10 | Q | \| | \| | \| | \| |
| 0+10 | 0.0021 | 0.21 | Q | \| | \| | \| | \| |
| 0+15 | 0.0038 | 0.24 | Q | \| | \| | \| | \| |
| 0+20 | 0.0055 | 0.25 | Q | \| | \| | \| | \| |
| 0+25 | 0.0072 | 0.25 | Q | \| | \| | \| | \| |
| 0+30 | 0.0092 | 0.29 | VQ | \| | \| | \| | \| |
| 0+35 | 0.0114 | 0.32 | \|Q | \| | \| | \| | \| |
| 0+40 | 0.0137 | 0.33 | \|Q | \| | \| | \| | \| |
| 0+45 | 0.0159 | 0.33 | \|Q | \| | \| | \| | \| |
| 0+50 | 0.0181 | 0.33 | \|Q | \| | \| | \| | \| |
| 0+55 | 0.0204 | 0.33 | \|Q | \| | \| | \| | \| |
| 1+ 0 | 0.0229 | 0.37 | \|QV | \| | \| | \| | \| |
| 1+ 5 | 0.0257 | 0.40 | \|QV | \| | \| | \| | \| |
| 1+10 | 0.0285 | 0.40 | \|QV | \| | \| | \| | \| |
| 1+15 | 0.0312 | 0.40 | \|QV | \| | \| | \| | \| |
| 1+20 | 0.0340 | 0.40 | \|Q V | \| | \| | \| | \| |
| 1+25 | 0.0368 | 0.40 | \|Q V | \| | \| | \| | \| |
| 1+30 | 0.0396 | 0.40 | \|Q V | \| | \| | \| | \| |
| 1+35 | 0.0424 | 0.40 | \|Q V | \| | \| | \| | \| |
| 1+40 | 0.0452 | 0.40 | \|Q V | \| | \| | \| | \| |
| 1+45 | 0.0479 | 0.40 | \|Q V | \| | \| | \| | \| |
| 1+50 | 0.0507 | 0.40 | \|Q V | \| | \| | \| | \| |
| 1+55 | 0.0535 | 0.40 | \|Q V | \| | \| | \| | \| |
| 2+ 0 | 0.0566 | 0.45 | \|Q V | \| | \| | \| | \| |
| 2+ 5 | 0.0596 | 0.44 | \|Q V | \| | \| | \| | \| |
| 2+10 | 0.0627 | 0.45 | \|Q V | \| | \| | \| | \| |
| 2+15 | 0.0660 | 0.48 | \|Q V | \| | \| | \| | \| |
| 2+20 | 0.0693 | 0.48 | \|Q V | \| | \| | \| | \| |
| 2+25 | 0.0726 | 0.48 | \|Q V | \| | \| | \| | \| |
| 2+30 | 0.0760 | 0.48 | \|Q V | \| | \| | \| | \| |
| 2+35 | 0.0793 | 0.48 | \|Q V | \| | \| | \| | \| |
| 2+40 | 0.0826 | 0.48 | \|Q V | \| | \| | \| | \| |
| 2+45 | 0.0862 | 0.53 | \| Q V | \| | \| | \| | \| |
| 2+50 | 0.0901 | 0.56 | \| Q V | \| | \| | \| | \| |
| 2+55 | 0.0940 | 0.56 | \| Q V | \| | \| | \| | \| |
| 3+ 0 | 0.0978 | 0.56 | \| Q V\| | \| | \| | \| | \| |
| 3+ 5 | 0.1017 | 0.56 | \| Q V\| | \| | \| | \| | \| |
| 3+10 | 0.1059 | 0.61 | \| Q V\| | \| | \| | \| | \| |


3+15 0.1103 0.64
3+20 0.1147 0.64
3+25 0.1194 0.68
3+30 0.1246 0.76
3+35 0.1304 0.84
3+40 0.1364 0.87
3+45 0.1428 0.92
3+50 0.1493 0.95
3+55 0.1562 1.00
4+ 0 0.1633 1.03
4+ 5 0.1707 1.08
4+10 0.1787 1.15
4+15 0.1872 1.23
4+20 0.1962 1.31
4+25 0.2058 1.39
4+30 0.2156 1.42
4+35 0.2257 1.47
4+40 0.2364 1.55
4+45 0.2476 1.63
4+50 0.2590 1.66
4+55 0.2708 1.71
5+ 0 0.2831 1.78
5+ 5 0.2971 2.04
5+10 0.3139 2.43
5+15 0.3327 2.73
5+20 0.3531 2.97
5+25 0.3758 3.30
5+30 0.4024 3.86
5+35 0.4197 2.51
5+40 0.4258 0.89
5+45 0.4284 0.37
5+50 0.4298 0.21
5+55 0.4304 0.09
6+ 0 0.4305 0.02
6+ 5 0.4306 0.01
6+10 0.4306 0.00

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX1024100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 10
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 2.60(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.60(Ac.) = 0.004 Sq. Mi.
Length along longest watercourse = 639.00(Ft.)
Length along longest watercourse measured to centroid = 308.00(Ft.)
Length along longest watercourse = 0.121 Mi.
Length along longest watercourse measured to centroid = 0.058 Mi.
Difference in elevation = 330.00(Ft.)
Slope along watercourse = 2726.7606 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.028 Hr.
Lag time = 1.71 Min.
25% of lag time = 0.43 Min.
40% of lag time = 0.68 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.60 | 1.80 | 4.68 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.60 | 4.55 | 11.83 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.550(In)

Point rain (area averaged) = 4.550(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.550(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2.600 | 83.98 | 0.000 |

Total Area Entered = 2.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 292.937 | 56.857 | 1.490 |
| 2 | 0.167 | 585.874 | 40.882 | 1.071 |
| 3 | 0.250 | 878.812 | 2.261 | 0.059 |
| | | | Sum = 100.000 Sum= | 2.620 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.036 | ( 0.152) | 0.033 | 0.004 |
| 2 | 0.17 | 0.07 | 0.036 | ( 0.152) | 0.033 | 0.004 |
| 3 | 0.25 | 0.07 | 0.036 | ( 0.151) | 0.033 | 0.004 |
| 4 | 0.33 | 0.10 | 0.055 | ( 0.151) | 0.049 | 0.005 |
| 5 | 0.42 | 0.10 | 0.055 | ( 0.150) | 0.049 | 0.005 |
| 6 | 0.50 | 0.10 | 0.055 | ( 0.149) | 0.049 | 0.005 |
| 7 | 0.58 | 0.10 | 0.055 | ( 0.149) | 0.049 | 0.005 |
| 8 | 0.67 | 0.10 | 0.055 | ( 0.148) | 0.049 | 0.005 |
| 9 | 0.75 | 0.10 | 0.055 | ( 0.148) | 0.049 | 0.005 |
| 10 | 0.83 | 0.13 | 0.073 | ( 0.147) | 0.066 | 0.007 |
| 11 | 0.92 | 0.13 | 0.073 | ( 0.147) | 0.066 | 0.007 |
| 12 | 1.00 | 0.13 | 0.073 | ( 0.146) | 0.066 | 0.007 |
| 13 | 1.08 | 0.10 | 0.055 | ( 0.145) | 0.049 | 0.005 |
| 14 | 1.17 | 0.10 | 0.055 | ( 0.145) | 0.049 | 0.005 |
| 15 | 1.25 | 0.10 | 0.055 | ( 0.144) | 0.049 | 0.005 |
| 16 | 1.33 | 0.10 | 0.055 | ( 0.144) | 0.049 | 0.005 |
| 17 | 1.42 | 0.10 | 0.055 | ( 0.143) | 0.049 | 0.005 |
| 18 | 1.50 | 0.10 | 0.055 | ( 0.143) | 0.049 | 0.005 |
| 19 | 1.58 | 0.10 | 0.055 | ( 0.142) | 0.049 | 0.005 |
| 20 | 1.67 | 0.10 | 0.055 | ( 0.141) | 0.049 | 0.005 |
| 21 | 1.75 | 0.10 | 0.055 | ( 0.141) | 0.049 | 0.005 |
| 22 | 1.83 | 0.13 | 0.073 | ( 0.140) | 0.066 | 0.007 |
| 23 | 1.92 | 0.13 | 0.073 | ( 0.140) | 0.066 | 0.007 |
| 24 | 2.00 | 0.13 | 0.073 | ( 0.139) | 0.066 | 0.007 |
| 25 | 2.08 | 0.13 | 0.073 | ( 0.139) | 0.066 | 0.007 |
| 26 | 2.17 | 0.13 | 0.073 | ( 0.138) | 0.066 | 0.007 |
| 27 | 2.25 | 0.13 | 0.073 | ( 0.137) | 0.066 | 0.007 |
| 28 | 2.33 | 0.13 | 0.073 | ( 0.137) | 0.066 | 0.007 |
| 29 | 2.42 | 0.13 | 0.073 | ( 0.136) | 0.066 | 0.007 |
| 30 | 2.50 | 0.13 | 0.073 | ( 0.136) | 0.066 | 0.007 |
| 31 | 2.58 | 0.17 | 0.091 | ( 0.135) | 0.082 | 0.009 |
| 32 | 2.67 | 0.17 | 0.091 | ( 0.135) | 0.082 | 0.009 |
| 33 | 2.75 | 0.17 | 0.091 | ( 0.134) | 0.082 | 0.009 |
| 34 | 2.83 | 0.17 | 0.091 | ( 0.134) | 0.082 | 0.009 |
| 35 | 2.92 | 0.17 | 0.091 | ( 0.133) | 0.082 | 0.009 |
| 36 | 3.00 | 0.17 | 0.091 | ( 0.132) | 0.082 | 0.009 |
| 37 | 3.08 | 0.17 | 0.091 | ( 0.132) | 0.082 | 0.009 |
| 38 | 3.17 | 0.17 | 0.091 | ( 0.131) | 0.082 | 0.009 |
| 39 | 3.25 | 0.17 | 0.091 | ( 0.131) | 0.082 | 0.009 |
| 40 | 3.33 | 0.17 | 0.091 | ( 0.130) | 0.082 | 0.009 |
| 41 | 3.42 | 0.17 | 0.091 | ( 0.130) | 0.082 | 0.009 |
| 42 | 3.50 | 0.17 | 0.091 | ( 0.129) | 0.082 | 0.009 |
| 43 | 3.58 | 0.17 | 0.091 | ( 0.129) | 0.082 | 0.009 |
| 44 | 3.67 | 0.17 | 0.091 | ( 0.128) | 0.082 | 0.009 |
| 45 | 3.75 | 0.17 | 0.091 | ( 0.128) | 0.082 | 0.009 |
| 46 | 3.83 | 0.20 | 0.109 | ( 0.127) | 0.098 | 0.011 |
| 47 | 3.92 | 0.20 | 0.109 | ( 0.126) | 0.098 | 0.011 |
| 48 | 4.00 | 0.20 | 0.109 | ( 0.126) | 0.098 | 0.011 |
| 49 | 4.08 | 0.20 | 0.109 | ( 0.125) | 0.098 | 0.011 |
| 50 | 4.17 | 0.20 | 0.109 | ( 0.125) | 0.098 | 0.011 |
| 51 | 4.25 | 0.20 | 0.109 | ( 0.124) | 0.098 | 0.011 |
| 52 | 4.33 | 0.23 | 0.127 | ( 0.124) | 0.115 | 0.013 |
| 53 | 4.42 | 0.23 | 0.127 | ( 0.123) | 0.115 | 0.013 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 54 | 4.50 | 0.23 | 0.127 | ( | 0.123) | 0.115 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.127 | ( | 0.122) | 0.115 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.127 | ( | 0.122) | 0.115 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.127 | ( | 0.121) | 0.115 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.146 | | 0.121 | ( | 0.131) | 0.025 |
| 59 | 4.92 | 0.27 | 0.146 | | 0.120 | ( | 0.131) | 0.025 |
| 60 | 5.00 | 0.27 | 0.146 | | 0.120 | ( | 0.131) | 0.026 |
| 61 | 5.08 | 0.20 | 0.109 | ( | 0.119) | 0.098 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.109 | ( | 0.119) | 0.098 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.109 | ( | 0.118) | 0.098 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.127 | ( | 0.118) | 0.115 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.127 | ( | 0.117) | 0.115 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.127 | ( | 0.117) | 0.115 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.146 | | 0.116 | ( | 0.131) | 0.030 |
| 68 | 5.67 | 0.27 | 0.146 | | 0.115 | ( | 0.131) | 0.030 |
| 69 | 5.75 | 0.27 | 0.146 | | 0.115 | ( | 0.131) | 0.031 |
| 70 | 5.83 | 0.27 | 0.146 | | 0.114 | ( | 0.131) | 0.031 |
| 71 | 5.92 | 0.27 | 0.146 | | 0.114 | ( | 0.131) | 0.032 |
| 72 | 6.00 | 0.27 | 0.146 | | 0.113 | ( | 0.131) | 0.032 |
| 73 | 6.08 | 0.30 | 0.164 | | 0.113 | ( | 0.147) | 0.051 |
| 74 | 6.17 | 0.30 | 0.164 | | 0.112 | ( | 0.147) | 0.051 |
| 75 | 6.25 | 0.30 | 0.164 | | 0.112 | ( | 0.147) | 0.052 |
| 76 | 6.33 | 0.30 | 0.164 | | 0.111 | ( | 0.147) | 0.052 |
| 77 | 6.42 | 0.30 | 0.164 | | 0.111 | ( | 0.147) | 0.053 |
| 78 | 6.50 | 0.30 | 0.164 | | 0.110 | ( | 0.147) | 0.053 |
| 79 | 6.58 | 0.33 | 0.182 | | 0.110 | ( | 0.164) | 0.072 |
| 80 | 6.67 | 0.33 | 0.182 | | 0.109 | ( | 0.164) | 0.073 |
| 81 | 6.75 | 0.33 | 0.182 | | 0.109 | ( | 0.164) | 0.073 |
| 82 | 6.83 | 0.33 | 0.182 | | 0.108 | ( | 0.164) | 0.074 |
| 83 | 6.92 | 0.33 | 0.182 | | 0.108 | ( | 0.164) | 0.074 |
| 84 | 7.00 | 0.33 | 0.182 | | 0.107 | ( | 0.164) | 0.075 |
| 85 | 7.08 | 0.33 | 0.182 | | 0.107 | ( | 0.164) | 0.075 |
| 86 | 7.17 | 0.33 | 0.182 | | 0.107 | ( | 0.164) | 0.075 |
| 87 | 7.25 | 0.33 | 0.182 | | 0.106 | ( | 0.164) | 0.076 |
| 88 | 7.33 | 0.37 | 0.200 | | 0.106 | ( | 0.180) | 0.095 |
| 89 | 7.42 | 0.37 | 0.200 | | 0.105 | ( | 0.180) | 0.095 |
| 90 | 7.50 | 0.37 | 0.200 | | 0.105 | ( | 0.180) | 0.096 |
| 91 | 7.58 | 0.40 | 0.218 | | 0.104 | ( | 0.197) | 0.114 |
| 92 | 7.67 | 0.40 | 0.218 | | 0.104 | ( | 0.197) | 0.115 |
| 93 | 7.75 | 0.40 | 0.218 | | 0.103 | ( | 0.197) | 0.115 |
| 94 | 7.83 | 0.43 | 0.237 | | 0.103 | ( | 0.213) | 0.134 |
| 95 | 7.92 | 0.43 | 0.237 | | 0.102 | ( | 0.213) | 0.134 |
| 96 | 8.00 | 0.43 | 0.237 | | 0.102 | ( | 0.213) | 0.135 |
| 97 | 8.08 | 0.50 | 0.273 | | 0.101 | ( | 0.246) | 0.172 |
| 98 | 8.17 | 0.50 | 0.273 | | 0.101 | ( | 0.246) | 0.172 |
| 99 | 8.25 | 0.50 | 0.273 | | 0.100 | ( | 0.246) | 0.173 |
| 100 | 8.33 | 0.50 | 0.273 | | 0.100 | ( | 0.246) | 0.173 |
| 101 | 8.42 | 0.50 | 0.273 | | 0.099 | ( | 0.246) | 0.174 |
| 102 | 8.50 | 0.50 | 0.273 | | 0.099 | ( | 0.246) | 0.174 |
| 103 | 8.58 | 0.53 | 0.291 | | 0.098 | ( | 0.262) | 0.193 |
| 104 | 8.67 | 0.53 | 0.291 | | 0.098 | ( | 0.262) | 0.193 |
| 105 | 8.75 | 0.53 | 0.291 | | 0.098 | ( | 0.262) | 0.194 |
| 106 | 8.83 | 0.57 | 0.309 | | 0.097 | ( | 0.278) | 0.212 |
| 107 | 8.92 | 0.57 | 0.309 | | 0.097 | ( | 0.278) | 0.213 |
| 108 | 9.00 | 0.57 | 0.309 | | 0.096 | ( | 0.278) | 0.213 |
| 109 | 9.08 | 0.63 | 0.346 | | 0.096 | ( | 0.311) | 0.250 |
| 110 | 9.17 | 0.63 | 0.346 | | 0.095 | ( | 0.311) | 0.251 |
| 111 | 9.25 | 0.63 | 0.346 | | 0.095 | ( | 0.311) | 0.251 |
| 112 | 9.33 | 0.67 | 0.364 | | 0.094 | ( | 0.328) | 0.270 |
| 113 | 9.42 | 0.67 | 0.364 | | 0.094 | ( | 0.328) | 0.270 |
| 114 | 9.50 | 0.67 | 0.364 | | 0.093 | ( | 0.328) | 0.271 |
| 115 | 9.58 | 0.70 | 0.382 | | 0.093 | ( | 0.344) | 0.289 |
| 116 | 9.67 | 0.70 | 0.382 | | 0.093 | ( | 0.344) | 0.290 |
| 117 | 9.75 | 0.70 | 0.382 | | 0.092 | ( | 0.344) | 0.290 |
| 118 | 9.83 | 0.73 | 0.400 | | 0.092 | ( | 0.360) | 0.309 |
| 119 | 9.92 | 0.73 | 0.400 | | 0.091 | ( | 0.360) | 0.309 |
| 120 | 10.00 | 0.73 | 0.400 | | 0.091 | ( | 0.360) | 0.310 |
| 121 | 10.08 | 0.50 | 0.273 | | 0.090 | ( | 0.246) | 0.183 |
| 122 | 10.17 | 0.50 | 0.273 | | 0.090 | ( | 0.246) | 0.183 |
| 123 | 10.25 | 0.50 | 0.273 | | 0.089 | ( | 0.246) | 0.184 |
| 124 | 10.33 | 0.50 | 0.273 | | 0.089 | ( | 0.246) | 0.184 |
| 125 | 10.42 | 0.50 | 0.273 | | 0.089 | ( | 0.246) | 0.184 |
| 126 | 10.50 | 0.50 | 0.273 | | 0.088 | ( | 0.246) | 0.185 |
| 127 | 10.58 | 0.67 | 0.364 | | 0.088 | ( | 0.328) | 0.276 |
| 128 | 10.67 | 0.67 | 0.364 | | 0.087 | ( | 0.328) | 0.277 |
| 129 | 10.75 | 0.67 | 0.364 | | 0.087 | ( | 0.328) | 0.277 |
| 130 | 10.83 | 0.67 | 0.364 | | 0.086 | ( | 0.328) | 0.278 |
| 131 | 10.92 | 0.67 | 0.364 | | 0.086 | ( | 0.328) | 0.278 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 132 | 11.00 | 0.67 | 0.364 | 0.086 | ( 0.328) | 0.278 |
| 133 | 11.08 | 0.63 | 0.346 | 0.085 | ( 0.311) | 0.261 |
| 134 | 11.17 | 0.63 | 0.346 | 0.085 | ( 0.311) | 0.261 |
| 135 | 11.25 | 0.63 | 0.346 | 0.084 | ( 0.311) | 0.261 |
| 136 | 11.33 | 0.63 | 0.346 | 0.084 | ( 0.311) | 0.262 |
| 137 | 11.42 | 0.63 | 0.346 | 0.084 | ( 0.311) | 0.262 |
| 138 | 11.50 | 0.63 | 0.346 | 0.083 | ( 0.311) | 0.263 |
| 139 | 11.58 | 0.57 | 0.309 | 0.083 | ( 0.278) | 0.227 |
| 140 | 11.67 | 0.57 | 0.309 | 0.082 | ( 0.278) | 0.227 |
| 141 | 11.75 | 0.57 | 0.309 | 0.082 | ( 0.278) | 0.228 |
| 142 | 11.83 | 0.60 | 0.328 | 0.081 | ( 0.295) | 0.246 |
| 143 | 11.92 | 0.60 | 0.328 | 0.081 | ( 0.295) | 0.247 |
| 144 | 12.00 | 0.60 | 0.328 | 0.081 | ( 0.295) | 0.247 |
| 145 | 12.08 | 0.83 | 0.455 | 0.080 | ( 0.409) | 0.375 |
| 146 | 12.17 | 0.83 | 0.455 | 0.080 | ( 0.409) | 0.375 |
| 147 | 12.25 | 0.83 | 0.455 | 0.079 | ( 0.409) | 0.376 |
| 148 | 12.33 | 0.87 | 0.473 | 0.079 | ( 0.426) | 0.394 |
| 149 | 12.42 | 0.87 | 0.473 | 0.079 | ( 0.426) | 0.395 |
| 150 | 12.50 | 0.87 | 0.473 | 0.078 | ( 0.426) | 0.395 |
| 151 | 12.58 | 0.93 | 0.510 | 0.078 | ( 0.459) | 0.432 |
| 152 | 12.67 | 0.93 | 0.510 | 0.077 | ( 0.459) | 0.432 |
| 153 | 12.75 | 0.93 | 0.510 | 0.077 | ( 0.459) | 0.433 |
| 154 | 12.83 | 0.97 | 0.528 | 0.077 | ( 0.475) | 0.451 |
| 155 | 12.92 | 0.97 | 0.528 | 0.076 | ( 0.475) | 0.452 |
| 156 | 13.00 | 0.97 | 0.528 | 0.076 | ( 0.475) | 0.452 |
| 157 | 13.08 | 1.13 | 0.619 | 0.076 | ( 0.557) | 0.543 |
| 158 | 13.17 | 1.13 | 0.619 | 0.075 | ( 0.557) | 0.544 |
| 159 | 13.25 | 1.13 | 0.619 | 0.075 | ( 0.557) | 0.544 |
| 160 | 13.33 | 1.13 | 0.619 | 0.074 | ( 0.557) | 0.544 |
| 161 | 13.42 | 1.13 | 0.619 | 0.074 | ( 0.557) | 0.545 |
| 162 | 13.50 | 1.13 | 0.619 | 0.074 | ( 0.557) | 0.545 |
| 163 | 13.58 | 0.77 | 0.419 | 0.073 | ( 0.377) | 0.345 |
| 164 | 13.67 | 0.77 | 0.419 | 0.073 | ( 0.377) | 0.346 |
| 165 | 13.75 | 0.77 | 0.419 | 0.073 | ( 0.377) | 0.346 |
| 166 | 13.83 | 0.77 | 0.419 | 0.072 | ( 0.377) | 0.346 |
| 167 | 13.92 | 0.77 | 0.419 | 0.072 | ( 0.377) | 0.347 |
| 168 | 14.00 | 0.77 | 0.419 | 0.071 | ( 0.377) | 0.347 |
| 169 | 14.08 | 0.90 | 0.491 | 0.071 | ( 0.442) | 0.420 |
| 170 | 14.17 | 0.90 | 0.491 | 0.071 | ( 0.442) | 0.421 |
| 171 | 14.25 | 0.90 | 0.491 | 0.070 | ( 0.442) | 0.421 |
| 172 | 14.33 | 0.87 | 0.473 | 0.070 | ( 0.426) | 0.403 |
| 173 | 14.42 | 0.87 | 0.473 | 0.070 | ( 0.426) | 0.404 |
| 174 | 14.50 | 0.87 | 0.473 | 0.069 | ( 0.426) | 0.404 |
| 175 | 14.58 | 0.87 | 0.473 | 0.069 | ( 0.426) | 0.404 |
| 176 | 14.67 | 0.87 | 0.473 | 0.069 | ( 0.426) | 0.405 |
| 177 | 14.75 | 0.87 | 0.473 | 0.068 | ( 0.426) | 0.405 |
| 178 | 14.83 | 0.83 | 0.455 | 0.068 | ( 0.409) | 0.387 |
| 179 | 14.92 | 0.83 | 0.455 | 0.067 | ( 0.409) | 0.388 |
| 180 | 15.00 | 0.83 | 0.455 | 0.067 | ( 0.409) | 0.388 |
| 181 | 15.08 | 0.80 | 0.437 | 0.067 | ( 0.393) | 0.370 |
| 182 | 15.17 | 0.80 | 0.437 | 0.066 | ( 0.393) | 0.370 |
| 183 | 15.25 | 0.80 | 0.437 | 0.066 | ( 0.393) | 0.371 |
| 184 | 15.33 | 0.77 | 0.419 | 0.066 | ( 0.377) | 0.353 |
| 185 | 15.42 | 0.77 | 0.419 | 0.065 | ( 0.377) | 0.353 |
| 186 | 15.50 | 0.77 | 0.419 | 0.065 | ( 0.377) | 0.354 |
| 187 | 15.58 | 0.63 | 0.346 | 0.065 | ( 0.311) | 0.281 |
| 188 | 15.67 | 0.63 | 0.346 | 0.064 | ( 0.311) | 0.281 |
| 189 | 15.75 | 0.63 | 0.346 | 0.064 | ( 0.311) | 0.282 |
| 190 | 15.83 | 0.63 | 0.346 | 0.064 | ( 0.311) | 0.282 |
| 191 | 15.92 | 0.63 | 0.346 | 0.063 | ( 0.311) | 0.282 |
| 192 | 16.00 | 0.63 | 0.346 | 0.063 | ( 0.311) | 0.283 |
| 193 | 16.08 | 0.13 | 0.073 | 0.063 | ( 0.066) | 0.010 |
| 194 | 16.17 | 0.13 | 0.073 | 0.062 | ( 0.066) | 0.010 |
| 195 | 16.25 | 0.13 | 0.073 | 0.062 | ( 0.066) | 0.011 |
| 196 | 16.33 | 0.13 | 0.073 | 0.062 | ( 0.066) | 0.011 |
| 197 | 16.42 | 0.13 | 0.073 | 0.062 | ( 0.066) | 0.011 |
| 198 | 16.50 | 0.13 | 0.073 | 0.061 | ( 0.066) | 0.012 |
| 199 | 16.58 | 0.10 | 0.055 | ( 0.061) | 0.049 | 0.005 |
| 200 | 16.67 | 0.10 | 0.055 | ( 0.061) | 0.049 | 0.005 |
| 201 | 16.75 | 0.10 | 0.055 | ( 0.060) | 0.049 | 0.005 |
| 202 | 16.83 | 0.10 | 0.055 | ( 0.060) | 0.049 | 0.005 |
| 203 | 16.92 | 0.10 | 0.055 | ( 0.060) | 0.049 | 0.005 |
| 204 | 17.00 | 0.10 | 0.055 | ( 0.059) | 0.049 | 0.005 |
| 205 | 17.08 | 0.17 | 0.091 | 0.059 | ( 0.082) | 0.032 |
| 206 | 17.17 | 0.17 | 0.091 | 0.059 | ( 0.082) | 0.032 |
| 207 | 17.25 | 0.17 | 0.091 | 0.058 | ( 0.082) | 0.033 |
| 208 | 17.33 | 0.17 | 0.091 | 0.058 | ( 0.082) | 0.033 |
| 209 | 17.42 | 0.17 | 0.091 | 0.058 | ( 0.082) | 0.033 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 210 | 17.50 | 0.17 | 0.091 | 0.058 | ( 0.082) | 0.033 |
| 211 | 17.58 | 0.17 | 0.091 | 0.057 | ( 0.082) | 0.034 |
| 212 | 17.67 | 0.17 | 0.091 | 0.057 | ( 0.082) | 0.034 |
| 213 | 17.75 | 0.17 | 0.091 | 0.057 | ( 0.082) | 0.034 |
| 214 | 17.83 | 0.13 | 0.073 | 0.056 | ( 0.066) | 0.016 |
| 215 | 17.92 | 0.13 | 0.073 | 0.056 | ( 0.066) | 0.017 |
| 216 | 18.00 | 0.13 | 0.073 | 0.056 | ( 0.066) | 0.017 |
| 217 | 18.08 | 0.13 | 0.073 | 0.056 | ( 0.066) | 0.017 |
| 218 | 18.17 | 0.13 | 0.073 | 0.055 | ( 0.066) | 0.017 |
| 219 | 18.25 | 0.13 | 0.073 | 0.055 | ( 0.066) | 0.018 |
| 220 | 18.33 | 0.13 | 0.073 | 0.055 | ( 0.066) | 0.018 |
| 221 | 18.42 | 0.13 | 0.073 | 0.055 | ( 0.066) | 0.018 |
| 222 | 18.50 | 0.13 | 0.073 | 0.054 | ( 0.066) | 0.019 |
| 223 | 18.58 | 0.10 | 0.055 | ( 0.054) | 0.049 | 0.005 |
| 224 | 18.67 | 0.10 | 0.055 | ( 0.054) | 0.049 | 0.005 |
| 225 | 18.75 | 0.10 | 0.055 | ( 0.054) | 0.049 | 0.005 |
| 226 | 18.83 | 0.07 | 0.036 | ( 0.053) | 0.033 | 0.004 |
| 227 | 18.92 | 0.07 | 0.036 | ( 0.053) | 0.033 | 0.004 |
| 228 | 19.00 | 0.07 | 0.036 | ( 0.053) | 0.033 | 0.004 |
| 229 | 19.08 | 0.10 | 0.055 | ( 0.052) | 0.049 | 0.005 |
| 230 | 19.17 | 0.10 | 0.055 | ( 0.052) | 0.049 | 0.005 |
| 231 | 19.25 | 0.10 | 0.055 | ( 0.052) | 0.049 | 0.005 |
| 232 | 19.33 | 0.13 | 0.073 | 0.052 | ( 0.066) | 0.021 |
| 233 | 19.42 | 0.13 | 0.073 | 0.052 | ( 0.066) | 0.021 |
| 234 | 19.50 | 0.13 | 0.073 | 0.051 | ( 0.066) | 0.022 |
| 235 | 19.58 | 0.10 | 0.055 | ( 0.051) | 0.049 | 0.005 |
| 236 | 19.67 | 0.10 | 0.055 | ( 0.051) | 0.049 | 0.005 |
| 237 | 19.75 | 0.10 | 0.055 | ( 0.051) | 0.049 | 0.005 |
| 238 | 19.83 | 0.07 | 0.036 | ( 0.050) | 0.033 | 0.004 |
| 239 | 19.92 | 0.07 | 0.036 | ( 0.050) | 0.033 | 0.004 |
| 240 | 20.00 | 0.07 | 0.036 | ( 0.050) | 0.033 | 0.004 |
| 241 | 20.08 | 0.10 | 0.055 | ( 0.050) | 0.049 | 0.005 |
| 242 | 20.17 | 0.10 | 0.055 | ( 0.049) | 0.049 | 0.005 |
| 243 | 20.25 | 0.10 | 0.055 | ( 0.049) | 0.049 | 0.005 |
| 244 | 20.33 | 0.10 | 0.055 | 0.049 | ( 0.049) | 0.006 |
| 245 | 20.42 | 0.10 | 0.055 | 0.049 | ( 0.049) | 0.006 |
| 246 | 20.50 | 0.10 | 0.055 | 0.049 | ( 0.049) | 0.006 |
| 247 | 20.58 | 0.10 | 0.055 | 0.048 | ( 0.049) | 0.006 |
| 248 | 20.67 | 0.10 | 0.055 | 0.048 | ( 0.049) | 0.006 |
| 249 | 20.75 | 0.10 | 0.055 | 0.048 | ( 0.049) | 0.007 |
| 250 | 20.83 | 0.07 | 0.036 | ( 0.048) | 0.033 | 0.004 |
| 251 | 20.92 | 0.07 | 0.036 | ( 0.048) | 0.033 | 0.004 |
| 252 | 21.00 | 0.07 | 0.036 | ( 0.047) | 0.033 | 0.004 |
| 253 | 21.08 | 0.10 | 0.055 | 0.047 | ( 0.049) | 0.007 |
| 254 | 21.17 | 0.10 | 0.055 | 0.047 | ( 0.049) | 0.008 |
| 255 | 21.25 | 0.10 | 0.055 | 0.047 | ( 0.049) | 0.008 |
| 256 | 21.33 | 0.07 | 0.036 | ( 0.047) | 0.033 | 0.004 |
| 257 | 21.42 | 0.07 | 0.036 | ( 0.047) | 0.033 | 0.004 |
| 258 | 21.50 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 259 | 21.58 | 0.10 | 0.055 | 0.046 | ( 0.049) | 0.008 |
| 260 | 21.67 | 0.10 | 0.055 | 0.046 | ( 0.049) | 0.009 |
| 261 | 21.75 | 0.10 | 0.055 | 0.046 | ( 0.049) | 0.009 |
| 262 | 21.83 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 263 | 21.92 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 264 | 22.00 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 265 | 22.08 | 0.10 | 0.055 | 0.045 | ( 0.049) | 0.009 |
| 266 | 22.17 | 0.10 | 0.055 | 0.045 | ( 0.049) | 0.010 |
| 267 | 22.25 | 0.10 | 0.055 | 0.045 | ( 0.049) | 0.010 |
| 268 | 22.33 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 269 | 22.42 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 270 | 22.50 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 271 | 22.58 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 272 | 22.67 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 273 | 22.75 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 274 | 22.83 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 275 | 22.92 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 276 | 23.00 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 277 | 23.08 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 278 | 23.17 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 279 | 23.25 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 280 | 23.33 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 281 | 23.42 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 284 | 23.67 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 285 | 23.75 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 286 | 23.83 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 287 | 23.92 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |

288 24.00 0.07 0.036 ( 0.043) 0.033 0.004
(Loss Rate Not Used)
Sum = 100.0 Sum = 34.1
Flood volume = Effective rainfall 2.84(In)
times area 2.6(Ac.)/[(In)/(Ft.)] = 0.6(Ac.Ft)
Total soil loss = 1.71(In)
Total soil loss = 0.370(Ac.Ft)
Total rainfall = 4.55(In)
Flood volume = 26831.3 Cubic Feet
Total soil loss = 16111.4 Cubic Feet

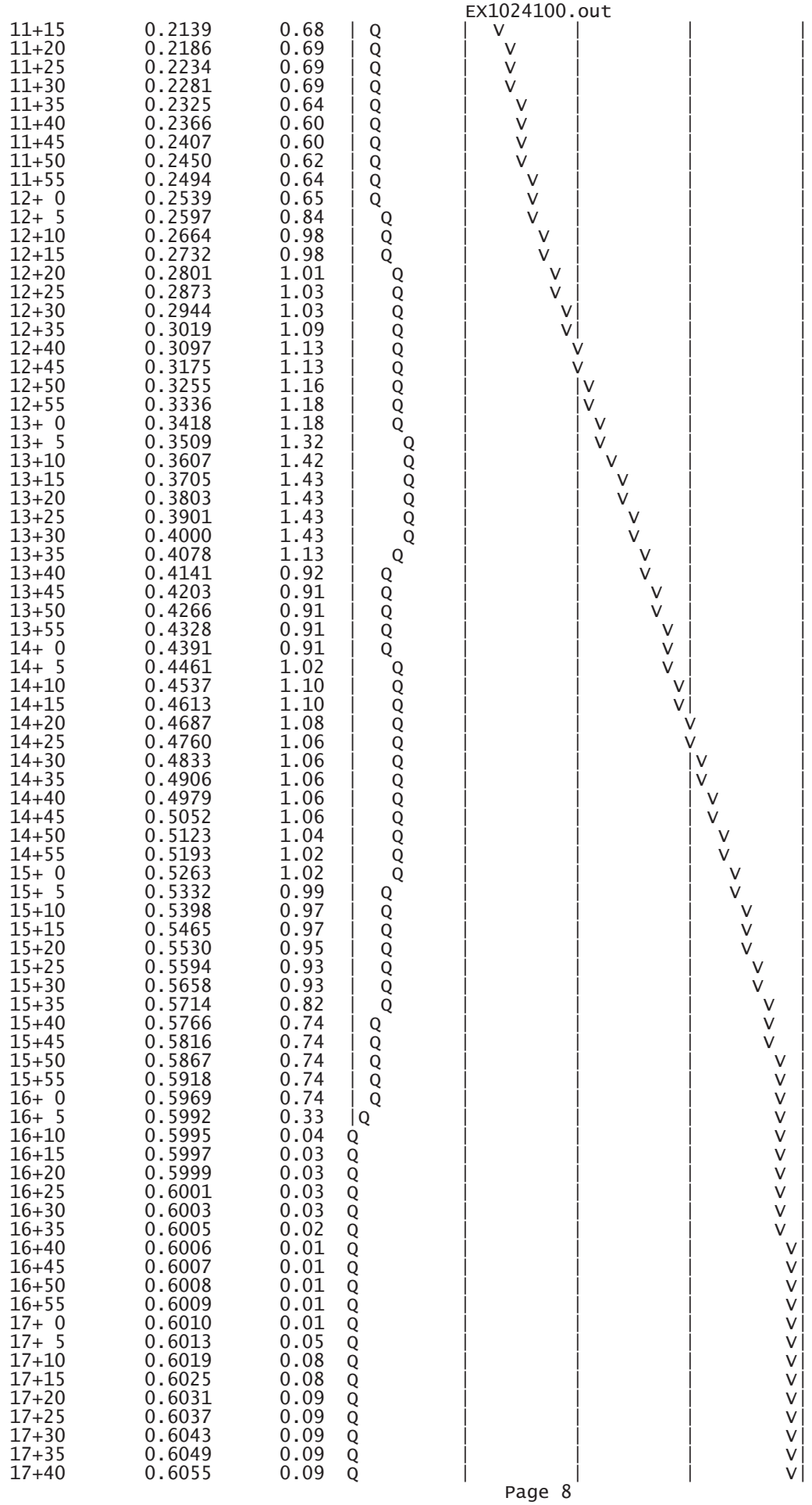
Peak flow rate of this hydrograph = 1.429(CFS)

24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0000 | 0.01 | Q | | | | |
| 0+10 | 0.0001 | 0.01 | Q | | | | |
| 0+15 | 0.0002 | 0.01 | Q | | | | |
| 0+20 | 0.0003 | 0.01 | Q | | | | |
| 0+25 | 0.0003 | 0.01 | Q | | | | |
| 0+30 | 0.0004 | 0.01 | Q | | | | |
| 0+35 | 0.0005 | 0.01 | Q | | | | |
| 0+40 | 0.0006 | 0.01 | Q | | | | |
| 0+45 | 0.0007 | 0.01 | Q | | | | |
| 0+50 | 0.0009 | 0.02 | Q | | | | |
| 0+55 | 0.0010 | 0.02 | Q | | | | |
| 1+ 0 | 0.0011 | 0.02 | Q | | | | |
| 1+ 5 | 0.0012 | 0.02 | Q | | | | |
| 1+10 | 0.0013 | 0.01 | Q | | | | |
| 1+15 | 0.0014 | 0.01 | Q | | | | |
| 1+20 | 0.0015 | 0.01 | Q | | | | |
| 1+25 | 0.0016 | 0.01 | Q | | | | |
| 1+30 | 0.0017 | 0.01 | Q | | | | |
| 1+35 | 0.0018 | 0.01 | Q | | | | |
| 1+40 | 0.0019 | 0.01 | Q | | | | |
| 1+45 | 0.0020 | 0.01 | Q | | | | |
| 1+50 | 0.0021 | 0.02 | Q | | | | |
| 1+55 | 0.0023 | 0.02 | Q | | | | |
| 2+ 0 | 0.0024 | 0.02 | Q | | | | |
| 2+ 5 | 0.0025 | 0.02 | Q | | | | |
| 2+10 | 0.0027 | 0.02 | Q | | | | |
| 2+15 | 0.0028 | 0.02 | Q | | | | |
| 2+20 | 0.0029 | 0.02 | Q | | | | |
| 2+25 | 0.0031 | 0.02 | Q | | | | |
| 2+30 | 0.0032 | 0.02 | Q | | | | |
| 2+35 | 0.0033 | 0.02 | Q | | | | |
| 2+40 | 0.0035 | 0.02 | Q | | | | |
| 2+45 | 0.0037 | 0.02 | Q | | | | |
| 2+50 | 0.0038 | 0.02 | Q | | | | |
| 2+55 | 0.0040 | 0.02 | Q | | | | |
| 3+ 0 | 0.0042 | 0.02 | Q | | | | |
| 3+ 5 | 0.0043 | 0.02 | Q | | | | |
| 3+10 | 0.0045 | 0.02 | Q | | | | |
| 3+15 | 0.0047 | 0.02 | Q | | | | |
| 3+20 | 0.0048 | 0.02 | Q | | | | |
| 3+25 | 0.0050 | 0.02 | Q | | | | |
| 3+30 | 0.0052 | 0.02 | Q | | | | |
| 3+35 | 0.0053 | 0.02 | Q | | | | |
| 3+40 | 0.0055 | 0.02 | Q | | | | |
| 3+45 | 0.0056 | 0.02 | Q | | | | |
| 3+50 | 0.0058 | 0.03 | Q | | | | |
| 3+55 | 0.0060 | 0.03 | Q | | | | |
| 4+ 0 | 0.0062 | 0.03 | Q | | | | |
| 4+ 5 | 0.0064 | 0.03 | Q | | | | |
| 4+10 | 0.0066 | 0.03 | Q | | | | |
| 4+15 | 0.0068 | 0.03 | Q | | | | |
| 4+20 | 0.0070 | 0.03 | Q | | | | |
| 4+25 | 0.0073 | 0.03 | Q | | | | |
| 4+30 | 0.0075 | 0.03 | Q | | | | |
| 4+35 | 0.0077 | 0.03 | Q | | | | |
| 4+40 | 0.0079 | 0.03 | Q | | | | |

```
 4+45       0.0082      0.03  Q          |          |          |          |
 4+50       0.0085      0.05  Q          |          |          |          |
 4+55       0.0090      0.07  Q          |          |          |          |
 5+ 0       0.0094      0.07  Q          |          |          |          |
 5+ 5       0.0098      0.05  Q          |          |          |          |
 5+10       0.0100      0.03  Q          |          |          |          |
 5+15       0.0102      0.03  Q          |          |          |          |
 5+20       0.0104      0.03  Q          |          |          |          |
 5+25       0.0106      0.03  Q          |          |          |          |
 5+30       0.0108      0.03  Q          |          |          |          |
 5+35       0.0112      0.06  Q          |          |          |          |
 5+40       0.0118      0.08  Q          |          |          |          |
 5+45       0.0123      0.08  Q          |          |          |          |
 5+50       0.0129      0.08  Q          |          |          |          |
 5+55       0.0134      0.08  Q          |          |          |          |
 6+ 0       0.0140      0.08  Q          |          |          |          |
 6+ 5       0.0148      0.11  Q          |          |          |          |
 6+10       0.0157      0.13  QV         |          |          |          |
 6+15       0.0166      0.14  QV         |          |          |          |
 6+20       0.0176      0.14  QV         |          |          |          |
 6+25       0.0185      0.14  QV         |          |          |          |
 6+30       0.0195      0.14  QV         |          |          |          |
 6+35       0.0206      0.17  QV         |          |          |          |
 6+40       0.0219      0.19  QV         |          |          |          |
 6+45       0.0233      0.19  QV         |          |          |          |
 6+50       0.0246      0.19  QV         |          |          |          |
 6+55       0.0259      0.19  QV         |          |          |          |
 7+ 0       0.0273      0.19  QV         |          |          |          |
 7+ 5       0.0286      0.20  QV         |          |          |          |
 7+10       0.0300      0.20  QV         |          |          |          |
 7+15       0.0313      0.20  Q V        |          |          |          |
 7+20       0.0329      0.23  Q V        |          |          |          |
 7+25       0.0346      0.25  Q V        |          |          |          |
 7+30       0.0363      0.25  |QV        |          |          |          |
 7+35       0.0382      0.28  |QV        |          |          |          |
 7+40       0.0403      0.30  |QV        |          |          |          |
 7+45       0.0424      0.30  |QV        |          |          |          |
 7+50       0.0447      0.33  |QV        |          |          |          |
 7+55       0.0471      0.35  |Q V       |          |          |          |
 8+ 0       0.0495      0.35  |Q V       |          |          |          |
 8+ 5       0.0523      0.41  |Q V       |          |          |          |
 8+10       0.0554      0.45  |Q V       |          |          |          |
 8+15       0.0585      0.45  |Q V       |          |          |          |
 8+20       0.0616      0.45  |Q  V      |          |          |          |
 8+25       0.0648      0.45  |Q  V      |          |          |          |
 8+30       0.0679      0.46  |Q  V      |          |          |          |
 8+35       0.0712      0.48  |Q  V      |          |          |          |
 8+40       0.0747      0.50  | Q V      |          |          |          |
 8+45       0.0782      0.51  | Q  V     |          |          |          |
 8+50       0.0819      0.54  | Q  V     |          |          |          |
 8+55       0.0857      0.56  | Q  V     |          |          |          |
 9+ 0       0.0896      0.56  | Q  V     |          |          |          |
 9+ 5       0.0938      0.61  | Q   V    |          |          |          |
 9+10       0.0983      0.65  | Q   V    |          |          |          |
 9+15       0.1028      0.66  | Q   V    |          |          |          |
 9+20       0.1076      0.69  | Q   V    |          |          |          |
 9+25       0.1124      0.71  | Q    V   |          |          |          |
 9+30       0.1173      0.71  | Q    V   |          |          |          |
 9+35       0.1224      0.74  | Q    V   |          |          |          |
 9+40       0.1276      0.76  |  Q    V  |          |          |          |
 9+45       0.1328      0.76  |  Q    V  |          |          |          |
 9+50       0.1383      0.79  |  Q    V  |          |          |          |
 9+55       0.1438      0.81  |  Q     V |          |          |          |
10+ 0       0.1494      0.81  |  Q     V |          |          |          |
10+ 5       0.1537      0.62  | Q      V |          |          |          |
10+10       0.1571      0.49  |Q       V |          |          |          |
10+15       0.1604      0.48  |Q       V |          |          |          |
10+20       0.1637      0.48  |Q       V |          |          |          |
10+25       0.1670      0.48  |Q       V |          |          |          |
10+30       0.1704      0.48  |Q       |V          |          |          |
10+35       0.1746      0.62  | Q      |V          |          |          |
10+40       0.1796      0.72  | Q      |V          |          |          |
10+45       0.1846      0.73  | Q      |V          |          |          |
10+50       0.1896      0.73  | Q      | V         |          |          |
10+55       0.1946      0.73  | Q      | V         |          |          |
11+ 0       0.1996      0.73  | Q      | V         |          |          |
11+ 5       0.2045      0.70  | Q      |  V        |          |          |
11+10       0.2092      0.68  | Q      |  V        |          |          |
```



| | | | |
|---|---|---|---|
| 11+15 | 0.2139 | 0.68 | Q V |
| 11+20 | 0.2186 | 0.69 | Q V |
| 11+25 | 0.2234 | 0.69 | Q V |
| 11+30 | 0.2281 | 0.69 | Q V |
| 11+35 | 0.2325 | 0.64 | Q V |
| 11+40 | 0.2366 | 0.60 | Q V |
| 11+45 | 0.2407 | 0.60 | Q V |
| 11+50 | 0.2450 | 0.62 | Q V |
| 11+55 | 0.2494 | 0.64 | Q V |
| 12+ 0 | 0.2539 | 0.65 | Q V |
| 12+ 5 | 0.2597 | 0.84 | Q V |
| 12+10 | 0.2664 | 0.98 | Q V |
| 12+15 | 0.2732 | 0.98 | Q V |
| 12+20 | 0.2801 | 1.01 | Q V |
| 12+25 | 0.2873 | 1.03 | Q V |
| 12+30 | 0.2944 | 1.03 | Q V |
| 12+35 | 0.3019 | 1.09 | Q V |
| 12+40 | 0.3097 | 1.13 | Q V |
| 12+45 | 0.3175 | 1.13 | Q V |
| 12+50 | 0.3255 | 1.16 | Q V |
| 12+55 | 0.3336 | 1.18 | Q V |
| 13+ 0 | 0.3418 | 1.18 | Q V |
| 13+ 5 | 0.3509 | 1.32 | Q V |
| 13+10 | 0.3607 | 1.42 | Q V |
| 13+15 | 0.3705 | 1.43 | Q V |
| 13+20 | 0.3803 | 1.43 | Q V |
| 13+25 | 0.3901 | 1.43 | Q V |
| 13+30 | 0.4000 | 1.43 | Q V |
| 13+35 | 0.4078 | 1.13 | Q V |
| 13+40 | 0.4141 | 0.92 | Q V |
| 13+45 | 0.4203 | 0.91 | Q V |
| 13+50 | 0.4266 | 0.91 | Q V |
| 13+55 | 0.4328 | 0.91 | Q V |
| 14+ 0 | 0.4391 | 0.91 | Q V |
| 14+ 5 | 0.4461 | 1.02 | Q V |
| 14+10 | 0.4537 | 1.10 | Q V |
| 14+15 | 0.4613 | 1.10 | Q V |
| 14+20 | 0.4687 | 1.08 | Q V |
| 14+25 | 0.4760 | 1.06 | Q V |
| 14+30 | 0.4833 | 1.06 | Q V |
| 14+35 | 0.4906 | 1.06 | Q V |
| 14+40 | 0.4979 | 1.06 | Q V |
| 14+45 | 0.5052 | 1.06 | Q V |
| 14+50 | 0.5123 | 1.04 | Q V |
| 14+55 | 0.5193 | 1.02 | Q V |
| 15+ 0 | 0.5263 | 1.02 | Q V |
| 15+ 5 | 0.5332 | 0.99 | Q V |
| 15+10 | 0.5398 | 0.97 | Q V |
| 15+15 | 0.5465 | 0.97 | Q V |
| 15+20 | 0.5530 | 0.95 | Q V |
| 15+25 | 0.5594 | 0.93 | Q V |
| 15+30 | 0.5658 | 0.93 | Q V |
| 15+35 | 0.5714 | 0.82 | Q V |
| 15+40 | 0.5766 | 0.74 | Q V |
| 15+45 | 0.5816 | 0.74 | Q V |
| 15+50 | 0.5867 | 0.74 | Q V |
| 15+55 | 0.5918 | 0.74 | Q V |
| 16+ 0 | 0.5969 | 0.74 | Q V |
| 16+ 5 | 0.5992 | 0.33 | Q V |
| 16+10 | 0.5995 | 0.04 | Q V |
| 16+15 | 0.5997 | 0.03 | Q V |
| 16+20 | 0.5999 | 0.03 | Q V |
| 16+25 | 0.6001 | 0.03 | Q V |
| 16+30 | 0.6003 | 0.03 | Q V |
| 16+35 | 0.6005 | 0.02 | Q V |
| 16+40 | 0.6006 | 0.01 | Q V |
| 16+45 | 0.6007 | 0.01 | Q V |
| 16+50 | 0.6008 | 0.01 | Q V |
| 16+55 | 0.6009 | 0.01 | Q V |
| 17+ 0 | 0.6010 | 0.01 | Q V |
| 17+ 5 | 0.6013 | 0.05 | Q V |
| 17+10 | 0.6019 | 0.08 | Q V |
| 17+15 | 0.6025 | 0.08 | Q V |
| 17+20 | 0.6031 | 0.09 | Q V |
| 17+25 | 0.6037 | 0.09 | Q V |
| 17+30 | 0.6043 | 0.09 | Q V |
| 17+35 | 0.6049 | 0.09 | Q V |
| 17+40 | 0.6055 | 0.09 | Q V |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+45 | 0.6061 | 0.09 | Q | \| | \| | \| | V\| |
| 17+50 | 0.6065 | 0.06 | Q | \| | \| | \| | V\| |
| 17+55 | 0.6068 | 0.04 | Q | \| | \| | \| | V\| |
| 18+ 0 | 0.6071 | 0.04 | Q | \| | \| | \| | V\| |
| 18+ 5 | 0.6075 | 0.04 | Q | \| | \| | \| | V\| |
| 18+10 | 0.6078 | 0.05 | Q | \| | \| | \| | V\| |
| 18+15 | 0.6081 | 0.05 | Q | \| | \| | \| | V\| |
| 18+20 | 0.6084 | 0.05 | Q | \| | \| | \| | V\| |
| 18+25 | 0.6087 | 0.05 | Q | \| | \| | \| | V\| |
| 18+30 | 0.6091 | 0.05 | Q | \| | \| | \| | V\| |
| 18+35 | 0.6093 | 0.03 | Q | \| | \| | \| | V\| |
| 18+40 | 0.6094 | 0.02 | Q | \| | \| | \| | V\| |
| 18+45 | 0.6095 | 0.01 | Q | \| | \| | \| | V\| |
| 18+50 | 0.6095 | 0.01 | Q | \| | \| | \| | V\| |
| 18+55 | 0.6096 | 0.01 | Q | \| | \| | \| | V\| |
| 19+ 0 | 0.6097 | 0.01 | Q | \| | \| | \| | V\| |
| 19+ 5 | 0.6098 | 0.01 | Q | \| | \| | \| | V\| |
| 19+10 | 0.6099 | 0.01 | Q | \| | \| | \| | V\| |
| 19+15 | 0.6100 | 0.01 | Q | \| | \| | \| | V\| |
| 19+20 | 0.6102 | 0.04 | Q | \| | \| | \| | V\| |
| 19+25 | 0.6106 | 0.05 | Q | \| | \| | \| | V\| |
| 19+30 | 0.6110 | 0.06 | Q | \| | \| | \| | V\| |
| 19+35 | 0.6112 | 0.03 | Q | \| | \| | \| | V\| |
| 19+40 | 0.6113 | 0.02 | Q | \| | \| | \| | V\| |
| 19+45 | 0.6114 | 0.01 | Q | \| | \| | \| | V\| |
| 19+50 | 0.6115 | 0.01 | Q | \| | \| | \| | V\| |
| 19+55 | 0.6116 | 0.01 | Q | \| | \| | \| | V\| |
| 20+ 0 | 0.6116 | 0.01 | Q | \| | \| | \| | V\| |
| 20+ 5 | 0.6117 | 0.01 | Q | \| | \| | \| | V\| |
| 20+10 | 0.6118 | 0.01 | Q | \| | \| | \| | V\| |
| 20+15 | 0.6119 | 0.01 | Q | \| | \| | \| | V\| |
| 20+20 | 0.6120 | 0.01 | Q | \| | \| | \| | V\| |
| 20+25 | 0.6121 | 0.01 | Q | \| | \| | \| | V\| |
| 20+30 | 0.6122 | 0.02 | Q | \| | \| | \| | V\| |
| 20+35 | 0.6123 | 0.02 | Q | \| | \| | \| | V\| |
| 20+40 | 0.6124 | 0.02 | Q | \| | \| | \| | V\| |
| 20+45 | 0.6125 | 0.02 | Q | \| | \| | \| | V\| |
| 20+50 | 0.6126 | 0.01 | Q | \| | \| | \| | V\| |
| 20+55 | 0.6127 | 0.01 | Q | \| | \| | \| | V\| |
| 21+ 0 | 0.6128 | 0.01 | Q | \| | \| | \| | V\| |
| 21+ 5 | 0.6129 | 0.02 | Q | \| | \| | \| | V\| |
| 21+10 | 0.6130 | 0.02 | Q | \| | \| | \| | V\| |
| 21+15 | 0.6131 | 0.02 | Q | \| | \| | \| | V\| |
| 21+20 | 0.6132 | 0.01 | Q | \| | \| | \| | V\| |
| 21+25 | 0.6133 | 0.01 | Q | \| | \| | \| | V\| |
| 21+30 | 0.6134 | 0.01 | Q | \| | \| | \| | V\| |
| 21+35 | 0.6135 | 0.02 | Q | \| | \| | \| | V\| |
| 21+40 | 0.6136 | 0.02 | Q | \| | \| | \| | V\| |
| 21+45 | 0.6138 | 0.02 | Q | \| | \| | \| | V\| |
| 21+50 | 0.6139 | 0.02 | Q | \| | \| | \| | V\| |
| 21+55 | 0.6140 | 0.01 | Q | \| | \| | \| | V\| |
| 22+ 0 | 0.6140 | 0.01 | Q | \| | \| | \| | V\| |
| 22+ 5 | 0.6142 | 0.02 | Q | \| | \| | \| | V\| |
| 22+10 | 0.6143 | 0.02 | Q | \| | \| | \| | V\| |
| 22+15 | 0.6145 | 0.03 | Q | \| | \| | \| | V\| |
| 22+20 | 0.6146 | 0.02 | Q | \| | \| | \| | V\| |
| 22+25 | 0.6147 | 0.01 | Q | \| | \| | \| | V\| |
| 22+30 | 0.6147 | 0.01 | Q | \| | \| | \| | V\| |
| 22+35 | 0.6148 | 0.01 | Q | \| | \| | \| | V\| |
| 22+40 | 0.6149 | 0.01 | Q | \| | \| | \| | V\| |
| 22+45 | 0.6149 | 0.01 | Q | \| | \| | \| | V\| |
| 22+50 | 0.6150 | 0.01 | Q | \| | \| | \| | V\| |
| 22+55 | 0.6151 | 0.01 | Q | \| | \| | \| | V\| |
| 23+ 0 | 0.6151 | 0.01 | Q | \| | \| | \| | V\| |
| 23+ 5 | 0.6152 | 0.01 | Q | \| | \| | \| | V\| |
| 23+10 | 0.6153 | 0.01 | Q | \| | \| | \| | V\| |
| 23+15 | 0.6153 | 0.01 | Q | \| | \| | \| | V\| |
| 23+20 | 0.6154 | 0.01 | Q | \| | \| | \| | V\| |
| 23+25 | 0.6155 | 0.01 | Q | \| | \| | \| | V\| |
| 23+30 | 0.6155 | 0.01 | Q | \| | \| | \| | V\| |
| 23+35 | 0.6156 | 0.01 | Q | \| | \| | \| | V\| |
| 23+40 | 0.6157 | 0.01 | Q | \| | \| | \| | V\| |
| 23+45 | 0.6157 | 0.01 | Q | \| | \| | \| | V\| |
| 23+50 | 0.6158 | 0.01 | Q | \| | \| | \| | V\| |
| 23+55 | 0.6159 | 0.01 | Q | \| | \| | \| | V\| |
| 24+ 0 | 0.6159 | 0.01 | Q | \| | \| | \| | V\| |
| 24+ 5 | 0.6160 | 0.00 | Q | \| | \| | \| | V\| |
| 24+10 | 0.6160 | 0.00 | Q | \| | \| | \| | V\| |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX111100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 11
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.80(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.80(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 288.00(Ft.)
Length along longest watercourse measured to centroid = 83.00(Ft.)
Length along longest watercourse = 0.055 Mi.
Length along longest watercourse measured to centroid = 0.016 Mi.
Difference in elevation = 120.00(Ft.)
Slope along watercourse = 2200.0000 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.013 Hr.
Lag time = 0.80 Min.
25% of lag time = 0.20 Min.
40% of lag time = 0.32 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.80 | 0.49 | 0.39 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.80 | 1.20 | 0.96 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.490(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.800 | 84.00 | 0.000 |

Total Area Entered = 0.80(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

---

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 626.589 | 78.755 | 0.635 |
| 2 0.167 | 1253.178 | 21.245 | 0.171 |
| | | Sum = 100.000 Sum= | 0.806 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 4.20 | 0.605 | 0.086 | ( 0.544) | 0.519 |
| 2 0.17 | 4.30 | 0.619 | 0.086 | ( 0.557) | 0.533 |
| 3 0.25 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 4 0.33 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 5 0.42 | 5.80 | 0.835 | 0.086 | ( 0.752) | 0.749 |
| 6 0.50 | 6.50 | 0.936 | 0.086 | ( 0.842) | 0.850 |
| 7 0.58 | 7.40 | 1.066 | 0.086 | ( 0.959) | 0.980 |
| 8 0.67 | 8.60 | 1.238 | 0.086 | ( 1.115) | 1.153 |
| 9 0.75 | 12.30 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 10 0.83 | 29.10 | 4.190 | 0.086 | ( 3.771) | 4.105 |
| 11 0.92 | 6.80 | 0.979 | 0.086 | ( 0.881) | 0.893 |
| 12 1.00 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 13.4 |

Flood volume = Effective rainfall 1.11(In)
times area 0.8(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.006(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 3235.6 Cubic Feet
Total soil loss = 249.2 Cubic Feet

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Peak flow rate of this hydrograph = 2.896(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0023 | 0.33 | Q | | | | |
| 0+10 | 0.0052 | 0.43 | QV | | | | |
| 0+15 | 0.0086 | 0.49 | Q V | | | | |
| 0+20 | 0.0121 | 0.51 | Q V | | | | |
| 0+25 | 0.0162 | 0.58 | Q V | | | | |
| 0+30 | 0.0208 | 0.67 | Q V | | | | |
| 0+35 | 0.0261 | 0.77 | Q V | | | | |
| 0+40 | 0.0323 | 0.90 | Q V | | | | |
| 0+45 | 0.0410 | 1.27 | Q V | | | | |
| 0+50 | 0.0609 | 2.90 | Q V | | | | |
| 0+55 | 0.0697 | 1.27 | Q V | | | | |
| 1+ 0 | 0.0735 | 0.56 | Q V | | | | |
| 1+ 5 | 0.0743 | 0.11 | Q V | | | | |

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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX113100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 11
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.80(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.80(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 288.00(Ft.)
Length along longest watercourse measured to centroid = 83.00(Ft.)
Length along longest watercourse = 0.055 Mi.
Length along longest watercourse measured to centroid = 0.016 Mi.
Difference in elevation = 120.00(Ft.)
Slope along watercourse = 2200.0000 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.013 Hr.
Lag time = 0.80 Min.
25% of lag time = 0.20 Min.
40% of lag time = 0.32 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.80 | 0.80 | 0.64 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.80 | 1.80 | 1.44 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.800 | 84.00 | 0.000 |

Total Area Entered = 0.80(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 626.589 | 78.755 | 0.635 |
| 2 0.167 | 1253.178 | 21.245 | 0.171 |
| | | Sum = 100.000 Sum= | 0.806 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 1.30 | 0.281 | 0.086 | ( 0.253) | 0.195 |
| 2 0.17 | 1.30 | 0.281 | 0.086 | ( 0.253) | 0.195 |
| 3 0.25 | 1.10 | 0.238 | 0.086 | ( 0.214) | 0.152 |
| 4 0.33 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 5 0.42 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 6 0.50 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 7 0.58 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 8 0.67 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 9 0.75 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 10 0.83 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 11 0.92 | 1.60 | 0.346 | 0.086 | ( 0.311) | 0.260 |
| 12 1.00 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 13 1.08 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 14 1.17 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 15 1.25 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 16 1.33 | 2.00 | 0.432 | 0.086 | ( 0.389) | 0.346 |
| 17 1.42 | 2.60 | 0.562 | 0.086 | ( 0.505) | 0.476 |
| 18 1.50 | 2.70 | 0.583 | 0.086 | ( 0.525) | 0.497 |
| 19 1.58 | 2.40 | 0.518 | 0.086 | ( 0.467) | 0.433 |
| 20 1.67 | 2.70 | 0.583 | 0.086 | ( 0.525) | 0.497 |
| 21 1.75 | 3.30 | 0.713 | 0.086 | ( 0.642) | 0.627 |
| 22 1.83 | 3.10 | 0.670 | 0.086 | ( 0.603) | 0.584 |
| 23 1.92 | 2.90 | 0.626 | 0.086 | ( 0.564) | 0.541 |
| 24 2.00 | 3.00 | 0.648 | 0.086 | ( 0.583) | 0.562 |
| 25 2.08 | 3.10 | 0.670 | 0.086 | ( 0.603) | 0.584 |
| 26 2.17 | 4.20 | 0.907 | 0.086 | ( 0.816) | 0.821 |
| 27 2.25 | 5.00 | 1.080 | 0.086 | ( 0.972) | 0.994 |
| 28 2.33 | 3.50 | 0.756 | 0.086 | ( 0.680) | 0.670 |
| 29 2.42 | 6.80 | 1.469 | 0.086 | ( 1.322) | 1.383 |
| 30 2.50 | 7.30 | 1.577 | 0.086 | ( 1.419) | 1.491 |
| 31 2.58 | 8.20 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 32 2.67 | 5.90 | 1.274 | 0.086 | ( 1.147) | 1.189 |
| 33 2.75 | 2.00 | 0.432 | 0.086 | ( 0.389) | 0.346 |
| 34 2.83 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 35 2.92 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 36 3.00 | 0.60 | 0.130 | 0.086 | ( 0.117) | 0.044 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 18.5 |

Flood volume = Effective rainfall 1.54(In)
times area 0.8(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.017(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 4479.7 Cubic Feet
Total soil loss = 747.5 Cubic Feet

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Peak flow rate of this hydrograph = 1.326(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0009 | 0.12 | Q | | | | |
| 0+10 | 0.0019 | 0.16 | Q | | | | |
| 0+15 | 0.0028 | 0.13 | QV | | | | |
| 0+20 | 0.0041 | 0.18 | QV | | | | |
| 0+25 | 0.0054 | 0.19 | Q V | | | | |
| 0+30 | 0.0070 | 0.23 | Q V | | | | |
| 0+35 | 0.0084 | 0.20 | Q V | | | | |
| 0+40 | 0.0100 | 0.23 | Q V | | | | |
| 0+45 | 0.0117 | 0.24 | Q V | | | | |
| 0+50 | 0.0131 | 0.20 | Q V | | | | |
| 0+55 | 0.0145 | 0.21 | Q V | | | | |
| 1+ 0 | 0.0161 | 0.24 | Q V | | | | |
| 1+ 5 | 0.0182 | 0.30 | \|Q V | | | | |
| 1+10 | 0.0203 | 0.31 | \|Q V | | | | |
| 1+15 | 0.0225 | 0.31 | \|Q V | | | | |
| 1+20 | 0.0245 | 0.29 | \|Q V | | | | |
| 1+25 | 0.0270 | 0.36 | \|Q V | | | | |
| 1+30 | 0.0297 | 0.40 | \|Q V | | | | |
| 1+35 | 0.0322 | 0.36 | \|Q V | | | | |
| 1+40 | 0.0349 | 0.39 | \|Q V | | | | |
| 1+45 | 0.0382 | 0.48 | \|Q V | | | | |
| 1+50 | 0.0415 | 0.48 | \|Q V | | | | |
| 1+55 | 0.0446 | 0.44 | \|Q V | | | | |
| 2+ 0 | 0.0477 | 0.45 | \|Q V | | | | |
| 2+ 5 | 0.0509 | 0.47 | \|Q V | | | | |
| 2+10 | 0.0552 | 0.62 | \| Q V | | | | |
| 2+15 | 0.0605 | 0.77 | \| Q V | | | | |
| 2+20 | 0.0646 | 0.60 | \| Q V | | | | |
| 2+25 | 0.0714 | 0.99 | \| Q V | | | | |
| 2+30 | 0.0796 | 1.18 | \| Q V | | | | |
| 2+35 | 0.0887 | 1.33 | \| Q V | | | | |
| 2+40 | 0.0959 | 1.04 | \| Q V | | | | |
| 2+45 | 0.0988 | 0.42 | \|Q V | | | | |
| 2+50 | 0.1006 | 0.25 | \|Q V | | | | |
| 2+55 | 0.1022 | 0.24 | Q V | | | | |
| 3+ 0 | 0.1028 | 0.08 | Q V | | | | |
| 3+ 5 | 0.1028 | 0.01 | Q V | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX116100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 11
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 0.80(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.80(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 288.00(Ft.)
Length along longest watercourse measured to centroid = 83.00(Ft.)
Length along longest watercourse = 0.055 Mi.
Length along longest watercourse measured to centroid = 0.016 Mi.
Difference in elevation = 120.00(Ft.)
Slope along watercourse = 2200.0000 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.013 Hr.
Lag time = 0.80 Min.
25% of lag time = 0.20 Min.
40% of lag time = 0.32 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.80 | 1.12 | 0.90 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.80 | 2.50 | 2.00 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.120(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.800 | 84.00 | 0.000 |

Total Area Entered = 0.80(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 626.589 | 78.755 | 0.635 |
| 2 | 0.167 | 1253.178 | 21.245 | 0.171 |
| | | | Sum = 100.000 Sum= | 0.806 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.086 | ( 0.135) | 0.064 |
| 2 | 0.17 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 3 | 0.25 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 4 | 0.33 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 5 | 0.42 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 6 | 0.50 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 7 | 0.58 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 8 | 0.67 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 9 | 0.75 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 10 | 0.83 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 11 | 0.92 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 12 | 1.00 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 13 | 1.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 14 | 1.17 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 15 | 1.25 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 16 | 1.33 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 17 | 1.42 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 18 | 1.50 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 19 | 1.58 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 20 | 1.67 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 21 | 1.75 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 22 | 1.83 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 23 | 1.92 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 24 | 2.00 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 25 | 2.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 26 | 2.17 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 27 | 2.25 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 28 | 2.33 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 29 | 2.42 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 30 | 2.50 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 31 | 2.58 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 32 | 2.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 33 | 2.75 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 34 | 2.83 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 35 | 2.92 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 36 | 3.00 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 37 | 3.08 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 38 | 3.17 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 39 | 3.25 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 40 | 3.33 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 41 | 3.42 | 1.20 | 0.360 | 0.086 | ( 0.324) | 0.274 |
| 42 | 3.50 | 1.30 | 0.390 | 0.086 | ( 0.351) | 0.304 |
| 43 | 3.58 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 44 | 3.67 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 45 | 3.75 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 46 | 3.83 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 47 | 3.92 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 48 | 4.00 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 49 | 4.08 | 1.70 | 0.510 | 0.086 | ( 0.459) | 0.424 |
| 50 | 4.17 | 1.80 | 0.540 | 0.086 | ( 0.486) | 0.454 |
| 51 | 4.25 | 1.90 | 0.570 | 0.086 | ( 0.513) | 0.484 |
| 52 | 4.33 | 2.00 | 0.600 | 0.086 | ( 0.540) | 0.514 |
| 53 | 4.42 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 |
| 54 | 4.50 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 55 | 4.58 | 2.20 | 0.660 | 0.086 | ( 0.594) | 0.574 | |
| 56 | 4.67 | 2.30 | 0.690 | 0.086 | ( 0.621) | 0.604 | |
| 57 | 4.75 | 2.40 | 0.720 | 0.086 | ( 0.648) | 0.634 | |
| 58 | 4.83 | 2.40 | 0.720 | 0.086 | ( 0.648) | 0.634 | |
| 59 | 4.92 | 2.50 | 0.750 | 0.086 | ( 0.675) | 0.664 | |
| 60 | 5.00 | 2.60 | 0.780 | 0.086 | ( 0.702) | 0.694 | |
| 61 | 5.08 | 3.10 | 0.930 | 0.086 | ( 0.837) | 0.844 | |
| 62 | 5.17 | 3.60 | 1.080 | 0.086 | ( 0.972) | 0.994 | |
| 63 | 5.25 | 3.90 | 1.170 | 0.086 | ( 1.053) | 1.084 | |
| 64 | 5.33 | 4.20 | 1.260 | 0.086 | ( 1.134) | 1.174 | |
| 65 | 5.42 | 4.70 | 1.410 | 0.086 | ( 1.269) | 1.324 | |
| 66 | 5.50 | 5.60 | 1.680 | 0.086 | ( 1.512) | 1.594 | |
| 67 | 5.58 | 1.90 | 0.570 | 0.086 | ( 0.513) | 0.484 | |
| 68 | 5.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 | |
| 69 | 5.75 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 | |
| 70 | 5.83 | 0.50 | 0.150 | 0.086 | ( 0.135) | 0.064 | |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.086) | 0.081 | 0.009 | |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.086) | 0.054 | 0.006 | |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.9

Flood volume = Effective rainfall 1.99(In)
times area 0.8(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.51(In)
Total soil loss = 0.034(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 5773.9 Cubic Feet
Total soil loss = 1486.1 Cubic Feet

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Peak flow rate of this hydrograph = 1.240(CFS)

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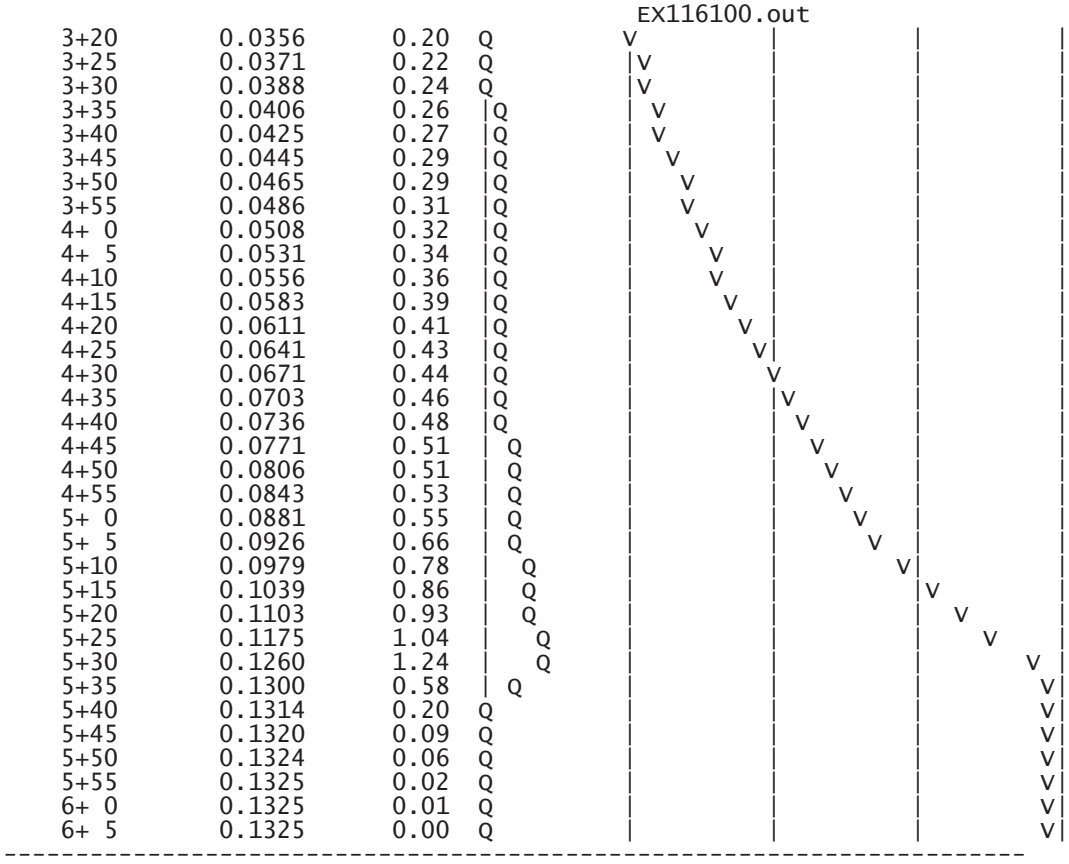
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

---

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0003 | 0.04 | Q | | | | |
| 0+10 | 0.0008 | 0.07 | Q | | | | |
| 0+15 | 0.0013 | 0.08 | Q | | | | |
| 0+20 | 0.0018 | 0.08 | Q | | | | |
| 0+25 | 0.0023 | 0.08 | Q | | | | |
| 0+30 | 0.0030 | 0.10 | Q | | | | |
| 0+35 | 0.0037 | 0.10 | QV | | | | |
| 0+40 | 0.0044 | 0.10 | QV | | | | |
| 0+45 | 0.0051 | 0.10 | QV | | | | |
| 0+50 | 0.0058 | 0.10 | QV | | | | |
| 0+55 | 0.0064 | 0.10 | QV | | | | |
| 1+ 0 | 0.0073 | 0.12 | Q V | | | | |
| 1+ 5 | 0.0081 | 0.12 | Q V | | | | |
| 1+10 | 0.0090 | 0.12 | Q V | | | | |
| 1+15 | 0.0098 | 0.12 | Q V | | | | |
| 1+20 | 0.0107 | 0.12 | Q V | | | | |
| 1+25 | 0.0115 | 0.12 | Q V | | | | |
| 1+30 | 0.0124 | 0.12 | Q V | | | | |
| 1+35 | 0.0133 | 0.12 | Q V | | | | |
| 1+40 | 0.0141 | 0.12 | Q V | | | | |
| 1+45 | 0.0150 | 0.12 | Q V | | | | |
| 1+50 | 0.0158 | 0.12 | Q V | | | | |
| 1+55 | 0.0167 | 0.12 | Q V | | | | |
| 2+ 0 | 0.0177 | 0.14 | Q V | | | | |
| 2+ 5 | 0.0186 | 0.13 | Q V | | | | |
| 2+10 | 0.0196 | 0.14 | Q V | | | | |
| 2+15 | 0.0206 | 0.15 | Q V | | | | |
| 2+20 | 0.0216 | 0.15 | Q V | | | | |
| 2+25 | 0.0226 | 0.15 | Q V | | | | |
| 2+30 | 0.0236 | 0.15 | Q V | | | | |
| 2+35 | 0.0247 | 0.15 | Q V | | | | |
| 2+40 | 0.0257 | 0.15 | Q V | | | | |
| 2+45 | 0.0269 | 0.17 | Q V | | | | |
| 2+50 | 0.0280 | 0.17 | Q V | | | | |
| 2+55 | 0.0292 | 0.17 | Q V | | | | |
| 3+ 0 | 0.0304 | 0.17 | Q V | | | | |
| 3+ 5 | 0.0316 | 0.17 | Q V | | | | |
| 3+10 | 0.0329 | 0.19 | Q V | | | | |
| 3+15 | 0.0343 | 0.20 | Q V | | | | |



| | | | |
|---|---|---|---|
| 3+20 | 0.0356 | 0.20 | Q |
| 3+25 | 0.0371 | 0.22 | Q |
| 3+30 | 0.0388 | 0.24 | Q |
| 3+35 | 0.0406 | 0.26 | Q |
| 3+40 | 0.0425 | 0.27 | Q |
| 3+45 | 0.0445 | 0.29 | Q |
| 3+50 | 0.0465 | 0.29 | Q |
| 3+55 | 0.0486 | 0.31 | Q |
| 4+ 0 | 0.0508 | 0.32 | Q |
| 4+ 5 | 0.0531 | 0.34 | Q |
| 4+10 | 0.0556 | 0.36 | Q |
| 4+15 | 0.0583 | 0.39 | Q |
| 4+20 | 0.0611 | 0.41 | Q |
| 4+25 | 0.0641 | 0.43 | Q |
| 4+30 | 0.0671 | 0.44 | Q |
| 4+35 | 0.0703 | 0.46 | Q |
| 4+40 | 0.0736 | 0.48 | Q |
| 4+45 | 0.0771 | 0.51 | Q |
| 4+50 | 0.0806 | 0.51 | Q |
| 4+55 | 0.0843 | 0.53 | Q |
| 5+ 0 | 0.0881 | 0.55 | Q |
| 5+ 5 | 0.0926 | 0.66 | Q |
| 5+10 | 0.0979 | 0.78 | Q |
| 5+15 | 0.1039 | 0.86 | Q |
| 5+20 | 0.1103 | 0.93 | Q |
| 5+25 | 0.1175 | 1.04 | Q |
| 5+30 | 0.1260 | 1.24 | Q |
| 5+35 | 0.1300 | 0.58 | Q |
| 5+40 | 0.1314 | 0.20 | Q |
| 5+45 | 0.1320 | 0.09 | Q |
| 5+50 | 0.1324 | 0.06 | Q |
| 5+55 | 0.1325 | 0.02 | Q |
| 6+ 0 | 0.1325 | 0.01 | Q |
| 6+ 5 | 0.1325 | 0.00 | Q |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX1124100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 11
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 0.80(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.80(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 288.00(Ft.)
Length along longest watercourse measured to centroid = 83.00(Ft.)
Length along longest watercourse = 0.055 Mi.
Length along longest watercourse measured to centroid = 0.016 Mi.
Difference in elevation = 120.00(Ft.)
Slope along watercourse = 2200.0000 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.013 Hr.
Lag time = 0.80 Min.
25% of lag time = 0.20 Min.
40% of lag time = 0.32 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.80 | 1.80 | 1.44 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.80 | 4.53 | 3.62 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.530(In)

Point rain (area averaged) = 4.530(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.530(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.800 | 84.00 | 0.000 |

Total Area Entered = 0.80(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 626.589 | 78.755 | 0.635 |
| 2 0.167 | 1253.178 | 21.245 | 0.171 |
| | | Sum = 100.000 | Sum= 0.806 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.036 | ( 0.152) | 0.033 | 0.004 |
| 2 | 0.17 | 0.07 | 0.036 | ( 0.152) | 0.033 | 0.004 |
| 3 | 0.25 | 0.07 | 0.036 | ( 0.151) | 0.033 | 0.004 |
| 4 | 0.33 | 0.10 | 0.054 | ( 0.150) | 0.049 | 0.005 |
| 5 | 0.42 | 0.10 | 0.054 | ( 0.150) | 0.049 | 0.005 |
| 6 | 0.50 | 0.10 | 0.054 | ( 0.149) | 0.049 | 0.005 |
| 7 | 0.58 | 0.10 | 0.054 | ( 0.149) | 0.049 | 0.005 |
| 8 | 0.67 | 0.10 | 0.054 | ( 0.148) | 0.049 | 0.005 |
| 9 | 0.75 | 0.10 | 0.054 | ( 0.147) | 0.049 | 0.005 |
| 10 | 0.83 | 0.13 | 0.072 | ( 0.147) | 0.065 | 0.007 |
| 11 | 0.92 | 0.13 | 0.072 | ( 0.146) | 0.065 | 0.007 |
| 12 | 1.00 | 0.13 | 0.072 | ( 0.146) | 0.065 | 0.007 |
| 13 | 1.08 | 0.10 | 0.054 | ( 0.145) | 0.049 | 0.005 |
| 14 | 1.17 | 0.10 | 0.054 | ( 0.145) | 0.049 | 0.005 |
| 15 | 1.25 | 0.10 | 0.054 | ( 0.144) | 0.049 | 0.005 |
| 16 | 1.33 | 0.10 | 0.054 | ( 0.143) | 0.049 | 0.005 |
| 17 | 1.42 | 0.10 | 0.054 | ( 0.143) | 0.049 | 0.005 |
| 18 | 1.50 | 0.10 | 0.054 | ( 0.142) | 0.049 | 0.005 |
| 19 | 1.58 | 0.10 | 0.054 | ( 0.142) | 0.049 | 0.005 |
| 20 | 1.67 | 0.10 | 0.054 | ( 0.141) | 0.049 | 0.005 |
| 21 | 1.75 | 0.10 | 0.054 | ( 0.141) | 0.049 | 0.005 |
| 22 | 1.83 | 0.13 | 0.072 | ( 0.140) | 0.065 | 0.007 |
| 23 | 1.92 | 0.13 | 0.072 | ( 0.139) | 0.065 | 0.007 |
| 24 | 2.00 | 0.13 | 0.072 | ( 0.139) | 0.065 | 0.007 |
| 25 | 2.08 | 0.13 | 0.072 | ( 0.138) | 0.065 | 0.007 |
| 26 | 2.17 | 0.13 | 0.072 | ( 0.138) | 0.065 | 0.007 |
| 27 | 2.25 | 0.13 | 0.072 | ( 0.137) | 0.065 | 0.007 |
| 28 | 2.33 | 0.13 | 0.072 | ( 0.137) | 0.065 | 0.007 |
| 29 | 2.42 | 0.13 | 0.072 | ( 0.136) | 0.065 | 0.007 |
| 30 | 2.50 | 0.13 | 0.072 | ( 0.136) | 0.065 | 0.007 |
| 31 | 2.58 | 0.17 | 0.091 | ( 0.135) | 0.082 | 0.009 |
| 32 | 2.67 | 0.17 | 0.091 | ( 0.134) | 0.082 | 0.009 |
| 33 | 2.75 | 0.17 | 0.091 | ( 0.134) | 0.082 | 0.009 |
| 34 | 2.83 | 0.17 | 0.091 | ( 0.133) | 0.082 | 0.009 |
| 35 | 2.92 | 0.17 | 0.091 | ( 0.133) | 0.082 | 0.009 |
| 36 | 3.00 | 0.17 | 0.091 | ( 0.132) | 0.082 | 0.009 |
| 37 | 3.08 | 0.17 | 0.091 | ( 0.132) | 0.082 | 0.009 |
| 38 | 3.17 | 0.17 | 0.091 | ( 0.131) | 0.082 | 0.009 |
| 39 | 3.25 | 0.17 | 0.091 | ( 0.131) | 0.082 | 0.009 |
| 40 | 3.33 | 0.17 | 0.091 | ( 0.130) | 0.082 | 0.009 |
| 41 | 3.42 | 0.17 | 0.091 | ( 0.129) | 0.082 | 0.009 |
| 42 | 3.50 | 0.17 | 0.091 | ( 0.129) | 0.082 | 0.009 |
| 43 | 3.58 | 0.17 | 0.091 | ( 0.128) | 0.082 | 0.009 |
| 44 | 3.67 | 0.17 | 0.091 | ( 0.128) | 0.082 | 0.009 |
| 45 | 3.75 | 0.17 | 0.091 | ( 0.127) | 0.082 | 0.009 |
| 46 | 3.83 | 0.20 | 0.109 | ( 0.127) | 0.098 | 0.011 |
| 47 | 3.92 | 0.20 | 0.109 | ( 0.126) | 0.098 | 0.011 |
| 48 | 4.00 | 0.20 | 0.109 | ( 0.126) | 0.098 | 0.011 |
| 49 | 4.08 | 0.20 | 0.109 | ( 0.125) | 0.098 | 0.011 |
| 50 | 4.17 | 0.20 | 0.109 | ( 0.125) | 0.098 | 0.011 |
| 51 | 4.25 | 0.20 | 0.109 | ( 0.124) | 0.098 | 0.011 |
| 52 | 4.33 | 0.23 | 0.127 | ( 0.124) | 0.114 | 0.013 |
| 53 | 4.42 | 0.23 | 0.127 | ( 0.123) | 0.114 | 0.013 |
| 54 | 4.50 | 0.23 | 0.127 | ( 0.123) | 0.114 | 0.013 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 55 | 4.58 | 0.23 | 0.127 | ( | 0.122) | 0.114 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.127 | ( | 0.121) | 0.114 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.127 | ( | 0.121) | 0.114 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.145 | | 0.120 | ( 0.130) | | 0.025 |
| 59 | 4.92 | 0.27 | 0.145 | | 0.120 | ( 0.130) | | 0.025 |
| 60 | 5.00 | 0.27 | 0.145 | | 0.119 | ( 0.130) | | 0.026 |
| 61 | 5.08 | 0.20 | 0.109 | ( | 0.119) | 0.098 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.109 | ( | 0.118) | 0.098 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.109 | ( | 0.118) | 0.098 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.127 | ( | 0.117) | 0.114 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.127 | ( | 0.117) | 0.114 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.127 | ( | 0.116) | 0.114 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.145 | | 0.116 | ( 0.130) | | 0.029 |
| 68 | 5.67 | 0.27 | 0.145 | | 0.115 | ( 0.130) | | 0.030 |
| 69 | 5.75 | 0.27 | 0.145 | | 0.115 | ( 0.130) | | 0.030 |
| 70 | 5.83 | 0.27 | 0.145 | | 0.114 | ( 0.130) | | 0.031 |
| 71 | 5.92 | 0.27 | 0.145 | | 0.114 | ( 0.130) | | 0.031 |
| 72 | 6.00 | 0.27 | 0.145 | | 0.113 | ( 0.130) | | 0.032 |
| 73 | 6.08 | 0.30 | 0.163 | | 0.113 | ( 0.147) | | 0.050 |
| 74 | 6.17 | 0.30 | 0.163 | | 0.112 | ( 0.147) | | 0.051 |
| 75 | 6.25 | 0.30 | 0.163 | | 0.112 | ( 0.147) | | 0.051 |
| 76 | 6.33 | 0.30 | 0.163 | | 0.111 | ( 0.147) | | 0.052 |
| 77 | 6.42 | 0.30 | 0.163 | | 0.111 | ( 0.147) | | 0.052 |
| 78 | 6.50 | 0.30 | 0.163 | | 0.110 | ( 0.147) | | 0.053 |
| 79 | 6.58 | 0.33 | 0.181 | | 0.110 | ( 0.163) | | 0.071 |
| 80 | 6.67 | 0.33 | 0.181 | | 0.109 | ( 0.163) | | 0.072 |
| 81 | 6.75 | 0.33 | 0.181 | | 0.109 | ( 0.163) | | 0.072 |
| 82 | 6.83 | 0.33 | 0.181 | | 0.108 | ( 0.163) | | 0.073 |
| 83 | 6.92 | 0.33 | 0.181 | | 0.108 | ( 0.163) | | 0.073 |
| 84 | 7.00 | 0.33 | 0.181 | | 0.107 | ( 0.163) | | 0.074 |
| 85 | 7.08 | 0.33 | 0.181 | | 0.107 | ( 0.163) | | 0.074 |
| 86 | 7.17 | 0.33 | 0.181 | | 0.106 | ( 0.163) | | 0.075 |
| 87 | 7.25 | 0.33 | 0.181 | | 0.106 | ( 0.163) | | 0.075 |
| 88 | 7.33 | 0.37 | 0.199 | | 0.105 | ( 0.179) | | 0.094 |
| 89 | 7.42 | 0.37 | 0.199 | | 0.105 | ( 0.179) | | 0.094 |
| 90 | 7.50 | 0.37 | 0.199 | | 0.104 | ( 0.179) | | 0.095 |
| 91 | 7.58 | 0.40 | 0.217 | | 0.104 | ( 0.196) | | 0.114 |
| 92 | 7.67 | 0.40 | 0.217 | | 0.103 | ( 0.196) | | 0.114 |
| 93 | 7.75 | 0.40 | 0.217 | | 0.103 | ( 0.196) | | 0.114 |
| 94 | 7.83 | 0.43 | 0.236 | | 0.102 | ( 0.212) | | 0.133 |
| 95 | 7.92 | 0.43 | 0.236 | | 0.102 | ( 0.212) | | 0.134 |
| 96 | 8.00 | 0.43 | 0.236 | | 0.102 | ( 0.212) | | 0.134 |
| 97 | 8.08 | 0.50 | 0.272 | | 0.101 | ( 0.245) | | 0.171 |
| 98 | 8.17 | 0.50 | 0.272 | | 0.101 | ( 0.245) | | 0.171 |
| 99 | 8.25 | 0.50 | 0.272 | | 0.100 | ( 0.245) | | 0.172 |
| 100 | 8.33 | 0.50 | 0.272 | | 0.100 | ( 0.245) | | 0.172 |
| 101 | 8.42 | 0.50 | 0.272 | | 0.099 | ( 0.245) | | 0.173 |
| 102 | 8.50 | 0.50 | 0.272 | | 0.099 | ( 0.245) | | 0.173 |
| 103 | 8.58 | 0.53 | 0.290 | | 0.098 | ( 0.261) | | 0.192 |
| 104 | 8.67 | 0.53 | 0.290 | | 0.098 | ( 0.261) | | 0.192 |
| 105 | 8.75 | 0.53 | 0.290 | | 0.097 | ( 0.261) | | 0.193 |
| 106 | 8.83 | 0.57 | 0.308 | | 0.097 | ( 0.277) | | 0.211 |
| 107 | 8.92 | 0.57 | 0.308 | | 0.096 | ( 0.277) | | 0.212 |
| 108 | 9.00 | 0.57 | 0.308 | | 0.096 | ( 0.277) | | 0.212 |
| 109 | 9.08 | 0.63 | 0.344 | | 0.096 | ( 0.310) | | 0.249 |
| 110 | 9.17 | 0.63 | 0.344 | | 0.095 | ( 0.310) | | 0.249 |
| 111 | 9.25 | 0.63 | 0.344 | | 0.095 | ( 0.310) | | 0.250 |
| 112 | 9.33 | 0.67 | 0.362 | | 0.094 | ( 0.326) | | 0.268 |
| 113 | 9.42 | 0.67 | 0.362 | | 0.094 | ( 0.326) | | 0.269 |
| 114 | 9.50 | 0.67 | 0.362 | | 0.093 | ( 0.326) | | 0.269 |
| 115 | 9.58 | 0.70 | 0.381 | | 0.093 | ( 0.342) | | 0.288 |
| 116 | 9.67 | 0.70 | 0.381 | | 0.092 | ( 0.342) | | 0.288 |
| 117 | 9.75 | 0.70 | 0.381 | | 0.092 | ( 0.342) | | 0.289 |
| 118 | 9.83 | 0.73 | 0.399 | | 0.091 | ( 0.359) | | 0.307 |
| 119 | 9.92 | 0.73 | 0.399 | | 0.091 | ( 0.359) | | 0.308 |
| 120 | 10.00 | 0.73 | 0.399 | | 0.091 | ( 0.359) | | 0.308 |
| 121 | 10.08 | 0.50 | 0.272 | | 0.090 | ( 0.245) | | 0.182 |
| 122 | 10.17 | 0.50 | 0.272 | | 0.090 | ( 0.245) | | 0.182 |
| 123 | 10.25 | 0.50 | 0.272 | | 0.089 | ( 0.245) | | 0.183 |
| 124 | 10.33 | 0.50 | 0.272 | | 0.089 | ( 0.245) | | 0.183 |
| 125 | 10.42 | 0.50 | 0.272 | | 0.088 | ( 0.245) | | 0.183 |
| 126 | 10.50 | 0.50 | 0.272 | | 0.088 | ( 0.245) | | 0.184 |
| 127 | 10.58 | 0.67 | 0.362 | | 0.088 | ( 0.326) | | 0.275 |
| 128 | 10.67 | 0.67 | 0.362 | | 0.087 | ( 0.326) | | 0.275 |
| 129 | 10.75 | 0.67 | 0.362 | | 0.087 | ( 0.326) | | 0.276 |
| 130 | 10.83 | 0.67 | 0.362 | | 0.086 | ( 0.326) | | 0.276 |
| 131 | 10.92 | 0.67 | 0.362 | | 0.086 | ( 0.326) | | 0.277 |
| 132 | 11.00 | 0.67 | 0.362 | | 0.085 | ( 0.326) | | 0.277 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 133 | 11.08 | 0.63 | 0.344 | 0.085 | ( 0.310) | 0.259 |
| 134 | 11.17 | 0.63 | 0.344 | 0.085 | ( 0.310) | 0.260 |
| 135 | 11.25 | 0.63 | 0.344 | 0.084 | ( 0.310) | 0.260 |
| 136 | 11.33 | 0.63 | 0.344 | 0.084 | ( 0.310) | 0.261 |
| 137 | 11.42 | 0.63 | 0.344 | 0.083 | ( 0.310) | 0.261 |
| 138 | 11.50 | 0.63 | 0.344 | 0.083 | ( 0.310) | 0.261 |
| 139 | 11.58 | 0.57 | 0.308 | 0.083 | ( 0.277) | 0.226 |
| 140 | 11.67 | 0.57 | 0.308 | 0.082 | ( 0.277) | 0.226 |
| 141 | 11.75 | 0.57 | 0.308 | 0.082 | ( 0.277) | 0.226 |
| 142 | 11.83 | 0.60 | 0.326 | 0.081 | ( 0.294) | 0.245 |
| 143 | 11.92 | 0.60 | 0.326 | 0.081 | ( 0.294) | 0.245 |
| 144 | 12.00 | 0.60 | 0.326 | 0.080 | ( 0.294) | 0.246 |
| 145 | 12.08 | 0.83 | 0.453 | 0.080 | ( 0.408) | 0.373 |
| 146 | 12.17 | 0.83 | 0.453 | 0.080 | ( 0.408) | 0.373 |
| 147 | 12.25 | 0.83 | 0.453 | 0.079 | ( 0.408) | 0.374 |
| 148 | 12.33 | 0.87 | 0.471 | 0.079 | ( 0.424) | 0.392 |
| 149 | 12.42 | 0.87 | 0.471 | 0.078 | ( 0.424) | 0.393 |
| 150 | 12.50 | 0.87 | 0.471 | 0.078 | ( 0.424) | 0.393 |
| 151 | 12.58 | 0.93 | 0.507 | 0.078 | ( 0.457) | 0.430 |
| 152 | 12.67 | 0.93 | 0.507 | 0.077 | ( 0.457) | 0.430 |
| 153 | 12.75 | 0.93 | 0.507 | 0.077 | ( 0.457) | 0.430 |
| 154 | 12.83 | 0.97 | 0.525 | 0.077 | ( 0.473) | 0.449 |
| 155 | 12.92 | 0.97 | 0.525 | 0.076 | ( 0.473) | 0.449 |
| 156 | 13.00 | 0.97 | 0.525 | 0.076 | ( 0.473) | 0.450 |
| 157 | 13.08 | 1.13 | 0.616 | 0.075 | ( 0.554) | 0.541 |
| 158 | 13.17 | 1.13 | 0.616 | 0.075 | ( 0.554) | 0.541 |
| 159 | 13.25 | 1.13 | 0.616 | 0.075 | ( 0.554) | 0.541 |
| 160 | 13.33 | 1.13 | 0.616 | 0.074 | ( 0.554) | 0.542 |
| 161 | 13.42 | 1.13 | 0.616 | 0.074 | ( 0.554) | 0.542 |
| 162 | 13.50 | 1.13 | 0.616 | 0.073 | ( 0.554) | 0.543 |
| 163 | 13.58 | 0.77 | 0.417 | 0.073 | ( 0.375) | 0.344 |
| 164 | 13.67 | 0.77 | 0.417 | 0.073 | ( 0.375) | 0.344 |
| 165 | 13.75 | 0.77 | 0.417 | 0.072 | ( 0.375) | 0.344 |
| 166 | 13.83 | 0.77 | 0.417 | 0.072 | ( 0.375) | 0.345 |
| 167 | 13.92 | 0.77 | 0.417 | 0.072 | ( 0.375) | 0.345 |
| 168 | 14.00 | 0.77 | 0.417 | 0.071 | ( 0.375) | 0.345 |
| 169 | 14.08 | 0.90 | 0.489 | 0.071 | ( 0.440) | 0.418 |
| 170 | 14.17 | 0.90 | 0.489 | 0.071 | ( 0.440) | 0.419 |
| 171 | 14.25 | 0.90 | 0.489 | 0.070 | ( 0.440) | 0.419 |
| 172 | 14.33 | 0.87 | 0.471 | 0.070 | ( 0.424) | 0.401 |
| 173 | 14.42 | 0.87 | 0.471 | 0.069 | ( 0.424) | 0.402 |
| 174 | 14.50 | 0.87 | 0.471 | 0.069 | ( 0.424) | 0.402 |
| 175 | 14.58 | 0.87 | 0.471 | 0.069 | ( 0.424) | 0.402 |
| 176 | 14.67 | 0.87 | 0.471 | 0.068 | ( 0.424) | 0.403 |
| 177 | 14.75 | 0.87 | 0.471 | 0.068 | ( 0.424) | 0.403 |
| 178 | 14.83 | 0.83 | 0.453 | 0.068 | ( 0.408) | 0.385 |
| 179 | 14.92 | 0.83 | 0.453 | 0.067 | ( 0.408) | 0.386 |
| 180 | 15.00 | 0.83 | 0.453 | 0.067 | ( 0.408) | 0.386 |
| 181 | 15.08 | 0.80 | 0.435 | 0.067 | ( 0.391) | 0.368 |
| 182 | 15.17 | 0.80 | 0.435 | 0.066 | ( 0.391) | 0.369 |
| 183 | 15.25 | 0.80 | 0.435 | 0.066 | ( 0.391) | 0.369 |
| 184 | 15.33 | 0.77 | 0.417 | 0.066 | ( 0.375) | 0.351 |
| 185 | 15.42 | 0.77 | 0.417 | 0.065 | ( 0.375) | 0.351 |
| 186 | 15.50 | 0.77 | 0.417 | 0.065 | ( 0.375) | 0.352 |
| 187 | 15.58 | 0.63 | 0.344 | 0.065 | ( 0.310) | 0.280 |
| 188 | 15.67 | 0.63 | 0.344 | 0.064 | ( 0.310) | 0.280 |
| 189 | 15.75 | 0.63 | 0.344 | 0.064 | ( 0.310) | 0.280 |
| 190 | 15.83 | 0.63 | 0.344 | 0.064 | ( 0.310) | 0.281 |
| 191 | 15.92 | 0.63 | 0.344 | 0.063 | ( 0.310) | 0.281 |
| 192 | 16.00 | 0.63 | 0.344 | 0.063 | ( 0.310) | 0.281 |
| 193 | 16.08 | 0.13 | 0.072 | 0.063 | ( 0.065) | 0.010 |
| 194 | 16.17 | 0.13 | 0.072 | 0.062 | ( 0.065) | 0.010 |
| 195 | 16.25 | 0.13 | 0.072 | 0.062 | ( 0.065) | 0.010 |
| 196 | 16.33 | 0.13 | 0.072 | 0.062 | ( 0.065) | 0.011 |
| 197 | 16.42 | 0.13 | 0.072 | 0.061 | ( 0.065) | 0.011 |
| 198 | 16.50 | 0.13 | 0.072 | 0.061 | ( 0.065) | 0.011 |
| 199 | 16.58 | 0.10 | 0.054 | ( 0.061) | 0.049 | 0.005 |
| 200 | 16.67 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 201 | 16.75 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 202 | 16.83 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 203 | 16.92 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 204 | 17.00 | 0.10 | 0.054 | ( 0.059) | 0.049 | 0.005 |
| 205 | 17.08 | 0.17 | 0.091 | 0.059 | ( 0.082) | 0.032 |
| 206 | 17.17 | 0.17 | 0.091 | 0.059 | ( 0.082) | 0.032 |
| 207 | 17.25 | 0.17 | 0.091 | 0.058 | ( 0.082) | 0.032 |
| 208 | 17.33 | 0.17 | 0.091 | 0.058 | ( 0.082) | 0.033 |
| 209 | 17.42 | 0.17 | 0.091 | 0.058 | ( 0.082) | 0.033 |
| 210 | 17.50 | 0.17 | 0.091 | 0.058 | ( 0.082) | 0.033 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 211 | 17.58 | 0.17 | 0.091 | 0.057 | ( 0.082) | 0.033 |
| 212 | 17.67 | 0.17 | 0.091 | 0.057 | ( 0.082) | 0.034 |
| 213 | 17.75 | 0.17 | 0.091 | 0.057 | ( 0.082) | 0.034 |
| 214 | 17.83 | 0.13 | 0.072 | 0.056 | ( 0.065) | 0.016 |
| 215 | 17.92 | 0.13 | 0.072 | 0.056 | ( 0.065) | 0.016 |
| 216 | 18.00 | 0.13 | 0.072 | 0.056 | ( 0.065) | 0.017 |
| 217 | 18.08 | 0.13 | 0.072 | 0.056 | ( 0.065) | 0.017 |
| 218 | 18.17 | 0.13 | 0.072 | 0.055 | ( 0.065) | 0.017 |
| 219 | 18.25 | 0.13 | 0.072 | 0.055 | ( 0.065) | 0.017 |
| 220 | 18.33 | 0.13 | 0.072 | 0.055 | ( 0.065) | 0.018 |
| 221 | 18.42 | 0.13 | 0.072 | 0.054 | ( 0.065) | 0.018 |
| 222 | 18.50 | 0.13 | 0.072 | 0.054 | ( 0.065) | 0.018 |
| 223 | 18.58 | 0.10 | 0.054 | ( 0.054) | 0.049 | 0.005 |
| 224 | 18.67 | 0.10 | 0.054 | ( 0.054) | 0.049 | 0.005 |
| 225 | 18.75 | 0.10 | 0.054 | ( 0.053) | 0.049 | 0.005 |
| 226 | 18.83 | 0.07 | 0.036 | ( 0.053) | 0.033 | 0.004 |
| 227 | 18.92 | 0.07 | 0.036 | ( 0.053) | 0.033 | 0.004 |
| 228 | 19.00 | 0.07 | 0.036 | ( 0.053) | 0.033 | 0.004 |
| 229 | 19.08 | 0.10 | 0.054 | ( 0.052) | 0.049 | 0.005 |
| 230 | 19.17 | 0.10 | 0.054 | ( 0.052) | 0.049 | 0.005 |
| 231 | 19.25 | 0.10 | 0.054 | ( 0.052) | 0.049 | 0.005 |
| 232 | 19.33 | 0.13 | 0.072 | 0.052 | ( 0.065) | 0.021 |
| 233 | 19.42 | 0.13 | 0.072 | 0.051 | ( 0.065) | 0.021 |
| 234 | 19.50 | 0.13 | 0.072 | 0.051 | ( 0.065) | 0.021 |
| 235 | 19.58 | 0.10 | 0.054 | ( 0.051) | 0.049 | 0.005 |
| 236 | 19.67 | 0.10 | 0.054 | ( 0.051) | 0.049 | 0.005 |
| 237 | 19.75 | 0.10 | 0.054 | ( 0.050) | 0.049 | 0.005 |
| 238 | 19.83 | 0.07 | 0.036 | ( 0.050) | 0.033 | 0.004 |
| 239 | 19.92 | 0.07 | 0.036 | ( 0.050) | 0.033 | 0.004 |
| 240 | 20.00 | 0.07 | 0.036 | ( 0.050) | 0.033 | 0.004 |
| 241 | 20.08 | 0.10 | 0.054 | ( 0.050) | 0.049 | 0.005 |
| 242 | 20.17 | 0.10 | 0.054 | ( 0.049) | 0.049 | 0.005 |
| 243 | 20.25 | 0.10 | 0.054 | ( 0.049) | 0.049 | 0.005 |
| 244 | 20.33 | 0.10 | 0.054 | ( 0.049) | 0.049 | 0.005 |
| 245 | 20.42 | 0.10 | 0.054 | 0.049 | ( 0.049) | 0.006 |
| 246 | 20.50 | 0.10 | 0.054 | 0.049 | ( 0.049) | 0.006 |
| 247 | 20.58 | 0.10 | 0.054 | 0.048 | ( 0.049) | 0.006 |
| 248 | 20.67 | 0.10 | 0.054 | 0.048 | ( 0.049) | 0.006 |
| 249 | 20.75 | 0.10 | 0.054 | 0.048 | ( 0.049) | 0.006 |
| 250 | 20.83 | 0.07 | 0.036 | ( 0.048) | 0.033 | 0.004 |
| 251 | 20.92 | 0.07 | 0.036 | ( 0.048) | 0.033 | 0.004 |
| 252 | 21.00 | 0.07 | 0.036 | ( 0.047) | 0.033 | 0.004 |
| 253 | 21.08 | 0.10 | 0.054 | 0.047 | ( 0.049) | 0.007 |
| 254 | 21.17 | 0.10 | 0.054 | 0.047 | ( 0.049) | 0.007 |
| 255 | 21.25 | 0.10 | 0.054 | 0.047 | ( 0.049) | 0.008 |
| 256 | 21.33 | 0.07 | 0.036 | ( 0.047) | 0.033 | 0.004 |
| 257 | 21.42 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 258 | 21.50 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 259 | 21.58 | 0.10 | 0.054 | 0.046 | ( 0.049) | 0.008 |
| 260 | 21.67 | 0.10 | 0.054 | 0.046 | ( 0.049) | 0.008 |
| 261 | 21.75 | 0.10 | 0.054 | 0.046 | ( 0.049) | 0.009 |
| 262 | 21.83 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 263 | 21.92 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 264 | 22.00 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 265 | 22.08 | 0.10 | 0.054 | 0.045 | ( 0.049) | 0.009 |
| 266 | 22.17 | 0.10 | 0.054 | 0.045 | ( 0.049) | 0.009 |
| 267 | 22.25 | 0.10 | 0.054 | 0.045 | ( 0.049) | 0.009 |
| 268 | 22.33 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 269 | 22.42 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 270 | 22.50 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 271 | 22.58 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 272 | 22.67 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 273 | 22.75 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 274 | 22.83 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 275 | 22.92 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 276 | 23.00 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 277 | 23.08 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 278 | 23.17 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 279 | 23.25 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 280 | 23.33 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 281 | 23.42 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 284 | 23.67 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 285 | 23.75 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 286 | 23.83 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 287 | 23.92 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 288 | 24.00 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 33.9

Flood volume = Effective rainfall 2.83(In)
times area 0.8(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 1.70(In)
Total soil loss = 0.114(Ac.Ft)
Total rainfall = 4.53(In)
Flood volume = 8211.0 Cubic Feet
Total soil loss = 4944.1 Cubic Feet

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Peak flow rate of this hydrograph = 0.438(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0000 | 0.00 | Q | | | | |
| 0+10 | 0.0000 | 0.00 | Q | | | | |
| 0+15 | 0.0001 | 0.00 | Q | | | | |
| 0+20 | 0.0001 | 0.00 | Q | | | | |
| 0+25 | 0.0001 | 0.00 | Q | | | | |
| 0+30 | 0.0001 | 0.00 | Q | | | | |
| 0+35 | 0.0002 | 0.00 | Q | | | | |
| 0+40 | 0.0002 | 0.00 | Q | | | | |
| 0+45 | 0.0002 | 0.00 | Q | | | | |
| 0+50 | 0.0003 | 0.01 | Q | | | | |
| 0+55 | 0.0003 | 0.01 | Q | | | | |
| 1+ 0 | 0.0004 | 0.01 | Q | | | | |
| 1+ 5 | 0.0004 | 0.00 | Q | | | | |
| 1+10 | 0.0004 | 0.00 | Q | | | | |
| 1+15 | 0.0004 | 0.00 | Q | | | | |
| 1+20 | 0.0005 | 0.00 | Q | | | | |
| 1+25 | 0.0005 | 0.00 | Q | | | | |
| 1+30 | 0.0005 | 0.00 | Q | | | | |
| 1+35 | 0.0006 | 0.00 | Q | | | | |
| 1+40 | 0.0006 | 0.00 | Q | | | | |
| 1+45 | 0.0006 | 0.00 | Q | | | | |
| 1+50 | 0.0007 | 0.01 | Q | | | | |
| 1+55 | 0.0007 | 0.01 | Q | | | | |
| 2+ 0 | 0.0007 | 0.01 | Q | | | | |
| 2+ 5 | 0.0008 | 0.01 | Q | | | | |
| 2+10 | 0.0008 | 0.01 | Q | | | | |
| 2+15 | 0.0009 | 0.01 | Q | | | | |
| 2+20 | 0.0009 | 0.01 | Q | | | | |
| 2+25 | 0.0009 | 0.01 | Q | | | | |
| 2+30 | 0.0010 | 0.01 | Q | | | | |
| 2+35 | 0.0010 | 0.01 | Q | | | | |
| 2+40 | 0.0011 | 0.01 | Q | | | | |
| 2+45 | 0.0011 | 0.01 | Q | | | | |
| 2+50 | 0.0012 | 0.01 | Q | | | | |
| 2+55 | 0.0012 | 0.01 | Q | | | | |
| 3+ 0 | 0.0013 | 0.01 | Q | | | | |
| 3+ 5 | 0.0013 | 0.01 | Q | | | | |
| 3+10 | 0.0014 | 0.01 | Q | | | | |
| 3+15 | 0.0014 | 0.01 | Q | | | | |
| 3+20 | 0.0015 | 0.01 | Q | | | | |
| 3+25 | 0.0015 | 0.01 | Q | | | | |
| 3+30 | 0.0016 | 0.01 | Q | | | | |
| 3+35 | 0.0016 | 0.01 | Q | | | | |
| 3+40 | 0.0017 | 0.01 | Q | | | | |
| 3+45 | 0.0017 | 0.01 | Q | | | | |
| 3+50 | 0.0018 | 0.01 | Q | | | | |
| 3+55 | 0.0019 | 0.01 | Q | | | | |
| 4+ 0 | 0.0019 | 0.01 | Q | | | | |
| 4+ 5 | 0.0020 | 0.01 | Q | | | | |
| 4+10 | 0.0020 | 0.01 | Q | | | | |
| 4+15 | 0.0021 | 0.01 | Q | | | | |
| 4+20 | 0.0022 | 0.01 | Q | | | | |
| 4+25 | 0.0022 | 0.01 | Q | | | | |
| 4+30 | 0.0023 | 0.01 | Q | | | | |
| 4+35 | 0.0024 | 0.01 | Q | | | | |
| 4+40 | 0.0025 | 0.01 | Q | | | | |
| 4+45 | 0.0025 | 0.01 | Q | | | | |

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 4+50       0.0026      0.02  Q          |          |          |          |
 4+55       0.0028      0.02  Q          |          |          |          |
 5+ 0       0.0029      0.02  Q          |          |          |          |
 5+ 5       0.0030      0.01  Q          |          |          |          |
 5+10       0.0031      0.01  Q          |          |          |          |
 5+15       0.0031      0.01  Q          |          |          |          |
 5+20       0.0032      0.01  Q          |          |          |          |
 5+25       0.0033      0.01  Q          |          |          |          |
 5+30       0.0033      0.01  Q          |          |          |          |
 5+35       0.0035      0.02  Q          |          |          |          |
 5+40       0.0036      0.02  Q          |          |          |          |
 5+45       0.0038      0.02  Q          |          |          |          |
 5+50       0.0040      0.02  Q          |          |          |          |
 5+55       0.0041      0.03  Q          |          |          |          |
 6+ 0       0.0043      0.03  Q          |          |          |          |
 6+ 5       0.0046      0.04  Q          |          |          |          |
 6+10       0.0049      0.04  QV         |          |          |          |
 6+15       0.0051      0.04  QV         |          |          |          |
 6+20       0.0054      0.04  QV         |          |          |          |
 6+25       0.0057      0.04  QV         |          |          |          |
 6+30       0.0060      0.04  QV         |          |          |          |
 6+35       0.0064      0.05  QV         |          |          |          |
 6+40       0.0068      0.06  QV         |          |          |          |
 6+45       0.0072      0.06  QV         |          |          |          |
 6+50       0.0076      0.06  QV         |          |          |          |
 6+55       0.0080      0.06  QV         |          |          |          |
 7+ 0       0.0084      0.06  QV         |          |          |          |
 7+ 5       0.0088      0.06  QV         |          |          |          |
 7+10       0.0092      0.06  QV         |          |          |          |
 7+15       0.0097      0.06  Q V        |          |          |          |
 7+20       0.0102      0.07  Q V        |          |          |          |
 7+25       0.0107      0.08  Q V        |          |          |          |
 7+30       0.0112      0.08  Q V        |          |          |          |
 7+35       0.0118      0.09  Q V        |          |          |          |
 7+40       0.0125      0.09  Q V        |          |          |          |
 7+45       0.0131      0.09  Q V        |          |          |          |
 7+50       0.0138      0.10  Q V        |          |          |          |
 7+55       0.0145      0.11  Q  V       |          |          |          |
 8+ 0       0.0153      0.11  Q  V       |          |          |          |
 8+ 5       0.0162      0.13  Q  V       |          |          |          |
 8+10       0.0171      0.14  Q  V       |          |          |          |
 8+15       0.0181      0.14  Q  V       |          |          |          |
 8+20       0.0191      0.14  Q   V      |          |          |          |
 8+25       0.0200      0.14  Q   V      |          |          |          |
 8+30       0.0210      0.14  Q   V      |          |          |          |
 8+35       0.0220      0.15  Q   V      |          |          |          |
 8+40       0.0231      0.15  Q   V      |          |          |          |
 8+45       0.0242      0.16  Q    V     |          |          |          |
 8+50       0.0253      0.17  Q    V     |          |          |          |
 8+55       0.0265      0.17  Q    V     |          |          |          |
 9+ 0       0.0277      0.17  Q    V     |          |          |          |
 9+ 5       0.0290      0.19  Q     V    |          |          |          |
 9+10       0.0304      0.20  Q     V    |          |          |          |
 9+15       0.0318      0.20  Q     V    |          |          |          |
 9+20       0.0332      0.21  Q      V   |          |          |          |
 9+25       0.0347      0.22  Q      V   |          |          |          |
 9+30       0.0362      0.22  Q      V   |          |          |          |
 9+35       0.0378      0.23  Q       V  |          |          |          |
 9+40       0.0394      0.23  Q       V  |          |          |          |
 9+45       0.0410      0.23  Q       V  |          |          |          |
 9+50       0.0427      0.24  Q        V |          |          |          |
 9+55       0.0444      0.25  Q        V |          |          |          |
10+ 0       0.0461      0.25  Q        V |          |          |          |
10+ 5       0.0473      0.17  Q         V          |          |          |
10+10       0.0483      0.15  Q         V          |          |          |
10+15       0.0493      0.15  Q         V          |          |          |
10+20       0.0503      0.15  Q         V          |          |          |
10+25       0.0513      0.15  Q         V          |          |          |
10+30       0.0523      0.15  Q         |V         |          |          |
10+35       0.0538      0.21  Q         |V         |          |          |
10+40       0.0553      0.22  Q         |V         |          |          |
10+45       0.0568      0.22  Q         | V        |          |          |
10+50       0.0584      0.22  Q         | V        |          |          |
10+55       0.0599      0.22  Q         | V        |          |          |
11+ 0       0.0614      0.22  Q         |  V       |          |          |
11+ 5       0.0629      0.21  Q         |  V       |          |          |
11+10       0.0643      0.21  Q         |  V       |          |          |
11+15       0.0658      0.21  Q         |  V       |          |          |
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11+20       0.0672      0.21  Q          |    V      |           |           |
11+25       0.0687      0.21  Q          |    V      |           |           |
11+30       0.0701      0.21  Q          |    V      |           |           |
11+35       0.0714      0.19  Q          |     V     |           |           |
11+40       0.0727      0.18  Q          |     V     |           |           |
11+45       0.0739      0.18  Q          |     V     |           |           |
11+50       0.0753      0.19  Q          |     V     |           |           |
11+55       0.0766      0.20  Q          |      V    |           |           |
12+ 0       0.0780      0.20  Q          |      V    |           |           |
12+ 5       0.0799      0.28  |Q         |      V    |           |           |
12+10       0.0820      0.30  |Q         |       V   |           |           |
12+15       0.0841      0.30  |Q         |       V   |           |           |
12+20       0.0862      0.31  |Q         |        V  |           |           |
12+25       0.0884      0.32  |Q         |        V  |           |           |
12+30       0.0906      0.32  |Q         |         V |           |           |
12+35       0.0929      0.34  |Q         |         V |           |           |
12+40       0.0953      0.35  |Q         |          V|           |           |
12+45       0.0977      0.35  |Q         |          V|           |           |
12+50       0.1002      0.36  |Q         |           |V          |           |
12+55       0.1027      0.36  |Q         |           |V          |           |
13+ 0       0.1052      0.36  |Q         |           | V         |           |
13+ 5       0.1081      0.42  |Q         |           | V         |           |
13+10       0.1111      0.44  |Q         |           |  V        |           |
13+15       0.1141      0.44  |Q         |           |   V       |           |
13+20       0.1171      0.44  |Q         |           |   V       |           |
13+25       0.1201      0.44  |Q         |           |    V      |           |
13+30       0.1231      0.44  |Q         |           |     V     |           |
13+35       0.1253      0.31  |Q         |           |     V     |           |
13+40       0.1272      0.28  |Q         |           |     V     |           |
13+45       0.1291      0.28  |Q         |           |      V    |           |
13+50       0.1310      0.28  |Q         |           |      V    |           |
13+55       0.1329      0.28  |Q         |           |       V   |           |
14+ 0       0.1348      0.28  |Q         |           |       V   |           |
14+ 5       0.1371      0.32  |Q         |           |        V  |           |
14+10       0.1394      0.34  |Q         |           |        V  |           |
14+15       0.1417      0.34  |Q         |           |         V |           |
14+20       0.1440      0.33  |Q         |           |         V |           |
14+25       0.1462      0.32  |Q         |           |          |V          |
14+30       0.1484      0.32  |Q         |           |          |V          |
14+35       0.1507      0.32  |Q         |           |          |V          |
14+40       0.1529      0.32  |Q         |           |          | V         |
14+45       0.1552      0.33  |Q         |           |          | V         |
14+50       0.1573      0.31  |Q         |           |          |  V        |
14+55       0.1595      0.31  |Q         |           |          |  V        |
15+ 0       0.1616      0.31  |Q         |           |          |   V       |
15+ 5       0.1637      0.30  |Q         |           |          |   V       |
15+10       0.1657      0.30  |Q         |           |          |    V      |
15+15       0.1678      0.30  |Q         |           |          |    V      |
15+20       0.1697      0.29  |Q         |           |          |     V     |
15+25       0.1717      0.28  |Q         |           |          |     V     |
15+30       0.1736      0.28  |Q         |           |          |     V     |
15+35       0.1753      0.24  Q          |           |          |      V    |
15+40       0.1768      0.23  Q          |           |          |      V    |
15+45       0.1784      0.23  Q          |           |          |      V    |
15+50       0.1800      0.23  Q          |           |          |       V   |
15+55       0.1815      0.23  Q          |           |          |       V   |
16+ 0       0.1831      0.23  Q          |           |          |       V   |
16+ 5       0.1835      0.05  Q          |           |          |       V   |
16+10       0.1835      0.01  Q          |           |          |       V   |
16+15       0.1836      0.01  Q          |           |          |       V   |
16+20       0.1836      0.01  Q          |           |          |       V   |
16+25       0.1837      0.01  Q          |           |          |       V   |
16+30       0.1837      0.01  Q          |           |          |       V   |
16+35       0.1838      0.01  Q          |           |          |       V   |
16+40       0.1838      0.00  Q          |           |          |        V  |
16+45       0.1838      0.00  Q          |           |          |        V  |
16+50       0.1839      0.00  Q          |           |          |        V  |
16+55       0.1839      0.00  Q          |           |          |        V  |
17+ 0       0.1839      0.00  Q          |           |          |        V  |
17+ 5       0.1841      0.02  Q          |           |          |        V  |
17+10       0.1843      0.03  Q          |           |          |        V  |
17+15       0.1844      0.03  Q          |           |          |        V  |
17+20       0.1846      0.03  Q          |           |          |        V  |
17+25       0.1848      0.03  Q          |           |          |        V  |
17+30       0.1850      0.03  Q          |           |          |        V  |
17+35       0.1852      0.03  Q          |           |          |        V  |
17+40       0.1854      0.03  Q          |           |          |        V  |
17+45       0.1855      0.03  Q          |           |          |        V  |
```

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+50 | 0.1857 | 0.02 | Q | \| | \| | \| | V\| |
| 17+55 | 0.1857 | 0.01 | Q | \| | \| | \| | V\| |
| 18+ 0 | 0.1858 | 0.01 | Q | \| | \| | \| | V\| |
| 18+ 5 | 0.1859 | 0.01 | Q | \| | \| | \| | V\| |
| 18+10 | 0.1860 | 0.01 | Q | \| | \| | \| | V\| |
| 18+15 | 0.1861 | 0.01 | Q | \| | \| | \| | V\| |
| 18+20 | 0.1862 | 0.01 | Q | \| | \| | \| | V\| |
| 18+25 | 0.1863 | 0.01 | Q | \| | \| | \| | V\| |
| 18+30 | 0.1864 | 0.01 | Q | \| | \| | \| | V\| |
| 18+35 | 0.1865 | 0.01 | Q | \| | \| | \| | V\| |
| 18+40 | 0.1865 | 0.00 | Q | \| | \| | \| | V\| |
| 18+45 | 0.1865 | 0.00 | Q | \| | \| | \| | V\| |
| 18+50 | 0.1866 | 0.00 | Q | \| | \| | \| | V\| |
| 18+55 | 0.1866 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 0 | 0.1866 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 5 | 0.1866 | 0.00 | Q | \| | \| | \| | V\| |
| 19+10 | 0.1866 | 0.00 | Q | \| | \| | \| | V\| |
| 19+15 | 0.1867 | 0.00 | Q | \| | \| | \| | V\| |
| 19+20 | 0.1868 | 0.01 | Q | \| | \| | \| | V\| |
| 19+25 | 0.1869 | 0.02 | Q | \| | \| | \| | V\| |
| 19+30 | 0.1870 | 0.02 | Q | \| | \| | \| | V\| |
| 19+35 | 0.1871 | 0.01 | Q | \| | \| | \| | V\| |
| 19+40 | 0.1871 | 0.00 | Q | \| | \| | \| | V\| |
| 19+45 | 0.1871 | 0.00 | Q | \| | \| | \| | V\| |
| 19+50 | 0.1871 | 0.00 | Q | \| | \| | \| | V\| |
| 19+55 | 0.1872 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 0 | 0.1872 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 5 | 0.1872 | 0.00 | Q | \| | \| | \| | V\| |
| 20+10 | 0.1872 | 0.00 | Q | \| | \| | \| | V\| |
| 20+15 | 0.1873 | 0.00 | Q | \| | \| | \| | V\| |
| 20+20 | 0.1873 | 0.00 | Q | \| | \| | \| | V\| |
| 20+25 | 0.1873 | 0.00 | Q | \| | \| | \| | V\| |
| 20+30 | 0.1874 | 0.00 | Q | \| | \| | \| | V\| |
| 20+35 | 0.1874 | 0.00 | Q | \| | \| | \| | V\| |
| 20+40 | 0.1874 | 0.00 | Q | \| | \| | \| | V\| |
| 20+45 | 0.1875 | 0.01 | Q | \| | \| | \| | V\| |
| 20+50 | 0.1875 | 0.00 | Q | \| | \| | \| | V\| |
| 20+55 | 0.1875 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 0 | 0.1875 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 5 | 0.1876 | 0.01 | Q | \| | \| | \| | V\| |
| 21+10 | 0.1876 | 0.01 | Q | \| | \| | \| | V\| |
| 21+15 | 0.1877 | 0.01 | Q | \| | \| | \| | V\| |
| 21+20 | 0.1877 | 0.00 | Q | \| | \| | \| | V\| |
| 21+25 | 0.1877 | 0.00 | Q | \| | \| | \| | V\| |
| 21+30 | 0.1877 | 0.00 | Q | \| | \| | \| | V\| |
| 21+35 | 0.1878 | 0.01 | Q | \| | \| | \| | V\| |
| 21+40 | 0.1878 | 0.01 | Q | \| | \| | \| | V\| |
| 21+45 | 0.1878 | 0.01 | Q | \| | \| | \| | V\| |
| 21+50 | 0.1879 | 0.00 | Q | \| | \| | \| | V\| |
| 21+55 | 0.1879 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 0 | 0.1879 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 5 | 0.1880 | 0.01 | Q | \| | \| | \| | V\| |
| 22+10 | 0.1880 | 0.01 | Q | \| | \| | \| | V\| |
| 22+15 | 0.1881 | 0.01 | Q | \| | \| | \| | V\| |
| 22+20 | 0.1881 | 0.00 | Q | \| | \| | \| | V\| |
| 22+25 | 0.1881 | 0.00 | Q | \| | \| | \| | V\| |
| 22+30 | 0.1881 | 0.00 | Q | \| | \| | \| | V\| |
| 22+35 | 0.1882 | 0.00 | Q | \| | \| | \| | V\| |
| 22+40 | 0.1882 | 0.00 | Q | \| | \| | \| | V\| |
| 22+45 | 0.1882 | 0.00 | Q | \| | \| | \| | V\| |
| 22+50 | 0.1882 | 0.00 | Q | \| | \| | \| | V\| |
| 22+55 | 0.1882 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 0 | 0.1883 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 5 | 0.1883 | 0.00 | Q | \| | \| | \| | V\| |
| 23+10 | 0.1883 | 0.00 | Q | \| | \| | \| | V\| |
| 23+15 | 0.1883 | 0.00 | Q | \| | \| | \| | V\| |
| 23+20 | 0.1883 | 0.00 | Q | \| | \| | \| | V\| |
| 23+25 | 0.1884 | 0.00 | Q | \| | \| | \| | V\| |
| 23+30 | 0.1884 | 0.00 | Q | \| | \| | \| | V\| |
| 23+35 | 0.1884 | 0.00 | Q | \| | \| | \| | V\| |
| 23+40 | 0.1884 | 0.00 | Q | \| | \| | \| | V\| |
| 23+45 | 0.1884 | 0.00 | Q | \| | \| | \| | V\| |
| 23+50 | 0.1885 | 0.00 | Q | \| | \| | \| | V\| |
| 23+55 | 0.1885 | 0.00 | Q | \| | \| | \| | V\| |
| 24+ 0 | 0.1885 | 0.00 | Q | \| | \| | \| | V\| |
| 24+ 5 | 0.1885 | 0.00 | Q | \| | \| | \| | V\| |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX121100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 12
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.10(Ac.) = 0.000 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.10(Ac.) = 0.000 Sq. Mi.
Length along longest watercourse = 87.00(Ft.)
Length along longest watercourse measured to centroid = 41.00(Ft.)
Length along longest watercourse = 0.016 Mi.
Length along longest watercourse measured to centroid = 0.008 Mi.
Difference in elevation = 28.00(Ft.)
Slope along watercourse = 1699.3103 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.007 Hr.
Lag time = 0.41 Min.
25% of lag time = 0.10 Min.
40% of lag time = 0.16 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.10 | 0.49 | 0.05 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.10 | 1.20 | 0.12 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.490(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.100 | 84.00 | 0.000 |

Total Area Entered = 0.10(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

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| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 1229.187 | 100.000 | 0.101 |
| | | Sum = 100.000 Sum= | 0.101 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.086 | ( 0.544) | 0.519 |
| 2 | 0.17 | 4.30 | 0.619 | 0.086 | ( 0.557) | 0.533 |
| 3 | 0.25 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 4 | 0.33 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 5 | 0.42 | 5.80 | 0.835 | 0.086 | ( 0.752) | 0.749 |
| 6 | 0.50 | 6.50 | 0.936 | 0.086 | ( 0.842) | 0.850 |
| 7 | 0.58 | 7.40 | 1.066 | 0.086 | ( 0.959) | 0.980 |
| 8 | 0.67 | 8.60 | 1.238 | 0.086 | ( 1.115) | 1.153 |
| 9 | 0.75 | 12.30 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 10 | 0.83 | 29.10 | 4.190 | 0.086 | ( 3.771) | 4.105 |
| 11 | 0.92 | 6.80 | 0.979 | 0.086 | ( 0.881) | 0.893 |
| 12 | 1.00 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| | (Loss Rate Not Used) | | | | | |
| Sum = | 100.0 | | | | Sum = | 13.4 |

Flood volume = Effective rainfall 1.11(In)
times area 0.1(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.001(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 404.5 Cubic Feet
Total soil loss = 31.1 Cubic Feet

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Peak flow rate of this hydrograph = 0.414(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0004 | 0.05 | QV | | | | |
| 0+10 | 0.0007 | 0.05 | Q V | | | | |
| 0+15 | 0.0012 | 0.06 | Q V | | | | |
| 0+20 | 0.0016 | 0.06 | Q V | | | | |
| 0+25 | 0.0021 | 0.08 | Q V | | | | |
| 0+30 | 0.0027 | 0.09 | Q V | | | | |
| 0+35 | 0.0034 | 0.10 | Q V | | | | |
| 0+40 | 0.0042 | 0.12 | Q V | | | | |
| 0+45 | 0.0054 | 0.17 | Q V | | | | |
| 0+50 | 0.0082 | 0.41 | Q V | | | | |
| 0+55 | 0.0088 | 0.09 | Q V | | | | |
| 1+ 0 | 0.0093 | 0.06 | Q V | | | | |

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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX123100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 12
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.10(Ac.) = 0.000 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.10(Ac.) = 0.000 Sq. Mi.
Length along longest watercourse = 87.00(Ft.)
Length along longest watercourse measured to centroid = 41.00(Ft.)
Length along longest watercourse = 0.016 Mi.
Length along longest watercourse measured to centroid = 0.008 Mi.
Difference in elevation = 28.00(Ft.)
Slope along watercourse = 1699.3103 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.007 Hr.
Lag time = 0.41 Min.
25% of lag time = 0.10 Min.
40% of lag time = 0.16 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.10 | 0.80 | 0.08 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.10 | 1.80 | 0.18 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.100 | 84.00 | 0.000 |

Total Area Entered = 0.10(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 1229.187 | 100.000 | 0.101 |
| | | Sum = 100.000 Sum= | 0.101 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.281 | 0.086 | ( 0.253) | 0.195 |
| 2 | 0.17 | 1.30 | 0.281 | 0.086 | ( 0.253) | 0.195 |
| 3 | 0.25 | 1.10 | 0.238 | 0.086 | ( 0.214) | 0.152 |
| 4 | 0.33 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 5 | 0.42 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 6 | 0.50 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 7 | 0.58 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 8 | 0.67 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 9 | 0.75 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 10 | 0.83 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 11 | 0.92 | 1.60 | 0.346 | 0.086 | ( 0.311) | 0.260 |
| 12 | 1.00 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 13 | 1.08 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 14 | 1.17 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 15 | 1.25 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 16 | 1.33 | 2.00 | 0.432 | 0.086 | ( 0.389) | 0.346 |
| 17 | 1.42 | 2.60 | 0.562 | 0.086 | ( 0.505) | 0.476 |
| 18 | 1.50 | 2.70 | 0.583 | 0.086 | ( 0.525) | 0.497 |
| 19 | 1.58 | 2.40 | 0.518 | 0.086 | ( 0.467) | 0.433 |
| 20 | 1.67 | 2.70 | 0.583 | 0.086 | ( 0.525) | 0.497 |
| 21 | 1.75 | 3.30 | 0.713 | 0.086 | ( 0.642) | 0.627 |
| 22 | 1.83 | 3.10 | 0.670 | 0.086 | ( 0.603) | 0.584 |
| 23 | 1.92 | 2.90 | 0.626 | 0.086 | ( 0.564) | 0.541 |
| 24 | 2.00 | 3.00 | 0.648 | 0.086 | ( 0.583) | 0.562 |
| 25 | 2.08 | 3.10 | 0.670 | 0.086 | ( 0.603) | 0.584 |
| 26 | 2.17 | 4.20 | 0.907 | 0.086 | ( 0.816) | 0.821 |
| 27 | 2.25 | 5.00 | 1.080 | 0.086 | ( 0.972) | 0.994 |
| 28 | 2.33 | 3.50 | 0.756 | 0.086 | ( 0.680) | 0.670 |
| 29 | 2.42 | 6.80 | 1.469 | 0.086 | ( 1.322) | 1.383 |
| 30 | 2.50 | 7.30 | 1.577 | 0.086 | ( 1.419) | 1.491 |
| 31 | 2.58 | 8.20 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 32 | 2.67 | 5.90 | 1.274 | 0.086 | ( 1.147) | 1.189 |
| 33 | 2.75 | 2.00 | 0.432 | 0.086 | ( 0.389) | 0.346 |
| 34 | 2.83 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 35 | 2.92 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 36 | 3.00 | 0.60 | 0.130 | 0.086 | ( 0.117) | 0.044 |
| | | (Loss Rate Not Used) | | | |
| Sum = | | 100.0 | | | Sum = 18.5 |

Flood volume = Effective rainfall 1.54(In)
times area 0.1(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.002(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 560.0 Cubic Feet
Total soil loss = 93.4 Cubic Feet

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Peak flow rate of this hydrograph = 0.170(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
-------------------------------------------------------------------------
  0+ 5       0.0001      0.02  Q          |         |         |         |
  0+10       0.0003      0.02  Q          |         |         |         |
  0+15       0.0004      0.02  QV         |         |         |         |
  0+20       0.0005      0.02  QV         |         |         |         |
  0+25       0.0007      0.02  Q V        |         |         |         |
  0+30       0.0009      0.03  Q V        |         |         |         |
  0+35       0.0011      0.02  Q  V       |         |         |         |
  0+40       0.0013      0.03  Q   V      |         |         |         |
  0+45       0.0015      0.03  Q   V      |         |         |         |
  0+50       0.0017      0.02  Q    V     |         |         |         |
  0+55       0.0018      0.03  Q    V     |         |         |         |
  1+ 0       0.0021      0.03  Q     V    |         |         |         |
  1+ 5       0.0023      0.04  Q      V   |         |         |         |
  1+10       0.0026      0.04  Q       V  |         |         |         |
  1+15       0.0029      0.04  Q       V  |         |         |         |
  1+20       0.0031      0.03  Q        V |         |         |         |
  1+25       0.0034      0.05  Q         V|         |         |         |
  1+30       0.0038      0.05  Q          V         |         |         |
  1+35       0.0041      0.04  Q          | V       |         |         |
  1+40       0.0044      0.05  Q          |  V      |         |         |
  1+45       0.0049      0.06  Q          |    V    |         |         |
  1+50       0.0053      0.06  Q          |     V   |         |         |
  1+55       0.0056      0.05  Q          |      V  |         |         |
  2+ 0       0.0060      0.06  Q          |       V |         |         |
  2+ 5       0.0064      0.06  Q          |         V         |         |
  2+10       0.0070      0.08  Q          |         |V        |         |
  2+15       0.0077      0.10  Q          |         |  V      |         |
  2+20       0.0082      0.07  Q          |         |    V    |         |
  2+25       0.0091      0.14  Q          |         |       V |         |
  2+30       0.0102      0.15  Q          |         |         |V        |
  2+35       0.0113      0.17  Q          |         |         |    V    |
  2+40       0.0122      0.12  Q          |         |         |     V   |
  2+45       0.0124      0.03  Q          |         |         |      V  |
  2+50       0.0126      0.03  Q          |         |         |       V |
  2+55       0.0128      0.03  Q          |         |         |       V |
  3+ 0       0.0129      0.00  Q          |         |         |       V |
-------------------------------------------------------------------------
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX126100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 12
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.10(Ac.) = 0.000 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.10(Ac.) = 0.000 Sq. Mi.
Length along longest watercourse = 87.00(Ft.)
Length along longest watercourse measured to centroid = 41.00(Ft.)
Length along longest watercourse = 0.016 Mi.
Length along longest watercourse measured to centroid = 0.008 Mi.
Difference in elevation = 28.00(Ft.)
Slope along watercourse = 1699.3103 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.007 Hr.
Lag time = 0.41 Min.
25% of lag time = 0.10 Min.
40% of lag time = 0.16 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.10 | 1.12 | 0.11 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.10 | 2.50 | 0.25 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.120(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.100 | 84.00 | 0.000 |

Total Area Entered = 0.10(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 1229.187 | 100.000 | 0.101 |
| | | Sum = 100.000 | Sum= 0.101 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.086 | ( 0.135) | 0.064 |
| 2 | 0.17 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 3 | 0.25 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 4 | 0.33 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 5 | 0.42 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 6 | 0.50 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 7 | 0.58 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 8 | 0.67 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 9 | 0.75 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 10 | 0.83 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 11 | 0.92 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 12 | 1.00 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 13 | 1.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 14 | 1.17 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 15 | 1.25 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 16 | 1.33 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 17 | 1.42 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 18 | 1.50 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 19 | 1.58 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 20 | 1.67 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 21 | 1.75 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 22 | 1.83 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 23 | 1.92 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 24 | 2.00 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 25 | 2.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 26 | 2.17 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 27 | 2.25 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 28 | 2.33 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 29 | 2.42 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 30 | 2.50 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 31 | 2.58 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 32 | 2.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 33 | 2.75 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 34 | 2.83 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 35 | 2.92 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 36 | 3.00 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 37 | 3.08 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 38 | 3.17 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 39 | 3.25 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 40 | 3.33 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 41 | 3.42 | 1.20 | 0.360 | 0.086 | ( 0.324) | 0.274 |
| 42 | 3.50 | 1.30 | 0.390 | 0.086 | ( 0.351) | 0.304 |
| 43 | 3.58 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 44 | 3.67 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 45 | 3.75 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 46 | 3.83 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 47 | 3.92 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 48 | 4.00 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 49 | 4.08 | 1.70 | 0.510 | 0.086 | ( 0.459) | 0.424 |
| 50 | 4.17 | 1.80 | 0.540 | 0.086 | ( 0.486) | 0.454 |
| 51 | 4.25 | 1.90 | 0.570 | 0.086 | ( 0.513) | 0.484 |
| 52 | 4.33 | 2.00 | 0.600 | 0.086 | ( 0.540) | 0.514 |
| 53 | 4.42 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 |
| 54 | 4.50 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 |
| 55 | 4.58 | 2.20 | 0.660 | 0.086 | ( 0.594) | 0.574 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 56 | 4.67 | 2.30 | 0.690 | 0.086 | ( 0.621) | | 0.604 |
| 57 | 4.75 | 2.40 | 0.720 | 0.086 | ( 0.648) | | 0.634 |
| 58 | 4.83 | 2.40 | 0.720 | 0.086 | ( 0.648) | | 0.634 |
| 59 | 4.92 | 2.50 | 0.750 | 0.086 | ( 0.675) | | 0.664 |
| 60 | 5.00 | 2.60 | 0.780 | 0.086 | ( 0.702) | | 0.694 |
| 61 | 5.08 | 3.10 | 0.930 | 0.086 | ( 0.837) | | 0.844 |
| 62 | 5.17 | 3.60 | 1.080 | 0.086 | ( 0.972) | | 0.994 |
| 63 | 5.25 | 3.90 | 1.170 | 0.086 | ( 1.053) | | 1.084 |
| 64 | 5.33 | 4.20 | 1.260 | 0.086 | ( 1.134) | | 1.174 |
| 65 | 5.42 | 4.70 | 1.410 | 0.086 | ( 1.269) | | 1.324 |
| 66 | 5.50 | 5.60 | 1.680 | 0.086 | ( 1.512) | | 1.594 |
| 67 | 5.58 | 1.90 | 0.570 | 0.086 | ( 0.513) | | 0.484 |
| 68 | 5.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | | 0.184 |
| 69 | 5.75 | 0.60 | 0.180 | 0.086 | ( 0.162) | | 0.094 |
| 70 | 5.83 | 0.50 | 0.150 | 0.086 | ( 0.135) | | 0.064 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.086) | 0.081 | | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.086) | 0.054 | | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.9

Flood volume = Effective rainfall 1.99(In)
times area 0.1(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.51(In)
Total soil loss = 0.004(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 721.7 Cubic Feet
Total soil loss = 185.8 Cubic Feet

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Peak flow rate of this hydrograph = 0.161(CFS)

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6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0000 | 0.01 | Q | \| | \| | \| | \| |
| 0+10 | 0.0001 | 0.01 | Q | \| | \| | \| | \| |
| 0+15 | 0.0002 | 0.01 | Q | \| | \| | \| | \| |
| 0+20 | 0.0002 | 0.01 | Q | \| | \| | \| | \| |
| 0+25 | 0.0003 | 0.01 | Q | \| | \| | \| | \| |
| 0+30 | 0.0004 | 0.01 | Q | \| | \| | \| | \| |
| 0+35 | 0.0005 | 0.01 | QV | \| | \| | \| | \| |
| 0+40 | 0.0006 | 0.01 | QV | \| | \| | \| | \| |
| 0+45 | 0.0007 | 0.01 | QV | \| | \| | \| | \| |
| 0+50 | 0.0007 | 0.01 | QV | \| | \| | \| | \| |
| 0+55 | 0.0008 | 0.01 | QV | \| | \| | \| | \| |
| 1+ 0 | 0.0009 | 0.02 | Q V | \| | \| | \| | \| |
| 1+ 5 | 0.0010 | 0.02 | Q V | \| | \| | \| | \| |
| 1+10 | 0.0011 | 0.02 | Q V | \| | \| | \| | \| |
| 1+15 | 0.0013 | 0.02 | Q V | \| | \| | \| | \| |
| 1+20 | 0.0014 | 0.02 | Q V | \| | \| | \| | \| |
| 1+25 | 0.0015 | 0.02 | Q V | \| | \| | \| | \| |
| 1+30 | 0.0016 | 0.02 | Q V | \| | \| | \| | \| |
| 1+35 | 0.0017 | 0.02 | Q V | \| | \| | \| | \| |
| 1+40 | 0.0018 | 0.02 | Q V | \| | \| | \| | \| |
| 1+45 | 0.0019 | 0.02 | Q V | \| | \| | \| | \| |
| 1+50 | 0.0020 | 0.02 | Q V | \| | \| | \| | \| |
| 1+55 | 0.0021 | 0.02 | Q V | \| | \| | \| | \| |
| 2+ 0 | 0.0022 | 0.02 | Q V | \| | \| | \| | \| |
| 2+ 5 | 0.0023 | 0.02 | Q V | \| | \| | \| | \| |
| 2+10 | 0.0025 | 0.02 | Q V | \| | \| | \| | \| |
| 2+15 | 0.0026 | 0.02 | Q V | \| | \| | \| | \| |
| 2+20 | 0.0027 | 0.02 | Q V | \| | \| | \| | \| |
| 2+25 | 0.0029 | 0.02 | Q V | \| | \| | \| | \| |
| 2+30 | 0.0030 | 0.02 | Q V | \| | \| | \| | \| |
| 2+35 | 0.0031 | 0.02 | Q V | \| | \| | \| | \| |
| 2+40 | 0.0032 | 0.02 | Q V | \| | \| | \| | \| |
| 2+45 | 0.0034 | 0.02 | Q V | \| | \| | \| | \| |
| 2+50 | 0.0035 | 0.02 | Q V | \| | \| | \| | \| |
| 2+55 | 0.0037 | 0.02 | Q V | \| | \| | \| | \| |
| 3+ 0 | 0.0038 | 0.02 | Q V | \| | \| | \| | \| |
| 3+ 5 | 0.0040 | 0.02 | Q V | \| | \| | \| | \| |
| 3+10 | 0.0042 | 0.02 | Q V | \| | \| | \| | \| |
| 3+15 | 0.0043 | 0.02 | Q V | \| | \| | \| | \| |
| 3+20 | 0.0045 | 0.02 | Q V | \| | \| | \| | \| |

```
    3+25       0.0047      0.03  Q          |V        |         |          |
    3+30       0.0049      0.03  Q          |V        |         |          |
    3+35       0.0051      0.03  Q          | V       |         |          |
    3+40       0.0054      0.03  Q          | V       |         |          |
    3+45       0.0056      0.04  Q          |  V      |         |          |
    3+50       0.0059      0.04  Q          |   V     |         |          |
    3+55       0.0061      0.04  Q          |   V     |         |          |
    4+ 0       0.0064      0.04  Q          |    V    |         |          |
    4+ 5       0.0067      0.04  Q          |     V   |         |          |
    4+10       0.0070      0.05  Q          |     V   |         |          |
    4+15       0.0074      0.05  Q          |      V  |         |          |
    4+20       0.0077      0.05  Q          |       V |         |          |
    4+25       0.0081      0.05  Q          |        V|         |          |
    4+30       0.0085      0.05  Q          |         V         |          |
    4+35       0.0089      0.06  Q          |         |V        |          |
    4+40       0.0093      0.06  Q          |         | V       |          |
    4+45       0.0097      0.06  Q          |         |  V      |          |
    4+50       0.0102      0.06  Q          |         |   V     |          |
    4+55       0.0106      0.07  Q          |         |    V    |          |
    5+ 0       0.0111      0.07  Q          |         |     V   |          |
    5+ 5       0.0117      0.09  Q          |         |      V  |          |
    5+10       0.0124      0.10  Q          |         |       V |          |
    5+15       0.0131      0.11  Q          |         |        V|          |
    5+20       0.0140      0.12  Q          |         |         |  V       |
    5+25       0.0149      0.13  Q          |         |         |    V     |
    5+30       0.0160      0.16  Q          |         |         |      V   |
    5+35       0.0163      0.05  Q          |         |         |       V  |
    5+40       0.0164      0.02  Q          |         |         |       V  |
    5+45       0.0165      0.01  Q          |         |         |       V  |
    5+50       0.0166      0.01  Q          |         |         |       V  |
    5+55       0.0166      0.00  Q          |         |         |       V  |
    6+ 0       0.0166      0.00  Q          |         |         |        V
-------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014, Version 9.0
Study date 12/21/17 File: EX1224100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 12
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 0.10(Ac.) = 0.000 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.10(Ac.) = 0.000 Sq. Mi.
Length along longest watercourse = 87.00(Ft.)
Length along longest watercourse measured to centroid = 41.00(Ft.)
Length along longest watercourse = 0.016 Mi.
Length along longest watercourse measured to centroid = 0.008 Mi.
Difference in elevation = 28.00(Ft.)
Slope along watercourse = 1699.3103 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.007 Hr.
Lag time = 0.41 Min.
25% of lag time = 0.10 Min.
40% of lag time = 0.16 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.10 | 1.80 | 0.18 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.10 | 4.52 | 0.45 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.520(In)

Point rain (area averaged) = 4.520(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.520(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.100 | 84.00 | 0.000 |

Total Area Entered = 0.10(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 1229.187 | 100.000 | 0.101 |
| | | Sum = 100.000 | Sum= 0.101 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.036 | ( 0.152) | 0.033 | 0.004 |
| 2 | 0.17 | 0.07 | 0.036 | ( 0.152) | 0.033 | 0.004 |
| 3 | 0.25 | 0.07 | 0.036 | ( 0.151) | 0.033 | 0.004 |
| 4 | 0.33 | 0.10 | 0.054 | ( 0.150) | 0.049 | 0.005 |
| 5 | 0.42 | 0.10 | 0.054 | ( 0.150) | 0.049 | 0.005 |
| 6 | 0.50 | 0.10 | 0.054 | ( 0.149) | 0.049 | 0.005 |
| 7 | 0.58 | 0.10 | 0.054 | ( 0.149) | 0.049 | 0.005 |
| 8 | 0.67 | 0.10 | 0.054 | ( 0.148) | 0.049 | 0.005 |
| 9 | 0.75 | 0.10 | 0.054 | ( 0.147) | 0.049 | 0.005 |
| 10 | 0.83 | 0.13 | 0.072 | ( 0.147) | 0.065 | 0.007 |
| 11 | 0.92 | 0.13 | 0.072 | ( 0.146) | 0.065 | 0.007 |
| 12 | 1.00 | 0.13 | 0.072 | ( 0.146) | 0.065 | 0.007 |
| 13 | 1.08 | 0.10 | 0.054 | ( 0.145) | 0.049 | 0.005 |
| 14 | 1.17 | 0.10 | 0.054 | ( 0.145) | 0.049 | 0.005 |
| 15 | 1.25 | 0.10 | 0.054 | ( 0.144) | 0.049 | 0.005 |
| 16 | 1.33 | 0.10 | 0.054 | ( 0.143) | 0.049 | 0.005 |
| 17 | 1.42 | 0.10 | 0.054 | ( 0.143) | 0.049 | 0.005 |
| 18 | 1.50 | 0.10 | 0.054 | ( 0.142) | 0.049 | 0.005 |
| 19 | 1.58 | 0.10 | 0.054 | ( 0.142) | 0.049 | 0.005 |
| 20 | 1.67 | 0.10 | 0.054 | ( 0.141) | 0.049 | 0.005 |
| 21 | 1.75 | 0.10 | 0.054 | ( 0.141) | 0.049 | 0.005 |
| 22 | 1.83 | 0.13 | 0.072 | ( 0.140) | 0.065 | 0.007 |
| 23 | 1.92 | 0.13 | 0.072 | ( 0.139) | 0.065 | 0.007 |
| 24 | 2.00 | 0.13 | 0.072 | ( 0.139) | 0.065 | 0.007 |
| 25 | 2.08 | 0.13 | 0.072 | ( 0.138) | 0.065 | 0.007 |
| 26 | 2.17 | 0.13 | 0.072 | ( 0.138) | 0.065 | 0.007 |
| 27 | 2.25 | 0.13 | 0.072 | ( 0.137) | 0.065 | 0.007 |
| 28 | 2.33 | 0.13 | 0.072 | ( 0.137) | 0.065 | 0.007 |
| 29 | 2.42 | 0.13 | 0.072 | ( 0.136) | 0.065 | 0.007 |
| 30 | 2.50 | 0.13 | 0.072 | ( 0.136) | 0.065 | 0.007 |
| 31 | 2.58 | 0.17 | 0.090 | ( 0.135) | 0.081 | 0.009 |
| 32 | 2.67 | 0.17 | 0.090 | ( 0.134) | 0.081 | 0.009 |
| 33 | 2.75 | 0.17 | 0.090 | ( 0.134) | 0.081 | 0.009 |
| 34 | 2.83 | 0.17 | 0.090 | ( 0.133) | 0.081 | 0.009 |
| 35 | 2.92 | 0.17 | 0.090 | ( 0.133) | 0.081 | 0.009 |
| 36 | 3.00 | 0.17 | 0.090 | ( 0.132) | 0.081 | 0.009 |
| 37 | 3.08 | 0.17 | 0.090 | ( 0.132) | 0.081 | 0.009 |
| 38 | 3.17 | 0.17 | 0.090 | ( 0.131) | 0.081 | 0.009 |
| 39 | 3.25 | 0.17 | 0.090 | ( 0.131) | 0.081 | 0.009 |
| 40 | 3.33 | 0.17 | 0.090 | ( 0.130) | 0.081 | 0.009 |
| 41 | 3.42 | 0.17 | 0.090 | ( 0.129) | 0.081 | 0.009 |
| 42 | 3.50 | 0.17 | 0.090 | ( 0.129) | 0.081 | 0.009 |
| 43 | 3.58 | 0.17 | 0.090 | ( 0.128) | 0.081 | 0.009 |
| 44 | 3.67 | 0.17 | 0.090 | ( 0.128) | 0.081 | 0.009 |
| 45 | 3.75 | 0.17 | 0.090 | ( 0.127) | 0.081 | 0.009 |
| 46 | 3.83 | 0.20 | 0.108 | ( 0.127) | 0.098 | 0.011 |
| 47 | 3.92 | 0.20 | 0.108 | ( 0.126) | 0.098 | 0.011 |
| 48 | 4.00 | 0.20 | 0.108 | ( 0.126) | 0.098 | 0.011 |
| 49 | 4.08 | 0.20 | 0.108 | ( 0.125) | 0.098 | 0.011 |
| 50 | 4.17 | 0.20 | 0.108 | ( 0.125) | 0.098 | 0.011 |
| 51 | 4.25 | 0.20 | 0.108 | ( 0.124) | 0.098 | 0.011 |
| 52 | 4.33 | 0.23 | 0.127 | ( 0.124) | 0.114 | 0.013 |
| 53 | 4.42 | 0.23 | 0.127 | ( 0.123) | 0.114 | 0.013 |
| 54 | 4.50 | 0.23 | 0.127 | ( 0.123) | 0.114 | 0.013 |
| 55 | 4.58 | 0.23 | 0.127 | ( 0.122) | 0.114 | 0.013 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 56 | 4.67 | 0.23 | 0.127 | ( | 0.121) | 0.114 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.127 | ( | 0.121) | 0.114 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.145 | | 0.120 | ( 0.130) | | 0.024 |
| 59 | 4.92 | 0.27 | 0.145 | | 0.120 | ( 0.130) | | 0.025 |
| 60 | 5.00 | 0.27 | 0.145 | | 0.119 | ( 0.130) | | 0.025 |
| 61 | 5.08 | 0.20 | 0.108 | ( | 0.119) | 0.098 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.108 | ( | 0.118) | 0.098 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.108 | ( | 0.118) | 0.098 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.127 | ( | 0.117) | 0.114 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.127 | ( | 0.117) | 0.114 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.127 | ( | 0.116) | 0.114 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.145 | | 0.116 | ( 0.130) | | 0.029 |
| 68 | 5.67 | 0.27 | 0.145 | | 0.115 | ( 0.130) | | 0.029 |
| 69 | 5.75 | 0.27 | 0.145 | | 0.115 | ( 0.130) | | 0.030 |
| 70 | 5.83 | 0.27 | 0.145 | | 0.114 | ( 0.130) | | 0.030 |
| 71 | 5.92 | 0.27 | 0.145 | | 0.114 | ( 0.130) | | 0.031 |
| 72 | 6.00 | 0.27 | 0.145 | | 0.113 | ( 0.130) | | 0.031 |
| 73 | 6.08 | 0.30 | 0.163 | | 0.113 | ( 0.146) | | 0.050 |
| 74 | 6.17 | 0.30 | 0.163 | | 0.112 | ( 0.146) | | 0.050 |
| 75 | 6.25 | 0.30 | 0.163 | | 0.112 | ( 0.146) | | 0.051 |
| 76 | 6.33 | 0.30 | 0.163 | | 0.111 | ( 0.146) | | 0.051 |
| 77 | 6.42 | 0.30 | 0.163 | | 0.111 | ( 0.146) | | 0.052 |
| 78 | 6.50 | 0.30 | 0.163 | | 0.110 | ( 0.146) | | 0.052 |
| 79 | 6.58 | 0.33 | 0.181 | | 0.110 | ( 0.163) | | 0.071 |
| 80 | 6.67 | 0.33 | 0.181 | | 0.109 | ( 0.163) | | 0.072 |
| 81 | 6.75 | 0.33 | 0.181 | | 0.109 | ( 0.163) | | 0.072 |
| 82 | 6.83 | 0.33 | 0.181 | | 0.108 | ( 0.163) | | 0.073 |
| 83 | 6.92 | 0.33 | 0.181 | | 0.108 | ( 0.163) | | 0.073 |
| 84 | 7.00 | 0.33 | 0.181 | | 0.107 | ( 0.163) | | 0.073 |
| 85 | 7.08 | 0.33 | 0.181 | | 0.107 | ( 0.163) | | 0.074 |
| 86 | 7.17 | 0.33 | 0.181 | | 0.106 | ( 0.163) | | 0.074 |
| 87 | 7.25 | 0.33 | 0.181 | | 0.106 | ( 0.163) | | 0.075 |
| 88 | 7.33 | 0.37 | 0.199 | | 0.105 | ( 0.179) | | 0.094 |
| 89 | 7.42 | 0.37 | 0.199 | | 0.105 | ( 0.179) | | 0.094 |
| 90 | 7.50 | 0.37 | 0.199 | | 0.104 | ( 0.179) | | 0.094 |
| 91 | 7.58 | 0.40 | 0.217 | | 0.104 | ( 0.195) | | 0.113 |
| 92 | 7.67 | 0.40 | 0.217 | | 0.103 | ( 0.195) | | 0.114 |
| 93 | 7.75 | 0.40 | 0.217 | | 0.103 | ( 0.195) | | 0.114 |
| 94 | 7.83 | 0.43 | 0.235 | | 0.102 | ( 0.212) | | 0.133 |
| 95 | 7.92 | 0.43 | 0.235 | | 0.102 | ( 0.212) | | 0.133 |
| 96 | 8.00 | 0.43 | 0.235 | | 0.102 | ( 0.212) | | 0.133 |
| 97 | 8.08 | 0.50 | 0.271 | | 0.101 | ( 0.244) | | 0.170 |
| 98 | 8.17 | 0.50 | 0.271 | | 0.101 | ( 0.244) | | 0.171 |
| 99 | 8.25 | 0.50 | 0.271 | | 0.100 | ( 0.244) | | 0.171 |
| 100 | 8.33 | 0.50 | 0.271 | | 0.100 | ( 0.244) | | 0.172 |
| 101 | 8.42 | 0.50 | 0.271 | | 0.099 | ( 0.244) | | 0.172 |
| 102 | 8.50 | 0.50 | 0.271 | | 0.099 | ( 0.244) | | 0.172 |
| 103 | 8.58 | 0.53 | 0.289 | | 0.098 | ( 0.260) | | 0.191 |
| 104 | 8.67 | 0.53 | 0.289 | | 0.098 | ( 0.260) | | 0.191 |
| 105 | 8.75 | 0.53 | 0.289 | | 0.097 | ( 0.260) | | 0.192 |
| 106 | 8.83 | 0.57 | 0.307 | | 0.097 | ( 0.277) | | 0.210 |
| 107 | 8.92 | 0.57 | 0.307 | | 0.096 | ( 0.277) | | 0.211 |
| 108 | 9.00 | 0.57 | 0.307 | | 0.096 | ( 0.277) | | 0.211 |
| 109 | 9.08 | 0.63 | 0.344 | | 0.096 | ( 0.309) | | 0.248 |
| 110 | 9.17 | 0.63 | 0.344 | | 0.095 | ( 0.309) | | 0.248 |
| 111 | 9.25 | 0.63 | 0.344 | | 0.095 | ( 0.309) | | 0.249 |
| 112 | 9.33 | 0.67 | 0.362 | | 0.094 | ( 0.325) | | 0.267 |
| 113 | 9.42 | 0.67 | 0.362 | | 0.094 | ( 0.325) | | 0.268 |
| 114 | 9.50 | 0.67 | 0.362 | | 0.093 | ( 0.325) | | 0.268 |
| 115 | 9.58 | 0.70 | 0.380 | | 0.093 | ( 0.342) | | 0.287 |
| 116 | 9.67 | 0.70 | 0.380 | | 0.092 | ( 0.342) | | 0.287 |
| 117 | 9.75 | 0.70 | 0.380 | | 0.092 | ( 0.342) | | 0.288 |
| 118 | 9.83 | 0.73 | 0.398 | | 0.091 | ( 0.358) | | 0.306 |
| 119 | 9.92 | 0.73 | 0.398 | | 0.091 | ( 0.358) | | 0.307 |
| 120 | 10.00 | 0.73 | 0.398 | | 0.091 | ( 0.358) | | 0.307 |
| 121 | 10.08 | 0.50 | 0.271 | | 0.090 | ( 0.244) | | 0.181 |
| 122 | 10.17 | 0.50 | 0.271 | | 0.090 | ( 0.244) | | 0.181 |
| 123 | 10.25 | 0.50 | 0.271 | | 0.089 | ( 0.244) | | 0.182 |
| 124 | 10.33 | 0.50 | 0.271 | | 0.089 | ( 0.244) | | 0.182 |
| 125 | 10.42 | 0.50 | 0.271 | | 0.088 | ( 0.244) | | 0.183 |
| 126 | 10.50 | 0.50 | 0.271 | | 0.088 | ( 0.244) | | 0.183 |
| 127 | 10.58 | 0.67 | 0.362 | | 0.088 | ( 0.325) | | 0.274 |
| 128 | 10.67 | 0.67 | 0.362 | | 0.087 | ( 0.325) | | 0.274 |
| 129 | 10.75 | 0.67 | 0.362 | | 0.087 | ( 0.325) | | 0.275 |
| 130 | 10.83 | 0.67 | 0.362 | | 0.086 | ( 0.325) | | 0.275 |
| 131 | 10.92 | 0.67 | 0.362 | | 0.086 | ( 0.325) | | 0.276 |
| 132 | 11.00 | 0.67 | 0.362 | | 0.085 | ( 0.325) | | 0.276 |
| 133 | 11.08 | 0.63 | 0.344 | | 0.085 | ( 0.309) | | 0.258 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 134 | 11.17 | 0.63 | 0.344 | 0.085 | ( 0.309) | 0.259 |
| 135 | 11.25 | 0.63 | 0.344 | 0.084 | ( 0.309) | 0.259 |
| 136 | 11.33 | 0.63 | 0.344 | 0.084 | ( 0.309) | 0.260 |
| 137 | 11.42 | 0.63 | 0.344 | 0.083 | ( 0.309) | 0.260 |
| 138 | 11.50 | 0.63 | 0.344 | 0.083 | ( 0.309) | 0.261 |
| 139 | 11.58 | 0.57 | 0.307 | 0.083 | ( 0.277) | 0.225 |
| 140 | 11.67 | 0.57 | 0.307 | 0.082 | ( 0.277) | 0.225 |
| 141 | 11.75 | 0.57 | 0.307 | 0.082 | ( 0.277) | 0.226 |
| 142 | 11.83 | 0.60 | 0.325 | 0.081 | ( 0.293) | 0.244 |
| 143 | 11.92 | 0.60 | 0.325 | 0.081 | ( 0.293) | 0.245 |
| 144 | 12.00 | 0.60 | 0.325 | 0.080 | ( 0.293) | 0.245 |
| 145 | 12.08 | 0.83 | 0.452 | 0.080 | ( 0.407) | 0.372 |
| 146 | 12.17 | 0.83 | 0.452 | 0.080 | ( 0.407) | 0.372 |
| 147 | 12.25 | 0.83 | 0.452 | 0.079 | ( 0.407) | 0.373 |
| 148 | 12.33 | 0.87 | 0.470 | 0.079 | ( 0.423) | 0.391 |
| 149 | 12.42 | 0.87 | 0.470 | 0.078 | ( 0.423) | 0.392 |
| 150 | 12.50 | 0.87 | 0.470 | 0.078 | ( 0.423) | 0.392 |
| 151 | 12.58 | 0.93 | 0.506 | 0.078 | ( 0.456) | 0.429 |
| 152 | 12.67 | 0.93 | 0.506 | 0.077 | ( 0.456) | 0.429 |
| 153 | 12.75 | 0.93 | 0.506 | 0.077 | ( 0.456) | 0.429 |
| 154 | 12.83 | 0.97 | 0.524 | 0.077 | ( 0.472) | 0.448 |
| 155 | 12.92 | 0.97 | 0.524 | 0.076 | ( 0.472) | 0.448 |
| 156 | 13.00 | 0.97 | 0.524 | 0.076 | ( 0.472) | 0.449 |
| 157 | 13.08 | 1.13 | 0.615 | 0.075 | ( 0.553) | 0.539 |
| 158 | 13.17 | 1.13 | 0.615 | 0.075 | ( 0.553) | 0.540 |
| 159 | 13.25 | 1.13 | 0.615 | 0.075 | ( 0.553) | 0.540 |
| 160 | 13.33 | 1.13 | 0.615 | 0.074 | ( 0.553) | 0.540 |
| 161 | 13.42 | 1.13 | 0.615 | 0.074 | ( 0.553) | 0.541 |
| 162 | 13.50 | 1.13 | 0.615 | 0.073 | ( 0.553) | 0.541 |
| 163 | 13.58 | 0.77 | 0.416 | 0.073 | ( 0.374) | 0.343 |
| 164 | 13.67 | 0.77 | 0.416 | 0.073 | ( 0.374) | 0.343 |
| 165 | 13.75 | 0.77 | 0.416 | 0.072 | ( 0.374) | 0.343 |
| 166 | 13.83 | 0.77 | 0.416 | 0.072 | ( 0.374) | 0.344 |
| 167 | 13.92 | 0.77 | 0.416 | 0.072 | ( 0.374) | 0.344 |
| 168 | 14.00 | 0.77 | 0.416 | 0.071 | ( 0.374) | 0.345 |
| 169 | 14.08 | 0.90 | 0.488 | 0.071 | ( 0.439) | 0.417 |
| 170 | 14.17 | 0.90 | 0.488 | 0.071 | ( 0.439) | 0.418 |
| 171 | 14.25 | 0.90 | 0.488 | 0.070 | ( 0.439) | 0.418 |
| 172 | 14.33 | 0.87 | 0.470 | 0.070 | ( 0.423) | 0.400 |
| 173 | 14.42 | 0.87 | 0.470 | 0.069 | ( 0.423) | 0.401 |
| 174 | 14.50 | 0.87 | 0.470 | 0.069 | ( 0.423) | 0.401 |
| 175 | 14.58 | 0.87 | 0.470 | 0.069 | ( 0.423) | 0.401 |
| 176 | 14.67 | 0.87 | 0.470 | 0.068 | ( 0.423) | 0.402 |
| 177 | 14.75 | 0.87 | 0.470 | 0.068 | ( 0.423) | 0.402 |
| 178 | 14.83 | 0.83 | 0.452 | 0.068 | ( 0.407) | 0.384 |
| 179 | 14.92 | 0.83 | 0.452 | 0.067 | ( 0.407) | 0.385 |
| 180 | 15.00 | 0.83 | 0.452 | 0.067 | ( 0.407) | 0.385 |
| 181 | 15.08 | 0.80 | 0.434 | 0.067 | ( 0.391) | 0.367 |
| 182 | 15.17 | 0.80 | 0.434 | 0.066 | ( 0.391) | 0.368 |
| 183 | 15.25 | 0.80 | 0.434 | 0.066 | ( 0.391) | 0.368 |
| 184 | 15.33 | 0.77 | 0.416 | 0.066 | ( 0.374) | 0.350 |
| 185 | 15.42 | 0.77 | 0.416 | 0.065 | ( 0.374) | 0.351 |
| 186 | 15.50 | 0.77 | 0.416 | 0.065 | ( 0.374) | 0.351 |
| 187 | 15.58 | 0.63 | 0.344 | 0.065 | ( 0.309) | 0.279 |
| 188 | 15.67 | 0.63 | 0.344 | 0.064 | ( 0.309) | 0.279 |
| 189 | 15.75 | 0.63 | 0.344 | 0.064 | ( 0.309) | 0.280 |
| 190 | 15.83 | 0.63 | 0.344 | 0.064 | ( 0.309) | 0.280 |
| 191 | 15.92 | 0.63 | 0.344 | 0.063 | ( 0.309) | 0.280 |
| 192 | 16.00 | 0.63 | 0.344 | 0.063 | ( 0.309) | 0.281 |
| 193 | 16.08 | 0.13 | 0.072 | 0.063 | ( 0.065) | 0.010 |
| 194 | 16.17 | 0.13 | 0.072 | 0.062 | ( 0.065) | 0.010 |
| 195 | 16.25 | 0.13 | 0.072 | 0.062 | ( 0.065) | 0.010 |
| 196 | 16.33 | 0.13 | 0.072 | 0.062 | ( 0.065) | 0.011 |
| 197 | 16.42 | 0.13 | 0.072 | 0.061 | ( 0.065) | 0.011 |
| 198 | 16.50 | 0.13 | 0.072 | 0.061 | ( 0.065) | 0.011 |
| 199 | 16.58 | 0.10 | 0.054 | ( 0.061) | 0.049 | 0.005 |
| 200 | 16.67 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 201 | 16.75 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 202 | 16.83 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 203 | 16.92 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 204 | 17.00 | 0.10 | 0.054 | ( 0.059) | 0.049 | 0.005 |
| 205 | 17.08 | 0.17 | 0.090 | 0.059 | ( 0.081) | 0.031 |
| 206 | 17.17 | 0.17 | 0.090 | 0.059 | ( 0.081) | 0.032 |
| 207 | 17.25 | 0.17 | 0.090 | 0.058 | ( 0.081) | 0.032 |
| 208 | 17.33 | 0.17 | 0.090 | 0.058 | ( 0.081) | 0.032 |
| 209 | 17.42 | 0.17 | 0.090 | 0.058 | ( 0.081) | 0.033 |
| 210 | 17.50 | 0.17 | 0.090 | 0.058 | ( 0.081) | 0.033 |
| 211 | 17.58 | 0.17 | 0.090 | 0.057 | ( 0.081) | 0.033 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 212 | 17.67 | 0.17 | 0.090 | 0.057 | ( 0.081) | 0.033 |
| 213 | 17.75 | 0.17 | 0.090 | 0.057 | ( 0.081) | 0.034 |
| 214 | 17.83 | 0.13 | 0.072 | 0.056 | ( 0.065) | 0.016 |
| 215 | 17.92 | 0.13 | 0.072 | 0.056 | ( 0.065) | 0.016 |
| 216 | 18.00 | 0.13 | 0.072 | 0.056 | ( 0.065) | 0.017 |
| 217 | 18.08 | 0.13 | 0.072 | 0.056 | ( 0.065) | 0.017 |
| 218 | 18.17 | 0.13 | 0.072 | 0.055 | ( 0.065) | 0.017 |
| 219 | 18.25 | 0.13 | 0.072 | 0.055 | ( 0.065) | 0.017 |
| 220 | 18.33 | 0.13 | 0.072 | 0.055 | ( 0.065) | 0.018 |
| 221 | 18.42 | 0.13 | 0.072 | 0.054 | ( 0.065) | 0.018 |
| 222 | 18.50 | 0.13 | 0.072 | 0.054 | ( 0.065) | 0.018 |
| 223 | 18.58 | 0.10 | 0.054 | ( 0.054) | 0.049 | 0.005 |
| 224 | 18.67 | 0.10 | 0.054 | ( 0.054) | 0.049 | 0.005 |
| 225 | 18.75 | 0.10 | 0.054 | ( 0.053) | 0.049 | 0.005 |
| 226 | 18.83 | 0.07 | 0.036 | ( 0.053) | 0.033 | 0.004 |
| 227 | 18.92 | 0.07 | 0.036 | ( 0.053) | 0.033 | 0.004 |
| 228 | 19.00 | 0.07 | 0.036 | ( 0.053) | 0.033 | 0.004 |
| 229 | 19.08 | 0.10 | 0.054 | ( 0.052) | 0.049 | 0.005 |
| 230 | 19.17 | 0.10 | 0.054 | ( 0.052) | 0.049 | 0.005 |
| 231 | 19.25 | 0.10 | 0.054 | ( 0.052) | 0.049 | 0.005 |
| 232 | 19.33 | 0.13 | 0.072 | 0.052 | ( 0.065) | 0.021 |
| 233 | 19.42 | 0.13 | 0.072 | 0.051 | ( 0.065) | 0.021 |
| 234 | 19.50 | 0.13 | 0.072 | 0.051 | ( 0.065) | 0.021 |
| 235 | 19.58 | 0.10 | 0.054 | ( 0.051) | 0.049 | 0.005 |
| 236 | 19.67 | 0.10 | 0.054 | ( 0.051) | 0.049 | 0.005 |
| 237 | 19.75 | 0.10 | 0.054 | ( 0.050) | 0.049 | 0.005 |
| 238 | 19.83 | 0.07 | 0.036 | ( 0.050) | 0.033 | 0.004 |
| 239 | 19.92 | 0.07 | 0.036 | ( 0.050) | 0.033 | 0.004 |
| 240 | 20.00 | 0.07 | 0.036 | ( 0.050) | 0.033 | 0.004 |
| 241 | 20.08 | 0.10 | 0.054 | ( 0.050) | 0.049 | 0.005 |
| 242 | 20.17 | 0.10 | 0.054 | ( 0.049) | 0.049 | 0.005 |
| 243 | 20.25 | 0.10 | 0.054 | ( 0.049) | 0.049 | 0.005 |
| 244 | 20.33 | 0.10 | 0.054 | ( 0.049) | 0.049 | 0.005 |
| 245 | 20.42 | 0.10 | 0.054 | 0.049 | ( 0.049) | 0.005 |
| 246 | 20.50 | 0.10 | 0.054 | 0.049 | ( 0.049) | 0.006 |
| 247 | 20.58 | 0.10 | 0.054 | 0.048 | ( 0.049) | 0.006 |
| 248 | 20.67 | 0.10 | 0.054 | 0.048 | ( 0.049) | 0.006 |
| 249 | 20.75 | 0.10 | 0.054 | 0.048 | ( 0.049) | 0.006 |
| 250 | 20.83 | 0.07 | 0.036 | ( 0.048) | 0.033 | 0.004 |
| 251 | 20.92 | 0.07 | 0.036 | ( 0.048) | 0.033 | 0.004 |
| 252 | 21.00 | 0.07 | 0.036 | ( 0.047) | 0.033 | 0.004 |
| 253 | 21.08 | 0.10 | 0.054 | 0.047 | ( 0.049) | 0.007 |
| 254 | 21.17 | 0.10 | 0.054 | 0.047 | ( 0.049) | 0.007 |
| 255 | 21.25 | 0.10 | 0.054 | 0.047 | ( 0.049) | 0.007 |
| 256 | 21.33 | 0.07 | 0.036 | ( 0.047) | 0.033 | 0.004 |
| 257 | 21.42 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 258 | 21.50 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 259 | 21.58 | 0.10 | 0.054 | 0.046 | ( 0.049) | 0.008 |
| 260 | 21.67 | 0.10 | 0.054 | 0.046 | ( 0.049) | 0.008 |
| 261 | 21.75 | 0.10 | 0.054 | 0.046 | ( 0.049) | 0.008 |
| 262 | 21.83 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 263 | 21.92 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 264 | 22.00 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 265 | 22.08 | 0.10 | 0.054 | 0.045 | ( 0.049) | 0.009 |
| 266 | 22.17 | 0.10 | 0.054 | 0.045 | ( 0.049) | 0.009 |
| 267 | 22.25 | 0.10 | 0.054 | 0.045 | ( 0.049) | 0.009 |
| 268 | 22.33 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 269 | 22.42 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 270 | 22.50 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 271 | 22.58 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 272 | 22.67 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 273 | 22.75 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 274 | 22.83 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 275 | 22.92 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 276 | 23.00 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 277 | 23.08 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 278 | 23.17 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 279 | 23.25 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 280 | 23.33 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 281 | 23.42 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 284 | 23.67 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 285 | 23.75 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 286 | 23.83 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 287 | 23.92 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 288 | 24.00 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 33.8

Flood volume = Effective rainfall 2.82(In)
times area 0.1(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 1.70(In)
Total soil loss = 0.014(Ac.Ft)
Total rainfall = 4.52(In)
Flood volume = 1023.2 Cubic Feet
Total soil loss = 617.6 Cubic Feet

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Peak flow rate of this hydrograph = 0.055(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0000 | 0.00 | Q | | | | |
| 0+10 | 0.0000 | 0.00 | Q | | | | |
| 0+15 | 0.0000 | 0.00 | Q | | | | |
| 0+20 | 0.0000 | 0.00 | Q | | | | |
| 0+25 | 0.0000 | 0.00 | Q | | | | |
| 0+30 | 0.0000 | 0.00 | Q | | | | |
| 0+35 | 0.0000 | 0.00 | Q | | | | |
| 0+40 | 0.0000 | 0.00 | Q | | | | |
| 0+45 | 0.0000 | 0.00 | Q | | | | |
| 0+50 | 0.0000 | 0.00 | Q | | | | |
| 0+55 | 0.0000 | 0.00 | Q | | | | |
| 1+ 0 | 0.0000 | 0.00 | Q | | | | |
| 1+ 5 | 0.0000 | 0.00 | Q | | | | |
| 1+10 | 0.0001 | 0.00 | Q | | | | |
| 1+15 | 0.0001 | 0.00 | Q | | | | |
| 1+20 | 0.0001 | 0.00 | Q | | | | |
| 1+25 | 0.0001 | 0.00 | Q | | | | |
| 1+30 | 0.0001 | 0.00 | Q | | | | |
| 1+35 | 0.0001 | 0.00 | Q | | | | |
| 1+40 | 0.0001 | 0.00 | Q | | | | |
| 1+45 | 0.0001 | 0.00 | Q | | | | |
| 1+50 | 0.0001 | 0.00 | Q | | | | |
| 1+55 | 0.0001 | 0.00 | Q | | | | |
| 2+ 0 | 0.0001 | 0.00 | Q | | | | |
| 2+ 5 | 0.0001 | 0.00 | Q | | | | |
| 2+10 | 0.0001 | 0.00 | Q | | | | |
| 2+15 | 0.0001 | 0.00 | Q | | | | |
| 2+20 | 0.0001 | 0.00 | Q | | | | |
| 2+25 | 0.0001 | 0.00 | Q | | | | |
| 2+30 | 0.0001 | 0.00 | Q | | | | |
| 2+35 | 0.0001 | 0.00 | Q | | | | |
| 2+40 | 0.0001 | 0.00 | Q | | | | |
| 2+45 | 0.0001 | 0.00 | Q | | | | |
| 2+50 | 0.0001 | 0.00 | Q | | | | |
| 2+55 | 0.0002 | 0.00 | Q | | | | |
| 3+ 0 | 0.0002 | 0.00 | Q | | | | |
| 3+ 5 | 0.0002 | 0.00 | Q | | | | |
| 3+10 | 0.0002 | 0.00 | Q | | | | |
| 3+15 | 0.0002 | 0.00 | Q | | | | |
| 3+20 | 0.0002 | 0.00 | Q | | | | |
| 3+25 | 0.0002 | 0.00 | Q | | | | |
| 3+30 | 0.0002 | 0.00 | Q | | | | |
| 3+35 | 0.0002 | 0.00 | Q | | | | |
| 3+40 | 0.0002 | 0.00 | Q | | | | |
| 3+45 | 0.0002 | 0.00 | Q | | | | |
| 3+50 | 0.0002 | 0.00 | Q | | | | |
| 3+55 | 0.0002 | 0.00 | Q | | | | |
| 4+ 0 | 0.0002 | 0.00 | Q | | | | |
| 4+ 5 | 0.0002 | 0.00 | Q | | | | |
| 4+10 | 0.0003 | 0.00 | Q | | | | |
| 4+15 | 0.0003 | 0.00 | Q | | | | |
| 4+20 | 0.0003 | 0.00 | Q | | | | |
| 4+25 | 0.0003 | 0.00 | Q | | | | |
| 4+30 | 0.0003 | 0.00 | Q | | | | |
| 4+35 | 0.0003 | 0.00 | Q | | | | |
| 4+40 | 0.0003 | 0.00 | Q | | | | |
| 4+45 | 0.0003 | 0.00 | Q | | | | |
| 4+50 | 0.0003 | 0.00 | Q | | | | |

```
 4+55       0.0004      0.00  Q          |          |          |          |
 5+ 0       0.0004      0.00  Q          |          |          |          |
 5+ 5       0.0004      0.00  Q          |          |          |          |
 5+10       0.0004      0.00  Q          |          |          |          |
 5+15       0.0004      0.00  Q          |          |          |          |
 5+20       0.0004      0.00  Q          |          |          |          |
 5+25       0.0004      0.00  Q          |          |          |          |
 5+30       0.0004      0.00  Q          |          |          |          |
 5+35       0.0004      0.00  Q          |          |          |          |
 5+40       0.0005      0.00  Q          |          |          |          |
 5+45       0.0005      0.00  Q          |          |          |          |
 5+50       0.0005      0.00  Q          |          |          |          |
 5+55       0.0005      0.00  Q          |          |          |          |
 6+ 0       0.0005      0.00  Q          |          |          |          |
 6+ 5       0.0006      0.01  Q          |          |          |          |
 6+10       0.0006      0.01  QV         |          |          |          |
 6+15       0.0006      0.01  QV         |          |          |          |
 6+20       0.0007      0.01  QV         |          |          |          |
 6+25       0.0007      0.01  QV         |          |          |          |
 6+30       0.0008      0.01  QV         |          |          |          |
 6+35       0.0008      0.01  QV         |          |          |          |
 6+40       0.0009      0.01  QV         |          |          |          |
 6+45       0.0009      0.01  QV         |          |          |          |
 6+50       0.0010      0.01  QV         |          |          |          |
 6+55       0.0010      0.01  QV         |          |          |          |
 7+ 0       0.0011      0.01  QV         |          |          |          |
 7+ 5       0.0011      0.01  QV         |          |          |          |
 7+10       0.0012      0.01  QV         |          |          |          |
 7+15       0.0012      0.01  Q V        |          |          |          |
 7+20       0.0013      0.01  Q V        |          |          |          |
 7+25       0.0013      0.01  Q V        |          |          |          |
 7+30       0.0014      0.01  Q V        |          |          |          |
 7+35       0.0015      0.01  Q V        |          |          |          |
 7+40       0.0016      0.01  Q V        |          |          |          |
 7+45       0.0016      0.01  Q V        |          |          |          |
 7+50       0.0017      0.01  Q V        |          |          |          |
 7+55       0.0018      0.01  Q  V       |          |          |          |
 8+ 0       0.0019      0.01  Q  V       |          |          |          |
 8+ 5       0.0020      0.02  Q  V       |          |          |          |
 8+10       0.0022      0.02  Q  V       |          |          |          |
 8+15       0.0023      0.02  Q  V       |          |          |          |
 8+20       0.0024      0.02  Q   V      |          |          |          |
 8+25       0.0025      0.02  Q   V      |          |          |          |
 8+30       0.0026      0.02  Q   V      |          |          |          |
 8+35       0.0028      0.02  Q   V      |          |          |          |
 8+40       0.0029      0.02  Q   V      |          |          |          |
 8+45       0.0030      0.02  Q    V     |          |          |          |
 8+50       0.0032      0.02  Q    V     |          |          |          |
 8+55       0.0033      0.02  Q    V     |          |          |          |
 9+ 0       0.0035      0.02  Q    V     |          |          |          |
 9+ 5       0.0036      0.03  Q     V    |          |          |          |
 9+10       0.0038      0.03  Q     V    |          |          |          |
 9+15       0.0040      0.03  Q     V    |          |          |          |
 9+20       0.0042      0.03  Q      V   |          |          |          |
 9+25       0.0044      0.03  Q      V   |          |          |          |
 9+30       0.0045      0.03  Q      V   |          |          |          |
 9+35       0.0047      0.03  Q       V  |          |          |          |
 9+40       0.0049      0.03  Q       V  |          |          |          |
 9+45       0.0051      0.03  Q       V  |          |          |          |
 9+50       0.0054      0.03  Q        V |          |          |          |
 9+55       0.0056      0.03  Q        V |          |          |          |
10+ 0       0.0058      0.03  Q        V |          |          |          |
10+ 5       0.0059      0.02  Q         V          |          |          |
10+10       0.0060      0.02  Q         V          |          |          |
10+15       0.0062      0.02  Q         V          |          |          |
10+20       0.0063      0.02  Q         V          |          |          |
10+25       0.0064      0.02  Q         V          |          |          |
10+30       0.0065      0.02  Q         |V         |          |          |
10+35       0.0067      0.03  Q         |V         |          |          |
10+40       0.0069      0.03  Q         |V         |          |          |
10+45       0.0071      0.03  Q         | V        |          |          |
10+50       0.0073      0.03  Q         | V        |          |          |
10+55       0.0075      0.03  Q         | V        |          |          |
11+ 0       0.0077      0.03  Q         |  V       |          |          |
11+ 5       0.0079      0.03  Q         |  V       |          |          |
11+10       0.0081      0.03  Q         |  V       |          |          |
11+15       0.0082      0.03  Q         |   V      |          |          |
11+20       0.0084      0.03  Q         |   V      |          |          |
```

| | | | | |
|---|---|---|---|---|
| 11+25 | 0.0086 | 0.03 | Q | V |
| 11+30 | 0.0088 | 0.03 | Q | V |
| 11+35 | 0.0089 | 0.02 | Q | V |
| 11+40 | 0.0091 | 0.02 | Q | V |
| 11+45 | 0.0092 | 0.02 | Q | V |
| 11+50 | 0.0094 | 0.02 | Q | V |
| 11+55 | 0.0096 | 0.02 | Q | V |
| 12+ 0 | 0.0098 | 0.02 | Q | V |
| 12+ 5 | 0.0100 | 0.04 | Q | V |
| 12+10 | 0.0103 | 0.04 | Q | V |
| 12+15 | 0.0105 | 0.04 | Q | V |
| 12+20 | 0.0108 | 0.04 | Q | V |
| 12+25 | 0.0111 | 0.04 | Q | V |
| 12+30 | 0.0113 | 0.04 | Q | V |
| 12+35 | 0.0116 | 0.04 | Q | V |
| 12+40 | 0.0119 | 0.04 | Q | V |
| 12+45 | 0.0122 | 0.04 | Q | V |
| 12+50 | 0.0125 | 0.05 | Q | V |
| 12+55 | 0.0129 | 0.05 | Q | V |
| 13+ 0 | 0.0132 | 0.05 | Q | V |
| 13+ 5 | 0.0135 | 0.05 | Q | V |
| 13+10 | 0.0139 | 0.05 | Q | V |
| 13+15 | 0.0143 | 0.05 | Q | V |
| 13+20 | 0.0147 | 0.05 | Q | V |
| 13+25 | 0.0150 | 0.05 | Q | V |
| 13+30 | 0.0154 | 0.05 | Q | V |
| 13+35 | 0.0157 | 0.03 | Q | V |
| 13+40 | 0.0159 | 0.03 | Q | V |
| 13+45 | 0.0161 | 0.03 | Q | V |
| 13+50 | 0.0164 | 0.03 | Q | V |
| 13+55 | 0.0166 | 0.03 | Q | V |
| 14+ 0 | 0.0169 | 0.03 | Q | V |
| 14+ 5 | 0.0171 | 0.04 | Q | V |
| 14+10 | 0.0174 | 0.04 | Q | V |
| 14+15 | 0.0177 | 0.04 | Q | V |
| 14+20 | 0.0180 | 0.04 | Q | V |
| 14+25 | 0.0183 | 0.04 | Q | V |
| 14+30 | 0.0186 | 0.04 | Q | V |
| 14+35 | 0.0188 | 0.04 | Q | V |
| 14+40 | 0.0191 | 0.04 | Q | V |
| 14+45 | 0.0194 | 0.04 | Q | V |
| 14+50 | 0.0197 | 0.04 | Q | V |
| 14+55 | 0.0199 | 0.04 | Q | V |
| 15+ 0 | 0.0202 | 0.04 | Q | V |
| 15+ 5 | 0.0205 | 0.04 | Q | V |
| 15+10 | 0.0207 | 0.04 | Q | V |
| 15+15 | 0.0210 | 0.04 | Q | V |
| 15+20 | 0.0212 | 0.04 | Q | V |
| 15+25 | 0.0214 | 0.04 | Q | V |
| 15+30 | 0.0217 | 0.04 | Q | V |
| 15+35 | 0.0219 | 0.03 | Q | V |
| 15+40 | 0.0221 | 0.03 | Q | V |
| 15+45 | 0.0223 | 0.03 | Q | V |
| 15+50 | 0.0225 | 0.03 | Q | V |
| 15+55 | 0.0227 | 0.03 | Q | V |
| 16+ 0 | 0.0229 | 0.03 | Q | V |
| 16+ 5 | 0.0229 | 0.00 | Q | V |
| 16+10 | 0.0229 | 0.00 | Q | V |
| 16+15 | 0.0229 | 0.00 | Q | V |
| 16+20 | 0.0229 | 0.00 | Q | V |
| 16+25 | 0.0229 | 0.00 | Q | V |
| 16+30 | 0.0229 | 0.00 | Q | V |
| 16+35 | 0.0229 | 0.00 | Q | V |
| 16+40 | 0.0229 | 0.00 | Q | V |
| 16+45 | 0.0229 | 0.00 | Q | V |
| 16+50 | 0.0229 | 0.00 | Q | V |
| 16+55 | 0.0229 | 0.00 | Q | V |
| 17+ 0 | 0.0229 | 0.00 | Q | V |
| 17+ 5 | 0.0229 | 0.00 | Q | V |
| 17+10 | 0.0230 | 0.00 | Q | V |
| 17+15 | 0.0230 | 0.00 | Q | V |
| 17+20 | 0.0230 | 0.00 | Q | V |
| 17+25 | 0.0230 | 0.00 | Q | V |
| 17+30 | 0.0231 | 0.00 | Q | V |
| 17+35 | 0.0231 | 0.00 | Q | V |
| 17+40 | 0.0231 | 0.00 | Q | V |
| 17+45 | 0.0231 | 0.00 | Q | V |
| 17+50 | 0.0231 | 0.00 | Q | V |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+55 | 0.0232 | 0.00 | Q | \| | \| | \| | V\| |
| 18+ 0 | 0.0232 | 0.00 | Q | \| | \| | \| | V\| |
| 18+ 5 | 0.0232 | 0.00 | Q | \| | \| | \| | V\| |
| 18+10 | 0.0232 | 0.00 | Q | \| | \| | \| | V\| |
| 18+15 | 0.0232 | 0.00 | Q | \| | \| | \| | V\| |
| 18+20 | 0.0232 | 0.00 | Q | \| | \| | \| | V\| |
| 18+25 | 0.0232 | 0.00 | Q | \| | \| | \| | V\| |
| 18+30 | 0.0232 | 0.00 | Q | \| | \| | \| | V\| |
| 18+35 | 0.0232 | 0.00 | Q | \| | \| | \| | V\| |
| 18+40 | 0.0232 | 0.00 | Q | \| | \| | \| | V\| |
| 18+45 | 0.0232 | 0.00 | Q | \| | \| | \| | V\| |
| 18+50 | 0.0232 | 0.00 | Q | \| | \| | \| | V\| |
| 18+55 | 0.0233 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 0 | 0.0233 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 5 | 0.0233 | 0.00 | Q | \| | \| | \| | V\| |
| 19+10 | 0.0233 | 0.00 | Q | \| | \| | \| | V\| |
| 19+15 | 0.0233 | 0.00 | Q | \| | \| | \| | V\| |
| 19+20 | 0.0233 | 0.00 | Q | \| | \| | \| | V\| |
| 19+25 | 0.0233 | 0.00 | Q | \| | \| | \| | V\| |
| 19+30 | 0.0233 | 0.00 | Q | \| | \| | \| | V\| |
| 19+35 | 0.0233 | 0.00 | Q | \| | \| | \| | V\| |
| 19+40 | 0.0233 | 0.00 | Q | \| | \| | \| | V\| |
| 19+45 | 0.0233 | 0.00 | Q | \| | \| | \| | V\| |
| 19+50 | 0.0233 | 0.00 | Q | \| | \| | \| | V\| |
| 19+55 | 0.0233 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 0 | 0.0233 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 5 | 0.0233 | 0.00 | Q | \| | \| | \| | V\| |
| 20+10 | 0.0233 | 0.00 | Q | \| | \| | \| | V\| |
| 20+15 | 0.0233 | 0.00 | Q | \| | \| | \| | V\| |
| 20+20 | 0.0233 | 0.00 | Q | \| | \| | \| | V\| |
| 20+25 | 0.0233 | 0.00 | Q | \| | \| | \| | V\| |
| 20+30 | 0.0233 | 0.00 | Q | \| | \| | \| | V\| |
| 20+35 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 20+40 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 20+45 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 20+50 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 20+55 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 0 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 5 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 21+10 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 21+15 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 21+20 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 21+25 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 21+30 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 21+35 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 21+40 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 21+45 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 21+50 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 21+55 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 0 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 5 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 22+10 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 22+15 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 22+20 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 22+25 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 22+30 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 22+35 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 22+40 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 22+45 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 22+50 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 22+55 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 0 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 5 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 23+10 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 23+15 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 23+20 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 23+25 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 23+30 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 23+35 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 23+40 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 23+45 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 23+50 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 23+55 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 24+ 0 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX131100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 13
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 6.90(Ac.) = 0.011 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 6.90(Ac.) = 0.011 Sq. Mi.
Length along longest watercourse = 1106.00(Ft.)
Length along longest watercourse measured to centroid = 604.00(Ft.)
Length along longest watercourse = 0.209 Mi.
Length along longest watercourse measured to centroid = 0.114 Mi.
Difference in elevation = 388.00(Ft.)
Slope along watercourse = 1852.2966 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.049 Hr.
Lag time = 2.92 Min.
25% of lag time = 0.73 Min.
40% of lag time = 1.17 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.90 | 0.49 | 3.38 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.90 | 1.20 | 8.28 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.490(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 6.900 | 84.00 | 0.000 |

Total Area Entered = 6.90(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

Slope of intensity-duration curve for a 1 hour storm =0.5000

---

U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

---

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 171.074 | 35.947 | 2.500 |
| 2 0.167 | 342.149 | 52.639 | 3.660 |
| 3 0.250 | 513.223 | 9.425 | 0.655 |
| 4 0.333 | 684.298 | 1.597 | 0.111 |
| 5 0.417 | 855.372 | 0.392 | 0.027 |
| | Sum = | 100.000 Sum= | 6.954 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 4.20 | 0.605 | 0.086 | ( 0.544) | 0.519 |
| 2 0.17 | 4.30 | 0.619 | 0.086 | ( 0.557) | 0.533 |
| 3 0.25 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 4 0.33 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 5 0.42 | 5.80 | 0.835 | 0.086 | ( 0.752) | 0.749 |
| 6 0.50 | 6.50 | 0.936 | 0.086 | ( 0.842) | 0.850 |
| 7 0.58 | 7.40 | 1.066 | 0.086 | ( 0.959) | 0.980 |
| 8 0.67 | 8.60 | 1.238 | 0.086 | ( 1.114) | 1.153 |
| 9 0.75 | 12.30 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 10 0.83 | 29.10 | 4.190 | 0.086 | ( 3.771) | 4.104 |
| 11 0.92 | 6.80 | 0.979 | 0.086 | ( 0.881) | 0.893 |
| 12 1.00 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 13.4 |

Flood volume = Effective rainfall 1.11(In)
times area 6.9(Ac.)/[(In)/(Ft.)] = 0.6(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.049(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 27905.5 Cubic Feet
Total soil loss = 2149.0 Cubic Feet

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Peak flow rate of this hydrograph = 18.526(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 5.0 | 10.0 | 15.0 | 20.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0089 | 1.30 | V Q | \| | \| | \| | \| |
| 0+10 | 0.0312 | 3.23 | \|V Q | \| | \| | \| | \| |
| 0+15 | 0.0579 | 3.88 | \| V Q | \| | \| | \| | \| |
| 0+20 | 0.0877 | 4.32 | \| V Q | \| | \| | \| | \| |
| 0+25 | 0.1199 | 4.69 | \| V Q\| | \| | \| | \| | \| |
| 0+30 | 0.1569 | 5.37 | \| VQ | \| | \| | \| | \| |
| 0+35 | 0.1992 | 6.14 | \| Q | \| | \| | \| | \| |
| 0+40 | 0.2483 | 7.13 | \| QV | \| | \| | \| | \| |
| 0+45 | 0.3116 | 9.19 | \| QV\| | \| | \| | \| | \| |
| 0+50 | 0.4310 | 17.32 | \| \| V | \| | \| Q | \| | \| |
| 0+55 | 0.5585 | 18.53 | \| \| | \| | \| V Q | \| | \| |
| 1+ 0 | 0.6120 | 7.77 | \| Q | \| | \| V | \| | \| |
| 1+ 5 | 0.6355 | 3.41 | \| Q | \| | \| | \| V\| | \| |
| 1+10 | 0.6398 | 0.63 | \|Q | \| | \| | \| V\| | \| |
| 1+15 | 0.6405 | 0.09 | Q | \| | \| | \| V\| | \| |
| 1+20 | 0.6406 | 0.02 | Q | \| | \| | \| V | \| |

U n i t  H y d r o g r a p h  A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

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100-YEAR STORM EVENT
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Drainage Area for Depth-Area Areal Adjustment = 6.90(Ac.) = 0.011 Sq. Mi.
Length along longest watercourse = 1106.00(Ft.)
Length along longest watercourse measured to centroid = 604.00(Ft.)
Length along longest watercourse = 0.209 Mi.
Length along longest watercourse measured to centroid = 0.114 Mi.
Difference in elevation = 388.00(Ft.)
Slope along watercourse = 1852.2966 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.049 Hr.
Lag time = 2.92 Min.
25% of lag time = 0.73 Min.
40% of lag time = 1.17 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.90 | 0.80 | 5.52 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.90 | 1.80 | 12.42 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 6.900 | 84.00 | 0.000 |

Total Area Entered = 6.90(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 171.074 | 35.947 | 2.500 |
| 2 | 0.167 | 342.149 | 52.639 | 3.660 |
| 3 | 0.250 | 513.223 | 9.425 | 0.655 |
| 4 | 0.333 | 684.298 | 1.597 | 0.111 |
| 5 | 0.417 | 855.372 | 0.392 | 0.027 |
| | | | Sum = 100.000 Sum= | 6.954 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.281 | 0.086 | ( 0.253) | 0.195 |
| 2 | 0.17 | 1.30 | 0.281 | 0.086 | ( 0.253) | 0.195 |
| 3 | 0.25 | 1.10 | 0.238 | 0.086 | ( 0.214) | 0.152 |
| 4 | 0.33 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 5 | 0.42 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 6 | 0.50 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 7 | 0.58 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 8 | 0.67 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 9 | 0.75 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 10 | 0.83 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 11 | 0.92 | 1.60 | 0.346 | 0.086 | ( 0.311) | 0.260 |
| 12 | 1.00 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 13 | 1.08 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 14 | 1.17 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 15 | 1.25 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 16 | 1.33 | 2.00 | 0.432 | 0.086 | ( 0.389) | 0.346 |
| 17 | 1.42 | 2.60 | 0.562 | 0.086 | ( 0.505) | 0.476 |
| 18 | 1.50 | 2.70 | 0.583 | 0.086 | ( 0.525) | 0.497 |
| 19 | 1.58 | 2.40 | 0.518 | 0.086 | ( 0.467) | 0.433 |
| 20 | 1.67 | 2.70 | 0.583 | 0.086 | ( 0.525) | 0.497 |
| 21 | 1.75 | 3.30 | 0.713 | 0.086 | ( 0.642) | 0.627 |
| 22 | 1.83 | 3.10 | 0.670 | 0.086 | ( 0.603) | 0.584 |
| 23 | 1.92 | 2.90 | 0.626 | 0.086 | ( 0.564) | 0.541 |
| 24 | 2.00 | 3.00 | 0.648 | 0.086 | ( 0.583) | 0.562 |
| 25 | 2.08 | 3.10 | 0.670 | 0.086 | ( 0.603) | 0.584 |
| 26 | 2.17 | 4.20 | 0.907 | 0.086 | ( 0.816) | 0.821 |
| 27 | 2.25 | 5.00 | 1.080 | 0.086 | ( 0.972) | 0.994 |
| 28 | 2.33 | 3.50 | 0.756 | 0.086 | ( 0.680) | 0.670 |
| 29 | 2.42 | 6.80 | 1.469 | 0.086 | ( 1.322) | 1.383 |
| 30 | 2.50 | 7.30 | 1.577 | 0.086 | ( 1.419) | 1.491 |
| 31 | 2.58 | 8.20 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 32 | 2.67 | 5.90 | 1.274 | 0.086 | ( 1.147) | 1.189 |
| 33 | 2.75 | 2.00 | 0.432 | 0.086 | ( 0.389) | 0.346 |
| 34 | 2.83 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 35 | 2.92 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 36 | 3.00 | 0.60 | 0.130 | 0.086 | ( 0.117) | 0.044 |
| | | (Loss Rate Not Used) | | | |
| Sum = | | 100.0 | | | Sum = 18.5 |

Flood volume = Effective rainfall 1.54(In)
times area 6.9(Ac.)/[(In)/(Ft.)] = 0.9(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.148(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 38636.1 Cubic Feet
Total soil loss = 6447.1 Cubic Feet

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Peak flow rate of this hydrograph = 10.684(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 5.0 | 10.0 | 15.0 | 20.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0034 | 0.49 | Q | | | | |
| 0+10 | 0.0116 | 1.20 | V Q | | | | |
| 0+15 | 0.0200 | 1.22 | V Q | | | | |
| 0+20 | 0.0290 | 1.30 | VQ | | | | |
| 0+25 | 0.0400 | 1.59 | V Q | | | | |
| 0+30 | 0.0524 | 1.81 | VQ | | | | |
| 0+35 | 0.0655 | 1.89 | VQ | | | | |
| 0+40 | 0.0783 | 1.86 | Q | | | | |
| 0+45 | 0.0925 | 2.06 | Q | | | | |
| 0+50 | 0.1059 | 1.94 | QV | | | | |
| 0+55 | 0.1180 | 1.76 | Q V | | | | |
| 1+ 0 | 0.1311 | 1.91 | Q V | | | | |
| 1+ 5 | 0.1469 | 2.29 | Q V | | | | |
| 1+10 | 0.1650 | 2.63 | Q V | | | | |
| 1+15 | 0.1836 | 2.70 | Q V | | | | |
| 1+20 | 0.2015 | 2.60 | Q V | | | | |
| 1+25 | 0.2206 | 2.77 | Q V | | | | |
| 1+30 | 0.2431 | 3.27 | Q V | | | | |
| 1+35 | 0.2655 | 3.26 | Q V | | | | |
| 1+40 | 0.2877 | 3.22 | Q V | | | | |
| 1+45 | 0.3135 | 3.74 | Q V | | | | |
| 1+50 | 0.3420 | 4.14 | Q V | | | | |
| 1+55 | 0.3693 | 3.97 | Q V | | | | |
| 2+ 0 | 0.3959 | 3.85 | Q V | | | | |
| 2+ 5 | 0.4231 | 3.96 | Q V | | | | |
| 2+10 | 0.4550 | 4.64 | Q V | | | | |
| 2+15 | 0.4960 | 5.95 | Q V | | | | |
| 2+20 | 0.5369 | 5.94 | Q V | | | | |
| 2+25 | 0.5829 | 6.67 | Q V | | | | |
| 2+30 | 0.6474 | 9.37 | Q V | | | | |
| 2+35 | 0.7210 | 10.68 | Q V | | | | |
| 2+40 | 0.7919 | 10.29 | Q V | | | | |
| 2+45 | 0.8368 | 6.53 | Q V | | | | |
| 2+50 | 0.8577 | 3.03 | Q V | | | | |
| 2+55 | 0.8734 | 2.27 | Q V | | | | |
| 3+ 0 | 0.8836 | 1.49 | Q V | | | | |
| 3+ 5 | 0.8864 | 0.40 | Q V | | | | |
| 3+10 | 0.8869 | 0.07 | Q V | | | | |
| 3+15 | 0.8870 | 0.01 | Q V | | | | |
| 3+20 | 0.8870 | 0.00 | Q V | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX136100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 13
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 6.90(Ac.) = 0.011 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 6.90(Ac.) = 0.011 Sq. Mi.
Length along longest watercourse = 1106.00(Ft.)
Length along longest watercourse measured to centroid = 604.00(Ft.)
Length along longest watercourse = 0.209 Mi.
Length along longest watercourse measured to centroid = 0.114 Mi.
Difference in elevation = 388.00(Ft.)
Slope along watercourse = 1852.2966 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.049 Hr.
Lag time = 2.92 Min.
25% of lag time = 0.73 Min.
40% of lag time = 1.17 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.90 | 1.12 | 7.73 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.90 | 2.50 | 17.25 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.120(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 6.900 | 84.00 | 0.000 |

Total Area Entered = 6.90(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 171.074 | 35.947 | 2.500 |
| 2 | 0.167 | 342.149 | 52.639 | 3.660 |
| 3 | 0.250 | 513.223 | 9.425 | 0.655 |
| 4 | 0.333 | 684.298 | 1.597 | 0.111 |
| 5 | 0.417 | 855.372 | 0.392 | 0.027 |
| | | | Sum = 100.000 Sum= | 6.954 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.086 | ( 0.135) | 0.064 |
| 2 | 0.17 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 3 | 0.25 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 4 | 0.33 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 5 | 0.42 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 6 | 0.50 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 7 | 0.58 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 8 | 0.67 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 9 | 0.75 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 10 | 0.83 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 11 | 0.92 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 12 | 1.00 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 13 | 1.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 14 | 1.17 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 15 | 1.25 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 16 | 1.33 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 17 | 1.42 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 18 | 1.50 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 19 | 1.58 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 20 | 1.67 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 21 | 1.75 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 22 | 1.83 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 23 | 1.92 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 24 | 2.00 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 25 | 2.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 26 | 2.17 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 27 | 2.25 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 28 | 2.33 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 29 | 2.42 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 30 | 2.50 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 31 | 2.58 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 32 | 2.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 33 | 2.75 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 34 | 2.83 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 35 | 2.92 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 36 | 3.00 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 37 | 3.08 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 38 | 3.17 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 39 | 3.25 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 40 | 3.33 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 41 | 3.42 | 1.20 | 0.360 | 0.086 | ( 0.324) | 0.274 |
| 42 | 3.50 | 1.30 | 0.390 | 0.086 | ( 0.351) | 0.304 |
| 43 | 3.58 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 44 | 3.67 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 45 | 3.75 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 46 | 3.83 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 47 | 3.92 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 48 | 4.00 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 49 | 4.08 | 1.70 | 0.510 | 0.086 | ( 0.459) | 0.424 |
| 50 | 4.17 | 1.80 | 0.540 | 0.086 | ( 0.486) | 0.454 |
| 51 | 4.25 | 1.90 | 0.570 | 0.086 | ( 0.513) | 0.484 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 52 | 4.33 | 2.00 | 0.600 | 0.086 | ( 0.540) | | 0.514 |
| 53 | 4.42 | 2.10 | 0.630 | 0.086 | ( 0.567) | | 0.544 |
| 54 | 4.50 | 2.10 | 0.630 | 0.086 | ( 0.567) | | 0.544 |
| 55 | 4.58 | 2.20 | 0.660 | 0.086 | ( 0.594) | | 0.574 |
| 56 | 4.67 | 2.30 | 0.690 | 0.086 | ( 0.621) | | 0.604 |
| 57 | 4.75 | 2.40 | 0.720 | 0.086 | ( 0.648) | | 0.634 |
| 58 | 4.83 | 2.40 | 0.720 | 0.086 | ( 0.648) | | 0.634 |
| 59 | 4.92 | 2.50 | 0.750 | 0.086 | ( 0.675) | | 0.664 |
| 60 | 5.00 | 2.60 | 0.780 | 0.086 | ( 0.702) | | 0.694 |
| 61 | 5.08 | 3.10 | 0.930 | 0.086 | ( 0.837) | | 0.844 |
| 62 | 5.17 | 3.60 | 1.080 | 0.086 | ( 0.972) | | 0.994 |
| 63 | 5.25 | 3.90 | 1.170 | 0.086 | ( 1.053) | | 1.084 |
| 64 | 5.33 | 4.20 | 1.260 | 0.086 | ( 1.134) | | 1.174 |
| 65 | 5.42 | 4.70 | 1.410 | 0.086 | ( 1.269) | | 1.324 |
| 66 | 5.50 | 5.60 | 1.680 | 0.086 | ( 1.512) | | 1.594 |
| 67 | 5.58 | 1.90 | 0.570 | 0.086 | ( 0.513) | | 0.484 |
| 68 | 5.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | | 0.184 |
| 69 | 5.75 | 0.60 | 0.180 | 0.086 | ( 0.162) | | 0.094 |
| 70 | 5.83 | 0.50 | 0.150 | 0.086 | ( 0.135) | | 0.064 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.086) | 0.081 | | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.086) | 0.054 | | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.9

Flood volume = Effective rainfall 1.99(In)
times area 6.9(Ac.)/[(In)/(Ft.)] = 1.1(Ac.Ft)
Total soil loss = 0.51(In)
Total soil loss = 0.294(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 49798.2 Cubic Feet
Total soil loss = 12817.8 Cubic Feet

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Peak flow rate of this hydrograph = 9.754(CFS)

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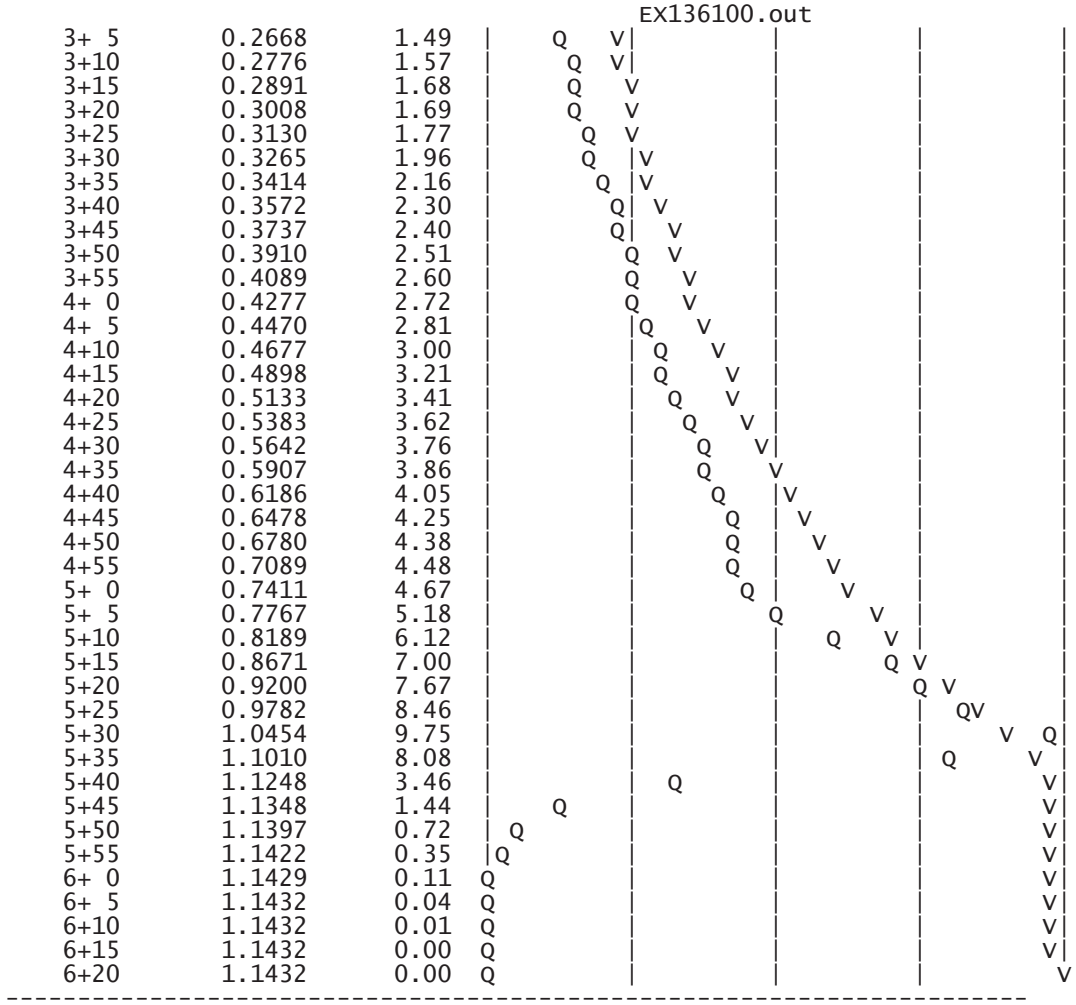
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0011 | 0.16 | Q | | | | |
| 0+10 | 0.0043 | 0.47 | VQ | | | | |
| 0+15 | 0.0086 | 0.62 | V Q | | | | |
| 0+20 | 0.0131 | 0.65 | V Q | | | | |
| 0+25 | 0.0176 | 0.65 | V Q | | | | |
| 0+30 | 0.0226 | 0.73 | V Q | | | | |
| 0+35 | 0.0284 | 0.84 | V Q | | | | |
| 0+40 | 0.0344 | 0.86 | \|V Q | | | | |
| 0+45 | 0.0403 | 0.86 | \|V Q | | | | |
| 0+50 | 0.0463 | 0.86 | \|V Q | | | | |
| 0+55 | 0.0522 | 0.86 | \|V Q | | | | |
| 1+ 0 | 0.0587 | 0.94 | \| VQ | | | | |
| 1+ 5 | 0.0659 | 1.05 | \| V Q | | | | |
| 1+10 | 0.0733 | 1.07 | \| V Q | | | | |
| 1+15 | 0.0806 | 1.07 | \| V Q | | | | |
| 1+20 | 0.0880 | 1.07 | \| VQ | | | | |
| 1+25 | 0.0954 | 1.07 | \| VQ | | | | |
| 1+30 | 0.1028 | 1.07 | \| VQ | | | | |
| 1+35 | 0.1102 | 1.07 | \| VQ | | | | |
| 1+40 | 0.1176 | 1.07 | \| Q | | | | |
| 1+45 | 0.1250 | 1.07 | \| Q | | | | |
| 1+50 | 0.1324 | 1.07 | \| Q | | | | |
| 1+55 | 0.1397 | 1.07 | \| Q | | | | |
| 2+ 0 | 0.1477 | 1.15 | \| QV | | | | |
| 2+ 5 | 0.1558 | 1.18 | \| QV | | | | |
| 2+10 | 0.1638 | 1.17 | \| QV | | | | |
| 2+15 | 0.1725 | 1.26 | \| QV | | | | |
| 2+20 | 0.1813 | 1.28 | \| QV | | | | |
| 2+25 | 0.1901 | 1.28 | \| QV | | | | |
| 2+30 | 0.1990 | 1.28 | \| QV | | | | |
| 2+35 | 0.2078 | 1.28 | \| Q V | | | | |
| 2+40 | 0.2166 | 1.28 | \| Q V | | | | |
| 2+45 | 0.2260 | 1.36 | \| Q V | | | | |
| 2+50 | 0.2361 | 1.47 | \| Q V | | | | |
| 2+55 | 0.2463 | 1.49 | \| Q V | | | | |
| 3+ 0 | 0.2566 | 1.49 | \| Q V | | | | |



| | | | |
|---|---|---|---|
| 3+ 5 | 0.2668 | 1.49 | |
| 3+10 | 0.2776 | 1.57 | |
| 3+15 | 0.2891 | 1.68 | |
| 3+20 | 0.3008 | 1.69 | |
| 3+25 | 0.3130 | 1.77 | |
| 3+30 | 0.3265 | 1.96 | |
| 3+35 | 0.3414 | 2.16 | |
| 3+40 | 0.3572 | 2.30 | |
| 3+45 | 0.3737 | 2.40 | |
| 3+50 | 0.3910 | 2.51 | |
| 3+55 | 0.4089 | 2.60 | |
| 4+ 0 | 0.4277 | 2.72 | |
| 4+ 5 | 0.4470 | 2.81 | |
| 4+10 | 0.4677 | 3.00 | |
| 4+15 | 0.4898 | 3.21 | |
| 4+20 | 0.5133 | 3.41 | |
| 4+25 | 0.5383 | 3.62 | |
| 4+30 | 0.5642 | 3.76 | |
| 4+35 | 0.5907 | 3.86 | |
| 4+40 | 0.6186 | 4.05 | |
| 4+45 | 0.6478 | 4.25 | |
| 4+50 | 0.6780 | 4.38 | |
| 4+55 | 0.7089 | 4.48 | |
| 5+ 0 | 0.7411 | 4.67 | |
| 5+ 5 | 0.7767 | 5.18 | |
| 5+10 | 0.8189 | 6.12 | |
| 5+15 | 0.8671 | 7.00 | |
| 5+20 | 0.9200 | 7.67 | |
| 5+25 | 0.9782 | 8.46 | |
| 5+30 | 1.0454 | 9.75 | |
| 5+35 | 1.1010 | 8.08 | |
| 5+40 | 1.1248 | 3.46 | |
| 5+45 | 1.1348 | 1.44 | |
| 5+50 | 1.1397 | 0.72 | |
| 5+55 | 1.1422 | 0.35 | |
| 6+ 0 | 1.1429 | 0.11 | |
| 6+ 5 | 1.1432 | 0.04 | |
| 6+10 | 1.1432 | 0.01 | |
| 6+15 | 1.1432 | 0.00 | |
| 6+20 | 1.1432 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX1324100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 13
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 6.90(Ac.) = 0.011 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 6.90(Ac.) = 0.011 Sq. Mi.
Length along longest watercourse = 1106.00(Ft.)
Length along longest watercourse measured to centroid = 604.00(Ft.)
Length along longest watercourse = 0.209 Mi.
Length along longest watercourse measured to centroid = 0.114 Mi.
Difference in elevation = 388.00(Ft.)
Slope along watercourse = 1852.2966 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.049 Hr.
Lag time = 2.92 Min.
25% of lag time = 0.73 Min.
40% of lag time = 1.17 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.90 | 1.80 | 12.42 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.90 | 4.54 | 31.33 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.540(In)

Point rain (area averaged) = 4.540(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.540(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 6.900 | 84.00 | 0.000 |

Total Area Entered = 6.90(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 171.074 | 35.947 | 2.500 |
| 2 | 0.167 | 342.149 | 52.639 | 3.660 |
| 3 | 0.250 | 513.223 | 9.425 | 0.655 |
| 4 | 0.333 | 684.298 | 1.597 | 0.111 |
| 5 | 0.417 | 855.372 | 0.392 | 0.027 |
| | | | Sum = 100.000 Sum= | 6.954 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.036 | ( 0.152) | 0.033 | 0.004 |
| 2 | 0.17 | 0.07 | 0.036 | ( 0.152) | 0.033 | 0.004 |
| 3 | 0.25 | 0.07 | 0.036 | ( 0.151) | 0.033 | 0.004 |
| 4 | 0.33 | 0.10 | 0.054 | ( 0.150) | 0.049 | 0.005 |
| 5 | 0.42 | 0.10 | 0.054 | ( 0.150) | 0.049 | 0.005 |
| 6 | 0.50 | 0.10 | 0.054 | ( 0.149) | 0.049 | 0.005 |
| 7 | 0.58 | 0.10 | 0.054 | ( 0.149) | 0.049 | 0.005 |
| 8 | 0.67 | 0.10 | 0.054 | ( 0.148) | 0.049 | 0.005 |
| 9 | 0.75 | 0.10 | 0.054 | ( 0.147) | 0.049 | 0.005 |
| 10 | 0.83 | 0.13 | 0.073 | ( 0.147) | 0.065 | 0.007 |
| 11 | 0.92 | 0.13 | 0.073 | ( 0.146) | 0.065 | 0.007 |
| 12 | 1.00 | 0.13 | 0.073 | ( 0.146) | 0.065 | 0.007 |
| 13 | 1.08 | 0.10 | 0.054 | ( 0.145) | 0.049 | 0.005 |
| 14 | 1.17 | 0.10 | 0.054 | ( 0.145) | 0.049 | 0.005 |
| 15 | 1.25 | 0.10 | 0.054 | ( 0.144) | 0.049 | 0.005 |
| 16 | 1.33 | 0.10 | 0.054 | ( 0.143) | 0.049 | 0.005 |
| 17 | 1.42 | 0.10 | 0.054 | ( 0.143) | 0.049 | 0.005 |
| 18 | 1.50 | 0.10 | 0.054 | ( 0.142) | 0.049 | 0.005 |
| 19 | 1.58 | 0.10 | 0.054 | ( 0.142) | 0.049 | 0.005 |
| 20 | 1.67 | 0.10 | 0.054 | ( 0.141) | 0.049 | 0.005 |
| 21 | 1.75 | 0.10 | 0.054 | ( 0.141) | 0.049 | 0.005 |
| 22 | 1.83 | 0.13 | 0.073 | ( 0.140) | 0.065 | 0.007 |
| 23 | 1.92 | 0.13 | 0.073 | ( 0.139) | 0.065 | 0.007 |
| 24 | 2.00 | 0.13 | 0.073 | ( 0.139) | 0.065 | 0.007 |
| 25 | 2.08 | 0.13 | 0.073 | ( 0.138) | 0.065 | 0.007 |
| 26 | 2.17 | 0.13 | 0.073 | ( 0.138) | 0.065 | 0.007 |
| 27 | 2.25 | 0.13 | 0.073 | ( 0.137) | 0.065 | 0.007 |
| 28 | 2.33 | 0.13 | 0.073 | ( 0.137) | 0.065 | 0.007 |
| 29 | 2.42 | 0.13 | 0.073 | ( 0.136) | 0.065 | 0.007 |
| 30 | 2.50 | 0.13 | 0.073 | ( 0.136) | 0.065 | 0.007 |
| 31 | 2.58 | 0.17 | 0.091 | ( 0.135) | 0.082 | 0.009 |
| 32 | 2.67 | 0.17 | 0.091 | ( 0.134) | 0.082 | 0.009 |
| 33 | 2.75 | 0.17 | 0.091 | ( 0.134) | 0.082 | 0.009 |
| 34 | 2.83 | 0.17 | 0.091 | ( 0.133) | 0.082 | 0.009 |
| 35 | 2.92 | 0.17 | 0.091 | ( 0.133) | 0.082 | 0.009 |
| 36 | 3.00 | 0.17 | 0.091 | ( 0.132) | 0.082 | 0.009 |
| 37 | 3.08 | 0.17 | 0.091 | ( 0.132) | 0.082 | 0.009 |
| 38 | 3.17 | 0.17 | 0.091 | ( 0.131) | 0.082 | 0.009 |
| 39 | 3.25 | 0.17 | 0.091 | ( 0.131) | 0.082 | 0.009 |
| 40 | 3.33 | 0.17 | 0.091 | ( 0.130) | 0.082 | 0.009 |
| 41 | 3.42 | 0.17 | 0.091 | ( 0.129) | 0.082 | 0.009 |
| 42 | 3.50 | 0.17 | 0.091 | ( 0.129) | 0.082 | 0.009 |
| 43 | 3.58 | 0.17 | 0.091 | ( 0.128) | 0.082 | 0.009 |
| 44 | 3.67 | 0.17 | 0.091 | ( 0.128) | 0.082 | 0.009 |
| 45 | 3.75 | 0.17 | 0.091 | ( 0.127) | 0.082 | 0.009 |
| 46 | 3.83 | 0.20 | 0.109 | ( 0.127) | 0.098 | 0.011 |
| 47 | 3.92 | 0.20 | 0.109 | ( 0.126) | 0.098 | 0.011 |
| 48 | 4.00 | 0.20 | 0.109 | ( 0.126) | 0.098 | 0.011 |
| 49 | 4.08 | 0.20 | 0.109 | ( 0.125) | 0.098 | 0.011 |
| 50 | 4.17 | 0.20 | 0.109 | ( 0.125) | 0.098 | 0.011 |
| 51 | 4.25 | 0.20 | 0.109 | ( 0.124) | 0.098 | 0.011 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 52 | 4.33 | 0.23 | 0.127 | ( | 0.124) | 0.114 | | 0.013 |
| 53 | 4.42 | 0.23 | 0.127 | ( | 0.123) | 0.114 | | 0.013 |
| 54 | 4.50 | 0.23 | 0.127 | ( | 0.123) | 0.114 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.127 | ( | 0.122) | 0.114 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.127 | ( | 0.121) | 0.114 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.127 | ( | 0.121) | 0.114 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.145 | | 0.120 | ( 0.131) | | 0.025 |
| 59 | 4.92 | 0.27 | 0.145 | | 0.120 | ( 0.131) | | 0.025 |
| 60 | 5.00 | 0.27 | 0.145 | | 0.119 | ( 0.131) | | 0.026 |
| 61 | 5.08 | 0.20 | 0.109 | ( | 0.119) | 0.098 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.109 | ( | 0.118) | 0.098 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.109 | ( | 0.118) | 0.098 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.127 | ( | 0.117) | 0.114 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.127 | ( | 0.117) | 0.114 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.127 | ( | 0.116) | 0.114 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.145 | | 0.116 | ( 0.131) | | 0.029 |
| 68 | 5.67 | 0.27 | 0.145 | | 0.115 | ( 0.131) | | 0.030 |
| 69 | 5.75 | 0.27 | 0.145 | | 0.115 | ( 0.131) | | 0.031 |
| 70 | 5.83 | 0.27 | 0.145 | | 0.114 | ( 0.131) | | 0.031 |
| 71 | 5.92 | 0.27 | 0.145 | | 0.114 | ( 0.131) | | 0.032 |
| 72 | 6.00 | 0.27 | 0.145 | | 0.113 | ( 0.131) | | 0.032 |
| 73 | 6.08 | 0.30 | 0.163 | | 0.113 | ( 0.147) | | 0.051 |
| 74 | 6.17 | 0.30 | 0.163 | | 0.112 | ( 0.147) | | 0.051 |
| 75 | 6.25 | 0.30 | 0.163 | | 0.112 | ( 0.147) | | 0.052 |
| 76 | 6.33 | 0.30 | 0.163 | | 0.111 | ( 0.147) | | 0.052 |
| 77 | 6.42 | 0.30 | 0.163 | | 0.111 | ( 0.147) | | 0.053 |
| 78 | 6.50 | 0.30 | 0.163 | | 0.110 | ( 0.147) | | 0.053 |
| 79 | 6.58 | 0.33 | 0.182 | | 0.110 | ( 0.163) | | 0.072 |
| 80 | 6.67 | 0.33 | 0.182 | | 0.109 | ( 0.163) | | 0.072 |
| 81 | 6.75 | 0.33 | 0.182 | | 0.109 | ( 0.163) | | 0.073 |
| 82 | 6.83 | 0.33 | 0.182 | | 0.108 | ( 0.163) | | 0.073 |
| 83 | 6.92 | 0.33 | 0.182 | | 0.108 | ( 0.163) | | 0.074 |
| 84 | 7.00 | 0.33 | 0.182 | | 0.107 | ( 0.163) | | 0.074 |
| 85 | 7.08 | 0.33 | 0.182 | | 0.107 | ( 0.163) | | 0.075 |
| 86 | 7.17 | 0.33 | 0.182 | | 0.106 | ( 0.163) | | 0.075 |
| 87 | 7.25 | 0.33 | 0.182 | | 0.106 | ( 0.163) | | 0.076 |
| 88 | 7.33 | 0.37 | 0.200 | | 0.105 | ( 0.180) | | 0.094 |
| 89 | 7.42 | 0.37 | 0.200 | | 0.105 | ( 0.180) | | 0.095 |
| 90 | 7.50 | 0.37 | 0.200 | | 0.104 | ( 0.180) | | 0.095 |
| 91 | 7.58 | 0.40 | 0.218 | | 0.104 | ( 0.196) | | 0.114 |
| 92 | 7.67 | 0.40 | 0.218 | | 0.103 | ( 0.196) | | 0.114 |
| 93 | 7.75 | 0.40 | 0.218 | | 0.103 | ( 0.196) | | 0.115 |
| 94 | 7.83 | 0.43 | 0.236 | | 0.102 | ( 0.212) | | 0.134 |
| 95 | 7.92 | 0.43 | 0.236 | | 0.102 | ( 0.212) | | 0.134 |
| 96 | 8.00 | 0.43 | 0.236 | | 0.102 | ( 0.212) | | 0.135 |
| 97 | 8.08 | 0.50 | 0.272 | | 0.101 | ( 0.245) | | 0.171 |
| 98 | 8.17 | 0.50 | 0.272 | | 0.101 | ( 0.245) | | 0.172 |
| 99 | 8.25 | 0.50 | 0.272 | | 0.100 | ( 0.245) | | 0.172 |
| 100 | 8.33 | 0.50 | 0.272 | | 0.100 | ( 0.245) | | 0.173 |
| 101 | 8.42 | 0.50 | 0.272 | | 0.099 | ( 0.245) | | 0.173 |
| 102 | 8.50 | 0.50 | 0.272 | | 0.099 | ( 0.245) | | 0.174 |
| 103 | 8.58 | 0.53 | 0.291 | | 0.098 | ( 0.262) | | 0.192 |
| 104 | 8.67 | 0.53 | 0.291 | | 0.098 | ( 0.262) | | 0.193 |
| 105 | 8.75 | 0.53 | 0.291 | | 0.097 | ( 0.262) | | 0.193 |
| 106 | 8.83 | 0.57 | 0.309 | | 0.097 | ( 0.278) | | 0.212 |
| 107 | 8.92 | 0.57 | 0.309 | | 0.096 | ( 0.278) | | 0.212 |
| 108 | 9.00 | 0.57 | 0.309 | | 0.096 | ( 0.278) | | 0.213 |
| 109 | 9.08 | 0.63 | 0.345 | | 0.096 | ( 0.311) | | 0.250 |
| 110 | 9.17 | 0.63 | 0.345 | | 0.095 | ( 0.311) | | 0.250 |
| 111 | 9.25 | 0.63 | 0.345 | | 0.095 | ( 0.311) | | 0.250 |
| 112 | 9.33 | 0.67 | 0.363 | | 0.094 | ( 0.327) | | 0.269 |
| 113 | 9.42 | 0.67 | 0.363 | | 0.094 | ( 0.327) | | 0.269 |
| 114 | 9.50 | 0.67 | 0.363 | | 0.093 | ( 0.327) | | 0.270 |
| 115 | 9.58 | 0.70 | 0.381 | | 0.093 | ( 0.343) | | 0.289 |
| 116 | 9.67 | 0.70 | 0.381 | | 0.092 | ( 0.343) | | 0.289 |
| 117 | 9.75 | 0.70 | 0.381 | | 0.092 | ( 0.343) | | 0.289 |
| 118 | 9.83 | 0.73 | 0.400 | | 0.091 | ( 0.360) | | 0.308 |
| 119 | 9.92 | 0.73 | 0.400 | | 0.091 | ( 0.360) | | 0.308 |
| 120 | 10.00 | 0.73 | 0.400 | | 0.091 | ( 0.360) | | 0.309 |
| 121 | 10.08 | 0.50 | 0.272 | | 0.090 | ( 0.245) | | 0.182 |
| 122 | 10.17 | 0.50 | 0.272 | | 0.090 | ( 0.245) | | 0.183 |
| 123 | 10.25 | 0.50 | 0.272 | | 0.089 | ( 0.245) | | 0.183 |
| 124 | 10.33 | 0.50 | 0.272 | | 0.089 | ( 0.245) | | 0.184 |
| 125 | 10.42 | 0.50 | 0.272 | | 0.088 | ( 0.245) | | 0.184 |
| 126 | 10.50 | 0.50 | 0.272 | | 0.088 | ( 0.245) | | 0.184 |
| 127 | 10.58 | 0.67 | 0.363 | | 0.088 | ( 0.327) | | 0.276 |
| 128 | 10.67 | 0.67 | 0.363 | | 0.087 | ( 0.327) | | 0.276 |
| 129 | 10.75 | 0.67 | 0.363 | | 0.087 | ( 0.327) | | 0.276 |

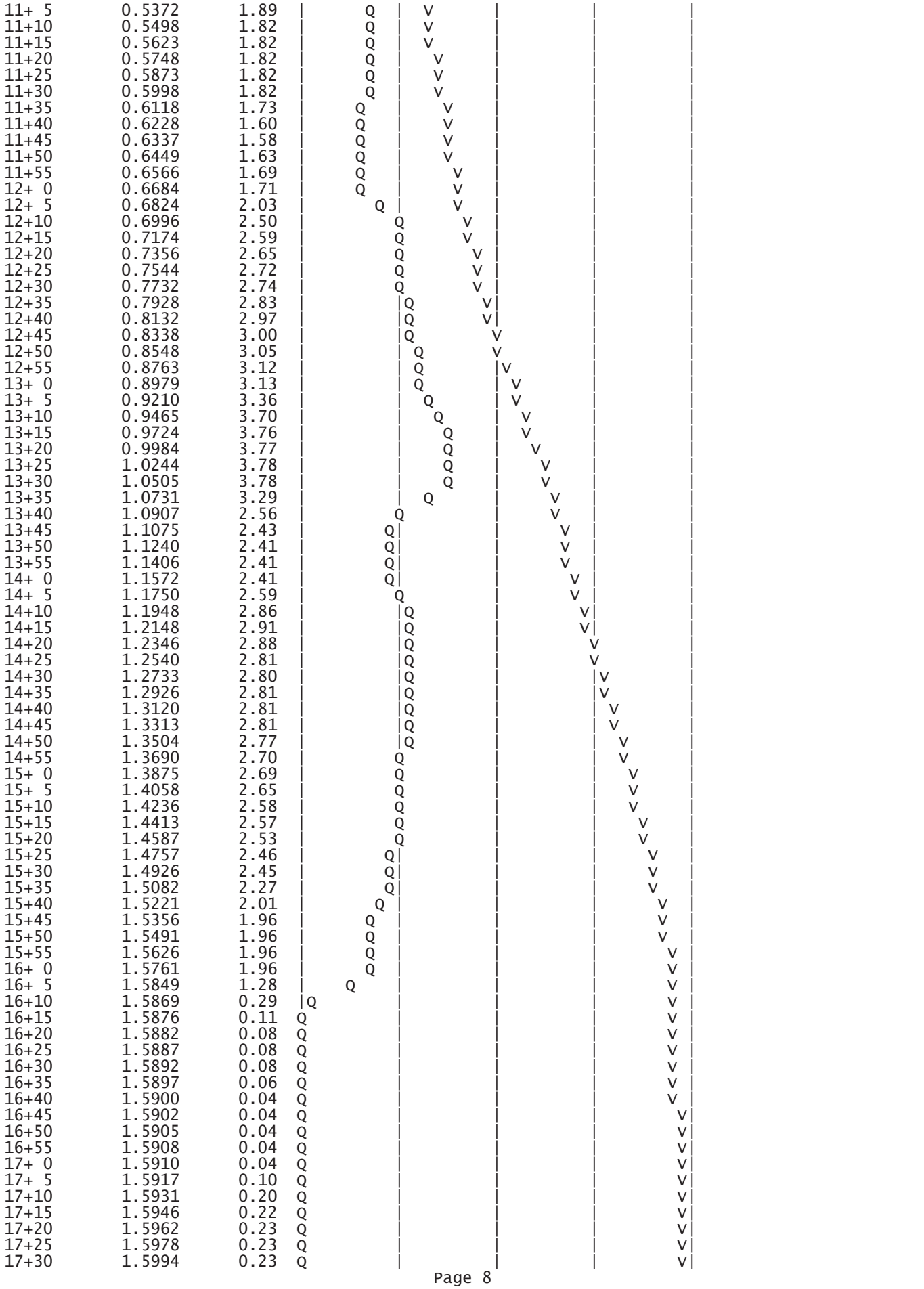
| | | | | | | |
|---|---|---|---|---|---|---|
| 130 | 10.83 | 0.67 | 0.363 | 0.086 | ( 0.327) | 0.277 |
| 131 | 10.92 | 0.67 | 0.363 | 0.086 | ( 0.327) | 0.277 |
| 132 | 11.00 | 0.67 | 0.363 | 0.085 | ( 0.327) | 0.278 |
| 133 | 11.08 | 0.63 | 0.345 | 0.085 | ( 0.311) | 0.260 |
| 134 | 11.17 | 0.63 | 0.345 | 0.085 | ( 0.311) | 0.260 |
| 135 | 11.25 | 0.63 | 0.345 | 0.084 | ( 0.311) | 0.261 |
| 136 | 11.33 | 0.63 | 0.345 | 0.084 | ( 0.311) | 0.261 |
| 137 | 11.42 | 0.63 | 0.345 | 0.083 | ( 0.311) | 0.262 |
| 138 | 11.50 | 0.63 | 0.345 | 0.083 | ( 0.311) | 0.262 |
| 139 | 11.58 | 0.57 | 0.309 | 0.083 | ( 0.278) | 0.226 |
| 140 | 11.67 | 0.57 | 0.309 | 0.082 | ( 0.278) | 0.227 |
| 141 | 11.75 | 0.57 | 0.309 | 0.082 | ( 0.278) | 0.227 |
| 142 | 11.83 | 0.60 | 0.327 | 0.081 | ( 0.294) | 0.246 |
| 143 | 11.92 | 0.60 | 0.327 | 0.081 | ( 0.294) | 0.246 |
| 144 | 12.00 | 0.60 | 0.327 | 0.080 | ( 0.294) | 0.246 |
| 145 | 12.08 | 0.83 | 0.454 | 0.080 | ( 0.409) | 0.374 |
| 146 | 12.17 | 0.83 | 0.454 | 0.080 | ( 0.409) | 0.374 |
| 147 | 12.25 | 0.83 | 0.454 | 0.079 | ( 0.409) | 0.375 |
| 148 | 12.33 | 0.87 | 0.472 | 0.079 | ( 0.425) | 0.393 |
| 149 | 12.42 | 0.87 | 0.472 | 0.078 | ( 0.425) | 0.394 |
| 150 | 12.50 | 0.87 | 0.472 | 0.078 | ( 0.425) | 0.394 |
| 151 | 12.58 | 0.93 | 0.508 | 0.078 | ( 0.458) | 0.431 |
| 152 | 12.67 | 0.93 | 0.508 | 0.077 | ( 0.458) | 0.431 |
| 153 | 12.75 | 0.93 | 0.508 | 0.077 | ( 0.458) | 0.432 |
| 154 | 12.83 | 0.97 | 0.527 | 0.077 | ( 0.474) | 0.450 |
| 155 | 12.92 | 0.97 | 0.527 | 0.076 | ( 0.474) | 0.450 |
| 156 | 13.00 | 0.97 | 0.527 | 0.076 | ( 0.474) | 0.451 |
| 157 | 13.08 | 1.13 | 0.617 | 0.075 | ( 0.556) | 0.542 |
| 158 | 13.17 | 1.13 | 0.617 | 0.075 | ( 0.556) | 0.542 |
| 159 | 13.25 | 1.13 | 0.617 | 0.075 | ( 0.556) | 0.543 |
| 160 | 13.33 | 1.13 | 0.617 | 0.074 | ( 0.556) | 0.543 |
| 161 | 13.42 | 1.13 | 0.617 | 0.074 | ( 0.556) | 0.544 |
| 162 | 13.50 | 1.13 | 0.617 | 0.073 | ( 0.556) | 0.544 |
| 163 | 13.58 | 0.77 | 0.418 | 0.073 | ( 0.376) | 0.345 |
| 164 | 13.67 | 0.77 | 0.418 | 0.073 | ( 0.376) | 0.345 |
| 165 | 13.75 | 0.77 | 0.418 | 0.072 | ( 0.376) | 0.345 |
| 166 | 13.83 | 0.77 | 0.418 | 0.072 | ( 0.376) | 0.346 |
| 167 | 13.92 | 0.77 | 0.418 | 0.072 | ( 0.376) | 0.346 |
| 168 | 14.00 | 0.77 | 0.418 | 0.071 | ( 0.376) | 0.346 |
| 169 | 14.08 | 0.90 | 0.490 | 0.071 | ( 0.441) | 0.419 |
| 170 | 14.17 | 0.90 | 0.490 | 0.071 | ( 0.441) | 0.420 |
| 171 | 14.25 | 0.90 | 0.490 | 0.070 | ( 0.441) | 0.420 |
| 172 | 14.33 | 0.87 | 0.472 | 0.070 | ( 0.425) | 0.402 |
| 173 | 14.42 | 0.87 | 0.472 | 0.069 | ( 0.425) | 0.403 |
| 174 | 14.50 | 0.87 | 0.472 | 0.069 | ( 0.425) | 0.403 |
| 175 | 14.58 | 0.87 | 0.472 | 0.069 | ( 0.425) | 0.403 |
| 176 | 14.67 | 0.87 | 0.472 | 0.068 | ( 0.425) | 0.404 |
| 177 | 14.75 | 0.87 | 0.472 | 0.068 | ( 0.425) | 0.404 |
| 178 | 14.83 | 0.83 | 0.454 | 0.068 | ( 0.409) | 0.386 |
| 179 | 14.92 | 0.83 | 0.454 | 0.067 | ( 0.409) | 0.387 |
| 180 | 15.00 | 0.83 | 0.454 | 0.067 | ( 0.409) | 0.387 |
| 181 | 15.08 | 0.80 | 0.436 | 0.067 | ( 0.392) | 0.369 |
| 182 | 15.17 | 0.80 | 0.436 | 0.066 | ( 0.392) | 0.370 |
| 183 | 15.25 | 0.80 | 0.436 | 0.066 | ( 0.392) | 0.370 |
| 184 | 15.33 | 0.77 | 0.418 | 0.066 | ( 0.376) | 0.352 |
| 185 | 15.42 | 0.77 | 0.418 | 0.065 | ( 0.376) | 0.352 |
| 186 | 15.50 | 0.77 | 0.418 | 0.065 | ( 0.376) | 0.353 |
| 187 | 15.58 | 0.63 | 0.345 | 0.065 | ( 0.311) | 0.280 |
| 188 | 15.67 | 0.63 | 0.345 | 0.064 | ( 0.311) | 0.281 |
| 189 | 15.75 | 0.63 | 0.345 | 0.064 | ( 0.311) | 0.281 |
| 190 | 15.83 | 0.63 | 0.345 | 0.064 | ( 0.311) | 0.281 |
| 191 | 15.92 | 0.63 | 0.345 | 0.063 | ( 0.311) | 0.282 |
| 192 | 16.00 | 0.63 | 0.345 | 0.063 | ( 0.311) | 0.282 |
| 193 | 16.08 | 0.13 | 0.073 | 0.063 | ( 0.065) | 0.010 |
| 194 | 16.17 | 0.13 | 0.073 | 0.062 | ( 0.065) | 0.010 |
| 195 | 16.25 | 0.13 | 0.073 | 0.062 | ( 0.065) | 0.011 |
| 196 | 16.33 | 0.13 | 0.073 | 0.062 | ( 0.065) | 0.011 |
| 197 | 16.42 | 0.13 | 0.073 | 0.061 | ( 0.065) | 0.011 |
| 198 | 16.50 | 0.13 | 0.073 | 0.061 | ( 0.065) | 0.012 |
| 199 | 16.58 | 0.10 | 0.054 | ( 0.061) | 0.049 | 0.005 |
| 200 | 16.67 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 201 | 16.75 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 202 | 16.83 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 203 | 16.92 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 204 | 17.00 | 0.10 | 0.054 | ( 0.059) | 0.049 | 0.005 |
| 205 | 17.08 | 0.17 | 0.091 | 0.059 | ( 0.082) | 0.032 |
| 206 | 17.17 | 0.17 | 0.091 | 0.059 | ( 0.082) | 0.032 |
| 207 | 17.25 | 0.17 | 0.091 | 0.058 | ( 0.082) | 0.032 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 208 | 17.33 | 0.17 | 0.091 | 0.058 | ( 0.082) | 0.033 |
| 209 | 17.42 | 0.17 | 0.091 | 0.058 | ( 0.082) | 0.033 |
| 210 | 17.50 | 0.17 | 0.091 | 0.058 | ( 0.082) | 0.033 |
| 211 | 17.58 | 0.17 | 0.091 | 0.057 | ( 0.082) | 0.034 |
| 212 | 17.67 | 0.17 | 0.091 | 0.057 | ( 0.082) | 0.034 |
| 213 | 17.75 | 0.17 | 0.091 | 0.057 | ( 0.082) | 0.034 |
| 214 | 17.83 | 0.13 | 0.073 | 0.056 | ( 0.065) | 0.016 |
| 215 | 17.92 | 0.13 | 0.073 | 0.056 | ( 0.065) | 0.017 |
| 216 | 18.00 | 0.13 | 0.073 | 0.056 | ( 0.065) | 0.017 |
| 217 | 18.08 | 0.13 | 0.073 | 0.056 | ( 0.065) | 0.017 |
| 218 | 18.17 | 0.13 | 0.073 | 0.055 | ( 0.065) | 0.017 |
| 219 | 18.25 | 0.13 | 0.073 | 0.055 | ( 0.065) | 0.018 |
| 220 | 18.33 | 0.13 | 0.073 | 0.055 | ( 0.065) | 0.018 |
| 221 | 18.42 | 0.13 | 0.073 | 0.054 | ( 0.065) | 0.018 |
| 222 | 18.50 | 0.13 | 0.073 | 0.054 | ( 0.065) | 0.018 |
| 223 | 18.58 | 0.10 | 0.054 | ( 0.054) | 0.049 | 0.005 |
| 224 | 18.67 | 0.10 | 0.054 | ( 0.054) | 0.049 | 0.005 |
| 225 | 18.75 | 0.10 | 0.054 | ( 0.053) | 0.049 | 0.005 |
| 226 | 18.83 | 0.07 | 0.036 | ( 0.053) | 0.033 | 0.004 |
| 227 | 18.92 | 0.07 | 0.036 | ( 0.053) | 0.033 | 0.004 |
| 228 | 19.00 | 0.07 | 0.036 | ( 0.053) | 0.033 | 0.004 |
| 229 | 19.08 | 0.10 | 0.054 | ( 0.052) | 0.049 | 0.005 |
| 230 | 19.17 | 0.10 | 0.054 | ( 0.052) | 0.049 | 0.005 |
| 231 | 19.25 | 0.10 | 0.054 | ( 0.052) | 0.049 | 0.005 |
| 232 | 19.33 | 0.13 | 0.073 | 0.052 | ( 0.065) | 0.021 |
| 233 | 19.42 | 0.13 | 0.073 | 0.051 | ( 0.065) | 0.021 |
| 234 | 19.50 | 0.13 | 0.073 | 0.051 | ( 0.065) | 0.021 |
| 235 | 19.58 | 0.10 | 0.054 | ( 0.051) | 0.049 | 0.005 |
| 236 | 19.67 | 0.10 | 0.054 | ( 0.051) | 0.049 | 0.005 |
| 237 | 19.75 | 0.10 | 0.054 | ( 0.050) | 0.049 | 0.005 |
| 238 | 19.83 | 0.07 | 0.036 | ( 0.050) | 0.033 | 0.004 |
| 239 | 19.92 | 0.07 | 0.036 | ( 0.050) | 0.033 | 0.004 |
| 240 | 20.00 | 0.07 | 0.036 | ( 0.050) | 0.033 | 0.004 |
| 241 | 20.08 | 0.10 | 0.054 | ( 0.050) | 0.049 | 0.005 |
| 242 | 20.17 | 0.10 | 0.054 | ( 0.049) | 0.049 | 0.005 |
| 243 | 20.25 | 0.10 | 0.054 | ( 0.049) | 0.049 | 0.005 |
| 244 | 20.33 | 0.10 | 0.054 | 0.049 | ( 0.049) | 0.006 |
| 245 | 20.42 | 0.10 | 0.054 | 0.049 | ( 0.049) | 0.006 |
| 246 | 20.50 | 0.10 | 0.054 | 0.049 | ( 0.049) | 0.006 |
| 247 | 20.58 | 0.10 | 0.054 | 0.048 | ( 0.049) | 0.006 |
| 248 | 20.67 | 0.10 | 0.054 | 0.048 | ( 0.049) | 0.006 |
| 249 | 20.75 | 0.10 | 0.054 | 0.048 | ( 0.049) | 0.007 |
| 250 | 20.83 | 0.07 | 0.036 | ( 0.048) | 0.033 | 0.004 |
| 251 | 20.92 | 0.07 | 0.036 | ( 0.048) | 0.033 | 0.004 |
| 252 | 21.00 | 0.07 | 0.036 | ( 0.047) | 0.033 | 0.004 |
| 253 | 21.08 | 0.10 | 0.054 | 0.047 | ( 0.049) | 0.007 |
| 254 | 21.17 | 0.10 | 0.054 | 0.047 | ( 0.049) | 0.007 |
| 255 | 21.25 | 0.10 | 0.054 | 0.047 | ( 0.049) | 0.008 |
| 256 | 21.33 | 0.07 | 0.036 | ( 0.047) | 0.033 | 0.004 |
| 257 | 21.42 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 258 | 21.50 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 259 | 21.58 | 0.10 | 0.054 | 0.046 | ( 0.049) | 0.008 |
| 260 | 21.67 | 0.10 | 0.054 | 0.046 | ( 0.049) | 0.009 |
| 261 | 21.75 | 0.10 | 0.054 | 0.046 | ( 0.049) | 0.009 |
| 262 | 21.83 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 263 | 21.92 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 264 | 22.00 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 265 | 22.08 | 0.10 | 0.054 | 0.045 | ( 0.049) | 0.009 |
| 266 | 22.17 | 0.10 | 0.054 | 0.045 | ( 0.049) | 0.009 |
| 267 | 22.25 | 0.10 | 0.054 | 0.045 | ( 0.049) | 0.010 |
| 268 | 22.33 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 269 | 22.42 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 270 | 22.50 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 271 | 22.58 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 272 | 22.67 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 273 | 22.75 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 274 | 22.83 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 275 | 22.92 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 276 | 23.00 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 277 | 23.08 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 278 | 23.17 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 279 | 23.25 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 280 | 23.33 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 281 | 23.42 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 284 | 23.67 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 285 | 23.75 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |

```
286  23.83     0.07      0.036       (  0.043)       0.033        0.004
287  23.92     0.07      0.036       (  0.043)       0.033        0.004
288  24.00     0.07      0.036       (  0.043)       0.033        0.004
              (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    34.0
       Flood volume = Effective rainfall      2.84(In)
        times area       6.9(Ac.)/[(In)/(Ft.)] =       1.6(Ac.Ft)
       Total soil loss =      1.70(In)
       Total soil loss =     0.980(Ac.Ft)
       Total rainfall =      4.54(In)
       Flood volume =       71037.9 Cubic Feet
       Total soil loss =       42674.0 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =      3.782(CFS)
       ---------------------------------------------------------------------
       +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
       ---------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))

       ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ----------------------------------------------------------------------------
   0+ 5       0.0001      0.01  Q          |         |         |         |
   0+10       0.0002      0.02  Q          |         |         |         |
   0+15       0.0004      0.02  Q          |         |         |         |
   0+20       0.0006      0.03  Q          |         |         |         |
   0+25       0.0008      0.04  Q          |         |         |         |
   0+30       0.0011      0.04  Q          |         |         |         |
   0+35       0.0014      0.04  Q          |         |         |         |
   0+40       0.0016      0.04  Q          |         |         |         |
   0+45       0.0019      0.04  Q          |         |         |         |
   0+50       0.0022      0.04  Q          |         |         |         |
   0+55       0.0025      0.05  Q          |         |         |         |
   1+ 0       0.0029      0.05  Q          |         |         |         |
   1+ 5       0.0032      0.05  Q          |         |         |         |
   1+10       0.0034      0.04  Q          |         |         |         |
   1+15       0.0037      0.04  Q          |         |         |         |
   1+20       0.0040      0.04  Q          |         |         |         |
   1+25       0.0042      0.04  Q          |         |         |         |
   1+30       0.0045      0.04  Q          |         |         |         |
   1+35       0.0048      0.04  Q          |         |         |         |
   1+40       0.0050      0.04  Q          |         |         |         |
   1+45       0.0053      0.04  Q          |         |         |         |
   1+50       0.0056      0.04  Q          |         |         |         |
   1+55       0.0059      0.05  Q          |         |         |         |
   2+ 0       0.0063      0.05  Q          |         |         |         |
   2+ 5       0.0066      0.05  Q          |         |         |         |
   2+10       0.0070      0.05  Q          |         |         |         |
   2+15       0.0073      0.05  Q          |         |         |         |
   2+20       0.0076      0.05  Q          |         |         |         |
   2+25       0.0080      0.05  Q          |         |         |         |
   2+30       0.0083      0.05  Q          |         |         |         |
   2+35       0.0087      0.06  Q          |         |         |         |
   2+40       0.0091      0.06  Q          |         |         |         |
   2+45       0.0096      0.06  Q          |         |         |         |
   2+50       0.0100      0.06  Q          |         |         |         |
   2+55       0.0105      0.06  Q          |         |         |         |
   3+ 0       0.0109      0.06  Q          |         |         |         |
   3+ 5       0.0113      0.06  Q          |         |         |         |
   3+10       0.0118      0.06  Q          |         |         |         |
   3+15       0.0122      0.06  Q          |         |         |         |
   3+20       0.0126      0.06  Q          |         |         |         |
   3+25       0.0131      0.06  Q          |         |         |         |
   3+30       0.0135      0.06  Q          |         |         |         |
   3+35       0.0139      0.06  Q          |         |         |         |
   3+40       0.0144      0.06  Q          |         |         |         |
   3+45       0.0148      0.06  Q          |         |         |         |
   3+50       0.0153      0.07  Q          |         |         |         |
   3+55       0.0158      0.07  Q          |         |         |         |
   4+ 0       0.0163      0.08  Q          |         |         |         |
   4+ 5       0.0168      0.08  Q          |         |         |         |
   4+10       0.0173      0.08  Q          |         |         |         |
   4+15       0.0179      0.08  Q          |         |         |         |
   4+20       0.0184      0.08  Q          |         |         |         |
   4+25       0.0190      0.09  Q          |         |         |         |
   4+30       0.0196      0.09  Q          |         |         |         |
```

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 4+35       0.0202       0.09  Q          |          |          |          |
 4+40       0.0208       0.09  Q          |          |          |          |
 4+45       0.0215       0.09  Q          |          |          |          |
 4+50       0.0223       0.12  Q          |          |          |          |
 4+55       0.0234       0.16  Q          |          |          |          |
 5+ 0       0.0246       0.18  Q          |          |          |          |
 5+ 5       0.0256       0.14  Q          |          |          |          |
 5+10       0.0262       0.09  Q          |          |          |          |
 5+15       0.0267       0.08  Q          |          |          |          |
 5+20       0.0273       0.08  Q          |          |          |          |
 5+25       0.0279       0.09  Q          |          |          |          |
 5+30       0.0285       0.09  Q          |          |          |          |
 5+35       0.0294       0.13  Q          |          |          |          |
 5+40       0.0307       0.19  Q          |          |          |          |
 5+45       0.0321       0.21  Q          |          |          |          |
 5+50       0.0336       0.21  Q          |          |          |          |
 5+55       0.0351       0.22  Q          |          |          |          |
 6+ 0       0.0366       0.22  Q          |          |          |          |
 6+ 5       0.0385       0.27  VQ         |          |          |          |
 6+10       0.0408       0.34  |Q         |          |          |          |
 6+15       0.0432       0.35  |Q         |          |          |          |
 6+20       0.0457       0.36  |Q         |          |          |          |
 6+25       0.0482       0.36  |Q         |          |          |          |
 6+30       0.0508       0.37  |Q         |          |          |          |
 6+35       0.0536       0.42  |Q         |          |          |          |
 6+40       0.0570       0.49  |Q         |          |          |          |
 6+45       0.0604       0.50  |VQ        |          |          |          |
 6+50       0.0639       0.51  |VQ        |          |          |          |
 6+55       0.0674       0.51  |VQ        |          |          |          |
 7+ 0       0.0710       0.51  |VQ        |          |          |          |
 7+ 5       0.0745       0.52  |VQ        |          |          |          |
 7+10       0.0781       0.52  |VQ        |          |          |          |
 7+15       0.0817       0.52  | Q        |          |          |          |
 7+20       0.0857       0.57  | Q        |          |          |          |
 7+25       0.0901       0.64  | Q        |          |          |          |
 7+30       0.0947       0.66  | Q        |          |          |          |
 7+35       0.0995       0.71  | Q        |          |          |          |
 7+40       0.1049       0.78  | VQ       |          |          |          |
 7+45       0.1104       0.79  | VQ       |          |          |          |
 7+50       0.1162       0.85  | VQ       |          |          |          |
 7+55       0.1225       0.92  |  Q       |          |          |          |
 8+ 0       0.1289       0.93  |  Q       |          |          |          |
 8+ 5       0.1360       1.03  |  VQ      |          |          |          |
 8+10       0.1440       1.16  |  VQ      |          |          |          |
 8+15       0.1522       1.19  |  VQ      |          |          |          |
 8+20       0.1605       1.20  |  VQ      |          |          |          |
 8+25       0.1688       1.20  |   Q      |          |          |          |
 8+30       0.1771       1.21  |   Q      |          |          |          |
 8+35       0.1857       1.25  |   VQ     |          |          |          |
 8+40       0.1948       1.32  |   VQ     |          |          |          |
 8+45       0.2040       1.34  |    Q     |          |          |          |
 8+50       0.2136       1.39  |    Q     |          |          |          |
 8+55       0.2237       1.46  |    Q     |          |          |          |
 9+ 0       0.2338       1.48  |    Q     |          |          |          |
 9+ 5       0.2446       1.57  |     Q    |          |          |          |
 9+10       0.2564       1.71  |     Q    |          |          |          |
 9+15       0.2684       1.73  |     Q    |          |          |          |
 9+20       0.2807       1.79  |     VQ   |          |          |          |
 9+25       0.2935       1.86  |      Q   |          |          |          |
 9+30       0.3064       1.87  |      Q   |          |          |          |
 9+35       0.3196       1.92  |      Q   |          |          |          |
 9+40       0.3333       1.99  |      QV  |          |          |          |
 9+45       0.3472       2.01  |       Q  |          |          |          |
 9+50       0.3614       2.06  |       Q  |          |          |          |
 9+55       0.3760       2.13  |       QV |          |          |          |
10+ 0       0.3908       2.14  |       QV |          |          |          |
10+ 5       0.4034       1.83  |      Q V |          |          |          |
10+10       0.4128       1.37  |    Q     V          |          |          |
10+15       0.4217       1.29  |    Q     V          |          |          |
10+20       0.4305       1.28  |    Q     V          |          |          |
10+25       0.4393       1.28  |    Q     V          |          |          |
10+30       0.4481       1.28  |    Q     V          |          |          |
10+35       0.4585       1.51  |     Q    |V         |          |          |
10+40       0.4713       1.85  |      Q   |V         |          |          |
10+45       0.4844       1.91  |      Q   |V         |          |          |
10+50       0.4976       1.92  |      Q   | V        |          |          |
10+55       0.5109       1.93  |      Q   | V        |          |          |
11+ 0       0.5242       1.93  |      Q   | V        |          |          |
```



| | | | |
|---|---|---|---|
| 11+ 5 | 0.5372 | 1.89 | |
| 11+10 | 0.5498 | 1.82 | |
| 11+15 | 0.5623 | 1.82 | |
| 11+20 | 0.5748 | 1.82 | |
| 11+25 | 0.5873 | 1.82 | |
| 11+30 | 0.5998 | 1.82 | |
| 11+35 | 0.6118 | 1.73 | |
| 11+40 | 0.6228 | 1.60 | |
| 11+45 | 0.6337 | 1.58 | |
| 11+50 | 0.6449 | 1.63 | |
| 11+55 | 0.6566 | 1.69 | |
| 12+ 0 | 0.6684 | 1.71 | |
| 12+ 5 | 0.6824 | 2.03 | |
| 12+10 | 0.6996 | 2.50 | |
| 12+15 | 0.7174 | 2.59 | |
| 12+20 | 0.7356 | 2.65 | |
| 12+25 | 0.7544 | 2.72 | |
| 12+30 | 0.7732 | 2.74 | |
| 12+35 | 0.7928 | 2.83 | |
| 12+40 | 0.8132 | 2.97 | |
| 12+45 | 0.8338 | 3.00 | |
| 12+50 | 0.8548 | 3.05 | |
| 12+55 | 0.8763 | 3.12 | |
| 13+ 0 | 0.8979 | 3.13 | |
| 13+ 5 | 0.9210 | 3.36 | |
| 13+10 | 0.9465 | 3.70 | |
| 13+15 | 0.9724 | 3.76 | |
| 13+20 | 0.9984 | 3.77 | |
| 13+25 | 1.0244 | 3.78 | |
| 13+30 | 1.0505 | 3.78 | |
| 13+35 | 1.0731 | 3.29 | |
| 13+40 | 1.0907 | 2.56 | |
| 13+45 | 1.1075 | 2.43 | |
| 13+50 | 1.1240 | 2.41 | |
| 13+55 | 1.1406 | 2.41 | |
| 14+ 0 | 1.1572 | 2.41 | |
| 14+ 5 | 1.1750 | 2.59 | |
| 14+10 | 1.1948 | 2.86 | |
| 14+15 | 1.2148 | 2.91 | |
| 14+20 | 1.2346 | 2.88 | |
| 14+25 | 1.2540 | 2.81 | |
| 14+30 | 1.2733 | 2.80 | |
| 14+35 | 1.2926 | 2.81 | |
| 14+40 | 1.3120 | 2.81 | |
| 14+45 | 1.3313 | 2.81 | |
| 14+50 | 1.3504 | 2.77 | |
| 14+55 | 1.3690 | 2.70 | |
| 15+ 0 | 1.3875 | 2.69 | |
| 15+ 5 | 1.4058 | 2.65 | |
| 15+10 | 1.4236 | 2.58 | |
| 15+15 | 1.4413 | 2.57 | |
| 15+20 | 1.4587 | 2.53 | |
| 15+25 | 1.4757 | 2.46 | |
| 15+30 | 1.4926 | 2.45 | |
| 15+35 | 1.5082 | 2.27 | |
| 15+40 | 1.5221 | 2.01 | |
| 15+45 | 1.5356 | 1.96 | |
| 15+50 | 1.5491 | 1.96 | |
| 15+55 | 1.5626 | 1.96 | |
| 16+ 0 | 1.5761 | 1.96 | |
| 16+ 5 | 1.5849 | 1.28 | |
| 16+10 | 1.5869 | 0.29 | |
| 16+15 | 1.5876 | 0.11 | |
| 16+20 | 1.5882 | 0.08 | |
| 16+25 | 1.5887 | 0.08 | |
| 16+30 | 1.5892 | 0.08 | |
| 16+35 | 1.5897 | 0.06 | |
| 16+40 | 1.5900 | 0.04 | |
| 16+45 | 1.5902 | 0.04 | |
| 16+50 | 1.5905 | 0.04 | |
| 16+55 | 1.5908 | 0.04 | |
| 17+ 0 | 1.5910 | 0.04 | |
| 17+ 5 | 1.5917 | 0.10 | |
| 17+10 | 1.5931 | 0.20 | |
| 17+15 | 1.5946 | 0.22 | |
| 17+20 | 1.5962 | 0.23 | |
| 17+25 | 1.5978 | 0.23 | |
| 17+30 | 1.5994 | 0.23 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+35 | 1.6010 | 0.23 | Q | \| | \| | \| | V\| |
| 17+40 | 1.6026 | 0.23 | Q | \| | \| | \| | V\| |
| 17+45 | 1.6042 | 0.24 | Q | \| | \| | \| | V\| |
| 17+50 | 1.6055 | 0.19 | Q | \| | \| | \| | V\| |
| 17+55 | 1.6064 | 0.13 | Q | \| | \| | \| | V\| |
| 18+ 0 | 1.6072 | 0.12 | Q | \| | \| | \| | V\| |
| 18+ 5 | 1.6080 | 0.12 | Q | \| | \| | \| | V\| |
| 18+10 | 1.6089 | 0.12 | Q | \| | \| | \| | V\| |
| 18+15 | 1.6097 | 0.12 | Q | \| | \| | \| | V\| |
| 18+20 | 1.6105 | 0.12 | Q | \| | \| | \| | V\| |
| 18+25 | 1.6114 | 0.13 | Q | \| | \| | \| | V\| |
| 18+30 | 1.6123 | 0.13 | Q | \| | \| | \| | V\| |
| 18+35 | 1.6129 | 0.10 | Q | \| | \| | \| | V\| |
| 18+40 | 1.6133 | 0.05 | Q | \| | \| | \| | V\| |
| 18+45 | 1.6135 | 0.04 | Q | \| | \| | \| | V\| |
| 18+50 | 1.6138 | 0.03 | Q | \| | \| | \| | V\| |
| 18+55 | 1.6139 | 0.03 | Q | \| | \| | \| | V\| |
| 19+ 0 | 1.6141 | 0.03 | Q | \| | \| | \| | V\| |
| 19+ 5 | 1.6143 | 0.03 | Q | \| | \| | \| | V\| |
| 19+10 | 1.6146 | 0.04 | Q | \| | \| | \| | V\| |
| 19+15 | 1.6148 | 0.04 | Q | \| | \| | \| | V\| |
| 19+20 | 1.6154 | 0.08 | Q | \| | \| | \| | V\| |
| 19+25 | 1.6163 | 0.13 | Q | \| | \| | \| | V\| |
| 19+30 | 1.6173 | 0.15 | Q | \| | \| | \| | V\| |
| 19+35 | 1.6180 | 0.11 | Q | \| | \| | \| | V\| |
| 19+40 | 1.6184 | 0.05 | Q | \| | \| | \| | V\| |
| 19+45 | 1.6187 | 0.04 | Q | \| | \| | \| | V\| |
| 19+50 | 1.6189 | 0.03 | Q | \| | \| | \| | V\| |
| 19+55 | 1.6191 | 0.03 | Q | \| | \| | \| | V\| |
| 20+ 0 | 1.6193 | 0.03 | Q | \| | \| | \| | V\| |
| 20+ 5 | 1.6195 | 0.03 | Q | \| | \| | \| | V\| |
| 20+10 | 1.6197 | 0.04 | Q | \| | \| | \| | V\| |
| 20+15 | 1.6200 | 0.04 | Q | \| | \| | \| | V\| |
| 20+20 | 1.6202 | 0.04 | Q | \| | \| | \| | V\| |
| 20+25 | 1.6205 | 0.04 | Q | \| | \| | \| | V\| |
| 20+30 | 1.6208 | 0.04 | Q | \| | \| | \| | V\| |
| 20+35 | 1.6211 | 0.04 | Q | \| | \| | \| | V\| |
| 20+40 | 1.6214 | 0.04 | Q | \| | \| | \| | V\| |
| 20+45 | 1.6217 | 0.04 | Q | \| | \| | \| | V\| |
| 20+50 | 1.6219 | 0.04 | Q | \| | \| | \| | V\| |
| 20+55 | 1.6221 | 0.03 | Q | \| | \| | \| | V\| |
| 21+ 0 | 1.6223 | 0.03 | Q | \| | \| | \| | V\| |
| 21+ 5 | 1.6225 | 0.03 | Q | \| | \| | \| | V\| |
| 21+10 | 1.6229 | 0.05 | Q | \| | \| | \| | V\| |
| 21+15 | 1.6232 | 0.05 | Q | \| | \| | \| | V\| |
| 21+20 | 1.6235 | 0.04 | Q | \| | \| | \| | V\| |
| 21+25 | 1.6237 | 0.03 | Q | \| | \| | \| | V\| |
| 21+30 | 1.6239 | 0.03 | Q | \| | \| | \| | V\| |
| 21+35 | 1.6242 | 0.04 | Q | \| | \| | \| | V\| |
| 21+40 | 1.6245 | 0.05 | Q | \| | \| | \| | V\| |
| 21+45 | 1.6249 | 0.06 | Q | \| | \| | \| | V\| |
| 21+50 | 1.6253 | 0.05 | Q | \| | \| | \| | V\| |
| 21+55 | 1.6255 | 0.03 | Q | \| | \| | \| | V\| |
| 22+ 0 | 1.6257 | 0.03 | Q | \| | \| | \| | V\| |
| 22+ 5 | 1.6259 | 0.04 | Q | \| | \| | \| | V\| |
| 22+10 | 1.6263 | 0.06 | Q | \| | \| | \| | V\| |
| 22+15 | 1.6268 | 0.07 | Q | \| | \| | \| | V\| |
| 22+20 | 1.6271 | 0.05 | Q | \| | \| | \| | V\| |
| 22+25 | 1.6274 | 0.03 | Q | \| | \| | \| | V\| |
| 22+30 | 1.6275 | 0.03 | Q | \| | \| | \| | V\| |
| 22+35 | 1.6277 | 0.03 | Q | \| | \| | \| | V\| |
| 22+40 | 1.6279 | 0.03 | Q | \| | \| | \| | V\| |
| 22+45 | 1.6281 | 0.03 | Q | \| | \| | \| | V\| |
| 22+50 | 1.6282 | 0.03 | Q | \| | \| | \| | V\| |
| 22+55 | 1.6284 | 0.03 | Q | \| | \| | \| | V\| |
| 23+ 0 | 1.6286 | 0.03 | Q | \| | \| | \| | V\| |
| 23+ 5 | 1.6288 | 0.03 | Q | \| | \| | \| | V\| |
| 23+10 | 1.6289 | 0.03 | Q | \| | \| | \| | V\| |
| 23+15 | 1.6291 | 0.03 | Q | \| | \| | \| | V\| |
| 23+20 | 1.6293 | 0.03 | Q | \| | \| | \| | V\| |
| 23+25 | 1.6295 | 0.03 | Q | \| | \| | \| | V\| |
| 23+30 | 1.6296 | 0.03 | Q | \| | \| | \| | V\| |
| 23+35 | 1.6298 | 0.03 | Q | \| | \| | \| | V\| |
| 23+40 | 1.6300 | 0.03 | Q | \| | \| | \| | V\| |
| 23+45 | 1.6301 | 0.03 | Q | \| | \| | \| | V\| |
| 23+50 | 1.6303 | 0.03 | Q | \| | \| | \| | V\| |
| 23+55 | 1.6305 | 0.03 | Q | \| | \| | \| | V\| |
| 24+ 0 | 1.6307 | 0.03 | Q | \| | \| | \| | V\| |

```
   24+ 5       1.6308      0.02  Q         |          |          |         V|
   24+10       1.6308      0.00  Q         |          |          |         V|
   24+15       1.6308      0.00  Q         |          |          |         V|
   24+20       1.6308      0.00  Q         |          |          |          V
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX141100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 14
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.60(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.60(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 304.00(Ft.)
Length along longest watercourse measured to centroid = 158.00(Ft.)
Length along longest watercourse = 0.058 Mi.
Length along longest watercourse measured to centroid = 0.030 Mi.
Difference in elevation = 78.00(Ft.)
Slope along watercourse = 1354.7368 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.019 Hr.
Lag time = 1.14 Min.
25% of lag time = 0.29 Min.
40% of lag time = 0.46 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 0.49 | 0.29 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 1.20 | 0.72 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.490(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.600 | 84.00 | 0.000 |

Total Area Entered = 0.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

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| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 438.341 | 69.984 | 0.423 |
| 2 0.167 | 876.682 | 30.016 | 0.182 |
| | Sum = 100.000 | Sum= | 0.605 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 4.20 | 0.605 | 0.086 | ( 0.544) | 0.519 |
| 2 0.17 | 4.30 | 0.619 | 0.086 | ( 0.557) | 0.533 |
| 3 0.25 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 4 0.33 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 5 0.42 | 5.80 | 0.835 | 0.086 | ( 0.752) | 0.749 |
| 6 0.50 | 6.50 | 0.936 | 0.086 | ( 0.842) | 0.850 |
| 7 0.58 | 7.40 | 1.066 | 0.086 | ( 0.959) | 0.980 |
| 8 0.67 | 8.60 | 1.238 | 0.086 | ( 1.115) | 1.153 |
| 9 0.75 | 12.30 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 10 0.83 | 29.10 | 4.190 | 0.086 | ( 3.771) | 4.105 |
| 11 0.92 | 6.80 | 0.979 | 0.086 | ( 0.881) | 0.893 |
| 12 1.00 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 13.4 |

Flood volume = Effective rainfall 1.11(In)
times area 0.6(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.004(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 2426.7 Cubic Feet
Total soil loss = 186.9 Cubic Feet

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Peak flow rate of this hydrograph = 2.044(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0015 | 0.22 | QV | | | | |
| 0+10 | 0.0037 | 0.32 | \|QV | | | | |
| 0+15 | 0.0062 | 0.37 | \|Q V | | | | |
| 0+20 | 0.0089 | 0.38 | \|Q V | | | | |
| 0+25 | 0.0119 | 0.43 | \|Q V | | | | |
| 0+30 | 0.0153 | 0.50 | \|Q V | | | | |
| 0+35 | 0.0192 | 0.57 | \| Q \| V | | | | |
| 0+40 | 0.0238 | 0.67 | \| Q \| V | | | | |
| 0+45 | 0.0301 | 0.92 | \| Q \| V | | | | |
| 0+50 | 0.0442 | 2.04 | \| Q \| V | | | | |
| 0+55 | 0.0519 | 1.12 | \| Q \| V | | | | |
| 1+ 0 | 0.0549 | 0.43 | \|Q \| V | | | | |
| 1+ 5 | 0.0557 | 0.12 | Q \| V | | | | |

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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX143100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 14
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.60(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.60(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 304.00(Ft.)
Length along longest watercourse measured to centroid = 158.00(Ft.)
Length along longest watercourse = 0.058 Mi.
Length along longest watercourse measured to centroid = 0.030 Mi.
Difference in elevation = 78.00(Ft.)
Slope along watercourse = 1354.7368 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.019 Hr.
Lag time = 1.14 Min.
25% of lag time = 0.29 Min.
40% of lag time = 0.46 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 0.80 | 0.48 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 1.80 | 1.08 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.600 | 84.00 | 0.000 |

Total Area Entered = 0.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 438.341 | 69.984 | 0.423 |
| 2 | 0.167 | 876.682 | 30.016 | 0.182 |
| | | | Sum = 100.000 Sum= | 0.605 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.281 | 0.086 | ( 0.253) | 0.195 |
| 2 | 0.17 | 1.30 | 0.281 | 0.086 | ( 0.253) | 0.195 |
| 3 | 0.25 | 1.10 | 0.238 | 0.086 | ( 0.214) | 0.152 |
| 4 | 0.33 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 5 | 0.42 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 6 | 0.50 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 7 | 0.58 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 8 | 0.67 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 9 | 0.75 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 10 | 0.83 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 11 | 0.92 | 1.60 | 0.346 | 0.086 | ( 0.311) | 0.260 |
| 12 | 1.00 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 13 | 1.08 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 14 | 1.17 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 15 | 1.25 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 16 | 1.33 | 2.00 | 0.432 | 0.086 | ( 0.389) | 0.346 |
| 17 | 1.42 | 2.60 | 0.562 | 0.086 | ( 0.505) | 0.476 |
| 18 | 1.50 | 2.70 | 0.583 | 0.086 | ( 0.525) | 0.497 |
| 19 | 1.58 | 2.40 | 0.518 | 0.086 | ( 0.467) | 0.433 |
| 20 | 1.67 | 2.70 | 0.583 | 0.086 | ( 0.525) | 0.497 |
| 21 | 1.75 | 3.30 | 0.713 | 0.086 | ( 0.642) | 0.627 |
| 22 | 1.83 | 3.10 | 0.670 | 0.086 | ( 0.603) | 0.584 |
| 23 | 1.92 | 2.90 | 0.626 | 0.086 | ( 0.564) | 0.541 |
| 24 | 2.00 | 3.00 | 0.648 | 0.086 | ( 0.583) | 0.562 |
| 25 | 2.08 | 3.10 | 0.670 | 0.086 | ( 0.603) | 0.584 |
| 26 | 2.17 | 4.20 | 0.907 | 0.086 | ( 0.816) | 0.821 |
| 27 | 2.25 | 5.00 | 1.080 | 0.086 | ( 0.972) | 0.994 |
| 28 | 2.33 | 3.50 | 0.756 | 0.086 | ( 0.680) | 0.670 |
| 29 | 2.42 | 6.80 | 1.469 | 0.086 | ( 1.322) | 1.383 |
| 30 | 2.50 | 7.30 | 1.577 | 0.086 | ( 1.419) | 1.491 |
| 31 | 2.58 | 8.20 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 32 | 2.67 | 5.90 | 1.274 | 0.086 | ( 1.147) | 1.189 |
| 33 | 2.75 | 2.00 | 0.432 | 0.086 | ( 0.389) | 0.346 |
| 34 | 2.83 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 35 | 2.92 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 36 | 3.00 | 0.60 | 0.130 | 0.086 | ( 0.117) | 0.044 |
| | | (Loss Rate Not Used) | | | |
| Sum = | | 100.0 | | | Sum = 18.5 |

Flood volume = Effective rainfall 1.54(In)
times area 0.6(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.013(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 3359.8 Cubic Feet
Total soil loss = 560.6 Cubic Feet

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Peak flow rate of this hydrograph = 0.984(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0006 | 0.08 | Q | | | | |
| 0+10 | 0.0014 | 0.12 | Q | | | | |
| 0+15 | 0.0021 | 0.10 | QV | | | | |
| 0+20 | 0.0030 | 0.13 | QV | | | | |
| 0+25 | 0.0039 | 0.14 | Q V | | | | |
| 0+30 | 0.0051 | 0.17 | Q V | | | | |
| 0+35 | 0.0062 | 0.16 | Q V | | | | |
| 0+40 | 0.0074 | 0.17 | Q V | | | | |
| 0+45 | 0.0086 | 0.18 | Q V | | | | |
| 0+50 | 0.0097 | 0.16 | Q V | | | | |
| 0+55 | 0.0108 | 0.15 | Q V | | | | |
| 1+ 0 | 0.0120 | 0.18 | Q V | | | | |
| 1+ 5 | 0.0135 | 0.22 | Q V | | | | |
| 1+10 | 0.0151 | 0.24 | Q V | | | | |
| 1+15 | 0.0167 | 0.24 | Q V | | | | |
| 1+20 | 0.0182 | 0.22 | Q V | | | | |
| 1+25 | 0.0201 | 0.26 | \|Q V | | | | |
| 1+30 | 0.0221 | 0.30 | \|Q V | | | | |
| 1+35 | 0.0240 | 0.27 | \|Q V | | | | |
| 1+40 | 0.0260 | 0.29 | \|Q V | | | | |
| 1+45 | 0.0284 | 0.36 | \|Q V | | | | |
| 1+50 | 0.0309 | 0.36 | \|Q V | | | | |
| 1+55 | 0.0332 | 0.33 | \|Q V | | | | |
| 2+ 0 | 0.0355 | 0.34 | \|Q V | | | | |
| 2+ 5 | 0.0379 | 0.35 | \|Q V | | | | |
| 2+10 | 0.0411 | 0.45 | \|Q V | | | | |
| 2+15 | 0.0450 | 0.57 | \| Q V | | | | |
| 2+20 | 0.0482 | 0.46 | \|Q V | | | | |
| 2+25 | 0.0531 | 0.71 | \| Q V | | | | |
| 2+30 | 0.0591 | 0.88 | \| Q V | | | | |
| 2+35 | 0.0659 | 0.98 | \| Q V | | | | |
| 2+40 | 0.0715 | 0.81 | \| Q V | | | | |
| 2+45 | 0.0740 | 0.36 | \|Q V | | | | |
| 2+50 | 0.0753 | 0.19 | Q V | | | | |
| 2+55 | 0.0766 | 0.18 | Q V | | | | |
| 3+ 0 | 0.0771 | 0.07 | Q V | | | | |
| 3+ 5 | 0.0771 | 0.01 | Q V | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX146100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 14
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.60(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.60(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 304.00(Ft.)
Length along longest watercourse measured to centroid = 158.00(Ft.)
Length along longest watercourse = 0.058 Mi.
Length along longest watercourse measured to centroid = 0.030 Mi.
Difference in elevation = 78.00(Ft.)
Slope along watercourse = 1354.7368 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.019 Hr.
Lag time = 1.14 Min.
25% of lag time = 0.29 Min.
40% of lag time = 0.46 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 1.12 | 0.67 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 2.50 | 1.50 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.120(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.600 | 84.00 | 0.000 |

Total Area Entered = 0.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 438.341 | 69.984 | 0.423 |
| 2 | 0.167 | 876.682 | 30.016 | 0.182 |
| | | | Sum = 100.000 Sum= | 0.605 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.086 | ( 0.135) | 0.064 |
| 2 | 0.17 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 3 | 0.25 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 4 | 0.33 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 5 | 0.42 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 6 | 0.50 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 7 | 0.58 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 8 | 0.67 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 9 | 0.75 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 10 | 0.83 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 11 | 0.92 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 12 | 1.00 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 13 | 1.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 14 | 1.17 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 15 | 1.25 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 16 | 1.33 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 17 | 1.42 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 18 | 1.50 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 19 | 1.58 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 20 | 1.67 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 21 | 1.75 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 22 | 1.83 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 23 | 1.92 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 24 | 2.00 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 25 | 2.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 26 | 2.17 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 27 | 2.25 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 28 | 2.33 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 29 | 2.42 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 30 | 2.50 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 31 | 2.58 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 32 | 2.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 33 | 2.75 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 34 | 2.83 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 35 | 2.92 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 36 | 3.00 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 37 | 3.08 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 38 | 3.17 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 39 | 3.25 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 40 | 3.33 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 41 | 3.42 | 1.20 | 0.360 | 0.086 | ( 0.324) | 0.274 |
| 42 | 3.50 | 1.30 | 0.390 | 0.086 | ( 0.351) | 0.304 |
| 43 | 3.58 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 44 | 3.67 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 45 | 3.75 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 46 | 3.83 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 47 | 3.92 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 48 | 4.00 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 49 | 4.08 | 1.70 | 0.510 | 0.086 | ( 0.459) | 0.424 |
| 50 | 4.17 | 1.80 | 0.540 | 0.086 | ( 0.486) | 0.454 |
| 51 | 4.25 | 1.90 | 0.570 | 0.086 | ( 0.513) | 0.484 |
| 52 | 4.33 | 2.00 | 0.600 | 0.086 | ( 0.540) | 0.514 |
| 53 | 4.42 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 |
| 54 | 4.50 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 55 | 4.58 | 2.20 | 0.660 | 0.086 | ( 0.594) | | 0.574 |
| 56 | 4.67 | 2.30 | 0.690 | 0.086 | ( 0.621) | | 0.604 |
| 57 | 4.75 | 2.40 | 0.720 | 0.086 | ( 0.648) | | 0.634 |
| 58 | 4.83 | 2.40 | 0.720 | 0.086 | ( 0.648) | | 0.634 |
| 59 | 4.92 | 2.50 | 0.750 | 0.086 | ( 0.675) | | 0.664 |
| 60 | 5.00 | 2.60 | 0.780 | 0.086 | ( 0.702) | | 0.694 |
| 61 | 5.08 | 3.10 | 0.930 | 0.086 | ( 0.837) | | 0.844 |
| 62 | 5.17 | 3.60 | 1.080 | 0.086 | ( 0.972) | | 0.994 |
| 63 | 5.25 | 3.90 | 1.170 | 0.086 | ( 1.053) | | 1.084 |
| 64 | 5.33 | 4.20 | 1.260 | 0.086 | ( 1.134) | | 1.174 |
| 65 | 5.42 | 4.70 | 1.410 | 0.086 | ( 1.269) | | 1.324 |
| 66 | 5.50 | 5.60 | 1.680 | 0.086 | ( 1.512) | | 1.594 |
| 67 | 5.58 | 1.90 | 0.570 | 0.086 | ( 0.513) | | 0.484 |
| 68 | 5.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | | 0.184 |
| 69 | 5.75 | 0.60 | 0.180 | 0.086 | ( 0.162) | | 0.094 |
| 70 | 5.83 | 0.50 | 0.150 | 0.086 | ( 0.135) | | 0.064 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.086) | 0.081 | | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.086) | 0.054 | | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.9

Flood volume = Effective rainfall 1.99(In)
times area 0.6(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.51(In)
Total soil loss = 0.026(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 4330.4 Cubic Feet
Total soil loss = 1114.6 Cubic Feet

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Peak flow rate of this hydrograph = 0.915(CFS)

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6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0002 | 0.03 | Q | | | | |
| 0+10 | 0.0005 | 0.05 | Q | | | | |
| 0+15 | 0.0009 | 0.06 | Q | | | | |
| 0+20 | 0.0013 | 0.06 | Q | | | | |
| 0+25 | 0.0017 | 0.06 | Q | | | | |
| 0+30 | 0.0022 | 0.07 | Q | | | | |
| 0+35 | 0.0027 | 0.08 | QV | | | | |
| 0+40 | 0.0032 | 0.08 | QV | | | | |
| 0+45 | 0.0038 | 0.08 | QV | | | | |
| 0+50 | 0.0043 | 0.08 | QV | | | | |
| 0+55 | 0.0048 | 0.08 | QV | | | | |
| 1+ 0 | 0.0054 | 0.09 | Q V | | | | |
| 1+ 5 | 0.0060 | 0.09 | Q V | | | | |
| 1+10 | 0.0067 | 0.09 | Q V | | | | |
| 1+15 | 0.0073 | 0.09 | Q V | | | | |
| 1+20 | 0.0080 | 0.09 | Q V | | | | |
| 1+25 | 0.0086 | 0.09 | Q V | | | | |
| 1+30 | 0.0092 | 0.09 | Q V | | | | |
| 1+35 | 0.0099 | 0.09 | Q V | | | | |
| 1+40 | 0.0105 | 0.09 | Q V | | | | |
| 1+45 | 0.0112 | 0.09 | Q V | | | | |
| 1+50 | 0.0118 | 0.09 | Q V | | | | |
| 1+55 | 0.0125 | 0.09 | Q V | | | | |
| 2+ 0 | 0.0132 | 0.11 | Q V | | | | |
| 2+ 5 | 0.0139 | 0.10 | Q V | | | | |
| 2+10 | 0.0146 | 0.11 | Q V | | | | |
| 2+15 | 0.0154 | 0.11 | Q V | | | | |
| 2+20 | 0.0161 | 0.11 | Q V | | | | |
| 2+25 | 0.0169 | 0.11 | Q V | | | | |
| 2+30 | 0.0177 | 0.11 | Q V | | | | |
| 2+35 | 0.0184 | 0.11 | Q V | | | | |
| 2+40 | 0.0192 | 0.11 | Q V | | | | |
| 2+45 | 0.0201 | 0.12 | Q V | | | | |
| 2+50 | 0.0210 | 0.13 | Q V | | | | |
| 2+55 | 0.0218 | 0.13 | Q V | | | | |
| 3+ 0 | 0.0227 | 0.13 | Q V | | | | |
| 3+ 5 | 0.0236 | 0.13 | Q V | | | | |
| 3+10 | 0.0246 | 0.14 | Q V | | | | |
| 3+15 | 0.0256 | 0.15 | Q V | | | | |

```
    3+20       0.0266      0.15  Q          V          |          |          |
    3+25       0.0277      0.16  Q          |V         |          |          |
    3+30       0.0290      0.18  Q          |V         |          |          |
    3+35       0.0303      0.20  Q          | V        |          |          |
    3+40       0.0317      0.20  Q          | V        |          |          |
    3+45       0.0332      0.21  Q          |  V       |          |          |
    3+50       0.0347      0.22  Q          |  V       |          |          |
    3+55       0.0363      0.23  Q          |   V      |          |          |
    4+ 0       0.0380      0.24  Q          |    V     |          |          |
    4+ 5       0.0397      0.25  |Q         |    V     |          |          |
    4+10       0.0416      0.27  |Q         |     V    |          |          |
    4+15       0.0435      0.29  |Q         |      V   |          |          |
    4+20       0.0456      0.31  |Q         |       V  |          |          |
    4+25       0.0479      0.32  |Q         |        V |          |          |
    4+30       0.0501      0.33  |Q         |         V|          |          |
    4+35       0.0525      0.34  |Q         |          |V         |          |
    4+40       0.0550      0.36  |Q         |          | V        |          |
    4+45       0.0576      0.38  |Q         |          |  V       |          |
    4+50       0.0602      0.38  |Q         |          |   V      |          |
    4+55       0.0630      0.40  |Q         |          |    V     |          |
    5+ 0       0.0658      0.41  |Q         |          |     V    |          |
    5+ 5       0.0691      0.48  |Q         |          |      V   |          |
    5+10       0.0731      0.57  | Q        |          |       V  |          |
    5+15       0.0775      0.64  | Q        |          |        V |          |
    5+20       0.0823      0.69  | Q        |          |          |  V       |
    5+25       0.0876      0.77  |  Q       |          |          |    V     |
    5+30       0.0939      0.92  |  Q       |          |          |      V   |
    5+35       0.0973      0.49  |Q         |          |          |       V  |
    5+40       0.0985      0.17  Q          |          |          |       V  |
    5+45       0.0990      0.07  Q          |          |          |       V  |
    5+50       0.0993      0.04  Q          |          |          |       V  |
    5+55       0.0994      0.02  Q          |          |          |       V  |
    6+ 0       0.0994      0.00  Q          |          |          |       V  |
    6+ 5       0.0994      0.00  Q          |          |          |        V
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX1424100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 14
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 0.60(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.60(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 304.00(Ft.)
Length along longest watercourse measured to centroid = 158.00(Ft.)
Length along longest watercourse = 0.058 Mi.
Length along longest watercourse measured to centroid = 0.030 Mi.
Difference in elevation = 78.00(Ft.)
Slope along watercourse = 1354.7368 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.019 Hr.
Lag time = 1.14 Min.
25% of lag time = 0.29 Min.
40% of lag time = 0.46 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 1.80 | 1.08 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 4.50 | 2.70 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.500(In)

Point rain (area averaged) = 4.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.600 | 84.00 | 0.000 |

Total Area Entered = 0.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 438.341 | 69.984 | 0.423 |
| 2 0.167 | 876.682 | 30.016 | 0.182 |
| | | Sum = 100.000 Sum= | 0.605 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.036 | ( 0.152) | 0.032 | 0.004 |
| 2 | 0.17 | 0.07 | 0.036 | ( 0.152) | 0.032 | 0.004 |
| 3 | 0.25 | 0.07 | 0.036 | ( 0.151) | 0.032 | 0.004 |
| 4 | 0.33 | 0.10 | 0.054 | ( 0.150) | 0.049 | 0.005 |
| 5 | 0.42 | 0.10 | 0.054 | ( 0.150) | 0.049 | 0.005 |
| 6 | 0.50 | 0.10 | 0.054 | ( 0.149) | 0.049 | 0.005 |
| 7 | 0.58 | 0.10 | 0.054 | ( 0.149) | 0.049 | 0.005 |
| 8 | 0.67 | 0.10 | 0.054 | ( 0.148) | 0.049 | 0.005 |
| 9 | 0.75 | 0.10 | 0.054 | ( 0.147) | 0.049 | 0.005 |
| 10 | 0.83 | 0.13 | 0.072 | ( 0.147) | 0.065 | 0.007 |
| 11 | 0.92 | 0.13 | 0.072 | ( 0.146) | 0.065 | 0.007 |
| 12 | 1.00 | 0.13 | 0.072 | ( 0.146) | 0.065 | 0.007 |
| 13 | 1.08 | 0.10 | 0.054 | ( 0.145) | 0.049 | 0.005 |
| 14 | 1.17 | 0.10 | 0.054 | ( 0.145) | 0.049 | 0.005 |
| 15 | 1.25 | 0.10 | 0.054 | ( 0.144) | 0.049 | 0.005 |
| 16 | 1.33 | 0.10 | 0.054 | ( 0.143) | 0.049 | 0.005 |
| 17 | 1.42 | 0.10 | 0.054 | ( 0.143) | 0.049 | 0.005 |
| 18 | 1.50 | 0.10 | 0.054 | ( 0.142) | 0.049 | 0.005 |
| 19 | 1.58 | 0.10 | 0.054 | ( 0.142) | 0.049 | 0.005 |
| 20 | 1.67 | 0.10 | 0.054 | ( 0.141) | 0.049 | 0.005 |
| 21 | 1.75 | 0.10 | 0.054 | ( 0.141) | 0.049 | 0.005 |
| 22 | 1.83 | 0.13 | 0.072 | ( 0.140) | 0.065 | 0.007 |
| 23 | 1.92 | 0.13 | 0.072 | ( 0.139) | 0.065 | 0.007 |
| 24 | 2.00 | 0.13 | 0.072 | ( 0.139) | 0.065 | 0.007 |
| 25 | 2.08 | 0.13 | 0.072 | ( 0.138) | 0.065 | 0.007 |
| 26 | 2.17 | 0.13 | 0.072 | ( 0.138) | 0.065 | 0.007 |
| 27 | 2.25 | 0.13 | 0.072 | ( 0.137) | 0.065 | 0.007 |
| 28 | 2.33 | 0.13 | 0.072 | ( 0.137) | 0.065 | 0.007 |
| 29 | 2.42 | 0.13 | 0.072 | ( 0.136) | 0.065 | 0.007 |
| 30 | 2.50 | 0.13 | 0.072 | ( 0.136) | 0.065 | 0.007 |
| 31 | 2.58 | 0.17 | 0.090 | ( 0.135) | 0.081 | 0.009 |
| 32 | 2.67 | 0.17 | 0.090 | ( 0.134) | 0.081 | 0.009 |
| 33 | 2.75 | 0.17 | 0.090 | ( 0.134) | 0.081 | 0.009 |
| 34 | 2.83 | 0.17 | 0.090 | ( 0.133) | 0.081 | 0.009 |
| 35 | 2.92 | 0.17 | 0.090 | ( 0.133) | 0.081 | 0.009 |
| 36 | 3.00 | 0.17 | 0.090 | ( 0.132) | 0.081 | 0.009 |
| 37 | 3.08 | 0.17 | 0.090 | ( 0.132) | 0.081 | 0.009 |
| 38 | 3.17 | 0.17 | 0.090 | ( 0.131) | 0.081 | 0.009 |
| 39 | 3.25 | 0.17 | 0.090 | ( 0.131) | 0.081 | 0.009 |
| 40 | 3.33 | 0.17 | 0.090 | ( 0.130) | 0.081 | 0.009 |
| 41 | 3.42 | 0.17 | 0.090 | ( 0.129) | 0.081 | 0.009 |
| 42 | 3.50 | 0.17 | 0.090 | ( 0.129) | 0.081 | 0.009 |
| 43 | 3.58 | 0.17 | 0.090 | ( 0.128) | 0.081 | 0.009 |
| 44 | 3.67 | 0.17 | 0.090 | ( 0.128) | 0.081 | 0.009 |
| 45 | 3.75 | 0.17 | 0.090 | ( 0.127) | 0.081 | 0.009 |
| 46 | 3.83 | 0.20 | 0.108 | ( 0.127) | 0.097 | 0.011 |
| 47 | 3.92 | 0.20 | 0.108 | ( 0.126) | 0.097 | 0.011 |
| 48 | 4.00 | 0.20 | 0.108 | ( 0.126) | 0.097 | 0.011 |
| 49 | 4.08 | 0.20 | 0.108 | ( 0.125) | 0.097 | 0.011 |
| 50 | 4.17 | 0.20 | 0.108 | ( 0.125) | 0.097 | 0.011 |
| 51 | 4.25 | 0.20 | 0.108 | ( 0.124) | 0.097 | 0.011 |
| 52 | 4.33 | 0.23 | 0.126 | ( 0.124) | 0.113 | 0.013 |
| 53 | 4.42 | 0.23 | 0.126 | ( 0.123) | 0.113 | 0.013 |
| 54 | 4.50 | 0.23 | 0.126 | ( 0.123) | 0.113 | 0.013 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 55 | 4.58 | 0.23 | 0.126 | ( | 0.122) | 0.113 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.126 | ( | 0.121) | 0.113 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.126 | ( | 0.121) | 0.113 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.144 | | 0.120 | ( 0.130) | | 0.024 |
| 59 | 4.92 | 0.27 | 0.144 | | 0.120 | ( 0.130) | | 0.024 |
| 60 | 5.00 | 0.27 | 0.144 | | 0.119 | ( 0.130) | | 0.025 |
| 61 | 5.08 | 0.20 | 0.108 | ( | 0.119) | 0.097 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.108 | ( | 0.118) | 0.097 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.108 | ( | 0.118) | 0.097 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.126 | ( | 0.117) | 0.113 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.126 | ( | 0.117) | 0.113 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.126 | ( | 0.116) | 0.113 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.144 | | 0.116 | ( 0.130) | | 0.028 |
| 68 | 5.67 | 0.27 | 0.144 | | 0.115 | ( 0.130) | | 0.029 |
| 69 | 5.75 | 0.27 | 0.144 | | 0.115 | ( 0.130) | | 0.029 |
| 70 | 5.83 | 0.27 | 0.144 | | 0.114 | ( 0.130) | | 0.030 |
| 71 | 5.92 | 0.27 | 0.144 | | 0.114 | ( 0.130) | | 0.030 |
| 72 | 6.00 | 0.27 | 0.144 | | 0.113 | ( 0.130) | | 0.031 |
| 73 | 6.08 | 0.30 | 0.162 | | 0.113 | ( 0.146) | | 0.049 |
| 74 | 6.17 | 0.30 | 0.162 | | 0.112 | ( 0.146) | | 0.050 |
| 75 | 6.25 | 0.30 | 0.162 | | 0.112 | ( 0.146) | | 0.050 |
| 76 | 6.33 | 0.30 | 0.162 | | 0.111 | ( 0.146) | | 0.051 |
| 77 | 6.42 | 0.30 | 0.162 | | 0.111 | ( 0.146) | | 0.051 |
| 78 | 6.50 | 0.30 | 0.162 | | 0.110 | ( 0.146) | | 0.052 |
| 79 | 6.58 | 0.33 | 0.180 | | 0.110 | ( 0.162) | | 0.070 |
| 80 | 6.67 | 0.33 | 0.180 | | 0.109 | ( 0.162) | | 0.071 |
| 81 | 6.75 | 0.33 | 0.180 | | 0.109 | ( 0.162) | | 0.071 |
| 82 | 6.83 | 0.33 | 0.180 | | 0.108 | ( 0.162) | | 0.072 |
| 83 | 6.92 | 0.33 | 0.180 | | 0.108 | ( 0.162) | | 0.072 |
| 84 | 7.00 | 0.33 | 0.180 | | 0.107 | ( 0.162) | | 0.073 |
| 85 | 7.08 | 0.33 | 0.180 | | 0.107 | ( 0.162) | | 0.073 |
| 86 | 7.17 | 0.33 | 0.180 | | 0.106 | ( 0.162) | | 0.074 |
| 87 | 7.25 | 0.33 | 0.180 | | 0.106 | ( 0.162) | | 0.074 |
| 88 | 7.33 | 0.37 | 0.198 | | 0.105 | ( 0.178) | | 0.093 |
| 89 | 7.42 | 0.37 | 0.198 | | 0.105 | ( 0.178) | | 0.093 |
| 90 | 7.50 | 0.37 | 0.198 | | 0.104 | ( 0.178) | | 0.094 |
| 91 | 7.58 | 0.40 | 0.216 | | 0.104 | ( 0.194) | | 0.112 |
| 92 | 7.67 | 0.40 | 0.216 | | 0.103 | ( 0.194) | | 0.113 |
| 93 | 7.75 | 0.40 | 0.216 | | 0.103 | ( 0.194) | | 0.113 |
| 94 | 7.83 | 0.43 | 0.234 | | 0.102 | ( 0.211) | | 0.132 |
| 95 | 7.92 | 0.43 | 0.234 | | 0.102 | ( 0.211) | | 0.132 |
| 96 | 8.00 | 0.43 | 0.234 | | 0.102 | ( 0.211) | | 0.132 |
| 97 | 8.08 | 0.50 | 0.270 | | 0.101 | ( 0.243) | | 0.169 |
| 98 | 8.17 | 0.50 | 0.270 | | 0.101 | ( 0.243) | | 0.169 |
| 99 | 8.25 | 0.50 | 0.270 | | 0.100 | ( 0.243) | | 0.170 |
| 100 | 8.33 | 0.50 | 0.270 | | 0.100 | ( 0.243) | | 0.170 |
| 101 | 8.42 | 0.50 | 0.270 | | 0.099 | ( 0.243) | | 0.171 |
| 102 | 8.50 | 0.50 | 0.270 | | 0.099 | ( 0.243) | | 0.171 |
| 103 | 8.58 | 0.53 | 0.288 | | 0.098 | ( 0.259) | | 0.190 |
| 104 | 8.67 | 0.53 | 0.288 | | 0.098 | ( 0.259) | | 0.190 |
| 105 | 8.75 | 0.53 | 0.288 | | 0.097 | ( 0.259) | | 0.191 |
| 106 | 8.83 | 0.57 | 0.306 | | 0.097 | ( 0.275) | | 0.209 |
| 107 | 8.92 | 0.57 | 0.306 | | 0.096 | ( 0.275) | | 0.210 |
| 108 | 9.00 | 0.57 | 0.306 | | 0.096 | ( 0.275) | | 0.210 |
| 109 | 9.08 | 0.63 | 0.342 | | 0.096 | ( 0.308) | | 0.246 |
| 110 | 9.17 | 0.63 | 0.342 | | 0.095 | ( 0.308) | | 0.247 |
| 111 | 9.25 | 0.63 | 0.342 | | 0.095 | ( 0.308) | | 0.247 |
| 112 | 9.33 | 0.67 | 0.360 | | 0.094 | ( 0.324) | | 0.266 |
| 113 | 9.42 | 0.67 | 0.360 | | 0.094 | ( 0.324) | | 0.266 |
| 114 | 9.50 | 0.67 | 0.360 | | 0.093 | ( 0.324) | | 0.267 |
| 115 | 9.58 | 0.70 | 0.378 | | 0.093 | ( 0.340) | | 0.285 |
| 116 | 9.67 | 0.70 | 0.378 | | 0.092 | ( 0.340) | | 0.286 |
| 117 | 9.75 | 0.70 | 0.378 | | 0.092 | ( 0.340) | | 0.286 |
| 118 | 9.83 | 0.73 | 0.396 | | 0.091 | ( 0.356) | | 0.305 |
| 119 | 9.92 | 0.73 | 0.396 | | 0.091 | ( 0.356) | | 0.305 |
| 120 | 10.00 | 0.73 | 0.396 | | 0.091 | ( 0.356) | | 0.305 |
| 121 | 10.08 | 0.50 | 0.270 | | 0.090 | ( 0.243) | | 0.180 |
| 122 | 10.17 | 0.50 | 0.270 | | 0.090 | ( 0.243) | | 0.180 |
| 123 | 10.25 | 0.50 | 0.270 | | 0.089 | ( 0.243) | | 0.181 |
| 124 | 10.33 | 0.50 | 0.270 | | 0.089 | ( 0.243) | | 0.181 |
| 125 | 10.42 | 0.50 | 0.270 | | 0.088 | ( 0.243) | | 0.182 |
| 126 | 10.50 | 0.50 | 0.270 | | 0.088 | ( 0.243) | | 0.182 |
| 127 | 10.58 | 0.67 | 0.360 | | 0.088 | ( 0.324) | | 0.272 |
| 128 | 10.67 | 0.67 | 0.360 | | 0.087 | ( 0.324) | | 0.273 |
| 129 | 10.75 | 0.67 | 0.360 | | 0.087 | ( 0.324) | | 0.273 |
| 130 | 10.83 | 0.67 | 0.360 | | 0.086 | ( 0.324) | | 0.274 |
| 131 | 10.92 | 0.67 | 0.360 | | 0.086 | ( 0.324) | | 0.274 |
| 132 | 11.00 | 0.67 | 0.360 | | 0.085 | ( 0.324) | | 0.275 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 133 | 11.08 | 0.63 | 0.342 | 0.085 | ( 0.308) | 0.257 |
| 134 | 11.17 | 0.63 | 0.342 | 0.085 | ( 0.308) | 0.257 |
| 135 | 11.25 | 0.63 | 0.342 | 0.084 | ( 0.308) | 0.258 |
| 136 | 11.33 | 0.63 | 0.342 | 0.084 | ( 0.308) | 0.258 |
| 137 | 11.42 | 0.63 | 0.342 | 0.083 | ( 0.308) | 0.259 |
| 138 | 11.50 | 0.63 | 0.342 | 0.083 | ( 0.308) | 0.259 |
| 139 | 11.58 | 0.57 | 0.306 | 0.083 | ( 0.275) | 0.223 |
| 140 | 11.67 | 0.57 | 0.306 | 0.082 | ( 0.275) | 0.224 |
| 141 | 11.75 | 0.57 | 0.306 | 0.082 | ( 0.275) | 0.224 |
| 142 | 11.83 | 0.60 | 0.324 | 0.081 | ( 0.292) | 0.243 |
| 143 | 11.92 | 0.60 | 0.324 | 0.081 | ( 0.292) | 0.243 |
| 144 | 12.00 | 0.60 | 0.324 | 0.080 | ( 0.292) | 0.244 |
| 145 | 12.08 | 0.83 | 0.450 | 0.080 | ( 0.405) | 0.370 |
| 146 | 12.17 | 0.83 | 0.450 | 0.080 | ( 0.405) | 0.370 |
| 147 | 12.25 | 0.83 | 0.450 | 0.079 | ( 0.405) | 0.371 |
| 148 | 12.33 | 0.87 | 0.468 | 0.079 | ( 0.421) | 0.389 |
| 149 | 12.42 | 0.87 | 0.468 | 0.078 | ( 0.421) | 0.390 |
| 150 | 12.50 | 0.87 | 0.468 | 0.078 | ( 0.421) | 0.390 |
| 151 | 12.58 | 0.93 | 0.504 | 0.078 | ( 0.454) | 0.426 |
| 152 | 12.67 | 0.93 | 0.504 | 0.077 | ( 0.454) | 0.427 |
| 153 | 12.75 | 0.93 | 0.504 | 0.077 | ( 0.454) | 0.427 |
| 154 | 12.83 | 0.97 | 0.522 | 0.077 | ( 0.470) | 0.445 |
| 155 | 12.92 | 0.97 | 0.522 | 0.076 | ( 0.470) | 0.446 |
| 156 | 13.00 | 0.97 | 0.522 | 0.076 | ( 0.470) | 0.446 |
| 157 | 13.08 | 1.13 | 0.612 | 0.075 | ( 0.551) | 0.537 |
| 158 | 13.17 | 1.13 | 0.612 | 0.075 | ( 0.551) | 0.537 |
| 159 | 13.25 | 1.13 | 0.612 | 0.075 | ( 0.551) | 0.537 |
| 160 | 13.33 | 1.13 | 0.612 | 0.074 | ( 0.551) | 0.538 |
| 161 | 13.42 | 1.13 | 0.612 | 0.074 | ( 0.551) | 0.538 |
| 162 | 13.50 | 1.13 | 0.612 | 0.073 | ( 0.551) | 0.539 |
| 163 | 13.58 | 0.77 | 0.414 | 0.073 | ( 0.373) | 0.341 |
| 164 | 13.67 | 0.77 | 0.414 | 0.073 | ( 0.373) | 0.341 |
| 165 | 13.75 | 0.77 | 0.414 | 0.072 | ( 0.373) | 0.342 |
| 166 | 13.83 | 0.77 | 0.414 | 0.072 | ( 0.373) | 0.342 |
| 167 | 13.92 | 0.77 | 0.414 | 0.072 | ( 0.373) | 0.342 |
| 168 | 14.00 | 0.77 | 0.414 | 0.071 | ( 0.373) | 0.343 |
| 169 | 14.08 | 0.90 | 0.486 | 0.071 | ( 0.437) | 0.415 |
| 170 | 14.17 | 0.90 | 0.486 | 0.071 | ( 0.437) | 0.415 |
| 171 | 14.25 | 0.90 | 0.486 | 0.070 | ( 0.437) | 0.416 |
| 172 | 14.33 | 0.87 | 0.468 | 0.070 | ( 0.421) | 0.398 |
| 173 | 14.42 | 0.87 | 0.468 | 0.069 | ( 0.421) | 0.399 |
| 174 | 14.50 | 0.87 | 0.468 | 0.069 | ( 0.421) | 0.399 |
| 175 | 14.58 | 0.87 | 0.468 | 0.069 | ( 0.421) | 0.399 |
| 176 | 14.67 | 0.87 | 0.468 | 0.068 | ( 0.421) | 0.400 |
| 177 | 14.75 | 0.87 | 0.468 | 0.068 | ( 0.421) | 0.400 |
| 178 | 14.83 | 0.83 | 0.450 | 0.068 | ( 0.405) | 0.382 |
| 179 | 14.92 | 0.83 | 0.450 | 0.067 | ( 0.405) | 0.383 |
| 180 | 15.00 | 0.83 | 0.450 | 0.067 | ( 0.405) | 0.383 |
| 181 | 15.08 | 0.80 | 0.432 | 0.067 | ( 0.389) | 0.365 |
| 182 | 15.17 | 0.80 | 0.432 | 0.066 | ( 0.389) | 0.366 |
| 183 | 15.25 | 0.80 | 0.432 | 0.066 | ( 0.389) | 0.366 |
| 184 | 15.33 | 0.77 | 0.414 | 0.066 | ( 0.373) | 0.348 |
| 185 | 15.42 | 0.77 | 0.414 | 0.065 | ( 0.373) | 0.349 |
| 186 | 15.50 | 0.77 | 0.414 | 0.065 | ( 0.373) | 0.349 |
| 187 | 15.58 | 0.63 | 0.342 | 0.065 | ( 0.308) | 0.277 |
| 188 | 15.67 | 0.63 | 0.342 | 0.064 | ( 0.308) | 0.278 |
| 189 | 15.75 | 0.63 | 0.342 | 0.064 | ( 0.308) | 0.278 |
| 190 | 15.83 | 0.63 | 0.342 | 0.064 | ( 0.308) | 0.278 |
| 191 | 15.92 | 0.63 | 0.342 | 0.063 | ( 0.308) | 0.279 |
| 192 | 16.00 | 0.63 | 0.342 | 0.063 | ( 0.308) | 0.279 |
| 193 | 16.08 | 0.13 | 0.072 | 0.063 | ( 0.065) | 0.009 |
| 194 | 16.17 | 0.13 | 0.072 | 0.062 | ( 0.065) | 0.010 |
| 195 | 16.25 | 0.13 | 0.072 | 0.062 | ( 0.065) | 0.010 |
| 196 | 16.33 | 0.13 | 0.072 | 0.062 | ( 0.065) | 0.010 |
| 197 | 16.42 | 0.13 | 0.072 | 0.061 | ( 0.065) | 0.011 |
| 198 | 16.50 | 0.13 | 0.072 | 0.061 | ( 0.065) | 0.011 |
| 199 | 16.58 | 0.10 | 0.054 | ( 0.061) | 0.049 | 0.005 |
| 200 | 16.67 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 201 | 16.75 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 202 | 16.83 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 203 | 16.92 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 204 | 17.00 | 0.10 | 0.054 | ( 0.059) | 0.049 | 0.005 |
| 205 | 17.08 | 0.17 | 0.090 | 0.059 | ( 0.081) | 0.031 |
| 206 | 17.17 | 0.17 | 0.090 | 0.059 | ( 0.081) | 0.031 |
| 207 | 17.25 | 0.17 | 0.090 | 0.058 | ( 0.081) | 0.032 |
| 208 | 17.33 | 0.17 | 0.090 | 0.058 | ( 0.081) | 0.032 |
| 209 | 17.42 | 0.17 | 0.090 | 0.058 | ( 0.081) | 0.032 |
| 210 | 17.50 | 0.17 | 0.090 | 0.058 | ( 0.081) | 0.032 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 211 | 17.58 | 0.17 | 0.090 | | 0.057 | ( | 0.081) | 0.033 |
| 212 | 17.67 | 0.17 | 0.090 | | 0.057 | ( | 0.081) | 0.033 |
| 213 | 17.75 | 0.17 | 0.090 | | 0.057 | ( | 0.081) | 0.033 |
| 214 | 17.83 | 0.13 | 0.072 | | 0.056 | ( | 0.065) | 0.016 |
| 215 | 17.92 | 0.13 | 0.072 | | 0.056 | ( | 0.065) | 0.016 |
| 216 | 18.00 | 0.13 | 0.072 | | 0.056 | ( | 0.065) | 0.016 |
| 217 | 18.08 | 0.13 | 0.072 | | 0.056 | ( | 0.065) | 0.016 |
| 218 | 18.17 | 0.13 | 0.072 | | 0.055 | ( | 0.065) | 0.017 |
| 219 | 18.25 | 0.13 | 0.072 | | 0.055 | ( | 0.065) | 0.017 |
| 220 | 18.33 | 0.13 | 0.072 | | 0.055 | ( | 0.065) | 0.017 |
| 221 | 18.42 | 0.13 | 0.072 | | 0.054 | ( | 0.065) | 0.018 |
| 222 | 18.50 | 0.13 | 0.072 | | 0.054 | ( | 0.065) | 0.018 |
| 223 | 18.58 | 0.10 | 0.054 | ( | 0.054) | | 0.049 | 0.005 |
| 224 | 18.67 | 0.10 | 0.054 | ( | 0.054) | | 0.049 | 0.005 |
| 225 | 18.75 | 0.10 | 0.054 | ( | 0.053) | | 0.049 | 0.005 |
| 226 | 18.83 | 0.07 | 0.036 | ( | 0.053) | | 0.032 | 0.004 |
| 227 | 18.92 | 0.07 | 0.036 | ( | 0.053) | | 0.032 | 0.004 |
| 228 | 19.00 | 0.07 | 0.036 | ( | 0.053) | | 0.032 | 0.004 |
| 229 | 19.08 | 0.10 | 0.054 | ( | 0.052) | | 0.049 | 0.005 |
| 230 | 19.17 | 0.10 | 0.054 | ( | 0.052) | | 0.049 | 0.005 |
| 231 | 19.25 | 0.10 | 0.054 | ( | 0.052) | | 0.049 | 0.005 |
| 232 | 19.33 | 0.13 | 0.072 | | 0.052 | ( | 0.065) | 0.020 |
| 233 | 19.42 | 0.13 | 0.072 | | 0.051 | ( | 0.065) | 0.021 |
| 234 | 19.50 | 0.13 | 0.072 | | 0.051 | ( | 0.065) | 0.021 |
| 235 | 19.58 | 0.10 | 0.054 | ( | 0.051) | | 0.049 | 0.005 |
| 236 | 19.67 | 0.10 | 0.054 | ( | 0.051) | | 0.049 | 0.005 |
| 237 | 19.75 | 0.10 | 0.054 | ( | 0.050) | | 0.049 | 0.005 |
| 238 | 19.83 | 0.07 | 0.036 | ( | 0.050) | | 0.032 | 0.004 |
| 239 | 19.92 | 0.07 | 0.036 | ( | 0.050) | | 0.032 | 0.004 |
| 240 | 20.00 | 0.07 | 0.036 | ( | 0.050) | | 0.032 | 0.004 |
| 241 | 20.08 | 0.10 | 0.054 | ( | 0.050) | | 0.049 | 0.005 |
| 242 | 20.17 | 0.10 | 0.054 | ( | 0.049) | | 0.049 | 0.005 |
| 243 | 20.25 | 0.10 | 0.054 | ( | 0.049) | | 0.049 | 0.005 |
| 244 | 20.33 | 0.10 | 0.054 | ( | 0.049) | | 0.049 | 0.005 |
| 245 | 20.42 | 0.10 | 0.054 | ( | 0.049) | | 0.049 | 0.005 |
| 246 | 20.50 | 0.10 | 0.054 | | 0.049 | ( | 0.049) | 0.005 |
| 247 | 20.58 | 0.10 | 0.054 | | 0.048 | ( | 0.049) | 0.006 |
| 248 | 20.67 | 0.10 | 0.054 | | 0.048 | ( | 0.049) | 0.006 |
| 249 | 20.75 | 0.10 | 0.054 | | 0.048 | ( | 0.049) | 0.006 |
| 250 | 20.83 | 0.07 | 0.036 | ( | 0.048) | | 0.032 | 0.004 |
| 251 | 20.92 | 0.07 | 0.036 | ( | 0.048) | | 0.032 | 0.004 |
| 252 | 21.00 | 0.07 | 0.036 | ( | 0.047) | | 0.032 | 0.004 |
| 253 | 21.08 | 0.10 | 0.054 | | 0.047 | ( | 0.049) | 0.007 |
| 254 | 21.17 | 0.10 | 0.054 | | 0.047 | ( | 0.049) | 0.007 |
| 255 | 21.25 | 0.10 | 0.054 | | 0.047 | ( | 0.049) | 0.007 |
| 256 | 21.33 | 0.07 | 0.036 | ( | 0.047) | | 0.032 | 0.004 |
| 257 | 21.42 | 0.07 | 0.036 | ( | 0.046) | | 0.032 | 0.004 |
| 258 | 21.50 | 0.07 | 0.036 | ( | 0.046) | | 0.032 | 0.004 |
| 259 | 21.58 | 0.10 | 0.054 | | 0.046 | ( | 0.049) | 0.008 |
| 260 | 21.67 | 0.10 | 0.054 | | 0.046 | ( | 0.049) | 0.008 |
| 261 | 21.75 | 0.10 | 0.054 | | 0.046 | ( | 0.049) | 0.008 |
| 262 | 21.83 | 0.07 | 0.036 | ( | 0.046) | | 0.032 | 0.004 |
| 263 | 21.92 | 0.07 | 0.036 | ( | 0.045) | | 0.032 | 0.004 |
| 264 | 22.00 | 0.07 | 0.036 | ( | 0.045) | | 0.032 | 0.004 |
| 265 | 22.08 | 0.10 | 0.054 | | 0.045 | ( | 0.049) | 0.009 |
| 266 | 22.17 | 0.10 | 0.054 | | 0.045 | ( | 0.049) | 0.009 |
| 267 | 22.25 | 0.10 | 0.054 | | 0.045 | ( | 0.049) | 0.009 |
| 268 | 22.33 | 0.07 | 0.036 | ( | 0.045) | | 0.032 | 0.004 |
| 269 | 22.42 | 0.07 | 0.036 | ( | 0.045) | | 0.032 | 0.004 |
| 270 | 22.50 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 271 | 22.58 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 272 | 22.67 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 273 | 22.75 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 274 | 22.83 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 275 | 22.92 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 276 | 23.00 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 277 | 23.08 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 278 | 23.17 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 279 | 23.25 | 0.07 | 0.036 | ( | 0.043) | | 0.032 | 0.004 |
| 280 | 23.33 | 0.07 | 0.036 | ( | 0.043) | | 0.032 | 0.004 |
| 281 | 23.42 | 0.07 | 0.036 | ( | 0.043) | | 0.032 | 0.004 |
| 282 | 23.50 | 0.07 | 0.036 | ( | 0.043) | | 0.032 | 0.004 |
| 283 | 23.58 | 0.07 | 0.036 | ( | 0.043) | | 0.032 | 0.004 |
| 284 | 23.67 | 0.07 | 0.036 | ( | 0.043) | | 0.032 | 0.004 |
| 285 | 23.75 | 0.07 | 0.036 | ( | 0.043) | | 0.032 | 0.004 |
| 286 | 23.83 | 0.07 | 0.036 | ( | 0.043) | | 0.032 | 0.004 |
| 287 | 23.92 | 0.07 | 0.036 | ( | 0.043) | | 0.032 | 0.004 |
| 288 | 24.00 | 0.07 | 0.036 | ( | 0.043) | | 0.032 | 0.004 |

(Loss Rate Not Used)
Sum = 100.0 Sum = 33.6
Flood volume = Effective rainfall 2.80(In)
times area 0.6(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 1.70(In)
Total soil loss = 0.085(Ac.Ft)
Total rainfall = 4.50(In)
Flood volume = 6101.2 Cubic Feet
Total soil loss = 3699.8 Cubic Feet

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Peak flow rate of this hydrograph = 0.326(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0000 | 0.00 | Q | | | | |
| 0+10 | 0.0000 | 0.00 | Q | | | | |
| 0+15 | 0.0000 | 0.00 | Q | | | | |
| 0+20 | 0.0001 | 0.00 | Q | | | | |
| 0+25 | 0.0001 | 0.00 | Q | | | | |
| 0+30 | 0.0001 | 0.00 | Q | | | | |
| 0+35 | 0.0001 | 0.00 | Q | | | | |
| 0+40 | 0.0002 | 0.00 | Q | | | | |
| 0+45 | 0.0002 | 0.00 | Q | | | | |
| 0+50 | 0.0002 | 0.00 | Q | | | | |
| 0+55 | 0.0002 | 0.00 | Q | | | | |
| 1+ 0 | 0.0003 | 0.00 | Q | | | | |
| 1+ 5 | 0.0003 | 0.00 | Q | | | | |
| 1+10 | 0.0003 | 0.00 | Q | | | | |
| 1+15 | 0.0003 | 0.00 | Q | | | | |
| 1+20 | 0.0004 | 0.00 | Q | | | | |
| 1+25 | 0.0004 | 0.00 | Q | | | | |
| 1+30 | 0.0004 | 0.00 | Q | | | | |
| 1+35 | 0.0004 | 0.00 | Q | | | | |
| 1+40 | 0.0004 | 0.00 | Q | | | | |
| 1+45 | 0.0005 | 0.00 | Q | | | | |
| 1+50 | 0.0005 | 0.00 | Q | | | | |
| 1+55 | 0.0005 | 0.00 | Q | | | | |
| 2+ 0 | 0.0006 | 0.00 | Q | | | | |
| 2+ 5 | 0.0006 | 0.00 | Q | | | | |
| 2+10 | 0.0006 | 0.00 | Q | | | | |
| 2+15 | 0.0006 | 0.00 | Q | | | | |
| 2+20 | 0.0007 | 0.00 | Q | | | | |
| 2+25 | 0.0007 | 0.00 | Q | | | | |
| 2+30 | 0.0007 | 0.00 | Q | | | | |
| 2+35 | 0.0008 | 0.01 | Q | | | | |
| 2+40 | 0.0008 | 0.01 | Q | | | | |
| 2+45 | 0.0008 | 0.01 | Q | | | | |
| 2+50 | 0.0009 | 0.01 | Q | | | | |
| 2+55 | 0.0009 | 0.01 | Q | | | | |
| 3+ 0 | 0.0010 | 0.01 | Q | | | | |
| 3+ 5 | 0.0010 | 0.01 | Q | | | | |
| 3+10 | 0.0010 | 0.01 | Q | | | | |
| 3+15 | 0.0011 | 0.01 | Q | | | | |
| 3+20 | 0.0011 | 0.01 | Q | | | | |
| 3+25 | 0.0011 | 0.01 | Q | | | | |
| 3+30 | 0.0012 | 0.01 | Q | | | | |
| 3+35 | 0.0012 | 0.01 | Q | | | | |
| 3+40 | 0.0013 | 0.01 | Q | | | | |
| 3+45 | 0.0013 | 0.01 | Q | | | | |
| 3+50 | 0.0013 | 0.01 | Q | | | | |
| 3+55 | 0.0014 | 0.01 | Q | | | | |
| 4+ 0 | 0.0014 | 0.01 | Q | | | | |
| 4+ 5 | 0.0015 | 0.01 | Q | | | | |
| 4+10 | 0.0015 | 0.01 | Q | | | | |
| 4+15 | 0.0016 | 0.01 | Q | | | | |
| 4+20 | 0.0016 | 0.01 | Q | | | | |
| 4+25 | 0.0017 | 0.01 | Q | | | | |
| 4+30 | 0.0017 | 0.01 | Q | | | | |
| 4+35 | 0.0018 | 0.01 | Q | | | | |
| 4+40 | 0.0018 | 0.01 | Q | | | | |
| 4+45 | 0.0019 | 0.01 | Q | | | | |

```
 4+50       0.0020      0.01  Q          |          |          |          |
 4+55       0.0021      0.01  Q          |          |          |          |
 5+ 0       0.0022      0.01  Q          |          |          |          |
 5+ 5       0.0022      0.01  Q          |          |          |          |
 5+10       0.0023      0.01  Q          |          |          |          |
 5+15       0.0023      0.01  Q          |          |          |          |
 5+20       0.0024      0.01  Q          |          |          |          |
 5+25       0.0024      0.01  Q          |          |          |          |
 5+30       0.0025      0.01  Q          |          |          |          |
 5+35       0.0026      0.01  Q          |          |          |          |
 5+40       0.0027      0.02  Q          |          |          |          |
 5+45       0.0028      0.02  Q          |          |          |          |
 5+50       0.0029      0.02  Q          |          |          |          |
 5+55       0.0031      0.02  Q          |          |          |          |
 6+ 0       0.0032      0.02  Q          |          |          |          |
 6+ 5       0.0034      0.03  Q          |          |          |          |
 6+10       0.0036      0.03  QV         |          |          |          |
 6+15       0.0038      0.03  QV         |          |          |          |
 6+20       0.0040      0.03  QV         |          |          |          |
 6+25       0.0042      0.03  QV         |          |          |          |
 6+30       0.0044      0.03  QV         |          |          |          |
 6+35       0.0047      0.04  QV         |          |          |          |
 6+40       0.0050      0.04  QV         |          |          |          |
 6+45       0.0053      0.04  QV         |          |          |          |
 6+50       0.0056      0.04  QV         |          |          |          |
 6+55       0.0059      0.04  QV         |          |          |          |
 7+ 0       0.0062      0.04  QV         |          |          |          |
 7+ 5       0.0065      0.04  QV         |          |          |          |
 7+10       0.0068      0.04  QV         |          |          |          |
 7+15       0.0071      0.04  Q V        |          |          |          |
 7+20       0.0075      0.05  Q V        |          |          |          |
 7+25       0.0078      0.06  Q V        |          |          |          |
 7+30       0.0082      0.06  Q V        |          |          |          |
 7+35       0.0087      0.06  Q V        |          |          |          |
 7+40       0.0091      0.07  Q V        |          |          |          |
 7+45       0.0096      0.07  Q V        |          |          |          |
 7+50       0.0101      0.08  Q V        |          |          |          |
 7+55       0.0107      0.08  Q  V       |          |          |          |
 8+ 0       0.0112      0.08  Q  V       |          |          |          |
 8+ 5       0.0119      0.10  Q  V       |          |          |          |
 8+10       0.0126      0.10  Q  V       |          |          |          |
 8+15       0.0133      0.10  Q  V       |          |          |          |
 8+20       0.0140      0.10  Q   V      |          |          |          |
 8+25       0.0147      0.10  Q   V      |          |          |          |
 8+30       0.0154      0.10  Q   V      |          |          |          |
 8+35       0.0162      0.11  Q   V      |          |          |          |
 8+40       0.0170      0.11  Q   V      |          |          |          |
 8+45       0.0178      0.12  Q    V     |          |          |          |
 8+50       0.0187      0.12  Q    V     |          |          |          |
 8+55       0.0195      0.13  Q    V     |          |          |          |
 9+ 0       0.0204      0.13  Q    V     |          |          |          |
 9+ 5       0.0214      0.14  Q     V    |          |          |          |
 9+10       0.0224      0.15  Q     V    |          |          |          |
 9+15       0.0234      0.15  Q     V    |          |          |          |
 9+20       0.0245      0.16  Q      V   |          |          |          |
 9+25       0.0256      0.16  Q      V   |          |          |          |
 9+30       0.0267      0.16  Q      V   |          |          |          |
 9+35       0.0279      0.17  Q      V   |          |          |          |
 9+40       0.0291      0.17  Q       V  |          |          |          |
 9+45       0.0303      0.17  Q       V  |          |          |          |
 9+50       0.0315      0.18  Q        V |          |          |          |
 9+55       0.0328      0.18  Q        V |          |          |          |
10+ 0       0.0341      0.18  Q        V |          |          |          |
10+ 5       0.0350      0.13  Q        V |          |          |          |
10+10       0.0357      0.11  Q         V          |          |          |
10+15       0.0365      0.11  Q         V          |          |          |
10+20       0.0372      0.11  Q         V          |          |          |
10+25       0.0380      0.11  Q         V          |          |          |
10+30       0.0388      0.11  Q         |V         |          |          |
10+35       0.0398      0.15  Q         |V         |          |          |
10+40       0.0409      0.17  Q         |V         |          |          |
10+45       0.0421      0.17  Q         | V        |          |          |
10+50       0.0432      0.17  Q         | V        |          |          |
10+55       0.0443      0.17  Q         | V        |          |          |
11+ 0       0.0455      0.17  Q         | V        |          |          |
11+ 5       0.0466      0.16  Q         |  V       |          |          |
11+10       0.0476      0.16  Q         |  V       |          |          |
11+15       0.0487      0.16  Q         |  V       |          |          |
```

```
11+20       0.0498      0.16  Q          |    V      |           |           |
11+25       0.0509      0.16  Q          |    V      |           |           |
11+30       0.0519      0.16  Q          |    V      |           |           |
11+35       0.0529      0.14  Q          |     V     |           |           |
11+40       0.0539      0.14  Q          |     V     |           |           |
11+45       0.0548      0.14  Q          |     V     |           |           |
11+50       0.0558      0.14  Q          |     V     |           |           |
11+55       0.0568      0.15  Q          |      V    |           |           |
12+ 0       0.0578      0.15  Q          |      V    |           |           |
12+ 5       0.0592      0.20  Q          |      V    |           |           |
12+10       0.0607      0.22  Q          |       V   |           |           |
12+15       0.0623      0.22  Q          |       V   |           |           |
12+20       0.0639      0.23  Q          |        V  |           |           |
12+25       0.0655      0.24  Q          |        V  |           |           |
12+30       0.0671      0.24  Q          |         V |           |           |
12+35       0.0688      0.25  |Q         |         V |           |           |
12+40       0.0706      0.26  |Q         |          V|           |           |
12+45       0.0724      0.26  |Q         |          V|           |           |
12+50       0.0742      0.27  |Q         |           |V          |           |
12+55       0.0761      0.27  |Q         |           |V          |           |
13+ 0       0.0780      0.27  |Q         |           | V         |           |
13+ 5       0.0801      0.31  |Q         |           | V         |           |
13+10       0.0823      0.32  |Q         |           |  V        |           |
13+15       0.0846      0.33  |Q         |           |   V       |           |
13+20       0.0868      0.33  |Q         |           |   V       |           |
13+25       0.0890      0.33  |Q         |           |    V      |           |
13+30       0.0913      0.33  |Q         |           |     V     |           |
13+35       0.0929      0.24  Q          |           |     V     |           |
13+40       0.0944      0.21  Q          |           |     V     |           |
13+45       0.0958      0.21  Q          |           |      V    |           |
13+50       0.0972      0.21  Q          |           |      V    |           |
13+55       0.0986      0.21  Q          |           |       V   |           |
14+ 0       0.1001      0.21  Q          |           |       V   |           |
14+ 5       0.1017      0.24  Q          |           |        V  |           |
14+10       0.1034      0.25  |Q         |           |        V  |           |
14+15       0.1052      0.25  |Q         |           |         V |           |
14+20       0.1068      0.24  Q          |           |         V |           |
14+25       0.1085      0.24  Q          |           |         V |           |
14+30       0.1102      0.24  Q          |           |          |V          |
14+35       0.1118      0.24  Q          |           |          |V          |
14+40       0.1135      0.24  Q          |           |          | V         |
14+45       0.1152      0.24  Q          |           |          | V         |
14+50       0.1168      0.23  Q          |           |          |  V        |
14+55       0.1184      0.23  Q          |           |          |  V        |
15+ 0       0.1200      0.23  Q          |           |          |   V       |
15+ 5       0.1215      0.22  Q          |           |          |   V       |
15+10       0.1230      0.22  Q          |           |          |    V      |
15+15       0.1246      0.22  Q          |           |          |    V      |
15+20       0.1260      0.21  Q          |           |          |    V      |
15+25       0.1275      0.21  Q          |           |          |     V     |
15+30       0.1289      0.21  Q          |           |          |     V     |
15+35       0.1302      0.18  Q          |           |          |      V    |
15+40       0.1313      0.17  Q          |           |          |      V    |
15+45       0.1325      0.17  Q          |           |          |      V    |
15+50       0.1337      0.17  Q          |           |          |       V   |
15+55       0.1348      0.17  Q          |           |          |       V   |
16+ 0       0.1360      0.17  Q          |           |          |       V   |
16+ 5       0.1364      0.05  Q          |           |          |       V   |
16+10       0.1364      0.01  Q          |           |          |       V   |
16+15       0.1364      0.01  Q          |           |          |       V   |
16+20       0.1365      0.01  Q          |           |          |       V   |
16+25       0.1365      0.01  Q          |           |          |       V   |
16+30       0.1366      0.01  Q          |           |          |        V  |
16+35       0.1366      0.00  Q          |           |          |        V  |
16+40       0.1366      0.00  Q          |           |          |        V  |
16+45       0.1366      0.00  Q          |           |          |        V  |
16+50       0.1367      0.00  Q          |           |          |        V  |
16+55       0.1367      0.00  Q          |           |          |        V  |
17+ 0       0.1367      0.00  Q          |           |          |        V  |
17+ 5       0.1368      0.01  Q          |           |          |        V  |
17+10       0.1369      0.02  Q          |           |          |        V  |
17+15       0.1371      0.02  Q          |           |          |        V  |
17+20       0.1372      0.02  Q          |           |          |        V  |
17+25       0.1373      0.02  Q          |           |          |        V  |
17+30       0.1375      0.02  Q          |           |          |        V  |
17+35       0.1376      0.02  Q          |           |          |        V  |
17+40       0.1377      0.02  Q          |           |          |        V  |
17+45       0.1379      0.02  Q          |           |          |        V  |
```

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+50 | 0.1380 | 0.01 | Q | \| | \| | \| | V\| |
| 17+55 | 0.1380 | 0.01 | Q | \| | \| | \| | V\| |
| 18+ 0 | 0.1381 | 0.01 | Q | \| | \| | \| | V\| |
| 18+ 5 | 0.1382 | 0.01 | Q | \| | \| | \| | V\| |
| 18+10 | 0.1382 | 0.01 | Q | \| | \| | \| | V\| |
| 18+15 | 0.1383 | 0.01 | Q | \| | \| | \| | V\| |
| 18+20 | 0.1384 | 0.01 | Q | \| | \| | \| | V\| |
| 18+25 | 0.1385 | 0.01 | Q | \| | \| | \| | V\| |
| 18+30 | 0.1385 | 0.01 | Q | \| | \| | \| | V\| |
| 18+35 | 0.1386 | 0.01 | Q | \| | \| | \| | V\| |
| 18+40 | 0.1386 | 0.00 | Q | \| | \| | \| | V\| |
| 18+45 | 0.1386 | 0.00 | Q | \| | \| | \| | V\| |
| 18+50 | 0.1386 | 0.00 | Q | \| | \| | \| | V\| |
| 18+55 | 0.1386 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 0 | 0.1387 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 5 | 0.1387 | 0.00 | Q | \| | \| | \| | V\| |
| 19+10 | 0.1387 | 0.00 | Q | \| | \| | \| | V\| |
| 19+15 | 0.1387 | 0.00 | Q | \| | \| | \| | V\| |
| 19+20 | 0.1388 | 0.01 | Q | \| | \| | \| | V\| |
| 19+25 | 0.1389 | 0.01 | Q | \| | \| | \| | V\| |
| 19+30 | 0.1390 | 0.01 | Q | \| | \| | \| | V\| |
| 19+35 | 0.1390 | 0.01 | Q | \| | \| | \| | V\| |
| 19+40 | 0.1390 | 0.00 | Q | \| | \| | \| | V\| |
| 19+45 | 0.1391 | 0.00 | Q | \| | \| | \| | V\| |
| 19+50 | 0.1391 | 0.00 | Q | \| | \| | \| | V\| |
| 19+55 | 0.1391 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 0 | 0.1391 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 5 | 0.1391 | 0.00 | Q | \| | \| | \| | V\| |
| 20+10 | 0.1391 | 0.00 | Q | \| | \| | \| | V\| |
| 20+15 | 0.1392 | 0.00 | Q | \| | \| | \| | V\| |
| 20+20 | 0.1392 | 0.00 | Q | \| | \| | \| | V\| |
| 20+25 | 0.1392 | 0.00 | Q | \| | \| | \| | V\| |
| 20+30 | 0.1392 | 0.00 | Q | \| | \| | \| | V\| |
| 20+35 | 0.1393 | 0.00 | Q | \| | \| | \| | V\| |
| 20+40 | 0.1393 | 0.00 | Q | \| | \| | \| | V\| |
| 20+45 | 0.1393 | 0.00 | Q | \| | \| | \| | V\| |
| 20+50 | 0.1393 | 0.00 | Q | \| | \| | \| | V\| |
| 20+55 | 0.1393 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 0 | 0.1394 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 5 | 0.1394 | 0.00 | Q | \| | \| | \| | V\| |
| 21+10 | 0.1394 | 0.00 | Q | \| | \| | \| | V\| |
| 21+15 | 0.1394 | 0.00 | Q | \| | \| | \| | V\| |
| 21+20 | 0.1395 | 0.00 | Q | \| | \| | \| | V\| |
| 21+25 | 0.1395 | 0.00 | Q | \| | \| | \| | V\| |
| 21+30 | 0.1395 | 0.00 | Q | \| | \| | \| | V\| |
| 21+35 | 0.1395 | 0.00 | Q | \| | \| | \| | V\| |
| 21+40 | 0.1395 | 0.00 | Q | \| | \| | \| | V\| |
| 21+45 | 0.1396 | 0.00 | Q | \| | \| | \| | V\| |
| 21+50 | 0.1396 | 0.00 | Q | \| | \| | \| | V\| |
| 21+55 | 0.1396 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 0 | 0.1396 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 5 | 0.1397 | 0.00 | Q | \| | \| | \| | V\| |
| 22+10 | 0.1397 | 0.01 | Q | \| | \| | \| | V\| |
| 22+15 | 0.1397 | 0.01 | Q | \| | \| | \| | V\| |
| 22+20 | 0.1398 | 0.00 | Q | \| | \| | \| | V\| |
| 22+25 | 0.1398 | 0.00 | Q | \| | \| | \| | V\| |
| 22+30 | 0.1398 | 0.00 | Q | \| | \| | \| | V\| |
| 22+35 | 0.1398 | 0.00 | Q | \| | \| | \| | V\| |
| 22+40 | 0.1398 | 0.00 | Q | \| | \| | \| | V\| |
| 22+45 | 0.1398 | 0.00 | Q | \| | \| | \| | V\| |
| 22+50 | 0.1398 | 0.00 | Q | \| | \| | \| | V\| |
| 22+55 | 0.1399 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 0 | 0.1399 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 5 | 0.1399 | 0.00 | Q | \| | \| | \| | V\| |
| 23+10 | 0.1399 | 0.00 | Q | \| | \| | \| | V\| |
| 23+15 | 0.1399 | 0.00 | Q | \| | \| | \| | V\| |
| 23+20 | 0.1399 | 0.00 | Q | \| | \| | \| | V\| |
| 23+25 | 0.1400 | 0.00 | Q | \| | \| | \| | V\| |
| 23+30 | 0.1400 | 0.00 | Q | \| | \| | \| | V\| |
| 23+35 | 0.1400 | 0.00 | Q | \| | \| | \| | V\| |
| 23+40 | 0.1400 | 0.00 | Q | \| | \| | \| | V\| |
| 23+45 | 0.1400 | 0.00 | Q | \| | \| | \| | V\| |
| 23+50 | 0.1400 | 0.00 | Q | \| | \| | \| | V\| |
| 23+55 | 0.1400 | 0.00 | Q | \| | \| | \| | V\| |
| 24+ 0 | 0.1401 | 0.00 | Q | \| | \| | \| | V\| |
| 24+ 5 | 0.1401 | 0.00 | Q | \| | \| | \| | V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX151100.out

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----------------------------------------------------------------------

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 15
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 13.70(Ac.) = 0.021 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 13.70(Ac.) = 0.021 Sq. Mi.
Length along longest watercourse = 1459.00(Ft.)
Length along longest watercourse measured to centroid = 942.00(Ft.)
Length along longest watercourse = 0.276 Mi.
Length along longest watercourse measured to centroid = 0.178 Mi.
Difference in elevation = 408.00(Ft.)
Slope along watercourse = 1476.5182 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.067 Hr.
Lag time = 4.01 Min.
25% of lag time = 1.00 Min.
40% of lag time = 1.61 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 13.70 | 0.49 | 6.71 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 13.70 | 1.20 | 16.44 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.490(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 13.700 | 84.00 | 0.000 |

Total Area Entered = 13.70(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 124.571 | 22.912 | 3.163 |
| 2 | 0.167 | 249.142 | 55.901 | 7.718 |
| 3 | 0.250 | 373.712 | 14.939 | 2.063 |
| 4 | 0.333 | 498.283 | 4.517 | 0.624 |
| 5 | 0.417 | 622.854 | 1.129 | 0.156 |
| 6 | 0.500 | 747.425 | 0.602 | 0.083 |
| | | Sum = 100.000 | Sum= | 13.807 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.086 | ( 0.544) | 0.519 |
| 2 | 0.17 | 4.30 | 0.619 | 0.086 | ( 0.557) | 0.533 |
| 3 | 0.25 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 4 | 0.33 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 5 | 0.42 | 5.80 | 0.835 | 0.086 | ( 0.752) | 0.749 |
| 6 | 0.50 | 6.50 | 0.936 | 0.086 | ( 0.842) | 0.850 |
| 7 | 0.58 | 7.40 | 1.065 | 0.086 | ( 0.959) | 0.980 |
| 8 | 0.67 | 8.60 | 1.238 | 0.086 | ( 1.114) | 1.152 |
| 9 | 0.75 | 12.30 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 10 | 0.83 | 29.10 | 4.190 | 0.086 | ( 3.771) | 4.104 |
| 11 | 0.92 | 6.80 | 0.979 | 0.086 | ( 0.881) | 0.893 |
| 12 | 1.00 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| | (Loss Rate Not Used) | | | | | |
| Sum = | 100.0 | | | | Sum = | 13.4 |

Flood volume = Effective rainfall 1.11(In)
times area 13.7(Ac.)/[(In)/(Ft.)] = 1.3(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.098(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 55402.9 Cubic Feet
Total soil loss = 4266.9 Cubic Feet

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Peak flow rate of this hydrograph = 38.940(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 10.0 20.0 30.0 40.0 |
|---|---|---|---|
| 0+ 5 | 0.0113 | 1.64 | VQ |
| 0+10 | 0.0505 | 5.70 | V Q |
| 0+15 | 0.1001 | 7.20 | V Q |
| 0+20 | 0.1575 | 8.33 | V Q |
| 0+25 | 0.2194 | 8.99 | V Q |
| 0+30 | 0.2904 | 10.31 | VQ |
| 0+35 | 0.3713 | 11.75 | Q |
| 0+40 | 0.4649 | 13.59 | QV |
| 0+45 | 0.5816 | 16.95 | Q V |
| 0+50 | 0.7826 | 29.19 | V Q |
| 0+55 | 1.0508 | 38.94 | V Q |
| 1+ 0 | 1.1795 | 18.69 | Q V |
| 1+ 5 | 1.2461 | 9.66 | Q V |
| 1+10 | 1.2643 | 2.65 | Q V |
| 1+15 | 1.2703 | 0.88 | Q V |

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    1+20       1.2715      0.17  Q         |          |          |        V|
    1+25       1.2719      0.05  Q         |          |          |         V
-------------------------------------------------------------------------
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX153100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 15
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 13.70(Ac.) = 0.021 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 13.70(Ac.) = 0.021 Sq. Mi.
Length along longest watercourse = 1459.00(Ft.)
Length along longest watercourse measured to centroid = 942.00(Ft.)
Length along longest watercourse = 0.276 Mi.
Length along longest watercourse measured to centroid = 0.178 Mi.
Difference in elevation = 408.00(Ft.)
Slope along watercourse = 1476.5182 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.067 Hr.
Lag time = 4.01 Min.
25% of lag time = 1.00 Min.
40% of lag time = 1.61 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 13.70 | 0.80 | 10.96 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 13.70 | 1.80 | 24.66 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 13.700 | 84.00 | 0.000 |

Total Area Entered = 13.70(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 124.571 | 22.912 | 3.163 |
| 2 0.167 | 249.142 | 55.901 | 7.718 |
| 3 0.250 | 373.712 | 14.939 | 2.063 |
| 4 0.333 | 498.283 | 4.517 | 0.624 |
| 5 0.417 | 622.854 | 1.129 | 0.156 |
| 6 0.500 | 747.425 | 0.602 | 0.083 |
| | Sum = | 100.000 Sum= | 13.807 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.281 | 0.086 | ( 0.253) | 0.195 |
| 2 | 0.17 | 1.30 | 0.281 | 0.086 | ( 0.253) | 0.195 |
| 3 | 0.25 | 1.10 | 0.238 | 0.086 | ( 0.214) | 0.152 |
| 4 | 0.33 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 5 | 0.42 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 6 | 0.50 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 7 | 0.58 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 8 | 0.67 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 9 | 0.75 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 10 | 0.83 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 11 | 0.92 | 1.60 | 0.346 | 0.086 | ( 0.311) | 0.260 |
| 12 | 1.00 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 13 | 1.08 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 14 | 1.17 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 15 | 1.25 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 16 | 1.33 | 2.00 | 0.432 | 0.086 | ( 0.389) | 0.346 |
| 17 | 1.42 | 2.60 | 0.562 | 0.086 | ( 0.505) | 0.476 |
| 18 | 1.50 | 2.70 | 0.583 | 0.086 | ( 0.525) | 0.497 |
| 19 | 1.58 | 2.40 | 0.518 | 0.086 | ( 0.467) | 0.433 |
| 20 | 1.67 | 2.70 | 0.583 | 0.086 | ( 0.525) | 0.497 |
| 21 | 1.75 | 3.30 | 0.713 | 0.086 | ( 0.641) | 0.627 |
| 22 | 1.83 | 3.10 | 0.670 | 0.086 | ( 0.603) | 0.584 |
| 23 | 1.92 | 2.90 | 0.626 | 0.086 | ( 0.564) | 0.541 |
| 24 | 2.00 | 3.00 | 0.648 | 0.086 | ( 0.583) | 0.562 |
| 25 | 2.08 | 3.10 | 0.670 | 0.086 | ( 0.603) | 0.584 |
| 26 | 2.17 | 4.20 | 0.907 | 0.086 | ( 0.816) | 0.821 |
| 27 | 2.25 | 5.00 | 1.080 | 0.086 | ( 0.972) | 0.994 |
| 28 | 2.33 | 3.50 | 0.756 | 0.086 | ( 0.680) | 0.670 |
| 29 | 2.42 | 6.80 | 1.469 | 0.086 | ( 1.322) | 1.383 |
| 30 | 2.50 | 7.30 | 1.577 | 0.086 | ( 1.419) | 1.491 |
| 31 | 2.58 | 8.20 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 32 | 2.67 | 5.90 | 1.274 | 0.086 | ( 1.147) | 1.189 |
| 33 | 2.75 | 2.00 | 0.432 | 0.086 | ( 0.389) | 0.346 |
| 34 | 2.83 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 35 | 2.92 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 36 | 3.00 | 0.60 | 0.130 | 0.086 | ( 0.117) | 0.044 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 18.5 |

Flood volume = Effective rainfall 1.54(In)
times area 13.7(Ac.)/[(In)/(Ft.)] = 1.8(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.294(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 76709.7 Cubic Feet
Total soil loss = 12800.8 Cubic Feet

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Peak flow rate of this hydrograph = 20.903(CFS)

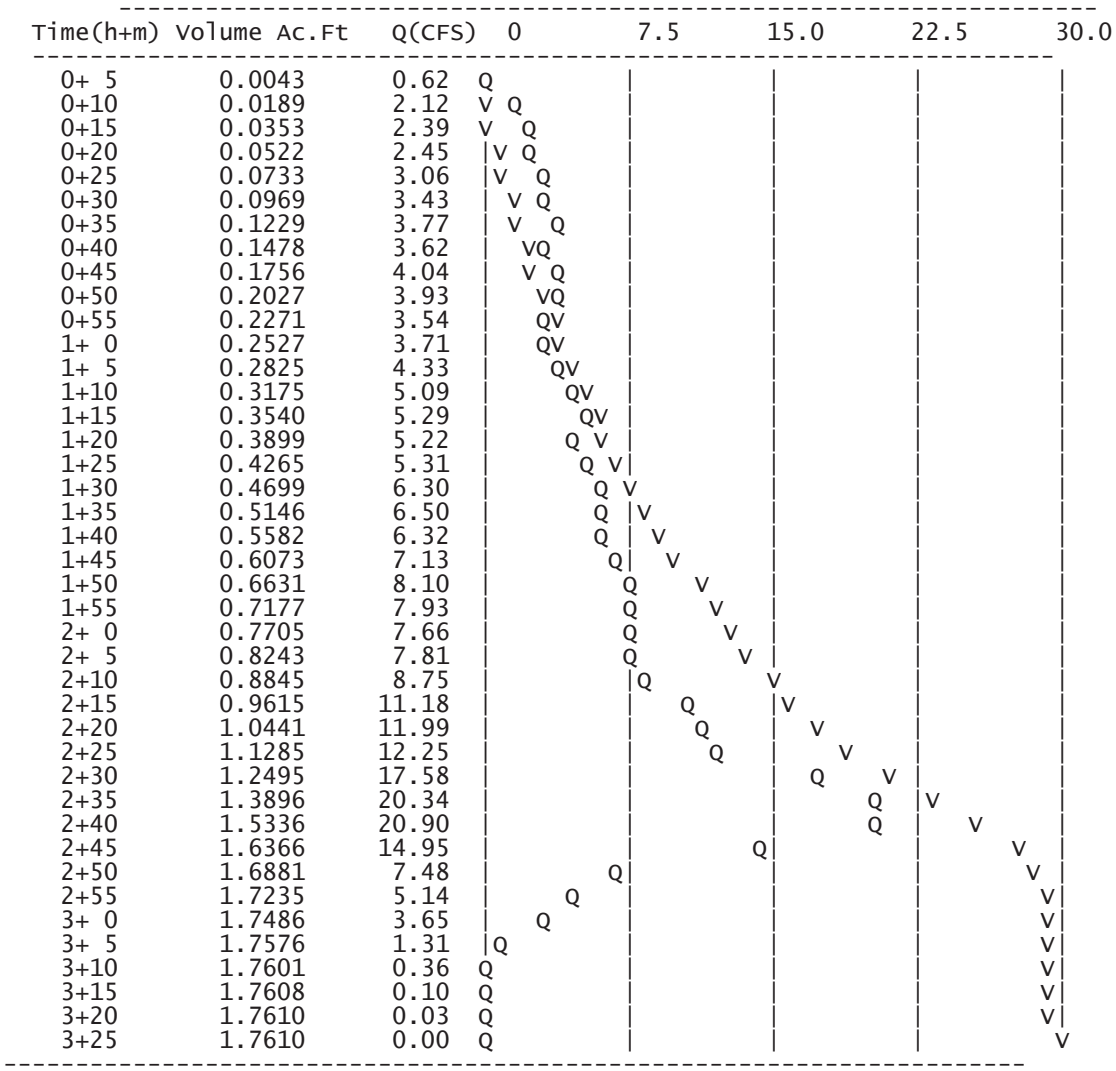
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3 - H O U R S T O R M

R u n o f f  H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))



U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX156100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 15
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 13.70(Ac.) = 0.021 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 13.70(Ac.) = 0.021 Sq. Mi.
Length along longest watercourse = 1459.00(Ft.)
Length along longest watercourse measured to centroid = 942.00(Ft.)
Length along longest watercourse = 0.276 Mi.
Length along longest watercourse measured to centroid = 0.178 Mi.
Difference in elevation = 408.00(Ft.)
Slope along watercourse = 1476.5182 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.067 Hr.
Lag time = 4.01 Min.
25% of lag time = 1.00 Min.
40% of lag time = 1.61 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 13.70 | 1.13 | 15.48 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 13.70 | 2.50 | 34.25 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.130(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 13.700 | 84.00 | 0.000 |

Total Area Entered = 13.70(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 124.571 | 22.912 | 3.163 |
| 2 | 0.167 | 249.142 | 55.901 | 7.718 |
| 3 | 0.250 | 373.712 | 14.939 | 2.063 |
| 4 | 0.333 | 498.283 | 4.517 | 0.624 |
| 5 | 0.417 | 622.854 | 1.129 | 0.156 |
| 6 | 0.500 | 747.425 | 0.602 | 0.083 |
| | | | Sum = 100.000 | Sum= 13.807 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.086 | ( 0.135) | 0.064 |
| 2 | 0.17 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 3 | 0.25 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 4 | 0.33 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 5 | 0.42 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 6 | 0.50 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 7 | 0.58 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 8 | 0.67 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 9 | 0.75 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 10 | 0.83 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 11 | 0.92 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 12 | 1.00 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 13 | 1.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 14 | 1.17 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 15 | 1.25 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 16 | 1.33 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 17 | 1.42 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 18 | 1.50 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 19 | 1.58 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 20 | 1.67 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 21 | 1.75 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 22 | 1.83 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 23 | 1.92 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 24 | 2.00 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 25 | 2.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 26 | 2.17 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 27 | 2.25 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 28 | 2.33 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 29 | 2.42 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 30 | 2.50 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 31 | 2.58 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 32 | 2.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 33 | 2.75 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 34 | 2.83 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 35 | 2.92 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 36 | 3.00 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 37 | 3.08 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 38 | 3.17 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 39 | 3.25 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 40 | 3.33 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 41 | 3.42 | 1.20 | 0.360 | 0.086 | ( 0.324) | 0.274 |
| 42 | 3.50 | 1.30 | 0.390 | 0.086 | ( 0.351) | 0.304 |
| 43 | 3.58 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 44 | 3.67 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 45 | 3.75 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 46 | 3.83 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 47 | 3.92 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 48 | 4.00 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 49 | 4.08 | 1.70 | 0.510 | 0.086 | ( 0.459) | 0.424 |
| 50 | 4.17 | 1.80 | 0.540 | 0.086 | ( 0.486) | 0.454 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 51 | 4.25 | 1.90 | 0.570 | 0.086 | ( 0.513) | 0.484 | |
| 52 | 4.33 | 2.00 | 0.600 | 0.086 | ( 0.540) | 0.514 | |
| 53 | 4.42 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 | |
| 54 | 4.50 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 | |
| 55 | 4.58 | 2.20 | 0.660 | 0.086 | ( 0.594) | 0.574 | |
| 56 | 4.67 | 2.30 | 0.690 | 0.086 | ( 0.621) | 0.604 | |
| 57 | 4.75 | 2.40 | 0.720 | 0.086 | ( 0.648) | 0.634 | |
| 58 | 4.83 | 2.40 | 0.720 | 0.086 | ( 0.648) | 0.634 | |
| 59 | 4.92 | 2.50 | 0.750 | 0.086 | ( 0.675) | 0.664 | |
| 60 | 5.00 | 2.60 | 0.780 | 0.086 | ( 0.702) | 0.694 | |
| 61 | 5.08 | 3.10 | 0.930 | 0.086 | ( 0.837) | 0.844 | |
| 62 | 5.17 | 3.60 | 1.080 | 0.086 | ( 0.972) | 0.994 | |
| 63 | 5.25 | 3.90 | 1.170 | 0.086 | ( 1.053) | 1.084 | |
| 64 | 5.33 | 4.20 | 1.260 | 0.086 | ( 1.134) | 1.174 | |
| 65 | 5.42 | 4.70 | 1.410 | 0.086 | ( 1.269) | 1.324 | |
| 66 | 5.50 | 5.60 | 1.680 | 0.086 | ( 1.512) | 1.594 | |
| 67 | 5.58 | 1.90 | 0.570 | 0.086 | ( 0.513) | 0.484 | |
| 68 | 5.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 | |
| 69 | 5.75 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 | |
| 70 | 5.83 | 0.50 | 0.150 | 0.086 | ( 0.135) | 0.064 | |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.086) | 0.081 | 0.009 | |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.086) | 0.054 | 0.006 | |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.9

Flood volume = Effective rainfall 1.99(In)
times area 13.7(Ac.)/[(In)/(Ft.)] = 2.3(Ac.Ft)
Total soil loss = 0.51(In)
Total soil loss = 0.584(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 98871.8 Cubic Feet
Total soil loss = 25449.8 Cubic Feet

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Peak flow rate of this hydrograph = 18.596(CFS)

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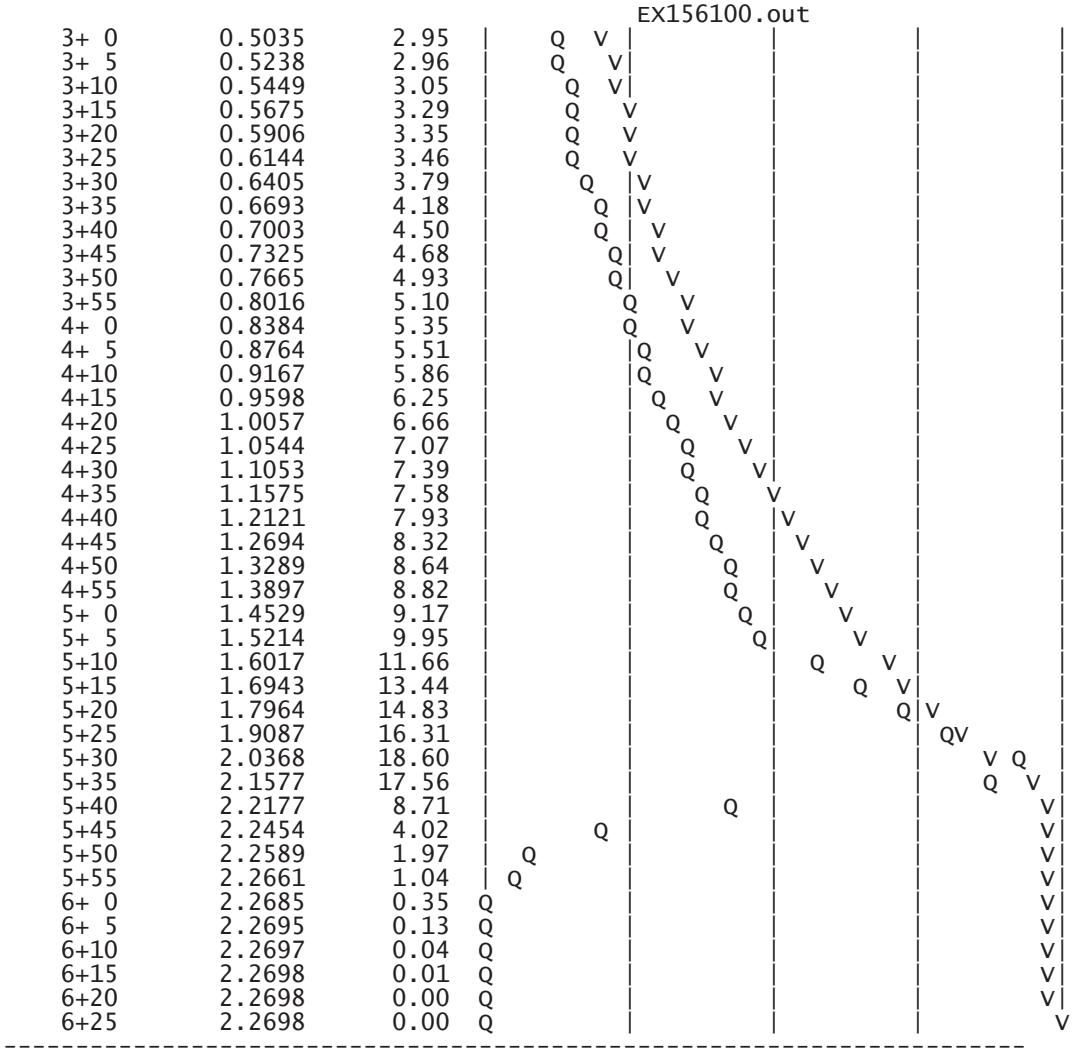
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 5.0 | 10.0 | 15.0 | 20.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0014 | 0.20 | Q | | | | |
| 0+10 | 0.0069 | 0.79 | VQ | | | | |
| 0+15 | 0.0148 | 1.16 | V Q | | | | |
| 0+20 | 0.0235 | 1.26 | V Q | | | | |
| 0+25 | 0.0324 | 1.29 | V Q | | | | |
| 0+30 | 0.0420 | 1.39 | V Q | | | | |
| 0+35 | 0.0532 | 1.63 | V Q | | | | |
| 0+40 | 0.0648 | 1.69 | V Q | | | | |
| 0+45 | 0.0766 | 1.71 | V Q | | | | |
| 0+50 | 0.0884 | 1.71 | V Q | | | | |
| 0+55 | 0.1002 | 1.72 | V Q | | | | |
| 1+ 0 | 0.1127 | 1.81 | V Q | | | | |
| 1+ 5 | 0.1268 | 2.04 | V Q | | | | |
| 1+10 | 0.1412 | 2.10 | V Q | | | | |
| 1+15 | 0.1559 | 2.12 | V Q | | | | |
| 1+20 | 0.1705 | 2.13 | VQ | | | | |
| 1+25 | 0.1852 | 2.13 | VQ | | | | |
| 1+30 | 0.1999 | 2.13 | VQ | | | | |
| 1+35 | 0.2145 | 2.13 | VQ | | | | |
| 1+40 | 0.2292 | 2.13 | Q | | | | |
| 1+45 | 0.2439 | 2.13 | Q | | | | |
| 1+50 | 0.2585 | 2.13 | Q | | | | |
| 1+55 | 0.2732 | 2.13 | Q | | | | |
| 2+ 0 | 0.2885 | 2.22 | QV | | | | |
| 2+ 5 | 0.3048 | 2.36 | QV | | | | |
| 2+10 | 0.3205 | 2.29 | QV | | | | |
| 2+15 | 0.3376 | 2.48 | QV | | | | |
| 2+20 | 0.3550 | 2.52 | QV | | | | |
| 2+25 | 0.3725 | 2.54 | QV | | | | |
| 2+30 | 0.3900 | 2.54 | QV | | | | |
| 2+35 | 0.4075 | 2.54 | Q V | | | | |
| 2+40 | 0.4250 | 2.54 | Q V | | | | |
| 2+45 | 0.4432 | 2.64 | Q V | | | | |
| 2+50 | 0.4630 | 2.87 | Q V | | | | |
| 2+55 | 0.4832 | 2.93 | Q V | | | | |



| | | | |
|---|---|---|---|
| 3+ 0 | 0.5035 | 2.95 | |
| 3+ 5 | 0.5238 | 2.96 | |
| 3+10 | 0.5449 | 3.05 | |
| 3+15 | 0.5675 | 3.29 | |
| 3+20 | 0.5906 | 3.35 | |
| 3+25 | 0.6144 | 3.46 | |
| 3+30 | 0.6405 | 3.79 | |
| 3+35 | 0.6693 | 4.18 | |
| 3+40 | 0.7003 | 4.50 | |
| 3+45 | 0.7325 | 4.68 | |
| 3+50 | 0.7665 | 4.93 | |
| 3+55 | 0.8016 | 5.10 | |
| 4+ 0 | 0.8384 | 5.35 | |
| 4+ 5 | 0.8764 | 5.51 | |
| 4+10 | 0.9167 | 5.86 | |
| 4+15 | 0.9598 | 6.25 | |
| 4+20 | 1.0057 | 6.66 | |
| 4+25 | 1.0544 | 7.07 | |
| 4+30 | 1.1053 | 7.39 | |
| 4+35 | 1.1575 | 7.58 | |
| 4+40 | 1.2121 | 7.93 | |
| 4+45 | 1.2694 | 8.32 | |
| 4+50 | 1.3289 | 8.64 | |
| 4+55 | 1.3897 | 8.82 | |
| 5+ 0 | 1.4529 | 9.17 | |
| 5+ 5 | 1.5214 | 9.95 | |
| 5+10 | 1.6017 | 11.66 | |
| 5+15 | 1.6943 | 13.44 | |
| 5+20 | 1.7964 | 14.83 | |
| 5+25 | 1.9087 | 16.31 | |
| 5+30 | 2.0368 | 18.60 | |
| 5+35 | 2.1577 | 17.56 | |
| 5+40 | 2.2177 | 8.71 | |
| 5+45 | 2.2454 | 4.02 | |
| 5+50 | 2.2589 | 1.97 | |
| 5+55 | 2.2661 | 1.04 | |
| 6+ 0 | 2.2685 | 0.35 | |
| 6+ 5 | 2.2695 | 0.13 | |
| 6+10 | 2.2697 | 0.04 | |
| 6+15 | 2.2698 | 0.01 | |
| 6+20 | 2.2698 | 0.00 | |
| 6+25 | 2.2698 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX1524100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 15
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 13.70(Ac.) = 0.021 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 13.70(Ac.) = 0.021 Sq. Mi.
Length along longest watercourse = 1459.00(Ft.)
Length along longest watercourse measured to centroid = 942.00(Ft.)
Length along longest watercourse = 0.276 Mi.
Length along longest watercourse measured to centroid = 0.178 Mi.
Difference in elevation = 408.00(Ft.)
Slope along watercourse = 1476.5182 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.067 Hr.
Lag time = 4.01 Min.
25% of lag time = 1.00 Min.
40% of lag time = 1.61 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 13.70 | 1.80 | 24.66 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 13.70 | 4.54 | 62.20 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.540(In)

Point rain (area averaged) = 4.540(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.540(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 13.700 | 84.00 | 0.000 |

Total Area Entered = 13.70(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 124.571 | 22.912 | 3.163 |
| 2 0.167 | 249.142 | 55.901 | 7.718 |
| 3 0.250 | 373.712 | 14.939 | 2.063 |
| 4 0.333 | 498.283 | 4.517 | 0.624 |
| 5 0.417 | 622.854 | 1.129 | 0.156 |
| 6 0.500 | 747.425 | 0.602 | 0.083 |
| | | Sum = 100.000 | Sum= 13.807 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.036 | ( 0.152) | 0.033 | 0.004 |
| 2 | 0.17 | 0.07 | 0.036 | ( 0.152) | 0.033 | 0.004 |
| 3 | 0.25 | 0.07 | 0.036 | ( 0.151) | 0.033 | 0.004 |
| 4 | 0.33 | 0.10 | 0.054 | ( 0.150) | 0.049 | 0.005 |
| 5 | 0.42 | 0.10 | 0.054 | ( 0.150) | 0.049 | 0.005 |
| 6 | 0.50 | 0.10 | 0.054 | ( 0.149) | 0.049 | 0.005 |
| 7 | 0.58 | 0.10 | 0.054 | ( 0.149) | 0.049 | 0.005 |
| 8 | 0.67 | 0.10 | 0.054 | ( 0.148) | 0.049 | 0.005 |
| 9 | 0.75 | 0.10 | 0.054 | ( 0.147) | 0.049 | 0.005 |
| 10 | 0.83 | 0.13 | 0.073 | ( 0.147) | 0.065 | 0.007 |
| 11 | 0.92 | 0.13 | 0.073 | ( 0.146) | 0.065 | 0.007 |
| 12 | 1.00 | 0.13 | 0.073 | ( 0.146) | 0.065 | 0.007 |
| 13 | 1.08 | 0.10 | 0.054 | ( 0.145) | 0.049 | 0.005 |
| 14 | 1.17 | 0.10 | 0.054 | ( 0.145) | 0.049 | 0.005 |
| 15 | 1.25 | 0.10 | 0.054 | ( 0.144) | 0.049 | 0.005 |
| 16 | 1.33 | 0.10 | 0.054 | ( 0.143) | 0.049 | 0.005 |
| 17 | 1.42 | 0.10 | 0.054 | ( 0.143) | 0.049 | 0.005 |
| 18 | 1.50 | 0.10 | 0.054 | ( 0.142) | 0.049 | 0.005 |
| 19 | 1.58 | 0.10 | 0.054 | ( 0.142) | 0.049 | 0.005 |
| 20 | 1.67 | 0.10 | 0.054 | ( 0.141) | 0.049 | 0.005 |
| 21 | 1.75 | 0.10 | 0.054 | ( 0.141) | 0.049 | 0.005 |
| 22 | 1.83 | 0.13 | 0.073 | ( 0.140) | 0.065 | 0.007 |
| 23 | 1.92 | 0.13 | 0.073 | ( 0.139) | 0.065 | 0.007 |
| 24 | 2.00 | 0.13 | 0.073 | ( 0.139) | 0.065 | 0.007 |
| 25 | 2.08 | 0.13 | 0.073 | ( 0.138) | 0.065 | 0.007 |
| 26 | 2.17 | 0.13 | 0.073 | ( 0.138) | 0.065 | 0.007 |
| 27 | 2.25 | 0.13 | 0.073 | ( 0.137) | 0.065 | 0.007 |
| 28 | 2.33 | 0.13 | 0.073 | ( 0.137) | 0.065 | 0.007 |
| 29 | 2.42 | 0.13 | 0.073 | ( 0.136) | 0.065 | 0.007 |
| 30 | 2.50 | 0.13 | 0.073 | ( 0.136) | 0.065 | 0.007 |
| 31 | 2.58 | 0.17 | 0.091 | ( 0.135) | 0.082 | 0.009 |
| 32 | 2.67 | 0.17 | 0.091 | ( 0.134) | 0.082 | 0.009 |
| 33 | 2.75 | 0.17 | 0.091 | ( 0.134) | 0.082 | 0.009 |
| 34 | 2.83 | 0.17 | 0.091 | ( 0.133) | 0.082 | 0.009 |
| 35 | 2.92 | 0.17 | 0.091 | ( 0.133) | 0.082 | 0.009 |
| 36 | 3.00 | 0.17 | 0.091 | ( 0.132) | 0.082 | 0.009 |
| 37 | 3.08 | 0.17 | 0.091 | ( 0.132) | 0.082 | 0.009 |
| 38 | 3.17 | 0.17 | 0.091 | ( 0.131) | 0.082 | 0.009 |
| 39 | 3.25 | 0.17 | 0.091 | ( 0.131) | 0.082 | 0.009 |
| 40 | 3.33 | 0.17 | 0.091 | ( 0.130) | 0.082 | 0.009 |
| 41 | 3.42 | 0.17 | 0.091 | ( 0.129) | 0.082 | 0.009 |
| 42 | 3.50 | 0.17 | 0.091 | ( 0.129) | 0.082 | 0.009 |
| 43 | 3.58 | 0.17 | 0.091 | ( 0.128) | 0.082 | 0.009 |
| 44 | 3.67 | 0.17 | 0.091 | ( 0.128) | 0.082 | 0.009 |
| 45 | 3.75 | 0.17 | 0.091 | ( 0.127) | 0.082 | 0.009 |
| 46 | 3.83 | 0.20 | 0.109 | ( 0.127) | 0.098 | 0.011 |
| 47 | 3.92 | 0.20 | 0.109 | ( 0.126) | 0.098 | 0.011 |
| 48 | 4.00 | 0.20 | 0.109 | ( 0.126) | 0.098 | 0.011 |
| 49 | 4.08 | 0.20 | 0.109 | ( 0.125) | 0.098 | 0.011 |
| 50 | 4.17 | 0.20 | 0.109 | ( 0.125) | 0.098 | 0.011 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 51 | 4.25 | 0.20 | 0.109 | ( | 0.124) | 0.098 | | 0.011 |
| 52 | 4.33 | 0.23 | 0.127 | ( | 0.124) | 0.114 | | 0.013 |
| 53 | 4.42 | 0.23 | 0.127 | ( | 0.123) | 0.114 | | 0.013 |
| 54 | 4.50 | 0.23 | 0.127 | ( | 0.123) | 0.114 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.127 | ( | 0.122) | 0.114 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.127 | ( | 0.121) | 0.114 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.127 | ( | 0.121) | 0.114 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.145 | | 0.120 | ( | 0.131) | 0.025 |
| 59 | 4.92 | 0.27 | 0.145 | | 0.120 | ( | 0.131) | 0.025 |
| 60 | 5.00 | 0.27 | 0.145 | | 0.119 | ( | 0.131) | 0.026 |
| 61 | 5.08 | 0.20 | 0.109 | ( | 0.119) | 0.098 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.109 | ( | 0.118) | 0.098 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.109 | ( | 0.118) | 0.098 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.127 | ( | 0.117) | 0.114 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.127 | ( | 0.117) | 0.114 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.127 | ( | 0.116) | 0.114 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.145 | | 0.116 | ( | 0.131) | 0.029 |
| 68 | 5.67 | 0.27 | 0.145 | | 0.115 | ( | 0.131) | 0.030 |
| 69 | 5.75 | 0.27 | 0.145 | | 0.115 | ( | 0.131) | 0.031 |
| 70 | 5.83 | 0.27 | 0.145 | | 0.114 | ( | 0.131) | 0.031 |
| 71 | 5.92 | 0.27 | 0.145 | | 0.114 | ( | 0.131) | 0.032 |
| 72 | 6.00 | 0.27 | 0.145 | | 0.113 | ( | 0.131) | 0.032 |
| 73 | 6.08 | 0.30 | 0.163 | | 0.113 | ( | 0.147) | 0.051 |
| 74 | 6.17 | 0.30 | 0.163 | | 0.112 | ( | 0.147) | 0.051 |
| 75 | 6.25 | 0.30 | 0.163 | | 0.112 | ( | 0.147) | 0.052 |
| 76 | 6.33 | 0.30 | 0.163 | | 0.111 | ( | 0.147) | 0.052 |
| 77 | 6.42 | 0.30 | 0.163 | | 0.111 | ( | 0.147) | 0.053 |
| 78 | 6.50 | 0.30 | 0.163 | | 0.110 | ( | 0.147) | 0.053 |
| 79 | 6.58 | 0.33 | 0.182 | | 0.110 | ( | 0.163) | 0.072 |
| 80 | 6.67 | 0.33 | 0.182 | | 0.109 | ( | 0.163) | 0.072 |
| 81 | 6.75 | 0.33 | 0.182 | | 0.109 | ( | 0.163) | 0.073 |
| 82 | 6.83 | 0.33 | 0.182 | | 0.108 | ( | 0.163) | 0.073 |
| 83 | 6.92 | 0.33 | 0.182 | | 0.108 | ( | 0.163) | 0.074 |
| 84 | 7.00 | 0.33 | 0.182 | | 0.107 | ( | 0.163) | 0.074 |
| 85 | 7.08 | 0.33 | 0.182 | | 0.107 | ( | 0.163) | 0.075 |
| 86 | 7.17 | 0.33 | 0.182 | | 0.106 | ( | 0.163) | 0.075 |
| 87 | 7.25 | 0.33 | 0.182 | | 0.106 | ( | 0.163) | 0.076 |
| 88 | 7.33 | 0.37 | 0.200 | | 0.105 | ( | 0.180) | 0.094 |
| 89 | 7.42 | 0.37 | 0.200 | | 0.105 | ( | 0.180) | 0.095 |
| 90 | 7.50 | 0.37 | 0.200 | | 0.104 | ( | 0.180) | 0.095 |
| 91 | 7.58 | 0.40 | 0.218 | | 0.104 | ( | 0.196) | 0.114 |
| 92 | 7.67 | 0.40 | 0.218 | | 0.103 | ( | 0.196) | 0.114 |
| 93 | 7.75 | 0.40 | 0.218 | | 0.103 | ( | 0.196) | 0.115 |
| 94 | 7.83 | 0.43 | 0.236 | | 0.102 | ( | 0.212) | 0.134 |
| 95 | 7.92 | 0.43 | 0.236 | | 0.102 | ( | 0.212) | 0.134 |
| 96 | 8.00 | 0.43 | 0.236 | | 0.102 | ( | 0.212) | 0.135 |
| 97 | 8.08 | 0.50 | 0.272 | | 0.101 | ( | 0.245) | 0.171 |
| 98 | 8.17 | 0.50 | 0.272 | | 0.101 | ( | 0.245) | 0.172 |
| 99 | 8.25 | 0.50 | 0.272 | | 0.100 | ( | 0.245) | 0.172 |
| 100 | 8.33 | 0.50 | 0.272 | | 0.100 | ( | 0.245) | 0.173 |
| 101 | 8.42 | 0.50 | 0.272 | | 0.099 | ( | 0.245) | 0.173 |
| 102 | 8.50 | 0.50 | 0.272 | | 0.099 | ( | 0.245) | 0.174 |
| 103 | 8.58 | 0.53 | 0.291 | | 0.098 | ( | 0.261) | 0.192 |
| 104 | 8.67 | 0.53 | 0.291 | | 0.098 | ( | 0.261) | 0.193 |
| 105 | 8.75 | 0.53 | 0.291 | | 0.097 | ( | 0.261) | 0.193 |
| 106 | 8.83 | 0.57 | 0.309 | | 0.097 | ( | 0.278) | 0.212 |
| 107 | 8.92 | 0.57 | 0.309 | | 0.096 | ( | 0.278) | 0.212 |
| 108 | 9.00 | 0.57 | 0.309 | | 0.096 | ( | 0.278) | 0.213 |
| 109 | 9.08 | 0.63 | 0.345 | | 0.096 | ( | 0.311) | 0.250 |
| 110 | 9.17 | 0.63 | 0.345 | | 0.095 | ( | 0.311) | 0.250 |
| 111 | 9.25 | 0.63 | 0.345 | | 0.095 | ( | 0.311) | 0.250 |
| 112 | 9.33 | 0.67 | 0.363 | | 0.094 | ( | 0.327) | 0.269 |
| 113 | 9.42 | 0.67 | 0.363 | | 0.094 | ( | 0.327) | 0.269 |
| 114 | 9.50 | 0.67 | 0.363 | | 0.093 | ( | 0.327) | 0.270 |
| 115 | 9.58 | 0.70 | 0.381 | | 0.093 | ( | 0.343) | 0.289 |
| 116 | 9.67 | 0.70 | 0.381 | | 0.092 | ( | 0.343) | 0.289 |
| 117 | 9.75 | 0.70 | 0.381 | | 0.092 | ( | 0.343) | 0.289 |
| 118 | 9.83 | 0.73 | 0.400 | | 0.091 | ( | 0.360) | 0.308 |
| 119 | 9.92 | 0.73 | 0.400 | | 0.091 | ( | 0.360) | 0.308 |
| 120 | 10.00 | 0.73 | 0.400 | | 0.091 | ( | 0.360) | 0.309 |
| 121 | 10.08 | 0.50 | 0.272 | | 0.090 | ( | 0.245) | 0.182 |
| 122 | 10.17 | 0.50 | 0.272 | | 0.090 | ( | 0.245) | 0.183 |
| 123 | 10.25 | 0.50 | 0.272 | | 0.089 | ( | 0.245) | 0.183 |
| 124 | 10.33 | 0.50 | 0.272 | | 0.089 | ( | 0.245) | 0.184 |
| 125 | 10.42 | 0.50 | 0.272 | | 0.088 | ( | 0.245) | 0.184 |
| 126 | 10.50 | 0.50 | 0.272 | | 0.088 | ( | 0.245) | 0.184 |
| 127 | 10.58 | 0.67 | 0.363 | | 0.088 | ( | 0.327) | 0.276 |
| 128 | 10.67 | 0.67 | 0.363 | | 0.087 | ( | 0.327) | 0.276 |

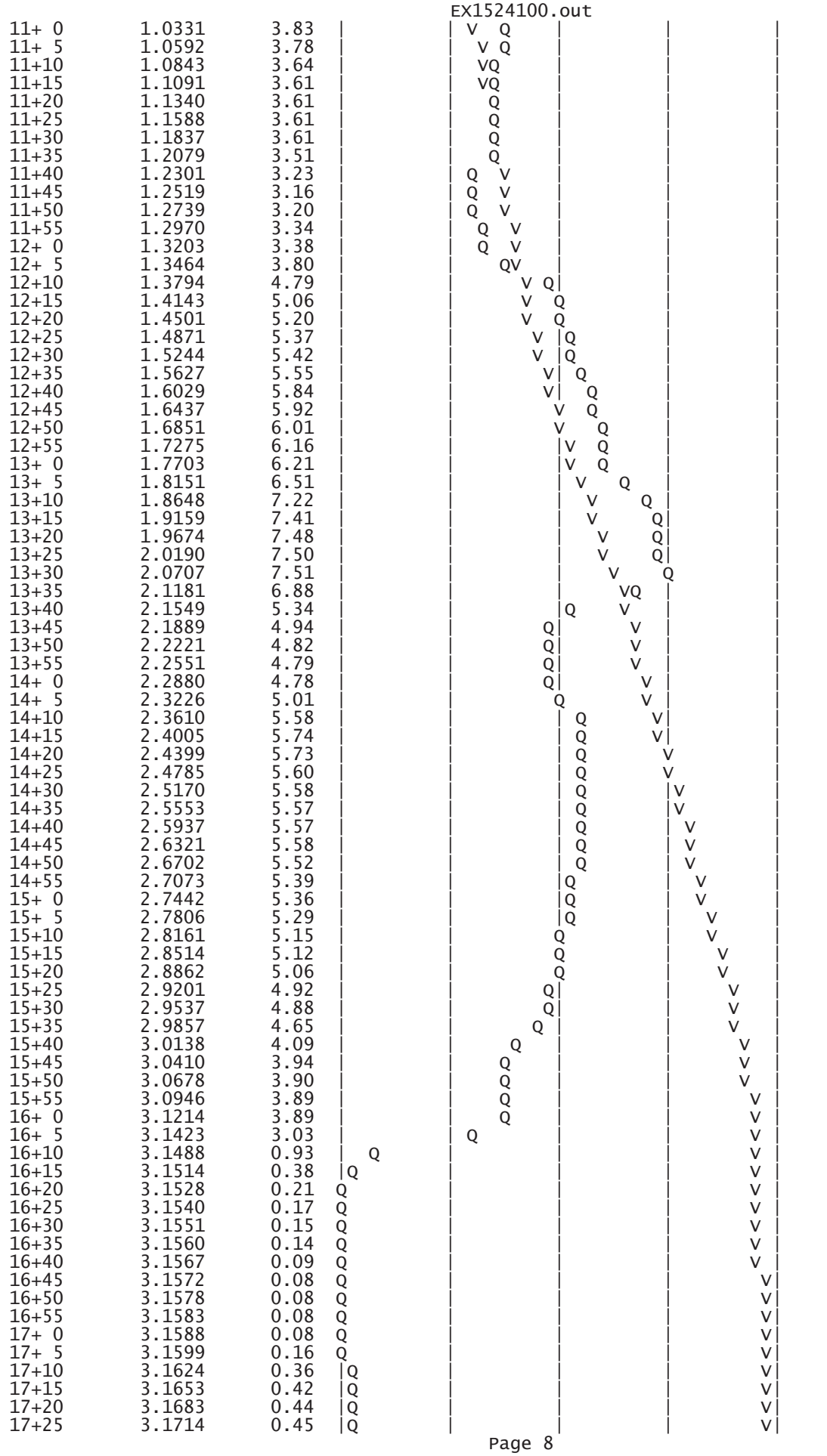
| | | | | | | |
|---|---|---|---|---|---|---|
| 129 | 10.75 | 0.67 | 0.363 | 0.087 | ( 0.327) | 0.276 |
| 130 | 10.83 | 0.67 | 0.363 | 0.086 | ( 0.327) | 0.277 |
| 131 | 10.92 | 0.67 | 0.363 | 0.086 | ( 0.327) | 0.277 |
| 132 | 11.00 | 0.67 | 0.363 | 0.085 | ( 0.327) | 0.278 |
| 133 | 11.08 | 0.63 | 0.345 | 0.085 | ( 0.311) | 0.260 |
| 134 | 11.17 | 0.63 | 0.345 | 0.085 | ( 0.311) | 0.260 |
| 135 | 11.25 | 0.63 | 0.345 | 0.084 | ( 0.311) | 0.261 |
| 136 | 11.33 | 0.63 | 0.345 | 0.084 | ( 0.311) | 0.261 |
| 137 | 11.42 | 0.63 | 0.345 | 0.083 | ( 0.311) | 0.262 |
| 138 | 11.50 | 0.63 | 0.345 | 0.083 | ( 0.311) | 0.262 |
| 139 | 11.58 | 0.57 | 0.309 | 0.083 | ( 0.278) | 0.226 |
| 140 | 11.67 | 0.57 | 0.309 | 0.082 | ( 0.278) | 0.227 |
| 141 | 11.75 | 0.57 | 0.309 | 0.082 | ( 0.278) | 0.227 |
| 142 | 11.83 | 0.60 | 0.327 | 0.081 | ( 0.294) | 0.246 |
| 143 | 11.92 | 0.60 | 0.327 | 0.081 | ( 0.294) | 0.246 |
| 144 | 12.00 | 0.60 | 0.327 | 0.080 | ( 0.294) | 0.246 |
| 145 | 12.08 | 0.83 | 0.454 | 0.080 | ( 0.409) | 0.374 |
| 146 | 12.17 | 0.83 | 0.454 | 0.080 | ( 0.409) | 0.374 |
| 147 | 12.25 | 0.83 | 0.454 | 0.079 | ( 0.409) | 0.375 |
| 148 | 12.33 | 0.87 | 0.472 | 0.079 | ( 0.425) | 0.393 |
| 149 | 12.42 | 0.87 | 0.472 | 0.078 | ( 0.425) | 0.394 |
| 150 | 12.50 | 0.87 | 0.472 | 0.078 | ( 0.425) | 0.394 |
| 151 | 12.58 | 0.93 | 0.508 | 0.078 | ( 0.458) | 0.431 |
| 152 | 12.67 | 0.93 | 0.508 | 0.077 | ( 0.458) | 0.431 |
| 153 | 12.75 | 0.93 | 0.508 | 0.077 | ( 0.458) | 0.432 |
| 154 | 12.83 | 0.97 | 0.527 | 0.077 | ( 0.474) | 0.450 |
| 155 | 12.92 | 0.97 | 0.527 | 0.076 | ( 0.474) | 0.450 |
| 156 | 13.00 | 0.97 | 0.527 | 0.076 | ( 0.474) | 0.451 |
| 157 | 13.08 | 1.13 | 0.617 | 0.075 | ( 0.556) | 0.542 |
| 158 | 13.17 | 1.13 | 0.617 | 0.075 | ( 0.556) | 0.542 |
| 159 | 13.25 | 1.13 | 0.617 | 0.075 | ( 0.556) | 0.543 |
| 160 | 13.33 | 1.13 | 0.617 | 0.074 | ( 0.556) | 0.543 |
| 161 | 13.42 | 1.13 | 0.617 | 0.074 | ( 0.556) | 0.544 |
| 162 | 13.50 | 1.13 | 0.617 | 0.073 | ( 0.556) | 0.544 |
| 163 | 13.58 | 0.77 | 0.418 | 0.073 | ( 0.376) | 0.345 |
| 164 | 13.67 | 0.77 | 0.418 | 0.073 | ( 0.376) | 0.345 |
| 165 | 13.75 | 0.77 | 0.418 | 0.072 | ( 0.376) | 0.345 |
| 166 | 13.83 | 0.77 | 0.418 | 0.072 | ( 0.376) | 0.346 |
| 167 | 13.92 | 0.77 | 0.418 | 0.072 | ( 0.376) | 0.346 |
| 168 | 14.00 | 0.77 | 0.418 | 0.071 | ( 0.376) | 0.346 |
| 169 | 14.08 | 0.90 | 0.490 | 0.071 | ( 0.441) | 0.419 |
| 170 | 14.17 | 0.90 | 0.490 | 0.071 | ( 0.441) | 0.420 |
| 171 | 14.25 | 0.90 | 0.490 | 0.070 | ( 0.441) | 0.420 |
| 172 | 14.33 | 0.87 | 0.472 | 0.070 | ( 0.425) | 0.402 |
| 173 | 14.42 | 0.87 | 0.472 | 0.069 | ( 0.425) | 0.403 |
| 174 | 14.50 | 0.87 | 0.472 | 0.069 | ( 0.425) | 0.403 |
| 175 | 14.58 | 0.87 | 0.472 | 0.069 | ( 0.425) | 0.403 |
| 176 | 14.67 | 0.87 | 0.472 | 0.068 | ( 0.425) | 0.404 |
| 177 | 14.75 | 0.87 | 0.472 | 0.068 | ( 0.425) | 0.404 |
| 178 | 14.83 | 0.83 | 0.454 | 0.068 | ( 0.409) | 0.386 |
| 179 | 14.92 | 0.83 | 0.454 | 0.067 | ( 0.409) | 0.387 |
| 180 | 15.00 | 0.83 | 0.454 | 0.067 | ( 0.409) | 0.387 |
| 181 | 15.08 | 0.80 | 0.436 | 0.067 | ( 0.392) | 0.369 |
| 182 | 15.17 | 0.80 | 0.436 | 0.066 | ( 0.392) | 0.370 |
| 183 | 15.25 | 0.80 | 0.436 | 0.066 | ( 0.392) | 0.370 |
| 184 | 15.33 | 0.77 | 0.418 | 0.066 | ( 0.376) | 0.352 |
| 185 | 15.42 | 0.77 | 0.418 | 0.065 | ( 0.376) | 0.352 |
| 186 | 15.50 | 0.77 | 0.418 | 0.065 | ( 0.376) | 0.353 |
| 187 | 15.58 | 0.63 | 0.345 | 0.065 | ( 0.311) | 0.280 |
| 188 | 15.67 | 0.63 | 0.345 | 0.064 | ( 0.311) | 0.281 |
| 189 | 15.75 | 0.63 | 0.345 | 0.064 | ( 0.311) | 0.281 |
| 190 | 15.83 | 0.63 | 0.345 | 0.064 | ( 0.311) | 0.281 |
| 191 | 15.92 | 0.63 | 0.345 | 0.063 | ( 0.311) | 0.282 |
| 192 | 16.00 | 0.63 | 0.345 | 0.063 | ( 0.311) | 0.282 |
| 193 | 16.08 | 0.13 | 0.073 | 0.063 | ( 0.065) | 0.010 |
| 194 | 16.17 | 0.13 | 0.073 | 0.062 | ( 0.065) | 0.010 |
| 195 | 16.25 | 0.13 | 0.073 | 0.062 | ( 0.065) | 0.011 |
| 196 | 16.33 | 0.13 | 0.073 | 0.062 | ( 0.065) | 0.011 |
| 197 | 16.42 | 0.13 | 0.073 | 0.061 | ( 0.065) | 0.011 |
| 198 | 16.50 | 0.13 | 0.073 | 0.061 | ( 0.065) | 0.012 |
| 199 | 16.58 | 0.10 | 0.054 | ( 0.061) | 0.049 | 0.005 |
| 200 | 16.67 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 201 | 16.75 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 202 | 16.83 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 203 | 16.92 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 204 | 17.00 | 0.10 | 0.054 | ( 0.059) | 0.049 | 0.005 |
| 205 | 17.08 | 0.17 | 0.091 | 0.059 | ( 0.082) | 0.032 |
| 206 | 17.17 | 0.17 | 0.091 | 0.059 | ( 0.082) | 0.032 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 207 | 17.25 | 0.17 | 0.091 | | 0.058 | ( | 0.082) | 0.032 |
| 208 | 17.33 | 0.17 | 0.091 | | 0.058 | ( | 0.082) | 0.033 |
| 209 | 17.42 | 0.17 | 0.091 | | 0.058 | ( | 0.082) | 0.033 |
| 210 | 17.50 | 0.17 | 0.091 | | 0.058 | ( | 0.082) | 0.033 |
| 211 | 17.58 | 0.17 | 0.091 | | 0.057 | ( | 0.082) | 0.034 |
| 212 | 17.67 | 0.17 | 0.091 | | 0.057 | ( | 0.082) | 0.034 |
| 213 | 17.75 | 0.17 | 0.091 | | 0.057 | ( | 0.082) | 0.034 |
| 214 | 17.83 | 0.13 | 0.073 | | 0.056 | ( | 0.065) | 0.016 |
| 215 | 17.92 | 0.13 | 0.073 | | 0.056 | ( | 0.065) | 0.017 |
| 216 | 18.00 | 0.13 | 0.073 | | 0.056 | ( | 0.065) | 0.017 |
| 217 | 18.08 | 0.13 | 0.073 | | 0.056 | ( | 0.065) | 0.017 |
| 218 | 18.17 | 0.13 | 0.073 | | 0.055 | ( | 0.065) | 0.017 |
| 219 | 18.25 | 0.13 | 0.073 | | 0.055 | ( | 0.065) | 0.018 |
| 220 | 18.33 | 0.13 | 0.073 | | 0.055 | ( | 0.065) | 0.018 |
| 221 | 18.42 | 0.13 | 0.073 | | 0.054 | ( | 0.065) | 0.018 |
| 222 | 18.50 | 0.13 | 0.073 | | 0.054 | ( | 0.065) | 0.018 |
| 223 | 18.58 | 0.10 | 0.054 | ( | 0.054) | | 0.049 | 0.005 |
| 224 | 18.67 | 0.10 | 0.054 | ( | 0.054) | | 0.049 | 0.005 |
| 225 | 18.75 | 0.10 | 0.054 | ( | 0.053) | | 0.049 | 0.005 |
| 226 | 18.83 | 0.07 | 0.036 | ( | 0.053) | | 0.033 | 0.004 |
| 227 | 18.92 | 0.07 | 0.036 | ( | 0.053) | | 0.033 | 0.004 |
| 228 | 19.00 | 0.07 | 0.036 | ( | 0.053) | | 0.033 | 0.004 |
| 229 | 19.08 | 0.10 | 0.054 | ( | 0.052) | | 0.049 | 0.005 |
| 230 | 19.17 | 0.10 | 0.054 | ( | 0.052) | | 0.049 | 0.005 |
| 231 | 19.25 | 0.10 | 0.054 | ( | 0.052) | | 0.049 | 0.005 |
| 232 | 19.33 | 0.13 | 0.073 | | 0.052 | ( | 0.065) | 0.021 |
| 233 | 19.42 | 0.13 | 0.073 | | 0.051 | ( | 0.065) | 0.021 |
| 234 | 19.50 | 0.13 | 0.073 | | 0.051 | ( | 0.065) | 0.021 |
| 235 | 19.58 | 0.10 | 0.054 | ( | 0.051) | | 0.049 | 0.005 |
| 236 | 19.67 | 0.10 | 0.054 | ( | 0.051) | | 0.049 | 0.005 |
| 237 | 19.75 | 0.10 | 0.054 | ( | 0.050) | | 0.049 | 0.005 |
| 238 | 19.83 | 0.07 | 0.036 | ( | 0.050) | | 0.033 | 0.004 |
| 239 | 19.92 | 0.07 | 0.036 | ( | 0.050) | | 0.033 | 0.004 |
| 240 | 20.00 | 0.07 | 0.036 | ( | 0.050) | | 0.033 | 0.004 |
| 241 | 20.08 | 0.10 | 0.054 | ( | 0.050) | | 0.049 | 0.005 |
| 242 | 20.17 | 0.10 | 0.054 | ( | 0.049) | | 0.049 | 0.005 |
| 243 | 20.25 | 0.10 | 0.054 | ( | 0.049) | | 0.049 | 0.005 |
| 244 | 20.33 | 0.10 | 0.054 | | 0.049 | ( | 0.049) | 0.006 |
| 245 | 20.42 | 0.10 | 0.054 | | 0.049 | ( | 0.049) | 0.006 |
| 246 | 20.50 | 0.10 | 0.054 | | 0.049 | ( | 0.049) | 0.006 |
| 247 | 20.58 | 0.10 | 0.054 | | 0.048 | ( | 0.049) | 0.006 |
| 248 | 20.67 | 0.10 | 0.054 | | 0.048 | ( | 0.049) | 0.006 |
| 249 | 20.75 | 0.10 | 0.054 | | 0.048 | ( | 0.049) | 0.007 |
| 250 | 20.83 | 0.07 | 0.036 | ( | 0.048) | | 0.033 | 0.004 |
| 251 | 20.92 | 0.07 | 0.036 | ( | 0.048) | | 0.033 | 0.004 |
| 252 | 21.00 | 0.07 | 0.036 | ( | 0.047) | | 0.033 | 0.004 |
| 253 | 21.08 | 0.10 | 0.054 | | 0.047 | ( | 0.049) | 0.007 |
| 254 | 21.17 | 0.10 | 0.054 | | 0.047 | ( | 0.049) | 0.007 |
| 255 | 21.25 | 0.10 | 0.054 | | 0.047 | ( | 0.049) | 0.008 |
| 256 | 21.33 | 0.07 | 0.036 | ( | 0.047) | | 0.033 | 0.004 |
| 257 | 21.42 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 258 | 21.50 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 259 | 21.58 | 0.10 | 0.054 | | 0.046 | ( | 0.049) | 0.008 |
| 260 | 21.67 | 0.10 | 0.054 | | 0.046 | ( | 0.049) | 0.009 |
| 261 | 21.75 | 0.10 | 0.054 | | 0.046 | ( | 0.049) | 0.009 |
| 262 | 21.83 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 263 | 21.92 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 264 | 22.00 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 265 | 22.08 | 0.10 | 0.054 | | 0.045 | ( | 0.049) | 0.009 |
| 266 | 22.17 | 0.10 | 0.054 | | 0.045 | ( | 0.049) | 0.009 |
| 267 | 22.25 | 0.10 | 0.054 | | 0.045 | ( | 0.049) | 0.010 |
| 268 | 22.33 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 269 | 22.42 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 270 | 22.50 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 271 | 22.58 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 272 | 22.67 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 273 | 22.75 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 274 | 22.83 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 275 | 22.92 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 276 | 23.00 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 277 | 23.08 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 278 | 23.17 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 279 | 23.25 | 0.07 | 0.036 | ( | 0.043) | | 0.033 | 0.004 |
| 280 | 23.33 | 0.07 | 0.036 | ( | 0.043) | | 0.033 | 0.004 |
| 281 | 23.42 | 0.07 | 0.036 | ( | 0.043) | | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.036 | ( | 0.043) | | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.036 | ( | 0.043) | | 0.033 | 0.004 |
| 284 | 23.67 | 0.07 | 0.036 | ( | 0.043) | | 0.033 | 0.004 |

```
285  23.75     0.07      0.036       (  0.043)       0.033        0.004
286  23.83     0.07      0.036       (  0.043)       0.033        0.004
287  23.92     0.07      0.036       (  0.043)       0.033        0.004
288  24.00     0.07      0.036       (  0.043)       0.033        0.004
              (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    34.0
       Flood volume = Effective rainfall      2.84(In)
        times area      13.7(Ac.)/[(In)/(Ft.)] =       3.2(Ac.Ft)
       Total soil loss =      1.70(In)
       Total soil loss =     1.945(Ac.Ft)
       Total rainfall =      4.54(In)
       Flood volume =      141043.6 Cubic Feet
       Total soil loss =       84729.1 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =      7.508(CFS)
       ---------------------------------------------------------------------
       +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
       ---------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))

       ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ------------------------------------------------------------------------
   0+ 5       0.0001      0.01  Q          |         |         |         |
   0+10       0.0004      0.04  Q          |         |         |         |
   0+15       0.0007      0.05  Q          |         |         |         |
   0+20       0.0011      0.06  Q          |         |         |         |
   0+25       0.0015      0.07  Q          |         |         |         |
   0+30       0.0020      0.07  Q          |         |         |         |
   0+35       0.0026      0.07  Q          |         |         |         |
   0+40       0.0031      0.08  Q          |         |         |         |
   0+45       0.0036      0.08  Q          |         |         |         |
   0+50       0.0042      0.08  Q          |         |         |         |
   0+55       0.0048      0.10  Q          |         |         |         |
   1+ 0       0.0055      0.10  Q          |         |         |         |
   1+ 5       0.0061      0.09  Q          |         |         |         |
   1+10       0.0067      0.08  Q          |         |         |         |
   1+15       0.0072      0.08  Q          |         |         |         |
   1+20       0.0077      0.08  Q          |         |         |         |
   1+25       0.0083      0.08  Q          |         |         |         |
   1+30       0.0088      0.08  Q          |         |         |         |
   1+35       0.0093      0.08  Q          |         |         |         |
   1+40       0.0098      0.08  Q          |         |         |         |
   1+45       0.0103      0.08  Q          |         |         |         |
   1+50       0.0109      0.08  Q          |         |         |         |
   1+55       0.0115      0.10  Q          |         |         |         |
   2+ 0       0.0122      0.10  Q          |         |         |         |
   2+ 5       0.0129      0.10  Q          |         |         |         |
   2+10       0.0136      0.10  Q          |         |         |         |
   2+15       0.0143      0.10  Q          |         |         |         |
   2+20       0.0150      0.10  Q          |         |         |         |
   2+25       0.0157      0.10  Q          |         |         |         |
   2+30       0.0164      0.10  Q          |         |         |         |
   2+35       0.0171      0.11  Q          |         |         |         |
   2+40       0.0179      0.12  Q          |         |         |         |
   2+45       0.0188      0.12  Q          |         |         |         |
   2+50       0.0196      0.12  Q          |         |         |         |
   2+55       0.0205      0.13  Q          |         |         |         |
   3+ 0       0.0214      0.13  Q          |         |         |         |
   3+ 5       0.0222      0.13  Q          |         |         |         |
   3+10       0.0231      0.13  Q          |         |         |         |
   3+15       0.0240      0.13  Q          |         |         |         |
   3+20       0.0248      0.13  Q          |         |         |         |
   3+25       0.0257      0.13  Q          |         |         |         |
   3+30       0.0265      0.13  Q          |         |         |         |
   3+35       0.0274      0.13  Q          |         |         |         |
   3+40       0.0283      0.13  Q          |         |         |         |
   3+45       0.0291      0.13  Q          |         |         |         |
   3+50       0.0300      0.13  Q          |         |         |         |
   3+55       0.0310      0.15  Q          |         |         |         |
   4+ 0       0.0321      0.15  Q          |         |         |         |
   4+ 5       0.0331      0.15  Q          |         |         |         |
   4+10       0.0341      0.15  Q          |         |         |         |
   4+15       0.0352      0.15  Q          |         |         |         |
   4+20       0.0362      0.16  Q          |         |         |         |
   4+25       0.0374      0.17  Q          |         |         |         |
```

```
 4+30       0.0386      0.17  Q          |          |          |          |
 4+35       0.0398      0.18  Q          |          |          |          |
 4+40       0.0410      0.18  Q          |          |          |          |
 4+45       0.0422      0.18  Q          |          |          |          |
 4+50       0.0437      0.21  Q          |          |          |          |
 4+55       0.0458      0.31  VQ         |          |          |          |
 5+ 0       0.0482      0.34  VQ         |          |          |          |
 5+ 5       0.0503      0.31  VQ         |          |          |          |
 5+10       0.0516      0.19  Q          |          |          |          |
 5+15       0.0527      0.16  Q          |          |          |          |
 5+20       0.0538      0.16  Q          |          |          |          |
 5+25       0.0550      0.17  Q          |          |          |          |
 5+30       0.0562      0.17  Q          |          |          |          |
 5+35       0.0578      0.23  Q          |          |          |          |
 5+40       0.0603      0.36  VQ         |          |          |          |
 5+45       0.0630      0.40  VQ         |          |          |          |
 5+50       0.0659      0.42  VQ         |          |          |          |
 5+55       0.0688      0.43  VQ         |          |          |          |
 6+ 0       0.0718      0.43  VQ         |          |          |          |
 6+ 5       0.0753      0.50  VQ         |          |          |          |
 6+10       0.0797      0.65  V Q        |          |          |          |
 6+15       0.0845      0.69  |VQ        |          |          |          |
 6+20       0.0894      0.71  |VQ        |          |          |          |
 6+25       0.0943      0.72  |VQ        |          |          |          |
 6+30       0.0993      0.73  |VQ        |          |          |          |
 6+35       0.1048      0.79  |V Q       |          |          |          |
 6+40       0.1112      0.94  |V Q       |          |          |          |
 6+45       0.1180      0.98  |V Q       |          |          |          |
 6+50       0.1249      1.00  |V  Q      |          |          |          |
 6+55       0.1319      1.01  |V  Q      |          |          |          |
 7+ 0       0.1389      1.02  |V  Q      |          |          |          |
 7+ 5       0.1460      1.03  |V  Q      |          |          |          |
 7+10       0.1531      1.03  |V  Q      |          |          |          |
 7+15       0.1602      1.04  |V  Q      |          |          |          |
 7+20       0.1678      1.10  | V Q      |          |          |          |
 7+25       0.1764      1.25  | V  Q     |          |          |          |
 7+30       0.1854      1.29  | V  Q     |          |          |          |
 7+35       0.1948      1.37  | V  Q     |          |          |          |
 7+40       0.2053      1.52  | V   Q    |          |          |          |
 7+45       0.2160      1.57  | V   Q    |          |          |          |
 7+50       0.2273      1.64  | V   Q    |          |          |          |
 7+55       0.2397      1.79  | V    Q   |          |          |          |
 8+ 0       0.2523      1.84  |  V   Q   |          |          |          |
 8+ 5       0.2659      1.97  |  V   Q   |          |          |          |
 8+10       0.2814      2.26  |  V     Q|          |          |          |
 8+15       0.2975      2.34  |  V     Q|          |          |          |
 8+20       0.3139      2.37  |  V     Q|          |          |          |
 8+25       0.3303      2.38  |   V    Q|          |          |          |
 8+30       0.3468      2.39  |   V    Q|          |          |          |
 8+35       0.3637      2.46  |   V    Q|          |          |          |
 8+40       0.3816      2.60  |   V     Q          |          |          |
 8+45       0.3998      2.65  |   V     Q          |          |          |
 8+50       0.4186      2.72  |    V    Q          |          |          |
 8+55       0.4383      2.87  |    V    |Q         |          |          |
 9+ 0       0.4584      2.92  |    V    |Q         |          |          |
 9+ 5       0.4794      3.05  |    V    | Q        |          |          |
 9+10       0.5024      3.34  |     V   |  Q       |          |          |
 9+15       0.5260      3.42  |     V   |  Q       |          |          |
 9+20       0.5501      3.51  |     V   |   Q      |          |          |
 9+25       0.5753      3.66  |      V  |   Q      |          |          |
 9+30       0.6009      3.71  |      V  |   Q      |          |          |
 9+35       0.6269      3.78  |      V  |    Q     |          |          |
 9+40       0.6540      3.93  |       V |    Q     |          |          |
 9+45       0.6814      3.98  |       V |    Q     |          |          |
 9+50       0.7093      4.05  |       V |     Q    |          |          |
 9+55       0.7382      4.20  |        V|     Q    |          |          |
10+ 0       0.7674      4.25  |        V|     Q    |          |          |
10+ 5       0.7940      3.86  |        V|    Q     |          |          |
10+10       0.8139      2.89  |         VQ         |          |          |
10+15       0.8320      2.63  |         Q          |          |          |
10+20       0.8496      2.56  |         Q          |          |          |
10+25       0.8672      2.55  |         Q          |          |          |
10+30       0.8847      2.54  |         Q          |          |          |
10+35       0.9042      2.83  |         |Q         |          |          |
10+40       0.9286      3.54  |         |V  Q      |          |          |
10+45       0.9543      3.73  |         |V  Q      |          |          |
10+50       0.9805      3.80  |         | V  Q     |          |          |
10+55       1.0067      3.82  |         | V  Q     |          |          |
```



| | | | |
|---|---|---|---|
| 11+ 0 | 1.0331 | 3.83 | |
| 11+ 5 | 1.0592 | 3.78 | |
| 11+10 | 1.0843 | 3.64 | |
| 11+15 | 1.1091 | 3.61 | |
| 11+20 | 1.1340 | 3.61 | |
| 11+25 | 1.1588 | 3.61 | |
| 11+30 | 1.1837 | 3.61 | |
| 11+35 | 1.2079 | 3.51 | |
| 11+40 | 1.2301 | 3.23 | |
| 11+45 | 1.2519 | 3.16 | |
| 11+50 | 1.2739 | 3.20 | |
| 11+55 | 1.2970 | 3.34 | |
| 12+ 0 | 1.3203 | 3.38 | |
| 12+ 5 | 1.3464 | 3.80 | |
| 12+10 | 1.3794 | 4.79 | |
| 12+15 | 1.4143 | 5.06 | |
| 12+20 | 1.4501 | 5.20 | |
| 12+25 | 1.4871 | 5.37 | |
| 12+30 | 1.5244 | 5.42 | |
| 12+35 | 1.5627 | 5.55 | |
| 12+40 | 1.6029 | 5.84 | |
| 12+45 | 1.6437 | 5.92 | |
| 12+50 | 1.6851 | 6.01 | |
| 12+55 | 1.7275 | 6.16 | |
| 13+ 0 | 1.7703 | 6.21 | |
| 13+ 5 | 1.8151 | 6.51 | |
| 13+10 | 1.8648 | 7.22 | |
| 13+15 | 1.9159 | 7.41 | |
| 13+20 | 1.9674 | 7.48 | |
| 13+25 | 2.0190 | 7.50 | |
| 13+30 | 2.0707 | 7.51 | |
| 13+35 | 2.1181 | 6.88 | |
| 13+40 | 2.1549 | 5.34 | |
| 13+45 | 2.1889 | 4.94 | |
| 13+50 | 2.2221 | 4.82 | |
| 13+55 | 2.2551 | 4.79 | |
| 14+ 0 | 2.2880 | 4.78 | |
| 14+ 5 | 2.3226 | 5.01 | |
| 14+10 | 2.3610 | 5.58 | |
| 14+15 | 2.4005 | 5.74 | |
| 14+20 | 2.4399 | 5.73 | |
| 14+25 | 2.4785 | 5.60 | |
| 14+30 | 2.5170 | 5.58 | |
| 14+35 | 2.5553 | 5.57 | |
| 14+40 | 2.5937 | 5.57 | |
| 14+45 | 2.6321 | 5.58 | |
| 14+50 | 2.6702 | 5.52 | |
| 14+55 | 2.7073 | 5.39 | |
| 15+ 0 | 2.7442 | 5.36 | |
| 15+ 5 | 2.7806 | 5.29 | |
| 15+10 | 2.8161 | 5.15 | |
| 15+15 | 2.8514 | 5.12 | |
| 15+20 | 2.8862 | 5.06 | |
| 15+25 | 2.9201 | 4.92 | |
| 15+30 | 2.9537 | 4.88 | |
| 15+35 | 2.9857 | 4.65 | |
| 15+40 | 3.0138 | 4.09 | |
| 15+45 | 3.0410 | 3.94 | |
| 15+50 | 3.0678 | 3.90 | |
| 15+55 | 3.0946 | 3.89 | |
| 16+ 0 | 3.1214 | 3.89 | |
| 16+ 5 | 3.1423 | 3.03 | |
| 16+10 | 3.1488 | 0.93 | |
| 16+15 | 3.1514 | 0.38 | |
| 16+20 | 3.1528 | 0.21 | |
| 16+25 | 3.1540 | 0.17 | |
| 16+30 | 3.1551 | 0.15 | |
| 16+35 | 3.1560 | 0.14 | |
| 16+40 | 3.1567 | 0.09 | |
| 16+45 | 3.1572 | 0.08 | |
| 16+50 | 3.1578 | 0.08 | |
| 16+55 | 3.1583 | 0.08 | |
| 17+ 0 | 3.1588 | 0.08 | |
| 17+ 5 | 3.1599 | 0.16 | |
| 17+10 | 3.1624 | 0.36 | |
| 17+15 | 3.1653 | 0.42 | |
| 17+20 | 3.1683 | 0.44 | |
| 17+25 | 3.1714 | 0.45 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+30 | 3.1746 | 0.46 | \|Q | \| | \| | \| | V\| |
| 17+35 | 3.1777 | 0.46 | \|Q | \| | \| | \| | V\| |
| 17+40 | 3.1809 | 0.46 | \|Q | \| | \| | \| | V\| |
| 17+45 | 3.1841 | 0.47 | \|Q | \| | \| | \| | V\| |
| 17+50 | 3.1870 | 0.41 | \|Q | \| | \| | \| | V\| |
| 17+55 | 3.1889 | 0.28 | \|Q | \| | \| | \| | V\| |
| 18+ 0 | 3.1906 | 0.24 | Q | \| | \| | \| | V\| |
| 18+ 5 | 3.1922 | 0.24 | Q | \| | \| | \| | V\| |
| 18+10 | 3.1939 | 0.24 | Q | \| | \| | \| | V\| |
| 18+15 | 3.1955 | 0.24 | Q | \| | \| | \| | V\| |
| 18+20 | 3.1972 | 0.24 | Q | \| | \| | \| | V\| |
| 18+25 | 3.1989 | 0.25 | Q | \| | \| | \| | V\| |
| 18+30 | 3.2006 | 0.25 | \|Q | \| | \| | \| | V\| |
| 18+35 | 3.2021 | 0.21 | Q | \| | \| | \| | V\| |
| 18+40 | 3.2029 | 0.11 | Q | \| | \| | \| | V\| |
| 18+45 | 3.2034 | 0.09 | Q | \| | \| | \| | V\| |
| 18+50 | 3.2039 | 0.07 | Q | \| | \| | \| | V\| |
| 18+55 | 3.2043 | 0.06 | Q | \| | \| | \| | V\| |
| 19+ 0 | 3.2047 | 0.05 | Q | \| | \| | \| | V\| |
| 19+ 5 | 3.2051 | 0.06 | Q | \| | \| | \| | V\| |
| 19+10 | 3.2056 | 0.07 | Q | \| | \| | \| | V\| |
| 19+15 | 3.2061 | 0.07 | Q | \| | \| | \| | V\| |
| 19+20 | 3.2069 | 0.12 | Q | \| | \| | \| | V\| |
| 19+25 | 3.2086 | 0.24 | Q | \| | \| | \| | V\| |
| 19+30 | 3.2105 | 0.28 | \|Q | \| | \| | \| | V\| |
| 19+35 | 3.2122 | 0.24 | Q | \| | \| | \| | V\| |
| 19+40 | 3.2130 | 0.12 | Q | \| | \| | \| | V\| |
| 19+45 | 3.2136 | 0.09 | Q | \| | \| | \| | V\| |
| 19+50 | 3.2141 | 0.07 | Q | \| | \| | \| | V\| |
| 19+55 | 3.2145 | 0.06 | Q | \| | \| | \| | V\| |
| 20+ 0 | 3.2149 | 0.05 | Q | \| | \| | \| | V\| |
| 20+ 5 | 3.2153 | 0.06 | Q | \| | \| | \| | V\| |
| 20+10 | 3.2158 | 0.07 | Q | \| | \| | \| | V\| |
| 20+15 | 3.2163 | 0.07 | Q | \| | \| | \| | V\| |
| 20+20 | 3.2168 | 0.08 | Q | \| | \| | \| | V\| |
| 20+25 | 3.2173 | 0.08 | Q | \| | \| | \| | V\| |
| 20+30 | 3.2179 | 0.08 | Q | \| | \| | \| | V\| |
| 20+35 | 3.2184 | 0.08 | Q | \| | \| | \| | V\| |
| 20+40 | 3.2190 | 0.08 | Q | \| | \| | \| | V\| |
| 20+45 | 3.2196 | 0.09 | Q | \| | \| | \| | V\| |
| 20+50 | 3.2202 | 0.08 | Q | \| | \| | \| | V\| |
| 20+55 | 3.2206 | 0.06 | Q | \| | \| | \| | V\| |
| 21+ 0 | 3.2209 | 0.05 | Q | \| | \| | \| | V\| |
| 21+ 5 | 3.2214 | 0.06 | Q | \| | \| | \| | V\| |
| 21+10 | 3.2220 | 0.09 | Q | \| | \| | \| | V\| |
| 21+15 | 3.2227 | 0.10 | Q | \| | \| | \| | V\| |
| 21+20 | 3.2233 | 0.09 | Q | \| | \| | \| | V\| |
| 21+25 | 3.2237 | 0.06 | Q | \| | \| | \| | V\| |
| 21+30 | 3.2241 | 0.05 | Q | \| | \| | \| | V\| |
| 21+35 | 3.2246 | 0.07 | Q | \| | \| | \| | V\| |
| 21+40 | 3.2253 | 0.10 | Q | \| | \| | \| | V\| |
| 21+45 | 3.2261 | 0.11 | Q | \| | \| | \| | V\| |
| 21+50 | 3.2268 | 0.10 | Q | \| | \| | \| | V\| |
| 21+55 | 3.2272 | 0.06 | Q | \| | \| | \| | V\| |
| 22+ 0 | 3.2276 | 0.05 | Q | \| | \| | \| | V\| |
| 22+ 5 | 3.2281 | 0.07 | Q | \| | \| | \| | V\| |
| 22+10 | 3.2288 | 0.11 | Q | \| | \| | \| | V\| |
| 22+15 | 3.2297 | 0.13 | Q | \| | \| | \| | V\| |
| 22+20 | 3.2305 | 0.11 | Q | \| | \| | \| | V\| |
| 22+25 | 3.2309 | 0.07 | Q | \| | \| | \| | V\| |
| 22+30 | 3.2313 | 0.06 | Q | \| | \| | \| | V\| |
| 22+35 | 3.2317 | 0.05 | Q | \| | \| | \| | V\| |
| 22+40 | 3.2320 | 0.05 | Q | \| | \| | \| | V\| |
| 22+45 | 3.2324 | 0.05 | Q | \| | \| | \| | V\| |
| 22+50 | 3.2327 | 0.05 | Q | \| | \| | \| | V\| |
| 22+55 | 3.2331 | 0.05 | Q | \| | \| | \| | V\| |
| 23+ 0 | 3.2334 | 0.05 | Q | \| | \| | \| | V\| |
| 23+ 5 | 3.2337 | 0.05 | Q | \| | \| | \| | V\| |
| 23+10 | 3.2341 | 0.05 | Q | \| | \| | \| | V\| |
| 23+15 | 3.2344 | 0.05 | Q | \| | \| | \| | V\| |
| 23+20 | 3.2348 | 0.05 | Q | \| | \| | \| | V\| |
| 23+25 | 3.2351 | 0.05 | Q | \| | \| | \| | V\| |
| 23+30 | 3.2355 | 0.05 | Q | \| | \| | \| | V\| |
| 23+35 | 3.2358 | 0.05 | Q | \| | \| | \| | V\| |
| 23+40 | 3.2362 | 0.05 | Q | \| | \| | \| | V\| |
| 23+45 | 3.2365 | 0.05 | Q | \| | \| | \| | V\| |
| 23+50 | 3.2369 | 0.05 | Q | \| | \| | \| | V\| |
| 23+55 | 3.2372 | 0.05 | Q | \| | \| | \| | V\| |

```
   24+ 0       3.2375      0.05  Q         |          |          |         V|
   24+ 5       3.2378      0.04  Q         |          |          |         V|
   24+10       3.2379      0.01  Q         |          |          |         V|
   24+15       3.2379      0.00  Q         |          |          |         V|
   24+20       3.2379      0.00  Q         |          |          |         V|
   24+25       3.2379      0.00  Q         |          |          |         V|
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX161100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 16
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 21.50(Ac.) = 0.034 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.50(Ac.) = 0.034 Sq. Mi.
Length along longest watercourse = 2099.00(Ft.)
Length along longest watercourse measured to centroid = 758.00(Ft.)
Length along longest watercourse = 0.398 Mi.
Length along longest watercourse measured to centroid = 0.144 Mi.
Difference in elevation = 498.00(Ft.)
Slope along watercourse = 1252.7108 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.073 Hr.
Lag time = 4.38 Min.
25% of lag time = 1.09 Min.
40% of lag time = 1.75 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 21.50 | 0.49 | 10.54 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 21.50 | 1.20 | 25.80 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.490(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.98 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 21.500 | 83.92 | 0.000 |

Total Area Entered = 21.50(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.9 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

---

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 114.207 | 19.436 | 4.211 |
| 2 | 0.167 | 228.415 | 56.176 | 12.172 |
| 3 | 0.250 | 342.622 | 16.280 | 3.528 |
| 4 | 0.333 | 456.829 | 5.717 | 1.239 |
| 5 | 0.417 | 571.037 | 1.446 | 0.313 |
| 6 | 0.500 | 685.244 | 0.732 | 0.159 |
| 7 | 0.583 | 799.451 | 0.213 | 0.046 |
| | | Sum = 100.000 | Sum= | 21.668 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.086 | ( | 0.544) | 0.518 |
| 2 | 0.17 | 4.30 | 0.619 | 0.086 | ( | 0.557) | 0.533 |
| 3 | 0.25 | 5.00 | 0.720 | 0.086 | ( | 0.648) | 0.633 |
| 4 | 0.33 | 5.00 | 0.720 | 0.086 | ( | 0.648) | 0.633 |
| 5 | 0.42 | 5.80 | 0.835 | 0.086 | ( | 0.752) | 0.749 |
| 6 | 0.50 | 6.50 | 0.936 | 0.086 | ( | 0.842) | 0.849 |
| 7 | 0.58 | 7.40 | 1.065 | 0.086 | ( | 0.959) | 0.979 |
| 8 | 0.67 | 8.60 | 1.238 | 0.086 | ( | 1.114) | 1.152 |
| 9 | 0.75 | 12.30 | 1.771 | 0.086 | ( | 1.594) | 1.684 |
| 10 | 0.83 | 29.10 | 4.190 | 0.086 | ( | 3.771) | 4.103 |
| 11 | 0.92 | 6.80 | 0.979 | 0.086 | ( | 0.881) | 0.893 |
| 12 | 1.00 | 5.00 | 0.720 | 0.086 | ( | 0.648) | 0.633 |
| | | (Loss Rate Not Used) | | | | | |
| Sum = | | 100.0 | | | | Sum = | 13.4 |

Flood volume = Effective rainfall 1.11(In)
times area 21.5(Ac.)/[(In)/(Ft.)] = 2.0(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.155(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 86890.8 Cubic Feet
Total soil loss = 6745.0 Cubic Feet

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Peak flow rate of this hydrograph = 61.580(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 17.5 | 35.0 | 52.5 | 70.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0150 | 2.18 | VQ | | | | |
| 0+10 | 0.0740 | 8.56 | V Q | | | | |
| 0+15 | 0.1496 | 10.99 | V Q | | | | |
| 0+20 | 0.2385 | 12.91 | V Q | | | | |
| 0+25 | 0.3344 | 13.93 | VQ | | | | |
| 0+30 | 0.4444 | 15.97 | VQ | | | | |
| 0+35 | 0.5697 | 18.20 | QV | | | | |
| 0+40 | 0.7145 | 21.02 | Q V | | | | |
| 0+45 | 0.8936 | 26.00 | Q V | | | | |
| 0+50 | 1.1931 | 43.50 | VQ | | | | |
| 0+55 | 1.6172 | 61.58 | V Q | | | | |
| 1+ 0 | 1.8284 | 30.66 | Q | | | V | |
| 1+ 5 | 1.9435 | 16.71 | Q | | | V | |
| 1+10 | 1.9776 | 4.95 | Q | | | V | |

```
    1+15       1.9899      1.79  |Q        |          |          |        V|
    1+20       1.9936      0.53  Q         |          |          |        V|
    1+25       1.9945      0.14  Q         |          |          |        V|
    1+30       1.9947      0.03  Q         |          |          |         V
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX163100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 16
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 21.50(Ac.) = 0.034 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.50(Ac.) = 0.034 Sq. Mi.
Length along longest watercourse = 2099.00(Ft.)
Length along longest watercourse measured to centroid = 758.00(Ft.)
Length along longest watercourse = 0.398 Mi.
Length along longest watercourse measured to centroid = 0.144 Mi.
Difference in elevation = 498.00(Ft.)
Slope along watercourse = 1252.7108 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.073 Hr.
Lag time = 4.38 Min.
25% of lag time = 1.09 Min.
40% of lag time = 1.75 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 21.50 | 0.80 | 17.20 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 21.50 | 1.80 | 38.70 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 21.500 | 83.92 | 0.000 |

Total Area Entered = 21.50(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.9 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 114.207 | 19.436 | 4.211 |
| 2 | 0.167 | 228.415 | 56.176 | 12.172 |
| 3 | 0.250 | 342.622 | 16.280 | 3.528 |
| 4 | 0.333 | 456.829 | 5.717 | 1.239 |
| 5 | 0.417 | 571.037 | 1.446 | 0.313 |
| 6 | 0.500 | 685.244 | 0.732 | 0.159 |
| 7 | 0.583 | 799.451 | 0.213 | 0.046 |
| | | | Sum = 100.000 | Sum= 21.668 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.281 | 0.086 | ( 0.253) | 0.194 |
| 2 | 0.17 | 1.30 | 0.281 | 0.086 | ( 0.253) | 0.194 |
| 3 | 0.25 | 1.10 | 0.238 | 0.086 | ( 0.214) | 0.151 |
| 4 | 0.33 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 5 | 0.42 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 6 | 0.50 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.302 |
| 7 | 0.58 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 8 | 0.67 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.302 |
| 9 | 0.75 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.302 |
| 10 | 0.83 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 11 | 0.92 | 1.60 | 0.346 | 0.086 | ( 0.311) | 0.259 |
| 12 | 1.00 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.302 |
| 13 | 1.08 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 14 | 1.17 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 15 | 1.25 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 16 | 1.33 | 2.00 | 0.432 | 0.086 | ( 0.389) | 0.346 |
| 17 | 1.42 | 2.60 | 0.562 | 0.086 | ( 0.505) | 0.475 |
| 18 | 1.50 | 2.70 | 0.583 | 0.086 | ( 0.525) | 0.497 |
| 19 | 1.58 | 2.40 | 0.518 | 0.086 | ( 0.467) | 0.432 |
| 20 | 1.67 | 2.70 | 0.583 | 0.086 | ( 0.525) | 0.497 |
| 21 | 1.75 | 3.30 | 0.713 | 0.086 | ( 0.641) | 0.626 |
| 22 | 1.83 | 3.10 | 0.670 | 0.086 | ( 0.603) | 0.583 |
| 23 | 1.92 | 2.90 | 0.626 | 0.086 | ( 0.564) | 0.540 |
| 24 | 2.00 | 3.00 | 0.648 | 0.086 | ( 0.583) | 0.562 |
| 25 | 2.08 | 3.10 | 0.670 | 0.086 | ( 0.603) | 0.583 |
| 26 | 2.17 | 4.20 | 0.907 | 0.086 | ( 0.816) | 0.821 |
| 27 | 2.25 | 5.00 | 1.080 | 0.086 | ( 0.972) | 0.993 |
| 28 | 2.33 | 3.50 | 0.756 | 0.086 | ( 0.680) | 0.670 |
| 29 | 2.42 | 6.80 | 1.469 | 0.086 | ( 1.322) | 1.382 |
| 30 | 2.50 | 7.30 | 1.577 | 0.086 | ( 1.419) | 1.490 |
| 31 | 2.58 | 8.20 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 32 | 2.67 | 5.90 | 1.274 | 0.086 | ( 1.147) | 1.188 |
| 33 | 2.75 | 2.00 | 0.432 | 0.086 | ( 0.389) | 0.346 |
| 34 | 2.83 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.302 |
| 35 | 2.92 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.302 |
| 36 | 3.00 | 0.60 | 0.130 | 0.086 | ( 0.117) | 0.043 |
| | | (Loss Rate Not Used) | | | |
| Sum = | | 100.0 | | | Sum = 18.5 |

Flood volume = Effective rainfall 1.54(In)
times area 21.5(Ac.)/[(In)/(Ft.)] = 2.8(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.465(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 120232.9 Cubic Feet
Total soil loss = 20234.9 Cubic Feet

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Peak flow rate of this hydrograph = 32.899(CFS)

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3 - H O U R  S T O R M
R u n o f f  H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 10.0 20.0 30.0 40.0 |
|---|---|---|---|
| 0+ 5 | 0.0056 | 0.82 | Q |
| 0+10 | 0.0276 | 3.19 | V Q |
| 0+15 | 0.0530 | 3.69 | V Q |
| 0+20 | 0.0789 | 3.77 | V Q |
| 0+25 | 0.1115 | 4.73 | V Q |
| 0+30 | 0.1479 | 5.28 | V Q |
| 0+35 | 0.1886 | 5.90 | V Q |
| 0+40 | 0.2274 | 5.64 | V Q |
| 0+45 | 0.2707 | 6.29 | V Q |
| 0+50 | 0.3133 | 6.19 | V Q |
| 0+55 | 0.3516 | 5.56 | Q |
| 1+ 0 | 0.3915 | 5.79 | Q |
| 1+ 5 | 0.4375 | 6.68 | Q |
| 1+10 | 0.4919 | 7.90 | Q |
| 1+15 | 0.5487 | 8.25 | VQ |
| 1+20 | 0.6051 | 8.19 | Q |
| 1+25 | 0.6619 | 8.25 | QV |
| 1+30 | 0.7292 | 9.78 | QV |
| 1+35 | 0.7993 | 10.18 | QV |
| 1+40 | 0.8674 | 9.88 | Q V |
| 1+45 | 0.9435 | 11.05 | Q V |
| 1+50 | 1.0304 | 12.62 | Q V |
| 1+55 | 1.1161 | 12.44 | Q V |
| 2+ 0 | 1.1989 | 12.02 | Q V |
| 2+ 5 | 1.2830 | 12.22 | Q V |
| 2+10 | 1.3761 | 13.52 | Q V |
| 2+15 | 1.4947 | 17.23 | Q V |
| 2+20 | 1.6244 | 18.83 | Q V |
| 2+25 | 1.7539 | 18.80 | Q V |
| 2+30 | 1.9404 | 27.08 | QV |
| 2+35 | 2.1568 | 31.42 | Q |
| 2+40 | 2.3834 | 32.90 | Q V |
| 2+45 | 2.5507 | 24.30 | Q V |
| 2+50 | 2.6367 | 12.48 | Q V |
| 2+55 | 2.6951 | 8.48 | Q V |
| 3+ 0 | 2.7369 | 6.07 | Q V |
| 3+ 5 | 2.7530 | 2.34 | Q V |
| 3+10 | 2.7580 | 0.73 | Q V |
| 3+15 | 2.7595 | 0.21 | Q V |
| 3+20 | 2.7600 | 0.08 | Q V |
| 3+25 | 2.7602 | 0.02 | Q V |
| 3+30 | 2.7602 | 0.00 | Q V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX166100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
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100-YEAR STORM EVENT
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Length along longest watercourse measured to centroid = 758.00(Ft.)
Length along longest watercourse = 0.398 Mi.
Length along longest watercourse measured to centroid = 0.144 Mi.
Difference in elevation = 498.00(Ft.)
Slope along watercourse = 1252.7108 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.073 Hr.
Lag time = 4.38 Min.
25% of lag time = 1.09 Min.
40% of lag time = 1.75 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 21.50 | 1.12 | 24.08 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 21.50 | 2.50 | 53.75 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.120(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 21.500 | 83.92 | 0.000 |

Total Area Entered = 21.50(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.9 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 114.207 | 19.436 | 4.211 |
| 2 0.167 | 228.415 | 56.176 | 12.172 |
| 3 0.250 | 342.622 | 16.280 | 3.528 |
| 4 0.333 | 456.829 | 5.717 | 1.239 |
| 5 0.417 | 571.037 | 1.446 | 0.313 |
| 6 0.500 | 685.244 | 0.732 | 0.159 |
| 7 0.583 | 799.451 | 0.213 | 0.046 |
| | Sum = | 100.000 Sum= | 21.668 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.086 | ( 0.135) | 0.064 |
| 2 | 0.17 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 3 | 0.25 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 4 | 0.33 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 5 | 0.42 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 6 | 0.50 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 7 | 0.58 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 8 | 0.67 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 9 | 0.75 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 10 | 0.83 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 11 | 0.92 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 12 | 1.00 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 13 | 1.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 14 | 1.17 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 15 | 1.25 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 16 | 1.33 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 17 | 1.42 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 18 | 1.50 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 19 | 1.58 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 20 | 1.67 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 21 | 1.75 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 22 | 1.83 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 23 | 1.92 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 24 | 2.00 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 25 | 2.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 26 | 2.17 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 27 | 2.25 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 28 | 2.33 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 29 | 2.42 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 30 | 2.50 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 31 | 2.58 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 32 | 2.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 33 | 2.75 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 34 | 2.83 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 35 | 2.92 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 36 | 3.00 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 37 | 3.08 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 38 | 3.17 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 39 | 3.25 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 40 | 3.33 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 41 | 3.42 | 1.20 | 0.360 | 0.086 | ( 0.324) | 0.274 |
| 42 | 3.50 | 1.30 | 0.390 | 0.086 | ( 0.351) | 0.304 |
| 43 | 3.58 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 44 | 3.67 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 45 | 3.75 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 46 | 3.83 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 47 | 3.92 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 48 | 4.00 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 49 | 4.08 | 1.70 | 0.510 | 0.086 | ( 0.459) | 0.424 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 50 | 4.17 | 1.80 | 0.540 | 0.086 | ( 0.486) | 0.454 | |
| 51 | 4.25 | 1.90 | 0.570 | 0.086 | ( 0.513) | 0.484 | |
| 52 | 4.33 | 2.00 | 0.600 | 0.086 | ( 0.540) | 0.514 | |
| 53 | 4.42 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 | |
| 54 | 4.50 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 | |
| 55 | 4.58 | 2.20 | 0.660 | 0.086 | ( 0.594) | 0.574 | |
| 56 | 4.67 | 2.30 | 0.690 | 0.086 | ( 0.621) | 0.604 | |
| 57 | 4.75 | 2.40 | 0.720 | 0.086 | ( 0.648) | 0.634 | |
| 58 | 4.83 | 2.40 | 0.720 | 0.086 | ( 0.648) | 0.634 | |
| 59 | 4.92 | 2.50 | 0.750 | 0.086 | ( 0.675) | 0.664 | |
| 60 | 5.00 | 2.60 | 0.780 | 0.086 | ( 0.702) | 0.694 | |
| 61 | 5.08 | 3.10 | 0.930 | 0.086 | ( 0.837) | 0.844 | |
| 62 | 5.17 | 3.60 | 1.080 | 0.086 | ( 0.972) | 0.993 | |
| 63 | 5.25 | 3.90 | 1.170 | 0.086 | ( 1.053) | 1.083 | |
| 64 | 5.33 | 4.20 | 1.260 | 0.086 | ( 1.134) | 1.173 | |
| 65 | 5.42 | 4.70 | 1.410 | 0.086 | ( 1.269) | 1.323 | |
| 66 | 5.50 | 5.60 | 1.680 | 0.086 | ( 1.512) | 1.593 | |
| 67 | 5.58 | 1.90 | 0.570 | 0.086 | ( 0.513) | 0.484 | |
| 68 | 5.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 | |
| 69 | 5.75 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 | |
| 70 | 5.83 | 0.50 | 0.150 | 0.086 | ( 0.135) | 0.064 | |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.086) | 0.081 | 0.009 | |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.086) | 0.054 | 0.006 | |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.8

Flood volume = Effective rainfall 1.98(In)
times area 21.5(Ac.)/[(In)/(Ft.)] = 3.6(Ac.Ft)
Total soil loss = 0.52(In)
Total soil loss = 0.923(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 154874.5 Cubic Feet
Total soil loss = 40223.5 Cubic Feet

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Peak flow rate of this hydrograph = 28.794(CFS)

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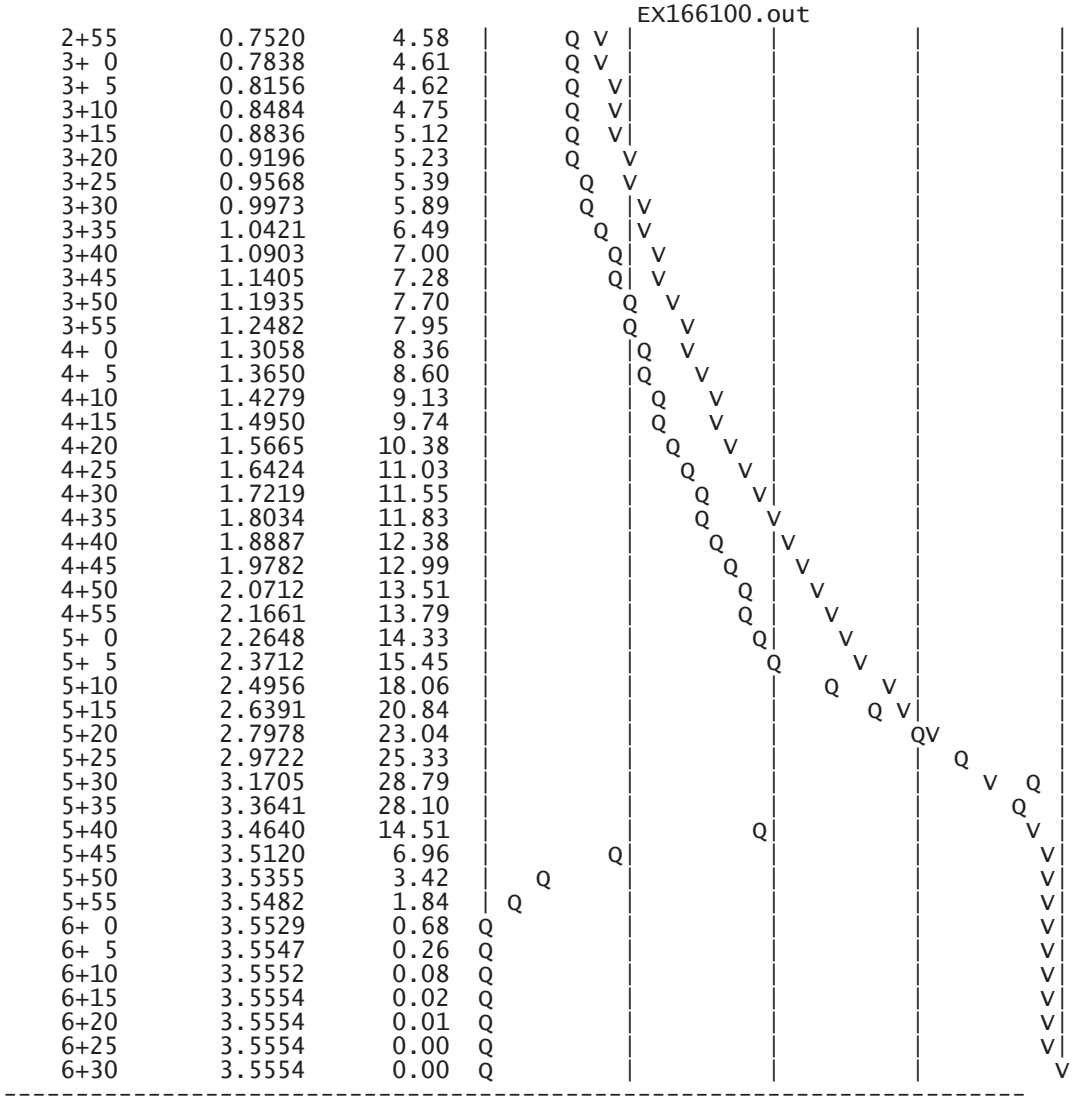
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 7.5 | 15.0 | 22.5 | 30.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0018 | 0.27 | Q | | | | |
| 0+10 | 0.0099 | 1.17 | VQ | | | | |
| 0+15 | 0.0220 | 1.76 | V Q | | | | |
| 0+20 | 0.0354 | 1.94 | V Q | | | | |
| 0+25 | 0.0492 | 2.00 | V Q | | | | |
| 0+30 | 0.0639 | 2.15 | V Q | | | | |
| 0+35 | 0.0813 | 2.52 | V Q | | | | |
| 0+40 | 0.0994 | 2.63 | \|V Q | | | | |
| 0+45 | 0.1177 | 2.66 | \|V Q | | | | |
| 0+50 | 0.1361 | 2.67 | \|V Q | | | | |
| 0+55 | 0.1545 | 2.68 | \|V Q | | | | |
| 1+ 0 | 0.1739 | 2.81 | \|V Q | | | | |
| 1+ 5 | 0.1957 | 3.17 | \| V Q | | | | |
| 1+10 | 0.2183 | 3.28 | \| V Q | | | | |
| 1+15 | 0.2411 | 3.31 | \| V Q | | | | |
| 1+20 | 0.2640 | 3.32 | \| V Q | | | | |
| 1+25 | 0.2869 | 3.33 | \| VQ | | | | |
| 1+30 | 0.3098 | 3.33 | \| VQ | | | | |
| 1+35 | 0.3327 | 3.33 | \| VQ | | | | |
| 1+40 | 0.3557 | 3.33 | \| Q | | | | |
| 1+45 | 0.3786 | 3.33 | \| Q | | | | |
| 1+50 | 0.4015 | 3.33 | \| Q | | | | |
| 1+55 | 0.4244 | 3.33 | \| Q | | | | |
| 2+ 0 | 0.4482 | 3.46 | \| QV | | | | |
| 2+ 5 | 0.4737 | 3.69 | \| QV | | | | |
| 2+10 | 0.4982 | 3.56 | \| QV | | | | |
| 2+15 | 0.5248 | 3.86 | \| Q | | | | |
| 2+20 | 0.5519 | 3.94 | \| QV | | | | |
| 2+25 | 0.5792 | 3.97 | \| QV | | | | |
| 2+30 | 0.6066 | 3.97 | \| QV | | | | |
| 2+35 | 0.6340 | 3.98 | \| Q V | | | | |
| 2+40 | 0.6614 | 3.98 | \| Q V | | | | |
| 2+45 | 0.6897 | 4.11 | \| Q V | | | | |
| 2+50 | 0.7205 | 4.47 | \| Q V \| | | | | |



| | | | |
|---|---|---|---|
| 2+55 | 0.7520 | 4.58 | |
| 3+ 0 | 0.7838 | 4.61 | |
| 3+ 5 | 0.8156 | 4.62 | |
| 3+10 | 0.8484 | 4.75 | |
| 3+15 | 0.8836 | 5.12 | |
| 3+20 | 0.9196 | 5.23 | |
| 3+25 | 0.9568 | 5.39 | |
| 3+30 | 0.9973 | 5.89 | |
| 3+35 | 1.0421 | 6.49 | |
| 3+40 | 1.0903 | 7.00 | |
| 3+45 | 1.1405 | 7.28 | |
| 3+50 | 1.1935 | 7.70 | |
| 3+55 | 1.2482 | 7.95 | |
| 4+ 0 | 1.3058 | 8.36 | |
| 4+ 5 | 1.3650 | 8.60 | |
| 4+10 | 1.4279 | 9.13 | |
| 4+15 | 1.4950 | 9.74 | |
| 4+20 | 1.5665 | 10.38 | |
| 4+25 | 1.6424 | 11.03 | |
| 4+30 | 1.7219 | 11.55 | |
| 4+35 | 1.8034 | 11.83 | |
| 4+40 | 1.8887 | 12.38 | |
| 4+45 | 1.9782 | 12.99 | |
| 4+50 | 2.0712 | 13.51 | |
| 4+55 | 2.1661 | 13.79 | |
| 5+ 0 | 2.2648 | 14.33 | |
| 5+ 5 | 2.3712 | 15.45 | |
| 5+10 | 2.4956 | 18.06 | |
| 5+15 | 2.6391 | 20.84 | |
| 5+20 | 2.7978 | 23.04 | |
| 5+25 | 2.9722 | 25.33 | |
| 5+30 | 3.1705 | 28.79 | |
| 5+35 | 3.3641 | 28.10 | |
| 5+40 | 3.4640 | 14.51 | |
| 5+45 | 3.5120 | 6.96 | |
| 5+50 | 3.5355 | 3.42 | |
| 5+55 | 3.5482 | 1.84 | |
| 6+ 0 | 3.5529 | 0.68 | |
| 6+ 5 | 3.5547 | 0.26 | |
| 6+10 | 3.5552 | 0.08 | |
| 6+15 | 3.5554 | 0.02 | |
| 6+20 | 3.5554 | 0.01 | |
| 6+25 | 3.5554 | 0.00 | |
| 6+30 | 3.5554 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX1624100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 16
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 21.50(Ac.) = 0.034 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.50(Ac.) = 0.034 Sq. Mi.
Length along longest watercourse = 2099.00(Ft.)
Length along longest watercourse measured to centroid = 758.00(Ft.)
Length along longest watercourse = 0.398 Mi.
Length along longest watercourse measured to centroid = 0.144 Mi.
Difference in elevation = 498.00(Ft.)
Slope along watercourse = 1252.7108 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.073 Hr.
Lag time = 4.38 Min.
25% of lag time = 1.09 Min.
40% of lag time = 1.75 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 21.50 | 1.80 | 38.70 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 21.50 | 4.54 | 97.61 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.540(In)

Point rain (area averaged) = 4.540(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.540(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 21.500 | 83.92 | 0.000 |

Total Area Entered = 21.50(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.9 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 114.207 | 19.436 | 4.211 |
| 2 0.167 | 228.415 | 56.176 | 12.172 |
| 3 0.250 | 342.622 | 16.280 | 3.528 |
| 4 0.333 | 456.829 | 5.717 | 1.239 |
| 5 0.417 | 571.037 | 1.446 | 0.313 |
| 6 0.500 | 685.244 | 0.732 | 0.159 |
| 7 0.583 | 799.451 | 0.213 | 0.046 |
| | Sum = | 100.000 Sum= | 21.668 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.036 | ( 0.153) | 0.033 | 0.004 |
| 2 | 0.17 | 0.07 | 0.036 | ( 0.153) | 0.033 | 0.004 |
| 3 | 0.25 | 0.07 | 0.036 | ( 0.152) | 0.033 | 0.004 |
| 4 | 0.33 | 0.10 | 0.054 | ( 0.151) | 0.049 | 0.005 |
| 5 | 0.42 | 0.10 | 0.054 | ( 0.151) | 0.049 | 0.005 |
| 6 | 0.50 | 0.10 | 0.054 | ( 0.150) | 0.049 | 0.005 |
| 7 | 0.58 | 0.10 | 0.054 | ( 0.150) | 0.049 | 0.005 |
| 8 | 0.67 | 0.10 | 0.054 | ( 0.149) | 0.049 | 0.005 |
| 9 | 0.75 | 0.10 | 0.054 | ( 0.148) | 0.049 | 0.005 |
| 10 | 0.83 | 0.13 | 0.073 | ( 0.148) | 0.065 | 0.007 |
| 11 | 0.92 | 0.13 | 0.073 | ( 0.147) | 0.065 | 0.007 |
| 12 | 1.00 | 0.13 | 0.073 | ( 0.147) | 0.065 | 0.007 |
| 13 | 1.08 | 0.10 | 0.054 | ( 0.146) | 0.049 | 0.005 |
| 14 | 1.17 | 0.10 | 0.054 | ( 0.146) | 0.049 | 0.005 |
| 15 | 1.25 | 0.10 | 0.054 | ( 0.145) | 0.049 | 0.005 |
| 16 | 1.33 | 0.10 | 0.054 | ( 0.144) | 0.049 | 0.005 |
| 17 | 1.42 | 0.10 | 0.054 | ( 0.144) | 0.049 | 0.005 |
| 18 | 1.50 | 0.10 | 0.054 | ( 0.143) | 0.049 | 0.005 |
| 19 | 1.58 | 0.10 | 0.054 | ( 0.143) | 0.049 | 0.005 |
| 20 | 1.67 | 0.10 | 0.054 | ( 0.142) | 0.049 | 0.005 |
| 21 | 1.75 | 0.10 | 0.054 | ( 0.142) | 0.049 | 0.005 |
| 22 | 1.83 | 0.13 | 0.073 | ( 0.141) | 0.065 | 0.007 |
| 23 | 1.92 | 0.13 | 0.073 | ( 0.140) | 0.065 | 0.007 |
| 24 | 2.00 | 0.13 | 0.073 | ( 0.140) | 0.065 | 0.007 |
| 25 | 2.08 | 0.13 | 0.073 | ( 0.139) | 0.065 | 0.007 |
| 26 | 2.17 | 0.13 | 0.073 | ( 0.139) | 0.065 | 0.007 |
| 27 | 2.25 | 0.13 | 0.073 | ( 0.138) | 0.065 | 0.007 |
| 28 | 2.33 | 0.13 | 0.073 | ( 0.138) | 0.065 | 0.007 |
| 29 | 2.42 | 0.13 | 0.073 | ( 0.137) | 0.065 | 0.007 |
| 30 | 2.50 | 0.13 | 0.073 | ( 0.136) | 0.065 | 0.007 |
| 31 | 2.58 | 0.17 | 0.091 | ( 0.136) | 0.082 | 0.009 |
| 32 | 2.67 | 0.17 | 0.091 | ( 0.135) | 0.082 | 0.009 |
| 33 | 2.75 | 0.17 | 0.091 | ( 0.135) | 0.082 | 0.009 |
| 34 | 2.83 | 0.17 | 0.091 | ( 0.134) | 0.082 | 0.009 |
| 35 | 2.92 | 0.17 | 0.091 | ( 0.134) | 0.082 | 0.009 |
| 36 | 3.00 | 0.17 | 0.091 | ( 0.133) | 0.082 | 0.009 |
| 37 | 3.08 | 0.17 | 0.091 | ( 0.133) | 0.082 | 0.009 |
| 38 | 3.17 | 0.17 | 0.091 | ( 0.132) | 0.082 | 0.009 |
| 39 | 3.25 | 0.17 | 0.091 | ( 0.132) | 0.082 | 0.009 |
| 40 | 3.33 | 0.17 | 0.091 | ( 0.131) | 0.082 | 0.009 |
| 41 | 3.42 | 0.17 | 0.091 | ( 0.130) | 0.082 | 0.009 |
| 42 | 3.50 | 0.17 | 0.091 | ( 0.130) | 0.082 | 0.009 |
| 43 | 3.58 | 0.17 | 0.091 | ( 0.129) | 0.082 | 0.009 |
| 44 | 3.67 | 0.17 | 0.091 | ( 0.129) | 0.082 | 0.009 |
| 45 | 3.75 | 0.17 | 0.091 | ( 0.128) | 0.082 | 0.009 |
| 46 | 3.83 | 0.20 | 0.109 | ( 0.128) | 0.098 | 0.011 |
| 47 | 3.92 | 0.20 | 0.109 | ( 0.127) | 0.098 | 0.011 |
| 48 | 4.00 | 0.20 | 0.109 | ( 0.127) | 0.098 | 0.011 |
| 49 | 4.08 | 0.20 | 0.109 | ( 0.126) | 0.098 | 0.011 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 50 | 4.17 | 0.20 | 0.109 | ( | 0.126) | 0.098 | | 0.011 |
| 51 | 4.25 | 0.20 | 0.109 | ( | 0.125) | 0.098 | | 0.011 |
| 52 | 4.33 | 0.23 | 0.127 | ( | 0.124) | 0.114 | | 0.013 |
| 53 | 4.42 | 0.23 | 0.127 | ( | 0.124) | 0.114 | | 0.013 |
| 54 | 4.50 | 0.23 | 0.127 | ( | 0.123) | 0.114 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.127 | ( | 0.123) | 0.114 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.127 | ( | 0.122) | 0.114 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.127 | ( | 0.122) | 0.114 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.145 | | 0.121 | ( | 0.131) | 0.024 |
| 59 | 4.92 | 0.27 | 0.145 | | 0.121 | ( | 0.131) | 0.024 |
| 60 | 5.00 | 0.27 | 0.145 | | 0.120 | ( | 0.131) | 0.025 |
| 61 | 5.08 | 0.20 | 0.109 | ( | 0.120) | 0.098 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.109 | ( | 0.119) | 0.098 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.109 | ( | 0.119) | 0.098 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.127 | ( | 0.118) | 0.114 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.127 | ( | 0.118) | 0.114 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.127 | ( | 0.117) | 0.114 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.145 | | 0.117 | ( | 0.131) | 0.029 |
| 68 | 5.67 | 0.27 | 0.145 | | 0.116 | ( | 0.131) | 0.029 |
| 69 | 5.75 | 0.27 | 0.145 | | 0.116 | ( | 0.131) | 0.030 |
| 70 | 5.83 | 0.27 | 0.145 | | 0.115 | ( | 0.131) | 0.030 |
| 71 | 5.92 | 0.27 | 0.145 | | 0.115 | ( | 0.131) | 0.031 |
| 72 | 6.00 | 0.27 | 0.145 | | 0.114 | ( | 0.131) | 0.031 |
| 73 | 6.08 | 0.30 | 0.163 | | 0.114 | ( | 0.147) | 0.050 |
| 74 | 6.17 | 0.30 | 0.163 | | 0.113 | ( | 0.147) | 0.050 |
| 75 | 6.25 | 0.30 | 0.163 | | 0.113 | ( | 0.147) | 0.051 |
| 76 | 6.33 | 0.30 | 0.163 | | 0.112 | ( | 0.147) | 0.051 |
| 77 | 6.42 | 0.30 | 0.163 | | 0.112 | ( | 0.147) | 0.052 |
| 78 | 6.50 | 0.30 | 0.163 | | 0.111 | ( | 0.147) | 0.052 |
| 79 | 6.58 | 0.33 | 0.182 | | 0.111 | ( | 0.163) | 0.071 |
| 80 | 6.67 | 0.33 | 0.182 | | 0.110 | ( | 0.163) | 0.072 |
| 81 | 6.75 | 0.33 | 0.182 | | 0.110 | ( | 0.163) | 0.072 |
| 82 | 6.83 | 0.33 | 0.182 | | 0.109 | ( | 0.163) | 0.073 |
| 83 | 6.92 | 0.33 | 0.182 | | 0.109 | ( | 0.163) | 0.073 |
| 84 | 7.00 | 0.33 | 0.182 | | 0.108 | ( | 0.163) | 0.074 |
| 85 | 7.08 | 0.33 | 0.182 | | 0.108 | ( | 0.163) | 0.074 |
| 86 | 7.17 | 0.33 | 0.182 | | 0.107 | ( | 0.163) | 0.074 |
| 87 | 7.25 | 0.33 | 0.182 | | 0.107 | ( | 0.163) | 0.075 |
| 88 | 7.33 | 0.37 | 0.200 | | 0.106 | ( | 0.180) | 0.094 |
| 89 | 7.42 | 0.37 | 0.200 | | 0.106 | ( | 0.180) | 0.094 |
| 90 | 7.50 | 0.37 | 0.200 | | 0.105 | ( | 0.180) | 0.095 |
| 91 | 7.58 | 0.40 | 0.218 | | 0.105 | ( | 0.196) | 0.113 |
| 92 | 7.67 | 0.40 | 0.218 | | 0.104 | ( | 0.196) | 0.114 |
| 93 | 7.75 | 0.40 | 0.218 | | 0.104 | ( | 0.196) | 0.114 |
| 94 | 7.83 | 0.43 | 0.236 | | 0.103 | ( | 0.212) | 0.133 |
| 95 | 7.92 | 0.43 | 0.236 | | 0.103 | ( | 0.212) | 0.133 |
| 96 | 8.00 | 0.43 | 0.236 | | 0.102 | ( | 0.212) | 0.134 |
| 97 | 8.08 | 0.50 | 0.272 | | 0.102 | ( | 0.245) | 0.171 |
| 98 | 8.17 | 0.50 | 0.272 | | 0.101 | ( | 0.245) | 0.171 |
| 99 | 8.25 | 0.50 | 0.272 | | 0.101 | ( | 0.245) | 0.172 |
| 100 | 8.33 | 0.50 | 0.272 | | 0.100 | ( | 0.245) | 0.172 |
| 101 | 8.42 | 0.50 | 0.272 | | 0.100 | ( | 0.245) | 0.172 |
| 102 | 8.50 | 0.50 | 0.272 | | 0.099 | ( | 0.245) | 0.173 |
| 103 | 8.58 | 0.53 | 0.291 | | 0.099 | ( | 0.261) | 0.192 |
| 104 | 8.67 | 0.53 | 0.291 | | 0.099 | ( | 0.261) | 0.192 |
| 105 | 8.75 | 0.53 | 0.291 | | 0.098 | ( | 0.261) | 0.192 |
| 106 | 8.83 | 0.57 | 0.309 | | 0.098 | ( | 0.278) | 0.211 |
| 107 | 8.92 | 0.57 | 0.309 | | 0.097 | ( | 0.278) | 0.212 |
| 108 | 9.00 | 0.57 | 0.309 | | 0.097 | ( | 0.278) | 0.212 |
| 109 | 9.08 | 0.63 | 0.345 | | 0.096 | ( | 0.311) | 0.249 |
| 110 | 9.17 | 0.63 | 0.345 | | 0.096 | ( | 0.311) | 0.249 |
| 111 | 9.25 | 0.63 | 0.345 | | 0.095 | ( | 0.311) | 0.250 |
| 112 | 9.33 | 0.67 | 0.363 | | 0.095 | ( | 0.327) | 0.268 |
| 113 | 9.42 | 0.67 | 0.363 | | 0.094 | ( | 0.327) | 0.269 |
| 114 | 9.50 | 0.67 | 0.363 | | 0.094 | ( | 0.327) | 0.269 |
| 115 | 9.58 | 0.70 | 0.381 | | 0.093 | ( | 0.343) | 0.288 |
| 116 | 9.67 | 0.70 | 0.381 | | 0.093 | ( | 0.343) | 0.288 |
| 117 | 9.75 | 0.70 | 0.381 | | 0.093 | ( | 0.343) | 0.289 |
| 118 | 9.83 | 0.73 | 0.400 | | 0.092 | ( | 0.360) | 0.307 |
| 119 | 9.92 | 0.73 | 0.400 | | 0.092 | ( | 0.360) | 0.308 |
| 120 | 10.00 | 0.73 | 0.400 | | 0.091 | ( | 0.360) | 0.308 |
| 121 | 10.08 | 0.50 | 0.272 | | 0.091 | ( | 0.245) | 0.182 |
| 122 | 10.17 | 0.50 | 0.272 | | 0.090 | ( | 0.245) | 0.182 |
| 123 | 10.25 | 0.50 | 0.272 | | 0.090 | ( | 0.245) | 0.182 |
| 124 | 10.33 | 0.50 | 0.272 | | 0.090 | ( | 0.245) | 0.183 |
| 125 | 10.42 | 0.50 | 0.272 | | 0.089 | ( | 0.245) | 0.183 |
| 126 | 10.50 | 0.50 | 0.272 | | 0.089 | ( | 0.245) | 0.184 |
| 127 | 10.58 | 0.67 | 0.363 | | 0.088 | ( | 0.327) | 0.275 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 128 | 10.67 | 0.67 | 0.363 | 0.088 | ( 0.327) | 0.275 |
| 129 | 10.75 | 0.67 | 0.363 | 0.087 | ( 0.327) | 0.276 |
| 130 | 10.83 | 0.67 | 0.363 | 0.087 | ( 0.327) | 0.276 |
| 131 | 10.92 | 0.67 | 0.363 | 0.086 | ( 0.327) | 0.277 |
| 132 | 11.00 | 0.67 | 0.363 | 0.086 | ( 0.327) | 0.277 |
| 133 | 11.08 | 0.63 | 0.345 | 0.086 | ( 0.311) | 0.259 |
| 134 | 11.17 | 0.63 | 0.345 | 0.085 | ( 0.311) | 0.260 |
| 135 | 11.25 | 0.63 | 0.345 | 0.085 | ( 0.311) | 0.260 |
| 136 | 11.33 | 0.63 | 0.345 | 0.084 | ( 0.311) | 0.261 |
| 137 | 11.42 | 0.63 | 0.345 | 0.084 | ( 0.311) | 0.261 |
| 138 | 11.50 | 0.63 | 0.345 | 0.084 | ( 0.311) | 0.261 |
| 139 | 11.58 | 0.57 | 0.309 | 0.083 | ( 0.278) | 0.226 |
| 140 | 11.67 | 0.57 | 0.309 | 0.083 | ( 0.278) | 0.226 |
| 141 | 11.75 | 0.57 | 0.309 | 0.082 | ( 0.278) | 0.226 |
| 142 | 11.83 | 0.60 | 0.327 | 0.082 | ( 0.294) | 0.245 |
| 143 | 11.92 | 0.60 | 0.327 | 0.081 | ( 0.294) | 0.245 |
| 144 | 12.00 | 0.60 | 0.327 | 0.081 | ( 0.294) | 0.246 |
| 145 | 12.08 | 0.83 | 0.454 | 0.081 | ( 0.409) | 0.373 |
| 146 | 12.17 | 0.83 | 0.454 | 0.080 | ( 0.409) | 0.374 |
| 147 | 12.25 | 0.83 | 0.454 | 0.080 | ( 0.409) | 0.374 |
| 148 | 12.33 | 0.87 | 0.472 | 0.079 | ( 0.425) | 0.393 |
| 149 | 12.42 | 0.87 | 0.472 | 0.079 | ( 0.425) | 0.393 |
| 150 | 12.50 | 0.87 | 0.472 | 0.079 | ( 0.425) | 0.393 |
| 151 | 12.58 | 0.93 | 0.508 | 0.078 | ( 0.458) | 0.430 |
| 152 | 12.67 | 0.93 | 0.508 | 0.078 | ( 0.458) | 0.431 |
| 153 | 12.75 | 0.93 | 0.508 | 0.077 | ( 0.458) | 0.431 |
| 154 | 12.83 | 0.97 | 0.527 | 0.077 | ( 0.474) | 0.450 |
| 155 | 12.92 | 0.97 | 0.527 | 0.077 | ( 0.474) | 0.450 |
| 156 | 13.00 | 0.97 | 0.527 | 0.076 | ( 0.474) | 0.450 |
| 157 | 13.08 | 1.13 | 0.617 | 0.076 | ( 0.556) | 0.541 |
| 158 | 13.17 | 1.13 | 0.617 | 0.076 | ( 0.556) | 0.542 |
| 159 | 13.25 | 1.13 | 0.617 | 0.075 | ( 0.556) | 0.542 |
| 160 | 13.33 | 1.13 | 0.617 | 0.075 | ( 0.556) | 0.543 |
| 161 | 13.42 | 1.13 | 0.617 | 0.074 | ( 0.556) | 0.543 |
| 162 | 13.50 | 1.13 | 0.617 | 0.074 | ( 0.556) | 0.543 |
| 163 | 13.58 | 0.77 | 0.418 | 0.074 | ( 0.376) | 0.344 |
| 164 | 13.67 | 0.77 | 0.418 | 0.073 | ( 0.376) | 0.344 |
| 165 | 13.75 | 0.77 | 0.418 | 0.073 | ( 0.376) | 0.345 |
| 166 | 13.83 | 0.77 | 0.418 | 0.073 | ( 0.376) | 0.345 |
| 167 | 13.92 | 0.77 | 0.418 | 0.072 | ( 0.376) | 0.346 |
| 168 | 14.00 | 0.77 | 0.418 | 0.072 | ( 0.376) | 0.346 |
| 169 | 14.08 | 0.90 | 0.490 | 0.071 | ( 0.441) | 0.419 |
| 170 | 14.17 | 0.90 | 0.490 | 0.071 | ( 0.441) | 0.419 |
| 171 | 14.25 | 0.90 | 0.490 | 0.071 | ( 0.441) | 0.420 |
| 172 | 14.33 | 0.87 | 0.472 | 0.070 | ( 0.425) | 0.402 |
| 173 | 14.42 | 0.87 | 0.472 | 0.070 | ( 0.425) | 0.402 |
| 174 | 14.50 | 0.87 | 0.472 | 0.070 | ( 0.425) | 0.403 |
| 175 | 14.58 | 0.87 | 0.472 | 0.069 | ( 0.425) | 0.403 |
| 176 | 14.67 | 0.87 | 0.472 | 0.069 | ( 0.425) | 0.403 |
| 177 | 14.75 | 0.87 | 0.472 | 0.069 | ( 0.425) | 0.404 |
| 178 | 14.83 | 0.83 | 0.454 | 0.068 | ( 0.409) | 0.386 |
| 179 | 14.92 | 0.83 | 0.454 | 0.068 | ( 0.409) | 0.386 |
| 180 | 15.00 | 0.83 | 0.454 | 0.068 | ( 0.409) | 0.386 |
| 181 | 15.08 | 0.80 | 0.436 | 0.067 | ( 0.392) | 0.369 |
| 182 | 15.17 | 0.80 | 0.436 | 0.067 | ( 0.392) | 0.369 |
| 183 | 15.25 | 0.80 | 0.436 | 0.066 | ( 0.392) | 0.369 |
| 184 | 15.33 | 0.77 | 0.418 | 0.066 | ( 0.376) | 0.352 |
| 185 | 15.42 | 0.77 | 0.418 | 0.066 | ( 0.376) | 0.352 |
| 186 | 15.50 | 0.77 | 0.418 | 0.065 | ( 0.376) | 0.352 |
| 187 | 15.58 | 0.63 | 0.345 | 0.065 | ( 0.311) | 0.280 |
| 188 | 15.67 | 0.63 | 0.345 | 0.065 | ( 0.311) | 0.280 |
| 189 | 15.75 | 0.63 | 0.345 | 0.064 | ( 0.311) | 0.281 |
| 190 | 15.83 | 0.63 | 0.345 | 0.064 | ( 0.311) | 0.281 |
| 191 | 15.92 | 0.63 | 0.345 | 0.064 | ( 0.311) | 0.281 |
| 192 | 16.00 | 0.63 | 0.345 | 0.063 | ( 0.311) | 0.282 |
| 193 | 16.08 | 0.13 | 0.073 | 0.063 | ( 0.065) | 0.009 |
| 194 | 16.17 | 0.13 | 0.073 | 0.063 | ( 0.065) | 0.010 |
| 195 | 16.25 | 0.13 | 0.073 | 0.062 | ( 0.065) | 0.010 |
| 196 | 16.33 | 0.13 | 0.073 | 0.062 | ( 0.065) | 0.010 |
| 197 | 16.42 | 0.13 | 0.073 | 0.062 | ( 0.065) | 0.011 |
| 198 | 16.50 | 0.13 | 0.073 | 0.062 | ( 0.065) | 0.011 |
| 199 | 16.58 | 0.10 | 0.054 | ( 0.061) | 0.049 | 0.005 |
| 200 | 16.67 | 0.10 | 0.054 | ( 0.061) | 0.049 | 0.005 |
| 201 | 16.75 | 0.10 | 0.054 | ( 0.061) | 0.049 | 0.005 |
| 202 | 16.83 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 203 | 16.92 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 204 | 17.00 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 205 | 17.08 | 0.17 | 0.091 | 0.059 | ( 0.082) | 0.031 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 206 | 17.17 | 0.17 | 0.091 | 0.059 | ( 0.082) | 0.032 |
| 207 | 17.25 | 0.17 | 0.091 | 0.059 | ( 0.082) | 0.032 |
| 208 | 17.33 | 0.17 | 0.091 | 0.059 | ( 0.082) | 0.032 |
| 209 | 17.42 | 0.17 | 0.091 | 0.058 | ( 0.082) | 0.033 |
| 210 | 17.50 | 0.17 | 0.091 | 0.058 | ( 0.082) | 0.033 |
| 211 | 17.58 | 0.17 | 0.091 | 0.058 | ( 0.082) | 0.033 |
| 212 | 17.67 | 0.17 | 0.091 | 0.057 | ( 0.082) | 0.033 |
| 213 | 17.75 | 0.17 | 0.091 | 0.057 | ( 0.082) | 0.034 |
| 214 | 17.83 | 0.13 | 0.073 | 0.057 | ( 0.065) | 0.016 |
| 215 | 17.92 | 0.13 | 0.073 | 0.056 | ( 0.065) | 0.016 |
| 216 | 18.00 | 0.13 | 0.073 | 0.056 | ( 0.065) | 0.016 |
| 217 | 18.08 | 0.13 | 0.073 | 0.056 | ( 0.065) | 0.017 |
| 218 | 18.17 | 0.13 | 0.073 | 0.056 | ( 0.065) | 0.017 |
| 219 | 18.25 | 0.13 | 0.073 | 0.055 | ( 0.065) | 0.017 |
| 220 | 18.33 | 0.13 | 0.073 | 0.055 | ( 0.065) | 0.018 |
| 221 | 18.42 | 0.13 | 0.073 | 0.055 | ( 0.065) | 0.018 |
| 222 | 18.50 | 0.13 | 0.073 | 0.055 | ( 0.065) | 0.018 |
| 223 | 18.58 | 0.10 | 0.054 | ( 0.054) | 0.049 | 0.005 |
| 224 | 18.67 | 0.10 | 0.054 | ( 0.054) | 0.049 | 0.005 |
| 225 | 18.75 | 0.10 | 0.054 | ( 0.054) | 0.049 | 0.005 |
| 226 | 18.83 | 0.07 | 0.036 | ( 0.054) | 0.033 | 0.004 |
| 227 | 18.92 | 0.07 | 0.036 | ( 0.053) | 0.033 | 0.004 |
| 228 | 19.00 | 0.07 | 0.036 | ( 0.053) | 0.033 | 0.004 |
| 229 | 19.08 | 0.10 | 0.054 | ( 0.053) | 0.049 | 0.005 |
| 230 | 19.17 | 0.10 | 0.054 | ( 0.053) | 0.049 | 0.005 |
| 231 | 19.25 | 0.10 | 0.054 | ( 0.052) | 0.049 | 0.005 |
| 232 | 19.33 | 0.13 | 0.073 | 0.052 | ( 0.065) | 0.021 |
| 233 | 19.42 | 0.13 | 0.073 | 0.052 | ( 0.065) | 0.021 |
| 234 | 19.50 | 0.13 | 0.073 | 0.052 | ( 0.065) | 0.021 |
| 235 | 19.58 | 0.10 | 0.054 | ( 0.051) | 0.049 | 0.005 |
| 236 | 19.67 | 0.10 | 0.054 | ( 0.051) | 0.049 | 0.005 |
| 237 | 19.75 | 0.10 | 0.054 | ( 0.051) | 0.049 | 0.005 |
| 238 | 19.83 | 0.07 | 0.036 | ( 0.051) | 0.033 | 0.004 |
| 239 | 19.92 | 0.07 | 0.036 | ( 0.050) | 0.033 | 0.004 |
| 240 | 20.00 | 0.07 | 0.036 | ( 0.050) | 0.033 | 0.004 |
| 241 | 20.08 | 0.10 | 0.054 | ( 0.050) | 0.049 | 0.005 |
| 242 | 20.17 | 0.10 | 0.054 | ( 0.050) | 0.049 | 0.005 |
| 243 | 20.25 | 0.10 | 0.054 | ( 0.050) | 0.049 | 0.005 |
| 244 | 20.33 | 0.10 | 0.054 | ( 0.049) | 0.049 | 0.005 |
| 245 | 20.42 | 0.10 | 0.054 | ( 0.049) | 0.049 | 0.005 |
| 246 | 20.50 | 0.10 | 0.054 | 0.049 | ( 0.049) | 0.006 |
| 247 | 20.58 | 0.10 | 0.054 | 0.049 | ( 0.049) | 0.006 |
| 248 | 20.67 | 0.10 | 0.054 | 0.048 | ( 0.049) | 0.006 |
| 249 | 20.75 | 0.10 | 0.054 | 0.048 | ( 0.049) | 0.006 |
| 250 | 20.83 | 0.07 | 0.036 | ( 0.048) | 0.033 | 0.004 |
| 251 | 20.92 | 0.07 | 0.036 | ( 0.048) | 0.033 | 0.004 |
| 252 | 21.00 | 0.07 | 0.036 | ( 0.048) | 0.033 | 0.004 |
| 253 | 21.08 | 0.10 | 0.054 | 0.048 | ( 0.049) | 0.007 |
| 254 | 21.17 | 0.10 | 0.054 | 0.047 | ( 0.049) | 0.007 |
| 255 | 21.25 | 0.10 | 0.054 | 0.047 | ( 0.049) | 0.007 |
| 256 | 21.33 | 0.07 | 0.036 | ( 0.047) | 0.033 | 0.004 |
| 257 | 21.42 | 0.07 | 0.036 | ( 0.047) | 0.033 | 0.004 |
| 258 | 21.50 | 0.07 | 0.036 | ( 0.047) | 0.033 | 0.004 |
| 259 | 21.58 | 0.10 | 0.054 | 0.046 | ( 0.049) | 0.008 |
| 260 | 21.67 | 0.10 | 0.054 | 0.046 | ( 0.049) | 0.008 |
| 261 | 21.75 | 0.10 | 0.054 | 0.046 | ( 0.049) | 0.008 |
| 262 | 21.83 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 263 | 21.92 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 264 | 22.00 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 265 | 22.08 | 0.10 | 0.054 | 0.045 | ( 0.049) | 0.009 |
| 266 | 22.17 | 0.10 | 0.054 | 0.045 | ( 0.049) | 0.009 |
| 267 | 22.25 | 0.10 | 0.054 | 0.045 | ( 0.049) | 0.009 |
| 268 | 22.33 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 269 | 22.42 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 270 | 22.50 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 271 | 22.58 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 272 | 22.67 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 273 | 22.75 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 274 | 22.83 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 275 | 22.92 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 276 | 23.00 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 277 | 23.08 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 278 | 23.17 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 279 | 23.25 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 280 | 23.33 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 281 | 23.42 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 284 | 23.67 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 | |
| 285 | 23.75 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 | |
| 286 | 23.83 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 | |
| 287 | 23.92 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 | |
| 288 | 24.00 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 | |

(Loss Rate Not Used)

Sum = 100.0 Sum = 33.9

Flood volume = Effective rainfall 2.83(In)
times area 21.5(Ac.)/[(In)/(Ft.)] = 5.1(Ac.Ft)
Total soil loss = 1.71(In)
Total soil loss = 3.067(Ac.Ft)
Total rainfall = 4.54(In)
Flood volume = 220698.7 Cubic Feet
Total soil loss = 133610.7 Cubic Feet

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Peak flow rate of this hydrograph = 11.766(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

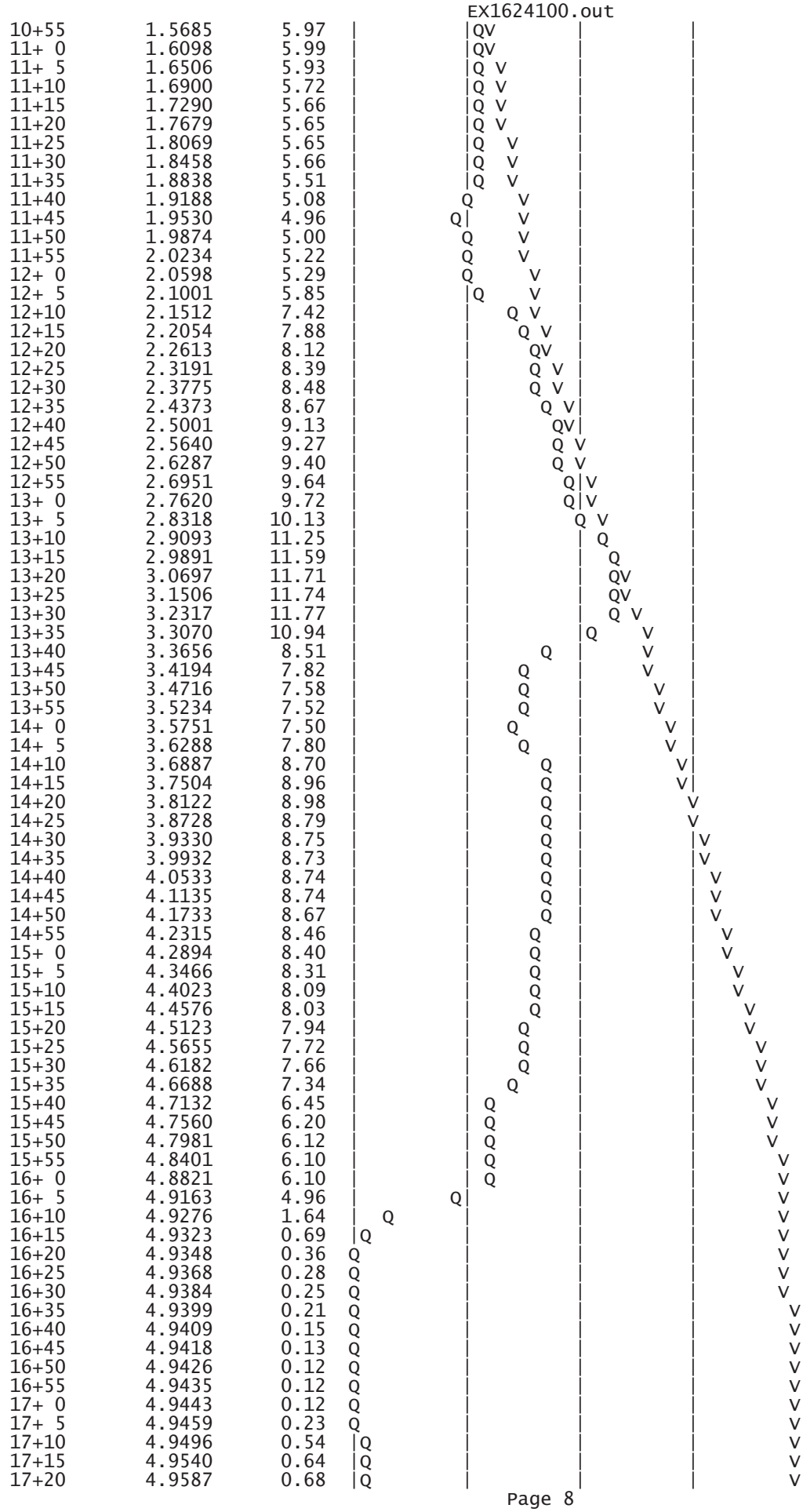
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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 5.0 | 10.0 | 15.0 | 20.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0001 | 0.02 | Q | | | | |
| 0+10 | 0.0005 | 0.06 | Q | | | | |
| 0+15 | 0.0010 | 0.07 | Q | | | | |
| 0+20 | 0.0016 | 0.08 | Q | | | | |
| 0+25 | 0.0023 | 0.11 | Q | | | | |
| 0+30 | 0.0031 | 0.11 | Q | | | | |
| 0+35 | 0.0039 | 0.12 | Q | | | | |
| 0+40 | 0.0047 | 0.12 | Q | | | | |
| 0+45 | 0.0056 | 0.12 | Q | | | | |
| 0+50 | 0.0064 | 0.13 | Q | | | | |
| 0+55 | 0.0074 | 0.15 | Q | | | | |
| 1+ 0 | 0.0085 | 0.15 | Q | | | | |
| 1+ 5 | 0.0095 | 0.15 | Q | | | | |
| 1+10 | 0.0104 | 0.13 | Q | | | | |
| 1+15 | 0.0112 | 0.12 | Q | | | | |
| 1+20 | 0.0121 | 0.12 | Q | | | | |
| 1+25 | 0.0129 | 0.12 | Q | | | | |
| 1+30 | 0.0137 | 0.12 | Q | | | | |
| 1+35 | 0.0145 | 0.12 | Q | | | | |
| 1+40 | 0.0153 | 0.12 | Q | | | | |
| 1+45 | 0.0161 | 0.12 | Q | | | | |
| 1+50 | 0.0170 | 0.13 | Q | | | | |
| 1+55 | 0.0180 | 0.15 | Q | | | | |
| 2+ 0 | 0.0191 | 0.15 | Q | | | | |
| 2+ 5 | 0.0202 | 0.16 | Q | | | | |
| 2+10 | 0.0212 | 0.16 | Q | | | | |
| 2+15 | 0.0223 | 0.16 | Q | | | | |
| 2+20 | 0.0234 | 0.16 | Q | | | | |
| 2+25 | 0.0245 | 0.16 | Q | | | | |
| 2+30 | 0.0256 | 0.16 | Q | | | | |
| 2+35 | 0.0267 | 0.17 | Q | | | | |
| 2+40 | 0.0280 | 0.19 | Q | | | | |
| 2+45 | 0.0293 | 0.19 | Q | | | | |
| 2+50 | 0.0307 | 0.20 | Q | | | | |
| 2+55 | 0.0320 | 0.20 | Q | | | | |
| 3+ 0 | 0.0334 | 0.20 | Q | | | | |
| 3+ 5 | 0.0348 | 0.20 | Q | | | | |
| 3+10 | 0.0361 | 0.20 | Q | | | | |
| 3+15 | 0.0375 | 0.20 | Q | | | | |
| 3+20 | 0.0388 | 0.20 | Q | | | | |
| 3+25 | 0.0402 | 0.20 | Q | | | | |
| 3+30 | 0.0415 | 0.20 | Q | | | | |
| 3+35 | 0.0429 | 0.20 | Q | | | | |
| 3+40 | 0.0442 | 0.20 | Q | | | | |
| 3+45 | 0.0456 | 0.20 | Q | | | | |
| 3+50 | 0.0470 | 0.20 | Q | | | | |
| 3+55 | 0.0486 | 0.23 | Q | | | | |
| 4+ 0 | 0.0502 | 0.23 | Q | | | | |
| 4+ 5 | 0.0518 | 0.24 | Q | | | | |
| 4+10 | 0.0534 | 0.24 | Q | | | | |
| 4+15 | 0.0550 | 0.24 | Q | | | | |
| 4+20 | 0.0567 | 0.24 | Q | | | | |

```
 4+25       0.0586      0.27  Q          |          |          |          |
 4+30       0.0604      0.27  Q          |          |          |          |
 4+35       0.0623      0.27  Q          |          |          |          |
 4+40       0.0642      0.28  Q          |          |          |          |
 4+45       0.0661      0.28  Q          |          |          |          |
 4+50       0.0683      0.32  Q          |          |          |          |
 4+55       0.0715      0.46  Q          |          |          |          |
 5+ 0       0.0750      0.51  VQ         |          |          |          |
 5+ 5       0.0783      0.47  Q          |          |          |          |
 5+10       0.0804      0.31  Q          |          |          |          |
 5+15       0.0822      0.26  Q          |          |          |          |
 5+20       0.0839      0.25  Q          |          |          |          |
 5+25       0.0858      0.27  Q          |          |          |          |
 5+30       0.0877      0.27  Q          |          |          |          |
 5+35       0.0900      0.34  Q          |          |          |          |
 5+40       0.0937      0.54  VQ         |          |          |          |
 5+45       0.0979      0.60  VQ         |          |          |          |
 5+50       0.1022      0.63  VQ         |          |          |          |
 5+55       0.1067      0.65  VQ         |          |          |          |
 6+ 0       0.1113      0.66  VQ         |          |          |          |
 6+ 5       0.1165      0.75  VQ         |          |          |          |
 6+10       0.1232      0.98  VQ         |          |          |          |
 6+15       0.1305      1.06  |VQ        |          |          |          |
 6+20       0.1380      1.09  |VQ        |          |          |          |
 6+25       0.1457      1.11  |VQ        |          |          |          |
 6+30       0.1534      1.12  |VQ        |          |          |          |
 6+35       0.1617      1.21  |VQ        |          |          |          |
 6+40       0.1717      1.44  |VQ        |          |          |          |
 6+45       0.1821      1.52  |V Q       |          |          |          |
 6+50       0.1928      1.55  |V Q       |          |          |          |
 6+55       0.2036      1.57  |V Q       |          |          |          |
 7+ 0       0.2145      1.58  |V Q       |          |          |          |
 7+ 5       0.2254      1.59  |V Q       |          |          |          |
 7+10       0.2365      1.60  |V Q       |          |          |          |
 7+15       0.2476      1.61  |V Q       |          |          |          |
 7+20       0.2593      1.70  | VQ       |          |          |          |
 7+25       0.2726      1.93  | VQ       |          |          |          |
 7+30       0.2864      2.01  | V Q      |          |          |          |
 7+35       0.3010      2.12  | V Q      |          |          |          |
 7+40       0.3172      2.35  | V Q      |          |          |          |
 7+45       0.3339      2.43  | V Q      |          |          |          |
 7+50       0.3514      2.54  | V  Q     |          |          |          |
 7+55       0.3706      2.78  | V  Q     |          |          |          |
 8+ 0       0.3902      2.86  |  V Q     |          |          |          |
 8+ 5       0.4112      3.04  |  V  Q    |          |          |          |
 8+10       0.4353      3.50  |  V   Q   |          |          |          |
 8+15       0.4604      3.64  |  V   Q   |          |          |          |
 8+20       0.4858      3.70  |  V   Q   |          |          |          |
 8+25       0.5115      3.72  |   V  Q   |          |          |          |
 8+30       0.5372      3.74  |   V  Q   |          |          |          |
 8+35       0.5635      3.82  |   V  Q   |          |          |          |
 8+40       0.5914      4.06  |   V   Q  |          |          |          |
 8+45       0.6199      4.13  |   V   Q  |          |          |          |
 8+50       0.6491      4.24  |    V  Q  |          |          |          |
 8+55       0.6799      4.48  |    V  Q  |          |          |          |
 9+ 0       0.7113      4.55  |    V   Q |          |          |          |
 9+ 5       0.7439      4.74  |    V   Q |          |          |          |
 9+10       0.7797      5.20  |     V   Q|          |          |          |
 9+15       0.8164      5.34  |     V   Q|          |          |          |
 9+20       0.8541      5.47  |     V   Q|          |          |          |
 9+25       0.8934      5.71  |      V  |Q          |          |          |
 9+30       0.9333      5.79  |      V  |Q          |          |          |
 9+35       0.9740      5.90  |      V  |Q          |          |          |
 9+40       1.0163      6.14  |       V | Q         |          |          |
 9+45       1.0591      6.22  |       V | Q         |          |          |
 9+50       1.1026      6.33  |       V | Q         |          |          |
 9+55       1.1478      6.56  |        V|  Q        |          |          |
10+ 0       1.1935      6.64  |        V|  Q        |          |          |
10+ 5       1.2358      6.14  |        V| Q         |          |          |
10+10       1.2675      4.60  |        QV         |          |          |
10+15       1.2962      4.17  |       Q V         |          |          |
10+20       1.3239      4.02  |       Q V         |          |          |
10+25       1.3514      3.99  |      Q  V         |          |          |
10+30       1.3788      3.98  |      Q  V         |          |          |
10+35       1.4088      4.36  |       Q |V        |          |          |
10+40       1.4466      5.48  |         QV        |          |          |
10+45       1.4866      5.81  |         |Q        |          |          |
10+50       1.5274      5.93  |         |QV       |          |          |
```



| | | | |
|---|---|---|---|
| 10+55 | 1.5685 | 5.97 | |
| 11+ 0 | 1.6098 | 5.99 | |
| 11+ 5 | 1.6506 | 5.93 | |
| 11+10 | 1.6900 | 5.72 | |
| 11+15 | 1.7290 | 5.66 | |
| 11+20 | 1.7679 | 5.65 | |
| 11+25 | 1.8069 | 5.65 | |
| 11+30 | 1.8458 | 5.66 | |
| 11+35 | 1.8838 | 5.51 | |
| 11+40 | 1.9188 | 5.08 | |
| 11+45 | 1.9530 | 4.96 | |
| 11+50 | 1.9874 | 5.00 | |
| 11+55 | 2.0234 | 5.22 | |
| 12+ 0 | 2.0598 | 5.29 | |
| 12+ 5 | 2.1001 | 5.85 | |
| 12+10 | 2.1512 | 7.42 | |
| 12+15 | 2.2054 | 7.88 | |
| 12+20 | 2.2613 | 8.12 | |
| 12+25 | 2.3191 | 8.39 | |
| 12+30 | 2.3775 | 8.48 | |
| 12+35 | 2.4373 | 8.67 | |
| 12+40 | 2.5001 | 9.13 | |
| 12+45 | 2.5640 | 9.27 | |
| 12+50 | 2.6287 | 9.40 | |
| 12+55 | 2.6951 | 9.64 | |
| 13+ 0 | 2.7620 | 9.72 | |
| 13+ 5 | 2.8318 | 10.13 | |
| 13+10 | 2.9093 | 11.25 | |
| 13+15 | 2.9891 | 11.59 | |
| 13+20 | 3.0697 | 11.71 | |
| 13+25 | 3.1506 | 11.74 | |
| 13+30 | 3.2317 | 11.77 | |
| 13+35 | 3.3070 | 10.94 | |
| 13+40 | 3.3656 | 8.51 | |
| 13+45 | 3.4194 | 7.82 | |
| 13+50 | 3.4716 | 7.58 | |
| 13+55 | 3.5234 | 7.52 | |
| 14+ 0 | 3.5751 | 7.50 | |
| 14+ 5 | 3.6288 | 7.80 | |
| 14+10 | 3.6887 | 8.70 | |
| 14+15 | 3.7504 | 8.96 | |
| 14+20 | 3.8122 | 8.98 | |
| 14+25 | 3.8728 | 8.79 | |
| 14+30 | 3.9330 | 8.75 | |
| 14+35 | 3.9932 | 8.73 | |
| 14+40 | 4.0533 | 8.74 | |
| 14+45 | 4.1135 | 8.74 | |
| 14+50 | 4.1733 | 8.67 | |
| 14+55 | 4.2315 | 8.46 | |
| 15+ 0 | 4.2894 | 8.40 | |
| 15+ 5 | 4.3466 | 8.31 | |
| 15+10 | 4.4023 | 8.09 | |
| 15+15 | 4.4576 | 8.03 | |
| 15+20 | 4.5123 | 7.94 | |
| 15+25 | 4.5655 | 7.72 | |
| 15+30 | 4.6182 | 7.66 | |
| 15+35 | 4.6688 | 7.34 | |
| 15+40 | 4.7132 | 6.45 | |
| 15+45 | 4.7560 | 6.20 | |
| 15+50 | 4.7981 | 6.12 | |
| 15+55 | 4.8401 | 6.10 | |
| 16+ 0 | 4.8821 | 6.10 | |
| 16+ 5 | 4.9163 | 4.96 | |
| 16+10 | 4.9276 | 1.64 | |
| 16+15 | 4.9323 | 0.69 | |
| 16+20 | 4.9348 | 0.36 | |
| 16+25 | 4.9368 | 0.28 | |
| 16+30 | 4.9384 | 0.25 | |
| 16+35 | 4.9399 | 0.21 | |
| 16+40 | 4.9409 | 0.15 | |
| 16+45 | 4.9418 | 0.13 | |
| 16+50 | 4.9426 | 0.12 | |
| 16+55 | 4.9435 | 0.12 | |
| 17+ 0 | 4.9443 | 0.12 | |
| 17+ 5 | 4.9459 | 0.23 | |
| 17+10 | 4.9496 | 0.54 | |
| 17+15 | 4.9540 | 0.64 | |
| 17+20 | 4.9587 | 0.68 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+25 | 4.9635 | 0.69 | \|Q | \| | \| | \| | V\| |
| 17+30 | 4.9683 | 0.70 | \|Q | \| | \| | \| | V\| |
| 17+35 | 4.9732 | 0.71 | \|Q | \| | \| | \| | V\| |
| 17+40 | 4.9782 | 0.72 | \|Q | \| | \| | \| | V\| |
| 17+45 | 4.9832 | 0.72 | \|Q | \| | \| | \| | V\| |
| 17+50 | 4.9877 | 0.65 | \|Q | \| | \| | \| | V\| |
| 17+55 | 4.9907 | 0.44 | Q | \| | \| | \| | V\| |
| 18+ 0 | 4.9933 | 0.38 | Q | \| | \| | \| | V\| |
| 18+ 5 | 4.9958 | 0.36 | Q | \| | \| | \| | V\| |
| 18+10 | 4.9983 | 0.36 | Q | \| | \| | \| | V\| |
| 18+15 | 5.0009 | 0.37 | Q | \| | \| | \| | V\| |
| 18+20 | 5.0034 | 0.37 | Q | \| | \| | \| | V\| |
| 18+25 | 5.0060 | 0.38 | Q | \| | \| | \| | V\| |
| 18+30 | 5.0087 | 0.38 | Q | \| | \| | \| | V\| |
| 18+35 | 5.0110 | 0.34 | Q | \| | \| | \| | V\| |
| 18+40 | 5.0123 | 0.18 | Q | \| | \| | \| | V\| |
| 18+45 | 5.0132 | 0.14 | Q | \| | \| | \| | V\| |
| 18+50 | 5.0140 | 0.12 | Q | \| | \| | \| | V\| |
| 18+55 | 5.0147 | 0.09 | Q | \| | \| | \| | V\| |
| 19+ 0 | 5.0152 | 0.08 | Q | \| | \| | \| | V\| |
| 19+ 5 | 5.0158 | 0.09 | Q | \| | \| | \| | V\| |
| 19+10 | 5.0166 | 0.11 | Q | \| | \| | \| | V\| |
| 19+15 | 5.0174 | 0.11 | Q | \| | \| | \| | V\| |
| 19+20 | 5.0186 | 0.18 | Q | \| | \| | \| | V\| |
| 19+25 | 5.0212 | 0.37 | Q | \| | \| | \| | V\| |
| 19+30 | 5.0241 | 0.42 | Q | \| | \| | \| | V\| |
| 19+35 | 5.0267 | 0.38 | Q | \| | \| | \| | V\| |
| 19+40 | 5.0281 | 0.20 | Q | \| | \| | \| | V\| |
| 19+45 | 5.0291 | 0.14 | Q | \| | \| | \| | V\| |
| 19+50 | 5.0299 | 0.12 | Q | \| | \| | \| | V\| |
| 19+55 | 5.0305 | 0.09 | Q | \| | \| | \| | V\| |
| 20+ 0 | 5.0311 | 0.08 | Q | \| | \| | \| | V\| |
| 20+ 5 | 5.0317 | 0.09 | Q | \| | \| | \| | V\| |
| 20+10 | 5.0324 | 0.11 | Q | \| | \| | \| | V\| |
| 20+15 | 5.0332 | 0.11 | Q | \| | \| | \| | V\| |
| 20+20 | 5.0340 | 0.12 | Q | \| | \| | \| | V\| |
| 20+25 | 5.0348 | 0.12 | Q | \| | \| | \| | V\| |
| 20+30 | 5.0357 | 0.12 | Q | \| | \| | \| | V\| |
| 20+35 | 5.0365 | 0.12 | Q | \| | \| | \| | V\| |
| 20+40 | 5.0373 | 0.13 | Q | \| | \| | \| | V\| |
| 20+45 | 5.0382 | 0.13 | Q | \| | \| | \| | V\| |
| 20+50 | 5.0391 | 0.12 | Q | \| | \| | \| | V\| |
| 20+55 | 5.0397 | 0.09 | Q | \| | \| | \| | V\| |
| 21+ 0 | 5.0403 | 0.08 | Q | \| | \| | \| | V\| |
| 21+ 5 | 5.0409 | 0.09 | Q | \| | \| | \| | V\| |
| 21+10 | 5.0419 | 0.13 | Q | \| | \| | \| | V\| |
| 21+15 | 5.0429 | 0.15 | Q | \| | \| | \| | V\| |
| 21+20 | 5.0439 | 0.14 | Q | \| | \| | \| | V\| |
| 21+25 | 5.0445 | 0.10 | Q | \| | \| | \| | V\| |
| 21+30 | 5.0451 | 0.08 | Q | \| | \| | \| | V\| |
| 21+35 | 5.0458 | 0.10 | Q | \| | \| | \| | V\| |
| 21+40 | 5.0468 | 0.15 | Q | \| | \| | \| | V\| |
| 21+45 | 5.0480 | 0.17 | Q | \| | \| | \| | V\| |
| 21+50 | 5.0491 | 0.16 | Q | \| | \| | \| | V\| |
| 21+55 | 5.0498 | 0.10 | Q | \| | \| | \| | V\| |
| 22+ 0 | 5.0504 | 0.09 | Q | \| | \| | \| | V\| |
| 22+ 5 | 5.0511 | 0.10 | Q | \| | \| | \| | V\| |
| 22+10 | 5.0523 | 0.17 | Q | \| | \| | \| | V\| |
| 22+15 | 5.0536 | 0.19 | Q | \| | \| | \| | V\| |
| 22+20 | 5.0548 | 0.17 | Q | \| | \| | \| | V\| |
| 22+25 | 5.0555 | 0.11 | Q | \| | \| | \| | V\| |
| 22+30 | 5.0561 | 0.09 | Q | \| | \| | \| | V\| |
| 22+35 | 5.0567 | 0.08 | Q | \| | \| | \| | V\| |
| 22+40 | 5.0572 | 0.08 | Q | \| | \| | \| | V\| |
| 22+45 | 5.0578 | 0.08 | Q | \| | \| | \| | V\| |
| 22+50 | 5.0583 | 0.08 | Q | \| | \| | \| | V\| |
| 22+55 | 5.0589 | 0.08 | Q | \| | \| | \| | V\| |
| 23+ 0 | 5.0594 | 0.08 | Q | \| | \| | \| | V\| |
| 23+ 5 | 5.0599 | 0.08 | Q | \| | \| | \| | V\| |
| 23+10 | 5.0605 | 0.08 | Q | \| | \| | \| | V\| |
| 23+15 | 5.0610 | 0.08 | Q | \| | \| | \| | V\| |
| 23+20 | 5.0616 | 0.08 | Q | \| | \| | \| | V\| |
| 23+25 | 5.0621 | 0.08 | Q | \| | \| | \| | V\| |
| 23+30 | 5.0627 | 0.08 | Q | \| | \| | \| | V\| |
| 23+35 | 5.0632 | 0.08 | Q | \| | \| | \| | V\| |
| 23+40 | 5.0637 | 0.08 | Q | \| | \| | \| | V\| |
| 23+45 | 5.0643 | 0.08 | Q | \| | \| | \| | V\| |
| 23+50 | 5.0648 | 0.08 | Q | \| | \| | \| | V\| |

```
   23+55       5.0654      0.08  Q          |          |          |         V|
   24+ 0       5.0659      0.08  Q          |          |          |         V|
   24+ 5       5.0663      0.06  Q          |          |          |         V|
   24+10       5.0665      0.02  Q          |          |          |         V|
   24+15       5.0665      0.01  Q          |          |          |         V|
   24+20       5.0665      0.00  Q          |          |          |         V|
   24+25       5.0665      0.00  Q          |          |          |         V|
   24+30       5.0665      0.00  Q          |          |          |          V
-------------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014, Version 9.0
Study date 12/21/17 File: EX171100.out

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----------------------------------------------------------------------

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

164469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 17
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 2.50(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.50(Ac.) = 0.004 Sq. Mi.
Length along longest watercourse = 540.00(Ft.)
Length along longest watercourse measured to centroid = 249.00(Ft.)
Length along longest watercourse = 0.102 Mi.
Length along longest watercourse measured to centroid = 0.047 Mi.
Difference in elevation = 124.00(Ft.)
Slope along watercourse = 1212.4444 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.029 Hr.
Lag time = 1.72 Min.
25% of lag time = 0.43 Min.
40% of lag time = 0.69 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.50 | 0.49 | 1.23 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.50 | 1.20 | 3.00 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.490(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2.500 | 83.73 | 0.000 |

Total Area Entered = 2.50(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.7 | 93.2 | 0.088 | 0.000 | 0.088 | 1.000 | 0.088 |
| | | | | | Sum (F) = | 0.088 |

Area averaged mean soil loss (F) (In/Hr) = 0.088

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

---

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 290.250 | 56.525 | 1.424 |
| 2 | 0.167 | 580.499 | 41.134 | 1.036 |
| 3 | 0.250 | 870.749 | 2.341 | 0.059 |
| | | Sum = 100.000 | Sum= | 2.520 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.088 | ( 0.544) | 0.517 |
| 2 | 0.17 | 4.30 | 0.619 | 0.088 | ( 0.557) | 0.531 |
| 3 | 0.25 | 5.00 | 0.720 | 0.088 | ( 0.648) | 0.632 |
| 4 | 0.33 | 5.00 | 0.720 | 0.088 | ( 0.648) | 0.632 |
| 5 | 0.42 | 5.80 | 0.835 | 0.088 | ( 0.752) | 0.747 |
| 6 | 0.50 | 6.50 | 0.936 | 0.088 | ( 0.842) | 0.848 |
| 7 | 0.58 | 7.40 | 1.066 | 0.088 | ( 0.959) | 0.978 |
| 8 | 0.67 | 8.60 | 1.238 | 0.088 | ( 1.115) | 1.150 |
| 9 | 0.75 | 12.30 | 1.771 | 0.088 | ( 1.594) | 1.683 |
| 10 | 0.83 | 29.10 | 4.190 | 0.088 | ( 3.771) | 4.102 |
| 11 | 0.92 | 6.80 | 0.979 | 0.088 | ( 0.881) | 0.891 |
| 12 | 1.00 | 5.00 | 0.720 | 0.088 | ( 0.648) | 0.632 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 13.3 |

Flood volume = Effective rainfall 1.11(In)
times area 2.5(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.018(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 10092.0 Cubic Feet
Total soil loss = 797.7 Cubic Feet

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Peak flow rate of this hydrograph = 7.659(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0051 | 0.74 | V Q | | | | |
| 0+10 | 0.0140 | 1.29 | \| V Q | | | | |
| 0+15 | 0.0242 | 1.48 | \| VQ | | | | |
| 0+20 | 0.0351 | 1.59 | \| Q | | | | |
| 0+25 | 0.0472 | 1.76 | \| QV | | | | |
| 0+30 | 0.0611 | 2.02 | \| Q V | | | | |
| 0+35 | 0.0771 | 2.32 | \| Q\| V | | | | |
| 0+40 | 0.0957 | 2.70 | \| Q V | | | | |
| 0+45 | 0.1208 | 3.65 | \| Q V | | | | |
| 0+50 | 0.1736 | 7.66 | \| VQ | | | | |
| 0+55 | 0.2123 | 5.62 | \| Q \| V | | | | |
| 1+ 0 | 0.2265 | 2.07 | \| Q \| V | | | | |
| 1+ 5 | 0.2314 | 0.71 | \| Q \| V | | | | |
| 1+10 | 0.2317 | 0.04 | Q \| V | | | | |

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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX173100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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164469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 17
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 2.50(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.50(Ac.) = 0.004 Sq. Mi.
Length along longest watercourse = 540.00(Ft.)
Length along longest watercourse measured to centroid = 249.00(Ft.)
Length along longest watercourse = 0.102 Mi.
Length along longest watercourse measured to centroid = 0.047 Mi.
Difference in elevation = 124.00(Ft.)
Slope along watercourse = 1212.4444 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.029 Hr.
Lag time = 1.72 Min.
25% of lag time = 0.43 Min.
40% of lag time = 0.69 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.50 | 0.80 | 2.00 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.50 | 1.80 | 4.50 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2.500 | 83.73 | 0.000 |

Total Area Entered = 2.50(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.7 | 93.2 | 0.088 | 0.000 | 0.088 | 1.000 | 0.088 |
| | | | | | Sum (F) = | 0.088 |

Area averaged mean soil loss (F) (In/Hr) = 0.088

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 290.250 | 56.525 | 1.424 |
| 2 0.167 | 580.499 | 41.134 | 1.036 |
| 3 0.250 | 870.749 | 2.341 | 0.059 |
| | | Sum = 100.000 Sum= | 2.520 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.281 | 0.088 | ( 0.253) | 0.193 |
| 2 | 0.17 | 1.30 | 0.281 | 0.088 | ( 0.253) | 0.193 |
| 3 | 0.25 | 1.10 | 0.238 | 0.088 | ( 0.214) | 0.150 |
| 4 | 0.33 | 1.50 | 0.324 | 0.088 | ( 0.292) | 0.236 |
| 5 | 0.42 | 1.50 | 0.324 | 0.088 | ( 0.292) | 0.236 |
| 6 | 0.50 | 1.80 | 0.389 | 0.088 | ( 0.350) | 0.301 |
| 7 | 0.58 | 1.50 | 0.324 | 0.088 | ( 0.292) | 0.236 |
| 8 | 0.67 | 1.80 | 0.389 | 0.088 | ( 0.350) | 0.301 |
| 9 | 0.75 | 1.80 | 0.389 | 0.088 | ( 0.350) | 0.301 |
| 10 | 0.83 | 1.50 | 0.324 | 0.088 | ( 0.292) | 0.236 |
| 11 | 0.92 | 1.60 | 0.346 | 0.088 | ( 0.311) | 0.258 |
| 12 | 1.00 | 1.80 | 0.389 | 0.088 | ( 0.350) | 0.301 |
| 13 | 1.08 | 2.20 | 0.475 | 0.088 | ( 0.428) | 0.387 |
| 14 | 1.17 | 2.20 | 0.475 | 0.088 | ( 0.428) | 0.387 |
| 15 | 1.25 | 2.20 | 0.475 | 0.088 | ( 0.428) | 0.387 |
| 16 | 1.33 | 2.00 | 0.432 | 0.088 | ( 0.389) | 0.344 |
| 17 | 1.42 | 2.60 | 0.562 | 0.088 | ( 0.505) | 0.474 |
| 18 | 1.50 | 2.70 | 0.583 | 0.088 | ( 0.525) | 0.495 |
| 19 | 1.58 | 2.40 | 0.518 | 0.088 | ( 0.467) | 0.430 |
| 20 | 1.67 | 2.70 | 0.583 | 0.088 | ( 0.525) | 0.495 |
| 21 | 1.75 | 3.30 | 0.713 | 0.088 | ( 0.642) | 0.625 |
| 22 | 1.83 | 3.10 | 0.670 | 0.088 | ( 0.603) | 0.582 |
| 23 | 1.92 | 2.90 | 0.626 | 0.088 | ( 0.564) | 0.538 |
| 24 | 2.00 | 3.00 | 0.648 | 0.088 | ( 0.583) | 0.560 |
| 25 | 2.08 | 3.10 | 0.670 | 0.088 | ( 0.603) | 0.582 |
| 26 | 2.17 | 4.20 | 0.907 | 0.088 | ( 0.816) | 0.819 |
| 27 | 2.25 | 5.00 | 1.080 | 0.088 | ( 0.972) | 0.992 |
| 28 | 2.33 | 3.50 | 0.756 | 0.088 | ( 0.680) | 0.668 |
| 29 | 2.42 | 6.80 | 1.469 | 0.088 | ( 1.322) | 1.381 |
| 30 | 2.50 | 7.30 | 1.577 | 0.088 | ( 1.419) | 1.489 |
| 31 | 2.58 | 8.20 | 1.771 | 0.088 | ( 1.594) | 1.683 |
| 32 | 2.67 | 5.90 | 1.274 | 0.088 | ( 1.147) | 1.186 |
| 33 | 2.75 | 2.00 | 0.432 | 0.088 | ( 0.389) | 0.344 |
| 34 | 2.83 | 1.80 | 0.389 | 0.088 | ( 0.350) | 0.301 |
| 35 | 2.92 | 1.80 | 0.389 | 0.088 | ( 0.350) | 0.301 |
| 36 | 3.00 | 0.60 | 0.130 | 0.088 | ( 0.117) | 0.042 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 18.4 |

Flood volume = Effective rainfall 1.54(In)
times area 2.5(Ac.)/[(In)/(Ft.)] = 0.3(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.055(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 13941.6 Cubic Feet
Total soil loss = 2393.2 Cubic Feet

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Peak flow rate of this hydrograph = 4.024(CFS)

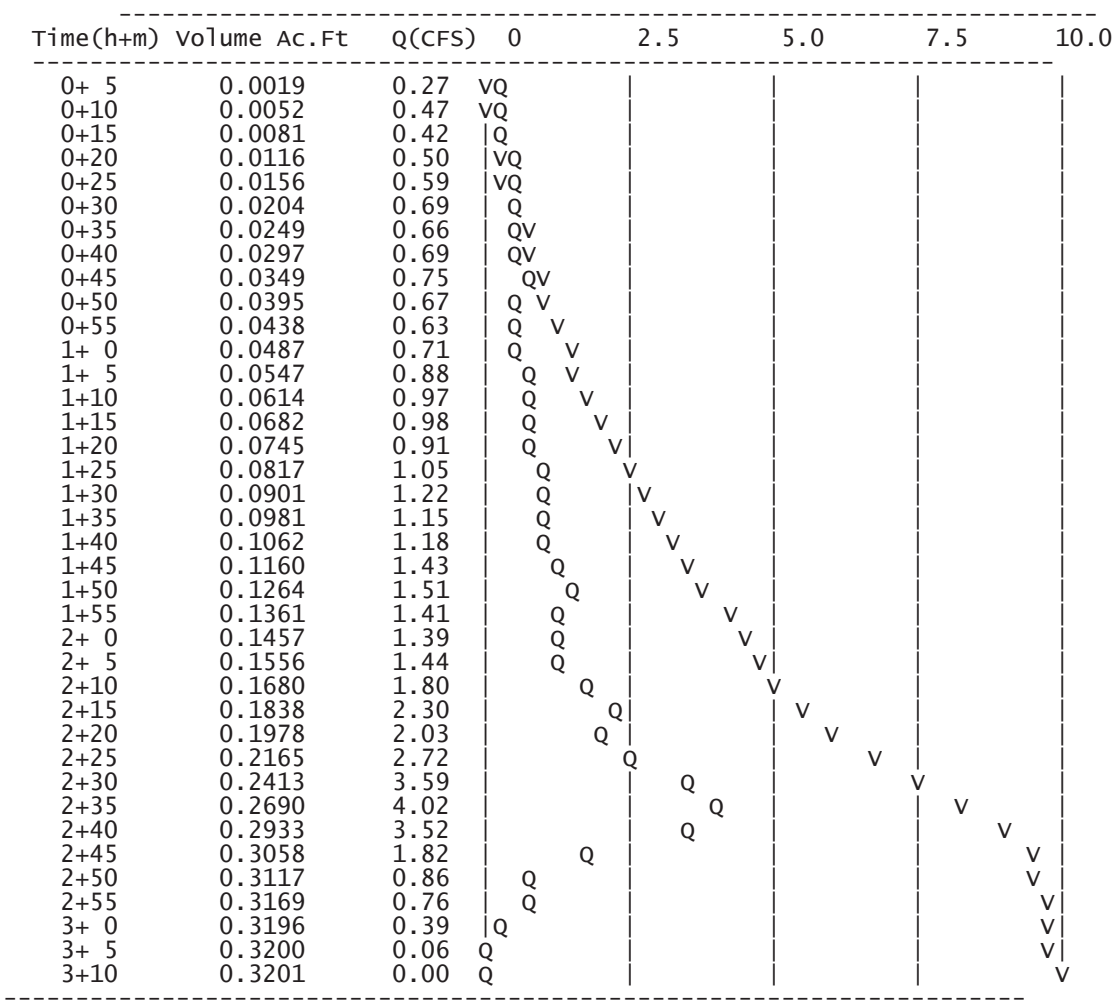
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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))


Time(h+m) Volume Ac.Ft Q(CFS) 0 2.5 5.0 7.5 10.0
0+ 5 0.0019 0.27
0+10 0.0052 0.47
0+15 0.0081 0.42
0+20 0.0116 0.50
0+25 0.0156 0.59
0+30 0.0204 0.69
0+35 0.0249 0.66
0+40 0.0297 0.69
0+45 0.0349 0.75
0+50 0.0395 0.67
0+55 0.0438 0.63
1+ 0 0.0487 0.71
1+ 5 0.0547 0.88
1+10 0.0614 0.97
1+15 0.0682 0.98
1+20 0.0745 0.91
1+25 0.0817 1.05
1+30 0.0901 1.22
1+35 0.0981 1.15
1+40 0.1062 1.18
1+45 0.1160 1.43
1+50 0.1264 1.51
1+55 0.1361 1.41
2+ 0 0.1457 1.39
2+ 5 0.1556 1.44
2+10 0.1680 1.80
2+15 0.1838 2.30
2+20 0.1978 2.03
2+25 0.2165 2.72
2+30 0.2413 3.59
2+35 0.2690 4.02
2+40 0.2933 3.52
2+45 0.3058 1.82
2+50 0.3117 0.86
2+55 0.3169 0.76
3+ 0 0.3196 0.39
3+ 5 0.3200 0.06
3+10 0.3201 0.00

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX176100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

164469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 17
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 2.50(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.50(Ac.) = 0.004 Sq. Mi.
Length along longest watercourse = 540.00(Ft.)
Length along longest watercourse measured to centroid = 249.00(Ft.)
Length along longest watercourse = 0.102 Mi.
Length along longest watercourse measured to centroid = 0.047 Mi.
Difference in elevation = 124.00(Ft.)
Slope along watercourse = 1212.4444 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.029 Hr.
Lag time = 1.72 Min.
25% of lag time = 0.43 Min.
40% of lag time = 0.69 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.50 | 1.12 | 2.80 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.50 | 2.50 | 6.25 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.120(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2.500 | 83.73 | 0.000 |

Total Area Entered = 2.50(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.7 | 93.2 | 0.088 | 0.000 | 0.088 | 1.000 | 0.088 |
| | | | | | Sum (F) = | 0.088 |

Area averaged mean soil loss (F) (In/Hr) = 0.088

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 290.250 | 56.525 | 1.424 |
| 2 0.167 | 580.499 | 41.134 | 1.036 |
| 3 0.250 | 870.749 | 2.341 | 0.059 |
| | Sum = 100.000 | Sum= | 2.520 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.088 | ( 0.135) | 0.062 |
| 2 | 0.17 | 0.60 | 0.180 | 0.088 | ( 0.162) | 0.092 |
| 3 | 0.25 | 0.60 | 0.180 | 0.088 | ( 0.162) | 0.092 |
| 4 | 0.33 | 0.60 | 0.180 | 0.088 | ( 0.162) | 0.092 |
| 5 | 0.42 | 0.60 | 0.180 | 0.088 | ( 0.162) | 0.092 |
| 6 | 0.50 | 0.70 | 0.210 | 0.088 | ( 0.189) | 0.122 |
| 7 | 0.58 | 0.70 | 0.210 | 0.088 | ( 0.189) | 0.122 |
| 8 | 0.67 | 0.70 | 0.210 | 0.088 | ( 0.189) | 0.122 |
| 9 | 0.75 | 0.70 | 0.210 | 0.088 | ( 0.189) | 0.122 |
| 10 | 0.83 | 0.70 | 0.210 | 0.088 | ( 0.189) | 0.122 |
| 11 | 0.92 | 0.70 | 0.210 | 0.088 | ( 0.189) | 0.122 |
| 12 | 1.00 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 13 | 1.08 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 14 | 1.17 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 15 | 1.25 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 16 | 1.33 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 17 | 1.42 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 18 | 1.50 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 19 | 1.58 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 20 | 1.67 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 21 | 1.75 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 22 | 1.83 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 23 | 1.92 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 24 | 2.00 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 25 | 2.08 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 26 | 2.17 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 27 | 2.25 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 28 | 2.33 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 29 | 2.42 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 30 | 2.50 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 31 | 2.58 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 32 | 2.67 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 33 | 2.75 | 1.00 | 0.300 | 0.088 | ( 0.270) | 0.212 |
| 34 | 2.83 | 1.00 | 0.300 | 0.088 | ( 0.270) | 0.212 |
| 35 | 2.92 | 1.00 | 0.300 | 0.088 | ( 0.270) | 0.212 |
| 36 | 3.00 | 1.00 | 0.300 | 0.088 | ( 0.270) | 0.212 |
| 37 | 3.08 | 1.00 | 0.300 | 0.088 | ( 0.270) | 0.212 |
| 38 | 3.17 | 1.10 | 0.330 | 0.088 | ( 0.297) | 0.242 |
| 39 | 3.25 | 1.10 | 0.330 | 0.088 | ( 0.297) | 0.242 |
| 40 | 3.33 | 1.10 | 0.330 | 0.088 | ( 0.297) | 0.242 |
| 41 | 3.42 | 1.20 | 0.360 | 0.088 | ( 0.324) | 0.272 |
| 42 | 3.50 | 1.30 | 0.390 | 0.088 | ( 0.351) | 0.302 |
| 43 | 3.58 | 1.40 | 0.420 | 0.088 | ( 0.378) | 0.332 |
| 44 | 3.67 | 1.40 | 0.420 | 0.088 | ( 0.378) | 0.332 |
| 45 | 3.75 | 1.50 | 0.450 | 0.088 | ( 0.405) | 0.362 |
| 46 | 3.83 | 1.50 | 0.450 | 0.088 | ( 0.405) | 0.362 |
| 47 | 3.92 | 1.60 | 0.480 | 0.088 | ( 0.432) | 0.392 |
| 48 | 4.00 | 1.60 | 0.480 | 0.088 | ( 0.432) | 0.392 |
| 49 | 4.08 | 1.70 | 0.510 | 0.088 | ( 0.459) | 0.422 |
| 50 | 4.17 | 1.80 | 0.540 | 0.088 | ( 0.486) | 0.452 |
| 51 | 4.25 | 1.90 | 0.570 | 0.088 | ( 0.513) | 0.482 |
| 52 | 4.33 | 2.00 | 0.600 | 0.088 | ( 0.540) | 0.512 |
| 53 | 4.42 | 2.10 | 0.630 | 0.088 | ( 0.567) | 0.542 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 54 | 4.50 | 2.10 | 0.630 | 0.088 | ( 0.567) | | 0.542 |
| 55 | 4.58 | 2.20 | 0.660 | 0.088 | ( 0.594) | | 0.572 |
| 56 | 4.67 | 2.30 | 0.690 | 0.088 | ( 0.621) | | 0.602 |
| 57 | 4.75 | 2.40 | 0.720 | 0.088 | ( 0.648) | | 0.632 |
| 58 | 4.83 | 2.40 | 0.720 | 0.088 | ( 0.648) | | 0.632 |
| 59 | 4.92 | 2.50 | 0.750 | 0.088 | ( 0.675) | | 0.662 |
| 60 | 5.00 | 2.60 | 0.780 | 0.088 | ( 0.702) | | 0.692 |
| 61 | 5.08 | 3.10 | 0.930 | 0.088 | ( 0.837) | | 0.842 |
| 62 | 5.17 | 3.60 | 1.080 | 0.088 | ( 0.972) | | 0.992 |
| 63 | 5.25 | 3.90 | 1.170 | 0.088 | ( 1.053) | | 1.082 |
| 64 | 5.33 | 4.20 | 1.260 | 0.088 | ( 1.134) | | 1.172 |
| 65 | 5.42 | 4.70 | 1.410 | 0.088 | ( 1.269) | | 1.322 |
| 66 | 5.50 | 5.60 | 1.680 | 0.088 | ( 1.512) | | 1.592 |
| 67 | 5.58 | 1.90 | 0.570 | 0.088 | ( 0.513) | | 0.482 |
| 68 | 5.67 | 0.90 | 0.270 | 0.088 | ( 0.243) | | 0.182 |
| 69 | 5.75 | 0.60 | 0.180 | 0.088 | ( 0.162) | | 0.092 |
| 70 | 5.83 | 0.50 | 0.150 | 0.088 | ( 0.135) | | 0.062 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.088) | 0.081 | | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.088) | 0.054 | | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.7

Flood volume = Effective rainfall 1.98(In)
times area 2.5(Ac.)/[(In)/(Ft.)] = 0.4(Ac.Ft)
Total soil loss = 0.52(In)
Total soil loss = 0.109(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 17931.7 Cubic Feet
Total soil loss = 4755.6 Cubic Feet

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Peak flow rate of this hydrograph = 3.709(CFS)

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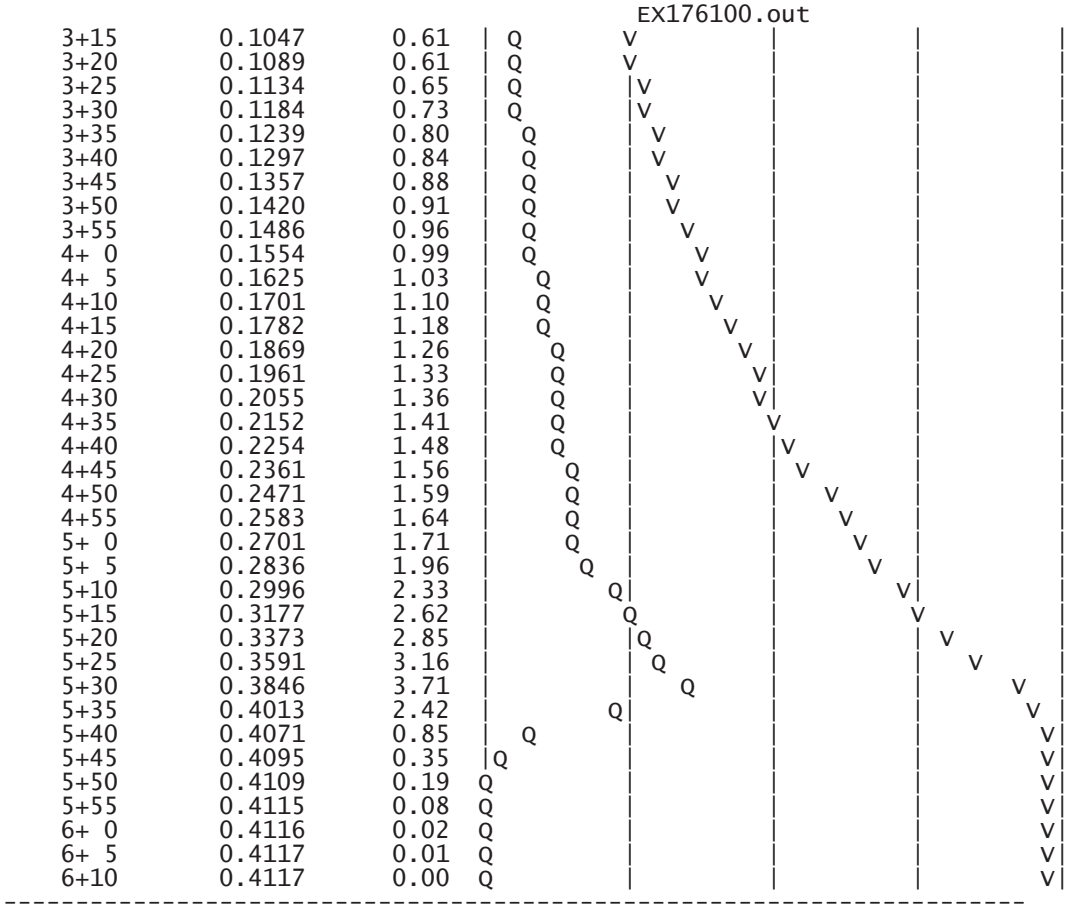
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0006 | 0.09 | Q | \| | \| | \| | \| |
| 0+10 | 0.0020 | 0.20 | Q | \| | \| | \| | \| |
| 0+15 | 0.0035 | 0.23 | Q | \| | \| | \| | \| |
| 0+20 | 0.0051 | 0.23 | Q | \| | \| | \| | \| |
| 0+25 | 0.0067 | 0.23 | Q | \| | \| | \| | \| |
| 0+30 | 0.0086 | 0.27 | VQ | \| | \| | \| | \| |
| 0+35 | 0.0107 | 0.31 | \|Q | \| | \| | \| | \| |
| 0+40 | 0.0129 | 0.31 | \|Q | \| | \| | \| | \| |
| 0+45 | 0.0150 | 0.31 | \|Q | \| | \| | \| | \| |
| 0+50 | 0.0171 | 0.31 | \|Q | \| | \| | \| | \| |
| 0+55 | 0.0192 | 0.31 | \|Q | \| | \| | \| | \| |
| 1+ 0 | 0.0216 | 0.35 | \|QV | \| | \| | \| | \| |
| 1+ 5 | 0.0243 | 0.38 | \|QV | \| | \| | \| | \| |
| 1+10 | 0.0269 | 0.38 | \|QV | \| | \| | \| | \| |
| 1+15 | 0.0295 | 0.38 | \|QV | \| | \| | \| | \| |
| 1+20 | 0.0322 | 0.38 | \|Q V | \| | \| | \| | \| |
| 1+25 | 0.0348 | 0.38 | \|Q V | \| | \| | \| | \| |
| 1+30 | 0.0375 | 0.38 | \|Q V | \| | \| | \| | \| |
| 1+35 | 0.0401 | 0.38 | \|Q V | \| | \| | \| | \| |
| 1+40 | 0.0427 | 0.38 | \|Q V | \| | \| | \| | \| |
| 1+45 | 0.0454 | 0.38 | \|Q V | \| | \| | \| | \| |
| 1+50 | 0.0480 | 0.38 | \|Q V | \| | \| | \| | \| |
| 1+55 | 0.0507 | 0.38 | \|Q V | \| | \| | \| | \| |
| 2+ 0 | 0.0536 | 0.43 | \|Q V | \| | \| | \| | \| |
| 2+ 5 | 0.0565 | 0.41 | \|Q V | \| | \| | \| | \| |
| 2+10 | 0.0594 | 0.43 | \|Q V | \| | \| | \| | \| |
| 2+15 | 0.0626 | 0.46 | \|Q V | \| | \| | \| | \| |
| 2+20 | 0.0657 | 0.46 | \|Q V | \| | \| | \| | \| |
| 2+25 | 0.0689 | 0.46 | \|Q V | \| | \| | \| | \| |
| 2+30 | 0.0720 | 0.46 | \|Q V | \| | \| | \| | \| |
| 2+35 | 0.0752 | 0.46 | \|Q V | \| | \| | \| | \| |
| 2+40 | 0.0784 | 0.46 | \|Q V | \| | \| | \| | \| |
| 2+45 | 0.0818 | 0.50 | \| Q V | \| | \| | \| | \| |
| 2+50 | 0.0855 | 0.53 | \| Q V | \| | \| | \| | \| |
| 2+55 | 0.0892 | 0.53 | \| Q V | \| | \| | \| | \| |
| 3+ 0 | 0.0928 | 0.53 | \| Q V\| | \| | \| | \| | \| |
| 3+ 5 | 0.0965 | 0.53 | \| Q V\| | \| | \| | \| | \| |
| 3+10 | 0.1005 | 0.58 | \| Q V\| | \| | \| | \| | \| |


3+15 0.1047 0.61
3+20 0.1089 0.61
3+25 0.1134 0.65
3+30 0.1184 0.73
3+35 0.1239 0.80
3+40 0.1297 0.84
3+45 0.1357 0.88
3+50 0.1420 0.91
3+55 0.1486 0.96
4+ 0 0.1554 0.99
4+ 5 0.1625 1.03
4+10 0.1701 1.10
4+15 0.1782 1.18
4+20 0.1869 1.26
4+25 0.1961 1.33
4+30 0.2055 1.36
4+35 0.2152 1.41
4+40 0.2254 1.48
4+45 0.2361 1.56
4+50 0.2471 1.59
4+55 0.2583 1.64
5+ 0 0.2701 1.71
5+ 5 0.2836 1.96
5+10 0.2996 2.33
5+15 0.3177 2.62
5+20 0.3373 2.85
5+25 0.3591 3.16
5+30 0.3846 3.71
5+35 0.4013 2.42
5+40 0.4071 0.85
5+45 0.4095 0.35
5+50 0.4109 0.19
5+55 0.4115 0.08
6+ 0 0.4116 0.02
6+ 5 0.4117 0.01
6+10 0.4117 0.00

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX1724100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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164469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 17
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 2.50(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.50(Ac.) = 0.004 Sq. Mi.
Length along longest watercourse = 540.00(Ft.)
Length along longest watercourse measured to centroid = 249.00(Ft.)
Length along longest watercourse = 0.102 Mi.
Length along longest watercourse measured to centroid = 0.047 Mi.
Difference in elevation = 124.00(Ft.)
Slope along watercourse = 1212.4444 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.029 Hr.
Lag time = 1.72 Min.
25% of lag time = 0.43 Min.
40% of lag time = 0.69 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.50 | 1.80 | 4.50 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.50 | 4.50 | 11.25 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.500(In)

Point rain (area averaged) = 4.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2.500 | 83.73 | 0.000 |

Total Area Entered = 2.50(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.7 | 93.2 | 0.088 | 0.000 | 0.088 | 1.000 | 0.088 |
| | | | | | Sum (F) = | 0.088 |

Area averaged mean soil loss (F) (In/Hr) = 0.088

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 290.250 | 56.525 | 1.424 |
| 2 | 0.167 | 580.499 | 41.134 | 1.036 |
| 3 | 0.250 | 870.749 | 2.341 | 0.059 |
| | | | Sum = 100.000 Sum= | 2.520 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.036 | ( 0.156) | 0.032 | 0.004 |
| 2 | 0.17 | 0.07 | 0.036 | ( 0.155) | 0.032 | 0.004 |
| 3 | 0.25 | 0.07 | 0.036 | ( 0.155) | 0.032 | 0.004 |
| 4 | 0.33 | 0.10 | 0.054 | ( 0.154) | 0.049 | 0.005 |
| 5 | 0.42 | 0.10 | 0.054 | ( 0.153) | 0.049 | 0.005 |
| 6 | 0.50 | 0.10 | 0.054 | ( 0.153) | 0.049 | 0.005 |
| 7 | 0.58 | 0.10 | 0.054 | ( 0.152) | 0.049 | 0.005 |
| 8 | 0.67 | 0.10 | 0.054 | ( 0.152) | 0.049 | 0.005 |
| 9 | 0.75 | 0.10 | 0.054 | ( 0.151) | 0.049 | 0.005 |
| 10 | 0.83 | 0.13 | 0.072 | ( 0.150) | 0.065 | 0.007 |
| 11 | 0.92 | 0.13 | 0.072 | ( 0.150) | 0.065 | 0.007 |
| 12 | 1.00 | 0.13 | 0.072 | ( 0.149) | 0.065 | 0.007 |
| 13 | 1.08 | 0.10 | 0.054 | ( 0.149) | 0.049 | 0.005 |
| 14 | 1.17 | 0.10 | 0.054 | ( 0.148) | 0.049 | 0.005 |
| 15 | 1.25 | 0.10 | 0.054 | ( 0.148) | 0.049 | 0.005 |
| 16 | 1.33 | 0.10 | 0.054 | ( 0.147) | 0.049 | 0.005 |
| 17 | 1.42 | 0.10 | 0.054 | ( 0.146) | 0.049 | 0.005 |
| 18 | 1.50 | 0.10 | 0.054 | ( 0.146) | 0.049 | 0.005 |
| 19 | 1.58 | 0.10 | 0.054 | ( 0.145) | 0.049 | 0.005 |
| 20 | 1.67 | 0.10 | 0.054 | ( 0.145) | 0.049 | 0.005 |
| 21 | 1.75 | 0.10 | 0.054 | ( 0.144) | 0.049 | 0.005 |
| 22 | 1.83 | 0.13 | 0.072 | ( 0.143) | 0.065 | 0.007 |
| 23 | 1.92 | 0.13 | 0.072 | ( 0.143) | 0.065 | 0.007 |
| 24 | 2.00 | 0.13 | 0.072 | ( 0.142) | 0.065 | 0.007 |
| 25 | 2.08 | 0.13 | 0.072 | ( 0.142) | 0.065 | 0.007 |
| 26 | 2.17 | 0.13 | 0.072 | ( 0.141) | 0.065 | 0.007 |
| 27 | 2.25 | 0.13 | 0.072 | ( 0.141) | 0.065 | 0.007 |
| 28 | 2.33 | 0.13 | 0.072 | ( 0.140) | 0.065 | 0.007 |
| 29 | 2.42 | 0.13 | 0.072 | ( 0.139) | 0.065 | 0.007 |
| 30 | 2.50 | 0.13 | 0.072 | ( 0.139) | 0.065 | 0.007 |
| 31 | 2.58 | 0.17 | 0.090 | ( 0.138) | 0.081 | 0.009 |
| 32 | 2.67 | 0.17 | 0.090 | ( 0.138) | 0.081 | 0.009 |
| 33 | 2.75 | 0.17 | 0.090 | ( 0.137) | 0.081 | 0.009 |
| 34 | 2.83 | 0.17 | 0.090 | ( 0.137) | 0.081 | 0.009 |
| 35 | 2.92 | 0.17 | 0.090 | ( 0.136) | 0.081 | 0.009 |
| 36 | 3.00 | 0.17 | 0.090 | ( 0.135) | 0.081 | 0.009 |
| 37 | 3.08 | 0.17 | 0.090 | ( 0.135) | 0.081 | 0.009 |
| 38 | 3.17 | 0.17 | 0.090 | ( 0.134) | 0.081 | 0.009 |
| 39 | 3.25 | 0.17 | 0.090 | ( 0.134) | 0.081 | 0.009 |
| 40 | 3.33 | 0.17 | 0.090 | ( 0.133) | 0.081 | 0.009 |
| 41 | 3.42 | 0.17 | 0.090 | ( 0.133) | 0.081 | 0.009 |
| 42 | 3.50 | 0.17 | 0.090 | ( 0.132) | 0.081 | 0.009 |
| 43 | 3.58 | 0.17 | 0.090 | ( 0.132) | 0.081 | 0.009 |
| 44 | 3.67 | 0.17 | 0.090 | ( 0.131) | 0.081 | 0.009 |
| 45 | 3.75 | 0.17 | 0.090 | ( 0.130) | 0.081 | 0.009 |
| 46 | 3.83 | 0.20 | 0.108 | ( 0.130) | 0.097 | 0.011 |
| 47 | 3.92 | 0.20 | 0.108 | ( 0.129) | 0.097 | 0.011 |
| 48 | 4.00 | 0.20 | 0.108 | ( 0.129) | 0.097 | 0.011 |
| 49 | 4.08 | 0.20 | 0.108 | ( 0.128) | 0.097 | 0.011 |
| 50 | 4.17 | 0.20 | 0.108 | ( 0.128) | 0.097 | 0.011 |
| 51 | 4.25 | 0.20 | 0.108 | ( 0.127) | 0.097 | 0.011 |
| 52 | 4.33 | 0.23 | 0.126 | ( 0.127) | 0.113 | 0.013 |
| 53 | 4.42 | 0.23 | 0.126 | ( 0.126) | 0.113 | 0.013 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 54 | 4.50 | 0.23 | 0.126 | ( | 0.126) | 0.113 | 0.013 |
| 55 | 4.58 | 0.23 | 0.126 | ( | 0.125) | 0.113 | 0.013 |
| 56 | 4.67 | 0.23 | 0.126 | ( | 0.124) | 0.113 | 0.013 |
| 57 | 4.75 | 0.23 | 0.126 | ( | 0.124) | 0.113 | 0.013 |
| 58 | 4.83 | 0.27 | 0.144 | | 0.123 | ( 0.130) | 0.021 |
| 59 | 4.92 | 0.27 | 0.144 | | 0.123 | ( 0.130) | 0.021 |
| 60 | 5.00 | 0.27 | 0.144 | | 0.122 | ( 0.130) | 0.022 |
| 61 | 5.08 | 0.20 | 0.108 | ( | 0.122) | 0.097 | 0.011 |
| 62 | 5.17 | 0.20 | 0.108 | ( | 0.121) | 0.097 | 0.011 |
| 63 | 5.25 | 0.20 | 0.108 | ( | 0.121) | 0.097 | 0.011 |
| 64 | 5.33 | 0.23 | 0.126 | ( | 0.120) | 0.113 | 0.013 |
| 65 | 5.42 | 0.23 | 0.126 | ( | 0.120) | 0.113 | 0.013 |
| 66 | 5.50 | 0.23 | 0.126 | ( | 0.119) | 0.113 | 0.013 |
| 67 | 5.58 | 0.27 | 0.144 | | 0.119 | ( 0.130) | 0.025 |
| 68 | 5.67 | 0.27 | 0.144 | | 0.118 | ( 0.130) | 0.026 |
| 69 | 5.75 | 0.27 | 0.144 | | 0.118 | ( 0.130) | 0.026 |
| 70 | 5.83 | 0.27 | 0.144 | | 0.117 | ( 0.130) | 0.027 |
| 71 | 5.92 | 0.27 | 0.144 | | 0.117 | ( 0.130) | 0.027 |
| 72 | 6.00 | 0.27 | 0.144 | | 0.116 | ( 0.130) | 0.028 |
| 73 | 6.08 | 0.30 | 0.162 | | 0.116 | ( 0.146) | 0.046 |
| 74 | 6.17 | 0.30 | 0.162 | | 0.115 | ( 0.146) | 0.047 |
| 75 | 6.25 | 0.30 | 0.162 | | 0.114 | ( 0.146) | 0.048 |
| 76 | 6.33 | 0.30 | 0.162 | | 0.114 | ( 0.146) | 0.048 |
| 77 | 6.42 | 0.30 | 0.162 | | 0.113 | ( 0.146) | 0.049 |
| 78 | 6.50 | 0.30 | 0.162 | | 0.113 | ( 0.146) | 0.049 |
| 79 | 6.58 | 0.33 | 0.180 | | 0.112 | ( 0.162) | 0.068 |
| 80 | 6.67 | 0.33 | 0.180 | | 0.112 | ( 0.162) | 0.068 |
| 81 | 6.75 | 0.33 | 0.180 | | 0.111 | ( 0.162) | 0.069 |
| 82 | 6.83 | 0.33 | 0.180 | | 0.111 | ( 0.162) | 0.069 |
| 83 | 6.92 | 0.33 | 0.180 | | 0.110 | ( 0.162) | 0.070 |
| 84 | 7.00 | 0.33 | 0.180 | | 0.110 | ( 0.162) | 0.070 |
| 85 | 7.08 | 0.33 | 0.180 | | 0.109 | ( 0.162) | 0.071 |
| 86 | 7.17 | 0.33 | 0.180 | | 0.109 | ( 0.162) | 0.071 |
| 87 | 7.25 | 0.33 | 0.180 | | 0.108 | ( 0.162) | 0.072 |
| 88 | 7.33 | 0.37 | 0.198 | | 0.108 | ( 0.178) | 0.090 |
| 89 | 7.42 | 0.37 | 0.198 | | 0.107 | ( 0.178) | 0.091 |
| 90 | 7.50 | 0.37 | 0.198 | | 0.107 | ( 0.178) | 0.091 |
| 91 | 7.58 | 0.40 | 0.216 | | 0.106 | ( 0.194) | 0.110 |
| 92 | 7.67 | 0.40 | 0.216 | | 0.106 | ( 0.194) | 0.110 |
| 93 | 7.75 | 0.40 | 0.216 | | 0.105 | ( 0.194) | 0.111 |
| 94 | 7.83 | 0.43 | 0.234 | | 0.105 | ( 0.211) | 0.129 |
| 95 | 7.92 | 0.43 | 0.234 | | 0.105 | ( 0.211) | 0.129 |
| 96 | 8.00 | 0.43 | 0.234 | | 0.104 | ( 0.211) | 0.130 |
| 97 | 8.08 | 0.50 | 0.270 | | 0.104 | ( 0.243) | 0.166 |
| 98 | 8.17 | 0.50 | 0.270 | | 0.103 | ( 0.243) | 0.167 |
| 99 | 8.25 | 0.50 | 0.270 | | 0.103 | ( 0.243) | 0.167 |
| 100 | 8.33 | 0.50 | 0.270 | | 0.102 | ( 0.243) | 0.168 |
| 101 | 8.42 | 0.50 | 0.270 | | 0.102 | ( 0.243) | 0.168 |
| 102 | 8.50 | 0.50 | 0.270 | | 0.101 | ( 0.243) | 0.169 |
| 103 | 8.58 | 0.53 | 0.288 | | 0.101 | ( 0.259) | 0.187 |
| 104 | 8.67 | 0.53 | 0.288 | | 0.100 | ( 0.259) | 0.188 |
| 105 | 8.75 | 0.53 | 0.288 | | 0.100 | ( 0.259) | 0.188 |
| 106 | 8.83 | 0.57 | 0.306 | | 0.099 | ( 0.275) | 0.207 |
| 107 | 8.92 | 0.57 | 0.306 | | 0.099 | ( 0.275) | 0.207 |
| 108 | 9.00 | 0.57 | 0.306 | | 0.098 | ( 0.275) | 0.208 |
| 109 | 9.08 | 0.63 | 0.342 | | 0.098 | ( 0.308) | 0.244 |
| 110 | 9.17 | 0.63 | 0.342 | | 0.097 | ( 0.308) | 0.245 |
| 111 | 9.25 | 0.63 | 0.342 | | 0.097 | ( 0.308) | 0.245 |
| 112 | 9.33 | 0.67 | 0.360 | | 0.096 | ( 0.324) | 0.264 |
| 113 | 9.42 | 0.67 | 0.360 | | 0.096 | ( 0.324) | 0.264 |
| 114 | 9.50 | 0.67 | 0.360 | | 0.096 | ( 0.324) | 0.264 |
| 115 | 9.58 | 0.70 | 0.378 | | 0.095 | ( 0.340) | 0.283 |
| 116 | 9.67 | 0.70 | 0.378 | | 0.095 | ( 0.340) | 0.283 |
| 117 | 9.75 | 0.70 | 0.378 | | 0.094 | ( 0.340) | 0.284 |
| 118 | 9.83 | 0.73 | 0.396 | | 0.094 | ( 0.356) | 0.302 |
| 119 | 9.92 | 0.73 | 0.396 | | 0.093 | ( 0.356) | 0.303 |
| 120 | 10.00 | 0.73 | 0.396 | | 0.093 | ( 0.356) | 0.303 |
| 121 | 10.08 | 0.50 | 0.270 | | 0.092 | ( 0.243) | 0.178 |
| 122 | 10.17 | 0.50 | 0.270 | | 0.092 | ( 0.243) | 0.178 |
| 123 | 10.25 | 0.50 | 0.270 | | 0.091 | ( 0.243) | 0.179 |
| 124 | 10.33 | 0.50 | 0.270 | | 0.091 | ( 0.243) | 0.179 |
| 125 | 10.42 | 0.50 | 0.270 | | 0.091 | ( 0.243) | 0.179 |
| 126 | 10.50 | 0.50 | 0.270 | | 0.090 | ( 0.243) | 0.180 |
| 127 | 10.58 | 0.67 | 0.360 | | 0.090 | ( 0.324) | 0.270 |
| 128 | 10.67 | 0.67 | 0.360 | | 0.089 | ( 0.324) | 0.271 |
| 129 | 10.75 | 0.67 | 0.360 | | 0.089 | ( 0.324) | 0.271 |
| 130 | 10.83 | 0.67 | 0.360 | | 0.088 | ( 0.324) | 0.272 |
| 131 | 10.92 | 0.67 | 0.360 | | 0.088 | ( 0.324) | 0.272 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 132 | 11.00 | 0.67 | 0.360 | 0.088 | ( 0.324) | 0.272 |
| 133 | 11.08 | 0.63 | 0.342 | 0.087 | ( 0.308) | 0.255 |
| 134 | 11.17 | 0.63 | 0.342 | 0.087 | ( 0.308) | 0.255 |
| 135 | 11.25 | 0.63 | 0.342 | 0.086 | ( 0.308) | 0.256 |
| 136 | 11.33 | 0.63 | 0.342 | 0.086 | ( 0.308) | 0.256 |
| 137 | 11.42 | 0.63 | 0.342 | 0.085 | ( 0.308) | 0.257 |
| 138 | 11.50 | 0.63 | 0.342 | 0.085 | ( 0.308) | 0.257 |
| 139 | 11.58 | 0.57 | 0.306 | 0.085 | ( 0.275) | 0.221 |
| 140 | 11.67 | 0.57 | 0.306 | 0.084 | ( 0.275) | 0.222 |
| 141 | 11.75 | 0.57 | 0.306 | 0.084 | ( 0.275) | 0.222 |
| 142 | 11.83 | 0.60 | 0.324 | 0.083 | ( 0.292) | 0.241 |
| 143 | 11.92 | 0.60 | 0.324 | 0.083 | ( 0.292) | 0.241 |
| 144 | 12.00 | 0.60 | 0.324 | 0.082 | ( 0.292) | 0.242 |
| 145 | 12.08 | 0.83 | 0.450 | 0.082 | ( 0.405) | 0.368 |
| 146 | 12.17 | 0.83 | 0.450 | 0.082 | ( 0.405) | 0.368 |
| 147 | 12.25 | 0.83 | 0.450 | 0.081 | ( 0.405) | 0.369 |
| 148 | 12.33 | 0.87 | 0.468 | 0.081 | ( 0.421) | 0.387 |
| 149 | 12.42 | 0.87 | 0.468 | 0.080 | ( 0.421) | 0.388 |
| 150 | 12.50 | 0.87 | 0.468 | 0.080 | ( 0.421) | 0.388 |
| 151 | 12.58 | 0.93 | 0.504 | 0.080 | ( 0.454) | 0.424 |
| 152 | 12.67 | 0.93 | 0.504 | 0.079 | ( 0.454) | 0.425 |
| 153 | 12.75 | 0.93 | 0.504 | 0.079 | ( 0.454) | 0.425 |
| 154 | 12.83 | 0.97 | 0.522 | 0.078 | ( 0.470) | 0.444 |
| 155 | 12.92 | 0.97 | 0.522 | 0.078 | ( 0.470) | 0.444 |
| 156 | 13.00 | 0.97 | 0.522 | 0.078 | ( 0.470) | 0.444 |
| 157 | 13.08 | 1.13 | 0.612 | 0.077 | ( 0.551) | 0.535 |
| 158 | 13.17 | 1.13 | 0.612 | 0.077 | ( 0.551) | 0.535 |
| 159 | 13.25 | 1.13 | 0.612 | 0.076 | ( 0.551) | 0.536 |
| 160 | 13.33 | 1.13 | 0.612 | 0.076 | ( 0.551) | 0.536 |
| 161 | 13.42 | 1.13 | 0.612 | 0.076 | ( 0.551) | 0.536 |
| 162 | 13.50 | 1.13 | 0.612 | 0.075 | ( 0.551) | 0.537 |
| 163 | 13.58 | 0.77 | 0.414 | 0.075 | ( 0.373) | 0.339 |
| 164 | 13.67 | 0.77 | 0.414 | 0.075 | ( 0.373) | 0.339 |
| 165 | 13.75 | 0.77 | 0.414 | 0.074 | ( 0.373) | 0.340 |
| 166 | 13.83 | 0.77 | 0.414 | 0.074 | ( 0.373) | 0.340 |
| 167 | 13.92 | 0.77 | 0.414 | 0.073 | ( 0.373) | 0.341 |
| 168 | 14.00 | 0.77 | 0.414 | 0.073 | ( 0.373) | 0.341 |
| 169 | 14.08 | 0.90 | 0.486 | 0.073 | ( 0.437) | 0.413 |
| 170 | 14.17 | 0.90 | 0.486 | 0.072 | ( 0.437) | 0.414 |
| 171 | 14.25 | 0.90 | 0.486 | 0.072 | ( 0.437) | 0.414 |
| 172 | 14.33 | 0.87 | 0.468 | 0.072 | ( 0.421) | 0.396 |
| 173 | 14.42 | 0.87 | 0.468 | 0.071 | ( 0.421) | 0.397 |
| 174 | 14.50 | 0.87 | 0.468 | 0.071 | ( 0.421) | 0.397 |
| 175 | 14.58 | 0.87 | 0.468 | 0.070 | ( 0.421) | 0.398 |
| 176 | 14.67 | 0.87 | 0.468 | 0.070 | ( 0.421) | 0.398 |
| 177 | 14.75 | 0.87 | 0.468 | 0.070 | ( 0.421) | 0.398 |
| 178 | 14.83 | 0.83 | 0.450 | 0.069 | ( 0.405) | 0.381 |
| 179 | 14.92 | 0.83 | 0.450 | 0.069 | ( 0.405) | 0.381 |
| 180 | 15.00 | 0.83 | 0.450 | 0.069 | ( 0.405) | 0.381 |
| 181 | 15.08 | 0.80 | 0.432 | 0.068 | ( 0.389) | 0.364 |
| 182 | 15.17 | 0.80 | 0.432 | 0.068 | ( 0.389) | 0.364 |
| 183 | 15.25 | 0.80 | 0.432 | 0.068 | ( 0.389) | 0.364 |
| 184 | 15.33 | 0.77 | 0.414 | 0.067 | ( 0.373) | 0.347 |
| 185 | 15.42 | 0.77 | 0.414 | 0.067 | ( 0.373) | 0.347 |
| 186 | 15.50 | 0.77 | 0.414 | 0.067 | ( 0.373) | 0.347 |
| 187 | 15.58 | 0.63 | 0.342 | 0.066 | ( 0.308) | 0.276 |
| 188 | 15.67 | 0.63 | 0.342 | 0.066 | ( 0.308) | 0.276 |
| 189 | 15.75 | 0.63 | 0.342 | 0.066 | ( 0.308) | 0.276 |
| 190 | 15.83 | 0.63 | 0.342 | 0.065 | ( 0.308) | 0.277 |
| 191 | 15.92 | 0.63 | 0.342 | 0.065 | ( 0.308) | 0.277 |
| 192 | 16.00 | 0.63 | 0.342 | 0.065 | ( 0.308) | 0.277 |
| 193 | 16.08 | 0.13 | 0.072 | 0.064 | ( 0.065) | 0.008 |
| 194 | 16.17 | 0.13 | 0.072 | 0.064 | ( 0.065) | 0.008 |
| 195 | 16.25 | 0.13 | 0.072 | 0.064 | ( 0.065) | 0.008 |
| 196 | 16.33 | 0.13 | 0.072 | 0.063 | ( 0.065) | 0.009 |
| 197 | 16.42 | 0.13 | 0.072 | 0.063 | ( 0.065) | 0.009 |
| 198 | 16.50 | 0.13 | 0.072 | 0.063 | ( 0.065) | 0.009 |
| 199 | 16.58 | 0.10 | 0.054 | ( 0.062) | 0.049 | 0.005 |
| 200 | 16.67 | 0.10 | 0.054 | ( 0.062) | 0.049 | 0.005 |
| 201 | 16.75 | 0.10 | 0.054 | ( 0.062) | 0.049 | 0.005 |
| 202 | 16.83 | 0.10 | 0.054 | ( 0.061) | 0.049 | 0.005 |
| 203 | 16.92 | 0.10 | 0.054 | ( 0.061) | 0.049 | 0.005 |
| 204 | 17.00 | 0.10 | 0.054 | ( 0.061) | 0.049 | 0.005 |
| 205 | 17.08 | 0.17 | 0.090 | 0.060 | ( 0.081) | 0.030 |
| 206 | 17.17 | 0.17 | 0.090 | 0.060 | ( 0.081) | 0.030 |
| 207 | 17.25 | 0.17 | 0.090 | 0.060 | ( 0.081) | 0.030 |
| 208 | 17.33 | 0.17 | 0.090 | 0.060 | ( 0.081) | 0.030 |
| 209 | 17.42 | 0.17 | 0.090 | 0.059 | ( 0.081) | 0.031 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 210 | 17.50 | 0.17 | 0.090 | | 0.059 | ( | 0.081) | 0.031 |
| 211 | 17.58 | 0.17 | 0.090 | | 0.059 | ( | 0.081) | 0.031 |
| 212 | 17.67 | 0.17 | 0.090 | | 0.058 | ( | 0.081) | 0.032 |
| 213 | 17.75 | 0.17 | 0.090 | | 0.058 | ( | 0.081) | 0.032 |
| 214 | 17.83 | 0.13 | 0.072 | | 0.058 | ( | 0.065) | 0.014 |
| 215 | 17.92 | 0.13 | 0.072 | | 0.057 | ( | 0.065) | 0.015 |
| 216 | 18.00 | 0.13 | 0.072 | | 0.057 | ( | 0.065) | 0.015 |
| 217 | 18.08 | 0.13 | 0.072 | | 0.057 | ( | 0.065) | 0.015 |
| 218 | 18.17 | 0.13 | 0.072 | | 0.057 | ( | 0.065) | 0.015 |
| 219 | 18.25 | 0.13 | 0.072 | | 0.056 | ( | 0.065) | 0.016 |
| 220 | 18.33 | 0.13 | 0.072 | | 0.056 | ( | 0.065) | 0.016 |
| 221 | 18.42 | 0.13 | 0.072 | | 0.056 | ( | 0.065) | 0.016 |
| 222 | 18.50 | 0.13 | 0.072 | | 0.056 | ( | 0.065) | 0.016 |
| 223 | 18.58 | 0.10 | 0.054 | ( | 0.055) | | 0.049 | 0.005 |
| 224 | 18.67 | 0.10 | 0.054 | ( | 0.055) | | 0.049 | 0.005 |
| 225 | 18.75 | 0.10 | 0.054 | ( | 0.055) | | 0.049 | 0.005 |
| 226 | 18.83 | 0.07 | 0.036 | ( | 0.054) | | 0.032 | 0.004 |
| 227 | 18.92 | 0.07 | 0.036 | ( | 0.054) | | 0.032 | 0.004 |
| 228 | 19.00 | 0.07 | 0.036 | ( | 0.054) | | 0.032 | 0.004 |
| 229 | 19.08 | 0.10 | 0.054 | ( | 0.054) | | 0.049 | 0.005 |
| 230 | 19.17 | 0.10 | 0.054 | ( | 0.053) | | 0.049 | 0.005 |
| 231 | 19.25 | 0.10 | 0.054 | ( | 0.053) | | 0.049 | 0.005 |
| 232 | 19.33 | 0.13 | 0.072 | | 0.053 | ( | 0.065) | 0.019 |
| 233 | 19.42 | 0.13 | 0.072 | | 0.053 | ( | 0.065) | 0.019 |
| 234 | 19.50 | 0.13 | 0.072 | | 0.052 | ( | 0.065) | 0.020 |
| 235 | 19.58 | 0.10 | 0.054 | ( | 0.052) | | 0.049 | 0.005 |
| 236 | 19.67 | 0.10 | 0.054 | ( | 0.052) | | 0.049 | 0.005 |
| 237 | 19.75 | 0.10 | 0.054 | ( | 0.052) | | 0.049 | 0.005 |
| 238 | 19.83 | 0.07 | 0.036 | ( | 0.052) | | 0.032 | 0.004 |
| 239 | 19.92 | 0.07 | 0.036 | ( | 0.051) | | 0.032 | 0.004 |
| 240 | 20.00 | 0.07 | 0.036 | ( | 0.051) | | 0.032 | 0.004 |
| 241 | 20.08 | 0.10 | 0.054 | ( | 0.051) | | 0.049 | 0.005 |
| 242 | 20.17 | 0.10 | 0.054 | ( | 0.051) | | 0.049 | 0.005 |
| 243 | 20.25 | 0.10 | 0.054 | ( | 0.050) | | 0.049 | 0.005 |
| 244 | 20.33 | 0.10 | 0.054 | ( | 0.050) | | 0.049 | 0.005 |
| 245 | 20.42 | 0.10 | 0.054 | ( | 0.050) | | 0.049 | 0.005 |
| 246 | 20.50 | 0.10 | 0.054 | ( | 0.050) | | 0.049 | 0.005 |
| 247 | 20.58 | 0.10 | 0.054 | ( | 0.050) | | 0.049 | 0.005 |
| 248 | 20.67 | 0.10 | 0.054 | ( | 0.049) | | 0.049 | 0.005 |
| 249 | 20.75 | 0.10 | 0.054 | ( | 0.049) | | 0.049 | 0.005 |
| 250 | 20.83 | 0.07 | 0.036 | ( | 0.049) | | 0.032 | 0.004 |
| 251 | 20.92 | 0.07 | 0.036 | ( | 0.049) | | 0.032 | 0.004 |
| 252 | 21.00 | 0.07 | 0.036 | ( | 0.049) | | 0.032 | 0.004 |
| 253 | 21.08 | 0.10 | 0.054 | | 0.048 | ( | 0.049) | 0.006 |
| 254 | 21.17 | 0.10 | 0.054 | | 0.048 | ( | 0.049) | 0.006 |
| 255 | 21.25 | 0.10 | 0.054 | | 0.048 | ( | 0.049) | 0.006 |
| 256 | 21.33 | 0.07 | 0.036 | ( | 0.048) | | 0.032 | 0.004 |
| 257 | 21.42 | 0.07 | 0.036 | ( | 0.048) | | 0.032 | 0.004 |
| 258 | 21.50 | 0.07 | 0.036 | ( | 0.047) | | 0.032 | 0.004 |
| 259 | 21.58 | 0.10 | 0.054 | | 0.047 | ( | 0.049) | 0.007 |
| 260 | 21.67 | 0.10 | 0.054 | | 0.047 | ( | 0.049) | 0.007 |
| 261 | 21.75 | 0.10 | 0.054 | | 0.047 | ( | 0.049) | 0.007 |
| 262 | 21.83 | 0.07 | 0.036 | ( | 0.047) | | 0.032 | 0.004 |
| 263 | 21.92 | 0.07 | 0.036 | ( | 0.047) | | 0.032 | 0.004 |
| 264 | 22.00 | 0.07 | 0.036 | ( | 0.046) | | 0.032 | 0.004 |
| 265 | 22.08 | 0.10 | 0.054 | | 0.046 | ( | 0.049) | 0.008 |
| 266 | 22.17 | 0.10 | 0.054 | | 0.046 | ( | 0.049) | 0.008 |
| 267 | 22.25 | 0.10 | 0.054 | | 0.046 | ( | 0.049) | 0.008 |
| 268 | 22.33 | 0.07 | 0.036 | ( | 0.046) | | 0.032 | 0.004 |
| 269 | 22.42 | 0.07 | 0.036 | ( | 0.046) | | 0.032 | 0.004 |
| 270 | 22.50 | 0.07 | 0.036 | ( | 0.046) | | 0.032 | 0.004 |
| 271 | 22.58 | 0.07 | 0.036 | ( | 0.045) | | 0.032 | 0.004 |
| 272 | 22.67 | 0.07 | 0.036 | ( | 0.045) | | 0.032 | 0.004 |
| 273 | 22.75 | 0.07 | 0.036 | ( | 0.045) | | 0.032 | 0.004 |
| 274 | 22.83 | 0.07 | 0.036 | ( | 0.045) | | 0.032 | 0.004 |
| 275 | 22.92 | 0.07 | 0.036 | ( | 0.045) | | 0.032 | 0.004 |
| 276 | 23.00 | 0.07 | 0.036 | ( | 0.045) | | 0.032 | 0.004 |
| 277 | 23.08 | 0.07 | 0.036 | ( | 0.045) | | 0.032 | 0.004 |
| 278 | 23.17 | 0.07 | 0.036 | ( | 0.045) | | 0.032 | 0.004 |
| 279 | 23.25 | 0.07 | 0.036 | ( | 0.045) | | 0.032 | 0.004 |
| 280 | 23.33 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 281 | 23.42 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 282 | 23.50 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 283 | 23.58 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 284 | 23.67 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 285 | 23.75 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 286 | 23.83 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 287 | 23.92 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |

288 24.00 0.07 0.036 ( 0.044) 0.032 0.004
(Loss Rate Not Used)
Sum = 100.0 Sum = 33.3
Flood volume = Effective rainfall 2.77(In)
times area 2.5(Ac.)/[(In)/(Ft.)] = 0.6(Ac.Ft)
Total soil loss = 1.73(In)
Total soil loss = 0.360(Ac.Ft)
Total rainfall = 4.50(In)
Flood volume = 25172.8 Cubic Feet
Total soil loss = 15664.5 Cubic Feet

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Peak flow rate of this hydrograph = 1.352(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0000 | 0.01 | Q | | | | |
| 0+10 | 0.0001 | 0.01 | Q | | | | |
| 0+15 | 0.0002 | 0.01 | Q | | | | |
| 0+20 | 0.0002 | 0.01 | Q | | | | |
| 0+25 | 0.0003 | 0.01 | Q | | | | |
| 0+30 | 0.0004 | 0.01 | Q | | | | |
| 0+35 | 0.0005 | 0.01 | Q | | | | |
| 0+40 | 0.0006 | 0.01 | Q | | | | |
| 0+45 | 0.0007 | 0.01 | Q | | | | |
| 0+50 | 0.0008 | 0.02 | Q | | | | |
| 0+55 | 0.0009 | 0.02 | Q | | | | |
| 1+ 0 | 0.0011 | 0.02 | Q | | | | |
| 1+ 5 | 0.0012 | 0.02 | Q | | | | |
| 1+10 | 0.0013 | 0.01 | Q | | | | |
| 1+15 | 0.0014 | 0.01 | Q | | | | |
| 1+20 | 0.0015 | 0.01 | Q | | | | |
| 1+25 | 0.0016 | 0.01 | Q | | | | |
| 1+30 | 0.0016 | 0.01 | Q | | | | |
| 1+35 | 0.0017 | 0.01 | Q | | | | |
| 1+40 | 0.0018 | 0.01 | Q | | | | |
| 1+45 | 0.0019 | 0.01 | Q | | | | |
| 1+50 | 0.0020 | 0.02 | Q | | | | |
| 1+55 | 0.0022 | 0.02 | Q | | | | |
| 2+ 0 | 0.0023 | 0.02 | Q | | | | |
| 2+ 5 | 0.0024 | 0.02 | Q | | | | |
| 2+10 | 0.0025 | 0.02 | Q | | | | |
| 2+15 | 0.0027 | 0.02 | Q | | | | |
| 2+20 | 0.0028 | 0.02 | Q | | | | |
| 2+25 | 0.0029 | 0.02 | Q | | | | |
| 2+30 | 0.0030 | 0.02 | Q | | | | |
| 2+35 | 0.0032 | 0.02 | Q | | | | |
| 2+40 | 0.0033 | 0.02 | Q | | | | |
| 2+45 | 0.0035 | 0.02 | Q | | | | |
| 2+50 | 0.0036 | 0.02 | Q | | | | |
| 2+55 | 0.0038 | 0.02 | Q | | | | |
| 3+ 0 | 0.0040 | 0.02 | Q | | | | |
| 3+ 5 | 0.0041 | 0.02 | Q | | | | |
| 3+10 | 0.0043 | 0.02 | Q | | | | |
| 3+15 | 0.0044 | 0.02 | Q | | | | |
| 3+20 | 0.0046 | 0.02 | Q | | | | |
| 3+25 | 0.0047 | 0.02 | Q | | | | |
| 3+30 | 0.0049 | 0.02 | Q | | | | |
| 3+35 | 0.0051 | 0.02 | Q | | | | |
| 3+40 | 0.0052 | 0.02 | Q | | | | |
| 3+45 | 0.0054 | 0.02 | Q | | | | |
| 3+50 | 0.0055 | 0.03 | Q | | | | |
| 3+55 | 0.0057 | 0.03 | Q | | | | |
| 4+ 0 | 0.0059 | 0.03 | Q | | | | |
| 4+ 5 | 0.0061 | 0.03 | Q | | | | |
| 4+10 | 0.0063 | 0.03 | Q | | | | |
| 4+15 | 0.0065 | 0.03 | Q | | | | |
| 4+20 | 0.0067 | 0.03 | Q | | | | |
| 4+25 | 0.0069 | 0.03 | Q | | | | |
| 4+30 | 0.0071 | 0.03 | Q | | | | |
| 4+35 | 0.0073 | 0.03 | Q | | | | |
| 4+40 | 0.0076 | 0.03 | Q | | | | |

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 4+45       0.0078      0.03  Q          |          |          |          |
 4+50       0.0081      0.04  Q          |          |          |          |
 4+55       0.0084      0.05  Q          |          |          |          |
 5+ 0       0.0088      0.05  Q          |          |          |          |
 5+ 5       0.0091      0.04  Q          |          |          |          |
 5+10       0.0093      0.03  Q          |          |          |          |
 5+15       0.0095      0.03  Q          |          |          |          |
 5+20       0.0097      0.03  Q          |          |          |          |
 5+25       0.0099      0.03  Q          |          |          |          |
 5+30       0.0101      0.03  Q          |          |          |          |
 5+35       0.0104      0.05  Q          |          |          |          |
 5+40       0.0109      0.06  Q          |          |          |          |
 5+45       0.0113      0.07  Q          |          |          |          |
 5+50       0.0118      0.07  Q          |          |          |          |
 5+55       0.0123      0.07  Q          |          |          |          |
 6+ 0       0.0128      0.07  Q          |          |          |          |
 6+ 5       0.0134      0.10  Q          |          |          |          |
 6+10       0.0142      0.12  Q          |          |          |          |
 6+15       0.0150      0.12  QV         |          |          |          |
 6+20       0.0159      0.12  QV         |          |          |          |
 6+25       0.0167      0.12  QV         |          |          |          |
 6+30       0.0176      0.12  QV         |          |          |          |
 6+35       0.0186      0.15  QV         |          |          |          |
 6+40       0.0198      0.17  QV         |          |          |          |
 6+45       0.0209      0.17  QV         |          |          |          |
 6+50       0.0221      0.17  QV         |          |          |          |
 6+55       0.0233      0.17  QV         |          |          |          |
 7+ 0       0.0246      0.18  QV         |          |          |          |
 7+ 5       0.0258      0.18  QV         |          |          |          |
 7+10       0.0270      0.18  QV         |          |          |          |
 7+15       0.0282      0.18  QV         |          |          |          |
 7+20       0.0297      0.21  Q V        |          |          |          |
 7+25       0.0312      0.23  Q V        |          |          |          |
 7+30       0.0328      0.23  Q V        |          |          |          |
 7+35       0.0346      0.26  |QV        |          |          |          |
 7+40       0.0365      0.28  |QV        |          |          |          |
 7+45       0.0384      0.28  |QV        |          |          |          |
 7+50       0.0405      0.30  |QV        |          |          |          |
 7+55       0.0427      0.32  |QV        |          |          |          |
 8+ 0       0.0450      0.33  |Q V       |          |          |          |
 8+ 5       0.0476      0.38  |Q V       |          |          |          |
 8+10       0.0505      0.42  |Q V       |          |          |          |
 8+15       0.0534      0.42  |Q V       |          |          |          |
 8+20       0.0563      0.42  |Q V       |          |          |          |
 8+25       0.0592      0.42  |Q  V      |          |          |          |
 8+30       0.0621      0.43  |Q  V      |          |          |          |
 8+35       0.0652      0.45  |Q  V      |          |          |          |
 8+40       0.0685      0.47  |Q  V      |          |          |          |
 8+45       0.0718      0.47  |Q  V      |          |          |          |
 8+50       0.0752      0.50  | Q  V     |          |          |          |
 8+55       0.0788      0.52  | Q  V     |          |          |          |
 9+ 0       0.0824      0.52  | Q  V     |          |          |          |
 9+ 5       0.0864      0.58  | Q  V     |          |          |          |
 9+10       0.0906      0.61  | Q   V    |          |          |          |
 9+15       0.0948      0.62  | Q   V    |          |          |          |
 9+20       0.0993      0.64  | Q   V    |          |          |          |
 9+25       0.1038      0.66  | Q    V   |          |          |          |
 9+30       0.1084      0.67  | Q    V   |          |          |          |
 9+35       0.1132      0.69  | Q    V   |          |          |          |
 9+40       0.1181      0.71  | Q     V  |          |          |          |
 9+45       0.1230      0.71  | Q     V  |          |          |          |
 9+50       0.1281      0.74  | Q     V  |          |          |          |
 9+55       0.1334      0.76  |  Q     V |          |          |          |
10+ 0       0.1386      0.76  |  Q     V |          |          |          |
10+ 5       0.1427      0.59  | Q      V |          |          |          |
10+10       0.1458      0.46  |Q       V |          |          |          |
10+15       0.1489      0.45  |Q       V |          |          |          |
10+20       0.1520      0.45  |Q       V |          |          |          |
10+25       0.1551      0.45  |Q       V |          |          |          |
10+30       0.1582      0.45  |Q       V |          |          |          |
10+35       0.1623      0.58  | Q       |V         |          |          |
10+40       0.1669      0.68  | Q       |V         |          |          |
10+45       0.1716      0.68  | Q       |V         |          |          |
10+50       0.1763      0.68  | Q       | V        |          |          |
10+55       0.1810      0.69  | Q       | V        |          |          |
11+ 0       0.1858      0.69  | Q       | V        |          |          |
11+ 5       0.1903      0.66  | Q       |  V       |          |          |
11+10       0.1948      0.64  | Q       |  V       |          |          |
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11+15       0.1992      0.64  | Q       |  V      |         |         |
11+20       0.2036      0.65  | Q       |   V     |         |         |
11+25       0.2081      0.65  | Q       |   V     |         |         |
11+30       0.2126      0.65  | Q       |   V     |         |         |
11+35       0.2167      0.60  | Q       |   V     |         |         |
11+40       0.2205      0.56  | Q       |    V    |         |         |
11+45       0.2244      0.56  | Q       |    V    |         |         |
11+50       0.2284      0.59  | Q       |    V    |         |         |
11+55       0.2326      0.61  | Q       |     V   |         |         |
12+ 0       0.2368      0.61  | Q       |     V   |         |         |
12+ 5       0.2422      0.79  |  Q      |     V   |         |         |
12+10       0.2486      0.92  |  Q      |      V  |         |         |
12+15       0.2550      0.93  |  Q      |      V  |         |         |
12+20       0.2616      0.96  |  Q      |       V |         |         |
12+25       0.2683      0.98  |  Q      |       V |         |         |
12+30       0.2750      0.98  |  Q      |        V|         |         |
12+35       0.2821      1.03  |   Q     |        V|         |         |
12+40       0.2895      1.07  |   Q     |         V         |         |
12+45       0.2968      1.07  |   Q     |         V         |         |
12+50       0.3044      1.10  |   Q     |          V        |         |
12+55       0.3121      1.12  |   Q     |          V        |         |
13+ 0       0.3198      1.12  |   Q     |          | V      |         |
13+ 5       0.3284      1.25  |   Q     |          | V      |         |
13+10       0.3377      1.34  |    Q    |          |  V     |         |
13+15       0.3469      1.35  |    Q    |          |   V    |         |
13+20       0.3563      1.35  |    Q    |          |   V    |         |
13+25       0.3656      1.35  |    Q    |          |    V   |         |
13+30       0.3749      1.35  |    Q    |          |    V   |         |
13+35       0.3823      1.07  |   Q     |          |     V  |         |
13+40       0.3882      0.87  |  Q      |          |     V  |         |
13+45       0.3941      0.86  |  Q      |          |      V |         |
13+50       0.4000      0.86  |  Q      |          |      V |         |
13+55       0.4059      0.86  |  Q      |          |       V|         |
14+ 0       0.4119      0.86  |  Q      |          |       V|         |
14+ 5       0.4185      0.96  |  Q      |          |       V|         |
14+10       0.4256      1.04  |   Q     |          |        V|        |
14+15       0.4328      1.04  |   Q     |          |        V|        |
14+20       0.4398      1.02  |   Q     |          |         V        |
14+25       0.4467      1.00  |   Q     |          |         V        |
14+30       0.4536      1.00  |   Q     |          |          V       |
14+35       0.4605      1.00  |   Q     |          |          V       |
14+40       0.4674      1.00  |   Q     |          |           V      |
14+45       0.4743      1.00  |   Q     |          |           V      |
14+50       0.4811      0.98  |  Q      |          |            V     |
14+55       0.4877      0.96  |  Q      |          |            V     |
15+ 0       0.4943      0.96  |  Q      |          |             V    |
15+ 5       0.5008      0.94  |  Q      |          |             V    |
15+10       0.5071      0.92  |  Q      |          |              V   |
15+15       0.5134      0.92  |  Q      |          |              V   |
15+20       0.5196      0.89  |  Q      |          |              V   |
15+25       0.5256      0.88  |  Q      |          |               V  |
15+30       0.5316      0.88  |  Q      |          |               V  |
15+35       0.5369      0.77  |  Q      |          |                V |
15+40       0.5418      0.70  | Q       |          |                V |
15+45       0.5466      0.70  | Q       |          |                V |
15+50       0.5514      0.70  | Q       |          |                 V|
15+55       0.5562      0.70  | Q       |          |                 V|
16+ 0       0.5610      0.70  | Q       |          |                 V|
16+ 5       0.5632      0.32  |Q        |          |                 V|
16+10       0.5634      0.04  Q         |          |                 V|
16+15       0.5636      0.02  Q         |          |                  V|
16+20       0.5637      0.02  Q         |          |                  V|
16+25       0.5639      0.02  Q         |          |                  V|
16+30       0.5640      0.02  Q         |          |                  V|
16+35       0.5641      0.02  Q         |          |                  V|
16+40       0.5642      0.01  Q         |          |                  V|
16+45       0.5643      0.01  Q         |          |                  V|
16+50       0.5644      0.01  Q         |          |                  V|
16+55       0.5645      0.01  Q         |          |                  V|
17+ 0       0.5646      0.01  Q         |          |                  V|
17+ 5       0.5649      0.05  Q         |          |                  V|
17+10       0.5654      0.07  Q         |          |                  V|
17+15       0.5660      0.08  Q         |          |                  V|
17+20       0.5665      0.08  Q         |          |                  V|
17+25       0.5670      0.08  Q         |          |                  V|
17+30       0.5676      0.08  Q         |          |                  V|
17+35       0.5681      0.08  Q         |          |                  V|
17+40       0.5687      0.08  Q         |          |                  V|
```

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+45 | 0.5692 | 0.08 | Q | \| | \| | \| | V\| |
| 17+50 | 0.5696 | 0.06 | Q | \| | \| | \| | V\| |
| 17+55 | 0.5698 | 0.04 | Q | \| | \| | \| | V\| |
| 18+ 0 | 0.5701 | 0.04 | Q | \| | \| | \| | V\| |
| 18+ 5 | 0.5704 | 0.04 | Q | \| | \| | \| | V\| |
| 18+10 | 0.5706 | 0.04 | Q | \| | \| | \| | V\| |
| 18+15 | 0.5709 | 0.04 | Q | \| | \| | \| | V\| |
| 18+20 | 0.5712 | 0.04 | Q | \| | \| | \| | V\| |
| 18+25 | 0.5715 | 0.04 | Q | \| | \| | \| | V\| |
| 18+30 | 0.5717 | 0.04 | Q | \| | \| | \| | V\| |
| 18+35 | 0.5719 | 0.03 | Q | \| | \| | \| | V\| |
| 18+40 | 0.5720 | 0.01 | Q | \| | \| | \| | V\| |
| 18+45 | 0.5721 | 0.01 | Q | \| | \| | \| | V\| |
| 18+50 | 0.5722 | 0.01 | Q | \| | \| | \| | V\| |
| 18+55 | 0.5722 | 0.01 | Q | \| | \| | \| | V\| |
| 19+ 0 | 0.5723 | 0.01 | Q | \| | \| | \| | V\| |
| 19+ 5 | 0.5724 | 0.01 | Q | \| | \| | \| | V\| |
| 19+10 | 0.5725 | 0.01 | Q | \| | \| | \| | V\| |
| 19+15 | 0.5726 | 0.01 | Q | \| | \| | \| | V\| |
| 19+20 | 0.5728 | 0.03 | Q | \| | \| | \| | V\| |
| 19+25 | 0.5731 | 0.05 | Q | \| | \| | \| | V\| |
| 19+30 | 0.5735 | 0.05 | Q | \| | \| | \| | V\| |
| 19+35 | 0.5737 | 0.03 | Q | \| | \| | \| | V\| |
| 19+40 | 0.5738 | 0.01 | Q | \| | \| | \| | V\| |
| 19+45 | 0.5739 | 0.01 | Q | \| | \| | \| | V\| |
| 19+50 | 0.5739 | 0.01 | Q | \| | \| | \| | V\| |
| 19+55 | 0.5740 | 0.01 | Q | \| | \| | \| | V\| |
| 20+ 0 | 0.5741 | 0.01 | Q | \| | \| | \| | V\| |
| 20+ 5 | 0.5741 | 0.01 | Q | \| | \| | \| | V\| |
| 20+10 | 0.5742 | 0.01 | Q | \| | \| | \| | V\| |
| 20+15 | 0.5743 | 0.01 | Q | \| | \| | \| | V\| |
| 20+20 | 0.5744 | 0.01 | Q | \| | \| | \| | V\| |
| 20+25 | 0.5745 | 0.01 | Q | \| | \| | \| | V\| |
| 20+30 | 0.5746 | 0.01 | Q | \| | \| | \| | V\| |
| 20+35 | 0.5747 | 0.01 | Q | \| | \| | \| | V\| |
| 20+40 | 0.5748 | 0.01 | Q | \| | \| | \| | V\| |
| 20+45 | 0.5749 | 0.01 | Q | \| | \| | \| | V\| |
| 20+50 | 0.5750 | 0.01 | Q | \| | \| | \| | V\| |
| 20+55 | 0.5750 | 0.01 | Q | \| | \| | \| | V\| |
| 21+ 0 | 0.5751 | 0.01 | Q | \| | \| | \| | V\| |
| 21+ 5 | 0.5752 | 0.01 | Q | \| | \| | \| | V\| |
| 21+10 | 0.5753 | 0.01 | Q | \| | \| | \| | V\| |
| 21+15 | 0.5754 | 0.02 | Q | \| | \| | \| | V\| |
| 21+20 | 0.5755 | 0.01 | Q | \| | \| | \| | V\| |
| 21+25 | 0.5755 | 0.01 | Q | \| | \| | \| | V\| |
| 21+30 | 0.5756 | 0.01 | Q | \| | \| | \| | V\| |
| 21+35 | 0.5757 | 0.01 | Q | \| | \| | \| | V\| |
| 21+40 | 0.5758 | 0.02 | Q | \| | \| | \| | V\| |
| 21+45 | 0.5759 | 0.02 | Q | \| | \| | \| | V\| |
| 21+50 | 0.5760 | 0.01 | Q | \| | \| | \| | V\| |
| 21+55 | 0.5761 | 0.01 | Q | \| | \| | \| | V\| |
| 22+ 0 | 0.5761 | 0.01 | Q | \| | \| | \| | V\| |
| 22+ 5 | 0.5762 | 0.01 | Q | \| | \| | \| | V\| |
| 22+10 | 0.5764 | 0.02 | Q | \| | \| | \| | V\| |
| 22+15 | 0.5765 | 0.02 | Q | \| | \| | \| | V\| |
| 22+20 | 0.5766 | 0.01 | Q | \| | \| | \| | V\| |
| 22+25 | 0.5767 | 0.01 | Q | \| | \| | \| | V\| |
| 22+30 | 0.5767 | 0.01 | Q | \| | \| | \| | V\| |
| 22+35 | 0.5768 | 0.01 | Q | \| | \| | \| | V\| |
| 22+40 | 0.5769 | 0.01 | Q | \| | \| | \| | V\| |
| 22+45 | 0.5769 | 0.01 | Q | \| | \| | \| | V\| |
| 22+50 | 0.5770 | 0.01 | Q | \| | \| | \| | V\| |
| 22+55 | 0.5770 | 0.01 | Q | \| | \| | \| | V\| |
| 23+ 0 | 0.5771 | 0.01 | Q | \| | \| | \| | V\| |
| 23+ 5 | 0.5772 | 0.01 | Q | \| | \| | \| | V\| |
| 23+10 | 0.5772 | 0.01 | Q | \| | \| | \| | V\| |
| 23+15 | 0.5773 | 0.01 | Q | \| | \| | \| | V\| |
| 23+20 | 0.5774 | 0.01 | Q | \| | \| | \| | V\| |
| 23+25 | 0.5774 | 0.01 | Q | \| | \| | \| | V\| |
| 23+30 | 0.5775 | 0.01 | Q | \| | \| | \| | V\| |
| 23+35 | 0.5775 | 0.01 | Q | \| | \| | \| | V\| |
| 23+40 | 0.5776 | 0.01 | Q | \| | \| | \| | V\| |
| 23+45 | 0.5777 | 0.01 | Q | \| | \| | \| | V\| |
| 23+50 | 0.5777 | 0.01 | Q | \| | \| | \| | V\| |
| 23+55 | 0.5778 | 0.01 | Q | \| | \| | \| | V\| |
| 24+ 0 | 0.5779 | 0.01 | Q | \| | \| | \| | V\| |
| 24+ 5 | 0.5779 | 0.00 | Q | \| | \| | \| | V\| |
| 24+10 | 0.5779 | 0.00 | Q | \| | \| | \| | V\| |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX181100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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164469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 18
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.90(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.90(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 378.00(Ft.)
Length along longest watercourse measured to centroid = 130.00(Ft.)
Length along longest watercourse = 0.072 Mi.
Length along longest watercourse measured to centroid = 0.025 Mi.
Difference in elevation = 108.00(Ft.)
Slope along watercourse = 1508.5714 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.019 Hr.
Lag time = 1.13 Min.
25% of lag time = 0.28 Min.
40% of lag time = 0.45 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.90 | 0.49 | 0.44 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.90 | 1.20 | 1.08 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.490(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.900 | 84.00 | 0.000 |

Total Area Entered = 0.90(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

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| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 443.530 | 70.316 | 0.638 |
| 2 | 0.167 | 887.061 | 29.684 | 0.269 |
| | | Sum = 100.000 | Sum= | 0.907 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.086 | ( 0.544) | 0.519 |
| 2 | 0.17 | 4.30 | 0.619 | 0.086 | ( 0.557) | 0.533 |
| 3 | 0.25 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 4 | 0.33 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 5 | 0.42 | 5.80 | 0.835 | 0.086 | ( 0.752) | 0.749 |
| 6 | 0.50 | 6.50 | 0.936 | 0.086 | ( 0.842) | 0.850 |
| 7 | 0.58 | 7.40 | 1.066 | 0.086 | ( 0.959) | 0.980 |
| 8 | 0.67 | 8.60 | 1.238 | 0.086 | ( 1.115) | 1.153 |
| 9 | 0.75 | 12.30 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 10 | 0.83 | 29.10 | 4.190 | 0.086 | ( 3.771) | 4.105 |
| 11 | 0.92 | 6.80 | 0.979 | 0.086 | ( 0.881) | 0.893 |
| 12 | 1.00 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| | | (Loss Rate Not Used) | | | |
| Sum = | | 100.0 | | | Sum = 13.4 |

Flood volume = Effective rainfall 1.11(In)
times area 0.9(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.006(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 3640.1 Cubic Feet
Total soil loss = 280.3 Cubic Feet

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Peak flow rate of this hydrograph = 3.073(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0023 | 0.33 | Q | | | | |
| 0+10 | 0.0056 | 0.48 | QV | | | | |
| 0+15 | 0.0094 | 0.55 | Q V | | | | |
| 0+20 | 0.0133 | 0.58 | Q V | | | | |
| 0+25 | 0.0178 | 0.65 | Q V | | | | |
| 0+30 | 0.0229 | 0.74 | Q V | | | | |
| 0+35 | 0.0288 | 0.85 | Q V | | | | |
| 0+40 | 0.0357 | 1.00 | Q V | | | | |
| 0+45 | 0.0452 | 1.39 | Q V | | | | |
| 0+50 | 0.0664 | 3.07 | Q V | | | | |
| 0+55 | 0.0779 | 1.68 | Q V | | | | |
| 1+ 0 | 0.0824 | 0.65 | Q V | | | | |
| 1+ 5 | 0.0836 | 0.17 | Q V | | | | |

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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX183100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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164469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 18
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.90(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.90(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 378.00(Ft.)
Length along longest watercourse measured to centroid = 130.00(Ft.)
Length along longest watercourse = 0.072 Mi.
Length along longest watercourse measured to centroid = 0.025 Mi.
Difference in elevation = 108.00(Ft.)
Slope along watercourse = 1508.5714 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.019 Hr.
Lag time = 1.13 Min.
25% of lag time = 0.28 Min.
40% of lag time = 0.45 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.90 | 0.80 | 0.72 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.90 | 1.80 | 1.62 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.900 | 84.00 | 0.000 |

Total Area Entered = 0.90(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 443.530 | 70.316 | 0.638 |
| 2 0.167 | 887.061 | 29.684 | 0.269 |
| | | Sum = 100.000 Sum= | 0.907 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 1.30 | 0.281 | 0.086 | ( 0.253) | 0.195 |
| 2 0.17 | 1.30 | 0.281 | 0.086 | ( 0.253) | 0.195 |
| 3 0.25 | 1.10 | 0.238 | 0.086 | ( 0.214) | 0.152 |
| 4 0.33 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 5 0.42 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 6 0.50 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 7 0.58 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 8 0.67 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 9 0.75 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 10 0.83 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 11 0.92 | 1.60 | 0.346 | 0.086 | ( 0.311) | 0.260 |
| 12 1.00 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 13 1.08 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 14 1.17 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 15 1.25 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 16 1.33 | 2.00 | 0.432 | 0.086 | ( 0.389) | 0.346 |
| 17 1.42 | 2.60 | 0.562 | 0.086 | ( 0.505) | 0.476 |
| 18 1.50 | 2.70 | 0.583 | 0.086 | ( 0.525) | 0.497 |
| 19 1.58 | 2.40 | 0.518 | 0.086 | ( 0.467) | 0.433 |
| 20 1.67 | 2.70 | 0.583 | 0.086 | ( 0.525) | 0.497 |
| 21 1.75 | 3.30 | 0.713 | 0.086 | ( 0.642) | 0.627 |
| 22 1.83 | 3.10 | 0.670 | 0.086 | ( 0.603) | 0.584 |
| 23 1.92 | 2.90 | 0.626 | 0.086 | ( 0.564) | 0.541 |
| 24 2.00 | 3.00 | 0.648 | 0.086 | ( 0.583) | 0.562 |
| 25 2.08 | 3.10 | 0.670 | 0.086 | ( 0.603) | 0.584 |
| 26 2.17 | 4.20 | 0.907 | 0.086 | ( 0.816) | 0.821 |
| 27 2.25 | 5.00 | 1.080 | 0.086 | ( 0.972) | 0.994 |
| 28 2.33 | 3.50 | 0.756 | 0.086 | ( 0.680) | 0.670 |
| 29 2.42 | 6.80 | 1.469 | 0.086 | ( 1.322) | 1.383 |
| 30 2.50 | 7.30 | 1.577 | 0.086 | ( 1.419) | 1.491 |
| 31 2.58 | 8.20 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 32 2.67 | 5.90 | 1.274 | 0.086 | ( 1.147) | 1.189 |
| 33 2.75 | 2.00 | 0.432 | 0.086 | ( 0.389) | 0.346 |
| 34 2.83 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 35 2.92 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 36 3.00 | 0.60 | 0.130 | 0.086 | ( 0.117) | 0.044 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 18.5 |

Flood volume = Effective rainfall 1.54(In)
times area 0.9(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.019(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 5039.7 Cubic Feet
Total soil loss = 840.9 Cubic Feet

Peak flow rate of this hydrograph = 1.477(CFS)

3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0009 | 0.12 | Q | | | | |
| 0+10 | 0.0021 | 0.18 | Q | | | | |
| 0+15 | 0.0031 | 0.15 | QV | | | | |
| 0+20 | 0.0044 | 0.19 | QV | | | | |
| 0+25 | 0.0059 | 0.22 | Q V | | | | |
| 0+30 | 0.0077 | 0.26 | \|QV | | | | |
| 0+35 | 0.0093 | 0.23 | Q V | | | | |
| 0+40 | 0.0111 | 0.26 | \|Q V | | | | |
| 0+45 | 0.0130 | 0.27 | \|Q V | | | | |
| 0+50 | 0.0146 | 0.23 | Q V | | | | |
| 0+55 | 0.0162 | 0.23 | Q V | | | | |
| 1+ 0 | 0.0180 | 0.26 | \|Q V | | | | |
| 1+ 5 | 0.0203 | 0.33 | \|Q V | | | | |
| 1+10 | 0.0227 | 0.35 | \|Q V | | | | |
| 1+15 | 0.0251 | 0.35 | \|Q V | | | | |
| 1+20 | 0.0274 | 0.33 | \|Q V | | | | |
| 1+25 | 0.0301 | 0.40 | \|Q V | | | | |
| 1+30 | 0.0332 | 0.45 | \|Q V | | | | |
| 1+35 | 0.0360 | 0.41 | \|Q V | | | | |
| 1+40 | 0.0390 | 0.43 | \|Q V | | | | |
| 1+45 | 0.0427 | 0.53 | \| Q V | | | | |
| 1+50 | 0.0464 | 0.54 | \| Q V | | | | |
| 1+55 | 0.0498 | 0.50 | \| Q V | | | | |
| 2+ 0 | 0.0533 | 0.50 | \| Q V | | | | |
| 2+ 5 | 0.0569 | 0.52 | \| Q V | | | | |
| 2+10 | 0.0616 | 0.68 | \| Q V | | | | |
| 2+15 | 0.0675 | 0.86 | \| Q V | | | | |
| 2+20 | 0.0723 | 0.70 | \| Q V | | | | |
| 2+25 | 0.0796 | 1.06 | \| Q V | | | | |
| 2+30 | 0.0887 | 1.32 | \| Q V | | | | |
| 2+35 | 0.0989 | 1.48 | \| Q V | | | | |
| 2+40 | 0.1073 | 1.21 | \| Q V | | | | |
| 2+45 | 0.1110 | 0.54 | \| Q V | | | | |
| 2+50 | 0.1130 | 0.29 | \|Q V | | | | |
| 2+55 | 0.1149 | 0.27 | \|Q V | | | | |
| 3+ 0 | 0.1156 | 0.11 | Q V | | | | |
| 3+ 5 | 0.1157 | 0.01 | Q V | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX186100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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164469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 18
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.90(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.90(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 378.00(Ft.)
Length along longest watercourse measured to centroid = 130.00(Ft.)
Length along longest watercourse = 0.072 Mi.
Length along longest watercourse measured to centroid = 0.025 Mi.
Difference in elevation = 108.00(Ft.)
Slope along watercourse = 1508.5714 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.019 Hr.
Lag time = 1.13 Min.
25% of lag time = 0.28 Min.
40% of lag time = 0.45 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.90 | 1.12 | 1.01 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.90 | 2.50 | 2.25 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.120(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.900 | 84.00 | 0.000 |

Total Area Entered = 0.90(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 443.530 | 70.316 | 0.638 |
| 2 0.167 | 887.061 | 29.684 | 0.269 |
| | | Sum = 100.000 Sum= | 0.907 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 0.50 | 0.150 | 0.086 | ( 0.135) | 0.064 |
| 2 0.17 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 3 0.25 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 4 0.33 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 5 0.42 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 6 0.50 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 7 0.58 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 8 0.67 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 9 0.75 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 10 0.83 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 11 0.92 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 12 1.00 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 13 1.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 14 1.17 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 15 1.25 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 16 1.33 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 17 1.42 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 18 1.50 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 19 1.58 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 20 1.67 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 21 1.75 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 22 1.83 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 23 1.92 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 24 2.00 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 25 2.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 26 2.17 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 27 2.25 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 28 2.33 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 29 2.42 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 30 2.50 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 31 2.58 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 32 2.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 33 2.75 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 34 2.83 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 35 2.92 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 36 3.00 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 37 3.08 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 38 3.17 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 39 3.25 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 40 3.33 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 41 3.42 | 1.20 | 0.360 | 0.086 | ( 0.324) | 0.274 |
| 42 3.50 | 1.30 | 0.390 | 0.086 | ( 0.351) | 0.304 |
| 43 3.58 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 44 3.67 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 45 3.75 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 46 3.83 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 47 3.92 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 48 4.00 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 49 4.08 | 1.70 | 0.510 | 0.086 | ( 0.459) | 0.424 |
| 50 4.17 | 1.80 | 0.540 | 0.086 | ( 0.486) | 0.454 |
| 51 4.25 | 1.90 | 0.570 | 0.086 | ( 0.513) | 0.484 |
| 52 4.33 | 2.00 | 0.600 | 0.086 | ( 0.540) | 0.514 |
| 53 4.42 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 |
| 54 4.50 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 55 | 4.58 | 2.20 | 0.660 | 0.086 | ( 0.594) | | 0.574 |
| 56 | 4.67 | 2.30 | 0.690 | 0.086 | ( 0.621) | | 0.604 |
| 57 | 4.75 | 2.40 | 0.720 | 0.086 | ( 0.648) | | 0.634 |
| 58 | 4.83 | 2.40 | 0.720 | 0.086 | ( 0.648) | | 0.634 |
| 59 | 4.92 | 2.50 | 0.750 | 0.086 | ( 0.675) | | 0.664 |
| 60 | 5.00 | 2.60 | 0.780 | 0.086 | ( 0.702) | | 0.694 |
| 61 | 5.08 | 3.10 | 0.930 | 0.086 | ( 0.837) | | 0.844 |
| 62 | 5.17 | 3.60 | 1.080 | 0.086 | ( 0.972) | | 0.994 |
| 63 | 5.25 | 3.90 | 1.170 | 0.086 | ( 1.053) | | 1.084 |
| 64 | 5.33 | 4.20 | 1.260 | 0.086 | ( 1.134) | | 1.174 |
| 65 | 5.42 | 4.70 | 1.410 | 0.086 | ( 1.269) | | 1.324 |
| 66 | 5.50 | 5.60 | 1.680 | 0.086 | ( 1.512) | | 1.594 |
| 67 | 5.58 | 1.90 | 0.570 | 0.086 | ( 0.513) | | 0.484 |
| 68 | 5.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | | 0.184 |
| 69 | 5.75 | 0.60 | 0.180 | 0.086 | ( 0.162) | | 0.094 |
| 70 | 5.83 | 0.50 | 0.150 | 0.086 | ( 0.135) | | 0.064 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.086) | 0.081 | | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.086) | 0.054 | | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.9

Flood volume = Effective rainfall 1.99(In)
times area 0.9(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.51(In)
Total soil loss = 0.038(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 6495.6 Cubic Feet
Total soil loss = 1671.9 Cubic Feet

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Peak flow rate of this hydrograph = 1.374(CFS)

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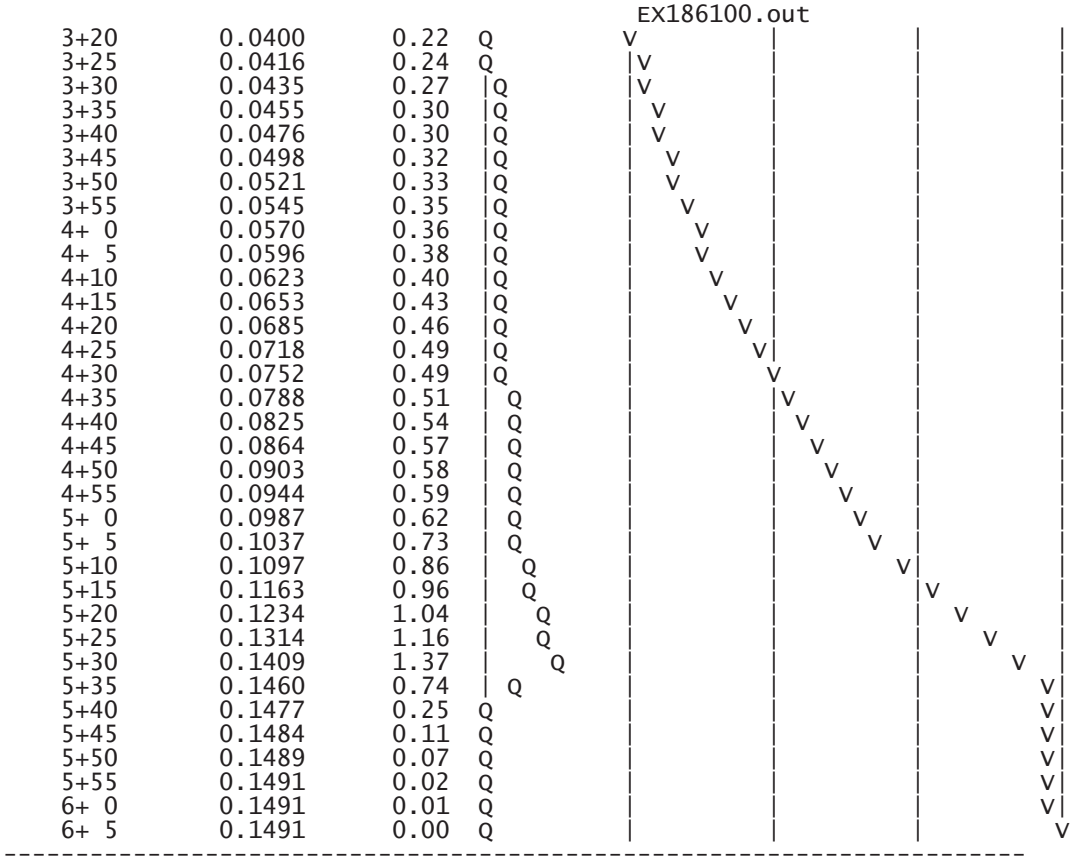
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0003 | 0.04 | Q | | | | |
| 0+10 | 0.0008 | 0.08 | Q | | | | |
| 0+15 | 0.0014 | 0.09 | Q | | | | |
| 0+20 | 0.0020 | 0.09 | Q | | | | |
| 0+25 | 0.0026 | 0.09 | Q | | | | |
| 0+30 | 0.0033 | 0.10 | Q | | | | |
| 0+35 | 0.0041 | 0.11 | QV | | | | |
| 0+40 | 0.0049 | 0.11 | QV | | | | |
| 0+45 | 0.0056 | 0.11 | QV | | | | |
| 0+50 | 0.0064 | 0.11 | QV | | | | |
| 0+55 | 0.0072 | 0.11 | QV | | | | |
| 1+ 0 | 0.0081 | 0.13 | Q V | | | | |
| 1+ 5 | 0.0091 | 0.14 | Q V | | | | |
| 1+10 | 0.0100 | 0.14 | Q V | | | | |
| 1+15 | 0.0110 | 0.14 | Q V | | | | |
| 1+20 | 0.0119 | 0.14 | Q V | | | | |
| 1+25 | 0.0129 | 0.14 | Q V | | | | |
| 1+30 | 0.0139 | 0.14 | Q V | | | | |
| 1+35 | 0.0148 | 0.14 | Q V | | | | |
| 1+40 | 0.0158 | 0.14 | Q V | | | | |
| 1+45 | 0.0168 | 0.14 | Q V | | | | |
| 1+50 | 0.0177 | 0.14 | Q V | | | | |
| 1+55 | 0.0187 | 0.14 | Q V | | | | |
| 2+ 0 | 0.0198 | 0.16 | Q V | | | | |
| 2+ 5 | 0.0208 | 0.15 | Q V | | | | |
| 2+10 | 0.0219 | 0.16 | Q V | | | | |
| 2+15 | 0.0231 | 0.17 | Q V | | | | |
| 2+20 | 0.0242 | 0.17 | Q V | | | | |
| 2+25 | 0.0254 | 0.17 | Q V | | | | |
| 2+30 | 0.0265 | 0.17 | Q V | | | | |
| 2+35 | 0.0277 | 0.17 | Q V | | | | |
| 2+40 | 0.0288 | 0.17 | Q V | | | | |
| 2+45 | 0.0301 | 0.19 | Q V | | | | |
| 2+50 | 0.0314 | 0.19 | Q V | | | | |
| 2+55 | 0.0328 | 0.19 | Q V | | | | |
| 3+ 0 | 0.0341 | 0.19 | Q V | | | | |
| 3+ 5 | 0.0354 | 0.19 | Q V | | | | |
| 3+10 | 0.0369 | 0.21 | Q V | | | | |
| 3+15 | 0.0384 | 0.22 | Q V | | | | |



| | | | |
|---|---|---|---|
| 3+20 | 0.0400 | 0.22 | Q |
| 3+25 | 0.0416 | 0.24 | Q |
| 3+30 | 0.0435 | 0.27 | Q |
| 3+35 | 0.0455 | 0.30 | Q |
| 3+40 | 0.0476 | 0.30 | Q |
| 3+45 | 0.0498 | 0.32 | Q |
| 3+50 | 0.0521 | 0.33 | Q |
| 3+55 | 0.0545 | 0.35 | Q |
| 4+ 0 | 0.0570 | 0.36 | Q |
| 4+ 5 | 0.0596 | 0.38 | Q |
| 4+10 | 0.0623 | 0.40 | Q |
| 4+15 | 0.0653 | 0.43 | Q |
| 4+20 | 0.0685 | 0.46 | Q |
| 4+25 | 0.0718 | 0.49 | Q |
| 4+30 | 0.0752 | 0.49 | Q |
| 4+35 | 0.0788 | 0.51 | Q |
| 4+40 | 0.0825 | 0.54 | Q |
| 4+45 | 0.0864 | 0.57 | Q |
| 4+50 | 0.0903 | 0.58 | Q |
| 4+55 | 0.0944 | 0.59 | Q |
| 5+ 0 | 0.0987 | 0.62 | Q |
| 5+ 5 | 0.1037 | 0.73 | Q |
| 5+10 | 0.1097 | 0.86 | Q |
| 5+15 | 0.1163 | 0.96 | Q |
| 5+20 | 0.1234 | 1.04 | Q |
| 5+25 | 0.1314 | 1.16 | Q |
| 5+30 | 0.1409 | 1.37 | Q |
| 5+35 | 0.1460 | 0.74 | Q |
| 5+40 | 0.1477 | 0.25 | Q |
| 5+45 | 0.1484 | 0.11 | Q |
| 5+50 | 0.1489 | 0.07 | Q |
| 5+55 | 0.1491 | 0.02 | Q |
| 6+ 0 | 0.1491 | 0.01 | Q |
| 6+ 5 | 0.1491 | 0.00 | Q |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX1824100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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164469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 18
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 0.90(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.90(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 378.00(Ft.)
Length along longest watercourse measured to centroid = 130.00(Ft.)
Length along longest watercourse = 0.072 Mi.
Length along longest watercourse measured to centroid = 0.025 Mi.
Difference in elevation = 108.00(Ft.)
Slope along watercourse = 1508.5714 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.019 Hr.
Lag time = 1.13 Min.
25% of lag time = 0.28 Min.
40% of lag time = 0.45 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.90 | 1.80 | 1.62 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.90 | 4.50 | 4.05 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.500(In)

Point rain (area averaged) = 4.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.900 | 84.00 | 0.000 |

Total Area Entered = 0.90(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 443.530 | 70.316 | 0.638 |
| 2 0.167 | 887.061 | 29.684 | 0.269 |
| | | Sum = 100.000 | Sum= 0.907 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 0.07 | 0.036 | ( 0.152) | 0.032 | 0.004 |
| 2 0.17 | 0.07 | 0.036 | ( 0.152) | 0.032 | 0.004 |
| 3 0.25 | 0.07 | 0.036 | ( 0.151) | 0.032 | 0.004 |
| 4 0.33 | 0.10 | 0.054 | ( 0.150) | 0.049 | 0.005 |
| 5 0.42 | 0.10 | 0.054 | ( 0.150) | 0.049 | 0.005 |
| 6 0.50 | 0.10 | 0.054 | ( 0.149) | 0.049 | 0.005 |
| 7 0.58 | 0.10 | 0.054 | ( 0.149) | 0.049 | 0.005 |
| 8 0.67 | 0.10 | 0.054 | ( 0.148) | 0.049 | 0.005 |
| 9 0.75 | 0.10 | 0.054 | ( 0.147) | 0.049 | 0.005 |
| 10 0.83 | 0.13 | 0.072 | ( 0.147) | 0.065 | 0.007 |
| 11 0.92 | 0.13 | 0.072 | ( 0.146) | 0.065 | 0.007 |
| 12 1.00 | 0.13 | 0.072 | ( 0.146) | 0.065 | 0.007 |
| 13 1.08 | 0.10 | 0.054 | ( 0.145) | 0.049 | 0.005 |
| 14 1.17 | 0.10 | 0.054 | ( 0.145) | 0.049 | 0.005 |
| 15 1.25 | 0.10 | 0.054 | ( 0.144) | 0.049 | 0.005 |
| 16 1.33 | 0.10 | 0.054 | ( 0.143) | 0.049 | 0.005 |
| 17 1.42 | 0.10 | 0.054 | ( 0.143) | 0.049 | 0.005 |
| 18 1.50 | 0.10 | 0.054 | ( 0.142) | 0.049 | 0.005 |
| 19 1.58 | 0.10 | 0.054 | ( 0.142) | 0.049 | 0.005 |
| 20 1.67 | 0.10 | 0.054 | ( 0.141) | 0.049 | 0.005 |
| 21 1.75 | 0.10 | 0.054 | ( 0.141) | 0.049 | 0.005 |
| 22 1.83 | 0.13 | 0.072 | ( 0.140) | 0.065 | 0.007 |
| 23 1.92 | 0.13 | 0.072 | ( 0.139) | 0.065 | 0.007 |
| 24 2.00 | 0.13 | 0.072 | ( 0.139) | 0.065 | 0.007 |
| 25 2.08 | 0.13 | 0.072 | ( 0.138) | 0.065 | 0.007 |
| 26 2.17 | 0.13 | 0.072 | ( 0.138) | 0.065 | 0.007 |
| 27 2.25 | 0.13 | 0.072 | ( 0.137) | 0.065 | 0.007 |
| 28 2.33 | 0.13 | 0.072 | ( 0.137) | 0.065 | 0.007 |
| 29 2.42 | 0.13 | 0.072 | ( 0.136) | 0.065 | 0.007 |
| 30 2.50 | 0.13 | 0.072 | ( 0.136) | 0.065 | 0.007 |
| 31 2.58 | 0.17 | 0.090 | ( 0.135) | 0.081 | 0.009 |
| 32 2.67 | 0.17 | 0.090 | ( 0.134) | 0.081 | 0.009 |
| 33 2.75 | 0.17 | 0.090 | ( 0.134) | 0.081 | 0.009 |
| 34 2.83 | 0.17 | 0.090 | ( 0.133) | 0.081 | 0.009 |
| 35 2.92 | 0.17 | 0.090 | ( 0.133) | 0.081 | 0.009 |
| 36 3.00 | 0.17 | 0.090 | ( 0.132) | 0.081 | 0.009 |
| 37 3.08 | 0.17 | 0.090 | ( 0.132) | 0.081 | 0.009 |
| 38 3.17 | 0.17 | 0.090 | ( 0.131) | 0.081 | 0.009 |
| 39 3.25 | 0.17 | 0.090 | ( 0.131) | 0.081 | 0.009 |
| 40 3.33 | 0.17 | 0.090 | ( 0.130) | 0.081 | 0.009 |
| 41 3.42 | 0.17 | 0.090 | ( 0.129) | 0.081 | 0.009 |
| 42 3.50 | 0.17 | 0.090 | ( 0.129) | 0.081 | 0.009 |
| 43 3.58 | 0.17 | 0.090 | ( 0.128) | 0.081 | 0.009 |
| 44 3.67 | 0.17 | 0.090 | ( 0.128) | 0.081 | 0.009 |
| 45 3.75 | 0.17 | 0.090 | ( 0.127) | 0.081 | 0.009 |
| 46 3.83 | 0.20 | 0.108 | ( 0.127) | 0.097 | 0.011 |
| 47 3.92 | 0.20 | 0.108 | ( 0.126) | 0.097 | 0.011 |
| 48 4.00 | 0.20 | 0.108 | ( 0.126) | 0.097 | 0.011 |
| 49 4.08 | 0.20 | 0.108 | ( 0.125) | 0.097 | 0.011 |
| 50 4.17 | 0.20 | 0.108 | ( 0.125) | 0.097 | 0.011 |
| 51 4.25 | 0.20 | 0.108 | ( 0.124) | 0.097 | 0.011 |
| 52 4.33 | 0.23 | 0.126 | ( 0.124) | 0.113 | 0.013 |
| 53 4.42 | 0.23 | 0.126 | ( 0.123) | 0.113 | 0.013 |
| 54 4.50 | 0.23 | 0.126 | ( 0.123) | 0.113 | 0.013 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 55 | 4.58 | 0.23 | 0.126 | ( | 0.122) | 0.113 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.126 | ( | 0.121) | 0.113 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.126 | ( | 0.121) | 0.113 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.144 | | 0.120 | ( 0.130) | | 0.024 |
| 59 | 4.92 | 0.27 | 0.144 | | 0.120 | ( 0.130) | | 0.024 |
| 60 | 5.00 | 0.27 | 0.144 | | 0.119 | ( 0.130) | | 0.025 |
| 61 | 5.08 | 0.20 | 0.108 | ( | 0.119) | 0.097 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.108 | ( | 0.118) | 0.097 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.108 | ( | 0.118) | 0.097 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.126 | ( | 0.117) | 0.113 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.126 | ( | 0.117) | 0.113 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.126 | ( | 0.116) | 0.113 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.144 | | 0.116 | ( 0.130) | | 0.028 |
| 68 | 5.67 | 0.27 | 0.144 | | 0.115 | ( 0.130) | | 0.029 |
| 69 | 5.75 | 0.27 | 0.144 | | 0.115 | ( 0.130) | | 0.029 |
| 70 | 5.83 | 0.27 | 0.144 | | 0.114 | ( 0.130) | | 0.030 |
| 71 | 5.92 | 0.27 | 0.144 | | 0.114 | ( 0.130) | | 0.030 |
| 72 | 6.00 | 0.27 | 0.144 | | 0.113 | ( 0.130) | | 0.031 |
| 73 | 6.08 | 0.30 | 0.162 | | 0.113 | ( 0.146) | | 0.049 |
| 74 | 6.17 | 0.30 | 0.162 | | 0.112 | ( 0.146) | | 0.050 |
| 75 | 6.25 | 0.30 | 0.162 | | 0.112 | ( 0.146) | | 0.050 |
| 76 | 6.33 | 0.30 | 0.162 | | 0.111 | ( 0.146) | | 0.051 |
| 77 | 6.42 | 0.30 | 0.162 | | 0.111 | ( 0.146) | | 0.051 |
| 78 | 6.50 | 0.30 | 0.162 | | 0.110 | ( 0.146) | | 0.052 |
| 79 | 6.58 | 0.33 | 0.180 | | 0.110 | ( 0.162) | | 0.070 |
| 80 | 6.67 | 0.33 | 0.180 | | 0.109 | ( 0.162) | | 0.071 |
| 81 | 6.75 | 0.33 | 0.180 | | 0.109 | ( 0.162) | | 0.071 |
| 82 | 6.83 | 0.33 | 0.180 | | 0.108 | ( 0.162) | | 0.072 |
| 83 | 6.92 | 0.33 | 0.180 | | 0.108 | ( 0.162) | | 0.072 |
| 84 | 7.00 | 0.33 | 0.180 | | 0.107 | ( 0.162) | | 0.073 |
| 85 | 7.08 | 0.33 | 0.180 | | 0.107 | ( 0.162) | | 0.073 |
| 86 | 7.17 | 0.33 | 0.180 | | 0.106 | ( 0.162) | | 0.074 |
| 87 | 7.25 | 0.33 | 0.180 | | 0.106 | ( 0.162) | | 0.074 |
| 88 | 7.33 | 0.37 | 0.198 | | 0.105 | ( 0.178) | | 0.093 |
| 89 | 7.42 | 0.37 | 0.198 | | 0.105 | ( 0.178) | | 0.093 |
| 90 | 7.50 | 0.37 | 0.198 | | 0.104 | ( 0.178) | | 0.094 |
| 91 | 7.58 | 0.40 | 0.216 | | 0.104 | ( 0.194) | | 0.112 |
| 92 | 7.67 | 0.40 | 0.216 | | 0.103 | ( 0.194) | | 0.113 |
| 93 | 7.75 | 0.40 | 0.216 | | 0.103 | ( 0.194) | | 0.113 |
| 94 | 7.83 | 0.43 | 0.234 | | 0.102 | ( 0.211) | | 0.132 |
| 95 | 7.92 | 0.43 | 0.234 | | 0.102 | ( 0.211) | | 0.132 |
| 96 | 8.00 | 0.43 | 0.234 | | 0.102 | ( 0.211) | | 0.132 |
| 97 | 8.08 | 0.50 | 0.270 | | 0.101 | ( 0.243) | | 0.169 |
| 98 | 8.17 | 0.50 | 0.270 | | 0.101 | ( 0.243) | | 0.169 |
| 99 | 8.25 | 0.50 | 0.270 | | 0.100 | ( 0.243) | | 0.170 |
| 100 | 8.33 | 0.50 | 0.270 | | 0.100 | ( 0.243) | | 0.170 |
| 101 | 8.42 | 0.50 | 0.270 | | 0.099 | ( 0.243) | | 0.171 |
| 102 | 8.50 | 0.50 | 0.270 | | 0.099 | ( 0.243) | | 0.171 |
| 103 | 8.58 | 0.53 | 0.288 | | 0.098 | ( 0.259) | | 0.190 |
| 104 | 8.67 | 0.53 | 0.288 | | 0.098 | ( 0.259) | | 0.190 |
| 105 | 8.75 | 0.53 | 0.288 | | 0.097 | ( 0.259) | | 0.191 |
| 106 | 8.83 | 0.57 | 0.306 | | 0.097 | ( 0.275) | | 0.209 |
| 107 | 8.92 | 0.57 | 0.306 | | 0.096 | ( 0.275) | | 0.210 |
| 108 | 9.00 | 0.57 | 0.306 | | 0.096 | ( 0.275) | | 0.210 |
| 109 | 9.08 | 0.63 | 0.342 | | 0.096 | ( 0.308) | | 0.246 |
| 110 | 9.17 | 0.63 | 0.342 | | 0.095 | ( 0.308) | | 0.247 |
| 111 | 9.25 | 0.63 | 0.342 | | 0.095 | ( 0.308) | | 0.247 |
| 112 | 9.33 | 0.67 | 0.360 | | 0.094 | ( 0.324) | | 0.266 |
| 113 | 9.42 | 0.67 | 0.360 | | 0.094 | ( 0.324) | | 0.266 |
| 114 | 9.50 | 0.67 | 0.360 | | 0.093 | ( 0.324) | | 0.267 |
| 115 | 9.58 | 0.70 | 0.378 | | 0.093 | ( 0.340) | | 0.285 |
| 116 | 9.67 | 0.70 | 0.378 | | 0.092 | ( 0.340) | | 0.286 |
| 117 | 9.75 | 0.70 | 0.378 | | 0.092 | ( 0.340) | | 0.286 |
| 118 | 9.83 | 0.73 | 0.396 | | 0.091 | ( 0.356) | | 0.305 |
| 119 | 9.92 | 0.73 | 0.396 | | 0.091 | ( 0.356) | | 0.305 |
| 120 | 10.00 | 0.73 | 0.396 | | 0.091 | ( 0.356) | | 0.305 |
| 121 | 10.08 | 0.50 | 0.270 | | 0.090 | ( 0.243) | | 0.180 |
| 122 | 10.17 | 0.50 | 0.270 | | 0.090 | ( 0.243) | | 0.180 |
| 123 | 10.25 | 0.50 | 0.270 | | 0.089 | ( 0.243) | | 0.181 |
| 124 | 10.33 | 0.50 | 0.270 | | 0.089 | ( 0.243) | | 0.181 |
| 125 | 10.42 | 0.50 | 0.270 | | 0.088 | ( 0.243) | | 0.182 |
| 126 | 10.50 | 0.50 | 0.270 | | 0.088 | ( 0.243) | | 0.182 |
| 127 | 10.58 | 0.67 | 0.360 | | 0.088 | ( 0.324) | | 0.272 |
| 128 | 10.67 | 0.67 | 0.360 | | 0.087 | ( 0.324) | | 0.273 |
| 129 | 10.75 | 0.67 | 0.360 | | 0.087 | ( 0.324) | | 0.273 |
| 130 | 10.83 | 0.67 | 0.360 | | 0.086 | ( 0.324) | | 0.274 |
| 131 | 10.92 | 0.67 | 0.360 | | 0.086 | ( 0.324) | | 0.274 |
| 132 | 11.00 | 0.67 | 0.360 | | 0.085 | ( 0.324) | | 0.275 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 133 | 11.08 | 0.63 | 0.342 | 0.085 | ( 0.308) | 0.257 |
| 134 | 11.17 | 0.63 | 0.342 | 0.085 | ( 0.308) | 0.257 |
| 135 | 11.25 | 0.63 | 0.342 | 0.084 | ( 0.308) | 0.258 |
| 136 | 11.33 | 0.63 | 0.342 | 0.084 | ( 0.308) | 0.258 |
| 137 | 11.42 | 0.63 | 0.342 | 0.083 | ( 0.308) | 0.259 |
| 138 | 11.50 | 0.63 | 0.342 | 0.083 | ( 0.308) | 0.259 |
| 139 | 11.58 | 0.57 | 0.306 | 0.083 | ( 0.275) | 0.223 |
| 140 | 11.67 | 0.57 | 0.306 | 0.082 | ( 0.275) | 0.224 |
| 141 | 11.75 | 0.57 | 0.306 | 0.082 | ( 0.275) | 0.224 |
| 142 | 11.83 | 0.60 | 0.324 | 0.081 | ( 0.292) | 0.243 |
| 143 | 11.92 | 0.60 | 0.324 | 0.081 | ( 0.292) | 0.243 |
| 144 | 12.00 | 0.60 | 0.324 | 0.080 | ( 0.292) | 0.244 |
| 145 | 12.08 | 0.83 | 0.450 | 0.080 | ( 0.405) | 0.370 |
| 146 | 12.17 | 0.83 | 0.450 | 0.080 | ( 0.405) | 0.370 |
| 147 | 12.25 | 0.83 | 0.450 | 0.079 | ( 0.405) | 0.371 |
| 148 | 12.33 | 0.87 | 0.468 | 0.079 | ( 0.421) | 0.389 |
| 149 | 12.42 | 0.87 | 0.468 | 0.078 | ( 0.421) | 0.390 |
| 150 | 12.50 | 0.87 | 0.468 | 0.078 | ( 0.421) | 0.390 |
| 151 | 12.58 | 0.93 | 0.504 | 0.078 | ( 0.454) | 0.426 |
| 152 | 12.67 | 0.93 | 0.504 | 0.077 | ( 0.454) | 0.427 |
| 153 | 12.75 | 0.93 | 0.504 | 0.077 | ( 0.454) | 0.427 |
| 154 | 12.83 | 0.97 | 0.522 | 0.077 | ( 0.470) | 0.445 |
| 155 | 12.92 | 0.97 | 0.522 | 0.076 | ( 0.470) | 0.446 |
| 156 | 13.00 | 0.97 | 0.522 | 0.076 | ( 0.470) | 0.446 |
| 157 | 13.08 | 1.13 | 0.612 | 0.075 | ( 0.551) | 0.537 |
| 158 | 13.17 | 1.13 | 0.612 | 0.075 | ( 0.551) | 0.537 |
| 159 | 13.25 | 1.13 | 0.612 | 0.075 | ( 0.551) | 0.537 |
| 160 | 13.33 | 1.13 | 0.612 | 0.074 | ( 0.551) | 0.538 |
| 161 | 13.42 | 1.13 | 0.612 | 0.074 | ( 0.551) | 0.538 |
| 162 | 13.50 | 1.13 | 0.612 | 0.073 | ( 0.551) | 0.539 |
| 163 | 13.58 | 0.77 | 0.414 | 0.073 | ( 0.373) | 0.341 |
| 164 | 13.67 | 0.77 | 0.414 | 0.073 | ( 0.373) | 0.341 |
| 165 | 13.75 | 0.77 | 0.414 | 0.072 | ( 0.373) | 0.342 |
| 166 | 13.83 | 0.77 | 0.414 | 0.072 | ( 0.373) | 0.342 |
| 167 | 13.92 | 0.77 | 0.414 | 0.072 | ( 0.373) | 0.342 |
| 168 | 14.00 | 0.77 | 0.414 | 0.071 | ( 0.373) | 0.343 |
| 169 | 14.08 | 0.90 | 0.486 | 0.071 | ( 0.437) | 0.415 |
| 170 | 14.17 | 0.90 | 0.486 | 0.071 | ( 0.437) | 0.415 |
| 171 | 14.25 | 0.90 | 0.486 | 0.070 | ( 0.437) | 0.416 |
| 172 | 14.33 | 0.87 | 0.468 | 0.070 | ( 0.421) | 0.398 |
| 173 | 14.42 | 0.87 | 0.468 | 0.069 | ( 0.421) | 0.399 |
| 174 | 14.50 | 0.87 | 0.468 | 0.069 | ( 0.421) | 0.399 |
| 175 | 14.58 | 0.87 | 0.468 | 0.069 | ( 0.421) | 0.399 |
| 176 | 14.67 | 0.87 | 0.468 | 0.068 | ( 0.421) | 0.400 |
| 177 | 14.75 | 0.87 | 0.468 | 0.068 | ( 0.421) | 0.400 |
| 178 | 14.83 | 0.83 | 0.450 | 0.068 | ( 0.405) | 0.382 |
| 179 | 14.92 | 0.83 | 0.450 | 0.067 | ( 0.405) | 0.383 |
| 180 | 15.00 | 0.83 | 0.450 | 0.067 | ( 0.405) | 0.383 |
| 181 | 15.08 | 0.80 | 0.432 | 0.067 | ( 0.389) | 0.365 |
| 182 | 15.17 | 0.80 | 0.432 | 0.066 | ( 0.389) | 0.366 |
| 183 | 15.25 | 0.80 | 0.432 | 0.066 | ( 0.389) | 0.366 |
| 184 | 15.33 | 0.77 | 0.414 | 0.066 | ( 0.373) | 0.348 |
| 185 | 15.42 | 0.77 | 0.414 | 0.065 | ( 0.373) | 0.349 |
| 186 | 15.50 | 0.77 | 0.414 | 0.065 | ( 0.373) | 0.349 |
| 187 | 15.58 | 0.63 | 0.342 | 0.065 | ( 0.308) | 0.277 |
| 188 | 15.67 | 0.63 | 0.342 | 0.064 | ( 0.308) | 0.278 |
| 189 | 15.75 | 0.63 | 0.342 | 0.064 | ( 0.308) | 0.278 |
| 190 | 15.83 | 0.63 | 0.342 | 0.064 | ( 0.308) | 0.278 |
| 191 | 15.92 | 0.63 | 0.342 | 0.063 | ( 0.308) | 0.279 |
| 192 | 16.00 | 0.63 | 0.342 | 0.063 | ( 0.308) | 0.279 |
| 193 | 16.08 | 0.13 | 0.072 | 0.063 | ( 0.065) | 0.009 |
| 194 | 16.17 | 0.13 | 0.072 | 0.062 | ( 0.065) | 0.010 |
| 195 | 16.25 | 0.13 | 0.072 | 0.062 | ( 0.065) | 0.010 |
| 196 | 16.33 | 0.13 | 0.072 | 0.062 | ( 0.065) | 0.010 |
| 197 | 16.42 | 0.13 | 0.072 | 0.061 | ( 0.065) | 0.011 |
| 198 | 16.50 | 0.13 | 0.072 | 0.061 | ( 0.065) | 0.011 |
| 199 | 16.58 | 0.10 | 0.054 | ( 0.061) | 0.049 | 0.005 |
| 200 | 16.67 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 201 | 16.75 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 202 | 16.83 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 203 | 16.92 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 204 | 17.00 | 0.10 | 0.054 | ( 0.059) | 0.049 | 0.005 |
| 205 | 17.08 | 0.17 | 0.090 | 0.059 | ( 0.081) | 0.031 |
| 206 | 17.17 | 0.17 | 0.090 | 0.059 | ( 0.081) | 0.031 |
| 207 | 17.25 | 0.17 | 0.090 | 0.058 | ( 0.081) | 0.032 |
| 208 | 17.33 | 0.17 | 0.090 | 0.058 | ( 0.081) | 0.032 |
| 209 | 17.42 | 0.17 | 0.090 | 0.058 | ( 0.081) | 0.032 |
| 210 | 17.50 | 0.17 | 0.090 | 0.058 | ( 0.081) | 0.032 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 211 | 17.58 | 0.17 | 0.090 | | 0.057 | ( | 0.081) | 0.033 |
| 212 | 17.67 | 0.17 | 0.090 | | 0.057 | ( | 0.081) | 0.033 |
| 213 | 17.75 | 0.17 | 0.090 | | 0.057 | ( | 0.081) | 0.033 |
| 214 | 17.83 | 0.13 | 0.072 | | 0.056 | ( | 0.065) | 0.016 |
| 215 | 17.92 | 0.13 | 0.072 | | 0.056 | ( | 0.065) | 0.016 |
| 216 | 18.00 | 0.13 | 0.072 | | 0.056 | ( | 0.065) | 0.016 |
| 217 | 18.08 | 0.13 | 0.072 | | 0.056 | ( | 0.065) | 0.016 |
| 218 | 18.17 | 0.13 | 0.072 | | 0.055 | ( | 0.065) | 0.017 |
| 219 | 18.25 | 0.13 | 0.072 | | 0.055 | ( | 0.065) | 0.017 |
| 220 | 18.33 | 0.13 | 0.072 | | 0.055 | ( | 0.065) | 0.017 |
| 221 | 18.42 | 0.13 | 0.072 | | 0.054 | ( | 0.065) | 0.018 |
| 222 | 18.50 | 0.13 | 0.072 | | 0.054 | ( | 0.065) | 0.018 |
| 223 | 18.58 | 0.10 | 0.054 | ( | 0.054) | | 0.049 | 0.005 |
| 224 | 18.67 | 0.10 | 0.054 | ( | 0.054) | | 0.049 | 0.005 |
| 225 | 18.75 | 0.10 | 0.054 | ( | 0.053) | | 0.049 | 0.005 |
| 226 | 18.83 | 0.07 | 0.036 | ( | 0.053) | | 0.032 | 0.004 |
| 227 | 18.92 | 0.07 | 0.036 | ( | 0.053) | | 0.032 | 0.004 |
| 228 | 19.00 | 0.07 | 0.036 | ( | 0.053) | | 0.032 | 0.004 |
| 229 | 19.08 | 0.10 | 0.054 | ( | 0.052) | | 0.049 | 0.005 |
| 230 | 19.17 | 0.10 | 0.054 | ( | 0.052) | | 0.049 | 0.005 |
| 231 | 19.25 | 0.10 | 0.054 | ( | 0.052) | | 0.049 | 0.005 |
| 232 | 19.33 | 0.13 | 0.072 | | 0.052 | ( | 0.065) | 0.020 |
| 233 | 19.42 | 0.13 | 0.072 | | 0.051 | ( | 0.065) | 0.021 |
| 234 | 19.50 | 0.13 | 0.072 | | 0.051 | ( | 0.065) | 0.021 |
| 235 | 19.58 | 0.10 | 0.054 | ( | 0.051) | | 0.049 | 0.005 |
| 236 | 19.67 | 0.10 | 0.054 | ( | 0.051) | | 0.049 | 0.005 |
| 237 | 19.75 | 0.10 | 0.054 | ( | 0.050) | | 0.049 | 0.005 |
| 238 | 19.83 | 0.07 | 0.036 | ( | 0.050) | | 0.032 | 0.004 |
| 239 | 19.92 | 0.07 | 0.036 | ( | 0.050) | | 0.032 | 0.004 |
| 240 | 20.00 | 0.07 | 0.036 | ( | 0.050) | | 0.032 | 0.004 |
| 241 | 20.08 | 0.10 | 0.054 | ( | 0.050) | | 0.049 | 0.005 |
| 242 | 20.17 | 0.10 | 0.054 | ( | 0.049) | | 0.049 | 0.005 |
| 243 | 20.25 | 0.10 | 0.054 | ( | 0.049) | | 0.049 | 0.005 |
| 244 | 20.33 | 0.10 | 0.054 | ( | 0.049) | | 0.049 | 0.005 |
| 245 | 20.42 | 0.10 | 0.054 | ( | 0.049) | | 0.049 | 0.005 |
| 246 | 20.50 | 0.10 | 0.054 | | 0.049 | ( | 0.049) | 0.005 |
| 247 | 20.58 | 0.10 | 0.054 | | 0.048 | ( | 0.049) | 0.006 |
| 248 | 20.67 | 0.10 | 0.054 | | 0.048 | ( | 0.049) | 0.006 |
| 249 | 20.75 | 0.10 | 0.054 | | 0.048 | ( | 0.049) | 0.006 |
| 250 | 20.83 | 0.07 | 0.036 | ( | 0.048) | | 0.032 | 0.004 |
| 251 | 20.92 | 0.07 | 0.036 | ( | 0.048) | | 0.032 | 0.004 |
| 252 | 21.00 | 0.07 | 0.036 | ( | 0.047) | | 0.032 | 0.004 |
| 253 | 21.08 | 0.10 | 0.054 | | 0.047 | ( | 0.049) | 0.007 |
| 254 | 21.17 | 0.10 | 0.054 | | 0.047 | ( | 0.049) | 0.007 |
| 255 | 21.25 | 0.10 | 0.054 | | 0.047 | ( | 0.049) | 0.007 |
| 256 | 21.33 | 0.07 | 0.036 | ( | 0.047) | | 0.032 | 0.004 |
| 257 | 21.42 | 0.07 | 0.036 | ( | 0.046) | | 0.032 | 0.004 |
| 258 | 21.50 | 0.07 | 0.036 | ( | 0.046) | | 0.032 | 0.004 |
| 259 | 21.58 | 0.10 | 0.054 | | 0.046 | ( | 0.049) | 0.008 |
| 260 | 21.67 | 0.10 | 0.054 | | 0.046 | ( | 0.049) | 0.008 |
| 261 | 21.75 | 0.10 | 0.054 | | 0.046 | ( | 0.049) | 0.008 |
| 262 | 21.83 | 0.07 | 0.036 | ( | 0.046) | | 0.032 | 0.004 |
| 263 | 21.92 | 0.07 | 0.036 | ( | 0.045) | | 0.032 | 0.004 |
| 264 | 22.00 | 0.07 | 0.036 | ( | 0.045) | | 0.032 | 0.004 |
| 265 | 22.08 | 0.10 | 0.054 | | 0.045 | ( | 0.049) | 0.009 |
| 266 | 22.17 | 0.10 | 0.054 | | 0.045 | ( | 0.049) | 0.009 |
| 267 | 22.25 | 0.10 | 0.054 | | 0.045 | ( | 0.049) | 0.009 |
| 268 | 22.33 | 0.07 | 0.036 | ( | 0.045) | | 0.032 | 0.004 |
| 269 | 22.42 | 0.07 | 0.036 | ( | 0.045) | | 0.032 | 0.004 |
| 270 | 22.50 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 271 | 22.58 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 272 | 22.67 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 273 | 22.75 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 274 | 22.83 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 275 | 22.92 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 276 | 23.00 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 277 | 23.08 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 278 | 23.17 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 279 | 23.25 | 0.07 | 0.036 | ( | 0.043) | | 0.032 | 0.004 |
| 280 | 23.33 | 0.07 | 0.036 | ( | 0.043) | | 0.032 | 0.004 |
| 281 | 23.42 | 0.07 | 0.036 | ( | 0.043) | | 0.032 | 0.004 |
| 282 | 23.50 | 0.07 | 0.036 | ( | 0.043) | | 0.032 | 0.004 |
| 283 | 23.58 | 0.07 | 0.036 | ( | 0.043) | | 0.032 | 0.004 |
| 284 | 23.67 | 0.07 | 0.036 | ( | 0.043) | | 0.032 | 0.004 |
| 285 | 23.75 | 0.07 | 0.036 | ( | 0.043) | | 0.032 | 0.004 |
| 286 | 23.83 | 0.07 | 0.036 | ( | 0.043) | | 0.032 | 0.004 |
| 287 | 23.92 | 0.07 | 0.036 | ( | 0.043) | | 0.032 | 0.004 |
| 288 | 24.00 | 0.07 | 0.036 | ( | 0.043) | | 0.032 | 0.004 |

(Loss Rate Not Used)
Sum = 100.0 Sum = 33.6
Flood volume = Effective rainfall 2.80(In)
times area 0.9(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 1.70(In)
Total soil loss = 0.127(Ac.Ft)
Total rainfall = 4.50(In)
Flood volume = 9151.8 Cubic Feet
Total soil loss = 5549.7 Cubic Feet

Peak flow rate of this hydrograph = 0.489(CFS)

24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0000 | 0.00 | Q | | | | |
| 0+10 | 0.0000 | 0.00 | Q | | | | |
| 0+15 | 0.0001 | 0.00 | Q | | | | |
| 0+20 | 0.0001 | 0.00 | Q | | | | |
| 0+25 | 0.0001 | 0.00 | Q | | | | |
| 0+30 | 0.0002 | 0.00 | Q | | | | |
| 0+35 | 0.0002 | 0.00 | Q | | | | |
| 0+40 | 0.0002 | 0.00 | Q | | | | |
| 0+45 | 0.0003 | 0.00 | Q | | | | |
| 0+50 | 0.0003 | 0.01 | Q | | | | |
| 0+55 | 0.0003 | 0.01 | Q | | | | |
| 1+ 0 | 0.0004 | 0.01 | Q | | | | |
| 1+ 5 | 0.0004 | 0.01 | Q | | | | |
| 1+10 | 0.0005 | 0.00 | Q | | | | |
| 1+15 | 0.0005 | 0.00 | Q | | | | |
| 1+20 | 0.0005 | 0.00 | Q | | | | |
| 1+25 | 0.0006 | 0.00 | Q | | | | |
| 1+30 | 0.0006 | 0.00 | Q | | | | |
| 1+35 | 0.0006 | 0.00 | Q | | | | |
| 1+40 | 0.0007 | 0.00 | Q | | | | |
| 1+45 | 0.0007 | 0.00 | Q | | | | |
| 1+50 | 0.0007 | 0.01 | Q | | | | |
| 1+55 | 0.0008 | 0.01 | Q | | | | |
| 2+ 0 | 0.0008 | 0.01 | Q | | | | |
| 2+ 5 | 0.0009 | 0.01 | Q | | | | |
| 2+10 | 0.0009 | 0.01 | Q | | | | |
| 2+15 | 0.0010 | 0.01 | Q | | | | |
| 2+20 | 0.0010 | 0.01 | Q | | | | |
| 2+25 | 0.0011 | 0.01 | Q | | | | |
| 2+30 | 0.0011 | 0.01 | Q | | | | |
| 2+35 | 0.0012 | 0.01 | Q | | | | |
| 2+40 | 0.0012 | 0.01 | Q | | | | |
| 2+45 | 0.0013 | 0.01 | Q | | | | |
| 2+50 | 0.0013 | 0.01 | Q | | | | |
| 2+55 | 0.0014 | 0.01 | Q | | | | |
| 3+ 0 | 0.0014 | 0.01 | Q | | | | |
| 3+ 5 | 0.0015 | 0.01 | Q | | | | |
| 3+10 | 0.0015 | 0.01 | Q | | | | |
| 3+15 | 0.0016 | 0.01 | Q | | | | |
| 3+20 | 0.0017 | 0.01 | Q | | | | |
| 3+25 | 0.0017 | 0.01 | Q | | | | |
| 3+30 | 0.0018 | 0.01 | Q | | | | |
| 3+35 | 0.0018 | 0.01 | Q | | | | |
| 3+40 | 0.0019 | 0.01 | Q | | | | |
| 3+45 | 0.0019 | 0.01 | Q | | | | |
| 3+50 | 0.0020 | 0.01 | Q | | | | |
| 3+55 | 0.0021 | 0.01 | Q | | | | |
| 4+ 0 | 0.0021 | 0.01 | Q | | | | |
| 4+ 5 | 0.0022 | 0.01 | Q | | | | |
| 4+10 | 0.0023 | 0.01 | Q | | | | |
| 4+15 | 0.0023 | 0.01 | Q | | | | |
| 4+20 | 0.0024 | 0.01 | Q | | | | |
| 4+25 | 0.0025 | 0.01 | Q | | | | |
| 4+30 | 0.0026 | 0.01 | Q | | | | |
| 4+35 | 0.0027 | 0.01 | Q | | | | |
| 4+40 | 0.0027 | 0.01 | Q | | | | |
| 4+45 | 0.0028 | 0.01 | Q | | | | |

```
 4+50       0.0029      0.02  Q          |          |          |          |
 4+55       0.0031      0.02  Q          |          |          |          |
 5+ 0       0.0032      0.02  Q          |          |          |          |
 5+ 5       0.0033      0.01  Q          |          |          |          |
 5+10       0.0034      0.01  Q          |          |          |          |
 5+15       0.0035      0.01  Q          |          |          |          |
 5+20       0.0035      0.01  Q          |          |          |          |
 5+25       0.0036      0.01  Q          |          |          |          |
 5+30       0.0037      0.01  Q          |          |          |          |
 5+35       0.0038      0.02  Q          |          |          |          |
 5+40       0.0040      0.03  Q          |          |          |          |
 5+45       0.0042      0.03  Q          |          |          |          |
 5+50       0.0044      0.03  Q          |          |          |          |
 5+55       0.0046      0.03  Q          |          |          |          |
 6+ 0       0.0048      0.03  Q          |          |          |          |
 6+ 5       0.0050      0.04  Q          |          |          |          |
 6+10       0.0054      0.05  QV         |          |          |          |
 6+15       0.0057      0.05  QV         |          |          |          |
 6+20       0.0060      0.05  QV         |          |          |          |
 6+25       0.0063      0.05  QV         |          |          |          |
 6+30       0.0066      0.05  QV         |          |          |          |
 6+35       0.0070      0.06  QV         |          |          |          |
 6+40       0.0075      0.06  QV         |          |          |          |
 6+45       0.0079      0.06  QV         |          |          |          |
 6+50       0.0084      0.06  QV         |          |          |          |
 6+55       0.0088      0.07  QV         |          |          |          |
 7+ 0       0.0093      0.07  QV         |          |          |          |
 7+ 5       0.0097      0.07  QV         |          |          |          |
 7+10       0.0102      0.07  QV         |          |          |          |
 7+15       0.0106      0.07  Q V        |          |          |          |
 7+20       0.0112      0.08  Q V        |          |          |          |
 7+25       0.0118      0.08  Q V        |          |          |          |
 7+30       0.0124      0.08  Q V        |          |          |          |
 7+35       0.0130      0.10  Q V        |          |          |          |
 7+40       0.0137      0.10  Q V        |          |          |          |
 7+45       0.0144      0.10  Q V        |          |          |          |
 7+50       0.0152      0.11  Q V        |          |          |          |
 7+55       0.0160      0.12  Q  V       |          |          |          |
 8+ 0       0.0169      0.12  Q  V       |          |          |          |
 8+ 5       0.0179      0.14  Q  V       |          |          |          |
 8+10       0.0189      0.15  Q  V       |          |          |          |
 8+15       0.0200      0.15  Q  V       |          |          |          |
 8+20       0.0210      0.15  Q   V      |          |          |          |
 8+25       0.0221      0.15  Q   V      |          |          |          |
 8+30       0.0232      0.16  Q   V      |          |          |          |
 8+35       0.0243      0.17  Q   V      |          |          |          |
 8+40       0.0255      0.17  Q   V      |          |          |          |
 8+45       0.0267      0.17  Q    V     |          |          |          |
 8+50       0.0280      0.18  Q    V     |          |          |          |
 8+55       0.0293      0.19  Q    V     |          |          |          |
 9+ 0       0.0306      0.19  Q    V     |          |          |          |
 9+ 5       0.0321      0.21  Q     V    |          |          |          |
 9+10       0.0336      0.22  Q     V    |          |          |          |
 9+15       0.0352      0.22  Q     V    |          |          |          |
 9+20       0.0368      0.24  Q      V   |          |          |          |
 9+25       0.0385      0.24  Q      V   |          |          |          |
 9+30       0.0401      0.24  Q      V   |          |          |          |
 9+35       0.0419      0.25  |Q     V   |          |          |          |
 9+40       0.0437      0.26  |Q      V  |          |          |          |
 9+45       0.0454      0.26  |Q      V  |          |          |          |
 9+50       0.0473      0.27  |Q       V |          |          |          |
 9+55       0.0492      0.28  |Q       V |          |          |          |
10+ 0       0.0511      0.28  |Q       V |          |          |          |
10+ 5       0.0525      0.20  Q        V |          |          |          |
10+10       0.0536      0.16  Q         V          |          |          |
10+15       0.0547      0.16  Q         V          |          |          |
10+20       0.0559      0.16  Q         V          |          |          |
10+25       0.0570      0.16  Q         V          |          |          |
10+30       0.0581      0.17  Q         |V         |          |          |
10+35       0.0597      0.22  Q         |V         |          |          |
10+40       0.0614      0.25  Q         |V         |          |          |
10+45       0.0631      0.25  Q         | V        |          |          |
10+50       0.0648      0.25  Q         | V        |          |          |
10+55       0.0665      0.25  Q         | V        |          |          |
11+ 0       0.0682      0.25  Q         | V        |          |          |
11+ 5       0.0699      0.24  Q         |  V       |          |          |
11+10       0.0715      0.23  Q         |  V       |          |          |
11+15       0.0731      0.23  Q         |  V       |          |          |
```

```
11+20       0.0747      0.23  Q          |    V      |           |           |
11+25       0.0763      0.23  Q          |    V      |           |           |
11+30       0.0779      0.23  Q          |    V      |           |           |
11+35       0.0794      0.21  Q          |     V     |           |           |
11+40       0.0808      0.20  Q          |     V     |           |           |
11+45       0.0822      0.20  Q          |     V     |           |           |
11+50       0.0837      0.22  Q          |     V     |           |           |
11+55       0.0852      0.22  Q          |      V    |           |           |
12+ 0       0.0867      0.22  Q          |      V    |           |           |
12+ 5       0.0888      0.30  |Q         |      V    |           |           |
12+10       0.0911      0.34  |Q         |       V   |           |           |
12+15       0.0934      0.34  |Q         |       V   |           |           |
12+20       0.0958      0.35  |Q         |        V  |           |           |
12+25       0.0982      0.35  |Q         |        V  |           |           |
12+30       0.1007      0.35  |Q         |         V |           |           |
12+35       0.1033      0.38  |Q         |         V |           |           |
12+40       0.1059      0.39  |Q         |          V|           |           |
12+45       0.1086      0.39  |Q         |          V|           |           |
12+50       0.1114      0.40  |Q         |           |V          |           |
12+55       0.1142      0.40  |Q         |           |V          |           |
13+ 0       0.1169      0.40  |Q         |           | V         |           |
13+ 5       0.1201      0.46  |Q         |           | V         |           |
13+10       0.1235      0.49  |Q         |           |  V        |           |
13+15       0.1268      0.49  |Q         |           |   V       |           |
13+20       0.1302      0.49  |Q         |           |   V       |           |
13+25       0.1336      0.49  |Q         |           |    V      |           |
13+30       0.1369      0.49  |Q         |           |     V     |           |
13+35       0.1394      0.36  |Q         |           |     V     |           |
13+40       0.1416      0.31  |Q         |           |     V     |           |
13+45       0.1437      0.31  |Q         |           |      V    |           |
13+50       0.1458      0.31  |Q         |           |      V    |           |
13+55       0.1480      0.31  |Q         |           |       V   |           |
14+ 0       0.1501      0.31  |Q         |           |       V   |           |
14+ 5       0.1526      0.36  |Q         |           |        V  |           |
14+10       0.1552      0.38  |Q         |           |        V  |           |
14+15       0.1578      0.38  |Q         |           |         V |           |
14+20       0.1603      0.37  |Q         |           |         V |           |
14+25       0.1628      0.36  |Q         |           |         V |           |
14+30       0.1653      0.36  |Q         |           |          |V          |
14+35       0.1678      0.36  |Q         |           |          |V          |
14+40       0.1703      0.36  |Q         |           |          | V         |
14+45       0.1728      0.36  |Q         |           |          | V         |
14+50       0.1752      0.35  |Q         |           |          |  V        |
14+55       0.1776      0.35  |Q         |           |          |  V        |
15+ 0       0.1800      0.35  |Q         |           |          |   V       |
15+ 5       0.1823      0.34  |Q         |           |          |   V       |
15+10       0.1846      0.33  |Q         |           |          |    V      |
15+15       0.1868      0.33  |Q         |           |          |    V      |
15+20       0.1891      0.32  |Q         |           |          |    V      |
15+25       0.1912      0.32  |Q         |           |          |     V     |
15+30       0.1934      0.32  |Q         |           |          |     V     |
15+35       0.1953      0.27  |Q         |           |          |      V    |
15+40       0.1970      0.25  |Q         |           |          |      V    |
15+45       0.1988      0.25  |Q         |           |          |      V    |
15+50       0.2005      0.25  |Q         |           |          |       V   |
15+55       0.2022      0.25  |Q         |           |          |       V   |
16+ 0       0.2040      0.25  |Q         |           |          |       V   |
16+ 5       0.2045      0.08  Q          |           |          |       V   |
16+10       0.2046      0.01  Q          |           |          |       V   |
16+15       0.2047      0.01  Q          |           |          |       V   |
16+20       0.2047      0.01  Q          |           |          |       V   |
16+25       0.2048      0.01  Q          |           |          |       V   |
16+30       0.2049      0.01  Q          |           |          |        V  |
16+35       0.2049      0.01  Q          |           |          |        V  |
16+40       0.2049      0.00  Q          |           |          |        V  |
16+45       0.2050      0.00  Q          |           |          |        V  |
16+50       0.2050      0.00  Q          |           |          |        V  |
16+55       0.2050      0.00  Q          |           |          |        V  |
17+ 0       0.2051      0.00  Q          |           |          |        V  |
17+ 5       0.2052      0.02  Q          |           |          |        V  |
17+10       0.2054      0.03  Q          |           |          |        V  |
17+15       0.2056      0.03  Q          |           |          |        V  |
17+20       0.2058      0.03  Q          |           |          |        V  |
17+25       0.2060      0.03  Q          |           |          |        V  |
17+30       0.2062      0.03  Q          |           |          |        V  |
17+35       0.2064      0.03  Q          |           |          |        V  |
17+40       0.2066      0.03  Q          |           |          |        V  |
17+45       0.2068      0.03  Q          |           |          |        V  |
```

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+50 | 0.2070 | 0.02 | Q | \| | \| | \| | V\| |
| 17+55 | 0.2071 | 0.01 | Q | \| | \| | \| | V\| |
| 18+ 0 | 0.2072 | 0.01 | Q | \| | \| | \| | V\| |
| 18+ 5 | 0.2073 | 0.01 | Q | \| | \| | \| | V\| |
| 18+10 | 0.2074 | 0.02 | Q | \| | \| | \| | V\| |
| 18+15 | 0.2075 | 0.02 | Q | \| | \| | \| | V\| |
| 18+20 | 0.2076 | 0.02 | Q | \| | \| | \| | V\| |
| 18+25 | 0.2077 | 0.02 | Q | \| | \| | \| | V\| |
| 18+30 | 0.2078 | 0.02 | Q | \| | \| | \| | V\| |
| 18+35 | 0.2079 | 0.01 | Q | \| | \| | \| | V\| |
| 18+40 | 0.2079 | 0.00 | Q | \| | \| | \| | V\| |
| 18+45 | 0.2079 | 0.00 | Q | \| | \| | \| | V\| |
| 18+50 | 0.2079 | 0.00 | Q | \| | \| | \| | V\| |
| 18+55 | 0.2080 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 0 | 0.2080 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 5 | 0.2080 | 0.00 | Q | \| | \| | \| | V\| |
| 19+10 | 0.2081 | 0.00 | Q | \| | \| | \| | V\| |
| 19+15 | 0.2081 | 0.00 | Q | \| | \| | \| | V\| |
| 19+20 | 0.2082 | 0.01 | Q | \| | \| | \| | V\| |
| 19+25 | 0.2083 | 0.02 | Q | \| | \| | \| | V\| |
| 19+30 | 0.2084 | 0.02 | Q | \| | \| | \| | V\| |
| 19+35 | 0.2085 | 0.01 | Q | \| | \| | \| | V\| |
| 19+40 | 0.2085 | 0.00 | Q | \| | \| | \| | V\| |
| 19+45 | 0.2086 | 0.00 | Q | \| | \| | \| | V\| |
| 19+50 | 0.2086 | 0.00 | Q | \| | \| | \| | V\| |
| 19+55 | 0.2086 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 0 | 0.2086 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 5 | 0.2087 | 0.00 | Q | \| | \| | \| | V\| |
| 20+10 | 0.2087 | 0.00 | Q | \| | \| | \| | V\| |
| 20+15 | 0.2087 | 0.00 | Q | \| | \| | \| | V\| |
| 20+20 | 0.2088 | 0.00 | Q | \| | \| | \| | V\| |
| 20+25 | 0.2088 | 0.00 | Q | \| | \| | \| | V\| |
| 20+30 | 0.2088 | 0.00 | Q | \| | \| | \| | V\| |
| 20+35 | 0.2089 | 0.01 | Q | \| | \| | \| | V\| |
| 20+40 | 0.2089 | 0.01 | Q | \| | \| | \| | V\| |
| 20+45 | 0.2090 | 0.01 | Q | \| | \| | \| | V\| |
| 20+50 | 0.2090 | 0.00 | Q | \| | \| | \| | V\| |
| 20+55 | 0.2090 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 0 | 0.2090 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 5 | 0.2091 | 0.01 | Q | \| | \| | \| | V\| |
| 21+10 | 0.2091 | 0.01 | Q | \| | \| | \| | V\| |
| 21+15 | 0.2092 | 0.01 | Q | \| | \| | \| | V\| |
| 21+20 | 0.2092 | 0.00 | Q | \| | \| | \| | V\| |
| 21+25 | 0.2092 | 0.00 | Q | \| | \| | \| | V\| |
| 21+30 | 0.2092 | 0.00 | Q | \| | \| | \| | V\| |
| 21+35 | 0.2093 | 0.01 | Q | \| | \| | \| | V\| |
| 21+40 | 0.2093 | 0.01 | Q | \| | \| | \| | V\| |
| 21+45 | 0.2094 | 0.01 | Q | \| | \| | \| | V\| |
| 21+50 | 0.2094 | 0.00 | Q | \| | \| | \| | V\| |
| 21+55 | 0.2094 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 0 | 0.2094 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 5 | 0.2095 | 0.01 | Q | \| | \| | \| | V\| |
| 22+10 | 0.2095 | 0.01 | Q | \| | \| | \| | V\| |
| 22+15 | 0.2096 | 0.01 | Q | \| | \| | \| | V\| |
| 22+20 | 0.2096 | 0.00 | Q | \| | \| | \| | V\| |
| 22+25 | 0.2097 | 0.00 | Q | \| | \| | \| | V\| |
| 22+30 | 0.2097 | 0.00 | Q | \| | \| | \| | V\| |
| 22+35 | 0.2097 | 0.00 | Q | \| | \| | \| | V\| |
| 22+40 | 0.2097 | 0.00 | Q | \| | \| | \| | V\| |
| 22+45 | 0.2098 | 0.00 | Q | \| | \| | \| | V\| |
| 22+50 | 0.2098 | 0.00 | Q | \| | \| | \| | V\| |
| 22+55 | 0.2098 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 0 | 0.2098 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 5 | 0.2098 | 0.00 | Q | \| | \| | \| | V\| |
| 23+10 | 0.2099 | 0.00 | Q | \| | \| | \| | V\| |
| 23+15 | 0.2099 | 0.00 | Q | \| | \| | \| | V\| |
| 23+20 | 0.2099 | 0.00 | Q | \| | \| | \| | V\| |
| 23+25 | 0.2099 | 0.00 | Q | \| | \| | \| | V\| |
| 23+30 | 0.2100 | 0.00 | Q | \| | \| | \| | V\| |
| 23+35 | 0.2100 | 0.00 | Q | \| | \| | \| | V\| |
| 23+40 | 0.2100 | 0.00 | Q | \| | \| | \| | V\| |
| 23+45 | 0.2100 | 0.00 | Q | \| | \| | \| | V\| |
| 23+50 | 0.2100 | 0.00 | Q | \| | \| | \| | V\| |
| 23+55 | 0.2101 | 0.00 | Q | \| | \| | \| | V\| |
| 24+ 0 | 0.2101 | 0.00 | Q | \| | \| | \| | V\| |
| 24+ 5 | 0.2101 | 0.00 | Q | \| | \| | \| | V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX191100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 19
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 5.20(Ac.) = 0.008 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 5.20(Ac.) = 0.008 Sq. Mi.
Length along longest watercourse = 953.00(Ft.)
Length along longest watercourse measured to centroid = 367.00(Ft.)
Length along longest watercourse = 0.180 Mi.
Length along longest watercourse measured to centroid = 0.070 Mi.
Difference in elevation = 138.00(Ft.)
Slope along watercourse = 764.5750 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.045 Hr.
Lag time = 2.70 Min.
25% of lag time = 0.68 Min.
40% of lag time = 1.08 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 5.20 | 0.49 | 2.55 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 5.20 | 1.20 | 6.24 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.490(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 5.200 | 83.94 | 0.000 |

Total Area Entered = 5.20(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.9 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

---

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 184.911 | 39.118 | 2.050 |
| 2 0.167 | 369.822 | 51.410 | 2.694 |
| 3 0.250 | 554.733 | 7.987 | 0.419 |
| 4 0.333 | 739.644 | 1.485 | 0.078 |
| | Sum = | 100.000 Sum= | 5.241 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 4.20 | 0.605 | 0.086 | ( 0.544) | 0.519 |
| 2 0.17 | 4.30 | 0.619 | 0.086 | ( 0.557) | 0.533 |
| 3 0.25 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 4 0.33 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 5 0.42 | 5.80 | 0.835 | 0.086 | ( 0.752) | 0.749 |
| 6 0.50 | 6.50 | 0.936 | 0.086 | ( 0.842) | 0.850 |
| 7 0.58 | 7.40 | 1.066 | 0.086 | ( 0.959) | 0.979 |
| 8 0.67 | 8.60 | 1.238 | 0.086 | ( 1.115) | 1.152 |
| 9 0.75 | 12.30 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 10 0.83 | 29.10 | 4.190 | 0.086 | ( 3.771) | 4.104 |
| 11 0.92 | 6.80 | 0.979 | 0.086 | ( 0.881) | 0.893 |
| 12 1.00 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 13.4 |

Flood volume = Effective rainfall 1.11(In)
times area 5.2(Ac.)/[(In)/(Ft.)] = 0.5(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.037(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 21021.7 Cubic Feet
Total soil loss = 1628.4 Cubic Feet

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Peak flow rate of this hydrograph = 13.689(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 5.0 10.0 15.0 20.0 |
|---|---|---|---|
| 0+ 5 | 0.0073 | 1.06 | V Q |
| 0+10 | 0.0245 | 2.49 | V Q |
| 0+15 | 0.0448 | 2.95 | V Q |
| 0+20 | 0.0673 | 3.27 | VQ |
| 0+25 | 0.0918 | 3.55 | Q |
| 0+30 | 0.1199 | 4.08 | QV |
| 0+35 | 0.1520 | 4.66 | Q V |
| 0+40 | 0.1893 | 5.42 | Q V |
| 0+45 | 0.2378 | 7.04 | Q V |
| 0+50 | 0.3309 | 13.52 | Q |
| 0+55 | 0.4251 | 13.69 | Q V |
| 1+ 0 | 0.4634 | 5.56 | Q V |
| 1+ 5 | 0.4799 | 2.40 | Q V |
| 1+10 | 0.4823 | 0.33 | Q V |
| 1+15 | 0.4826 | 0.05 | Q V |

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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX193100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 19
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 5.20(Ac.) = 0.008 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 5.20(Ac.) = 0.008 Sq. Mi.
Length along longest watercourse = 953.00(Ft.)
Length along longest watercourse measured to centroid = 367.00(Ft.)
Length along longest watercourse = 0.180 Mi.
Length along longest watercourse measured to centroid = 0.070 Mi.
Difference in elevation = 138.00(Ft.)
Slope along watercourse = 764.5750 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.045 Hr.
Lag time = 2.70 Min.
25% of lag time = 0.68 Min.
40% of lag time = 1.08 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 5.20 | 0.80 | 4.16 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 5.20 | 1.80 | 9.36 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 5.200 | 83.94 | 0.000 |

Total Area Entered = 5.20(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.9 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 184.911 | 39.118 | 2.050 |
| 2 | 0.167 | 369.822 | 51.410 | 2.694 |
| 3 | 0.250 | 554.733 | 7.987 | 0.419 |
| 4 | 0.333 | 739.644 | 1.485 | 0.078 |
| | | Sum = 100.000 | Sum= | 5.241 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.281 | 0.086 | ( 0.253) | 0.195 |
| 2 | 0.17 | 1.30 | 0.281 | 0.086 | ( 0.253) | 0.195 |
| 3 | 0.25 | 1.10 | 0.238 | 0.086 | ( 0.214) | 0.151 |
| 4 | 0.33 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 5 | 0.42 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 6 | 0.50 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 7 | 0.58 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 8 | 0.67 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 9 | 0.75 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 10 | 0.83 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 11 | 0.92 | 1.60 | 0.346 | 0.086 | ( 0.311) | 0.259 |
| 12 | 1.00 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 13 | 1.08 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 14 | 1.17 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 15 | 1.25 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 16 | 1.33 | 2.00 | 0.432 | 0.086 | ( 0.389) | 0.346 |
| 17 | 1.42 | 2.60 | 0.562 | 0.086 | ( 0.505) | 0.475 |
| 18 | 1.50 | 2.70 | 0.583 | 0.086 | ( 0.525) | 0.497 |
| 19 | 1.58 | 2.40 | 0.518 | 0.086 | ( 0.467) | 0.432 |
| 20 | 1.67 | 2.70 | 0.583 | 0.086 | ( 0.525) | 0.497 |
| 21 | 1.75 | 3.30 | 0.713 | 0.086 | ( 0.642) | 0.627 |
| 22 | 1.83 | 3.10 | 0.670 | 0.086 | ( 0.603) | 0.583 |
| 23 | 1.92 | 2.90 | 0.626 | 0.086 | ( 0.564) | 0.540 |
| 24 | 2.00 | 3.00 | 0.648 | 0.086 | ( 0.583) | 0.562 |
| 25 | 2.08 | 3.10 | 0.670 | 0.086 | ( 0.603) | 0.583 |
| 26 | 2.17 | 4.20 | 0.907 | 0.086 | ( 0.816) | 0.821 |
| 27 | 2.25 | 5.00 | 1.080 | 0.086 | ( 0.972) | 0.994 |
| 28 | 2.33 | 3.50 | 0.756 | 0.086 | ( 0.680) | 0.670 |
| 29 | 2.42 | 6.80 | 1.469 | 0.086 | ( 1.322) | 1.382 |
| 30 | 2.50 | 7.30 | 1.577 | 0.086 | ( 1.419) | 1.490 |
| 31 | 2.58 | 8.20 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 32 | 2.67 | 5.90 | 1.274 | 0.086 | ( 1.147) | 1.188 |
| 33 | 2.75 | 2.00 | 0.432 | 0.086 | ( 0.389) | 0.346 |
| 34 | 2.83 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 35 | 2.92 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 36 | 3.00 | 0.60 | 0.130 | 0.086 | ( 0.117) | 0.043 |
| | | (Loss Rate Not Used) | | | |
| Sum = | | 100.0 | | | Sum = 18.5 |

Flood volume = Effective rainfall 1.54(In)
times area 5.2(Ac.)/[(In)/(Ft.)] = 0.7(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.112(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 29090.8 Cubic Feet
Total soil loss = 4885.2 Cubic Feet

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Peak flow rate of this hydrograph = 8.105(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0027 | 0.40 | VQ | | | | |
| 0+10 | 0.0091 | 0.92 | V Q | | | | |
| 0+15 | 0.0154 | 0.92 | V Q | | | | |
| 0+20 | 0.0222 | 0.99 | V Q | | | | |
| 0+25 | 0.0306 | 1.21 | V Q | | | | |
| 0+30 | 0.0400 | 1.37 | V Q | | | | |
| 0+35 | 0.0498 | 1.42 | V Q | | | | |
| 0+40 | 0.0595 | 1.41 | V Q | | | | |
| 0+45 | 0.0702 | 1.56 | V Q | | | | |
| 0+50 | 0.0802 | 1.45 | VQ | | | | |
| 0+55 | 0.0893 | 1.32 | Q | | | | |
| 1+ 0 | 0.0992 | 1.44 | Q | | | | |
| 1+ 5 | 0.1112 | 1.74 | Q | | | | |
| 1+10 | 0.1250 | 1.99 | Q | | | | |
| 1+15 | 0.1390 | 2.03 | Q | | | | |
| 1+20 | 0.1524 | 1.95 | Q V | | | | |
| 1+25 | 0.1669 | 2.10 | QV | | | | |
| 1+30 | 0.1839 | 2.48 | Q V | | | | |
| 1+35 | 0.2008 | 2.45 | Q V | | | | |
| 1+40 | 0.2175 | 2.43 | Q V | | | | |
| 1+45 | 0.2371 | 2.84 | Q V | | | | |
| 1+50 | 0.2586 | 3.13 | Q V | | | | |
| 1+55 | 0.2792 | 2.98 | Q V | | | | |
| 2+ 0 | 0.2992 | 2.90 | Q V | | | | |
| 2+ 5 | 0.3197 | 2.98 | Q V | | | | |
| 2+10 | 0.3440 | 3.53 | Q V | | | | |
| 2+15 | 0.3753 | 4.54 | Q V | | | | |
| 2+20 | 0.4059 | 4.44 | Q V | | | | |
| 2+25 | 0.4411 | 5.12 | Q V | | | | |
| 2+30 | 0.4903 | 7.14 | QV | | | | |
| 2+35 | 0.5462 | 8.10 | Q | | | | |
| 2+40 | 0.5993 | 7.71 | Q V | | | | |
| 2+45 | 0.6319 | 4.73 | Q V | | | | |
| 2+50 | 0.6469 | 2.18 | Q V | | | | |
| 2+55 | 0.6584 | 1.67 | Q V | | | | |
| 3+ 0 | 0.6657 | 1.06 | Q V | | | | |
| 3+ 5 | 0.6675 | 0.27 | Q V | | | | |
| 3+10 | 0.6678 | 0.04 | Q V | | | | |
| 3+15 | 0.6678 | 0.00 | Q V | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX196100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 19
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 5.20(Ac.) = 0.008 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 5.20(Ac.) = 0.008 Sq. Mi.
Length along longest watercourse = 953.00(Ft.)
Length along longest watercourse measured to centroid = 367.00(Ft.)
Length along longest watercourse = 0.180 Mi.
Length along longest watercourse measured to centroid = 0.070 Mi.
Difference in elevation = 138.00(Ft.)
Slope along watercourse = 764.5750 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.045 Hr.
Lag time = 2.70 Min.
25% of lag time = 0.68 Min.
40% of lag time = 1.08 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 5.20 | 1.12 | 5.82 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 5.20 | 2.50 | 13.00 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.120(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 5.200 | 83.94 | 0.000 |

Total Area Entered = 5.20(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.9 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 184.911 | 39.118 | 2.050 |
| 2 0.167 | 369.822 | 51.410 | 2.694 |
| 3 0.250 | 554.733 | 7.987 | 0.419 |
| 4 0.333 | 739.644 | 1.485 | 0.078 |
| | Sum = 100.000 | Sum= | 5.241 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.086 | ( 0.135) | 0.064 |
| 2 | 0.17 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 3 | 0.25 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 4 | 0.33 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 5 | 0.42 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 6 | 0.50 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 7 | 0.58 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 8 | 0.67 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 9 | 0.75 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 10 | 0.83 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 11 | 0.92 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 12 | 1.00 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 13 | 1.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 14 | 1.17 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 15 | 1.25 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 16 | 1.33 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 17 | 1.42 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 18 | 1.50 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 19 | 1.58 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 20 | 1.67 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 21 | 1.75 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 22 | 1.83 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 23 | 1.92 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 24 | 2.00 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 25 | 2.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 26 | 2.17 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 27 | 2.25 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 28 | 2.33 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 29 | 2.42 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 30 | 2.50 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 31 | 2.58 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 32 | 2.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 33 | 2.75 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 34 | 2.83 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 35 | 2.92 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 36 | 3.00 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 37 | 3.08 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 38 | 3.17 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 39 | 3.25 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 40 | 3.33 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 41 | 3.42 | 1.20 | 0.360 | 0.086 | ( 0.324) | 0.274 |
| 42 | 3.50 | 1.30 | 0.390 | 0.086 | ( 0.351) | 0.304 |
| 43 | 3.58 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 44 | 3.67 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 45 | 3.75 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 46 | 3.83 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 47 | 3.92 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 48 | 4.00 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 49 | 4.08 | 1.70 | 0.510 | 0.086 | ( 0.459) | 0.424 |
| 50 | 4.17 | 1.80 | 0.540 | 0.086 | ( 0.486) | 0.454 |
| 51 | 4.25 | 1.90 | 0.570 | 0.086 | ( 0.513) | 0.484 |
| 52 | 4.33 | 2.00 | 0.600 | 0.086 | ( 0.540) | 0.514 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 53 | 4.42 | 2.10 | 0.630 | 0.086 | ( 0.567) | | 0.544 |
| 54 | 4.50 | 2.10 | 0.630 | 0.086 | ( 0.567) | | 0.544 |
| 55 | 4.58 | 2.20 | 0.660 | 0.086 | ( 0.594) | | 0.574 |
| 56 | 4.67 | 2.30 | 0.690 | 0.086 | ( 0.621) | | 0.604 |
| 57 | 4.75 | 2.40 | 0.720 | 0.086 | ( 0.648) | | 0.634 |
| 58 | 4.83 | 2.40 | 0.720 | 0.086 | ( 0.648) | | 0.634 |
| 59 | 4.92 | 2.50 | 0.750 | 0.086 | ( 0.675) | | 0.664 |
| 60 | 5.00 | 2.60 | 0.780 | 0.086 | ( 0.702) | | 0.694 |
| 61 | 5.08 | 3.10 | 0.930 | 0.086 | ( 0.837) | | 0.844 |
| 62 | 5.17 | 3.60 | 1.080 | 0.086 | ( 0.972) | | 0.994 |
| 63 | 5.25 | 3.90 | 1.170 | 0.086 | ( 1.053) | | 1.084 |
| 64 | 5.33 | 4.20 | 1.260 | 0.086 | ( 1.134) | | 1.174 |
| 65 | 5.42 | 4.70 | 1.410 | 0.086 | ( 1.269) | | 1.324 |
| 66 | 5.50 | 5.60 | 1.680 | 0.086 | ( 1.512) | | 1.594 |
| 67 | 5.58 | 1.90 | 0.570 | 0.086 | ( 0.513) | | 0.484 |
| 68 | 5.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | | 0.184 |
| 69 | 5.75 | 0.60 | 0.180 | 0.086 | ( 0.162) | | 0.094 |
| 70 | 5.83 | 0.50 | 0.150 | 0.086 | ( 0.135) | | 0.064 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.086) | 0.081 | | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.086) | 0.054 | | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.8

Flood volume = Effective rainfall 1.99(In)
times area 5.2(Ac.)/[(In)/(Ft.)] = 0.9(Ac.Ft)
Total soil loss = 0.51(In)
Total soil loss = 0.223(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 37477.8 Cubic Feet
Total soil loss = 9711.3 Cubic Feet

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Peak flow rate of this hydrograph = 7.413(CFS)

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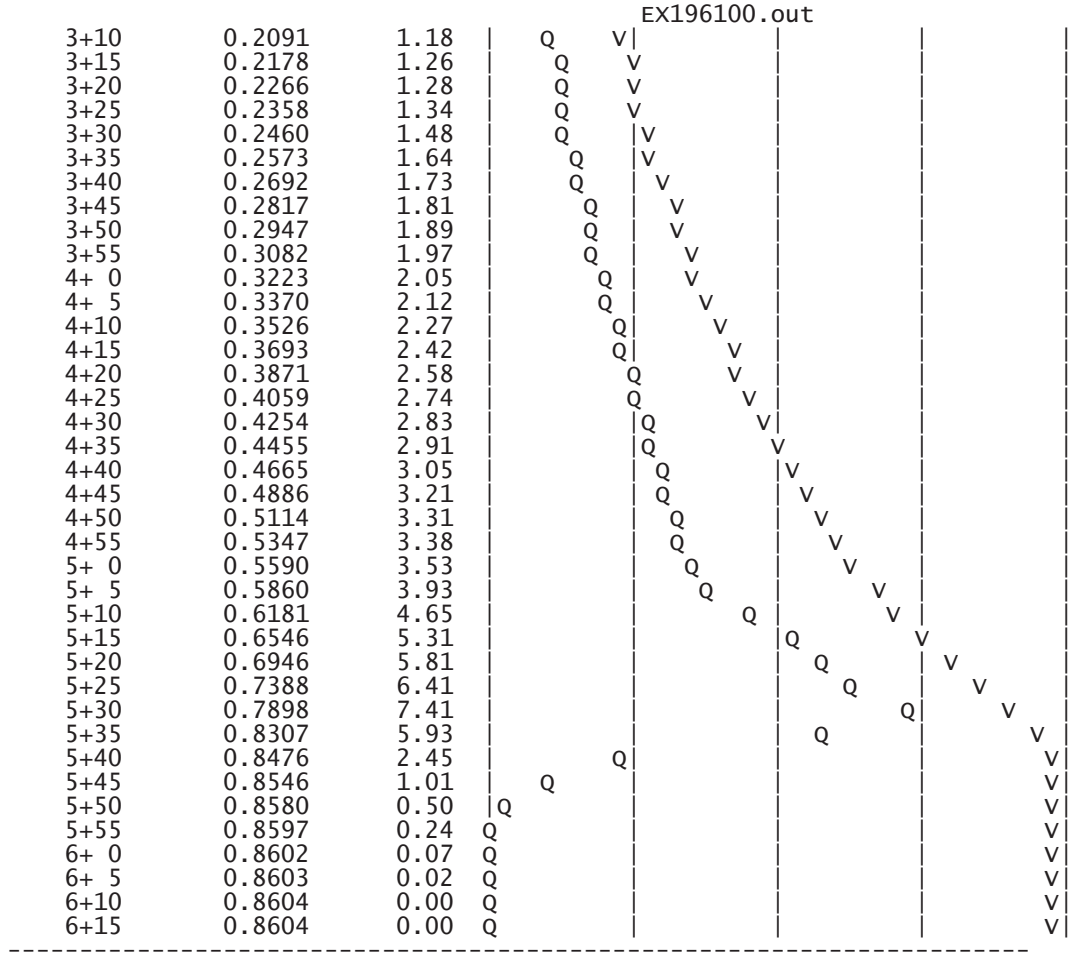
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

---

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0009 | 0.13 | Q | \| | \| | \| | \| |
| 0+10 | 0.0034 | 0.36 | VQ | \| | \| | \| | \| |
| 0+15 | 0.0067 | 0.47 | VQ | \| | \| | \| | \| |
| 0+20 | 0.0100 | 0.49 | VQ | \| | \| | \| | \| |
| 0+25 | 0.0134 | 0.49 | VQ | \| | \| | \| | \| |
| 0+30 | 0.0172 | 0.55 | V Q | \| | \| | \| | \| |
| 0+35 | 0.0216 | 0.63 | \|VQ | \| | \| | \| | \| |
| 0+40 | 0.0260 | 0.65 | \|VQ | \| | \| | \| | \| |
| 0+45 | 0.0305 | 0.65 | \|VQ | \| | \| | \| | \| |
| 0+50 | 0.0350 | 0.65 | \|VQ | \| | \| | \| | \| |
| 0+55 | 0.0394 | 0.65 | \|VQ | \| | \| | \| | \| |
| 1+ 0 | 0.0443 | 0.71 | \| Q | \| | \| | \| | \| |
| 1+ 5 | 0.0498 | 0.79 | \| VQ | \| | \| | \| | \| |
| 1+10 | 0.0553 | 0.80 | \| VQ | \| | \| | \| | \| |
| 1+15 | 0.0609 | 0.81 | \| VQ | \| | \| | \| | \| |
| 1+20 | 0.0664 | 0.81 | \| Q | \| | \| | \| | \| |
| 1+25 | 0.0720 | 0.81 | \| Q | \| | \| | \| | \| |
| 1+30 | 0.0775 | 0.81 | \| Q | \| | \| | \| | \| |
| 1+35 | 0.0831 | 0.81 | \| Q | \| | \| | \| | \| |
| 1+40 | 0.0886 | 0.81 | \| QV | \| | \| | \| | \| |
| 1+45 | 0.0942 | 0.81 | \| QV | \| | \| | \| | \| |
| 1+50 | 0.0997 | 0.81 | \| QV | \| | \| | \| | \| |
| 1+55 | 0.1053 | 0.81 | \| QV | \| | \| | \| | \| |
| 2+ 0 | 0.1113 | 0.87 | \| Q V | \| | \| | \| | \| |
| 2+ 5 | 0.1174 | 0.89 | \| Q V | \| | \| | \| | \| |
| 2+10 | 0.1234 | 0.88 | \| Q V | \| | \| | \| | \| |
| 2+15 | 0.1300 | 0.95 | \| Q V | \| | \| | \| | \| |
| 2+20 | 0.1366 | 0.96 | \| Q V | \| | \| | \| | \| |
| 2+25 | 0.1432 | 0.96 | \| Q V | \| | \| | \| | \| |
| 2+30 | 0.1499 | 0.96 | \| Q V | \| | \| | \| | \| |
| 2+35 | 0.1565 | 0.96 | \| Q V | \| | \| | \| | \| |
| 2+40 | 0.1631 | 0.96 | \| Q V | \| | \| | \| | \| |
| 2+45 | 0.1702 | 1.02 | \| Q V | \| | \| | \| | \| |
| 2+50 | 0.1778 | 1.11 | \| Q V | \| | \| | \| | \| |
| 2+55 | 0.1855 | 1.12 | \| Q V | \| | \| | \| | \| |
| 3+ 0 | 0.1932 | 1.12 | \| Q V | \| | \| | \| | \| |
| 3+ 5 | 0.2009 | 1.12 | \| Q V | \| | \| | \| | \| |



| | | | |
|---|---|---|---|
| 3+10 | 0.2091 | 1.18 | |
| 3+15 | 0.2178 | 1.26 | |
| 3+20 | 0.2266 | 1.28 | |
| 3+25 | 0.2358 | 1.34 | |
| 3+30 | 0.2460 | 1.48 | |
| 3+35 | 0.2573 | 1.64 | |
| 3+40 | 0.2692 | 1.73 | |
| 3+45 | 0.2817 | 1.81 | |
| 3+50 | 0.2947 | 1.89 | |
| 3+55 | 0.3082 | 1.97 | |
| 4+ 0 | 0.3223 | 2.05 | |
| 4+ 5 | 0.3370 | 2.12 | |
| 4+10 | 0.3526 | 2.27 | |
| 4+15 | 0.3693 | 2.42 | |
| 4+20 | 0.3871 | 2.58 | |
| 4+25 | 0.4059 | 2.74 | |
| 4+30 | 0.4254 | 2.83 | |
| 4+35 | 0.4455 | 2.91 | |
| 4+40 | 0.4665 | 3.05 | |
| 4+45 | 0.4886 | 3.21 | |
| 4+50 | 0.5114 | 3.31 | |
| 4+55 | 0.5347 | 3.38 | |
| 5+ 0 | 0.5590 | 3.53 | |
| 5+ 5 | 0.5860 | 3.93 | |
| 5+10 | 0.6181 | 4.65 | |
| 5+15 | 0.6546 | 5.31 | |
| 5+20 | 0.6946 | 5.81 | |
| 5+25 | 0.7388 | 6.41 | |
| 5+30 | 0.7898 | 7.41 | |
| 5+35 | 0.8307 | 5.93 | |
| 5+40 | 0.8476 | 2.45 | |
| 5+45 | 0.8546 | 1.01 | |
| 5+50 | 0.8580 | 0.50 | |
| 5+55 | 0.8597 | 0.24 | |
| 6+ 0 | 0.8602 | 0.07 | |
| 6+ 5 | 0.8603 | 0.02 | |
| 6+10 | 0.8604 | 0.00 | |
| 6+15 | 0.8604 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX1924100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 19
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 5.20(Ac.) = 0.008 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 5.20(Ac.) = 0.008 Sq. Mi.
Length along longest watercourse = 953.00(Ft.)
Length along longest watercourse measured to centroid = 367.00(Ft.)
Length along longest watercourse = 0.180 Mi.
Length along longest watercourse measured to centroid = 0.070 Mi.
Difference in elevation = 138.00(Ft.)
Slope along watercourse = 764.5750 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.045 Hr.
Lag time = 2.70 Min.
25% of lag time = 0.68 Min.
40% of lag time = 1.08 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 5.20 | 1.80 | 9.36 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 5.20 | 4.50 | 23.40 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.500(In)

Point rain (area averaged) = 4.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 5.200 | 83.94 | 0.000 |

Total Area Entered = 5.20(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.9 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 184.911 | 39.118 | 2.050 |
| 2 0.167 | 369.822 | 51.410 | 2.694 |
| 3 0.250 | 554.733 | 7.987 | 0.419 |
| 4 0.333 | 739.644 | 1.485 | 0.078 |
| | | Sum = 100.000 Sum= | 5.241 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.036 | ( 0.153) | | 0.032 | 0.004 |
| 2 | 0.17 | 0.07 | 0.036 | ( 0.152) | | 0.032 | 0.004 |
| 3 | 0.25 | 0.07 | 0.036 | ( 0.152) | | 0.032 | 0.004 |
| 4 | 0.33 | 0.10 | 0.054 | ( 0.151) | | 0.049 | 0.005 |
| 5 | 0.42 | 0.10 | 0.054 | ( 0.151) | | 0.049 | 0.005 |
| 6 | 0.50 | 0.10 | 0.054 | ( 0.150) | | 0.049 | 0.005 |
| 7 | 0.58 | 0.10 | 0.054 | ( 0.149) | | 0.049 | 0.005 |
| 8 | 0.67 | 0.10 | 0.054 | ( 0.149) | | 0.049 | 0.005 |
| 9 | 0.75 | 0.10 | 0.054 | ( 0.148) | | 0.049 | 0.005 |
| 10 | 0.83 | 0.13 | 0.072 | ( 0.148) | | 0.065 | 0.007 |
| 11 | 0.92 | 0.13 | 0.072 | ( 0.147) | | 0.065 | 0.007 |
| 12 | 1.00 | 0.13 | 0.072 | ( 0.146) | | 0.065 | 0.007 |
| 13 | 1.08 | 0.10 | 0.054 | ( 0.146) | | 0.049 | 0.005 |
| 14 | 1.17 | 0.10 | 0.054 | ( 0.145) | | 0.049 | 0.005 |
| 15 | 1.25 | 0.10 | 0.054 | ( 0.145) | | 0.049 | 0.005 |
| 16 | 1.33 | 0.10 | 0.054 | ( 0.144) | | 0.049 | 0.005 |
| 17 | 1.42 | 0.10 | 0.054 | ( 0.144) | | 0.049 | 0.005 |
| 18 | 1.50 | 0.10 | 0.054 | ( 0.143) | | 0.049 | 0.005 |
| 19 | 1.58 | 0.10 | 0.054 | ( 0.142) | | 0.049 | 0.005 |
| 20 | 1.67 | 0.10 | 0.054 | ( 0.142) | | 0.049 | 0.005 |
| 21 | 1.75 | 0.10 | 0.054 | ( 0.141) | | 0.049 | 0.005 |
| 22 | 1.83 | 0.13 | 0.072 | ( 0.141) | | 0.065 | 0.007 |
| 23 | 1.92 | 0.13 | 0.072 | ( 0.140) | | 0.065 | 0.007 |
| 24 | 2.00 | 0.13 | 0.072 | ( 0.140) | | 0.065 | 0.007 |
| 25 | 2.08 | 0.13 | 0.072 | ( 0.139) | | 0.065 | 0.007 |
| 26 | 2.17 | 0.13 | 0.072 | ( 0.138) | | 0.065 | 0.007 |
| 27 | 2.25 | 0.13 | 0.072 | ( 0.138) | | 0.065 | 0.007 |
| 28 | 2.33 | 0.13 | 0.072 | ( 0.137) | | 0.065 | 0.007 |
| 29 | 2.42 | 0.13 | 0.072 | ( 0.137) | | 0.065 | 0.007 |
| 30 | 2.50 | 0.13 | 0.072 | ( 0.136) | | 0.065 | 0.007 |
| 31 | 2.58 | 0.17 | 0.090 | ( 0.136) | | 0.081 | 0.009 |
| 32 | 2.67 | 0.17 | 0.090 | ( 0.135) | | 0.081 | 0.009 |
| 33 | 2.75 | 0.17 | 0.090 | ( 0.135) | | 0.081 | 0.009 |
| 34 | 2.83 | 0.17 | 0.090 | ( 0.134) | | 0.081 | 0.009 |
| 35 | 2.92 | 0.17 | 0.090 | ( 0.133) | | 0.081 | 0.009 |
| 36 | 3.00 | 0.17 | 0.090 | ( 0.133) | | 0.081 | 0.009 |
| 37 | 3.08 | 0.17 | 0.090 | ( 0.132) | | 0.081 | 0.009 |
| 38 | 3.17 | 0.17 | 0.090 | ( 0.132) | | 0.081 | 0.009 |
| 39 | 3.25 | 0.17 | 0.090 | ( 0.131) | | 0.081 | 0.009 |
| 40 | 3.33 | 0.17 | 0.090 | ( 0.131) | | 0.081 | 0.009 |
| 41 | 3.42 | 0.17 | 0.090 | ( 0.130) | | 0.081 | 0.009 |
| 42 | 3.50 | 0.17 | 0.090 | ( 0.130) | | 0.081 | 0.009 |
| 43 | 3.58 | 0.17 | 0.090 | ( 0.129) | | 0.081 | 0.009 |
| 44 | 3.67 | 0.17 | 0.090 | ( 0.129) | | 0.081 | 0.009 |
| 45 | 3.75 | 0.17 | 0.090 | ( 0.128) | | 0.081 | 0.009 |
| 46 | 3.83 | 0.20 | 0.108 | ( 0.127) | | 0.097 | 0.011 |
| 47 | 3.92 | 0.20 | 0.108 | ( 0.127) | | 0.097 | 0.011 |
| 48 | 4.00 | 0.20 | 0.108 | ( 0.126) | | 0.097 | 0.011 |
| 49 | 4.08 | 0.20 | 0.108 | ( 0.126) | | 0.097 | 0.011 |
| 50 | 4.17 | 0.20 | 0.108 | ( 0.125) | | 0.097 | 0.011 |
| 51 | 4.25 | 0.20 | 0.108 | ( 0.125) | | 0.097 | 0.011 |
| 52 | 4.33 | 0.23 | 0.126 | ( 0.124) | | 0.113 | 0.013 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 53 | 4.42 | 0.23 | 0.126 | ( | 0.124) | 0.113 | | 0.013 |
| 54 | 4.50 | 0.23 | 0.126 | ( | 0.123) | 0.113 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.126 | ( | 0.123) | 0.113 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.126 | ( | 0.122) | 0.113 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.126 | ( | 0.122) | 0.113 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.144 | | 0.121 | ( 0.130) | | 0.023 |
| 59 | 4.92 | 0.27 | 0.144 | | 0.121 | ( 0.130) | | 0.023 |
| 60 | 5.00 | 0.27 | 0.144 | | 0.120 | ( 0.130) | | 0.024 |
| 61 | 5.08 | 0.20 | 0.108 | ( | 0.120) | 0.097 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.108 | ( | 0.119) | 0.097 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.108 | ( | 0.118) | 0.097 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.126 | ( | 0.118) | 0.113 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.126 | ( | 0.117) | 0.113 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.126 | ( | 0.117) | 0.113 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.144 | | 0.116 | ( 0.130) | | 0.028 |
| 68 | 5.67 | 0.27 | 0.144 | | 0.116 | ( 0.130) | | 0.028 |
| 69 | 5.75 | 0.27 | 0.144 | | 0.115 | ( 0.130) | | 0.029 |
| 70 | 5.83 | 0.27 | 0.144 | | 0.115 | ( 0.130) | | 0.029 |
| 71 | 5.92 | 0.27 | 0.144 | | 0.114 | ( 0.130) | | 0.030 |
| 72 | 6.00 | 0.27 | 0.144 | | 0.114 | ( 0.130) | | 0.030 |
| 73 | 6.08 | 0.30 | 0.162 | | 0.113 | ( 0.146) | | 0.049 |
| 74 | 6.17 | 0.30 | 0.162 | | 0.113 | ( 0.146) | | 0.049 |
| 75 | 6.25 | 0.30 | 0.162 | | 0.112 | ( 0.146) | | 0.050 |
| 76 | 6.33 | 0.30 | 0.162 | | 0.112 | ( 0.146) | | 0.050 |
| 77 | 6.42 | 0.30 | 0.162 | | 0.111 | ( 0.146) | | 0.051 |
| 78 | 6.50 | 0.30 | 0.162 | | 0.111 | ( 0.146) | | 0.051 |
| 79 | 6.58 | 0.33 | 0.180 | | 0.110 | ( 0.162) | | 0.070 |
| 80 | 6.67 | 0.33 | 0.180 | | 0.110 | ( 0.162) | | 0.070 |
| 81 | 6.75 | 0.33 | 0.180 | | 0.109 | ( 0.162) | | 0.071 |
| 82 | 6.83 | 0.33 | 0.180 | | 0.109 | ( 0.162) | | 0.071 |
| 83 | 6.92 | 0.33 | 0.180 | | 0.108 | ( 0.162) | | 0.072 |
| 84 | 7.00 | 0.33 | 0.180 | | 0.108 | ( 0.162) | | 0.072 |
| 85 | 7.08 | 0.33 | 0.180 | | 0.107 | ( 0.162) | | 0.073 |
| 86 | 7.17 | 0.33 | 0.180 | | 0.107 | ( 0.162) | | 0.073 |
| 87 | 7.25 | 0.33 | 0.180 | | 0.106 | ( 0.162) | | 0.074 |
| 88 | 7.33 | 0.37 | 0.198 | | 0.106 | ( 0.178) | | 0.092 |
| 89 | 7.42 | 0.37 | 0.198 | | 0.105 | ( 0.178) | | 0.093 |
| 90 | 7.50 | 0.37 | 0.198 | | 0.105 | ( 0.178) | | 0.093 |
| 91 | 7.58 | 0.40 | 0.216 | | 0.104 | ( 0.194) | | 0.112 |
| 92 | 7.67 | 0.40 | 0.216 | | 0.104 | ( 0.194) | | 0.112 |
| 93 | 7.75 | 0.40 | 0.216 | | 0.104 | ( 0.194) | | 0.112 |
| 94 | 7.83 | 0.43 | 0.234 | | 0.103 | ( 0.211) | | 0.131 |
| 95 | 7.92 | 0.43 | 0.234 | | 0.103 | ( 0.211) | | 0.131 |
| 96 | 8.00 | 0.43 | 0.234 | | 0.102 | ( 0.211) | | 0.132 |
| 97 | 8.08 | 0.50 | 0.270 | | 0.102 | ( 0.243) | | 0.168 |
| 98 | 8.17 | 0.50 | 0.270 | | 0.101 | ( 0.243) | | 0.169 |
| 99 | 8.25 | 0.50 | 0.270 | | 0.101 | ( 0.243) | | 0.169 |
| 100 | 8.33 | 0.50 | 0.270 | | 0.100 | ( 0.243) | | 0.170 |
| 101 | 8.42 | 0.50 | 0.270 | | 0.100 | ( 0.243) | | 0.170 |
| 102 | 8.50 | 0.50 | 0.270 | | 0.099 | ( 0.243) | | 0.171 |
| 103 | 8.58 | 0.53 | 0.288 | | 0.099 | ( 0.259) | | 0.189 |
| 104 | 8.67 | 0.53 | 0.288 | | 0.098 | ( 0.259) | | 0.190 |
| 105 | 8.75 | 0.53 | 0.288 | | 0.098 | ( 0.259) | | 0.190 |
| 106 | 8.83 | 0.57 | 0.306 | | 0.097 | ( 0.275) | | 0.209 |
| 107 | 8.92 | 0.57 | 0.306 | | 0.097 | ( 0.275) | | 0.209 |
| 108 | 9.00 | 0.57 | 0.306 | | 0.096 | ( 0.275) | | 0.210 |
| 109 | 9.08 | 0.63 | 0.342 | | 0.096 | ( 0.308) | | 0.246 |
| 110 | 9.17 | 0.63 | 0.342 | | 0.096 | ( 0.308) | | 0.246 |
| 111 | 9.25 | 0.63 | 0.342 | | 0.095 | ( 0.308) | | 0.247 |
| 112 | 9.33 | 0.67 | 0.360 | | 0.095 | ( 0.324) | | 0.265 |
| 113 | 9.42 | 0.67 | 0.360 | | 0.094 | ( 0.324) | | 0.266 |
| 114 | 9.50 | 0.67 | 0.360 | | 0.094 | ( 0.324) | | 0.266 |
| 115 | 9.58 | 0.70 | 0.378 | | 0.093 | ( 0.340) | | 0.285 |
| 116 | 9.67 | 0.70 | 0.378 | | 0.093 | ( 0.340) | | 0.285 |
| 117 | 9.75 | 0.70 | 0.378 | | 0.092 | ( 0.340) | | 0.286 |
| 118 | 9.83 | 0.73 | 0.396 | | 0.092 | ( 0.356) | | 0.304 |
| 119 | 9.92 | 0.73 | 0.396 | | 0.092 | ( 0.356) | | 0.304 |
| 120 | 10.00 | 0.73 | 0.396 | | 0.091 | ( 0.356) | | 0.305 |
| 121 | 10.08 | 0.50 | 0.270 | | 0.091 | ( 0.243) | | 0.179 |
| 122 | 10.17 | 0.50 | 0.270 | | 0.090 | ( 0.243) | | 0.180 |
| 123 | 10.25 | 0.50 | 0.270 | | 0.090 | ( 0.243) | | 0.180 |
| 124 | 10.33 | 0.50 | 0.270 | | 0.089 | ( 0.243) | | 0.181 |
| 125 | 10.42 | 0.50 | 0.270 | | 0.089 | ( 0.243) | | 0.181 |
| 126 | 10.50 | 0.50 | 0.270 | | 0.088 | ( 0.243) | | 0.182 |
| 127 | 10.58 | 0.67 | 0.360 | | 0.088 | ( 0.324) | | 0.272 |
| 128 | 10.67 | 0.67 | 0.360 | | 0.088 | ( 0.324) | | 0.272 |
| 129 | 10.75 | 0.67 | 0.360 | | 0.087 | ( 0.324) | | 0.273 |
| 130 | 10.83 | 0.67 | 0.360 | | 0.087 | ( 0.324) | | 0.273 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 131 | 10.92 | 0.67 | 0.360 | 0.086 | ( 0.324) | 0.274 |
| 132 | 11.00 | 0.67 | 0.360 | 0.086 | ( 0.324) | 0.274 |
| 133 | 11.08 | 0.63 | 0.342 | 0.085 | ( 0.308) | 0.257 |
| 134 | 11.17 | 0.63 | 0.342 | 0.085 | ( 0.308) | 0.257 |
| 135 | 11.25 | 0.63 | 0.342 | 0.085 | ( 0.308) | 0.257 |
| 136 | 11.33 | 0.63 | 0.342 | 0.084 | ( 0.308) | 0.258 |
| 137 | 11.42 | 0.63 | 0.342 | 0.084 | ( 0.308) | 0.258 |
| 138 | 11.50 | 0.63 | 0.342 | 0.083 | ( 0.308) | 0.259 |
| 139 | 11.58 | 0.57 | 0.306 | 0.083 | ( 0.275) | 0.223 |
| 140 | 11.67 | 0.57 | 0.306 | 0.083 | ( 0.275) | 0.223 |
| 141 | 11.75 | 0.57 | 0.306 | 0.082 | ( 0.275) | 0.224 |
| 142 | 11.83 | 0.60 | 0.324 | 0.082 | ( 0.292) | 0.242 |
| 143 | 11.92 | 0.60 | 0.324 | 0.081 | ( 0.292) | 0.243 |
| 144 | 12.00 | 0.60 | 0.324 | 0.081 | ( 0.292) | 0.243 |
| 145 | 12.08 | 0.83 | 0.450 | 0.081 | ( 0.405) | 0.369 |
| 146 | 12.17 | 0.83 | 0.450 | 0.080 | ( 0.405) | 0.370 |
| 147 | 12.25 | 0.83 | 0.450 | 0.080 | ( 0.405) | 0.370 |
| 148 | 12.33 | 0.87 | 0.468 | 0.079 | ( 0.421) | 0.389 |
| 149 | 12.42 | 0.87 | 0.468 | 0.079 | ( 0.421) | 0.389 |
| 150 | 12.50 | 0.87 | 0.468 | 0.079 | ( 0.421) | 0.389 |
| 151 | 12.58 | 0.93 | 0.504 | 0.078 | ( 0.454) | 0.426 |
| 152 | 12.67 | 0.93 | 0.504 | 0.078 | ( 0.454) | 0.426 |
| 153 | 12.75 | 0.93 | 0.504 | 0.077 | ( 0.454) | 0.427 |
| 154 | 12.83 | 0.97 | 0.522 | 0.077 | ( 0.470) | 0.445 |
| 155 | 12.92 | 0.97 | 0.522 | 0.077 | ( 0.470) | 0.445 |
| 156 | 13.00 | 0.97 | 0.522 | 0.076 | ( 0.470) | 0.446 |
| 157 | 13.08 | 1.13 | 0.612 | 0.076 | ( 0.551) | 0.536 |
| 158 | 13.17 | 1.13 | 0.612 | 0.075 | ( 0.551) | 0.537 |
| 159 | 13.25 | 1.13 | 0.612 | 0.075 | ( 0.551) | 0.537 |
| 160 | 13.33 | 1.13 | 0.612 | 0.075 | ( 0.551) | 0.537 |
| 161 | 13.42 | 1.13 | 0.612 | 0.074 | ( 0.551) | 0.538 |
| 162 | 13.50 | 1.13 | 0.612 | 0.074 | ( 0.551) | 0.538 |
| 163 | 13.58 | 0.77 | 0.414 | 0.074 | ( 0.373) | 0.340 |
| 164 | 13.67 | 0.77 | 0.414 | 0.073 | ( 0.373) | 0.341 |
| 165 | 13.75 | 0.77 | 0.414 | 0.073 | ( 0.373) | 0.341 |
| 166 | 13.83 | 0.77 | 0.414 | 0.072 | ( 0.373) | 0.342 |
| 167 | 13.92 | 0.77 | 0.414 | 0.072 | ( 0.373) | 0.342 |
| 168 | 14.00 | 0.77 | 0.414 | 0.072 | ( 0.373) | 0.342 |
| 169 | 14.08 | 0.90 | 0.486 | 0.071 | ( 0.437) | 0.415 |
| 170 | 14.17 | 0.90 | 0.486 | 0.071 | ( 0.437) | 0.415 |
| 171 | 14.25 | 0.90 | 0.486 | 0.071 | ( 0.437) | 0.415 |
| 172 | 14.33 | 0.87 | 0.468 | 0.070 | ( 0.421) | 0.398 |
| 173 | 14.42 | 0.87 | 0.468 | 0.070 | ( 0.421) | 0.398 |
| 174 | 14.50 | 0.87 | 0.468 | 0.069 | ( 0.421) | 0.399 |
| 175 | 14.58 | 0.87 | 0.468 | 0.069 | ( 0.421) | 0.399 |
| 176 | 14.67 | 0.87 | 0.468 | 0.069 | ( 0.421) | 0.399 |
| 177 | 14.75 | 0.87 | 0.468 | 0.068 | ( 0.421) | 0.400 |
| 178 | 14.83 | 0.83 | 0.450 | 0.068 | ( 0.405) | 0.382 |
| 179 | 14.92 | 0.83 | 0.450 | 0.068 | ( 0.405) | 0.382 |
| 180 | 15.00 | 0.83 | 0.450 | 0.067 | ( 0.405) | 0.383 |
| 181 | 15.08 | 0.80 | 0.432 | 0.067 | ( 0.389) | 0.365 |
| 182 | 15.17 | 0.80 | 0.432 | 0.067 | ( 0.389) | 0.365 |
| 183 | 15.25 | 0.80 | 0.432 | 0.066 | ( 0.389) | 0.366 |
| 184 | 15.33 | 0.77 | 0.414 | 0.066 | ( 0.373) | 0.348 |
| 185 | 15.42 | 0.77 | 0.414 | 0.066 | ( 0.373) | 0.348 |
| 186 | 15.50 | 0.77 | 0.414 | 0.065 | ( 0.373) | 0.349 |
| 187 | 15.58 | 0.63 | 0.342 | 0.065 | ( 0.308) | 0.277 |
| 188 | 15.67 | 0.63 | 0.342 | 0.065 | ( 0.308) | 0.277 |
| 189 | 15.75 | 0.63 | 0.342 | 0.064 | ( 0.308) | 0.278 |
| 190 | 15.83 | 0.63 | 0.342 | 0.064 | ( 0.308) | 0.278 |
| 191 | 15.92 | 0.63 | 0.342 | 0.064 | ( 0.308) | 0.278 |
| 192 | 16.00 | 0.63 | 0.342 | 0.063 | ( 0.308) | 0.279 |
| 193 | 16.08 | 0.13 | 0.072 | 0.063 | ( 0.065) | 0.009 |
| 194 | 16.17 | 0.13 | 0.072 | 0.063 | ( 0.065) | 0.009 |
| 195 | 16.25 | 0.13 | 0.072 | 0.062 | ( 0.065) | 0.010 |
| 196 | 16.33 | 0.13 | 0.072 | 0.062 | ( 0.065) | 0.010 |
| 197 | 16.42 | 0.13 | 0.072 | 0.062 | ( 0.065) | 0.010 |
| 198 | 16.50 | 0.13 | 0.072 | 0.061 | ( 0.065) | 0.011 |
| 199 | 16.58 | 0.10 | 0.054 | ( 0.061) | 0.049 | 0.005 |
| 200 | 16.67 | 0.10 | 0.054 | ( 0.061) | 0.049 | 0.005 |
| 201 | 16.75 | 0.10 | 0.054 | ( 0.061) | 0.049 | 0.005 |
| 202 | 16.83 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 203 | 16.92 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 204 | 17.00 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 205 | 17.08 | 0.17 | 0.090 | 0.059 | ( 0.081) | 0.031 |
| 206 | 17.17 | 0.17 | 0.090 | 0.059 | ( 0.081) | 0.031 |
| 207 | 17.25 | 0.17 | 0.090 | 0.059 | ( 0.081) | 0.031 |
| 208 | 17.33 | 0.17 | 0.090 | 0.058 | ( 0.081) | 0.032 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 209 | 17.42 | 0.17 | 0.090 | | 0.058 | ( | 0.081) | 0.032 |
| 210 | 17.50 | 0.17 | 0.090 | | 0.058 | ( | 0.081) | 0.032 |
| 211 | 17.58 | 0.17 | 0.090 | | 0.058 | ( | 0.081) | 0.032 |
| 212 | 17.67 | 0.17 | 0.090 | | 0.057 | ( | 0.081) | 0.033 |
| 213 | 17.75 | 0.17 | 0.090 | | 0.057 | ( | 0.081) | 0.033 |
| 214 | 17.83 | 0.13 | 0.072 | | 0.057 | ( | 0.065) | 0.015 |
| 215 | 17.92 | 0.13 | 0.072 | | 0.056 | ( | 0.065) | 0.016 |
| 216 | 18.00 | 0.13 | 0.072 | | 0.056 | ( | 0.065) | 0.016 |
| 217 | 18.08 | 0.13 | 0.072 | | 0.056 | ( | 0.065) | 0.016 |
| 218 | 18.17 | 0.13 | 0.072 | | 0.056 | ( | 0.065) | 0.016 |
| 219 | 18.25 | 0.13 | 0.072 | | 0.055 | ( | 0.065) | 0.017 |
| 220 | 18.33 | 0.13 | 0.072 | | 0.055 | ( | 0.065) | 0.017 |
| 221 | 18.42 | 0.13 | 0.072 | | 0.055 | ( | 0.065) | 0.017 |
| 222 | 18.50 | 0.13 | 0.072 | | 0.054 | ( | 0.065) | 0.018 |
| 223 | 18.58 | 0.10 | 0.054 | ( | 0.054) | | 0.049 | 0.005 |
| 224 | 18.67 | 0.10 | 0.054 | ( | 0.054) | | 0.049 | 0.005 |
| 225 | 18.75 | 0.10 | 0.054 | ( | 0.054) | | 0.049 | 0.005 |
| 226 | 18.83 | 0.07 | 0.036 | ( | 0.053) | | 0.032 | 0.004 |
| 227 | 18.92 | 0.07 | 0.036 | ( | 0.053) | | 0.032 | 0.004 |
| 228 | 19.00 | 0.07 | 0.036 | ( | 0.053) | | 0.032 | 0.004 |
| 229 | 19.08 | 0.10 | 0.054 | ( | 0.053) | | 0.049 | 0.005 |
| 230 | 19.17 | 0.10 | 0.054 | ( | 0.052) | | 0.049 | 0.005 |
| 231 | 19.25 | 0.10 | 0.054 | ( | 0.052) | | 0.049 | 0.005 |
| 232 | 19.33 | 0.13 | 0.072 | | 0.052 | ( | 0.065) | 0.020 |
| 233 | 19.42 | 0.13 | 0.072 | | 0.052 | ( | 0.065) | 0.020 |
| 234 | 19.50 | 0.13 | 0.072 | | 0.051 | ( | 0.065) | 0.021 |
| 235 | 19.58 | 0.10 | 0.054 | ( | 0.051) | | 0.049 | 0.005 |
| 236 | 19.67 | 0.10 | 0.054 | ( | 0.051) | | 0.049 | 0.005 |
| 237 | 19.75 | 0.10 | 0.054 | ( | 0.051) | | 0.049 | 0.005 |
| 238 | 19.83 | 0.07 | 0.036 | ( | 0.051) | | 0.032 | 0.004 |
| 239 | 19.92 | 0.07 | 0.036 | ( | 0.050) | | 0.032 | 0.004 |
| 240 | 20.00 | 0.07 | 0.036 | ( | 0.050) | | 0.032 | 0.004 |
| 241 | 20.08 | 0.10 | 0.054 | ( | 0.050) | | 0.049 | 0.005 |
| 242 | 20.17 | 0.10 | 0.054 | ( | 0.050) | | 0.049 | 0.005 |
| 243 | 20.25 | 0.10 | 0.054 | ( | 0.049) | | 0.049 | 0.005 |
| 244 | 20.33 | 0.10 | 0.054 | ( | 0.049) | | 0.049 | 0.005 |
| 245 | 20.42 | 0.10 | 0.054 | ( | 0.049) | | 0.049 | 0.005 |
| 246 | 20.50 | 0.10 | 0.054 | ( | 0.049) | | 0.049 | 0.005 |
| 247 | 20.58 | 0.10 | 0.054 | ( | 0.049) | | 0.049 | 0.005 |
| 248 | 20.67 | 0.10 | 0.054 | | 0.048 | ( | 0.049) | 0.006 |
| 249 | 20.75 | 0.10 | 0.054 | | 0.048 | ( | 0.049) | 0.006 |
| 250 | 20.83 | 0.07 | 0.036 | ( | 0.048) | | 0.032 | 0.004 |
| 251 | 20.92 | 0.07 | 0.036 | ( | 0.048) | | 0.032 | 0.004 |
| 252 | 21.00 | 0.07 | 0.036 | ( | 0.048) | | 0.032 | 0.004 |
| 253 | 21.08 | 0.10 | 0.054 | | 0.047 | ( | 0.049) | 0.007 |
| 254 | 21.17 | 0.10 | 0.054 | | 0.047 | ( | 0.049) | 0.007 |
| 255 | 21.25 | 0.10 | 0.054 | | 0.047 | ( | 0.049) | 0.007 |
| 256 | 21.33 | 0.07 | 0.036 | ( | 0.047) | | 0.032 | 0.004 |
| 257 | 21.42 | 0.07 | 0.036 | ( | 0.047) | | 0.032 | 0.004 |
| 258 | 21.50 | 0.07 | 0.036 | ( | 0.047) | | 0.032 | 0.004 |
| 259 | 21.58 | 0.10 | 0.054 | | 0.046 | ( | 0.049) | 0.008 |
| 260 | 21.67 | 0.10 | 0.054 | | 0.046 | ( | 0.049) | 0.008 |
| 261 | 21.75 | 0.10 | 0.054 | | 0.046 | ( | 0.049) | 0.008 |
| 262 | 21.83 | 0.07 | 0.036 | ( | 0.046) | | 0.032 | 0.004 |
| 263 | 21.92 | 0.07 | 0.036 | ( | 0.046) | | 0.032 | 0.004 |
| 264 | 22.00 | 0.07 | 0.036 | ( | 0.046) | | 0.032 | 0.004 |
| 265 | 22.08 | 0.10 | 0.054 | | 0.045 | ( | 0.049) | 0.009 |
| 266 | 22.17 | 0.10 | 0.054 | | 0.045 | ( | 0.049) | 0.009 |
| 267 | 22.25 | 0.10 | 0.054 | | 0.045 | ( | 0.049) | 0.009 |
| 268 | 22.33 | 0.07 | 0.036 | ( | 0.045) | | 0.032 | 0.004 |
| 269 | 22.42 | 0.07 | 0.036 | ( | 0.045) | | 0.032 | 0.004 |
| 270 | 22.50 | 0.07 | 0.036 | ( | 0.045) | | 0.032 | 0.004 |
| 271 | 22.58 | 0.07 | 0.036 | ( | 0.045) | | 0.032 | 0.004 |
| 272 | 22.67 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 273 | 22.75 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 274 | 22.83 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 275 | 22.92 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 276 | 23.00 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 277 | 23.08 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 278 | 23.17 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 279 | 23.25 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 280 | 23.33 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 281 | 23.42 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 282 | 23.50 | 0.07 | 0.036 | ( | 0.043) | | 0.032 | 0.004 |
| 283 | 23.58 | 0.07 | 0.036 | ( | 0.043) | | 0.032 | 0.004 |
| 284 | 23.67 | 0.07 | 0.036 | ( | 0.043) | | 0.032 | 0.004 |
| 285 | 23.75 | 0.07 | 0.036 | ( | 0.043) | | 0.032 | 0.004 |
| 286 | 23.83 | 0.07 | 0.036 | ( | 0.043) | | 0.032 | 0.004 |

```
287  23.92     0.07      0.036       (  0.043)       0.032        0.004
288  24.00     0.07      0.036       (  0.043)       0.032        0.004
               (Loss Rate Not Used)
    Sum =     100.0                                   Sum =    33.5
       Flood volume = Effective rainfall      2.80(In)
        times area       5.2(Ac.)/[(In)/(Ft.)] =       1.2(Ac.Ft)
       Total soil loss =      1.70(In)
       Total soil loss =     0.739(Ac.Ft)
       Total rainfall =      4.50(In)
       Flood volume =       52760.5 Cubic Feet
       Total soil loss =       32180.7 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =      2.820(CFS)
       ---------------------------------------------------------------------
       +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
       ---------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))

       ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ----------------------------------------------------------------------
   0+ 5       0.0001      0.01  Q          |         |         |         |
   0+10       0.0002      0.02  Q          |         |         |         |
   0+15       0.0003      0.02  Q          |         |         |         |
   0+20       0.0005      0.02  Q          |         |         |         |
   0+25       0.0006      0.03  Q          |         |         |         |
   0+30       0.0008      0.03  Q          |         |         |         |
   0+35       0.0010      0.03  Q          |         |         |         |
   0+40       0.0012      0.03  Q          |         |         |         |
   0+45       0.0014      0.03  Q          |         |         |         |
   0+50       0.0016      0.03  Q          |         |         |         |
   0+55       0.0019      0.04  Q          |         |         |         |
   1+ 0       0.0022      0.04  Q          |         |         |         |
   1+ 5       0.0024      0.03  Q          |         |         |         |
   1+10       0.0026      0.03  Q          |         |         |         |
   1+15       0.0028      0.03  Q          |         |         |         |
   1+20       0.0030      0.03  Q          |         |         |         |
   1+25       0.0032      0.03  Q          |         |         |         |
   1+30       0.0034      0.03  Q          |         |         |         |
   1+35       0.0036      0.03  Q          |         |         |         |
   1+40       0.0038      0.03  Q          |         |         |         |
   1+45       0.0040      0.03  Q          |         |         |         |
   1+50       0.0042      0.03  Q          |         |         |         |
   1+55       0.0044      0.04  Q          |         |         |         |
   2+ 0       0.0047      0.04  Q          |         |         |         |
   2+ 5       0.0049      0.04  Q          |         |         |         |
   2+10       0.0052      0.04  Q          |         |         |         |
   2+15       0.0055      0.04  Q          |         |         |         |
   2+20       0.0057      0.04  Q          |         |         |         |
   2+25       0.0060      0.04  Q          |         |         |         |
   2+30       0.0062      0.04  Q          |         |         |         |
   2+35       0.0065      0.04  Q          |         |         |         |
   2+40       0.0069      0.05  Q          |         |         |         |
   2+45       0.0072      0.05  Q          |         |         |         |
   2+50       0.0075      0.05  Q          |         |         |         |
   2+55       0.0078      0.05  Q          |         |         |         |
   3+ 0       0.0082      0.05  Q          |         |         |         |
   3+ 5       0.0085      0.05  Q          |         |         |         |
   3+10       0.0088      0.05  Q          |         |         |         |
   3+15       0.0091      0.05  Q          |         |         |         |
   3+20       0.0095      0.05  Q          |         |         |         |
   3+25       0.0098      0.05  Q          |         |         |         |
   3+30       0.0101      0.05  Q          |         |         |         |
   3+35       0.0104      0.05  Q          |         |         |         |
   3+40       0.0108      0.05  Q          |         |         |         |
   3+45       0.0111      0.05  Q          |         |         |         |
   3+50       0.0114      0.05  Q          |         |         |         |
   3+55       0.0118      0.06  Q          |         |         |         |
   4+ 0       0.0122      0.06  Q          |         |         |         |
   4+ 5       0.0126      0.06  Q          |         |         |         |
   4+10       0.0130      0.06  Q          |         |         |         |
   4+15       0.0134      0.06  Q          |         |         |         |
   4+20       0.0138      0.06  Q          |         |         |         |
   4+25       0.0142      0.07  Q          |         |         |         |
   4+30       0.0147      0.07  Q          |         |         |         |
   4+35       0.0151      0.07  Q          |         |         |         |
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 4+40       0.0156      0.07  Q          |          |          |          |
 4+45       0.0161      0.07  Q          |          |          |          |
 4+50       0.0167      0.09  Q          |          |          |          |
 4+55       0.0175      0.12  Q          |          |          |          |
 5+ 0       0.0183      0.12  Q          |          |          |          |
 5+ 5       0.0190      0.10  Q          |          |          |          |
 5+10       0.0194      0.06  Q          |          |          |          |
 5+15       0.0198      0.06  Q          |          |          |          |
 5+20       0.0202      0.06  Q          |          |          |          |
 5+25       0.0207      0.07  Q          |          |          |          |
 5+30       0.0211      0.07  Q          |          |          |          |
 5+35       0.0218      0.10  Q          |          |          |          |
 5+40       0.0227      0.14  Q          |          |          |          |
 5+45       0.0238      0.15  Q          |          |          |          |
 5+50       0.0248      0.15  Q          |          |          |          |
 5+55       0.0259      0.15  Q          |          |          |          |
 6+ 0       0.0269      0.16  Q          |          |          |          |
 6+ 5       0.0283      0.20  Q          |          |          |          |
 6+10       0.0300      0.25  Q          |          |          |          |
 6+15       0.0317      0.26  |Q         |          |          |          |
 6+20       0.0335      0.26  |Q         |          |          |          |
 6+25       0.0354      0.26  |Q         |          |          |          |
 6+30       0.0372      0.27  |Q         |          |          |          |
 6+35       0.0393      0.31  |Q         |          |          |          |
 6+40       0.0418      0.36  |Q         |          |          |          |
 6+45       0.0443      0.37  |Q         |          |          |          |
 6+50       0.0468      0.37  |Q         |          |          |          |
 6+55       0.0494      0.37  |Q         |          |          |          |
 7+ 0       0.0520      0.38  |Q         |          |          |          |
 7+ 5       0.0546      0.38  |Q         |          |          |          |
 7+10       0.0572      0.38  |Q         |          |          |          |
 7+15       0.0599      0.38  |Q         |          |          |          |
 7+20       0.0628      0.42  |QV        |          |          |          |
 7+25       0.0661      0.47  |QV        |          |          |          |
 7+30       0.0694      0.48  |QV        |          |          |          |
 7+35       0.0730      0.53  | Q        |          |          |          |
 7+40       0.0770      0.58  | Q        |          |          |          |
 7+45       0.0810      0.59  | Q        |          |          |          |
 7+50       0.0854      0.63  | Q        |          |          |          |
 7+55       0.0900      0.68  | Q        |          |          |          |
 8+ 0       0.0948      0.69  | QV       |          |          |          |
 8+ 5       0.1000      0.77  |  Q       |          |          |          |
 8+10       0.1060      0.87  |  Q       |          |          |          |
 8+15       0.1121      0.88  |  Q       |          |          |          |
 8+20       0.1182      0.89  |  Q       |          |          |          |
 8+25       0.1243      0.89  |  QV      |          |          |          |
 8+30       0.1305      0.89  |  QV      |          |          |          |
 8+35       0.1369      0.93  |  QV      |          |          |          |
 8+40       0.1437      0.98  |  QV      |          |          |          |
 8+45       0.1505      0.99  |  QV      |          |          |          |
 8+50       0.1577      1.03  |   QV     |          |          |          |
 8+55       0.1651      1.09  |   QV     |          |          |          |
 9+ 0       0.1727      1.10  |   QV     |          |          |          |
 9+ 5       0.1808      1.17  |   QV     |          |          |          |
 9+10       0.1895      1.27  |    QV    |          |          |          |
 9+15       0.1984      1.29  |    QV    |          |          |          |
 9+20       0.2076      1.33  |    QV    |          |          |          |
 9+25       0.2171      1.38  |    Q V   |          |          |          |
 9+30       0.2267      1.39  |    Q V   |          |          |          |
 9+35       0.2366      1.43  |    Q V   |          |          |          |
 9+40       0.2468      1.48  |    Q  V  |          |          |          |
 9+45       0.2571      1.49  |    Q  V  |          |          |          |
 9+50       0.2677      1.53  |     Q V  |          |          |          |
 9+55       0.2786      1.59  |     Q  V |          |          |          |
10+ 0       0.2896      1.60  |     Q  V |          |          |          |
10+ 5       0.2988      1.34  |    Q   V |          |          |          |
10+10       0.3057      1.00  |   Q     V          |          |          |
10+15       0.3123      0.95  |  Q      V          |          |          |
10+20       0.3188      0.95  |  Q      V          |          |          |
10+25       0.3253      0.95  |  Q      V          |          |          |
10+30       0.3319      0.95  |  Q      V          |          |          |
10+35       0.3397      1.14  |   Q     |V         |          |          |
10+40       0.3492      1.38  |    Q    |V         |          |          |
10+45       0.3590      1.42  |    Q    |V         |          |          |
10+50       0.3689      1.43  |    Q    | V        |          |          |
10+55       0.3787      1.43  |    Q    | V        |          |          |
11+ 0       0.3886      1.44  |    Q    | V        |          |          |
11+ 5       0.3983      1.40  |    Q    |  V       |          |          |
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11+10       0.4076      1.35  |    Q    |  V      |         |         |
11+15       0.4169      1.35  |    Q    |  V      |         |         |
11+20       0.4262      1.35  |    Q    |   V     |         |         |
11+25       0.4355      1.35  |    Q    |   V     |         |         |
11+30       0.4448      1.35  |    Q    |   V     |         |         |
11+35       0.4537      1.28  |    Q    |   V     |         |         |
11+40       0.4618      1.19  |   Q     |    V    |         |         |
11+45       0.4699      1.17  |   Q     |    V    |         |         |
11+50       0.4783      1.21  |   Q     |    V    |         |         |
11+55       0.4870      1.26  |    Q    |     V   |         |         |
12+ 0       0.4957      1.27  |    Q    |     V   |         |         |
12+ 5       0.5063      1.53  |     Q   |     V   |         |         |
12+10       0.5192      1.88  |      Q  |      V  |         |         |
12+15       0.5325      1.93  |      Q  |      V  |         |         |
12+20       0.5461      1.98  |      Q  |       V |         |         |
12+25       0.5601      2.03  |       Q |       V |         |         |
12+30       0.5741      2.04  |       Q |       V |         |         |
12+35       0.5887      2.12  |       Q |        V|         |         |
12+40       0.6040      2.22  |       Q |        V|         |         |
12+45       0.6193      2.23  |       Q |         V         |         |
12+50       0.6350      2.27  |        Q|         V         |         |
12+55       0.6510      2.33  |        Q|          V        |         |
13+ 0       0.6671      2.33  |        Q|          V        |         |
13+ 5       0.6845      2.52  |         Q         V        |         |
13+10       0.7035      2.77  |          Q        V        |         |
13+15       0.7229      2.81  |          Q        V        |         |
13+20       0.7423      2.82  |          Q        V        |         |
13+25       0.7617      2.82  |          Q        V        |         |
13+30       0.7811      2.82  |          Q        V        |         |
13+35       0.7977      2.42  |         Q|        V        |         |
13+40       0.8107      1.88  |       Q  |        V        |         |
13+45       0.8231      1.80  |       Q  |         V       |         |
13+50       0.8355      1.79  |       Q  |         V       |         |
13+55       0.8478      1.79  |       Q  |         V       |         |
14+ 0       0.8601      1.79  |       Q  |          V      |         |
14+ 5       0.8735      1.94  |       Q  |          V      |         |
14+10       0.8883      2.14  |        Q |          V      |         |
14+15       0.9032      2.17  |        Q |          V      |         |
14+20       0.9180      2.14  |        Q |           V     |         |
14+25       0.9324      2.10  |        Q |           V     |         |
14+30       0.9468      2.09  |        Q |            V    |         |
14+35       0.9612      2.09  |        Q |            V    |         |
14+40       0.9756      2.09  |        Q |             V   |         |
14+45       0.9900      2.09  |        Q |             V   |         |
14+50       1.0042      2.06  |        Q |              V  |         |
14+55       1.0180      2.01  |        Q |              V  |         |
15+ 0       1.0319      2.01  |        Q |               V |         |
15+ 5       1.0454      1.97  |       Q  |               V |         |
15+10       1.0587      1.92  |       Q  |               V |         |
15+15       1.0719      1.92  |       Q  |                V|         |
15+20       1.0848      1.88  |       Q  |                V|         |
15+25       1.0975      1.83  |       Q  |                 V|        |
15+30       1.1100      1.83  |       Q  |                 V|        |
15+35       1.1216      1.68  |      Q   |                  V|       |
15+40       1.1319      1.49  |    Q     |                  V|       |
15+45       1.1419      1.46  |    Q     |                  V|       |
15+50       1.1520      1.46  |    Q     |                   V|      |
15+55       1.1620      1.46  |    Q     |                   V|      |
16+ 0       1.1721      1.46  |    Q     |                   V|      |
16+ 5       1.1783      0.91  |  Q       |                   V|      |
16+10       1.1796      0.18  Q          |                   V|      |
16+15       1.1800      0.07  Q          |                   V|      |
16+20       1.1804      0.05  Q          |                   V|      |
16+25       1.1808      0.05  Q          |                   V|      |
16+30       1.1811      0.05  Q          |                    V|     |
16+35       1.1814      0.04  Q          |                    V|     |
16+40       1.1817      0.03  Q          |                    V|     |
16+45       1.1818      0.03  Q          |                    V|     |
16+50       1.1820      0.03  Q          |                    V|     |
16+55       1.1822      0.03  Q          |                    V|     |
17+ 0       1.1824      0.03  Q          |                    V|     |
17+ 5       1.1830      0.08  Q          |                    V|     |
17+10       1.1840      0.15  Q          |                    V|     |
17+15       1.1851      0.16  Q          |                    V|     |
17+20       1.1863      0.16  Q          |                    V|     |
17+25       1.1874      0.17  Q          |                    V|     |
17+30       1.1886      0.17  Q          |                    V|     |
17+35       1.1897      0.17  Q          |                    V|     |
```

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+40 | 1.1909 | 0.17 | Q | \| | \| | \| | V\| |
| 17+45 | 1.1921 | 0.17 | Q | \| | \| | \| | V\| |
| 17+50 | 1.1930 | 0.14 | Q | \| | \| | \| | V\| |
| 17+55 | 1.1936 | 0.09 | Q | \| | \| | \| | V\| |
| 18+ 0 | 1.1942 | 0.08 | Q | \| | \| | \| | V\| |
| 18+ 5 | 1.1948 | 0.08 | Q | \| | \| | \| | V\| |
| 18+10 | 1.1954 | 0.09 | Q | \| | \| | \| | V\| |
| 18+15 | 1.1960 | 0.09 | Q | \| | \| | \| | V\| |
| 18+20 | 1.1966 | 0.09 | Q | \| | \| | \| | V\| |
| 18+25 | 1.1972 | 0.09 | Q | \| | \| | \| | V\| |
| 18+30 | 1.1978 | 0.09 | Q | \| | \| | \| | V\| |
| 18+35 | 1.1983 | 0.07 | Q | \| | \| | \| | V\| |
| 18+40 | 1.1985 | 0.03 | Q | \| | \| | \| | V\| |
| 18+45 | 1.1987 | 0.03 | Q | \| | \| | \| | V\| |
| 18+50 | 1.1989 | 0.02 | Q | \| | \| | \| | V\| |
| 18+55 | 1.1990 | 0.02 | Q | \| | \| | \| | V\| |
| 19+ 0 | 1.1992 | 0.02 | Q | \| | \| | \| | V\| |
| 19+ 5 | 1.1993 | 0.02 | Q | \| | \| | \| | V\| |
| 19+10 | 1.1995 | 0.03 | Q | \| | \| | \| | V\| |
| 19+15 | 1.1997 | 0.03 | Q | \| | \| | \| | V\| |
| 19+20 | 1.2001 | 0.06 | Q | \| | \| | \| | V\| |
| 19+25 | 1.2008 | 0.10 | Q | \| | \| | \| | V\| |
| 19+30 | 1.2015 | 0.11 | Q | \| | \| | \| | V\| |
| 19+35 | 1.2020 | 0.08 | Q | \| | \| | \| | V\| |
| 19+40 | 1.2023 | 0.04 | Q | \| | \| | \| | V\| |
| 19+45 | 1.2025 | 0.03 | Q | \| | \| | \| | V\| |
| 19+50 | 1.2027 | 0.02 | Q | \| | \| | \| | V\| |
| 19+55 | 1.2028 | 0.02 | Q | \| | \| | \| | V\| |
| 20+ 0 | 1.2029 | 0.02 | Q | \| | \| | \| | V\| |
| 20+ 5 | 1.2031 | 0.02 | Q | \| | \| | \| | V\| |
| 20+10 | 1.2033 | 0.03 | Q | \| | \| | \| | V\| |
| 20+15 | 1.2035 | 0.03 | Q | \| | \| | \| | V\| |
| 20+20 | 1.2037 | 0.03 | Q | \| | \| | \| | V\| |
| 20+25 | 1.2038 | 0.03 | Q | \| | \| | \| | V\| |
| 20+30 | 1.2040 | 0.03 | Q | \| | \| | \| | V\| |
| 20+35 | 1.2042 | 0.03 | Q | \| | \| | \| | V\| |
| 20+40 | 1.2044 | 0.03 | Q | \| | \| | \| | V\| |
| 20+45 | 1.2046 | 0.03 | Q | \| | \| | \| | V\| |
| 20+50 | 1.2048 | 0.03 | Q | \| | \| | \| | V\| |
| 20+55 | 1.2050 | 0.02 | Q | \| | \| | \| | V\| |
| 21+ 0 | 1.2051 | 0.02 | Q | \| | \| | \| | V\| |
| 21+ 5 | 1.2053 | 0.02 | Q | \| | \| | \| | V\| |
| 21+10 | 1.2055 | 0.03 | Q | \| | \| | \| | V\| |
| 21+15 | 1.2057 | 0.04 | Q | \| | \| | \| | V\| |
| 21+20 | 1.2059 | 0.03 | Q | \| | \| | \| | V\| |
| 21+25 | 1.2061 | 0.02 | Q | \| | \| | \| | V\| |
| 21+30 | 1.2062 | 0.02 | Q | \| | \| | \| | V\| |
| 21+35 | 1.2064 | 0.03 | Q | \| | \| | \| | V\| |
| 21+40 | 1.2067 | 0.04 | Q | \| | \| | \| | V\| |
| 21+45 | 1.2069 | 0.04 | Q | \| | \| | \| | V\| |
| 21+50 | 1.2072 | 0.03 | Q | \| | \| | \| | V\| |
| 21+55 | 1.2073 | 0.02 | Q | \| | \| | \| | V\| |
| 22+ 0 | 1.2074 | 0.02 | Q | \| | \| | \| | V\| |
| 22+ 5 | 1.2076 | 0.03 | Q | \| | \| | \| | V\| |
| 22+10 | 1.2079 | 0.04 | Q | \| | \| | \| | V\| |
| 22+15 | 1.2083 | 0.05 | Q | \| | \| | \| | V\| |
| 22+20 | 1.2085 | 0.04 | Q | \| | \| | \| | V\| |
| 22+25 | 1.2086 | 0.02 | Q | \| | \| | \| | V\| |
| 22+30 | 1.2088 | 0.02 | Q | \| | \| | \| | V\| |
| 22+35 | 1.2089 | 0.02 | Q | \| | \| | \| | V\| |
| 22+40 | 1.2090 | 0.02 | Q | \| | \| | \| | V\| |
| 22+45 | 1.2092 | 0.02 | Q | \| | \| | \| | V\| |
| 22+50 | 1.2093 | 0.02 | Q | \| | \| | \| | V\| |
| 22+55 | 1.2094 | 0.02 | Q | \| | \| | \| | V\| |
| 23+ 0 | 1.2096 | 0.02 | Q | \| | \| | \| | V\| |
| 23+ 5 | 1.2097 | 0.02 | Q | \| | \| | \| | V\| |
| 23+10 | 1.2098 | 0.02 | Q | \| | \| | \| | V\| |
| 23+15 | 1.2100 | 0.02 | Q | \| | \| | \| | V\| |
| 23+20 | 1.2101 | 0.02 | Q | \| | \| | \| | V\| |
| 23+25 | 1.2102 | 0.02 | Q | \| | \| | \| | V\| |
| 23+30 | 1.2103 | 0.02 | Q | \| | \| | \| | V\| |
| 23+35 | 1.2105 | 0.02 | Q | \| | \| | \| | V\| |
| 23+40 | 1.2106 | 0.02 | Q | \| | \| | \| | V\| |
| 23+45 | 1.2107 | 0.02 | Q | \| | \| | \| | V\| |
| 23+50 | 1.2109 | 0.02 | Q | \| | \| | \| | V\| |
| 23+55 | 1.2110 | 0.02 | Q | \| | \| | \| | V\| |
| 24+ 0 | 1.2111 | 0.02 | Q | \| | \| | \| | V\| |
| 24+ 5 | 1.2112 | 0.01 | Q | \| | \| | \| | V\| |

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   24+10       1.2112      0.00  Q         |          |          |        V|
   24+15       1.2112      0.00  Q         |          |          |        V|
-----------------------------------------------------------------------------
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX201100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 20
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 51.40(Ac.) = 0.080 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 51.40(Ac.) = 0.080 Sq. Mi.
Length along longest watercourse = 3495.00(Ft.)
Length along longest watercourse measured to centroid = 1715.00(Ft.)
Length along longest watercourse = 0.662 Mi.
Length along longest watercourse measured to centroid = 0.325 Mi.
Difference in elevation = 660.00(Ft.)
Slope along watercourse = 997.0815 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.126 Hr.
Lag time = 7.57 Min.
25% of lag time = 1.89 Min.
40% of lag time = 3.03 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 51.40 | 0.49 | 25.19 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 51.40 | 1.20 | 61.68 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.490(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.95 %
Adjusted average point rain = 1.199(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 51.400 | 83.13 | 0.000 |

Total Area Entered = 51.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.1 | 92.9 | 0.093 | 0.000 | 0.093 | 1.000 | 0.093 |
| | | | | | Sum (F) = | 0.093 |

Area averaged mean soil loss (F) (In/Hr) = 0.093

Minimum soil loss rate ((In/Hr)) = 0.046
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

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| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 66.065 | 6.506 | 3.370 |
| 2 | 0.167 | 132.129 | 37.622 | 19.489 |
| 3 | 0.250 | 198.194 | 30.981 | 16.049 |
| 4 | 0.333 | 264.259 | 11.469 | 5.941 |
| 5 | 0.417 | 330.324 | 6.476 | 3.355 |
| 6 | 0.500 | 396.388 | 3.615 | 1.872 |
| 7 | 0.583 | 462.453 | 1.580 | 0.818 |
| 8 | 0.667 | 528.518 | 0.681 | 0.353 |
| 9 | 0.750 | 594.583 | 0.469 | 0.243 |
| 10 | 0.833 | 660.647 | 0.408 | 0.212 |
| 11 | 0.917 | 726.712 | 0.192 | 0.100 |
| | | Sum = 100.000 | Sum= | 51.802 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.093 | ( 0.544) | 0.512 |
| 2 | 0.17 | 4.30 | 0.619 | 0.093 | ( 0.557) | 0.526 |
| 3 | 0.25 | 5.00 | 0.720 | 0.093 | ( 0.648) | 0.627 |
| 4 | 0.33 | 5.00 | 0.720 | 0.093 | ( 0.648) | 0.627 |
| 5 | 0.42 | 5.80 | 0.835 | 0.093 | ( 0.751) | 0.742 |
| 6 | 0.50 | 6.50 | 0.936 | 0.093 | ( 0.842) | 0.843 |
| 7 | 0.58 | 7.40 | 1.065 | 0.093 | ( 0.959) | 0.973 |
| 8 | 0.67 | 8.60 | 1.238 | 0.093 | ( 1.114) | 1.145 |
| 9 | 0.75 | 12.30 | 1.770 | 0.093 | ( 1.593) | 1.678 |
| 10 | 0.83 | 29.10 | 4.188 | 0.093 | ( 3.770) | 4.096 |
| 11 | 0.92 | 6.80 | 0.979 | 0.093 | ( 0.881) | 0.886 |
| 12 | 1.00 | 5.00 | 0.720 | 0.093 | ( 0.648) | 0.627 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 13.3 |

Flood volume = Effective rainfall 1.11(In)
times area 51.4(Ac.)/[(In)/(Ft.)] = 4.7(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.397(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 206519.2 Cubic Feet
Total soil loss = 17274.9 Cubic Feet

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Peak flow rate of this hydrograph = 122.588(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 50.0 | 100.0 | 150.0 | 200.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0119 | 1.73 | Q | | | | |
| 0+10 | 0.0929 | 11.76 | V Q | | | | |
| 0+15 | 0.2347 | 20.60 | V Q | | | | |
| 0+20 | 0.4127 | 25.84 | V Q | | | | |
| 0+25 | 0.6168 | 29.65 | Q | | | | |
| 0+30 | 0.8499 | 33.84 | QV | | | | |
| 0+35 | 1.1176 | 38.87 | Q V | | | | |
| 0+40 | 1.4252 | 44.66 | Q V | | | | |
| 0+45 | 1.7909 | 53.10 | Q V | | | | |
| 0+50 | 2.3136 | 75.89 | Q V | | | | |

```
    0+55       3.1578    122.59  |          |          |   Q V    |          |
    1+ 0       3.8609    102.09  |          |          Q          | V        |
    1+ 5       4.2745     60.05  |          | Q        |          |     V    |
    1+10       4.5082     33.93  |      Q   |          |          |       V  |
    1+15       4.6228     16.64  |   Q      |          |          |         V|
    1+20       4.6798      8.28  |Q         |          |          |         V|
    1+25       4.7080      4.09  Q          |          |          |         V|
    1+30       4.7238      2.29  Q          |          |          |         V|
    1+35       4.7339      1.47  Q          |          |          |         V|
    1+40       4.7391      0.75  Q          |          |          |         V|
    1+45       4.7406      0.22  Q          |          |          |         V|
    1+50       4.7410      0.06  Q          |          |          |          V
-------------------------------------------------------------------------------
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX203100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 20
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 51.40(Ac.) = 0.080 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 51.40(Ac.) = 0.080 Sq. Mi.
Length along longest watercourse = 3495.00(Ft.)
Length along longest watercourse measured to centroid = 1715.00(Ft.)
Length along longest watercourse = 0.662 Mi.
Length along longest watercourse measured to centroid = 0.325 Mi.
Difference in elevation = 660.00(Ft.)
Slope along watercourse = 997.0815 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.126 Hr.
Lag time = 7.57 Min.
25% of lag time = 1.89 Min.
40% of lag time = 3.03 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 51.40 | 0.80 | 41.12 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 51.40 | 1.80 | 92.52 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 99.98 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 51.400 | 83.13 | 0.000 |

Total Area Entered = 51.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.1 | 92.9 | 0.093 | 0.000 | 0.093 | 1.000 | 0.093 |
| | | | | | Sum (F) = | 0.093 |

Area averaged mean soil loss (F) (In/Hr) = 0.093

Minimum soil loss rate ((In/Hr)) = 0.046
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 66.065 | 6.506 | 3.370 |
| 2 0.167 | 132.129 | 37.622 | 19.489 |
| 3 0.250 | 198.194 | 30.981 | 16.049 |
| 4 0.333 | 264.259 | 11.469 | 5.941 |
| 5 0.417 | 330.324 | 6.476 | 3.355 |
| 6 0.500 | 396.388 | 3.615 | 1.872 |
| 7 0.583 | 462.453 | 1.580 | 0.818 |
| 8 0.667 | 528.518 | 0.681 | 0.353 |
| 9 0.750 | 594.583 | 0.469 | 0.243 |
| 10 0.833 | 660.647 | 0.408 | 0.212 |
| 11 0.917 | 726.712 | 0.192 | 0.100 |
| | | Sum = 100.000 | Sum= 51.802 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.281 | 0.093 | ( 0.253) | 0.188 |
| 2 | 0.17 | 1.30 | 0.281 | 0.093 | ( 0.253) | 0.188 |
| 3 | 0.25 | 1.10 | 0.238 | 0.093 | ( 0.214) | 0.145 |
| 4 | 0.33 | 1.50 | 0.324 | 0.093 | ( 0.292) | 0.231 |
| 5 | 0.42 | 1.50 | 0.324 | 0.093 | ( 0.292) | 0.231 |
| 6 | 0.50 | 1.80 | 0.389 | 0.093 | ( 0.350) | 0.296 |
| 7 | 0.58 | 1.50 | 0.324 | 0.093 | ( 0.292) | 0.231 |
| 8 | 0.67 | 1.80 | 0.389 | 0.093 | ( 0.350) | 0.296 |
| 9 | 0.75 | 1.80 | 0.389 | 0.093 | ( 0.350) | 0.296 |
| 10 | 0.83 | 1.50 | 0.324 | 0.093 | ( 0.292) | 0.231 |
| 11 | 0.92 | 1.60 | 0.346 | 0.093 | ( 0.311) | 0.253 |
| 12 | 1.00 | 1.80 | 0.389 | 0.093 | ( 0.350) | 0.296 |
| 13 | 1.08 | 2.20 | 0.475 | 0.093 | ( 0.428) | 0.383 |
| 14 | 1.17 | 2.20 | 0.475 | 0.093 | ( 0.428) | 0.383 |
| 15 | 1.25 | 2.20 | 0.475 | 0.093 | ( 0.428) | 0.383 |
| 16 | 1.33 | 2.00 | 0.432 | 0.093 | ( 0.389) | 0.339 |
| 17 | 1.42 | 2.60 | 0.561 | 0.093 | ( 0.505) | 0.469 |
| 18 | 1.50 | 2.70 | 0.583 | 0.093 | ( 0.525) | 0.490 |
| 19 | 1.58 | 2.40 | 0.518 | 0.093 | ( 0.466) | 0.426 |
| 20 | 1.67 | 2.70 | 0.583 | 0.093 | ( 0.525) | 0.490 |
| 21 | 1.75 | 3.30 | 0.713 | 0.093 | ( 0.641) | 0.620 |
| 22 | 1.83 | 3.10 | 0.669 | 0.093 | ( 0.603) | 0.577 |
| 23 | 1.92 | 2.90 | 0.626 | 0.093 | ( 0.564) | 0.534 |
| 24 | 2.00 | 3.00 | 0.648 | 0.093 | ( 0.583) | 0.555 |
| 25 | 2.08 | 3.10 | 0.669 | 0.093 | ( 0.603) | 0.577 |
| 26 | 2.17 | 4.20 | 0.907 | 0.093 | ( 0.816) | 0.814 |
| 27 | 2.25 | 5.00 | 1.080 | 0.093 | ( 0.972) | 0.987 |
| 28 | 2.33 | 3.50 | 0.756 | 0.093 | ( 0.680) | 0.663 |
| 29 | 2.42 | 6.80 | 1.468 | 0.093 | ( 1.322) | 1.376 |
| 30 | 2.50 | 7.30 | 1.576 | 0.093 | ( 1.419) | 1.484 |
| 31 | 2.58 | 8.20 | 1.771 | 0.093 | ( 1.594) | 1.678 |
| 32 | 2.67 | 5.90 | 1.274 | 0.093 | ( 1.147) | 1.182 |
| 33 | 2.75 | 2.00 | 0.432 | 0.093 | ( 0.389) | 0.339 |
| 34 | 2.83 | 1.80 | 0.389 | 0.093 | ( 0.350) | 0.296 |
| 35 | 2.92 | 1.80 | 0.389 | 0.093 | ( 0.350) | 0.296 |
| 36 | 3.00 | 0.60 | 0.130 | 0.093 | ( 0.117) | 0.037 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 18.3 |

Flood volume = Effective rainfall 1.52(In)
times area 51.4(Ac.)/[(In)/(Ft.)] = 6.5(Ac.Ft)
Total soil loss = 0.28(In)
Total soil loss = 1.190(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 283947.4 Cubic Feet
Total soil loss = 51824.6 Cubic Feet

Peak flow rate of this hydrograph = 73.964(CFS)

3 - H O U R  S T O R M
R u n o f f  H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 20.0 | 40.0 | 60.0 | 80.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0044 | 0.63 | Q | | | | |
| 0+10 | 0.0340 | 4.30 | V Q | | | | |
| 0+15 | 0.0834 | 7.18 | V Q | | | | |
| 0+20 | 0.1368 | 7.75 | V Q | | | | |
| 0+25 | 0.2013 | 9.37 | V Q | | | | |
| 0+30 | 0.2776 | 11.07 | V Q | | | | |
| 0+35 | 0.3646 | 12.64 | V Q | | | | |
| 0+40 | 0.4535 | 12.91 | V Q | | | | |
| 0+45 | 0.5478 | 13.69 | V Q | | | | |
| 0+50 | 0.6472 | 14.44 | V Q | | | | |
| 0+55 | 0.7407 | 13.58 | V Q | | | | |
| 1+ 0 | 0.8320 | 13.26 | VQ | | | | |
| 1+ 5 | 0.9316 | 14.46 | V Q | | | | |
| 1+10 | 1.0474 | 16.81 | V Q | | | | |
| 1+15 | 1.1742 | 18.42 | V Q | | | | |
| 1+20 | 1.3046 | 18.93 | VQ | | | | |
| 1+25 | 1.4348 | 18.90 | VQ | | | | |
| 1+30 | 1.5794 | 21.00 | VQ | | | | |
| 1+35 | 1.7385 | 23.10 | VQ | | | | |
| 1+40 | 1.8974 | 23.07 | Q | | | | |
| 1+45 | 2.0644 | 24.24 | Q | | | | |
| 1+50 | 2.2543 | 27.58 | Q | | | | |
| 1+55 | 2.4539 | 28.98 | QV | | | | |
| 2+ 0 | 2.6498 | 28.44 | Q V | | | | |
| 2+ 5 | 2.8462 | 28.52 | Q V | | | | |
| 2+10 | 3.0527 | 29.98 | Q V | | | | |
| 2+15 | 3.2977 | 35.58 | Q V | | | | |
| 2+20 | 3.5856 | 41.80 | Q V | | | | |
| 2+25 | 3.8761 | 42.18 | Q V | | | | |
| 2+30 | 4.2420 | 53.13 | Q | | | | |
| 2+35 | 4.6997 | 66.45 | V Q | | | | |
| 2+40 | 5.2091 | 73.96 | V Q | | | | |
| 2+45 | 5.6720 | 67.22 | QV | | | | |
| 2+50 | 5.9846 | 45.39 | Q V | | | | |
| 2+55 | 6.1877 | 29.49 | Q V | | | | |
| 3+ 0 | 6.3387 | 21.93 | Q V | | | | |
| 3+ 5 | 6.4286 | 13.06 | Q V | | | | |
| 3+10 | 6.4718 | 6.26 | Q V | | | | |
| 3+15 | 6.4947 | 3.32 | Q V | | | | |
| 3+20 | 6.5073 | 1.83 | Q V | | | | |
| 3+25 | 6.5136 | 0.92 | Q V | | | | |
| 3+30 | 6.5163 | 0.40 | Q V | | | | |
| 3+35 | 6.5176 | 0.18 | Q V | | | | |
| 3+40 | 6.5183 | 0.10 | Q V | | | | |
| 3+45 | 6.5185 | 0.04 | Q V | | | | |
| 3+50 | 6.5185 | 0.00 | Q V | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX206100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 20
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 51.40(Ac.) = 0.080 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 51.40(Ac.) = 0.080 Sq. Mi.
Length along longest watercourse = 3495.00(Ft.)
Length along longest watercourse measured to centroid = 1715.00(Ft.)
Length along longest watercourse = 0.662 Mi.
Length along longest watercourse measured to centroid = 0.325 Mi.
Difference in elevation = 660.00(Ft.)
Slope along watercourse = 997.0815 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.126 Hr.
Lag time = 7.57 Min.
25% of lag time = 1.89 Min.
40% of lag time = 3.03 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 51.40 | 1.12 | 57.57 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 51.40 | 2.50 | 128.50 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.120(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 99.98 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 51.400 | 83.13 | 0.000 |

Total Area Entered = 51.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.1 | 92.9 | 0.093 | 0.000 | 0.093 | 1.000 | 0.093 |
| | | | | | Sum (F) = | 0.093 |

Area averaged mean soil loss (F) (In/Hr) = 0.093

Minimum soil loss rate ((In/Hr)) = 0.046
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 66.065 | 6.506 | 3.370 |
| 2 0.167 | 132.129 | 37.622 | 19.489 |
| 3 0.250 | 198.194 | 30.981 | 16.049 |
| 4 0.333 | 264.259 | 11.469 | 5.941 |
| 5 0.417 | 330.324 | 6.476 | 3.355 |
| 6 0.500 | 396.388 | 3.615 | 1.872 |
| 7 0.583 | 462.453 | 1.580 | 0.818 |
| 8 0.667 | 528.518 | 0.681 | 0.353 |
| 9 0.750 | 594.583 | 0.469 | 0.243 |
| 10 0.833 | 660.647 | 0.408 | 0.212 |
| 11 0.917 | 726.712 | 0.192 | 0.100 |
| | | Sum = 100.000 | Sum= 51.802 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.093 | ( 0.135) | 0.057 |
| 2 | 0.17 | 0.60 | 0.180 | 0.093 | ( 0.162) | 0.087 |
| 3 | 0.25 | 0.60 | 0.180 | 0.093 | ( 0.162) | 0.087 |
| 4 | 0.33 | 0.60 | 0.180 | 0.093 | ( 0.162) | 0.087 |
| 5 | 0.42 | 0.60 | 0.180 | 0.093 | ( 0.162) | 0.087 |
| 6 | 0.50 | 0.70 | 0.210 | 0.093 | ( 0.189) | 0.117 |
| 7 | 0.58 | 0.70 | 0.210 | 0.093 | ( 0.189) | 0.117 |
| 8 | 0.67 | 0.70 | 0.210 | 0.093 | ( 0.189) | 0.117 |
| 9 | 0.75 | 0.70 | 0.210 | 0.093 | ( 0.189) | 0.117 |
| 10 | 0.83 | 0.70 | 0.210 | 0.093 | ( 0.189) | 0.117 |
| 11 | 0.92 | 0.70 | 0.210 | 0.093 | ( 0.189) | 0.117 |
| 12 | 1.00 | 0.80 | 0.240 | 0.093 | ( 0.216) | 0.147 |
| 13 | 1.08 | 0.80 | 0.240 | 0.093 | ( 0.216) | 0.147 |
| 14 | 1.17 | 0.80 | 0.240 | 0.093 | ( 0.216) | 0.147 |
| 15 | 1.25 | 0.80 | 0.240 | 0.093 | ( 0.216) | 0.147 |
| 16 | 1.33 | 0.80 | 0.240 | 0.093 | ( 0.216) | 0.147 |
| 17 | 1.42 | 0.80 | 0.240 | 0.093 | ( 0.216) | 0.147 |
| 18 | 1.50 | 0.80 | 0.240 | 0.093 | ( 0.216) | 0.147 |
| 19 | 1.58 | 0.80 | 0.240 | 0.093 | ( 0.216) | 0.147 |
| 20 | 1.67 | 0.80 | 0.240 | 0.093 | ( 0.216) | 0.147 |
| 21 | 1.75 | 0.80 | 0.240 | 0.093 | ( 0.216) | 0.147 |
| 22 | 1.83 | 0.80 | 0.240 | 0.093 | ( 0.216) | 0.147 |
| 23 | 1.92 | 0.80 | 0.240 | 0.093 | ( 0.216) | 0.147 |
| 24 | 2.00 | 0.90 | 0.270 | 0.093 | ( 0.243) | 0.177 |
| 25 | 2.08 | 0.80 | 0.240 | 0.093 | ( 0.216) | 0.147 |
| 26 | 2.17 | 0.90 | 0.270 | 0.093 | ( 0.243) | 0.177 |
| 27 | 2.25 | 0.90 | 0.270 | 0.093 | ( 0.243) | 0.177 |
| 28 | 2.33 | 0.90 | 0.270 | 0.093 | ( 0.243) | 0.177 |
| 29 | 2.42 | 0.90 | 0.270 | 0.093 | ( 0.243) | 0.177 |
| 30 | 2.50 | 0.90 | 0.270 | 0.093 | ( 0.243) | 0.177 |
| 31 | 2.58 | 0.90 | 0.270 | 0.093 | ( 0.243) | 0.177 |
| 32 | 2.67 | 0.90 | 0.270 | 0.093 | ( 0.243) | 0.177 |
| 33 | 2.75 | 1.00 | 0.300 | 0.093 | ( 0.270) | 0.207 |
| 34 | 2.83 | 1.00 | 0.300 | 0.093 | ( 0.270) | 0.207 |
| 35 | 2.92 | 1.00 | 0.300 | 0.093 | ( 0.270) | 0.207 |
| 36 | 3.00 | 1.00 | 0.300 | 0.093 | ( 0.270) | 0.207 |
| 37 | 3.08 | 1.00 | 0.300 | 0.093 | ( 0.270) | 0.207 |
| 38 | 3.17 | 1.10 | 0.330 | 0.093 | ( 0.297) | 0.237 |
| 39 | 3.25 | 1.10 | 0.330 | 0.093 | ( 0.297) | 0.237 |
| 40 | 3.33 | 1.10 | 0.330 | 0.093 | ( 0.297) | 0.237 |
| 41 | 3.42 | 1.20 | 0.360 | 0.093 | ( 0.324) | 0.267 |
| 42 | 3.50 | 1.30 | 0.390 | 0.093 | ( 0.351) | 0.297 |
| 43 | 3.58 | 1.40 | 0.420 | 0.093 | ( 0.378) | 0.327 |
| 44 | 3.67 | 1.40 | 0.420 | 0.093 | ( 0.378) | 0.327 |
| 45 | 3.75 | 1.50 | 0.450 | 0.093 | ( 0.405) | 0.357 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 46 | 3.83 | 1.50 | 0.450 | 0.093 | ( 0.405) | 0.357 | |
| 47 | 3.92 | 1.60 | 0.480 | 0.093 | ( 0.432) | 0.387 | |
| 48 | 4.00 | 1.60 | 0.480 | 0.093 | ( 0.432) | 0.387 | |
| 49 | 4.08 | 1.70 | 0.510 | 0.093 | ( 0.459) | 0.417 | |
| 50 | 4.17 | 1.80 | 0.540 | 0.093 | ( 0.486) | 0.447 | |
| 51 | 4.25 | 1.90 | 0.570 | 0.093 | ( 0.513) | 0.477 | |
| 52 | 4.33 | 2.00 | 0.600 | 0.093 | ( 0.540) | 0.507 | |
| 53 | 4.42 | 2.10 | 0.630 | 0.093 | ( 0.567) | 0.537 | |
| 54 | 4.50 | 2.10 | 0.630 | 0.093 | ( 0.567) | 0.537 | |
| 55 | 4.58 | 2.20 | 0.660 | 0.093 | ( 0.594) | 0.567 | |
| 56 | 4.67 | 2.30 | 0.690 | 0.093 | ( 0.621) | 0.597 | |
| 57 | 4.75 | 2.40 | 0.720 | 0.093 | ( 0.648) | 0.627 | |
| 58 | 4.83 | 2.40 | 0.720 | 0.093 | ( 0.648) | 0.627 | |
| 59 | 4.92 | 2.50 | 0.750 | 0.093 | ( 0.675) | 0.657 | |
| 60 | 5.00 | 2.60 | 0.780 | 0.093 | ( 0.702) | 0.687 | |
| 61 | 5.08 | 3.10 | 0.930 | 0.093 | ( 0.837) | 0.837 | |
| 62 | 5.17 | 3.60 | 1.080 | 0.093 | ( 0.972) | 0.987 | |
| 63 | 5.25 | 3.90 | 1.170 | 0.093 | ( 1.053) | 1.077 | |
| 64 | 5.33 | 4.20 | 1.260 | 0.093 | ( 1.134) | 1.167 | |
| 65 | 5.42 | 4.70 | 1.410 | 0.093 | ( 1.269) | 1.317 | |
| 66 | 5.50 | 5.60 | 1.680 | 0.093 | ( 1.512) | 1.587 | |
| 67 | 5.58 | 1.90 | 0.570 | 0.093 | ( 0.513) | 0.477 | |
| 68 | 5.67 | 0.90 | 0.270 | 0.093 | ( 0.243) | 0.177 | |
| 69 | 5.75 | 0.60 | 0.180 | 0.093 | ( 0.162) | 0.087 | |
| 70 | 5.83 | 0.50 | 0.150 | 0.093 | ( 0.135) | 0.057 | |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.093) | 0.081 | 0.009 | |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.093) | 0.054 | 0.006 | |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.4

Flood volume = Effective rainfall 1.95(In)
times area 51.4(Ac.)/[(In)/(Ft.)] = 8.3(Ac.Ft)
Total soil loss = 0.55(In)
Total soil loss = 2.362(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 363503.8 Cubic Feet
Total soil loss = 102868.8 Cubic Feet

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Peak flow rate of this hydrograph = 67.393(CFS)

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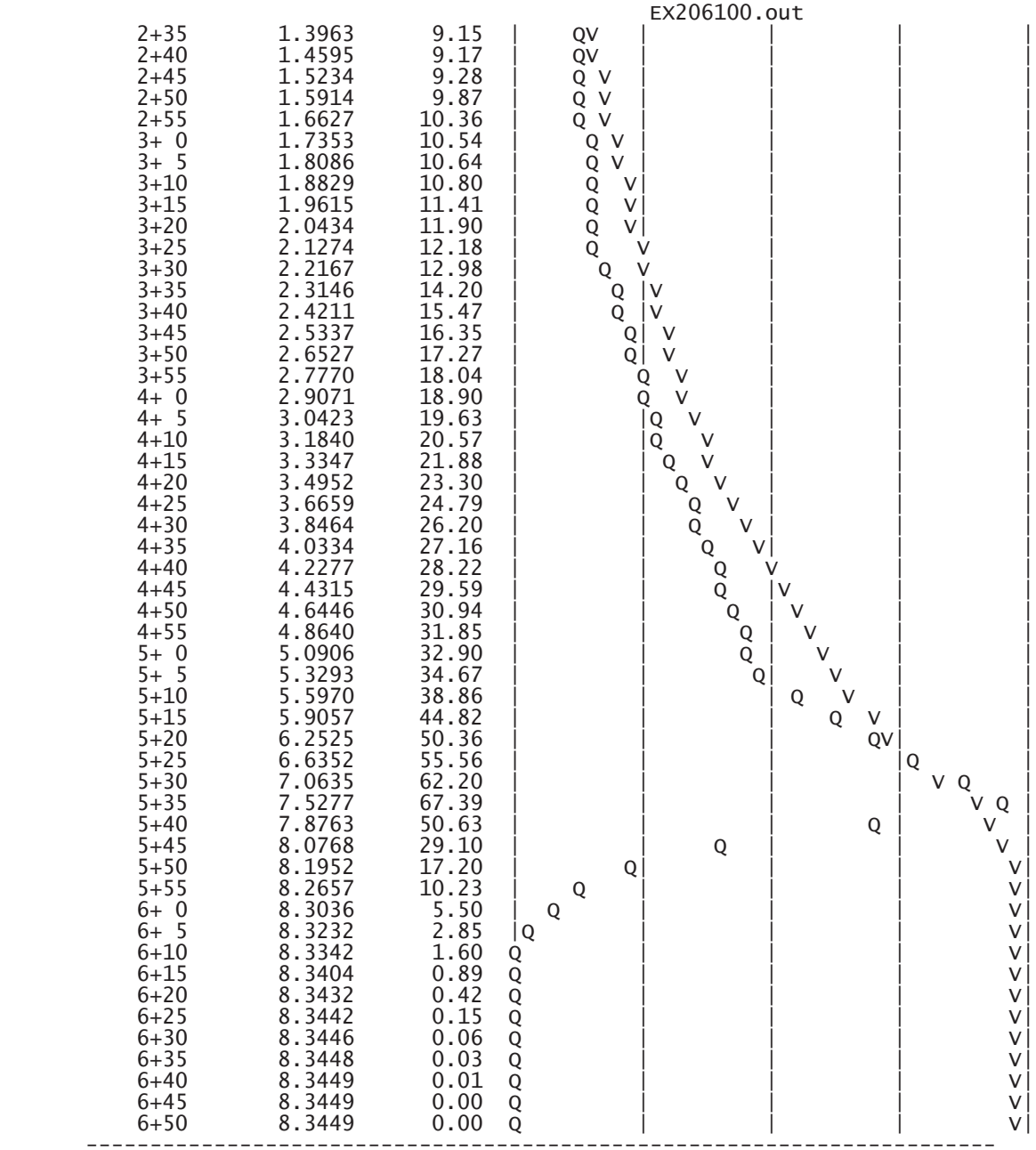
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 17.5 | 35.0 | 52.5 | 70.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0013 | 0.19 | Q | | | | |
| 0+10 | 0.0111 | 1.41 | Q | | | | |
| 0+15 | 0.0312 | 2.92 | VQ | | | | |
| 0+20 | 0.0570 | 3.74 | V Q | | | | |
| 0+25 | 0.0853 | 4.11 | V Q | | | | |
| 0+30 | 0.1157 | 4.42 | V Q | | | | |
| 0+35 | 0.1509 | 5.11 | V Q | | | | |
| 0+40 | 0.1898 | 5.64 | V Q | | | | |
| 0+45 | 0.2300 | 5.84 | \|V Q | | | | |
| 0+50 | 0.2710 | 5.96 | \|V Q | | | | |
| 0+55 | 0.3126 | 6.03 | \|V Q | | | | |
| 1+ 0 | 0.3550 | 6.16 | \|V Q | | | | |
| 1+ 5 | 0.4015 | 6.75 | \|V Q | | | | |
| 1+10 | 0.4514 | 7.24 | \| V Q | | | | |
| 1+15 | 0.5025 | 7.43 | \| V Q | | | | |
| 1+20 | 0.5544 | 7.53 | \| V Q | | | | |
| 1+25 | 0.6066 | 7.59 | \| V Q | | | | |
| 1+30 | 0.6590 | 7.61 | \| VQ | | | | |
| 1+35 | 0.7115 | 7.62 | \| VQ | | | | |
| 1+40 | 0.7640 | 7.63 | \| VQ | | | | |
| 1+45 | 0.8166 | 7.64 | \| VQ | | | | |
| 1+50 | 0.8692 | 7.64 | \| Q | | | | |
| 1+55 | 0.9218 | 7.64 | \| Q | | | | |
| 2+ 0 | 0.9751 | 7.74 | \| Q | | | | |
| 2+ 5 | 1.0318 | 8.22 | \| Q | | | | |
| 2+10 | 1.0884 | 8.22 | \| QV | | | | |
| 2+15 | 1.1469 | 8.50 | \| QV | | | | |
| 2+20 | 1.2083 | 8.91 | \| Q | | | | |
| 2+25 | 1.2705 | 9.04 | \| QV | | | | |
| 2+30 | 1.3333 | 9.11 | \| QV | | | | |



| | | | |
|---|---|---|---|
| 2+35 | 1.3963 | 9.15 | |
| 2+40 | 1.4595 | 9.17 | |
| 2+45 | 1.5234 | 9.28 | |
| 2+50 | 1.5914 | 9.87 | |
| 2+55 | 1.6627 | 10.36 | |
| 3+ 0 | 1.7353 | 10.54 | |
| 3+ 5 | 1.8086 | 10.64 | |
| 3+10 | 1.8829 | 10.80 | |
| 3+15 | 1.9615 | 11.41 | |
| 3+20 | 2.0434 | 11.90 | |
| 3+25 | 2.1274 | 12.18 | |
| 3+30 | 2.2167 | 12.98 | |
| 3+35 | 2.3146 | 14.20 | |
| 3+40 | 2.4211 | 15.47 | |
| 3+45 | 2.5337 | 16.35 | |
| 3+50 | 2.6527 | 17.27 | |
| 3+55 | 2.7770 | 18.04 | |
| 4+ 0 | 2.9071 | 18.90 | |
| 4+ 5 | 3.0423 | 19.63 | |
| 4+10 | 3.1840 | 20.57 | |
| 4+15 | 3.3347 | 21.88 | |
| 4+20 | 3.4952 | 23.30 | |
| 4+25 | 3.6659 | 24.79 | |
| 4+30 | 3.8464 | 26.20 | |
| 4+35 | 4.0334 | 27.16 | |
| 4+40 | 4.2277 | 28.22 | |
| 4+45 | 4.4315 | 29.59 | |
| 4+50 | 4.6446 | 30.94 | |
| 4+55 | 4.8640 | 31.85 | |
| 5+ 0 | 5.0906 | 32.90 | |
| 5+ 5 | 5.3293 | 34.67 | |
| 5+10 | 5.5970 | 38.86 | |
| 5+15 | 5.9057 | 44.82 | |
| 5+20 | 6.2525 | 50.36 | |
| 5+25 | 6.6352 | 55.56 | |
| 5+30 | 7.0635 | 62.20 | |
| 5+35 | 7.5277 | 67.39 | |
| 5+40 | 7.8763 | 50.63 | |
| 5+45 | 8.0768 | 29.10 | |
| 5+50 | 8.1952 | 17.20 | |
| 5+55 | 8.2657 | 10.23 | |
| 6+ 0 | 8.3036 | 5.50 | |
| 6+ 5 | 8.3232 | 2.85 | |
| 6+10 | 8.3342 | 1.60 | |
| 6+15 | 8.3404 | 0.89 | |
| 6+20 | 8.3432 | 0.42 | |
| 6+25 | 8.3442 | 0.15 | |
| 6+30 | 8.3446 | 0.06 | |
| 6+35 | 8.3448 | 0.03 | |
| 6+40 | 8.3449 | 0.01 | |
| 6+45 | 8.3449 | 0.00 | |
| 6+50 | 8.3449 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX2024100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 20
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 51.40(Ac.) = 0.080 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 51.40(Ac.) = 0.080 Sq. Mi.
Length along longest watercourse = 3495.00(Ft.)
Length along longest watercourse measured to centroid = 1715.00(Ft.)
Length along longest watercourse = 0.662 Mi.
Length along longest watercourse measured to centroid = 0.325 Mi.
Difference in elevation = 660.00(Ft.)
Slope along watercourse = 997.0815 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.126 Hr.
Lag time = 7.57 Min.
25% of lag time = 1.89 Min.
40% of lag time = 3.03 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 51.40 | 1.80 | 92.52 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 51.40 | 4.56 | 234.38 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.560(In)

Point rain (area averaged) = 4.560(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 4.560(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 51.400 | 83.13 | 0.000 |

Total Area Entered = 51.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.1 | 92.9 | 0.093 | 0.000 | 0.093 | 1.000 | 0.093 |
| | | | | | Sum (F) = | 0.093 |

Area averaged mean soil loss (F) (In/Hr) = 0.093

Minimum soil loss rate ((In/Hr)) = 0.046
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 66.065 | 6.506 | 3.370 |
| 2 0.167 | 132.129 | 37.622 | 19.489 |
| 3 0.250 | 198.194 | 30.981 | 16.049 |
| 4 0.333 | 264.259 | 11.469 | 5.941 |
| 5 0.417 | 330.324 | 6.476 | 3.355 |
| 6 0.500 | 396.388 | 3.615 | 1.872 |
| 7 0.583 | 462.453 | 1.580 | 0.818 |
| 8 0.667 | 528.518 | 0.681 | 0.353 |
| 9 0.750 | 594.583 | 0.469 | 0.243 |
| 10 0.833 | 660.647 | 0.408 | 0.212 |
| 11 0.917 | 726.712 | 0.192 | 0.100 |
| | | Sum = 100.000 | Sum= 51.802 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.036 | ( 0.164) | 0.033 | 0.004 |
| 2 | 0.17 | 0.07 | 0.036 | ( 0.163) | 0.033 | 0.004 |
| 3 | 0.25 | 0.07 | 0.036 | ( 0.163) | 0.033 | 0.004 |
| 4 | 0.33 | 0.10 | 0.055 | ( 0.162) | 0.049 | 0.005 |
| 5 | 0.42 | 0.10 | 0.055 | ( 0.162) | 0.049 | 0.005 |
| 6 | 0.50 | 0.10 | 0.055 | ( 0.161) | 0.049 | 0.005 |
| 7 | 0.58 | 0.10 | 0.055 | ( 0.160) | 0.049 | 0.005 |
| 8 | 0.67 | 0.10 | 0.055 | ( 0.160) | 0.049 | 0.005 |
| 9 | 0.75 | 0.10 | 0.055 | ( 0.159) | 0.049 | 0.005 |
| 10 | 0.83 | 0.13 | 0.073 | ( 0.158) | 0.066 | 0.007 |
| 11 | 0.92 | 0.13 | 0.073 | ( 0.158) | 0.066 | 0.007 |
| 12 | 1.00 | 0.13 | 0.073 | ( 0.157) | 0.066 | 0.007 |
| 13 | 1.08 | 0.10 | 0.055 | ( 0.157) | 0.049 | 0.005 |
| 14 | 1.17 | 0.10 | 0.055 | ( 0.156) | 0.049 | 0.005 |
| 15 | 1.25 | 0.10 | 0.055 | ( 0.155) | 0.049 | 0.005 |
| 16 | 1.33 | 0.10 | 0.055 | ( 0.155) | 0.049 | 0.005 |
| 17 | 1.42 | 0.10 | 0.055 | ( 0.154) | 0.049 | 0.005 |
| 18 | 1.50 | 0.10 | 0.055 | ( 0.154) | 0.049 | 0.005 |
| 19 | 1.58 | 0.10 | 0.055 | ( 0.153) | 0.049 | 0.005 |
| 20 | 1.67 | 0.10 | 0.055 | ( 0.152) | 0.049 | 0.005 |
| 21 | 1.75 | 0.10 | 0.055 | ( 0.152) | 0.049 | 0.005 |
| 22 | 1.83 | 0.13 | 0.073 | ( 0.151) | 0.066 | 0.007 |
| 23 | 1.92 | 0.13 | 0.073 | ( 0.150) | 0.066 | 0.007 |
| 24 | 2.00 | 0.13 | 0.073 | ( 0.150) | 0.066 | 0.007 |
| 25 | 2.08 | 0.13 | 0.073 | ( 0.149) | 0.066 | 0.007 |
| 26 | 2.17 | 0.13 | 0.073 | ( 0.149) | 0.066 | 0.007 |
| 27 | 2.25 | 0.13 | 0.073 | ( 0.148) | 0.066 | 0.007 |
| 28 | 2.33 | 0.13 | 0.073 | ( 0.147) | 0.066 | 0.007 |
| 29 | 2.42 | 0.13 | 0.073 | ( 0.147) | 0.066 | 0.007 |
| 30 | 2.50 | 0.13 | 0.073 | ( 0.146) | 0.066 | 0.007 |
| 31 | 2.58 | 0.17 | 0.091 | ( 0.146) | 0.082 | 0.009 |
| 32 | 2.67 | 0.17 | 0.091 | ( 0.145) | 0.082 | 0.009 |
| 33 | 2.75 | 0.17 | 0.091 | ( 0.144) | 0.082 | 0.009 |
| 34 | 2.83 | 0.17 | 0.091 | ( 0.144) | 0.082 | 0.009 |
| 35 | 2.92 | 0.17 | 0.091 | ( 0.143) | 0.082 | 0.009 |
| 36 | 3.00 | 0.17 | 0.091 | ( 0.143) | 0.082 | 0.009 |
| 37 | 3.08 | 0.17 | 0.091 | ( 0.142) | 0.082 | 0.009 |
| 38 | 3.17 | 0.17 | 0.091 | ( 0.141) | 0.082 | 0.009 |
| 39 | 3.25 | 0.17 | 0.091 | ( 0.141) | 0.082 | 0.009 |
| 40 | 3.33 | 0.17 | 0.091 | ( 0.140) | 0.082 | 0.009 |
| 41 | 3.42 | 0.17 | 0.091 | ( 0.140) | 0.082 | 0.009 |
| 42 | 3.50 | 0.17 | 0.091 | ( 0.139) | 0.082 | 0.009 |
| 43 | 3.58 | 0.17 | 0.091 | ( 0.139) | 0.082 | 0.009 |
| 44 | 3.67 | 0.17 | 0.091 | ( 0.138) | 0.082 | 0.009 |
| 45 | 3.75 | 0.17 | 0.091 | ( 0.137) | 0.082 | 0.009 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 46 | 3.83 | 0.20 | 0.109 | ( | 0.137) | 0.098 | | 0.011 |
| 47 | 3.92 | 0.20 | 0.109 | ( | 0.136) | 0.098 | | 0.011 |
| 48 | 4.00 | 0.20 | 0.109 | ( | 0.136) | 0.098 | | 0.011 |
| 49 | 4.08 | 0.20 | 0.109 | ( | 0.135) | 0.098 | | 0.011 |
| 50 | 4.17 | 0.20 | 0.109 | ( | 0.134) | 0.098 | | 0.011 |
| 51 | 4.25 | 0.20 | 0.109 | ( | 0.134) | 0.098 | | 0.011 |
| 52 | 4.33 | 0.23 | 0.128 | ( | 0.133) | 0.115 | | 0.013 |
| 53 | 4.42 | 0.23 | 0.128 | ( | 0.133) | 0.115 | | 0.013 |
| 54 | 4.50 | 0.23 | 0.128 | ( | 0.132) | 0.115 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.128 | ( | 0.132) | 0.115 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.128 | ( | 0.131) | 0.115 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.128 | ( | 0.131) | 0.115 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.146 | | 0.130 | ( | 0.131) | 0.016 |
| 59 | 4.92 | 0.27 | 0.146 | | 0.129 | ( | 0.131) | 0.017 |
| 60 | 5.00 | 0.27 | 0.146 | | 0.129 | ( | 0.131) | 0.017 |
| 61 | 5.08 | 0.20 | 0.109 | ( | 0.128) | 0.098 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.109 | ( | 0.128) | 0.098 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.109 | ( | 0.127) | 0.098 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.128 | ( | 0.127) | 0.115 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.128 | ( | 0.126) | 0.115 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.128 | ( | 0.125) | 0.115 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.146 | | 0.125 | ( | 0.131) | 0.021 |
| 68 | 5.67 | 0.27 | 0.146 | | 0.124 | ( | 0.131) | 0.022 |
| 69 | 5.75 | 0.27 | 0.146 | | 0.124 | ( | 0.131) | 0.022 |
| 70 | 5.83 | 0.27 | 0.146 | | 0.123 | ( | 0.131) | 0.023 |
| 71 | 5.92 | 0.27 | 0.146 | | 0.123 | ( | 0.131) | 0.023 |
| 72 | 6.00 | 0.27 | 0.146 | | 0.122 | ( | 0.131) | 0.024 |
| 73 | 6.08 | 0.30 | 0.164 | | 0.122 | ( | 0.148) | 0.042 |
| 74 | 6.17 | 0.30 | 0.164 | | 0.121 | ( | 0.148) | 0.043 |
| 75 | 6.25 | 0.30 | 0.164 | | 0.121 | ( | 0.148) | 0.044 |
| 76 | 6.33 | 0.30 | 0.164 | | 0.120 | ( | 0.148) | 0.044 |
| 77 | 6.42 | 0.30 | 0.164 | | 0.120 | ( | 0.148) | 0.045 |
| 78 | 6.50 | 0.30 | 0.164 | | 0.119 | ( | 0.148) | 0.045 |
| 79 | 6.58 | 0.33 | 0.182 | | 0.118 | ( | 0.164) | 0.064 |
| 80 | 6.67 | 0.33 | 0.182 | | 0.118 | ( | 0.164) | 0.064 |
| 81 | 6.75 | 0.33 | 0.182 | | 0.117 | ( | 0.164) | 0.065 |
| 82 | 6.83 | 0.33 | 0.182 | | 0.117 | ( | 0.164) | 0.066 |
| 83 | 6.92 | 0.33 | 0.182 | | 0.116 | ( | 0.164) | 0.066 |
| 84 | 7.00 | 0.33 | 0.182 | | 0.116 | ( | 0.164) | 0.067 |
| 85 | 7.08 | 0.33 | 0.182 | | 0.115 | ( | 0.164) | 0.067 |
| 86 | 7.17 | 0.33 | 0.182 | | 0.115 | ( | 0.164) | 0.068 |
| 87 | 7.25 | 0.33 | 0.182 | | 0.114 | ( | 0.164) | 0.068 |
| 88 | 7.33 | 0.37 | 0.201 | | 0.114 | ( | 0.181) | 0.087 |
| 89 | 7.42 | 0.37 | 0.201 | | 0.113 | ( | 0.181) | 0.087 |
| 90 | 7.50 | 0.37 | 0.201 | | 0.113 | ( | 0.181) | 0.088 |
| 91 | 7.58 | 0.40 | 0.219 | | 0.112 | ( | 0.197) | 0.107 |
| 92 | 7.67 | 0.40 | 0.219 | | 0.112 | ( | 0.197) | 0.107 |
| 93 | 7.75 | 0.40 | 0.219 | | 0.111 | ( | 0.197) | 0.108 |
| 94 | 7.83 | 0.43 | 0.237 | | 0.111 | ( | 0.213) | 0.127 |
| 95 | 7.92 | 0.43 | 0.237 | | 0.110 | ( | 0.213) | 0.127 |
| 96 | 8.00 | 0.43 | 0.237 | | 0.110 | ( | 0.213) | 0.128 |
| 97 | 8.08 | 0.50 | 0.274 | | 0.109 | ( | 0.246) | 0.165 |
| 98 | 8.17 | 0.50 | 0.274 | | 0.109 | ( | 0.246) | 0.165 |
| 99 | 8.25 | 0.50 | 0.274 | | 0.108 | ( | 0.246) | 0.166 |
| 100 | 8.33 | 0.50 | 0.274 | | 0.108 | ( | 0.246) | 0.166 |
| 101 | 8.42 | 0.50 | 0.274 | | 0.107 | ( | 0.246) | 0.167 |
| 102 | 8.50 | 0.50 | 0.274 | | 0.107 | ( | 0.246) | 0.167 |
| 103 | 8.58 | 0.53 | 0.292 | | 0.106 | ( | 0.263) | 0.186 |
| 104 | 8.67 | 0.53 | 0.292 | | 0.106 | ( | 0.263) | 0.186 |
| 105 | 8.75 | 0.53 | 0.292 | | 0.105 | ( | 0.263) | 0.187 |
| 106 | 8.83 | 0.57 | 0.310 | | 0.105 | ( | 0.279) | 0.205 |
| 107 | 8.92 | 0.57 | 0.310 | | 0.104 | ( | 0.279) | 0.206 |
| 108 | 9.00 | 0.57 | 0.310 | | 0.104 | ( | 0.279) | 0.206 |
| 109 | 9.08 | 0.63 | 0.347 | | 0.103 | ( | 0.312) | 0.243 |
| 110 | 9.17 | 0.63 | 0.347 | | 0.103 | ( | 0.312) | 0.244 |
| 111 | 9.25 | 0.63 | 0.347 | | 0.102 | ( | 0.312) | 0.244 |
| 112 | 9.33 | 0.67 | 0.365 | | 0.102 | ( | 0.328) | 0.263 |
| 113 | 9.42 | 0.67 | 0.365 | | 0.101 | ( | 0.328) | 0.264 |
| 114 | 9.50 | 0.67 | 0.365 | | 0.101 | ( | 0.328) | 0.264 |
| 115 | 9.58 | 0.70 | 0.383 | | 0.100 | ( | 0.345) | 0.283 |
| 116 | 9.67 | 0.70 | 0.383 | | 0.100 | ( | 0.345) | 0.283 |
| 117 | 9.75 | 0.70 | 0.383 | | 0.099 | ( | 0.345) | 0.284 |
| 118 | 9.83 | 0.73 | 0.401 | | 0.099 | ( | 0.361) | 0.303 |
| 119 | 9.92 | 0.73 | 0.401 | | 0.098 | ( | 0.361) | 0.303 |
| 120 | 10.00 | 0.73 | 0.401 | | 0.098 | ( | 0.361) | 0.303 |
| 121 | 10.08 | 0.50 | 0.274 | | 0.097 | ( | 0.246) | 0.176 |
| 122 | 10.17 | 0.50 | 0.274 | | 0.097 | ( | 0.246) | 0.177 |
| 123 | 10.25 | 0.50 | 0.274 | | 0.096 | ( | 0.246) | 0.177 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 124 | 10.33 | 0.50 | 0.274 | 0.096 | ( 0.246) | 0.178 |
| 125 | 10.42 | 0.50 | 0.274 | 0.095 | ( 0.246) | 0.178 |
| 126 | 10.50 | 0.50 | 0.274 | 0.095 | ( 0.246) | 0.179 |
| 127 | 10.58 | 0.67 | 0.365 | 0.094 | ( 0.328) | 0.270 |
| 128 | 10.67 | 0.67 | 0.365 | 0.094 | ( 0.328) | 0.271 |
| 129 | 10.75 | 0.67 | 0.365 | 0.094 | ( 0.328) | 0.271 |
| 130 | 10.83 | 0.67 | 0.365 | 0.093 | ( 0.328) | 0.272 |
| 131 | 10.92 | 0.67 | 0.365 | 0.093 | ( 0.328) | 0.272 |
| 132 | 11.00 | 0.67 | 0.365 | 0.092 | ( 0.328) | 0.273 |
| 133 | 11.08 | 0.63 | 0.347 | 0.092 | ( 0.312) | 0.255 |
| 134 | 11.17 | 0.63 | 0.347 | 0.091 | ( 0.312) | 0.255 |
| 135 | 11.25 | 0.63 | 0.347 | 0.091 | ( 0.312) | 0.256 |
| 136 | 11.33 | 0.63 | 0.347 | 0.090 | ( 0.312) | 0.256 |
| 137 | 11.42 | 0.63 | 0.347 | 0.090 | ( 0.312) | 0.257 |
| 138 | 11.50 | 0.63 | 0.347 | 0.090 | ( 0.312) | 0.257 |
| 139 | 11.58 | 0.57 | 0.310 | 0.089 | ( 0.279) | 0.221 |
| 140 | 11.67 | 0.57 | 0.310 | 0.089 | ( 0.279) | 0.221 |
| 141 | 11.75 | 0.57 | 0.310 | 0.088 | ( 0.279) | 0.222 |
| 142 | 11.83 | 0.60 | 0.328 | 0.088 | ( 0.295) | 0.241 |
| 143 | 11.92 | 0.60 | 0.328 | 0.087 | ( 0.295) | 0.241 |
| 144 | 12.00 | 0.60 | 0.328 | 0.087 | ( 0.295) | 0.241 |
| 145 | 12.08 | 0.83 | 0.456 | 0.086 | ( 0.410) | 0.370 |
| 146 | 12.17 | 0.83 | 0.456 | 0.086 | ( 0.410) | 0.370 |
| 147 | 12.25 | 0.83 | 0.456 | 0.086 | ( 0.410) | 0.370 |
| 148 | 12.33 | 0.87 | 0.474 | 0.085 | ( 0.427) | 0.389 |
| 149 | 12.42 | 0.87 | 0.474 | 0.085 | ( 0.427) | 0.389 |
| 150 | 12.50 | 0.87 | 0.474 | 0.084 | ( 0.427) | 0.390 |
| 151 | 12.58 | 0.93 | 0.511 | 0.084 | ( 0.460) | 0.427 |
| 152 | 12.67 | 0.93 | 0.511 | 0.083 | ( 0.460) | 0.427 |
| 153 | 12.75 | 0.93 | 0.511 | 0.083 | ( 0.460) | 0.428 |
| 154 | 12.83 | 0.97 | 0.529 | 0.083 | ( 0.476) | 0.446 |
| 155 | 12.92 | 0.97 | 0.529 | 0.082 | ( 0.476) | 0.447 |
| 156 | 13.00 | 0.97 | 0.529 | 0.082 | ( 0.476) | 0.447 |
| 157 | 13.08 | 1.13 | 0.620 | 0.081 | ( 0.558) | 0.539 |
| 158 | 13.17 | 1.13 | 0.620 | 0.081 | ( 0.558) | 0.539 |
| 159 | 13.25 | 1.13 | 0.620 | 0.081 | ( 0.558) | 0.540 |
| 160 | 13.33 | 1.13 | 0.620 | 0.080 | ( 0.558) | 0.540 |
| 161 | 13.42 | 1.13 | 0.620 | 0.080 | ( 0.558) | 0.540 |
| 162 | 13.50 | 1.13 | 0.620 | 0.079 | ( 0.558) | 0.541 |
| 163 | 13.58 | 0.77 | 0.419 | 0.079 | ( 0.378) | 0.341 |
| 164 | 13.67 | 0.77 | 0.419 | 0.078 | ( 0.378) | 0.341 |
| 165 | 13.75 | 0.77 | 0.419 | 0.078 | ( 0.378) | 0.341 |
| 166 | 13.83 | 0.77 | 0.419 | 0.078 | ( 0.378) | 0.342 |
| 167 | 13.92 | 0.77 | 0.419 | 0.077 | ( 0.378) | 0.342 |
| 168 | 14.00 | 0.77 | 0.419 | 0.077 | ( 0.378) | 0.343 |
| 169 | 14.08 | 0.90 | 0.492 | 0.077 | ( 0.443) | 0.416 |
| 170 | 14.17 | 0.90 | 0.492 | 0.076 | ( 0.443) | 0.416 |
| 171 | 14.25 | 0.90 | 0.492 | 0.076 | ( 0.443) | 0.417 |
| 172 | 14.33 | 0.87 | 0.474 | 0.075 | ( 0.427) | 0.399 |
| 173 | 14.42 | 0.87 | 0.474 | 0.075 | ( 0.427) | 0.399 |
| 174 | 14.50 | 0.87 | 0.474 | 0.075 | ( 0.427) | 0.400 |
| 175 | 14.58 | 0.87 | 0.474 | 0.074 | ( 0.427) | 0.400 |
| 176 | 14.67 | 0.87 | 0.474 | 0.074 | ( 0.427) | 0.400 |
| 177 | 14.75 | 0.87 | 0.474 | 0.073 | ( 0.427) | 0.401 |
| 178 | 14.83 | 0.83 | 0.456 | 0.073 | ( 0.410) | 0.383 |
| 179 | 14.92 | 0.83 | 0.456 | 0.073 | ( 0.410) | 0.383 |
| 180 | 15.00 | 0.83 | 0.456 | 0.072 | ( 0.410) | 0.384 |
| 181 | 15.08 | 0.80 | 0.438 | 0.072 | ( 0.394) | 0.366 |
| 182 | 15.17 | 0.80 | 0.438 | 0.072 | ( 0.394) | 0.366 |
| 183 | 15.25 | 0.80 | 0.438 | 0.071 | ( 0.394) | 0.367 |
| 184 | 15.33 | 0.77 | 0.419 | 0.071 | ( 0.378) | 0.349 |
| 185 | 15.42 | 0.77 | 0.419 | 0.070 | ( 0.378) | 0.349 |
| 186 | 15.50 | 0.77 | 0.419 | 0.070 | ( 0.378) | 0.349 |
| 187 | 15.58 | 0.63 | 0.347 | 0.070 | ( 0.312) | 0.277 |
| 188 | 15.67 | 0.63 | 0.347 | 0.069 | ( 0.312) | 0.277 |
| 189 | 15.75 | 0.63 | 0.347 | 0.069 | ( 0.312) | 0.277 |
| 190 | 15.83 | 0.63 | 0.347 | 0.069 | ( 0.312) | 0.278 |
| 191 | 15.92 | 0.63 | 0.347 | 0.068 | ( 0.312) | 0.278 |
| 192 | 16.00 | 0.63 | 0.347 | 0.068 | ( 0.312) | 0.279 |
| 193 | 16.08 | 0.13 | 0.073 | ( 0.068) | 0.066 | 0.007 |
| 194 | 16.17 | 0.13 | 0.073 | ( 0.067) | 0.066 | 0.007 |
| 195 | 16.25 | 0.13 | 0.073 | ( 0.067) | 0.066 | 0.007 |
| 196 | 16.33 | 0.13 | 0.073 | ( 0.067) | 0.066 | 0.007 |
| 197 | 16.42 | 0.13 | 0.073 | ( 0.066) | 0.066 | 0.007 |
| 198 | 16.50 | 0.13 | 0.073 | ( 0.066) | 0.066 | 0.007 |
| 199 | 16.58 | 0.10 | 0.055 | ( 0.066) | 0.049 | 0.005 |
| 200 | 16.67 | 0.10 | 0.055 | ( 0.065) | 0.049 | 0.005 |
| 201 | 16.75 | 0.10 | 0.055 | ( 0.065) | 0.049 | 0.005 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 202 | 16.83 | 0.10 | 0.055 | ( | 0.065) | 0.049 | | 0.005 |
| 203 | 16.92 | 0.10 | 0.055 | ( | 0.064) | 0.049 | | 0.005 |
| 204 | 17.00 | 0.10 | 0.055 | ( | 0.064) | 0.049 | | 0.005 |
| 205 | 17.08 | 0.17 | 0.091 | | 0.064 | ( 0.082) | | 0.028 |
| 206 | 17.17 | 0.17 | 0.091 | | 0.063 | ( 0.082) | | 0.028 |
| 207 | 17.25 | 0.17 | 0.091 | | 0.063 | ( 0.082) | | 0.028 |
| 208 | 17.33 | 0.17 | 0.091 | | 0.063 | ( 0.082) | | 0.029 |
| 209 | 17.42 | 0.17 | 0.091 | | 0.062 | ( 0.082) | | 0.029 |
| 210 | 17.50 | 0.17 | 0.091 | | 0.062 | ( 0.082) | | 0.029 |
| 211 | 17.58 | 0.17 | 0.091 | | 0.062 | ( 0.082) | | 0.029 |
| 212 | 17.67 | 0.17 | 0.091 | | 0.061 | ( 0.082) | | 0.030 |
| 213 | 17.75 | 0.17 | 0.091 | | 0.061 | ( 0.082) | | 0.030 |
| 214 | 17.83 | 0.13 | 0.073 | | 0.061 | ( 0.066) | | 0.012 |
| 215 | 17.92 | 0.13 | 0.073 | | 0.061 | ( 0.066) | | 0.012 |
| 216 | 18.00 | 0.13 | 0.073 | | 0.060 | ( 0.066) | | 0.013 |
| 217 | 18.08 | 0.13 | 0.073 | | 0.060 | ( 0.066) | | 0.013 |
| 218 | 18.17 | 0.13 | 0.073 | | 0.060 | ( 0.066) | | 0.013 |
| 219 | 18.25 | 0.13 | 0.073 | | 0.059 | ( 0.066) | | 0.014 |
| 220 | 18.33 | 0.13 | 0.073 | | 0.059 | ( 0.066) | | 0.014 |
| 221 | 18.42 | 0.13 | 0.073 | | 0.059 | ( 0.066) | | 0.014 |
| 222 | 18.50 | 0.13 | 0.073 | | 0.058 | ( 0.066) | | 0.014 |
| 223 | 18.58 | 0.10 | 0.055 | ( | 0.058) | 0.049 | | 0.005 |
| 224 | 18.67 | 0.10 | 0.055 | ( | 0.058) | 0.049 | | 0.005 |
| 225 | 18.75 | 0.10 | 0.055 | ( | 0.058) | 0.049 | | 0.005 |
| 226 | 18.83 | 0.07 | 0.036 | ( | 0.057) | 0.033 | | 0.004 |
| 227 | 18.92 | 0.07 | 0.036 | ( | 0.057) | 0.033 | | 0.004 |
| 228 | 19.00 | 0.07 | 0.036 | ( | 0.057) | 0.033 | | 0.004 |
| 229 | 19.08 | 0.10 | 0.055 | ( | 0.057) | 0.049 | | 0.005 |
| 230 | 19.17 | 0.10 | 0.055 | ( | 0.056) | 0.049 | | 0.005 |
| 231 | 19.25 | 0.10 | 0.055 | ( | 0.056) | 0.049 | | 0.005 |
| 232 | 19.33 | 0.13 | 0.073 | | 0.056 | ( 0.066) | | 0.017 |
| 233 | 19.42 | 0.13 | 0.073 | | 0.055 | ( 0.066) | | 0.017 |
| 234 | 19.50 | 0.13 | 0.073 | | 0.055 | ( 0.066) | | 0.018 |
| 235 | 19.58 | 0.10 | 0.055 | ( | 0.055) | 0.049 | | 0.005 |
| 236 | 19.67 | 0.10 | 0.055 | ( | 0.055) | 0.049 | | 0.005 |
| 237 | 19.75 | 0.10 | 0.055 | ( | 0.054) | 0.049 | | 0.005 |
| 238 | 19.83 | 0.07 | 0.036 | ( | 0.054) | 0.033 | | 0.004 |
| 239 | 19.92 | 0.07 | 0.036 | ( | 0.054) | 0.033 | | 0.004 |
| 240 | 20.00 | 0.07 | 0.036 | ( | 0.054) | 0.033 | | 0.004 |
| 241 | 20.08 | 0.10 | 0.055 | ( | 0.054) | 0.049 | | 0.005 |
| 242 | 20.17 | 0.10 | 0.055 | ( | 0.053) | 0.049 | | 0.005 |
| 243 | 20.25 | 0.10 | 0.055 | ( | 0.053) | 0.049 | | 0.005 |
| 244 | 20.33 | 0.10 | 0.055 | ( | 0.053) | 0.049 | | 0.005 |
| 245 | 20.42 | 0.10 | 0.055 | ( | 0.053) | 0.049 | | 0.005 |
| 246 | 20.50 | 0.10 | 0.055 | ( | 0.052) | 0.049 | | 0.005 |
| 247 | 20.58 | 0.10 | 0.055 | ( | 0.052) | 0.049 | | 0.005 |
| 248 | 20.67 | 0.10 | 0.055 | ( | 0.052) | 0.049 | | 0.005 |
| 249 | 20.75 | 0.10 | 0.055 | ( | 0.052) | 0.049 | | 0.005 |
| 250 | 20.83 | 0.07 | 0.036 | ( | 0.052) | 0.033 | | 0.004 |
| 251 | 20.92 | 0.07 | 0.036 | ( | 0.051) | 0.033 | | 0.004 |
| 252 | 21.00 | 0.07 | 0.036 | ( | 0.051) | 0.033 | | 0.004 |
| 253 | 21.08 | 0.10 | 0.055 | ( | 0.051) | 0.049 | | 0.005 |
| 254 | 21.17 | 0.10 | 0.055 | ( | 0.051) | 0.049 | | 0.005 |
| 255 | 21.25 | 0.10 | 0.055 | ( | 0.051) | 0.049 | | 0.005 |
| 256 | 21.33 | 0.07 | 0.036 | ( | 0.050) | 0.033 | | 0.004 |
| 257 | 21.42 | 0.07 | 0.036 | ( | 0.050) | 0.033 | | 0.004 |
| 258 | 21.50 | 0.07 | 0.036 | ( | 0.050) | 0.033 | | 0.004 |
| 259 | 21.58 | 0.10 | 0.055 | ( | 0.050) | 0.049 | | 0.005 |
| 260 | 21.67 | 0.10 | 0.055 | ( | 0.050) | 0.049 | | 0.005 |
| 261 | 21.75 | 0.10 | 0.055 | ( | 0.049) | 0.049 | | 0.005 |
| 262 | 21.83 | 0.07 | 0.036 | ( | 0.049) | 0.033 | | 0.004 |
| 263 | 21.92 | 0.07 | 0.036 | ( | 0.049) | 0.033 | | 0.004 |
| 264 | 22.00 | 0.07 | 0.036 | ( | 0.049) | 0.033 | | 0.004 |
| 265 | 22.08 | 0.10 | 0.055 | | 0.049 | ( 0.049) | | 0.006 |
| 266 | 22.17 | 0.10 | 0.055 | | 0.049 | ( 0.049) | | 0.006 |
| 267 | 22.25 | 0.10 | 0.055 | | 0.048 | ( 0.049) | | 0.006 |
| 268 | 22.33 | 0.07 | 0.036 | ( | 0.048) | 0.033 | | 0.004 |
| 269 | 22.42 | 0.07 | 0.036 | ( | 0.048) | 0.033 | | 0.004 |
| 270 | 22.50 | 0.07 | 0.036 | ( | 0.048) | 0.033 | | 0.004 |
| 271 | 22.58 | 0.07 | 0.036 | ( | 0.048) | 0.033 | | 0.004 |
| 272 | 22.67 | 0.07 | 0.036 | ( | 0.048) | 0.033 | | 0.004 |
| 273 | 22.75 | 0.07 | 0.036 | ( | 0.048) | 0.033 | | 0.004 |
| 274 | 22.83 | 0.07 | 0.036 | ( | 0.047) | 0.033 | | 0.004 |
| 275 | 22.92 | 0.07 | 0.036 | ( | 0.047) | 0.033 | | 0.004 |
| 276 | 23.00 | 0.07 | 0.036 | ( | 0.047) | 0.033 | | 0.004 |
| 277 | 23.08 | 0.07 | 0.036 | ( | 0.047) | 0.033 | | 0.004 |
| 278 | 23.17 | 0.07 | 0.036 | ( | 0.047) | 0.033 | | 0.004 |
| 279 | 23.25 | 0.07 | 0.036 | ( | 0.047) | 0.033 | | 0.004 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 280 | 23.33 | 0.07 | 0.036 | ( 0.047) | 0.033 | 0.004 |
| 281 | 23.42 | 0.07 | 0.036 | ( 0.047) | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.036 | ( 0.047) | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.036 | ( 0.047) | 0.033 | 0.004 |
| 284 | 23.67 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 285 | 23.75 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 286 | 23.83 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 287 | 23.92 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 288 | 24.00 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 33.2

Flood volume = Effective rainfall 2.77(In)
times area 51.4(Ac.)/[(In)/(Ft.)] = 11.8(Ac.Ft)
Total soil loss = 1.79(In)
Total soil loss = 7.682(Ac.Ft)
Total rainfall = 4.56(In)
Flood volume = 516090.9 Cubic Feet
Total soil loss = 334637.6 Cubic Feet

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Peak flow rate of this hydrograph = 27.823(CFS)

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++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++

24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

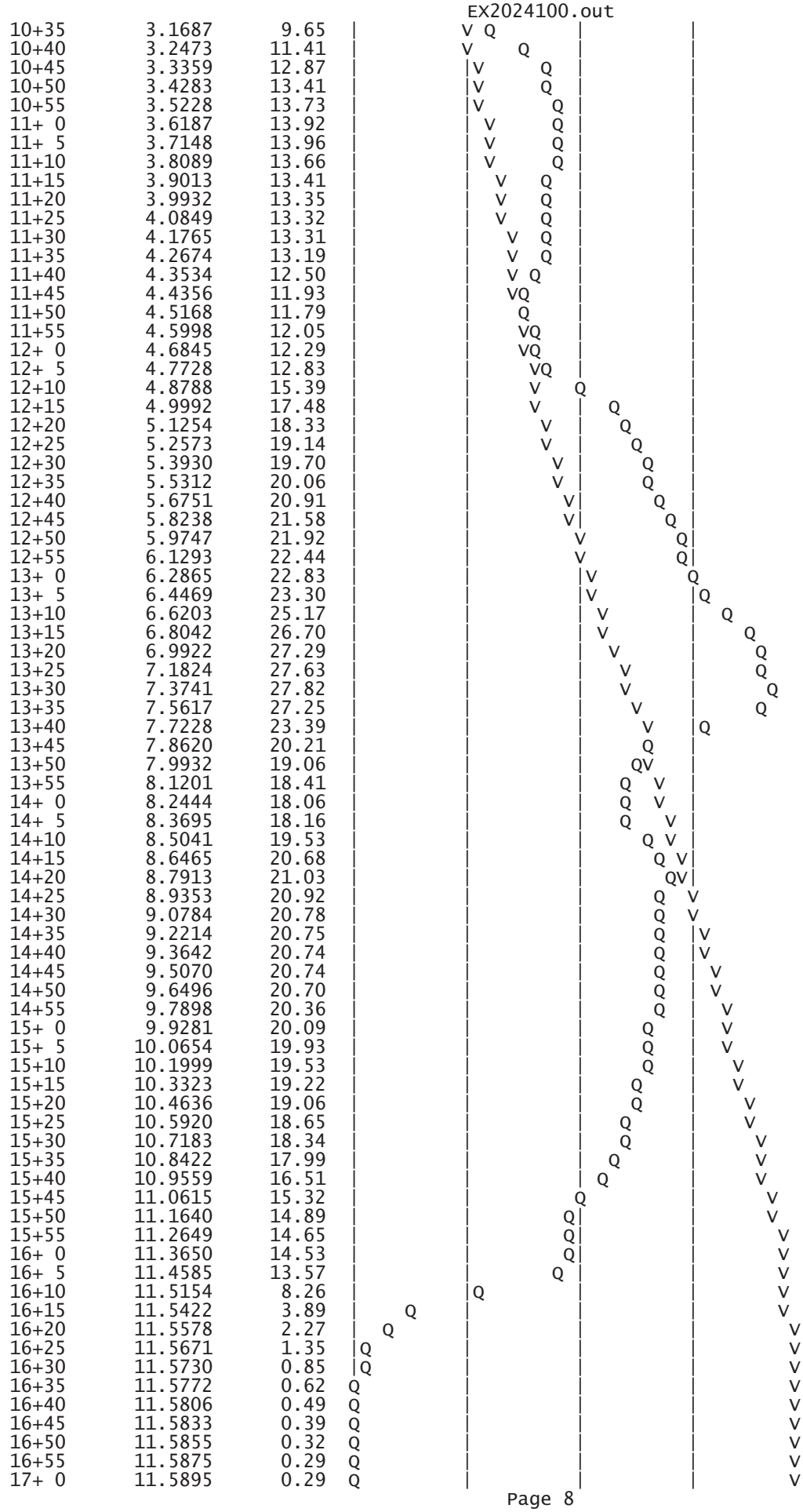
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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 7.5 | 15.0 | 22.5 | 30.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0001 | 0.01 | Q | | | | |
| 0+10 | 0.0007 | 0.08 | Q | | | | |
| 0+15 | 0.0016 | 0.14 | Q | | | | |
| 0+20 | 0.0028 | 0.17 | Q | | | | |
| 0+25 | 0.0043 | 0.22 | Q | | | | |
| 0+30 | 0.0061 | 0.25 | Q | | | | |
| 0+35 | 0.0079 | 0.27 | Q | | | | |
| 0+40 | 0.0098 | 0.27 | Q | | | | |
| 0+45 | 0.0117 | 0.28 | Q | | | | |
| 0+50 | 0.0137 | 0.29 | Q | | | | |
| 0+55 | 0.0159 | 0.32 | Q | | | | |
| 1+ 0 | 0.0184 | 0.35 | Q | | | | |
| 1+ 5 | 0.0208 | 0.36 | Q | | | | |
| 1+10 | 0.0231 | 0.33 | Q | | | | |
| 1+15 | 0.0252 | 0.30 | Q | | | | |
| 1+20 | 0.0272 | 0.29 | Q | | | | |
| 1+25 | 0.0292 | 0.29 | Q | | | | |
| 1+30 | 0.0312 | 0.29 | Q | | | | |
| 1+35 | 0.0332 | 0.29 | Q | | | | |
| 1+40 | 0.0351 | 0.28 | Q | | | | |
| 1+45 | 0.0371 | 0.28 | Q | | | | |
| 1+50 | 0.0391 | 0.29 | Q | | | | |
| 1+55 | 0.0413 | 0.33 | Q | | | | |
| 2+ 0 | 0.0438 | 0.35 | Q | | | | |
| 2+ 5 | 0.0463 | 0.37 | Q | | | | |
| 2+10 | 0.0488 | 0.37 | Q | | | | |
| 2+15 | 0.0514 | 0.37 | Q | | | | |
| 2+20 | 0.0540 | 0.38 | Q | | | | |
| 2+25 | 0.0566 | 0.38 | Q | | | | |
| 2+30 | 0.0592 | 0.38 | Q | | | | |
| 2+35 | 0.0618 | 0.38 | Q | | | | |
| 2+40 | 0.0647 | 0.42 | Q | | | | |
| 2+45 | 0.0678 | 0.45 | Q | | | | |
| 2+50 | 0.0710 | 0.46 | Q | | | | |
| 2+55 | 0.0742 | 0.47 | Q | | | | |
| 3+ 0 | 0.0774 | 0.47 | Q | | | | |
| 3+ 5 | 0.0807 | 0.47 | Q | | | | |
| 3+10 | 0.0839 | 0.47 | Q | | | | |
| 3+15 | 0.0872 | 0.47 | Q | | | | |
| 3+20 | 0.0904 | 0.47 | Q | | | | |
| 3+25 | 0.0937 | 0.47 | Q | | | | |
| 3+30 | 0.0969 | 0.47 | Q | | | | |
| 3+35 | 0.1002 | 0.47 | Q | | | | |
| 3+40 | 0.1035 | 0.47 | Q | | | | |
| 3+45 | 0.1067 | 0.47 | Q | | | | |
| 3+50 | 0.1100 | 0.48 | Q | | | | |
| 3+55 | 0.1136 | 0.51 | Q | | | | |
| 4+ 0 | 0.1173 | 0.54 | Q | | | | |

```
 4+ 5       0.1211      0.55  Q          |          |          |          |
 4+10       0.1250      0.56  Q          |          |          |          |
 4+15       0.1289      0.56  Q          |          |          |          |
 4+20       0.1328      0.57  Q          |          |          |          |
 4+25       0.1370      0.61  Q          |          |          |          |
 4+30       0.1414      0.64  Q          |          |          |          |
 4+35       0.1458      0.65  Q          |          |          |          |
 4+40       0.1504      0.66  Q          |          |          |          |
 4+45       0.1549      0.66  Q          |          |          |          |
 4+50       0.1595      0.67  Q          |          |          |          |
 4+55       0.1646      0.74  Q          |          |          |          |
 5+ 0       0.1701      0.80  VQ         |          |          |          |
 5+ 5       0.1757      0.82  VQ         |          |          |          |
 5+10       0.1807      0.72  Q          |          |          |          |
 5+15       0.1851      0.63  Q          |          |          |          |
 5+20       0.1893      0.61  Q          |          |          |          |
 5+25       0.1936      0.63  Q          |          |          |          |
 5+30       0.1980      0.65  Q          |          |          |          |
 5+35       0.2027      0.68  Q          |          |          |          |
 5+40       0.2086      0.85  VQ         |          |          |          |
 5+45       0.2154      0.99  VQ         |          |          |          |
 5+50       0.2227      1.06  VQ         |          |          |          |
 5+55       0.2304      1.12  VQ         |          |          |          |
 6+ 0       0.2384      1.16  VQ         |          |          |          |
 6+ 5       0.2470      1.25  VQ         |          |          |          |
 6+10       0.2583      1.64  V Q        |          |          |          |
 6+15       0.2719      1.96  V Q        |          |          |          |
 6+20       0.2863      2.10  V Q        |          |          |          |
 6+25       0.3014      2.19  |VQ        |          |          |          |
 6+30       0.3169      2.25  |V Q       |          |          |          |
 6+35       0.3332      2.36  |V Q       |          |          |          |
 6+40       0.3521      2.75  |V Q       |          |          |          |
 6+45       0.3733      3.07  |V  Q      |          |          |          |
 6+50       0.3954      3.21  |V  Q      |          |          |          |
 6+55       0.4181      3.30  |V  Q      |          |          |          |
 7+ 0       0.4413      3.36  |V  Q      |          |          |          |
 7+ 5       0.4648      3.41  |V  Q      |          |          |          |
 7+10       0.4885      3.44  |V  Q      |          |          |          |
 7+15       0.5124      3.47  |V  Q      |          |          |          |
 7+20       0.5369      3.56  |V  Q      |          |          |          |
 7+25       0.5641      3.95  |V   Q     |          |          |          |
 7+30       0.5935      4.27  | V  Q     |          |          |          |
 7+35       0.6243      4.47  | V  Q     |          |          |          |
 7+40       0.6581      4.91  | V   Q    |          |          |          |
 7+45       0.6944      5.26  | V    Q   |          |          |          |
 7+50       0.7321      5.48  | V    Q   |          |          |          |
 7+55       0.7729      5.93  | V    Q   |          |          |          |
 8+ 0       0.8162      6.28  | V     Q  |          |          |          |
 8+ 5       0.8613      6.56  | V     Q  |          |          |          |
 8+10       0.9121      7.37  |  V     Q|          |          |          |
 8+15       0.9673      8.02  |  V      Q          |          |          |
 8+20       1.0243      8.28  |  V      |Q         |          |          |
 8+25       1.0824      8.44  |  V      |Q         |          |          |
 8+30       1.1412      8.54  |  V      |Q         |          |          |
 8+35       1.2008      8.66  |   V     |Q         |          |          |
 8+40       1.2632      9.05  |   V     | Q        |          |          |
 8+45       1.3278      9.38  |   V     | Q        |          |          |
 8+50       1.3938      9.58  |   V     | Q        |          |          |
 8+55       1.4629     10.03  |   V     |  Q       |          |          |
 9+ 0       1.5344     10.38  |    V    |  Q       |          |          |
 9+ 5       1.6078     10.66  |    V    |   Q      |          |          |
 9+10       1.6867     11.46  |    V    |    Q     |          |          |
 9+15       1.7701     12.11  |    V    |     Q    |          |          |
 9+20       1.8557     12.43  |     V   |     Q    |          |          |
 9+25       1.9449     12.94  |     V   |      Q   |          |          |
 9+30       2.0367     13.33  |     V   |      Q   |          |          |
 9+35       2.1301     13.56  |      V  |       Q  |          |          |
 9+40       2.2267     14.02  |      V  |       Q  |          |          |
 9+45       2.3257     14.38  |      V  |        Q |          |          |
 9+50       2.4263     14.60  |       V |        Q |          |          |
 9+55       2.5299     15.05  |       V |         Q|          |          |
10+ 0       2.6360     15.41  |       V |         Q|          |          |
10+ 5       2.7402     15.13  |        V|         Q|          |          |
10+10       2.8279     12.73  |        V|     Q    |          |          |
10+15       2.9019     10.75  |        V|   Q      |          |          |
10+20       2.9710     10.03  |         V  Q       |          |          |
10+25       3.0373      9.63  |         V Q        |          |          |
10+30       3.1022      9.42  |         V Q        |          |          |
```



| | | | |
|---|---|---|---|
| 10+35 | 3.1687 | 9.65 | |
| 10+40 | 3.2473 | 11.41 | |
| 10+45 | 3.3359 | 12.87 | |
| 10+50 | 3.4283 | 13.41 | |
| 10+55 | 3.5228 | 13.73 | |
| 11+ 0 | 3.6187 | 13.92 | |
| 11+ 5 | 3.7148 | 13.96 | |
| 11+10 | 3.8089 | 13.66 | |
| 11+15 | 3.9013 | 13.41 | |
| 11+20 | 3.9932 | 13.35 | |
| 11+25 | 4.0849 | 13.32 | |
| 11+30 | 4.1765 | 13.31 | |
| 11+35 | 4.2674 | 13.19 | |
| 11+40 | 4.3534 | 12.50 | |
| 11+45 | 4.4356 | 11.93 | |
| 11+50 | 4.5168 | 11.79 | |
| 11+55 | 4.5998 | 12.05 | |
| 12+ 0 | 4.6845 | 12.29 | |
| 12+ 5 | 4.7728 | 12.83 | |
| 12+10 | 4.8788 | 15.39 | |
| 12+15 | 4.9992 | 17.48 | |
| 12+20 | 5.1254 | 18.33 | |
| 12+25 | 5.2573 | 19.14 | |
| 12+30 | 5.3930 | 19.70 | |
| 12+35 | 5.5312 | 20.06 | |
| 12+40 | 5.6751 | 20.91 | |
| 12+45 | 5.8238 | 21.58 | |
| 12+50 | 5.9747 | 21.92 | |
| 12+55 | 6.1293 | 22.44 | |
| 13+ 0 | 6.2865 | 22.83 | |
| 13+ 5 | 6.4469 | 23.30 | |
| 13+10 | 6.6203 | 25.17 | |
| 13+15 | 6.8042 | 26.70 | |
| 13+20 | 6.9922 | 27.29 | |
| 13+25 | 7.1824 | 27.63 | |
| 13+30 | 7.3741 | 27.82 | |
| 13+35 | 7.5617 | 27.25 | |
| 13+40 | 7.7228 | 23.39 | |
| 13+45 | 7.8620 | 20.21 | |
| 13+50 | 7.9932 | 19.06 | |
| 13+55 | 8.1201 | 18.41 | |
| 14+ 0 | 8.2444 | 18.06 | |
| 14+ 5 | 8.3695 | 18.16 | |
| 14+10 | 8.5041 | 19.53 | |
| 14+15 | 8.6465 | 20.68 | |
| 14+20 | 8.7913 | 21.03 | |
| 14+25 | 8.9353 | 20.92 | |
| 14+30 | 9.0784 | 20.78 | |
| 14+35 | 9.2214 | 20.75 | |
| 14+40 | 9.3642 | 20.74 | |
| 14+45 | 9.5070 | 20.74 | |
| 14+50 | 9.6496 | 20.70 | |
| 14+55 | 9.7898 | 20.36 | |
| 15+ 0 | 9.9281 | 20.09 | |
| 15+ 5 | 10.0654 | 19.93 | |
| 15+10 | 10.1999 | 19.53 | |
| 15+15 | 10.3323 | 19.22 | |
| 15+20 | 10.4636 | 19.06 | |
| 15+25 | 10.5920 | 18.65 | |
| 15+30 | 10.7183 | 18.34 | |
| 15+35 | 10.8422 | 17.99 | |
| 15+40 | 10.9559 | 16.51 | |
| 15+45 | 11.0615 | 15.32 | |
| 15+50 | 11.1640 | 14.89 | |
| 15+55 | 11.2649 | 14.65 | |
| 16+ 0 | 11.3650 | 14.53 | |
| 16+ 5 | 11.4585 | 13.57 | |
| 16+10 | 11.5154 | 8.26 | |
| 16+15 | 11.5422 | 3.89 | |
| 16+20 | 11.5578 | 2.27 | |
| 16+25 | 11.5671 | 1.35 | |
| 16+30 | 11.5730 | 0.85 | |
| 16+35 | 11.5772 | 0.62 | |
| 16+40 | 11.5806 | 0.49 | |
| 16+45 | 11.5833 | 0.39 | |
| 16+50 | 11.5855 | 0.32 | |
| 16+55 | 11.5875 | 0.29 | |
| 17+ 0 | 11.5895 | 0.29 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+ 5 | 11.5919 | 0.36 | Q | \| | \| | \| | V\| |
| 17+10 | 11.5974 | 0.79 | \|Q | \| | \| | \| | V\| |
| 17+15 | 11.6053 | 1.15 | \|Q | \| | \| | \| | V\| |
| 17+20 | 11.6143 | 1.30 | \|Q | \| | \| | \| | V\| |
| 17+25 | 11.6238 | 1.38 | \|Q | \| | \| | \| | V\| |
| 17+30 | 11.6337 | 1.44 | \|Q | \| | \| | \| | V\| |
| 17+35 | 11.6439 | 1.47 | \|Q | \| | \| | \| | V\| |
| 17+40 | 11.6542 | 1.50 | \|Q | \| | \| | \| | V\| |
| 17+45 | 11.6646 | 1.52 | \| Q | \| | \| | \| | V\| |
| 17+50 | 11.6748 | 1.48 | \|Q | \| | \| | \| | V\| |
| 17+55 | 11.6827 | 1.14 | \|Q | \| | \| | \| | V\| |
| 18+ 0 | 11.6886 | 0.86 | \|Q | \| | \| | \| | V\| |
| 18+ 5 | 11.6939 | 0.77 | \|Q | \| | \| | \| | V\| |
| 18+10 | 11.6989 | 0.73 | Q | \| | \| | \| | V\| |
| 18+15 | 11.7038 | 0.71 | Q | \| | \| | \| | V\| |
| 18+20 | 11.7087 | 0.71 | Q | \| | \| | \| | V\| |
| 18+25 | 11.7136 | 0.72 | Q | \| | \| | \| | V\| |
| 18+30 | 11.7186 | 0.73 | Q | \| | \| | \| | V\| |
| 18+35 | 11.7234 | 0.71 | Q | \| | \| | \| | V\| |
| 18+40 | 11.7271 | 0.54 | Q | \| | \| | \| | V\| |
| 18+45 | 11.7299 | 0.40 | Q | \| | \| | \| | V\| |
| 18+50 | 11.7322 | 0.34 | Q | \| | \| | \| | V\| |
| 18+55 | 11.7341 | 0.27 | Q | \| | \| | \| | V\| |
| 19+ 0 | 11.7356 | 0.23 | Q | \| | \| | \| | V\| |
| 19+ 5 | 11.7371 | 0.22 | Q | \| | \| | \| | V\| |
| 19+10 | 11.7388 | 0.24 | Q | \| | \| | \| | V\| |
| 19+15 | 11.7406 | 0.27 | Q | \| | \| | \| | V\| |
| 19+20 | 11.7428 | 0.31 | Q | \| | \| | \| | V\| |
| 19+25 | 11.7466 | 0.55 | Q | \| | \| | \| | V\| |
| 19+30 | 11.7517 | 0.74 | Q | \| | \| | \| | V\| |
| 19+35 | 11.7571 | 0.78 | \|Q | \| | \| | \| | V\| |
| 19+40 | 11.7611 | 0.59 | Q | \| | \| | \| | V\| |
| 19+45 | 11.7640 | 0.42 | Q | \| | \| | \| | V\| |
| 19+50 | 11.7664 | 0.35 | Q | \| | \| | \| | V\| |
| 19+55 | 11.7683 | 0.28 | Q | \| | \| | \| | V\| |
| 20+ 0 | 11.7699 | 0.23 | Q | \| | \| | \| | V\| |
| 20+ 5 | 11.7714 | 0.22 | Q | \| | \| | \| | V\| |
| 20+10 | 11.7731 | 0.24 | Q | \| | \| | \| | V\| |
| 20+15 | 11.7749 | 0.27 | Q | \| | \| | \| | V\| |
| 20+20 | 11.7768 | 0.27 | Q | \| | \| | \| | V\| |
| 20+25 | 11.7787 | 0.28 | Q | \| | \| | \| | V\| |
| 20+30 | 11.7807 | 0.28 | Q | \| | \| | \| | V\| |
| 20+35 | 11.7826 | 0.28 | Q | \| | \| | \| | V\| |
| 20+40 | 11.7846 | 0.28 | Q | \| | \| | \| | V\| |
| 20+45 | 11.7865 | 0.28 | Q | \| | \| | \| | V\| |
| 20+50 | 11.7884 | 0.28 | Q | \| | \| | \| | V\| |
| 20+55 | 11.7901 | 0.24 | Q | \| | \| | \| | V\| |
| 21+ 0 | 11.7916 | 0.21 | Q | \| | \| | \| | V\| |
| 21+ 5 | 11.7930 | 0.21 | Q | \| | \| | \| | V\| |
| 21+10 | 11.7946 | 0.24 | Q | \| | \| | \| | V\| |
| 21+15 | 11.7964 | 0.26 | Q | \| | \| | \| | V\| |
| 21+20 | 11.7983 | 0.27 | Q | \| | \| | \| | V\| |
| 21+25 | 11.7999 | 0.24 | Q | \| | \| | \| | V\| |
| 21+30 | 11.8013 | 0.21 | Q | \| | \| | \| | V\| |
| 21+35 | 11.8028 | 0.21 | Q | \| | \| | \| | V\| |
| 21+40 | 11.8044 | 0.24 | Q | \| | \| | \| | V\| |
| 21+45 | 11.8062 | 0.26 | Q | \| | \| | \| | V\| |
| 21+50 | 11.8080 | 0.27 | Q | \| | \| | \| | V\| |
| 21+55 | 11.8097 | 0.24 | Q | \| | \| | \| | V\| |
| 22+ 0 | 11.8111 | 0.21 | Q | \| | \| | \| | V\| |
| 22+ 5 | 11.8125 | 0.21 | Q | \| | \| | \| | V\| |
| 22+10 | 11.8143 | 0.25 | Q | \| | \| | \| | V\| |
| 22+15 | 11.8162 | 0.29 | Q | \| | \| | \| | V\| |
| 22+20 | 11.8183 | 0.30 | Q | \| | \| | \| | V\| |
| 22+25 | 11.8200 | 0.26 | Q | \| | \| | \| | V\| |
| 22+30 | 11.8215 | 0.22 | Q | \| | \| | \| | V\| |
| 22+35 | 11.8229 | 0.20 | Q | \| | \| | \| | V\| |
| 22+40 | 11.8243 | 0.20 | Q | \| | \| | \| | V\| |
| 22+45 | 11.8256 | 0.19 | Q | \| | \| | \| | V\| |
| 22+50 | 11.8269 | 0.19 | Q | \| | \| | \| | V\| |
| 22+55 | 11.8283 | 0.19 | Q | \| | \| | \| | V\| |
| 23+ 0 | 11.8296 | 0.19 | Q | \| | \| | \| | V\| |
| 23+ 5 | 11.8309 | 0.19 | Q | \| | \| | \| | V\| |
| 23+10 | 11.8322 | 0.19 | Q | \| | \| | \| | V\| |
| 23+15 | 11.8335 | 0.19 | Q | \| | \| | \| | V\| |
| 23+20 | 11.8348 | 0.19 | Q | \| | \| | \| | V\| |
| 23+25 | 11.8361 | 0.19 | Q | \| | \| | \| | V\| |
| 23+30 | 11.8374 | 0.19 | Q | \| | \| | \| | V\| |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 23+35 | 11.8387 | 0.19 | Q | \| | \| | \| | V\| |
| 23+40 | 11.8400 | 0.19 | Q | \| | \| | \| | V\| |
| 23+45 | 11.8413 | 0.19 | Q | \| | \| | \| | V\| |
| 23+50 | 11.8426 | 0.19 | Q | \| | \| | \| | V\| |
| 23+55 | 11.8439 | 0.19 | Q | \| | \| | \| | V\| |
| 24+ 0 | 11.8452 | 0.19 | Q | \| | \| | \| | V\| |
| 24+ 5 | 11.8464 | 0.18 | Q | \| | \| | \| | V\| |
| 24+10 | 11.8471 | 0.11 | Q | \| | \| | \| | V\| |
| 24+15 | 11.8475 | 0.05 | Q | \| | \| | \| | V\| |
| 24+20 | 11.8476 | 0.03 | Q | \| | \| | \| | V\| |
| 24+25 | 11.8477 | 0.01 | Q | \| | \| | \| | V\| |
| 24+30 | 11.8478 | 0.01 | Q | \| | \| | \| | V\| |
| 24+35 | 11.8478 | 0.00 | Q | \| | \| | \| | V\| |
| 24+40 | 11.8478 | 0.00 | Q | \| | \| | \| | V\| |
| 24+45 | 11.8478 | 0.00 | Q | \| | \| | \| | V\| |
| 24+50 | 11.8478 | 0.00 | Q | \| | \| | \| | V\| |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX211100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 21
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 6.40(Ac.) = 0.010 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 6.40(Ac.) = 0.010 Sq. Mi.
Length along longest watercourse = 1043.00(Ft.)
Length along longest watercourse measured to centroid = 548.00(Ft.)
Length along longest watercourse = 0.198 Mi.
Length along longest watercourse measured to centroid = 0.104 Mi.
Difference in elevation = 196.00(Ft.)
Slope along watercourse = 992.2148 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.052 Hr.
Lag time = 3.10 Min.
25% of lag time = 0.78 Min.
40% of lag time = 1.24 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.40 | 0.49 | 3.14 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.40 | 1.20 | 7.68 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.490(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 6.400 | 77.56 | 0.000 |

Total Area Entered = 6.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 77.6 | 89.5 | 0.135 | 0.000 | 0.135 | 1.000 | 0.135 |
| | | | | | Sum (F) = | 0.135 |

Area averaged mean soil loss (F) (In/Hr) = 0.135

Minimum soil loss rate ((In/Hr)) = 0.068
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 161.217 | 33.516 | 2.162 |
| 2 0.167 | 322.435 | 53.456 | 3.448 |
| 3 0.250 | 483.652 | 10.537 | 0.680 |
| 4 0.333 | 644.869 | 1.904 | 0.123 |
| 5 0.417 | 806.087 | 0.587 | 0.038 |
| | Sum = 100.000 | Sum= | 6.450 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 4.20 | 0.605 | 0.135 | ( 0.544) | 0.469 |
| 2 0.17 | 4.30 | 0.619 | 0.135 | ( 0.557) | 0.484 |
| 3 0.25 | 5.00 | 0.720 | 0.135 | ( 0.648) | 0.585 |
| 4 0.33 | 5.00 | 0.720 | 0.135 | ( 0.648) | 0.585 |
| 5 0.42 | 5.80 | 0.835 | 0.135 | ( 0.752) | 0.700 |
| 6 0.50 | 6.50 | 0.936 | 0.135 | ( 0.842) | 0.801 |
| 7 0.58 | 7.40 | 1.066 | 0.135 | ( 0.959) | 0.930 |
| 8 0.67 | 8.60 | 1.238 | 0.135 | ( 1.114) | 1.103 |
| 9 0.75 | 12.30 | 1.771 | 0.135 | ( 1.594) | 1.636 |
| 10 0.83 | 29.10 | 4.190 | 0.135 | ( 3.771) | 4.055 |
| 11 0.92 | 6.80 | 0.979 | 0.135 | ( 0.881) | 0.844 |
| 12 1.00 | 5.00 | 0.720 | 0.135 | ( 0.648) | 0.585 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 12.8 |

Flood volume = Effective rainfall 1.06(In)
times area 6.4(Ac.)/[(In)/(Ft.)] = 0.6(Ac.Ft)
Total soil loss = 0.14(In)
Total soil loss = 0.072(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 24733.7 Cubic Feet
Total soil loss = 3143.0 Cubic Feet

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Peak flow rate of this hydrograph = 17.096(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 5.0 10.0 15.0 20.0 |
|---|---|---|---|
| 0+ 5 | 0.0070 | 1.02 | V Q |
| 0+10 | 0.0254 | 2.67 | V Q |
| 0+15 | 0.0478 | 3.25 | V Q |
| 0+20 | 0.0730 | 3.67 | V Q |
| 0+25 | 0.1006 | 4.01 | VQ |
| 0+30 | 0.1325 | 4.63 | Q |
| 0+35 | 0.1693 | 5.34 | QV |
| 0+40 | 0.2124 | 6.25 | Q V |
| 0+45 | 0.2681 | 8.10 | Q V |
| 0+50 | 0.3736 | 15.31 | V Q |
| 0+55 | 0.4913 | 17.10 | Q |
| 1+ 0 | 0.5407 | 7.18 | Q V |
| 1+ 5 | 0.5624 | 3.15 | Q V |
| 1+10 | 0.5669 | 0.65 | Q V |
| 1+15 | 0.5677 | 0.10 | Q V |
| 1+20 | 0.5678 | 0.02 | Q V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 21
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 6.40(Ac.) = 0.010 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 6.40(Ac.) = 0.010 Sq. Mi.
Length along longest watercourse = 1043.00(Ft.)
Length along longest watercourse measured to centroid = 548.00(Ft.)
Length along longest watercourse = 0.198 Mi.
Length along longest watercourse measured to centroid = 0.104 Mi.
Difference in elevation = 196.00(Ft.)
Slope along watercourse = 992.2148 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.052 Hr.
Lag time = 3.10 Min.
25% of lag time = 0.78 Min.
40% of lag time = 1.24 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.40 | 0.80 | 5.12 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.40 | 1.80 | 11.52 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 6.400 | 77.56 | 0.000 |

Total Area Entered = 6.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 77.6 | 89.5 | 0.135 | 0.000 | 0.135 | 1.000 | 0.135 |
| | | | | | Sum (F) = | 0.135 |

Area averaged mean soil loss (F) (In/Hr) = 0.135

Minimum soil loss rate ((In/Hr)) = 0.068
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 161.217 | 33.516 | 2.162 |
| 2 | 0.167 | 322.435 | 53.456 | 3.448 |
| 3 | 0.250 | 483.652 | 10.537 | 0.680 |
| 4 | 0.333 | 644.869 | 1.904 | 0.123 |
| 5 | 0.417 | 806.087 | 0.587 | 0.038 |
| | | | Sum = 100.000 | Sum= 6.450 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.281 | 0.135 | ( 0.253) | 0.146 |
| 2 | 0.17 | 1.30 | 0.281 | 0.135 | ( 0.253) | 0.146 |
| 3 | 0.25 | 1.10 | 0.238 | 0.135 | ( 0.214) | 0.102 |
| 4 | 0.33 | 1.50 | 0.324 | 0.135 | ( 0.292) | 0.189 |
| 5 | 0.42 | 1.50 | 0.324 | 0.135 | ( 0.292) | 0.189 |
| 6 | 0.50 | 1.80 | 0.389 | 0.135 | ( 0.350) | 0.253 |
| 7 | 0.58 | 1.50 | 0.324 | 0.135 | ( 0.292) | 0.189 |
| 8 | 0.67 | 1.80 | 0.389 | 0.135 | ( 0.350) | 0.253 |
| 9 | 0.75 | 1.80 | 0.389 | 0.135 | ( 0.350) | 0.253 |
| 10 | 0.83 | 1.50 | 0.324 | 0.135 | ( 0.292) | 0.189 |
| 11 | 0.92 | 1.60 | 0.346 | 0.135 | ( 0.311) | 0.210 |
| 12 | 1.00 | 1.80 | 0.389 | 0.135 | ( 0.350) | 0.253 |
| 13 | 1.08 | 2.20 | 0.475 | 0.135 | ( 0.428) | 0.340 |
| 14 | 1.17 | 2.20 | 0.475 | 0.135 | ( 0.428) | 0.340 |
| 15 | 1.25 | 2.20 | 0.475 | 0.135 | ( 0.428) | 0.340 |
| 16 | 1.33 | 2.00 | 0.432 | 0.135 | ( 0.389) | 0.297 |
| 17 | 1.42 | 2.60 | 0.562 | 0.135 | ( 0.505) | 0.426 |
| 18 | 1.50 | 2.70 | 0.583 | 0.135 | ( 0.525) | 0.448 |
| 19 | 1.58 | 2.40 | 0.518 | 0.135 | ( 0.467) | 0.383 |
| 20 | 1.67 | 2.70 | 0.583 | 0.135 | ( 0.525) | 0.448 |
| 21 | 1.75 | 3.30 | 0.713 | 0.135 | ( 0.642) | 0.577 |
| 22 | 1.83 | 3.10 | 0.670 | 0.135 | ( 0.603) | 0.534 |
| 23 | 1.92 | 2.90 | 0.626 | 0.135 | ( 0.564) | 0.491 |
| 24 | 2.00 | 3.00 | 0.648 | 0.135 | ( 0.583) | 0.513 |
| 25 | 2.08 | 3.10 | 0.670 | 0.135 | ( 0.603) | 0.534 |
| 26 | 2.17 | 4.20 | 0.907 | 0.135 | ( 0.816) | 0.772 |
| 27 | 2.25 | 5.00 | 1.080 | 0.135 | ( 0.972) | 0.945 |
| 28 | 2.33 | 3.50 | 0.756 | 0.135 | ( 0.680) | 0.621 |
| 29 | 2.42 | 6.80 | 1.469 | 0.135 | ( 1.322) | 1.333 |
| 30 | 2.50 | 7.30 | 1.577 | 0.135 | ( 1.419) | 1.441 |
| 31 | 2.58 | 8.20 | 1.771 | 0.135 | ( 1.594) | 1.636 |
| 32 | 2.67 | 5.90 | 1.274 | 0.135 | ( 1.147) | 1.139 |
| 33 | 2.75 | 2.00 | 0.432 | 0.135 | ( 0.389) | 0.297 |
| 34 | 2.83 | 1.80 | 0.389 | 0.135 | ( 0.350) | 0.253 |
| 35 | 2.92 | 1.80 | 0.389 | 0.135 | ( 0.350) | 0.253 |
| 36 | 3.00 | 0.60 | 0.130 | ( 0.135) | 0.117 | 0.013 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 16.7 |

Flood volume = Effective rainfall 1.40(In)
times area 6.4(Ac.)/[(In)/(Ft.)] = 0.7(Ac.Ft)
Total soil loss = 0.40(In)
Total soil loss = 0.216(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 32423.4 Cubic Feet
Total soil loss = 9393.0 Cubic Feet

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Peak flow rate of this hydrograph = 9.530(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0022 | 0.31 | VQ | | | | |
| 0+10 | 0.0078 | 0.82 | V Q | | | | |
| 0+15 | 0.0135 | 0.82 | V Q | | | | |
| 0+20 | 0.0195 | 0.88 | V Q | | | | |
| 0+25 | 0.0274 | 1.15 | V Q | | | | |
| 0+30 | 0.0367 | 1.35 | V Q | | | | |
| 0+35 | 0.0466 | 1.44 | V Q | | | | |
| 0+40 | 0.0563 | 1.40 | V Q | | | | |
| 0+45 | 0.0672 | 1.59 | V Q | | | | |
| 0+50 | 0.0775 | 1.49 | VQ | | | | |
| 0+55 | 0.0865 | 1.32 | VQ | | | | |
| 1+ 0 | 0.0965 | 1.44 | Q | | | | |
| 1+ 5 | 0.1088 | 1.79 | V Q | | | | |
| 1+10 | 0.1233 | 2.11 | V Q | | | | |
| 1+15 | 0.1383 | 2.18 | VQ | | | | |
| 1+20 | 0.1527 | 2.10 | Q | | | | |
| 1+25 | 0.1681 | 2.23 | QV | | | | |
| 1+30 | 0.1867 | 2.70 | Q | | | | |
| 1+35 | 0.2054 | 2.71 | QV | | | | |
| 1+40 | 0.2237 | 2.66 | Q V | | | | |
| 1+45 | 0.2452 | 3.13 | QV | | | | |
| 1+50 | 0.2694 | 3.52 | Q | | | | |
| 1+55 | 0.2926 | 3.37 | Q V | | | | |
| 2+ 0 | 0.3150 | 3.25 | Q V | | | | |
| 2+ 5 | 0.3381 | 3.35 | Q V | | | | |
| 2+10 | 0.3652 | 3.94 | Q V | | | | |
| 2+15 | 0.4007 | 5.15 | QV | | | | |
| 2+20 | 0.4366 | 5.21 | Q V | | | | |
| 2+25 | 0.4764 | 5.78 | Q V | | | | |
| 2+30 | 0.5335 | 8.29 | V | Q | | | |
| 2+35 | 0.5991 | 9.53 | V | Q | | | |
| 2+40 | 0.6630 | 9.27 | V Q | | | | |
| 2+45 | 0.7037 | 5.91 | Q | V | | | |
| 2+50 | 0.7216 | 2.60 | Q | V | | | |
| 2+55 | 0.7342 | 1.83 | Q | V | | | |
| 3+ 0 | 0.7421 | 1.15 | Q | V | | | |
| 3+ 5 | 0.7439 | 0.26 | Q | V | | | |
| 3+10 | 0.7443 | 0.05 | Q | V | | | |
| 3+15 | 0.7443 | 0.01 | Q | V | | | |
| 3+20 | 0.7443 | 0.00 | Q | V | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX216100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 21
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 6.40(Ac.) = 0.010 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 6.40(Ac.) = 0.010 Sq. Mi.
Length along longest watercourse = 1043.00(Ft.)
Length along longest watercourse measured to centroid = 548.00(Ft.)
Length along longest watercourse = 0.198 Mi.
Length along longest watercourse measured to centroid = 0.104 Mi.
Difference in elevation = 196.00(Ft.)
Slope along watercourse = 992.2148 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.052 Hr.
Lag time = 3.10 Min.
25% of lag time = 0.78 Min.
40% of lag time = 1.24 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.40 | 1.12 | 7.17 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.40 | 2.50 | 16.00 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.120(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 6.400 | 77.56 | 0.000 |

Total Area Entered = 6.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 77.6 | 89.5 | 0.135 | 0.000 | 0.135 | 1.000 | 0.135 |
| | | | | | Sum (F) = | 0.135 |

Area averaged mean soil loss (F) (In/Hr) = 0.135

Minimum soil loss rate ((In/Hr)) = 0.068
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 161.217 | 33.516 | 2.162 |
| 2 | 0.167 | 322.435 | 53.456 | 3.448 |
| 3 | 0.250 | 483.652 | 10.537 | 0.680 |
| 4 | 0.333 | 644.869 | 1.904 | 0.123 |
| 5 | 0.417 | 806.087 | 0.587 | 0.038 |
| | | | Sum = 100.000 Sum= | 6.450 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | ( 0.135) | 0.135 | 0.015 |
| 2 | 0.17 | 0.60 | 0.180 | 0.135 | ( 0.162) | 0.045 |
| 3 | 0.25 | 0.60 | 0.180 | 0.135 | ( 0.162) | 0.045 |
| 4 | 0.33 | 0.60 | 0.180 | 0.135 | ( 0.162) | 0.045 |
| 5 | 0.42 | 0.60 | 0.180 | 0.135 | ( 0.162) | 0.045 |
| 6 | 0.50 | 0.70 | 0.210 | 0.135 | ( 0.189) | 0.075 |
| 7 | 0.58 | 0.70 | 0.210 | 0.135 | ( 0.189) | 0.075 |
| 8 | 0.67 | 0.70 | 0.210 | 0.135 | ( 0.189) | 0.075 |
| 9 | 0.75 | 0.70 | 0.210 | 0.135 | ( 0.189) | 0.075 |
| 10 | 0.83 | 0.70 | 0.210 | 0.135 | ( 0.189) | 0.075 |
| 11 | 0.92 | 0.70 | 0.210 | 0.135 | ( 0.189) | 0.075 |
| 12 | 1.00 | 0.80 | 0.240 | 0.135 | ( 0.216) | 0.105 |
| 13 | 1.08 | 0.80 | 0.240 | 0.135 | ( 0.216) | 0.105 |
| 14 | 1.17 | 0.80 | 0.240 | 0.135 | ( 0.216) | 0.105 |
| 15 | 1.25 | 0.80 | 0.240 | 0.135 | ( 0.216) | 0.105 |
| 16 | 1.33 | 0.80 | 0.240 | 0.135 | ( 0.216) | 0.105 |
| 17 | 1.42 | 0.80 | 0.240 | 0.135 | ( 0.216) | 0.105 |
| 18 | 1.50 | 0.80 | 0.240 | 0.135 | ( 0.216) | 0.105 |
| 19 | 1.58 | 0.80 | 0.240 | 0.135 | ( 0.216) | 0.105 |
| 20 | 1.67 | 0.80 | 0.240 | 0.135 | ( 0.216) | 0.105 |
| 21 | 1.75 | 0.80 | 0.240 | 0.135 | ( 0.216) | 0.105 |
| 22 | 1.83 | 0.80 | 0.240 | 0.135 | ( 0.216) | 0.105 |
| 23 | 1.92 | 0.80 | 0.240 | 0.135 | ( 0.216) | 0.105 |
| 24 | 2.00 | 0.90 | 0.270 | 0.135 | ( 0.243) | 0.135 |
| 25 | 2.08 | 0.80 | 0.240 | 0.135 | ( 0.216) | 0.105 |
| 26 | 2.17 | 0.90 | 0.270 | 0.135 | ( 0.243) | 0.135 |
| 27 | 2.25 | 0.90 | 0.270 | 0.135 | ( 0.243) | 0.135 |
| 28 | 2.33 | 0.90 | 0.270 | 0.135 | ( 0.243) | 0.135 |
| 29 | 2.42 | 0.90 | 0.270 | 0.135 | ( 0.243) | 0.135 |
| 30 | 2.50 | 0.90 | 0.270 | 0.135 | ( 0.243) | 0.135 |
| 31 | 2.58 | 0.90 | 0.270 | 0.135 | ( 0.243) | 0.135 |
| 32 | 2.67 | 0.90 | 0.270 | 0.135 | ( 0.243) | 0.135 |
| 33 | 2.75 | 1.00 | 0.300 | 0.135 | ( 0.270) | 0.165 |
| 34 | 2.83 | 1.00 | 0.300 | 0.135 | ( 0.270) | 0.165 |
| 35 | 2.92 | 1.00 | 0.300 | 0.135 | ( 0.270) | 0.165 |
| 36 | 3.00 | 1.00 | 0.300 | 0.135 | ( 0.270) | 0.165 |
| 37 | 3.08 | 1.00 | 0.300 | 0.135 | ( 0.270) | 0.165 |
| 38 | 3.17 | 1.10 | 0.330 | 0.135 | ( 0.297) | 0.195 |
| 39 | 3.25 | 1.10 | 0.330 | 0.135 | ( 0.297) | 0.195 |
| 40 | 3.33 | 1.10 | 0.330 | 0.135 | ( 0.297) | 0.195 |
| 41 | 3.42 | 1.20 | 0.360 | 0.135 | ( 0.324) | 0.225 |
| 42 | 3.50 | 1.30 | 0.390 | 0.135 | ( 0.351) | 0.255 |
| 43 | 3.58 | 1.40 | 0.420 | 0.135 | ( 0.378) | 0.285 |
| 44 | 3.67 | 1.40 | 0.420 | 0.135 | ( 0.378) | 0.285 |
| 45 | 3.75 | 1.50 | 0.450 | 0.135 | ( 0.405) | 0.315 |
| 46 | 3.83 | 1.50 | 0.450 | 0.135 | ( 0.405) | 0.315 |
| 47 | 3.92 | 1.60 | 0.480 | 0.135 | ( 0.432) | 0.345 |
| 48 | 4.00 | 1.60 | 0.480 | 0.135 | ( 0.432) | 0.345 |
| 49 | 4.08 | 1.70 | 0.510 | 0.135 | ( 0.459) | 0.375 |
| 50 | 4.17 | 1.80 | 0.540 | 0.135 | ( 0.486) | 0.405 |
| 51 | 4.25 | 1.90 | 0.570 | 0.135 | ( 0.513) | 0.435 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 52 | 4.33 | 2.00 | 0.600 | 0.135 | ( 0.540) | | 0.465 |
| 53 | 4.42 | 2.10 | 0.630 | 0.135 | ( 0.567) | | 0.495 |
| 54 | 4.50 | 2.10 | 0.630 | 0.135 | ( 0.567) | | 0.495 |
| 55 | 4.58 | 2.20 | 0.660 | 0.135 | ( 0.594) | | 0.525 |
| 56 | 4.67 | 2.30 | 0.690 | 0.135 | ( 0.621) | | 0.555 |
| 57 | 4.75 | 2.40 | 0.720 | 0.135 | ( 0.648) | | 0.585 |
| 58 | 4.83 | 2.40 | 0.720 | 0.135 | ( 0.648) | | 0.585 |
| 59 | 4.92 | 2.50 | 0.750 | 0.135 | ( 0.675) | | 0.615 |
| 60 | 5.00 | 2.60 | 0.780 | 0.135 | ( 0.702) | | 0.645 |
| 61 | 5.08 | 3.10 | 0.930 | 0.135 | ( 0.837) | | 0.795 |
| 62 | 5.17 | 3.60 | 1.080 | 0.135 | ( 0.972) | | 0.945 |
| 63 | 5.25 | 3.90 | 1.170 | 0.135 | ( 1.053) | | 1.035 |
| 64 | 5.33 | 4.20 | 1.260 | 0.135 | ( 1.134) | | 1.125 |
| 65 | 5.42 | 4.70 | 1.410 | 0.135 | ( 1.269) | | 1.275 |
| 66 | 5.50 | 5.60 | 1.680 | 0.135 | ( 1.512) | | 1.545 |
| 67 | 5.58 | 1.90 | 0.570 | 0.135 | ( 0.513) | | 0.435 |
| 68 | 5.67 | 0.90 | 0.270 | 0.135 | ( 0.243) | | 0.135 |
| 69 | 5.75 | 0.60 | 0.180 | 0.135 | ( 0.162) | | 0.045 |
| 70 | 5.83 | 0.50 | 0.150 | ( 0.135) | 0.135 | | 0.015 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.135) | 0.081 | | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.135) | 0.054 | | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 20.4

Flood volume = Effective rainfall 1.70(In)
times area 6.4(Ac.)/[(In)/(Ft.)] = 0.9(Ac.Ft)
Total soil loss = 0.80(In)
Total soil loss = 0.427(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 39484.1 Cubic Feet
Total soil loss = 18594.7 Cubic Feet

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Peak flow rate of this hydrograph = 8.666(CFS)

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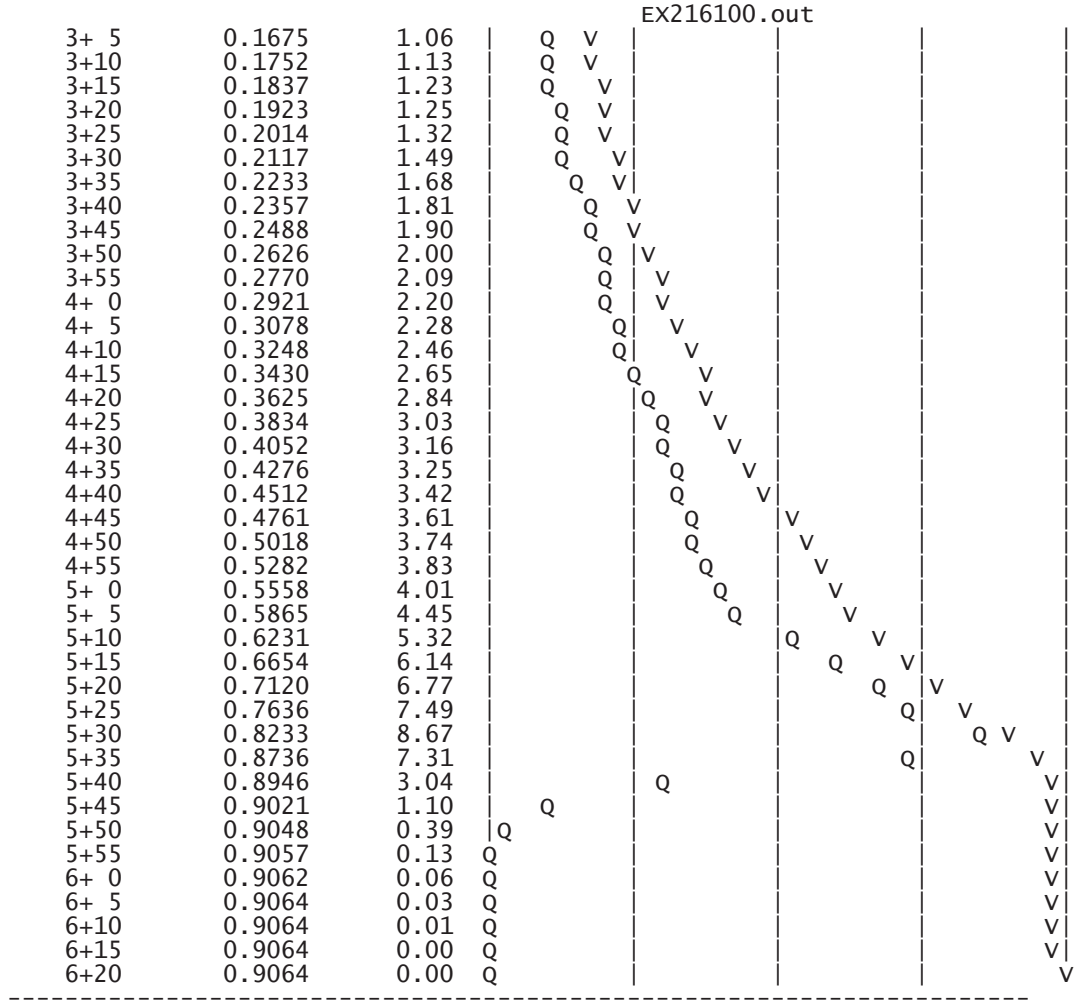
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0002 | 0.03 | Q | | | | |
| 0+10 | 0.0012 | 0.15 | Q | | | | |
| 0+15 | 0.0030 | 0.26 | VQ | | | | |
| 0+20 | 0.0050 | 0.28 | VQ | | | | |
| 0+25 | 0.0070 | 0.29 | VQ | | | | |
| 0+30 | 0.0094 | 0.35 | VQ | | | | |
| 0+35 | 0.0126 | 0.46 | VQ | | | | |
| 0+40 | 0.0158 | 0.48 | VQ | | | | |
| 0+45 | 0.0192 | 0.48 | VQ | | | | |
| 0+50 | 0.0225 | 0.48 | VQ | | | | |
| 0+55 | 0.0258 | 0.48 | \|Q | | | | |
| 1+ 0 | 0.0296 | 0.55 | \|VQ | | | | |
| 1+ 5 | 0.0340 | 0.65 | \|VQ | | | | |
| 1+10 | 0.0387 | 0.67 | \|VQ | | | | |
| 1+15 | 0.0433 | 0.67 | \|VQ | | | | |
| 1+20 | 0.0480 | 0.68 | \| Q | | | | |
| 1+25 | 0.0526 | 0.68 | \| Q | | | | |
| 1+30 | 0.0573 | 0.68 | \| Q | | | | |
| 1+35 | 0.0619 | 0.68 | \| Q | | | | |
| 1+40 | 0.0666 | 0.68 | \| Q | | | | |
| 1+45 | 0.0712 | 0.68 | \| QV | | | | |
| 1+50 | 0.0759 | 0.68 | \| QV | | | | |
| 1+55 | 0.0805 | 0.68 | \| QV | | | | |
| 2+ 0 | 0.0856 | 0.74 | \| QV | | | | |
| 2+ 5 | 0.0910 | 0.78 | \| QV | | | | |
| 2+10 | 0.0962 | 0.76 | \| QV | | | | |
| 2+15 | 0.1021 | 0.85 | \| QV | | | | |
| 2+20 | 0.1080 | 0.87 | \| QV | | | | |
| 2+25 | 0.1140 | 0.87 | \| Q V | | | | |
| 2+30 | 0.1200 | 0.87 | \| Q V | | | | |
| 2+35 | 0.1260 | 0.87 | \| Q V | | | | |
| 2+40 | 0.1320 | 0.87 | \| Q V | | | | |
| 2+45 | 0.1384 | 0.93 | \| Q V | | | | |
| 2+50 | 0.1456 | 1.04 | \| Q V | | | | |
| 2+55 | 0.1528 | 1.06 | \| Q V | | | | |
| 3+ 0 | 0.1602 | 1.06 | \| Q V | | | | |


3+ 5 0.1675 1.06
3+10 0.1752 1.13
3+15 0.1837 1.23
3+20 0.1923 1.25
3+25 0.2014 1.32
3+30 0.2117 1.49
3+35 0.2233 1.68
3+40 0.2357 1.81
3+45 0.2488 1.90
3+50 0.2626 2.00
3+55 0.2770 2.09
4+ 0 0.2921 2.20
4+ 5 0.3078 2.28
4+10 0.3248 2.46
4+15 0.3430 2.65
4+20 0.3625 2.84
4+25 0.3834 3.03
4+30 0.4052 3.16
4+35 0.4276 3.25
4+40 0.4512 3.42
4+45 0.4761 3.61
4+50 0.5018 3.74
4+55 0.5282 3.83
5+ 0 0.5558 4.01
5+ 5 0.5865 4.45
5+10 0.6231 5.32
5+15 0.6654 6.14
5+20 0.7120 6.77
5+25 0.7636 7.49
5+30 0.8233 8.67
5+35 0.8736 7.31
5+40 0.8946 3.04
5+45 0.9021 1.10
5+50 0.9048 0.39
5+55 0.9057 0.13
6+ 0 0.9062 0.06
6+ 5 0.9064 0.03
6+10 0.9064 0.01
6+15 0.9064 0.00
6+20 0.9064 0.00

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX2124100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 21
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 6.40(Ac.) = 0.010 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 6.40(Ac.) = 0.010 Sq. Mi.
Length along longest watercourse = 1043.00(Ft.)
Length along longest watercourse measured to centroid = 548.00(Ft.)
Length along longest watercourse = 0.198 Mi.
Length along longest watercourse measured to centroid = 0.104 Mi.
Difference in elevation = 196.00(Ft.)
Slope along watercourse = 992.2148 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.052 Hr.
Lag time = 3.10 Min.
25% of lag time = 0.78 Min.
40% of lag time = 1.24 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.40 | 1.80 | 11.52 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.40 | 4.51 | 28.86 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.510(In)

Point rain (area averaged) = 4.510(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.510(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 6.400 | 77.56 | 0.000 |

Total Area Entered = 6.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 77.6 | 89.5 | 0.135 | 0.000 | 0.135 | 1.000 | 0.135 |
| | | | | | Sum (F) = | 0.135 |

Area averaged mean soil loss (F) (In/Hr) = 0.135

Minimum soil loss rate ((In/Hr)) = 0.068
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 161.217 | 33.516 | 2.162 |
| 2 | 0.167 | 322.435 | 53.456 | 3.448 |
| 3 | 0.250 | 483.652 | 10.537 | 0.680 |
| 4 | 0.333 | 644.869 | 1.904 | 0.123 |
| 5 | 0.417 | 806.087 | 0.587 | 0.038 |
| | | | Sum = 100.000 | Sum= 6.450 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.036 | ( 0.240) | 0.032 | 0.004 |
| 2 | 0.17 | 0.07 | 0.036 | ( 0.239) | 0.032 | 0.004 |
| 3 | 0.25 | 0.07 | 0.036 | ( 0.238) | 0.032 | 0.004 |
| 4 | 0.33 | 0.10 | 0.054 | ( 0.237) | 0.049 | 0.005 |
| 5 | 0.42 | 0.10 | 0.054 | ( 0.236) | 0.049 | 0.005 |
| 6 | 0.50 | 0.10 | 0.054 | ( 0.235) | 0.049 | 0.005 |
| 7 | 0.58 | 0.10 | 0.054 | ( 0.234) | 0.049 | 0.005 |
| 8 | 0.67 | 0.10 | 0.054 | ( 0.233) | 0.049 | 0.005 |
| 9 | 0.75 | 0.10 | 0.054 | ( 0.232) | 0.049 | 0.005 |
| 10 | 0.83 | 0.13 | 0.072 | ( 0.232) | 0.065 | 0.007 |
| 11 | 0.92 | 0.13 | 0.072 | ( 0.231) | 0.065 | 0.007 |
| 12 | 1.00 | 0.13 | 0.072 | ( 0.230) | 0.065 | 0.007 |
| 13 | 1.08 | 0.10 | 0.054 | ( 0.229) | 0.049 | 0.005 |
| 14 | 1.17 | 0.10 | 0.054 | ( 0.228) | 0.049 | 0.005 |
| 15 | 1.25 | 0.10 | 0.054 | ( 0.227) | 0.049 | 0.005 |
| 16 | 1.33 | 0.10 | 0.054 | ( 0.226) | 0.049 | 0.005 |
| 17 | 1.42 | 0.10 | 0.054 | ( 0.225) | 0.049 | 0.005 |
| 18 | 1.50 | 0.10 | 0.054 | ( 0.224) | 0.049 | 0.005 |
| 19 | 1.58 | 0.10 | 0.054 | ( 0.223) | 0.049 | 0.005 |
| 20 | 1.67 | 0.10 | 0.054 | ( 0.223) | 0.049 | 0.005 |
| 21 | 1.75 | 0.10 | 0.054 | ( 0.222) | 0.049 | 0.005 |
| 22 | 1.83 | 0.13 | 0.072 | ( 0.221) | 0.065 | 0.007 |
| 23 | 1.92 | 0.13 | 0.072 | ( 0.220) | 0.065 | 0.007 |
| 24 | 2.00 | 0.13 | 0.072 | ( 0.219) | 0.065 | 0.007 |
| 25 | 2.08 | 0.13 | 0.072 | ( 0.218) | 0.065 | 0.007 |
| 26 | 2.17 | 0.13 | 0.072 | ( 0.217) | 0.065 | 0.007 |
| 27 | 2.25 | 0.13 | 0.072 | ( 0.216) | 0.065 | 0.007 |
| 28 | 2.33 | 0.13 | 0.072 | ( 0.215) | 0.065 | 0.007 |
| 29 | 2.42 | 0.13 | 0.072 | ( 0.215) | 0.065 | 0.007 |
| 30 | 2.50 | 0.13 | 0.072 | ( 0.214) | 0.065 | 0.007 |
| 31 | 2.58 | 0.17 | 0.090 | ( 0.213) | 0.081 | 0.009 |
| 32 | 2.67 | 0.17 | 0.090 | ( 0.212) | 0.081 | 0.009 |
| 33 | 2.75 | 0.17 | 0.090 | ( 0.211) | 0.081 | 0.009 |
| 34 | 2.83 | 0.17 | 0.090 | ( 0.210) | 0.081 | 0.009 |
| 35 | 2.92 | 0.17 | 0.090 | ( 0.209) | 0.081 | 0.009 |
| 36 | 3.00 | 0.17 | 0.090 | ( 0.208) | 0.081 | 0.009 |
| 37 | 3.08 | 0.17 | 0.090 | ( 0.208) | 0.081 | 0.009 |
| 38 | 3.17 | 0.17 | 0.090 | ( 0.207) | 0.081 | 0.009 |
| 39 | 3.25 | 0.17 | 0.090 | ( 0.206) | 0.081 | 0.009 |
| 40 | 3.33 | 0.17 | 0.090 | ( 0.205) | 0.081 | 0.009 |
| 41 | 3.42 | 0.17 | 0.090 | ( 0.204) | 0.081 | 0.009 |
| 42 | 3.50 | 0.17 | 0.090 | ( 0.203) | 0.081 | 0.009 |
| 43 | 3.58 | 0.17 | 0.090 | ( 0.202) | 0.081 | 0.009 |
| 44 | 3.67 | 0.17 | 0.090 | ( 0.202) | 0.081 | 0.009 |
| 45 | 3.75 | 0.17 | 0.090 | ( 0.201) | 0.081 | 0.009 |
| 46 | 3.83 | 0.20 | 0.108 | ( 0.200) | 0.097 | 0.011 |
| 47 | 3.92 | 0.20 | 0.108 | ( 0.199) | 0.097 | 0.011 |
| 48 | 4.00 | 0.20 | 0.108 | ( 0.198) | 0.097 | 0.011 |
| 49 | 4.08 | 0.20 | 0.108 | ( 0.197) | 0.097 | 0.011 |
| 50 | 4.17 | 0.20 | 0.108 | ( 0.197) | 0.097 | 0.011 |
| 51 | 4.25 | 0.20 | 0.108 | ( 0.196) | 0.097 | 0.011 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 52 | 4.33 | 0.23 | 0.126 | ( 0.195) | 0.114 | 0.013 |
| 53 | 4.42 | 0.23 | 0.126 | ( 0.194) | 0.114 | 0.013 |
| 54 | 4.50 | 0.23 | 0.126 | ( 0.193) | 0.114 | 0.013 |
| 55 | 4.58 | 0.23 | 0.126 | ( 0.192) | 0.114 | 0.013 |
| 56 | 4.67 | 0.23 | 0.126 | ( 0.192) | 0.114 | 0.013 |
| 57 | 4.75 | 0.23 | 0.126 | ( 0.191) | 0.114 | 0.013 |
| 58 | 4.83 | 0.27 | 0.144 | ( 0.190) | 0.130 | 0.014 |
| 59 | 4.92 | 0.27 | 0.144 | ( 0.189) | 0.130 | 0.014 |
| 60 | 5.00 | 0.27 | 0.144 | ( 0.188) | 0.130 | 0.014 |
| 61 | 5.08 | 0.20 | 0.108 | ( 0.187) | 0.097 | 0.011 |
| 62 | 5.17 | 0.20 | 0.108 | ( 0.187) | 0.097 | 0.011 |
| 63 | 5.25 | 0.20 | 0.108 | ( 0.186) | 0.097 | 0.011 |
| 64 | 5.33 | 0.23 | 0.126 | ( 0.185) | 0.114 | 0.013 |
| 65 | 5.42 | 0.23 | 0.126 | ( 0.184) | 0.114 | 0.013 |
| 66 | 5.50 | 0.23 | 0.126 | ( 0.183) | 0.114 | 0.013 |
| 67 | 5.58 | 0.27 | 0.144 | ( 0.183) | 0.130 | 0.014 |
| 68 | 5.67 | 0.27 | 0.144 | ( 0.182) | 0.130 | 0.014 |
| 69 | 5.75 | 0.27 | 0.144 | ( 0.181) | 0.130 | 0.014 |
| 70 | 5.83 | 0.27 | 0.144 | ( 0.180) | 0.130 | 0.014 |
| 71 | 5.92 | 0.27 | 0.144 | ( 0.179) | 0.130 | 0.014 |
| 72 | 6.00 | 0.27 | 0.144 | ( 0.179) | 0.130 | 0.014 |
| 73 | 6.08 | 0.30 | 0.162 | ( 0.178) | 0.146 | 0.016 |
| 74 | 6.17 | 0.30 | 0.162 | ( 0.177) | 0.146 | 0.016 |
| 75 | 6.25 | 0.30 | 0.162 | ( 0.176) | 0.146 | 0.016 |
| 76 | 6.33 | 0.30 | 0.162 | ( 0.175) | 0.146 | 0.016 |
| 77 | 6.42 | 0.30 | 0.162 | ( 0.175) | 0.146 | 0.016 |
| 78 | 6.50 | 0.30 | 0.162 | ( 0.174) | 0.146 | 0.016 |
| 79 | 6.58 | 0.33 | 0.180 | ( 0.173) | 0.162 | 0.018 |
| 80 | 6.67 | 0.33 | 0.180 | ( 0.172) | 0.162 | 0.018 |
| 81 | 6.75 | 0.33 | 0.180 | ( 0.172) | 0.162 | 0.018 |
| 82 | 6.83 | 0.33 | 0.180 | ( 0.171) | 0.162 | 0.018 |
| 83 | 6.92 | 0.33 | 0.180 | ( 0.170) | 0.162 | 0.018 |
| 84 | 7.00 | 0.33 | 0.180 | ( 0.169) | 0.162 | 0.018 |
| 85 | 7.08 | 0.33 | 0.180 | ( 0.168) | 0.162 | 0.018 |
| 86 | 7.17 | 0.33 | 0.180 | ( 0.168) | 0.162 | 0.018 |
| 87 | 7.25 | 0.33 | 0.180 | ( 0.167) | 0.162 | 0.018 |
| 88 | 7.33 | 0.37 | 0.198 | 0.166 | ( 0.179) | 0.032 |
| 89 | 7.42 | 0.37 | 0.198 | 0.165 | ( 0.179) | 0.033 |
| 90 | 7.50 | 0.37 | 0.198 | 0.165 | ( 0.179) | 0.034 |
| 91 | 7.58 | 0.40 | 0.216 | 0.164 | ( 0.195) | 0.053 |
| 92 | 7.67 | 0.40 | 0.216 | 0.163 | ( 0.195) | 0.053 |
| 93 | 7.75 | 0.40 | 0.216 | 0.162 | ( 0.195) | 0.054 |
| 94 | 7.83 | 0.43 | 0.235 | 0.162 | ( 0.211) | 0.073 |
| 95 | 7.92 | 0.43 | 0.235 | 0.161 | ( 0.211) | 0.074 |
| 96 | 8.00 | 0.43 | 0.235 | 0.160 | ( 0.211) | 0.074 |
| 97 | 8.08 | 0.50 | 0.271 | 0.159 | ( 0.244) | 0.111 |
| 98 | 8.17 | 0.50 | 0.271 | 0.159 | ( 0.244) | 0.112 |
| 99 | 8.25 | 0.50 | 0.271 | 0.158 | ( 0.244) | 0.113 |
| 100 | 8.33 | 0.50 | 0.271 | 0.157 | ( 0.244) | 0.113 |
| 101 | 8.42 | 0.50 | 0.271 | 0.156 | ( 0.244) | 0.114 |
| 102 | 8.50 | 0.50 | 0.271 | 0.156 | ( 0.244) | 0.115 |
| 103 | 8.58 | 0.53 | 0.289 | 0.155 | ( 0.260) | 0.134 |
| 104 | 8.67 | 0.53 | 0.289 | 0.154 | ( 0.260) | 0.134 |
| 105 | 8.75 | 0.53 | 0.289 | 0.153 | ( 0.260) | 0.135 |
| 106 | 8.83 | 0.57 | 0.307 | 0.153 | ( 0.276) | 0.154 |
| 107 | 8.92 | 0.57 | 0.307 | 0.152 | ( 0.276) | 0.155 |
| 108 | 9.00 | 0.57 | 0.307 | 0.151 | ( 0.276) | 0.155 |
| 109 | 9.08 | 0.63 | 0.343 | 0.151 | ( 0.308) | 0.192 |
| 110 | 9.17 | 0.63 | 0.343 | 0.150 | ( 0.308) | 0.193 |
| 111 | 9.25 | 0.63 | 0.343 | 0.149 | ( 0.308) | 0.194 |
| 112 | 9.33 | 0.67 | 0.361 | 0.148 | ( 0.325) | 0.212 |
| 113 | 9.42 | 0.67 | 0.361 | 0.148 | ( 0.325) | 0.213 |
| 114 | 9.50 | 0.67 | 0.361 | 0.147 | ( 0.325) | 0.214 |
| 115 | 9.58 | 0.70 | 0.379 | 0.146 | ( 0.341) | 0.232 |
| 116 | 9.67 | 0.70 | 0.379 | 0.146 | ( 0.341) | 0.233 |
| 117 | 9.75 | 0.70 | 0.379 | 0.145 | ( 0.341) | 0.234 |
| 118 | 9.83 | 0.73 | 0.397 | 0.144 | ( 0.357) | 0.253 |
| 119 | 9.92 | 0.73 | 0.397 | 0.144 | ( 0.357) | 0.253 |
| 120 | 10.00 | 0.73 | 0.397 | 0.143 | ( 0.357) | 0.254 |
| 121 | 10.08 | 0.50 | 0.271 | 0.142 | ( 0.244) | 0.128 |
| 122 | 10.17 | 0.50 | 0.271 | 0.141 | ( 0.244) | 0.129 |
| 123 | 10.25 | 0.50 | 0.271 | 0.141 | ( 0.244) | 0.130 |
| 124 | 10.33 | 0.50 | 0.271 | 0.140 | ( 0.244) | 0.130 |
| 125 | 10.42 | 0.50 | 0.271 | 0.139 | ( 0.244) | 0.131 |
| 126 | 10.50 | 0.50 | 0.271 | 0.139 | ( 0.244) | 0.132 |
| 127 | 10.58 | 0.67 | 0.361 | 0.138 | ( 0.325) | 0.223 |
| 128 | 10.67 | 0.67 | 0.361 | 0.137 | ( 0.325) | 0.223 |
| 129 | 10.75 | 0.67 | 0.361 | 0.137 | ( 0.325) | 0.224 |

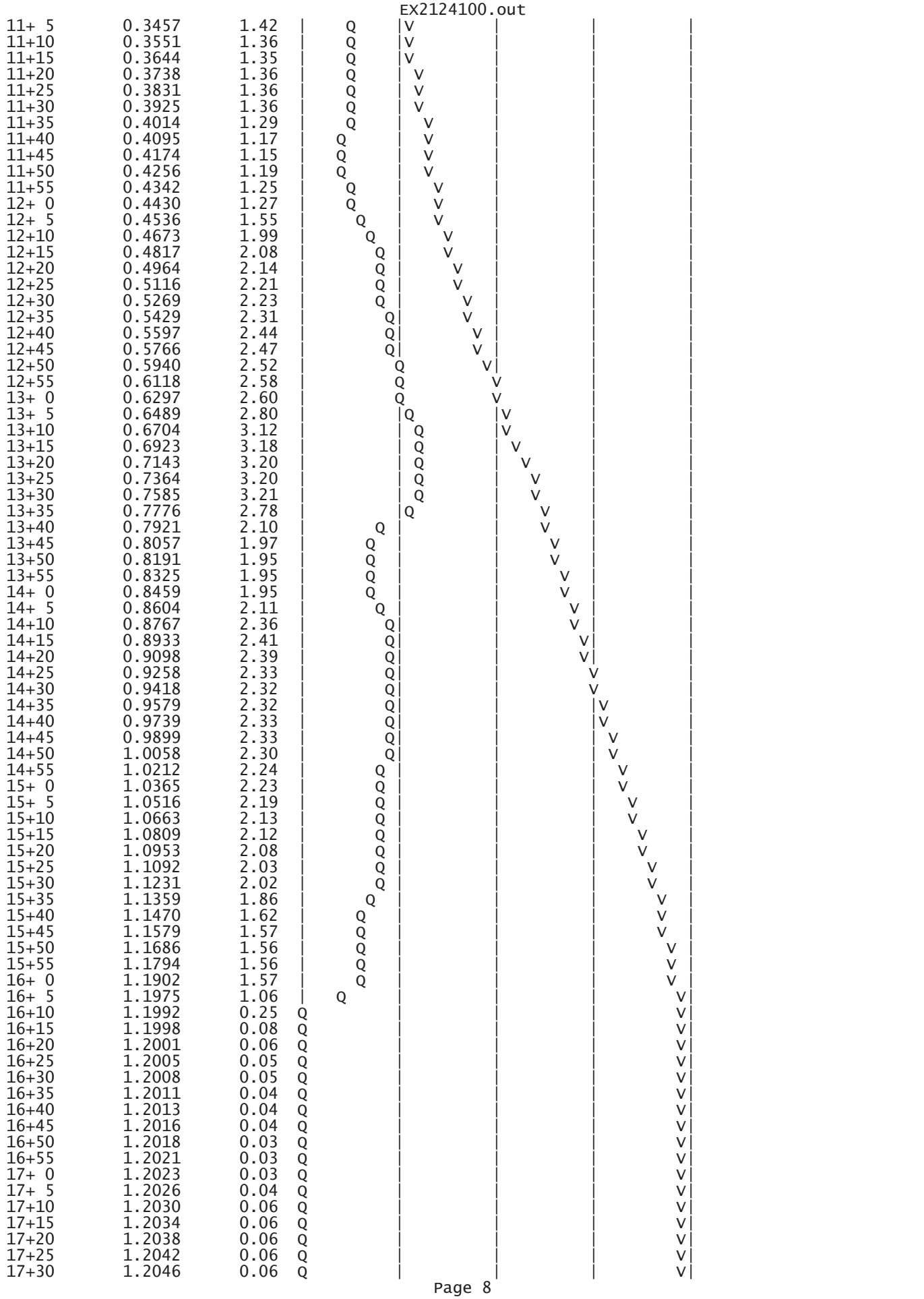
| | | | | | | |
|---|---|---|---|---|---|---|
| 130 | 10.83 | 0.67 | 0.361 | 0.136 | ( 0.325) | 0.225 |
| 131 | 10.92 | 0.67 | 0.361 | 0.135 | ( 0.325) | 0.225 |
| 132 | 11.00 | 0.67 | 0.361 | 0.135 | ( 0.325) | 0.226 |
| 133 | 11.08 | 0.63 | 0.343 | 0.134 | ( 0.308) | 0.209 |
| 134 | 11.17 | 0.63 | 0.343 | 0.133 | ( 0.308) | 0.209 |
| 135 | 11.25 | 0.63 | 0.343 | 0.133 | ( 0.308) | 0.210 |
| 136 | 11.33 | 0.63 | 0.343 | 0.132 | ( 0.308) | 0.211 |
| 137 | 11.42 | 0.63 | 0.343 | 0.131 | ( 0.308) | 0.211 |
| 138 | 11.50 | 0.63 | 0.343 | 0.131 | ( 0.308) | 0.212 |
| 139 | 11.58 | 0.57 | 0.307 | 0.130 | ( 0.276) | 0.177 |
| 140 | 11.67 | 0.57 | 0.307 | 0.129 | ( 0.276) | 0.177 |
| 141 | 11.75 | 0.57 | 0.307 | 0.129 | ( 0.276) | 0.178 |
| 142 | 11.83 | 0.60 | 0.325 | 0.128 | ( 0.292) | 0.197 |
| 143 | 11.92 | 0.60 | 0.325 | 0.128 | ( 0.292) | 0.197 |
| 144 | 12.00 | 0.60 | 0.325 | 0.127 | ( 0.292) | 0.198 |
| 145 | 12.08 | 0.83 | 0.451 | 0.126 | ( 0.406) | 0.325 |
| 146 | 12.17 | 0.83 | 0.451 | 0.126 | ( 0.406) | 0.325 |
| 147 | 12.25 | 0.83 | 0.451 | 0.125 | ( 0.406) | 0.326 |
| 148 | 12.33 | 0.87 | 0.469 | 0.124 | ( 0.422) | 0.345 |
| 149 | 12.42 | 0.87 | 0.469 | 0.124 | ( 0.422) | 0.345 |
| 150 | 12.50 | 0.87 | 0.469 | 0.123 | ( 0.422) | 0.346 |
| 151 | 12.58 | 0.93 | 0.505 | 0.123 | ( 0.455) | 0.383 |
| 152 | 12.67 | 0.93 | 0.505 | 0.122 | ( 0.455) | 0.383 |
| 153 | 12.75 | 0.93 | 0.505 | 0.121 | ( 0.455) | 0.384 |
| 154 | 12.83 | 0.97 | 0.523 | 0.121 | ( 0.471) | 0.402 |
| 155 | 12.92 | 0.97 | 0.523 | 0.120 | ( 0.471) | 0.403 |
| 156 | 13.00 | 0.97 | 0.523 | 0.119 | ( 0.471) | 0.404 |
| 157 | 13.08 | 1.13 | 0.613 | 0.119 | ( 0.552) | 0.494 |
| 158 | 13.17 | 1.13 | 0.613 | 0.118 | ( 0.552) | 0.495 |
| 159 | 13.25 | 1.13 | 0.613 | 0.118 | ( 0.552) | 0.496 |
| 160 | 13.33 | 1.13 | 0.613 | 0.117 | ( 0.552) | 0.496 |
| 161 | 13.42 | 1.13 | 0.613 | 0.116 | ( 0.552) | 0.497 |
| 162 | 13.50 | 1.13 | 0.613 | 0.116 | ( 0.552) | 0.497 |
| 163 | 13.58 | 0.77 | 0.415 | 0.115 | ( 0.373) | 0.300 |
| 164 | 13.67 | 0.77 | 0.415 | 0.115 | ( 0.373) | 0.300 |
| 165 | 13.75 | 0.77 | 0.415 | 0.114 | ( 0.373) | 0.301 |
| 166 | 13.83 | 0.77 | 0.415 | 0.114 | ( 0.373) | 0.301 |
| 167 | 13.92 | 0.77 | 0.415 | 0.113 | ( 0.373) | 0.302 |
| 168 | 14.00 | 0.77 | 0.415 | 0.112 | ( 0.373) | 0.303 |
| 169 | 14.08 | 0.90 | 0.487 | 0.112 | ( 0.438) | 0.375 |
| 170 | 14.17 | 0.90 | 0.487 | 0.111 | ( 0.438) | 0.376 |
| 171 | 14.25 | 0.90 | 0.487 | 0.111 | ( 0.438) | 0.376 |
| 172 | 14.33 | 0.87 | 0.469 | 0.110 | ( 0.422) | 0.359 |
| 173 | 14.42 | 0.87 | 0.469 | 0.110 | ( 0.422) | 0.359 |
| 174 | 14.50 | 0.87 | 0.469 | 0.109 | ( 0.422) | 0.360 |
| 175 | 14.58 | 0.87 | 0.469 | 0.108 | ( 0.422) | 0.361 |
| 176 | 14.67 | 0.87 | 0.469 | 0.108 | ( 0.422) | 0.361 |
| 177 | 14.75 | 0.87 | 0.469 | 0.107 | ( 0.422) | 0.362 |
| 178 | 14.83 | 0.83 | 0.451 | 0.107 | ( 0.406) | 0.344 |
| 179 | 14.92 | 0.83 | 0.451 | 0.106 | ( 0.406) | 0.345 |
| 180 | 15.00 | 0.83 | 0.451 | 0.106 | ( 0.406) | 0.345 |
| 181 | 15.08 | 0.80 | 0.433 | 0.105 | ( 0.390) | 0.328 |
| 182 | 15.17 | 0.80 | 0.433 | 0.105 | ( 0.390) | 0.328 |
| 183 | 15.25 | 0.80 | 0.433 | 0.104 | ( 0.390) | 0.329 |
| 184 | 15.33 | 0.77 | 0.415 | 0.104 | ( 0.373) | 0.311 |
| 185 | 15.42 | 0.77 | 0.415 | 0.103 | ( 0.373) | 0.312 |
| 186 | 15.50 | 0.77 | 0.415 | 0.102 | ( 0.373) | 0.312 |
| 187 | 15.58 | 0.63 | 0.343 | 0.102 | ( 0.308) | 0.241 |
| 188 | 15.67 | 0.63 | 0.343 | 0.101 | ( 0.308) | 0.241 |
| 189 | 15.75 | 0.63 | 0.343 | 0.101 | ( 0.308) | 0.242 |
| 190 | 15.83 | 0.63 | 0.343 | 0.100 | ( 0.308) | 0.242 |
| 191 | 15.92 | 0.63 | 0.343 | 0.100 | ( 0.308) | 0.243 |
| 192 | 16.00 | 0.63 | 0.343 | 0.099 | ( 0.308) | 0.243 |
| 193 | 16.08 | 0.13 | 0.072 | ( 0.099) | 0.065 | 0.007 |
| 194 | 16.17 | 0.13 | 0.072 | ( 0.098) | 0.065 | 0.007 |
| 195 | 16.25 | 0.13 | 0.072 | ( 0.098) | 0.065 | 0.007 |
| 196 | 16.33 | 0.13 | 0.072 | ( 0.097) | 0.065 | 0.007 |
| 197 | 16.42 | 0.13 | 0.072 | ( 0.097) | 0.065 | 0.007 |
| 198 | 16.50 | 0.13 | 0.072 | ( 0.096) | 0.065 | 0.007 |
| 199 | 16.58 | 0.10 | 0.054 | ( 0.096) | 0.049 | 0.005 |
| 200 | 16.67 | 0.10 | 0.054 | ( 0.095) | 0.049 | 0.005 |
| 201 | 16.75 | 0.10 | 0.054 | ( 0.095) | 0.049 | 0.005 |
| 202 | 16.83 | 0.10 | 0.054 | ( 0.094) | 0.049 | 0.005 |
| 203 | 16.92 | 0.10 | 0.054 | ( 0.094) | 0.049 | 0.005 |
| 204 | 17.00 | 0.10 | 0.054 | ( 0.093) | 0.049 | 0.005 |
| 205 | 17.08 | 0.17 | 0.090 | ( 0.093) | 0.081 | 0.009 |
| 206 | 17.17 | 0.17 | 0.090 | ( 0.093) | 0.081 | 0.009 |
| 207 | 17.25 | 0.17 | 0.090 | ( 0.092) | 0.081 | 0.009 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 208 | 17.33 | 0.17 | 0.090 | ( 0.092) | 0.081 | 0.009 |
| 209 | 17.42 | 0.17 | 0.090 | ( 0.091) | 0.081 | 0.009 |
| 210 | 17.50 | 0.17 | 0.090 | ( 0.091) | 0.081 | 0.009 |
| 211 | 17.58 | 0.17 | 0.090 | ( 0.090) | 0.081 | 0.009 |
| 212 | 17.67 | 0.17 | 0.090 | ( 0.090) | 0.081 | 0.009 |
| 213 | 17.75 | 0.17 | 0.090 | ( 0.089) | 0.081 | 0.009 |
| 214 | 17.83 | 0.13 | 0.072 | ( 0.089) | 0.065 | 0.007 |
| 215 | 17.92 | 0.13 | 0.072 | ( 0.088) | 0.065 | 0.007 |
| 216 | 18.00 | 0.13 | 0.072 | ( 0.088) | 0.065 | 0.007 |
| 217 | 18.08 | 0.13 | 0.072 | ( 0.088) | 0.065 | 0.007 |
| 218 | 18.17 | 0.13 | 0.072 | ( 0.087) | 0.065 | 0.007 |
| 219 | 18.25 | 0.13 | 0.072 | ( 0.087) | 0.065 | 0.007 |
| 220 | 18.33 | 0.13 | 0.072 | ( 0.086) | 0.065 | 0.007 |
| 221 | 18.42 | 0.13 | 0.072 | ( 0.086) | 0.065 | 0.007 |
| 222 | 18.50 | 0.13 | 0.072 | ( 0.085) | 0.065 | 0.007 |
| 223 | 18.58 | 0.10 | 0.054 | ( 0.085) | 0.049 | 0.005 |
| 224 | 18.67 | 0.10 | 0.054 | ( 0.085) | 0.049 | 0.005 |
| 225 | 18.75 | 0.10 | 0.054 | ( 0.084) | 0.049 | 0.005 |
| 226 | 18.83 | 0.07 | 0.036 | ( 0.084) | 0.032 | 0.004 |
| 227 | 18.92 | 0.07 | 0.036 | ( 0.083) | 0.032 | 0.004 |
| 228 | 19.00 | 0.07 | 0.036 | ( 0.083) | 0.032 | 0.004 |
| 229 | 19.08 | 0.10 | 0.054 | ( 0.083) | 0.049 | 0.005 |
| 230 | 19.17 | 0.10 | 0.054 | ( 0.082) | 0.049 | 0.005 |
| 231 | 19.25 | 0.10 | 0.054 | ( 0.082) | 0.049 | 0.005 |
| 232 | 19.33 | 0.13 | 0.072 | ( 0.081) | 0.065 | 0.007 |
| 233 | 19.42 | 0.13 | 0.072 | ( 0.081) | 0.065 | 0.007 |
| 234 | 19.50 | 0.13 | 0.072 | ( 0.081) | 0.065 | 0.007 |
| 235 | 19.58 | 0.10 | 0.054 | ( 0.080) | 0.049 | 0.005 |
| 236 | 19.67 | 0.10 | 0.054 | ( 0.080) | 0.049 | 0.005 |
| 237 | 19.75 | 0.10 | 0.054 | ( 0.080) | 0.049 | 0.005 |
| 238 | 19.83 | 0.07 | 0.036 | ( 0.079) | 0.032 | 0.004 |
| 239 | 19.92 | 0.07 | 0.036 | ( 0.079) | 0.032 | 0.004 |
| 240 | 20.00 | 0.07 | 0.036 | ( 0.079) | 0.032 | 0.004 |
| 241 | 20.08 | 0.10 | 0.054 | ( 0.078) | 0.049 | 0.005 |
| 242 | 20.17 | 0.10 | 0.054 | ( 0.078) | 0.049 | 0.005 |
| 243 | 20.25 | 0.10 | 0.054 | ( 0.078) | 0.049 | 0.005 |
| 244 | 20.33 | 0.10 | 0.054 | ( 0.077) | 0.049 | 0.005 |
| 245 | 20.42 | 0.10 | 0.054 | ( 0.077) | 0.049 | 0.005 |
| 246 | 20.50 | 0.10 | 0.054 | ( 0.077) | 0.049 | 0.005 |
| 247 | 20.58 | 0.10 | 0.054 | ( 0.076) | 0.049 | 0.005 |
| 248 | 20.67 | 0.10 | 0.054 | ( 0.076) | 0.049 | 0.005 |
| 249 | 20.75 | 0.10 | 0.054 | ( 0.076) | 0.049 | 0.005 |
| 250 | 20.83 | 0.07 | 0.036 | ( 0.075) | 0.032 | 0.004 |
| 251 | 20.92 | 0.07 | 0.036 | ( 0.075) | 0.032 | 0.004 |
| 252 | 21.00 | 0.07 | 0.036 | ( 0.075) | 0.032 | 0.004 |
| 253 | 21.08 | 0.10 | 0.054 | ( 0.074) | 0.049 | 0.005 |
| 254 | 21.17 | 0.10 | 0.054 | ( 0.074) | 0.049 | 0.005 |
| 255 | 21.25 | 0.10 | 0.054 | ( 0.074) | 0.049 | 0.005 |
| 256 | 21.33 | 0.07 | 0.036 | ( 0.074) | 0.032 | 0.004 |
| 257 | 21.42 | 0.07 | 0.036 | ( 0.073) | 0.032 | 0.004 |
| 258 | 21.50 | 0.07 | 0.036 | ( 0.073) | 0.032 | 0.004 |
| 259 | 21.58 | 0.10 | 0.054 | ( 0.073) | 0.049 | 0.005 |
| 260 | 21.67 | 0.10 | 0.054 | ( 0.072) | 0.049 | 0.005 |
| 261 | 21.75 | 0.10 | 0.054 | ( 0.072) | 0.049 | 0.005 |
| 262 | 21.83 | 0.07 | 0.036 | ( 0.072) | 0.032 | 0.004 |
| 263 | 21.92 | 0.07 | 0.036 | ( 0.072) | 0.032 | 0.004 |
| 264 | 22.00 | 0.07 | 0.036 | ( 0.071) | 0.032 | 0.004 |
| 265 | 22.08 | 0.10 | 0.054 | ( 0.071) | 0.049 | 0.005 |
| 266 | 22.17 | 0.10 | 0.054 | ( 0.071) | 0.049 | 0.005 |
| 267 | 22.25 | 0.10 | 0.054 | ( 0.071) | 0.049 | 0.005 |
| 268 | 22.33 | 0.07 | 0.036 | ( 0.071) | 0.032 | 0.004 |
| 269 | 22.42 | 0.07 | 0.036 | ( 0.070) | 0.032 | 0.004 |
| 270 | 22.50 | 0.07 | 0.036 | ( 0.070) | 0.032 | 0.004 |
| 271 | 22.58 | 0.07 | 0.036 | ( 0.070) | 0.032 | 0.004 |
| 272 | 22.67 | 0.07 | 0.036 | ( 0.070) | 0.032 | 0.004 |
| 273 | 22.75 | 0.07 | 0.036 | ( 0.070) | 0.032 | 0.004 |
| 274 | 22.83 | 0.07 | 0.036 | ( 0.069) | 0.032 | 0.004 |
| 275 | 22.92 | 0.07 | 0.036 | ( 0.069) | 0.032 | 0.004 |
| 276 | 23.00 | 0.07 | 0.036 | ( 0.069) | 0.032 | 0.004 |
| 277 | 23.08 | 0.07 | 0.036 | ( 0.069) | 0.032 | 0.004 |
| 278 | 23.17 | 0.07 | 0.036 | ( 0.069) | 0.032 | 0.004 |
| 279 | 23.25 | 0.07 | 0.036 | ( 0.069) | 0.032 | 0.004 |
| 280 | 23.33 | 0.07 | 0.036 | ( 0.068) | 0.032 | 0.004 |
| 281 | 23.42 | 0.07 | 0.036 | ( 0.068) | 0.032 | 0.004 |
| 282 | 23.50 | 0.07 | 0.036 | ( 0.068) | 0.032 | 0.004 |
| 283 | 23.58 | 0.07 | 0.036 | ( 0.068) | 0.032 | 0.004 |
| 284 | 23.67 | 0.07 | 0.036 | ( 0.068) | 0.032 | 0.004 |
| 285 | 23.75 | 0.07 | 0.036 | ( 0.068) | 0.032 | 0.004 |

```
286  23.83     0.07      0.036       (  0.068)       0.032        0.004
287  23.92     0.07      0.036       (  0.068)       0.032        0.004
288  24.00     0.07      0.036       (  0.068)       0.032        0.004
              (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    27.5
       Flood volume = Effective rainfall      2.29(In)
        times area       6.4(Ac.)/[(In)/(Ft.)] =       1.2(Ac.Ft)
       Total soil loss =      2.22(In)
       Total soil loss =     1.183(Ac.Ft)
       Total rainfall =      4.51(In)
       Flood volume =       53239.9 Cubic Feet
       Total soil loss =       51535.1 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =      3.207(CFS)
       ---------------------------------------------------------------------
       +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
       ---------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))

       ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5       10.0
 ----------------------------------------------------------------------------
   0+ 5       0.0001      0.01  Q          |         |         |         |
   0+10       0.0002      0.02  Q          |         |         |         |
   0+15       0.0003      0.02  Q          |         |         |         |
   0+20       0.0005      0.03  Q          |         |         |         |
   0+25       0.0008      0.03  Q          |         |         |         |
   0+30       0.0010      0.03  Q          |         |         |         |
   0+35       0.0012      0.03  Q          |         |         |         |
   0+40       0.0015      0.03  Q          |         |         |         |
   0+45       0.0017      0.03  Q          |         |         |         |
   0+50       0.0020      0.04  Q          |         |         |         |
   0+55       0.0023      0.05  Q          |         |         |         |
   1+ 0       0.0026      0.05  Q          |         |         |         |
   1+ 5       0.0029      0.04  Q          |         |         |         |
   1+10       0.0032      0.04  Q          |         |         |         |
   1+15       0.0034      0.04  Q          |         |         |         |
   1+20       0.0036      0.03  Q          |         |         |         |
   1+25       0.0039      0.03  Q          |         |         |         |
   1+30       0.0041      0.03  Q          |         |         |         |
   1+35       0.0044      0.03  Q          |         |         |         |
   1+40       0.0046      0.03  Q          |         |         |         |
   1+45       0.0049      0.03  Q          |         |         |         |
   1+50       0.0051      0.04  Q          |         |         |         |
   1+55       0.0054      0.05  Q          |         |         |         |
   2+ 0       0.0057      0.05  Q          |         |         |         |
   2+ 5       0.0061      0.05  Q          |         |         |         |
   2+10       0.0064      0.05  Q          |         |         |         |
   2+15       0.0067      0.05  Q          |         |         |         |
   2+20       0.0070      0.05  Q          |         |         |         |
   2+25       0.0074      0.05  Q          |         |         |         |
   2+30       0.0077      0.05  Q          |         |         |         |
   2+35       0.0080      0.05  Q          |         |         |         |
   2+40       0.0084      0.06  Q          |         |         |         |
   2+45       0.0088      0.06  Q          |         |         |         |
   2+50       0.0092      0.06  Q          |         |         |         |
   2+55       0.0096      0.06  Q          |         |         |         |
   3+ 0       0.0100      0.06  Q          |         |         |         |
   3+ 5       0.0104      0.06  Q          |         |         |         |
   3+10       0.0108      0.06  Q          |         |         |         |
   3+15       0.0112      0.06  Q          |         |         |         |
   3+20       0.0116      0.06  Q          |         |         |         |
   3+25       0.0120      0.06  Q          |         |         |         |
   3+30       0.0124      0.06  Q          |         |         |         |
   3+35       0.0128      0.06  Q          |         |         |         |
   3+40       0.0132      0.06  Q          |         |         |         |
   3+45       0.0136      0.06  Q          |         |         |         |
   3+50       0.0140      0.06  Q          |         |         |         |
   3+55       0.0145      0.07  Q          |         |         |         |
   4+ 0       0.0150      0.07  Q          |         |         |         |
   4+ 5       0.0155      0.07  Q          |         |         |         |
   4+10       0.0160      0.07  Q          |         |         |         |
   4+15       0.0164      0.07  Q          |         |         |         |
   4+20       0.0169      0.07  Q          |         |         |         |
   4+25       0.0175      0.08  Q          |         |         |         |
   4+30       0.0181      0.08  Q          |         |         |         |
```

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 4+35 | 0.0186 | 0.08 | Q | \| | \| | \| | \| |
| 4+40 | 0.0192 | 0.08 | Q | \| | \| | \| | \| |
| 4+45 | 0.0197 | 0.08 | Q | \| | \| | \| | \| |
| 4+50 | 0.0203 | 0.09 | Q | \| | \| | \| | \| |
| 4+55 | 0.0210 | 0.09 | Q | \| | \| | \| | \| |
| 5+ 0 | 0.0216 | 0.09 | Q | \| | \| | \| | \| |
| 5+ 5 | 0.0222 | 0.09 | Q | \| | \| | \| | \| |
| 5+10 | 0.0227 | 0.07 | Q | \| | \| | \| | \| |
| 5+15 | 0.0232 | 0.07 | Q | \| | \| | \| | \| |
| 5+20 | 0.0237 | 0.07 | Q | \| | \| | \| | \| |
| 5+25 | 0.0242 | 0.08 | Q | \| | \| | \| | \| |
| 5+30 | 0.0248 | 0.08 | Q | \| | \| | \| | \| |
| 5+35 | 0.0254 | 0.09 | Q | \| | \| | \| | \| |
| 5+40 | 0.0260 | 0.09 | Q | \| | \| | \| | \| |
| 5+45 | 0.0267 | 0.09 | Q | \| | \| | \| | \| |
| 5+50 | 0.0273 | 0.09 | Q | \| | \| | \| | \| |
| 5+55 | 0.0279 | 0.09 | Q | \| | \| | \| | \| |
| 6+ 0 | 0.0286 | 0.09 | Q | \| | \| | \| | \| |
| 6+ 5 | 0.0292 | 0.10 | Q | \| | \| | \| | \| |
| 6+10 | 0.0300 | 0.10 | Q | \| | \| | \| | \| |
| 6+15 | 0.0307 | 0.10 | QV | \| | \| | \| | \| |
| 6+20 | 0.0314 | 0.10 | QV | \| | \| | \| | \| |
| 6+25 | 0.0321 | 0.10 | QV | \| | \| | \| | \| |
| 6+30 | 0.0328 | 0.10 | QV | \| | \| | \| | \| |
| 6+35 | 0.0336 | 0.11 | QV | \| | \| | \| | \| |
| 6+40 | 0.0344 | 0.11 | QV | \| | \| | \| | \| |
| 6+45 | 0.0352 | 0.12 | QV | \| | \| | \| | \| |
| 6+50 | 0.0360 | 0.12 | QV | \| | \| | \| | \| |
| 6+55 | 0.0368 | 0.12 | QV | \| | \| | \| | \| |
| 7+ 0 | 0.0376 | 0.12 | QV | \| | \| | \| | \| |
| 7+ 5 | 0.0384 | 0.12 | QV | \| | \| | \| | \| |
| 7+10 | 0.0392 | 0.12 | QV | \| | \| | \| | \| |
| 7+15 | 0.0400 | 0.12 | QV | \| | \| | \| | \| |
| 7+20 | 0.0410 | 0.15 | QV | \| | \| | \| | \| |
| 7+25 | 0.0424 | 0.20 | QV | \| | \| | \| | \| |
| 7+30 | 0.0438 | 0.21 | QV | \| | \| | \| | \| |
| 7+35 | 0.0456 | 0.26 | \|Q | \| | \| | \| | \| |
| 7+40 | 0.0478 | 0.33 | \|Q | \| | \| | \| | \| |
| 7+45 | 0.0502 | 0.34 | \|Q | \| | \| | \| | \| |
| 7+50 | 0.0529 | 0.39 | \|Q | \| | \| | \| | \| |
| 7+55 | 0.0560 | 0.46 | \|Q | \| | \| | \| | \| |
| 8+ 0 | 0.0593 | 0.47 | \|Q | \| | \| | \| | \| |
| 8+ 5 | 0.0631 | 0.56 | \| Q | \| | \| | \| | \| |
| 8+10 | 0.0679 | 0.69 | \| Q | \| | \| | \| | \| |
| 8+15 | 0.0728 | 0.72 | \| Q | \| | \| | \| | \| |
| 8+20 | 0.0778 | 0.73 | \| Q | \| | \| | \| | \| |
| 8+25 | 0.0829 | 0.73 | \| Q | \| | \| | \| | \| |
| 8+30 | 0.0879 | 0.74 | \| Q | \| | \| | \| | \| |
| 8+35 | 0.0933 | 0.78 | \|  Q | \| | \| | \| | \| |
| 8+40 | 0.0992 | 0.85 | \|  Q | \| | \| | \| | \| |
| 8+45 | 0.1051 | 0.87 | \|  Q | \| | \| | \| | \| |
| 8+50 | 0.1114 | 0.91 | \|  Q | \| | \| | \| | \| |
| 8+55 | 0.1181 | 0.98 | \|  Q | \| | \| | \| | \| |
| 9+ 0 | 0.1250 | 1.00 | \|  QV | \| | \| | \| | \| |
| 9+ 5 | 0.1324 | 1.08 | \|   Q | \| | \| | \| | \| |
| 9+10 | 0.1408 | 1.21 | \|   Q | \| | \| | \| | \| |
| 9+15 | 0.1493 | 1.24 | \|   Q | \| | \| | \| | \| |
| 9+20 | 0.1582 | 1.29 | \|    Q | \| | \| | \| | \| |
| 9+25 | 0.1675 | 1.36 | \|    Q | \| | \| | \| | \| |
| 9+30 | 0.1770 | 1.37 | \|    Q | \| | \| | \| | \| |
| 9+35 | 0.1867 | 1.42 | \|    QV | \| | \| | \| | \| |
| 9+40 | 0.1970 | 1.49 | \|    QV | \| | \| | \| | \| |
| 9+45 | 0.2073 | 1.50 | \|     Q | \| | \| | \| | \| |
| 9+50 | 0.2180 | 1.55 | \|     QV | \| | \| | \| | \| |
| 9+55 | 0.2291 | 1.62 | \|     QV | \| | \| | \| | \| |
| 10+ 0 | 0.2404 | 1.63 | \|     QV | \| | \| | \| | \| |
| 10+ 5 | 0.2498 | 1.37 | \|     Q  V | \| | \| | \| | \| |
| 10+10 | 0.2562 | 0.94 | \|  Q    V | \| | \| | \| | \| |
| 10+15 | 0.2621 | 0.85 | \|  Q    V | \| | \| | \| | \| |
| 10+20 | 0.2679 | 0.84 | \|  Q    V | \| | \| | \| | \| |
| 10+25 | 0.2737 | 0.84 | \|  Q    V | \| | \| | \| | \| |
| 10+30 | 0.2795 | 0.85 | \|  Q     V| \| | \| | \| | \| |
| 10+35 | 0.2868 | 1.05 | \|   Q    V| \| | \| | \| | \| |
| 10+40 | 0.2961 | 1.36 | \|    Q   V| \| | \| | \| | \| |
| 10+45 | 0.3060 | 1.43 | \|    Q    V \| | \| | \| | \| |
| 10+50 | 0.3159 | 1.44 | \|    Q    V \| | \| | \| | \| |
| 10+55 | 0.3259 | 1.45 | \|    Q    V \| | \| | \| | \| |
| 11+ 0 | 0.3359 | 1.46 | \|    Q    V \| | \| | \| | \| |



| | | | |
|---|---|---|---|
| 11+ 5 | 0.3457 | 1.42 | |
| 11+10 | 0.3551 | 1.36 | |
| 11+15 | 0.3644 | 1.35 | |
| 11+20 | 0.3738 | 1.36 | |
| 11+25 | 0.3831 | 1.36 | |
| 11+30 | 0.3925 | 1.36 | |
| 11+35 | 0.4014 | 1.29 | |
| 11+40 | 0.4095 | 1.17 | |
| 11+45 | 0.4174 | 1.15 | |
| 11+50 | 0.4256 | 1.19 | |
| 11+55 | 0.4342 | 1.25 | |
| 12+ 0 | 0.4430 | 1.27 | |
| 12+ 5 | 0.4536 | 1.55 | |
| 12+10 | 0.4673 | 1.99 | |
| 12+15 | 0.4817 | 2.08 | |
| 12+20 | 0.4964 | 2.14 | |
| 12+25 | 0.5116 | 2.21 | |
| 12+30 | 0.5269 | 2.23 | |
| 12+35 | 0.5429 | 2.31 | |
| 12+40 | 0.5597 | 2.44 | |
| 12+45 | 0.5766 | 2.47 | |
| 12+50 | 0.5940 | 2.52 | |
| 12+55 | 0.6118 | 2.58 | |
| 13+ 0 | 0.6297 | 2.60 | |
| 13+ 5 | 0.6489 | 2.80 | |
| 13+10 | 0.6704 | 3.12 | |
| 13+15 | 0.6923 | 3.18 | |
| 13+20 | 0.7143 | 3.20 | |
| 13+25 | 0.7364 | 3.20 | |
| 13+30 | 0.7585 | 3.21 | |
| 13+35 | 0.7776 | 2.78 | |
| 13+40 | 0.7921 | 2.10 | |
| 13+45 | 0.8057 | 1.97 | |
| 13+50 | 0.8191 | 1.95 | |
| 13+55 | 0.8325 | 1.95 | |
| 14+ 0 | 0.8459 | 1.95 | |
| 14+ 5 | 0.8604 | 2.11 | |
| 14+10 | 0.8767 | 2.36 | |
| 14+15 | 0.8933 | 2.41 | |
| 14+20 | 0.9098 | 2.39 | |
| 14+25 | 0.9258 | 2.33 | |
| 14+30 | 0.9418 | 2.32 | |
| 14+35 | 0.9579 | 2.32 | |
| 14+40 | 0.9739 | 2.33 | |
| 14+45 | 0.9899 | 2.33 | |
| 14+50 | 1.0058 | 2.30 | |
| 14+55 | 1.0212 | 2.24 | |
| 15+ 0 | 1.0365 | 2.23 | |
| 15+ 5 | 1.0516 | 2.19 | |
| 15+10 | 1.0663 | 2.13 | |
| 15+15 | 1.0809 | 2.12 | |
| 15+20 | 1.0953 | 2.08 | |
| 15+25 | 1.1092 | 2.03 | |
| 15+30 | 1.1231 | 2.02 | |
| 15+35 | 1.1359 | 1.86 | |
| 15+40 | 1.1470 | 1.62 | |
| 15+45 | 1.1579 | 1.57 | |
| 15+50 | 1.1686 | 1.56 | |
| 15+55 | 1.1794 | 1.56 | |
| 16+ 0 | 1.1902 | 1.57 | |
| 16+ 5 | 1.1975 | 1.06 | |
| 16+10 | 1.1992 | 0.25 | |
| 16+15 | 1.1998 | 0.08 | |
| 16+20 | 1.2001 | 0.06 | |
| 16+25 | 1.2005 | 0.05 | |
| 16+30 | 1.2008 | 0.05 | |
| 16+35 | 1.2011 | 0.04 | |
| 16+40 | 1.2013 | 0.04 | |
| 16+45 | 1.2016 | 0.04 | |
| 16+50 | 1.2018 | 0.03 | |
| 16+55 | 1.2021 | 0.03 | |
| 17+ 0 | 1.2023 | 0.03 | |
| 17+ 5 | 1.2026 | 0.04 | |
| 17+10 | 1.2030 | 0.06 | |
| 17+15 | 1.2034 | 0.06 | |
| 17+20 | 1.2038 | 0.06 | |
| 17+25 | 1.2042 | 0.06 | |
| 17+30 | 1.2046 | 0.06 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+35 | 1.2050 | 0.06 | Q | \| | \| | \| | V\| |
| 17+40 | 1.2054 | 0.06 | Q | \| | \| | \| | V\| |
| 17+45 | 1.2058 | 0.06 | Q | \| | \| | \| | V\| |
| 17+50 | 1.2061 | 0.05 | Q | \| | \| | \| | V\| |
| 17+55 | 1.2065 | 0.05 | Q | \| | \| | \| | V\| |
| 18+ 0 | 1.2068 | 0.05 | Q | \| | \| | \| | V\| |
| 18+ 5 | 1.2071 | 0.05 | Q | \| | \| | \| | V\| |
| 18+10 | 1.2074 | 0.05 | Q | \| | \| | \| | V\| |
| 18+15 | 1.2078 | 0.05 | Q | \| | \| | \| | V\| |
| 18+20 | 1.2081 | 0.05 | Q | \| | \| | \| | V\| |
| 18+25 | 1.2084 | 0.05 | Q | \| | \| | \| | V\| |
| 18+30 | 1.2087 | 0.05 | Q | \| | \| | \| | V\| |
| 18+35 | 1.2090 | 0.04 | Q | \| | \| | \| | V\| |
| 18+40 | 1.2093 | 0.04 | Q | \| | \| | \| | V\| |
| 18+45 | 1.2095 | 0.04 | Q | \| | \| | \| | V\| |
| 18+50 | 1.2097 | 0.03 | Q | \| | \| | \| | V\| |
| 18+55 | 1.2099 | 0.02 | Q | \| | \| | \| | V\| |
| 19+ 0 | 1.2101 | 0.02 | Q | \| | \| | \| | V\| |
| 19+ 5 | 1.2102 | 0.03 | Q | \| | \| | \| | V\| |
| 19+10 | 1.2105 | 0.03 | Q | \| | \| | \| | V\| |
| 19+15 | 1.2107 | 0.03 | Q | \| | \| | \| | V\| |
| 19+20 | 1.2110 | 0.04 | Q | \| | \| | \| | V\| |
| 19+25 | 1.2113 | 0.05 | Q | \| | \| | \| | V\| |
| 19+30 | 1.2116 | 0.05 | Q | \| | \| | \| | V\| |
| 19+35 | 1.2119 | 0.04 | Q | \| | \| | \| | V\| |
| 19+40 | 1.2122 | 0.04 | Q | \| | \| | \| | V\| |
| 19+45 | 1.2124 | 0.04 | Q | \| | \| | \| | V\| |
| 19+50 | 1.2126 | 0.03 | Q | \| | \| | \| | V\| |
| 19+55 | 1.2128 | 0.02 | Q | \| | \| | \| | V\| |
| 20+ 0 | 1.2129 | 0.02 | Q | \| | \| | \| | V\| |
| 20+ 5 | 1.2131 | 0.03 | Q | \| | \| | \| | V\| |
| 20+10 | 1.2134 | 0.03 | Q | \| | \| | \| | V\| |
| 20+15 | 1.2136 | 0.03 | Q | \| | \| | \| | V\| |
| 20+20 | 1.2138 | 0.03 | Q | \| | \| | \| | V\| |
| 20+25 | 1.2141 | 0.03 | Q | \| | \| | \| | V\| |
| 20+30 | 1.2143 | 0.03 | Q | \| | \| | \| | V\| |
| 20+35 | 1.2146 | 0.03 | Q | \| | \| | \| | V\| |
| 20+40 | 1.2148 | 0.03 | Q | \| | \| | \| | V\| |
| 20+45 | 1.2150 | 0.03 | Q | \| | \| | \| | V\| |
| 20+50 | 1.2153 | 0.03 | Q | \| | \| | \| | V\| |
| 20+55 | 1.2154 | 0.02 | Q | \| | \| | \| | V\| |
| 21+ 0 | 1.2156 | 0.02 | Q | \| | \| | \| | V\| |
| 21+ 5 | 1.2158 | 0.03 | Q | \| | \| | \| | V\| |
| 21+10 | 1.2160 | 0.03 | Q | \| | \| | \| | V\| |
| 21+15 | 1.2162 | 0.03 | Q | \| | \| | \| | V\| |
| 21+20 | 1.2165 | 0.03 | Q | \| | \| | \| | V\| |
| 21+25 | 1.2166 | 0.02 | Q | \| | \| | \| | V\| |
| 21+30 | 1.2168 | 0.02 | Q | \| | \| | \| | V\| |
| 21+35 | 1.2170 | 0.03 | Q | \| | \| | \| | V\| |
| 21+40 | 1.2172 | 0.03 | Q | \| | \| | \| | V\| |
| 21+45 | 1.2175 | 0.03 | Q | \| | \| | \| | V\| |
| 21+50 | 1.2177 | 0.03 | Q | \| | \| | \| | V\| |
| 21+55 | 1.2178 | 0.02 | Q | \| | \| | \| | V\| |
| 22+ 0 | 1.2180 | 0.02 | Q | \| | \| | \| | V\| |
| 22+ 5 | 1.2182 | 0.03 | Q | \| | \| | \| | V\| |
| 22+10 | 1.2184 | 0.03 | Q | \| | \| | \| | V\| |
| 22+15 | 1.2187 | 0.03 | Q | \| | \| | \| | V\| |
| 22+20 | 1.2189 | 0.03 | Q | \| | \| | \| | V\| |
| 22+25 | 1.2190 | 0.02 | Q | \| | \| | \| | V\| |
| 22+30 | 1.2192 | 0.02 | Q | \| | \| | \| | V\| |
| 22+35 | 1.2194 | 0.02 | Q | \| | \| | \| | V\| |
| 22+40 | 1.2195 | 0.02 | Q | \| | \| | \| | V\| |
| 22+45 | 1.2197 | 0.02 | Q | \| | \| | \| | V\| |
| 22+50 | 1.2198 | 0.02 | Q | \| | \| | \| | V\| |
| 22+55 | 1.2200 | 0.02 | Q | \| | \| | \| | V\| |
| 23+ 0 | 1.2202 | 0.02 | Q | \| | \| | \| | V\| |
| 23+ 5 | 1.2203 | 0.02 | Q | \| | \| | \| | V\| |
| 23+10 | 1.2205 | 0.02 | Q | \| | \| | \| | V\| |
| 23+15 | 1.2206 | 0.02 | Q | \| | \| | \| | V\| |
| 23+20 | 1.2208 | 0.02 | Q | \| | \| | \| | V\| |
| 23+25 | 1.2210 | 0.02 | Q | \| | \| | \| | V\| |
| 23+30 | 1.2211 | 0.02 | Q | \| | \| | \| | V\| |
| 23+35 | 1.2213 | 0.02 | Q | \| | \| | \| | V\| |
| 23+40 | 1.2214 | 0.02 | Q | \| | \| | \| | V\| |
| 23+45 | 1.2216 | 0.02 | Q | \| | \| | \| | V\| |
| 23+50 | 1.2218 | 0.02 | Q | \| | \| | \| | V\| |
| 23+55 | 1.2219 | 0.02 | Q | \| | \| | \| | V\| |
| 24+ 0 | 1.2221 | 0.02 | Q | \| | \| | \| | V\| |

```
   24+ 5       1.2222      0.02  Q         |          |          |        V|
   24+10       1.2222      0.00  Q         |          |          |        V|
   24+15       1.2222      0.00  Q         |          |          |        V|
   24+20       1.2222      0.00  Q         |          |          |         V
-------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX221100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 22
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.60(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.60(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 206.00(Ft.)
Length along longest watercourse measured to centroid = 96.00(Ft.)
Length along longest watercourse = 0.039 Mi.
Length along longest watercourse measured to centroid = 0.018 Mi.
Difference in elevation = 110.00(Ft.)
Slope along watercourse = 2819.4175 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.012 Hr.
Lag time = 0.71 Min.
25% of lag time = 0.18 Min.
40% of lag time = 0.28 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 0.49 | 0.29 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 1.20 | 0.72 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.490(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.600 | 83.58 | 0.000 |

Total Area Entered = 0.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.6 | 93.1 | 0.089 | 0.000 | 0.089 | 1.000 | 0.089 |
| | | | | | Sum (F) = | 0.089 |

Area averaged mean soil loss (F) (In/Hr) = 0.089

Minimum soil loss rate ((In/Hr)) = 0.045
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

---

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 705.893 | 100.000 | 0.605 |
| | | Sum = 100.000 Sum= | 0.605 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 4.20 | 0.605 | 0.089 | ( 0.544) | 0.516 |
| 2 0.17 | 4.30 | 0.619 | 0.089 | ( 0.557) | 0.530 |
| 3 0.25 | 5.00 | 0.720 | 0.089 | ( 0.648) | 0.631 |
| 4 0.33 | 5.00 | 0.720 | 0.089 | ( 0.648) | 0.631 |
| 5 0.42 | 5.80 | 0.835 | 0.089 | ( 0.752) | 0.746 |
| 6 0.50 | 6.50 | 0.936 | 0.089 | ( 0.842) | 0.847 |
| 7 0.58 | 7.40 | 1.066 | 0.089 | ( 0.959) | 0.977 |
| 8 0.67 | 8.60 | 1.238 | 0.089 | ( 1.115) | 1.149 |
| 9 0.75 | 12.30 | 1.771 | 0.089 | ( 1.594) | 1.682 |
| 10 0.83 | 29.10 | 4.190 | 0.089 | ( 3.771) | 4.101 |
| 11 0.92 | 6.80 | 0.979 | 0.089 | ( 0.881) | 0.890 |
| 12 1.00 | 5.00 | 0.720 | 0.089 | ( 0.648) | 0.631 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 13.3 |

Flood volume = Effective rainfall 1.11(In)
times area 0.6(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.004(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 2419.6 Cubic Feet
Total soil loss = 194.0 Cubic Feet

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Peak flow rate of this hydrograph = 2.481(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0021 | 0.31 | Q | | | | |
| 0+10 | 0.0044 | 0.32 | Q V | | | | |
| 0+15 | 0.0070 | 0.38 | Q V | | | | |
| 0+20 | 0.0096 | 0.38 | Q V | | | | |
| 0+25 | 0.0127 | 0.45 | Q V | | | | |
| 0+30 | 0.0163 | 0.51 | Q V | | | | |
| 0+35 | 0.0203 | 0.59 | Q V | | | | |
| 0+40 | 0.0251 | 0.70 | Q V | | | | |
| 0+45 | 0.0321 | 1.02 | Q | V | | | |
| 0+50 | 0.0492 | 2.48 | Q | | V | | |
| 0+55 | 0.0529 | 0.54 | Q | | | V | |
| 1+ 0 | 0.0555 | 0.38 | Q | | | | V |

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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX223100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 22
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.60(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.60(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 206.00(Ft.)
Length along longest watercourse measured to centroid = 96.00(Ft.)
Length along longest watercourse = 0.039 Mi.
Length along longest watercourse measured to centroid = 0.018 Mi.
Difference in elevation = 110.00(Ft.)
Slope along watercourse = 2819.4175 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.012 Hr.
Lag time = 0.71 Min.
25% of lag time = 0.18 Min.
40% of lag time = 0.28 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 0.80 | 0.48 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 1.80 | 1.08 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.600 | 83.58 | 0.000 |

Total Area Entered = 0.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.6 | 93.1 | 0.089 | 0.000 | 0.089 | 1.000 | 0.089 |
| | | | | | Sum (F) = | 0.089 |

Area averaged mean soil loss (F) (In/Hr) = 0.089

Minimum soil loss rate ((In/Hr)) = 0.045
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 705.893 | 100.000 | 0.605 |
| | | Sum = 100.000 | Sum= 0.605 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.281 | 0.089 | ( 0.253) | 0.192 |
| 2 | 0.17 | 1.30 | 0.281 | 0.089 | ( 0.253) | 0.192 |
| 3 | 0.25 | 1.10 | 0.238 | 0.089 | ( 0.214) | 0.149 |
| 4 | 0.33 | 1.50 | 0.324 | 0.089 | ( 0.292) | 0.235 |
| 5 | 0.42 | 1.50 | 0.324 | 0.089 | ( 0.292) | 0.235 |
| 6 | 0.50 | 1.80 | 0.389 | 0.089 | ( 0.350) | 0.300 |
| 7 | 0.58 | 1.50 | 0.324 | 0.089 | ( 0.292) | 0.235 |
| 8 | 0.67 | 1.80 | 0.389 | 0.089 | ( 0.350) | 0.300 |
| 9 | 0.75 | 1.80 | 0.389 | 0.089 | ( 0.350) | 0.300 |
| 10 | 0.83 | 1.50 | 0.324 | 0.089 | ( 0.292) | 0.235 |
| 11 | 0.92 | 1.60 | 0.346 | 0.089 | ( 0.311) | 0.257 |
| 12 | 1.00 | 1.80 | 0.389 | 0.089 | ( 0.350) | 0.300 |
| 13 | 1.08 | 2.20 | 0.475 | 0.089 | ( 0.428) | 0.386 |
| 14 | 1.17 | 2.20 | 0.475 | 0.089 | ( 0.428) | 0.386 |
| 15 | 1.25 | 2.20 | 0.475 | 0.089 | ( 0.428) | 0.386 |
| 16 | 1.33 | 2.00 | 0.432 | 0.089 | ( 0.389) | 0.343 |
| 17 | 1.42 | 2.60 | 0.562 | 0.089 | ( 0.505) | 0.473 |
| 18 | 1.50 | 2.70 | 0.583 | 0.089 | ( 0.525) | 0.494 |
| 19 | 1.58 | 2.40 | 0.518 | 0.089 | ( 0.467) | 0.429 |
| 20 | 1.67 | 2.70 | 0.583 | 0.089 | ( 0.525) | 0.494 |
| 21 | 1.75 | 3.30 | 0.713 | 0.089 | ( 0.642) | 0.624 |
| 22 | 1.83 | 3.10 | 0.670 | 0.089 | ( 0.603) | 0.581 |
| 23 | 1.92 | 2.90 | 0.626 | 0.089 | ( 0.564) | 0.537 |
| 24 | 2.00 | 3.00 | 0.648 | 0.089 | ( 0.583) | 0.559 |
| 25 | 2.08 | 3.10 | 0.670 | 0.089 | ( 0.603) | 0.581 |
| 26 | 2.17 | 4.20 | 0.907 | 0.089 | ( 0.816) | 0.818 |
| 27 | 2.25 | 5.00 | 1.080 | 0.089 | ( 0.972) | 0.991 |
| 28 | 2.33 | 3.50 | 0.756 | 0.089 | ( 0.680) | 0.667 |
| 29 | 2.42 | 6.80 | 1.469 | 0.089 | ( 1.322) | 1.380 |
| 30 | 2.50 | 7.30 | 1.577 | 0.089 | ( 1.419) | 1.488 |
| 31 | 2.58 | 8.20 | 1.771 | 0.089 | ( 1.594) | 1.682 |
| 32 | 2.67 | 5.90 | 1.274 | 0.089 | ( 1.147) | 1.185 |
| 33 | 2.75 | 2.00 | 0.432 | 0.089 | ( 0.389) | 0.343 |
| 34 | 2.83 | 1.80 | 0.389 | 0.089 | ( 0.350) | 0.300 |
| 35 | 2.92 | 1.80 | 0.389 | 0.089 | ( 0.350) | 0.300 |
| 36 | 3.00 | 0.60 | 0.130 | 0.089 | ( 0.117) | 0.041 |
| | | (Loss Rate Not Used) | | | |
| Sum = | | 100.0 | | | Sum = 18.4 |

Flood volume = Effective rainfall 1.53(In)
times area 0.6(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.27(In)
Total soil loss = 0.013(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 3338.4 Cubic Feet
Total soil loss = 582.0 Cubic Feet

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Peak flow rate of this hydrograph = 1.018(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0008 | 0.12 | Q | | | | |
| 0+10 | 0.0016 | 0.12 | Q | | | | |
| 0+15 | 0.0022 | 0.09 | QV | | | | |
| 0+20 | 0.0032 | 0.14 | QV | | | | |
| 0+25 | 0.0042 | 0.14 | Q V | | | | |
| 0+30 | 0.0054 | 0.18 | Q V | | | | |
| 0+35 | 0.0064 | 0.14 | Q V | | | | |
| 0+40 | 0.0077 | 0.18 | Q V | | | | |
| 0+45 | 0.0089 | 0.18 | Q V | | | | |
| 0+50 | 0.0099 | 0.14 | Q V | | | | |
| 0+55 | 0.0109 | 0.16 | Q V | | | | |
| 1+ 0 | 0.0122 | 0.18 | Q V | | | | |
| 1+ 5 | 0.0138 | 0.23 | Q V | | | | |
| 1+10 | 0.0154 | 0.23 | Q V | | | | |
| 1+15 | 0.0170 | 0.23 | Q V | | | | |
| 1+20 | 0.0185 | 0.21 | Q V | | | | |
| 1+25 | 0.0204 | 0.29 | Q V | | | | |
| 1+30 | 0.0225 | 0.30 | Q V | | | | |
| 1+35 | 0.0243 | 0.26 | Q V | | | | |
| 1+40 | 0.0263 | 0.30 | Q V | | | | |
| 1+45 | 0.0289 | 0.38 | Q V | | | | |
| 1+50 | 0.0313 | 0.35 | Q V | | | | |
| 1+55 | 0.0336 | 0.33 | Q V | | | | |
| 2+ 0 | 0.0359 | 0.34 | Q V | | | | |
| 2+ 5 | 0.0383 | 0.35 | Q V | | | | |
| 2+10 | 0.0417 | 0.49 | Q V | | | | |
| 2+15 | 0.0459 | 0.60 | Q V | | | | |
| 2+20 | 0.0486 | 0.40 | Q V | | | | |
| 2+25 | 0.0544 | 0.83 | Q V | | | | |
| 2+30 | 0.0606 | 0.90 | Q V | | | | |
| 2+35 | 0.0676 | 1.02 | Q V | | | | |
| 2+40 | 0.0725 | 0.72 | Q V | | | | |
| 2+45 | 0.0740 | 0.21 | Q V | | | | |
| 2+50 | 0.0752 | 0.18 | Q V | | | | |
| 2+55 | 0.0765 | 0.18 | Q V | | | | |
| 3+ 0 | 0.0766 | 0.02 | Q V | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX226100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 22
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.60(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.60(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 206.00(Ft.)
Length along longest watercourse measured to centroid = 96.00(Ft.)
Length along longest watercourse = 0.039 Mi.
Length along longest watercourse measured to centroid = 0.018 Mi.
Difference in elevation = 110.00(Ft.)
Slope along watercourse = 2819.4175 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.012 Hr.
Lag time = 0.71 Min.
25% of lag time = 0.18 Min.
40% of lag time = 0.28 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 1.12 | 0.67 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 2.50 | 1.50 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.120(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.600 | 83.58 | 0.000 |

Total Area Entered = 0.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.6 | 93.1 | 0.089 | 0.000 | 0.089 | 1.000 | 0.089 |
| | | | | | Sum (F) = | 0.089 |

Area averaged mean soil loss (F) (In/Hr) = 0.089

Minimum soil loss rate ((In/Hr)) = 0.045
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 705.893 | 100.000 | 0.605 |
| | | Sum = 100.000 | Sum= 0.605 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.089 | ( 0.135) | 0.061 |
| 2 | 0.17 | 0.60 | 0.180 | 0.089 | ( 0.162) | 0.091 |
| 3 | 0.25 | 0.60 | 0.180 | 0.089 | ( 0.162) | 0.091 |
| 4 | 0.33 | 0.60 | 0.180 | 0.089 | ( 0.162) | 0.091 |
| 5 | 0.42 | 0.60 | 0.180 | 0.089 | ( 0.162) | 0.091 |
| 6 | 0.50 | 0.70 | 0.210 | 0.089 | ( 0.189) | 0.121 |
| 7 | 0.58 | 0.70 | 0.210 | 0.089 | ( 0.189) | 0.121 |
| 8 | 0.67 | 0.70 | 0.210 | 0.089 | ( 0.189) | 0.121 |
| 9 | 0.75 | 0.70 | 0.210 | 0.089 | ( 0.189) | 0.121 |
| 10 | 0.83 | 0.70 | 0.210 | 0.089 | ( 0.189) | 0.121 |
| 11 | 0.92 | 0.70 | 0.210 | 0.089 | ( 0.189) | 0.121 |
| 12 | 1.00 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 13 | 1.08 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 14 | 1.17 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 15 | 1.25 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 16 | 1.33 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 17 | 1.42 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 18 | 1.50 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 19 | 1.58 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 20 | 1.67 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 21 | 1.75 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 22 | 1.83 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 23 | 1.92 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 24 | 2.00 | 0.90 | 0.270 | 0.089 | ( 0.243) | 0.181 |
| 25 | 2.08 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 26 | 2.17 | 0.90 | 0.270 | 0.089 | ( 0.243) | 0.181 |
| 27 | 2.25 | 0.90 | 0.270 | 0.089 | ( 0.243) | 0.181 |
| 28 | 2.33 | 0.90 | 0.270 | 0.089 | ( 0.243) | 0.181 |
| 29 | 2.42 | 0.90 | 0.270 | 0.089 | ( 0.243) | 0.181 |
| 30 | 2.50 | 0.90 | 0.270 | 0.089 | ( 0.243) | 0.181 |
| 31 | 2.58 | 0.90 | 0.270 | 0.089 | ( 0.243) | 0.181 |
| 32 | 2.67 | 0.90 | 0.270 | 0.089 | ( 0.243) | 0.181 |
| 33 | 2.75 | 1.00 | 0.300 | 0.089 | ( 0.270) | 0.211 |
| 34 | 2.83 | 1.00 | 0.300 | 0.089 | ( 0.270) | 0.211 |
| 35 | 2.92 | 1.00 | 0.300 | 0.089 | ( 0.270) | 0.211 |
| 36 | 3.00 | 1.00 | 0.300 | 0.089 | ( 0.270) | 0.211 |
| 37 | 3.08 | 1.00 | 0.300 | 0.089 | ( 0.270) | 0.211 |
| 38 | 3.17 | 1.10 | 0.330 | 0.089 | ( 0.297) | 0.241 |
| 39 | 3.25 | 1.10 | 0.330 | 0.089 | ( 0.297) | 0.241 |
| 40 | 3.33 | 1.10 | 0.330 | 0.089 | ( 0.297) | 0.241 |
| 41 | 3.42 | 1.20 | 0.360 | 0.089 | ( 0.324) | 0.271 |
| 42 | 3.50 | 1.30 | 0.390 | 0.089 | ( 0.351) | 0.301 |
| 43 | 3.58 | 1.40 | 0.420 | 0.089 | ( 0.378) | 0.331 |
| 44 | 3.67 | 1.40 | 0.420 | 0.089 | ( 0.378) | 0.331 |
| 45 | 3.75 | 1.50 | 0.450 | 0.089 | ( 0.405) | 0.361 |
| 46 | 3.83 | 1.50 | 0.450 | 0.089 | ( 0.405) | 0.361 |
| 47 | 3.92 | 1.60 | 0.480 | 0.089 | ( 0.432) | 0.391 |
| 48 | 4.00 | 1.60 | 0.480 | 0.089 | ( 0.432) | 0.391 |
| 49 | 4.08 | 1.70 | 0.510 | 0.089 | ( 0.459) | 0.421 |
| 50 | 4.17 | 1.80 | 0.540 | 0.089 | ( 0.486) | 0.451 |
| 51 | 4.25 | 1.90 | 0.570 | 0.089 | ( 0.513) | 0.481 |
| 52 | 4.33 | 2.00 | 0.600 | 0.089 | ( 0.540) | 0.511 |
| 53 | 4.42 | 2.10 | 0.630 | 0.089 | ( 0.567) | 0.541 |
| 54 | 4.50 | 2.10 | 0.630 | 0.089 | ( 0.567) | 0.541 |
| 55 | 4.58 | 2.20 | 0.660 | 0.089 | ( 0.594) | 0.571 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 56 | 4.67 | 2.30 | 0.690 | | 0.089 | ( 0.621) | 0.601 |
| 57 | 4.75 | 2.40 | 0.720 | | 0.089 | ( 0.648) | 0.631 |
| 58 | 4.83 | 2.40 | 0.720 | | 0.089 | ( 0.648) | 0.631 |
| 59 | 4.92 | 2.50 | 0.750 | | 0.089 | ( 0.675) | 0.661 |
| 60 | 5.00 | 2.60 | 0.780 | | 0.089 | ( 0.702) | 0.691 |
| 61 | 5.08 | 3.10 | 0.930 | | 0.089 | ( 0.837) | 0.841 |
| 62 | 5.17 | 3.60 | 1.080 | | 0.089 | ( 0.972) | 0.991 |
| 63 | 5.25 | 3.90 | 1.170 | | 0.089 | ( 1.053) | 1.081 |
| 64 | 5.33 | 4.20 | 1.260 | | 0.089 | ( 1.134) | 1.171 |
| 65 | 5.42 | 4.70 | 1.410 | | 0.089 | ( 1.269) | 1.321 |
| 66 | 5.50 | 5.60 | 1.680 | | 0.089 | ( 1.512) | 1.591 |
| 67 | 5.58 | 1.90 | 0.570 | | 0.089 | ( 0.513) | 0.481 |
| 68 | 5.67 | 0.90 | 0.270 | | 0.089 | ( 0.243) | 0.181 |
| 69 | 5.75 | 0.60 | 0.180 | | 0.089 | ( 0.162) | 0.091 |
| 70 | 5.83 | 0.50 | 0.150 | | 0.089 | ( 0.135) | 0.061 |
| 71 | 5.92 | 0.30 | 0.090 | ( | 0.089) | 0.081 | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( | 0.089) | 0.054 | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.6

Flood volume = Effective rainfall 1.97(In)
times area 0.6(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.53(In)
Total soil loss = 0.027(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 4288.8 Cubic Feet
Total soil loss = 1156.2 Cubic Feet

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Peak flow rate of this hydrograph = 0.963(CFS)

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6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0003 | 0.04 | Q | | | | |
| 0+10 | 0.0006 | 0.06 | Q | | | | |
| 0+15 | 0.0010 | 0.06 | Q | | | | |
| 0+20 | 0.0014 | 0.06 | Q | | | | |
| 0+25 | 0.0018 | 0.06 | Q | | | | |
| 0+30 | 0.0023 | 0.07 | Q | | | | |
| 0+35 | 0.0028 | 0.07 | QV | | | | |
| 0+40 | 0.0033 | 0.07 | QV | | | | |
| 0+45 | 0.0038 | 0.07 | QV | | | | |
| 0+50 | 0.0043 | 0.07 | QV | | | | |
| 0+55 | 0.0048 | 0.07 | QV | | | | |
| 1+ 0 | 0.0054 | 0.09 | Q V | | | | |
| 1+ 5 | 0.0061 | 0.09 | Q V | | | | |
| 1+10 | 0.0067 | 0.09 | Q V | | | | |
| 1+15 | 0.0073 | 0.09 | Q V | | | | |
| 1+20 | 0.0079 | 0.09 | Q V | | | | |
| 1+25 | 0.0086 | 0.09 | Q V | | | | |
| 1+30 | 0.0092 | 0.09 | Q V | | | | |
| 1+35 | 0.0098 | 0.09 | Q V | | | | |
| 1+40 | 0.0105 | 0.09 | Q V | | | | |
| 1+45 | 0.0111 | 0.09 | Q V | | | | |
| 1+50 | 0.0117 | 0.09 | Q V | | | | |
| 1+55 | 0.0123 | 0.09 | Q V | | | | |
| 2+ 0 | 0.0131 | 0.11 | Q V | | | | |
| 2+ 5 | 0.0137 | 0.09 | Q V | | | | |
| 2+10 | 0.0145 | 0.11 | Q V | | | | |
| 2+15 | 0.0152 | 0.11 | Q V | | | | |
| 2+20 | 0.0160 | 0.11 | Q V | | | | |
| 2+25 | 0.0167 | 0.11 | Q V | | | | |
| 2+30 | 0.0175 | 0.11 | Q V | | | | |
| 2+35 | 0.0182 | 0.11 | Q V | | | | |
| 2+40 | 0.0190 | 0.11 | Q V | | | | |
| 2+45 | 0.0199 | 0.13 | Q V | | | | |
| 2+50 | 0.0208 | 0.13 | Q V | | | | |
| 2+55 | 0.0216 | 0.13 | Q V | | | | |
| 3+ 0 | 0.0225 | 0.13 | Q V | | | | |
| 3+ 5 | 0.0234 | 0.13 | Q V | | | | |
| 3+10 | 0.0244 | 0.15 | Q V | | | | |
| 3+15 | 0.0254 | 0.15 | Q V | | | | |
| 3+20 | 0.0264 | 0.15 | Q V | | | | |

```
    3+25       0.0275      0.16  Q          |V         |          |          |
    3+30       0.0288      0.18  Q          |V         |          |          |
    3+35       0.0302      0.20  Q          | V        |          |          |
    3+40       0.0315      0.20  Q          | V        |          |          |
    3+45       0.0330      0.22  Q          |  V       |          |          |
    3+50       0.0346      0.22  Q          |   V      |          |          |
    3+55       0.0362      0.24  Q          |   V      |          |          |
    4+ 0       0.0378      0.24  Q          |    V     |          |          |
    4+ 5       0.0396      0.25  |Q         |     V    |          |          |
    4+10       0.0414      0.27  |Q         |     V    |          |          |
    4+15       0.0434      0.29  |Q         |      V   |          |          |
    4+20       0.0456      0.31  |Q         |       V  |          |          |
    4+25       0.0478      0.33  |Q         |        V |          |          |
    4+30       0.0501      0.33  |Q         |         V|          |          |
    4+35       0.0525      0.35  |Q         |          |V         |          |
    4+40       0.0550      0.36  |Q         |          | V        |          |
    4+45       0.0576      0.38  |Q         |          |  V       |          |
    4+50       0.0602      0.38  |Q         |          |   V      |          |
    4+55       0.0630      0.40  |Q         |          |    V     |          |
    5+ 0       0.0659      0.42  |Q         |          |     V    |          |
    5+ 5       0.0694      0.51  | Q        |          |      V   |          |
    5+10       0.0735      0.60  | Q        |          |       V  |          |
    5+15       0.0780      0.65  | Q        |          |        V |          |
    5+20       0.0829      0.71  | Q        |          |          |  V       |
    5+25       0.0884      0.80  |  Q       |          |          |    V     |
    5+30       0.0950      0.96  |  Q       |          |          |      V   |
    5+35       0.0970      0.29  |Q         |          |          |       V  |
    5+40       0.0978      0.11  Q          |          |          |       V  |
    5+45       0.0981      0.06  Q          |          |          |       V  |
    5+50       0.0984      0.04  Q          |          |          |       V  |
    5+55       0.0984      0.01  Q          |          |          |       V  |
    6+ 0       0.0985      0.00  Q          |          |          |        V
-------------------------------------------------------------------------
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX2224100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 22
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

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Drainage Area for Depth-Area Areal Adjustment = 0.60(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 206.00(Ft.)
Length along longest watercourse measured to centroid = 96.00(Ft.)
Length along longest watercourse = 0.039 Mi.
Length along longest watercourse measured to centroid = 0.018 Mi.
Difference in elevation = 110.00(Ft.)
Slope along watercourse = 2819.4175 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.012 Hr.
Lag time = 0.71 Min.
25% of lag time = 0.18 Min.
40% of lag time = 0.28 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 1.80 | 1.08 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 4.52 | 2.71 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.520(In)

Point rain (area averaged) = 4.520(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.520(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.600 | 83.58 | 0.000 |

Total Area Entered = 0.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.6 | 93.1 | 0.089 | 0.000 | 0.089 | 1.000 | 0.089 |
| | | | | | Sum (F) = | 0.089 |

Area averaged mean soil loss (F) (In/Hr) = 0.089

Minimum soil loss rate ((In/Hr)) = 0.045
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 705.893 | 100.000 | 0.605 |
| | | Sum = 100.000 | Sum= 0.605 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.036 | ( 0.158) | 0.033 | 0.004 |
| 2 | 0.17 | 0.07 | 0.036 | ( 0.157) | 0.033 | 0.004 |
| 3 | 0.25 | 0.07 | 0.036 | ( 0.157) | 0.033 | 0.004 |
| 4 | 0.33 | 0.10 | 0.054 | ( 0.156) | 0.049 | 0.005 |
| 5 | 0.42 | 0.10 | 0.054 | ( 0.155) | 0.049 | 0.005 |
| 6 | 0.50 | 0.10 | 0.054 | ( 0.155) | 0.049 | 0.005 |
| 7 | 0.58 | 0.10 | 0.054 | ( 0.154) | 0.049 | 0.005 |
| 8 | 0.67 | 0.10 | 0.054 | ( 0.154) | 0.049 | 0.005 |
| 9 | 0.75 | 0.10 | 0.054 | ( 0.153) | 0.049 | 0.005 |
| 10 | 0.83 | 0.13 | 0.072 | ( 0.152) | 0.065 | 0.007 |
| 11 | 0.92 | 0.13 | 0.072 | ( 0.152) | 0.065 | 0.007 |
| 12 | 1.00 | 0.13 | 0.072 | ( 0.151) | 0.065 | 0.007 |
| 13 | 1.08 | 0.10 | 0.054 | ( 0.151) | 0.049 | 0.005 |
| 14 | 1.17 | 0.10 | 0.054 | ( 0.150) | 0.049 | 0.005 |
| 15 | 1.25 | 0.10 | 0.054 | ( 0.149) | 0.049 | 0.005 |
| 16 | 1.33 | 0.10 | 0.054 | ( 0.149) | 0.049 | 0.005 |
| 17 | 1.42 | 0.10 | 0.054 | ( 0.148) | 0.049 | 0.005 |
| 18 | 1.50 | 0.10 | 0.054 | ( 0.148) | 0.049 | 0.005 |
| 19 | 1.58 | 0.10 | 0.054 | ( 0.147) | 0.049 | 0.005 |
| 20 | 1.67 | 0.10 | 0.054 | ( 0.147) | 0.049 | 0.005 |
| 21 | 1.75 | 0.10 | 0.054 | ( 0.146) | 0.049 | 0.005 |
| 22 | 1.83 | 0.13 | 0.072 | ( 0.145) | 0.065 | 0.007 |
| 23 | 1.92 | 0.13 | 0.072 | ( 0.145) | 0.065 | 0.007 |
| 24 | 2.00 | 0.13 | 0.072 | ( 0.144) | 0.065 | 0.007 |
| 25 | 2.08 | 0.13 | 0.072 | ( 0.144) | 0.065 | 0.007 |
| 26 | 2.17 | 0.13 | 0.072 | ( 0.143) | 0.065 | 0.007 |
| 27 | 2.25 | 0.13 | 0.072 | ( 0.142) | 0.065 | 0.007 |
| 28 | 2.33 | 0.13 | 0.072 | ( 0.142) | 0.065 | 0.007 |
| 29 | 2.42 | 0.13 | 0.072 | ( 0.141) | 0.065 | 0.007 |
| 30 | 2.50 | 0.13 | 0.072 | ( 0.141) | 0.065 | 0.007 |
| 31 | 2.58 | 0.17 | 0.090 | ( 0.140) | 0.081 | 0.009 |
| 32 | 2.67 | 0.17 | 0.090 | ( 0.140) | 0.081 | 0.009 |
| 33 | 2.75 | 0.17 | 0.090 | ( 0.139) | 0.081 | 0.009 |
| 34 | 2.83 | 0.17 | 0.090 | ( 0.138) | 0.081 | 0.009 |
| 35 | 2.92 | 0.17 | 0.090 | ( 0.138) | 0.081 | 0.009 |
| 36 | 3.00 | 0.17 | 0.090 | ( 0.137) | 0.081 | 0.009 |
| 37 | 3.08 | 0.17 | 0.090 | ( 0.137) | 0.081 | 0.009 |
| 38 | 3.17 | 0.17 | 0.090 | ( 0.136) | 0.081 | 0.009 |
| 39 | 3.25 | 0.17 | 0.090 | ( 0.136) | 0.081 | 0.009 |
| 40 | 3.33 | 0.17 | 0.090 | ( 0.135) | 0.081 | 0.009 |
| 41 | 3.42 | 0.17 | 0.090 | ( 0.134) | 0.081 | 0.009 |
| 42 | 3.50 | 0.17 | 0.090 | ( 0.134) | 0.081 | 0.009 |
| 43 | 3.58 | 0.17 | 0.090 | ( 0.133) | 0.081 | 0.009 |
| 44 | 3.67 | 0.17 | 0.090 | ( 0.133) | 0.081 | 0.009 |
| 45 | 3.75 | 0.17 | 0.090 | ( 0.132) | 0.081 | 0.009 |
| 46 | 3.83 | 0.20 | 0.108 | ( 0.132) | 0.098 | 0.011 |
| 47 | 3.92 | 0.20 | 0.108 | ( 0.131) | 0.098 | 0.011 |
| 48 | 4.00 | 0.20 | 0.108 | ( 0.131) | 0.098 | 0.011 |
| 49 | 4.08 | 0.20 | 0.108 | ( 0.130) | 0.098 | 0.011 |
| 50 | 4.17 | 0.20 | 0.108 | ( 0.129) | 0.098 | 0.011 |
| 51 | 4.25 | 0.20 | 0.108 | ( 0.129) | 0.098 | 0.011 |
| 52 | 4.33 | 0.23 | 0.127 | ( 0.128) | 0.114 | 0.013 |
| 53 | 4.42 | 0.23 | 0.127 | ( 0.128) | 0.114 | 0.013 |
| 54 | 4.50 | 0.23 | 0.127 | ( 0.127) | 0.114 | 0.013 |
| 55 | 4.58 | 0.23 | 0.127 | ( 0.127) | 0.114 | 0.013 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 56 | 4.67 | 0.23 | 0.127 | ( | 0.126) | 0.114 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.127 | ( | 0.126) | 0.114 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.145 | | 0.125 | ( 0.130) | | 0.020 |
| 59 | 4.92 | 0.27 | 0.145 | | 0.124 | ( 0.130) | | 0.020 |
| 60 | 5.00 | 0.27 | 0.145 | | 0.124 | ( 0.130) | | 0.021 |
| 61 | 5.08 | 0.20 | 0.108 | ( | 0.123) | 0.098 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.108 | ( | 0.123) | 0.098 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.108 | ( | 0.122) | 0.098 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.127 | ( | 0.122) | 0.114 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.127 | ( | 0.121) | 0.114 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.127 | ( | 0.121) | 0.114 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.145 | | 0.120 | ( 0.130) | | 0.024 |
| 68 | 5.67 | 0.27 | 0.145 | | 0.120 | ( 0.130) | | 0.025 |
| 69 | 5.75 | 0.27 | 0.145 | | 0.119 | ( 0.130) | | 0.025 |
| 70 | 5.83 | 0.27 | 0.145 | | 0.119 | ( 0.130) | | 0.026 |
| 71 | 5.92 | 0.27 | 0.145 | | 0.118 | ( 0.130) | | 0.027 |
| 72 | 6.00 | 0.27 | 0.145 | | 0.118 | ( 0.130) | | 0.027 |
| 73 | 6.08 | 0.30 | 0.163 | | 0.117 | ( 0.146) | | 0.046 |
| 74 | 6.17 | 0.30 | 0.163 | | 0.117 | ( 0.146) | | 0.046 |
| 75 | 6.25 | 0.30 | 0.163 | | 0.116 | ( 0.146) | | 0.047 |
| 76 | 6.33 | 0.30 | 0.163 | | 0.115 | ( 0.146) | | 0.047 |
| 77 | 6.42 | 0.30 | 0.163 | | 0.115 | ( 0.146) | | 0.048 |
| 78 | 6.50 | 0.30 | 0.163 | | 0.114 | ( 0.146) | | 0.048 |
| 79 | 6.58 | 0.33 | 0.181 | | 0.114 | ( 0.163) | | 0.067 |
| 80 | 6.67 | 0.33 | 0.181 | | 0.113 | ( 0.163) | | 0.067 |
| 81 | 6.75 | 0.33 | 0.181 | | 0.113 | ( 0.163) | | 0.068 |
| 82 | 6.83 | 0.33 | 0.181 | | 0.112 | ( 0.163) | | 0.068 |
| 83 | 6.92 | 0.33 | 0.181 | | 0.112 | ( 0.163) | | 0.069 |
| 84 | 7.00 | 0.33 | 0.181 | | 0.111 | ( 0.163) | | 0.069 |
| 85 | 7.08 | 0.33 | 0.181 | | 0.111 | ( 0.163) | | 0.070 |
| 86 | 7.17 | 0.33 | 0.181 | | 0.110 | ( 0.163) | | 0.070 |
| 87 | 7.25 | 0.33 | 0.181 | | 0.110 | ( 0.163) | | 0.071 |
| 88 | 7.33 | 0.37 | 0.199 | | 0.109 | ( 0.179) | | 0.089 |
| 89 | 7.42 | 0.37 | 0.199 | | 0.109 | ( 0.179) | | 0.090 |
| 90 | 7.50 | 0.37 | 0.199 | | 0.108 | ( 0.179) | | 0.090 |
| 91 | 7.58 | 0.40 | 0.217 | | 0.108 | ( 0.195) | | 0.109 |
| 92 | 7.67 | 0.40 | 0.217 | | 0.107 | ( 0.195) | | 0.110 |
| 93 | 7.75 | 0.40 | 0.217 | | 0.107 | ( 0.195) | | 0.110 |
| 94 | 7.83 | 0.43 | 0.235 | | 0.106 | ( 0.212) | | 0.129 |
| 95 | 7.92 | 0.43 | 0.235 | | 0.106 | ( 0.212) | | 0.129 |
| 96 | 8.00 | 0.43 | 0.235 | | 0.105 | ( 0.212) | | 0.130 |
| 97 | 8.08 | 0.50 | 0.271 | | 0.105 | ( 0.244) | | 0.166 |
| 98 | 8.17 | 0.50 | 0.271 | | 0.104 | ( 0.244) | | 0.167 |
| 99 | 8.25 | 0.50 | 0.271 | | 0.104 | ( 0.244) | | 0.167 |
| 100 | 8.33 | 0.50 | 0.271 | | 0.103 | ( 0.244) | | 0.168 |
| 101 | 8.42 | 0.50 | 0.271 | | 0.103 | ( 0.244) | | 0.168 |
| 102 | 8.50 | 0.50 | 0.271 | | 0.103 | ( 0.244) | | 0.169 |
| 103 | 8.58 | 0.53 | 0.289 | | 0.102 | ( 0.260) | | 0.187 |
| 104 | 8.67 | 0.53 | 0.289 | | 0.102 | ( 0.260) | | 0.188 |
| 105 | 8.75 | 0.53 | 0.289 | | 0.101 | ( 0.260) | | 0.188 |
| 106 | 8.83 | 0.57 | 0.307 | | 0.101 | ( 0.277) | | 0.207 |
| 107 | 8.92 | 0.57 | 0.307 | | 0.100 | ( 0.277) | | 0.207 |
| 108 | 9.00 | 0.57 | 0.307 | | 0.100 | ( 0.277) | | 0.208 |
| 109 | 9.08 | 0.63 | 0.344 | | 0.099 | ( 0.309) | | 0.244 |
| 110 | 9.17 | 0.63 | 0.344 | | 0.099 | ( 0.309) | | 0.245 |
| 111 | 9.25 | 0.63 | 0.344 | | 0.098 | ( 0.309) | | 0.245 |
| 112 | 9.33 | 0.67 | 0.362 | | 0.098 | ( 0.325) | | 0.264 |
| 113 | 9.42 | 0.67 | 0.362 | | 0.097 | ( 0.325) | | 0.264 |
| 114 | 9.50 | 0.67 | 0.362 | | 0.097 | ( 0.325) | | 0.265 |
| 115 | 9.58 | 0.70 | 0.380 | | 0.096 | ( 0.342) | | 0.283 |
| 116 | 9.67 | 0.70 | 0.380 | | 0.096 | ( 0.342) | | 0.284 |
| 117 | 9.75 | 0.70 | 0.380 | | 0.095 | ( 0.342) | | 0.284 |
| 118 | 9.83 | 0.73 | 0.398 | | 0.095 | ( 0.358) | | 0.303 |
| 119 | 9.92 | 0.73 | 0.398 | | 0.095 | ( 0.358) | | 0.303 |
| 120 | 10.00 | 0.73 | 0.398 | | 0.094 | ( 0.358) | | 0.304 |
| 121 | 10.08 | 0.50 | 0.271 | | 0.094 | ( 0.244) | | 0.178 |
| 122 | 10.17 | 0.50 | 0.271 | | 0.093 | ( 0.244) | | 0.178 |
| 123 | 10.25 | 0.50 | 0.271 | | 0.093 | ( 0.244) | | 0.178 |
| 124 | 10.33 | 0.50 | 0.271 | | 0.092 | ( 0.244) | | 0.179 |
| 125 | 10.42 | 0.50 | 0.271 | | 0.092 | ( 0.244) | | 0.179 |
| 126 | 10.50 | 0.50 | 0.271 | | 0.091 | ( 0.244) | | 0.180 |
| 127 | 10.58 | 0.67 | 0.362 | | 0.091 | ( 0.325) | | 0.271 |
| 128 | 10.67 | 0.67 | 0.362 | | 0.090 | ( 0.325) | | 0.271 |
| 129 | 10.75 | 0.67 | 0.362 | | 0.090 | ( 0.325) | | 0.272 |
| 130 | 10.83 | 0.67 | 0.362 | | 0.090 | ( 0.325) | | 0.272 |
| 131 | 10.92 | 0.67 | 0.362 | | 0.089 | ( 0.325) | | 0.272 |
| 132 | 11.00 | 0.67 | 0.362 | | 0.089 | ( 0.325) | | 0.273 |
| 133 | 11.08 | 0.63 | 0.344 | | 0.088 | ( 0.309) | | 0.255 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 134 | 11.17 | 0.63 | 0.344 | | 0.088 | ( 0.309) | | 0.256 |
| 135 | 11.25 | 0.63 | 0.344 | | 0.087 | ( 0.309) | | 0.256 |
| 136 | 11.33 | 0.63 | 0.344 | | 0.087 | ( 0.309) | | 0.257 |
| 137 | 11.42 | 0.63 | 0.344 | | 0.087 | ( 0.309) | | 0.257 |
| 138 | 11.50 | 0.63 | 0.344 | | 0.086 | ( 0.309) | | 0.257 |
| 139 | 11.58 | 0.57 | 0.307 | | 0.086 | ( 0.277) | | 0.222 |
| 140 | 11.67 | 0.57 | 0.307 | | 0.085 | ( 0.277) | | 0.222 |
| 141 | 11.75 | 0.57 | 0.307 | | 0.085 | ( 0.277) | | 0.223 |
| 142 | 11.83 | 0.60 | 0.325 | | 0.084 | ( 0.293) | | 0.241 |
| 143 | 11.92 | 0.60 | 0.325 | | 0.084 | ( 0.293) | | 0.241 |
| 144 | 12.00 | 0.60 | 0.325 | | 0.084 | ( 0.293) | | 0.242 |
| 145 | 12.08 | 0.83 | 0.452 | | 0.083 | ( 0.407) | | 0.369 |
| 146 | 12.17 | 0.83 | 0.452 | | 0.083 | ( 0.407) | | 0.369 |
| 147 | 12.25 | 0.83 | 0.452 | | 0.082 | ( 0.407) | | 0.370 |
| 148 | 12.33 | 0.87 | 0.470 | | 0.082 | ( 0.423) | | 0.388 |
| 149 | 12.42 | 0.87 | 0.470 | | 0.081 | ( 0.423) | | 0.389 |
| 150 | 12.50 | 0.87 | 0.470 | | 0.081 | ( 0.423) | | 0.389 |
| 151 | 12.58 | 0.93 | 0.506 | | 0.081 | ( 0.456) | | 0.426 |
| 152 | 12.67 | 0.93 | 0.506 | | 0.080 | ( 0.456) | | 0.426 |
| 153 | 12.75 | 0.93 | 0.506 | | 0.080 | ( 0.456) | | 0.426 |
| 154 | 12.83 | 0.97 | 0.524 | | 0.079 | ( 0.472) | | 0.445 |
| 155 | 12.92 | 0.97 | 0.524 | | 0.079 | ( 0.472) | | 0.445 |
| 156 | 13.00 | 0.97 | 0.524 | | 0.079 | ( 0.472) | | 0.446 |
| 157 | 13.08 | 1.13 | 0.615 | | 0.078 | ( 0.553) | | 0.536 |
| 158 | 13.17 | 1.13 | 0.615 | | 0.078 | ( 0.553) | | 0.537 |
| 159 | 13.25 | 1.13 | 0.615 | | 0.077 | ( 0.553) | | 0.537 |
| 160 | 13.33 | 1.13 | 0.615 | | 0.077 | ( 0.553) | | 0.538 |
| 161 | 13.42 | 1.13 | 0.615 | | 0.077 | ( 0.553) | | 0.538 |
| 162 | 13.50 | 1.13 | 0.615 | | 0.076 | ( 0.553) | | 0.538 |
| 163 | 13.58 | 0.77 | 0.416 | | 0.076 | ( 0.374) | | 0.340 |
| 164 | 13.67 | 0.77 | 0.416 | | 0.076 | ( 0.374) | | 0.340 |
| 165 | 13.75 | 0.77 | 0.416 | | 0.075 | ( 0.374) | | 0.341 |
| 166 | 13.83 | 0.77 | 0.416 | | 0.075 | ( 0.374) | | 0.341 |
| 167 | 13.92 | 0.77 | 0.416 | | 0.074 | ( 0.374) | | 0.341 |
| 168 | 14.00 | 0.77 | 0.416 | | 0.074 | ( 0.374) | | 0.342 |
| 169 | 14.08 | 0.90 | 0.488 | | 0.074 | ( 0.439) | | 0.415 |
| 170 | 14.17 | 0.90 | 0.488 | | 0.073 | ( 0.439) | | 0.415 |
| 171 | 14.25 | 0.90 | 0.488 | | 0.073 | ( 0.439) | | 0.415 |
| 172 | 14.33 | 0.87 | 0.470 | | 0.072 | ( 0.423) | | 0.398 |
| 173 | 14.42 | 0.87 | 0.470 | | 0.072 | ( 0.423) | | 0.398 |
| 174 | 14.50 | 0.87 | 0.470 | | 0.072 | ( 0.423) | | 0.398 |
| 175 | 14.58 | 0.87 | 0.470 | | 0.071 | ( 0.423) | | 0.399 |
| 176 | 14.67 | 0.87 | 0.470 | | 0.071 | ( 0.423) | | 0.399 |
| 177 | 14.75 | 0.87 | 0.470 | | 0.071 | ( 0.423) | | 0.399 |
| 178 | 14.83 | 0.83 | 0.452 | | 0.070 | ( 0.407) | | 0.382 |
| 179 | 14.92 | 0.83 | 0.452 | | 0.070 | ( 0.407) | | 0.382 |
| 180 | 15.00 | 0.83 | 0.452 | | 0.070 | ( 0.407) | | 0.382 |
| 181 | 15.08 | 0.80 | 0.434 | | 0.069 | ( 0.391) | | 0.365 |
| 182 | 15.17 | 0.80 | 0.434 | | 0.069 | ( 0.391) | | 0.365 |
| 183 | 15.25 | 0.80 | 0.434 | | 0.069 | ( 0.391) | | 0.365 |
| 184 | 15.33 | 0.77 | 0.416 | | 0.068 | ( 0.374) | | 0.348 |
| 185 | 15.42 | 0.77 | 0.416 | | 0.068 | ( 0.374) | | 0.348 |
| 186 | 15.50 | 0.77 | 0.416 | | 0.067 | ( 0.374) | | 0.348 |
| 187 | 15.58 | 0.63 | 0.344 | | 0.067 | ( 0.309) | | 0.276 |
| 188 | 15.67 | 0.63 | 0.344 | | 0.067 | ( 0.309) | | 0.277 |
| 189 | 15.75 | 0.63 | 0.344 | | 0.066 | ( 0.309) | | 0.277 |
| 190 | 15.83 | 0.63 | 0.344 | | 0.066 | ( 0.309) | | 0.277 |
| 191 | 15.92 | 0.63 | 0.344 | | 0.066 | ( 0.309) | | 0.278 |
| 192 | 16.00 | 0.63 | 0.344 | | 0.065 | ( 0.309) | | 0.278 |
| 193 | 16.08 | 0.13 | 0.072 | | 0.065 | ( 0.065) | | 0.007 |
| 194 | 16.17 | 0.13 | 0.072 | | 0.065 | ( 0.065) | | 0.008 |
| 195 | 16.25 | 0.13 | 0.072 | | 0.064 | ( 0.065) | | 0.008 |
| 196 | 16.33 | 0.13 | 0.072 | | 0.064 | ( 0.065) | | 0.008 |
| 197 | 16.42 | 0.13 | 0.072 | | 0.064 | ( 0.065) | | 0.009 |
| 198 | 16.50 | 0.13 | 0.072 | | 0.063 | ( 0.065) | | 0.009 |
| 199 | 16.58 | 0.10 | 0.054 | ( | 0.063) | 0.049 | | 0.005 |
| 200 | 16.67 | 0.10 | 0.054 | ( | 0.063) | 0.049 | | 0.005 |
| 201 | 16.75 | 0.10 | 0.054 | ( | 0.062) | 0.049 | | 0.005 |
| 202 | 16.83 | 0.10 | 0.054 | ( | 0.062) | 0.049 | | 0.005 |
| 203 | 16.92 | 0.10 | 0.054 | ( | 0.062) | 0.049 | | 0.005 |
| 204 | 17.00 | 0.10 | 0.054 | ( | 0.062) | 0.049 | | 0.005 |
| 205 | 17.08 | 0.17 | 0.090 | | 0.061 | ( 0.081) | | 0.029 |
| 206 | 17.17 | 0.17 | 0.090 | | 0.061 | ( 0.081) | | 0.029 |
| 207 | 17.25 | 0.17 | 0.090 | | 0.061 | ( 0.081) | | 0.030 |
| 208 | 17.33 | 0.17 | 0.090 | | 0.060 | ( 0.081) | | 0.030 |
| 209 | 17.42 | 0.17 | 0.090 | | 0.060 | ( 0.081) | | 0.030 |
| 210 | 17.50 | 0.17 | 0.090 | | 0.060 | ( 0.081) | | 0.031 |
| 211 | 17.58 | 0.17 | 0.090 | | 0.059 | ( 0.081) | | 0.031 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 212 | 17.67 | 0.17 | 0.090 | 0.059 | ( 0.081) | 0.031 |
| 213 | 17.75 | 0.17 | 0.090 | 0.059 | ( 0.081) | 0.032 |
| 214 | 17.83 | 0.13 | 0.072 | 0.059 | ( 0.065) | 0.014 |
| 215 | 17.92 | 0.13 | 0.072 | 0.058 | ( 0.065) | 0.014 |
| 216 | 18.00 | 0.13 | 0.072 | 0.058 | ( 0.065) | 0.014 |
| 217 | 18.08 | 0.13 | 0.072 | 0.058 | ( 0.065) | 0.015 |
| 218 | 18.17 | 0.13 | 0.072 | 0.057 | ( 0.065) | 0.015 |
| 219 | 18.25 | 0.13 | 0.072 | 0.057 | ( 0.065) | 0.015 |
| 220 | 18.33 | 0.13 | 0.072 | 0.057 | ( 0.065) | 0.016 |
| 221 | 18.42 | 0.13 | 0.072 | 0.057 | ( 0.065) | 0.016 |
| 222 | 18.50 | 0.13 | 0.072 | 0.056 | ( 0.065) | 0.016 |
| 223 | 18.58 | 0.10 | 0.054 | ( 0.056) | 0.049 | 0.005 |
| 224 | 18.67 | 0.10 | 0.054 | ( 0.056) | 0.049 | 0.005 |
| 225 | 18.75 | 0.10 | 0.054 | ( 0.055) | 0.049 | 0.005 |
| 226 | 18.83 | 0.07 | 0.036 | ( 0.055) | 0.033 | 0.004 |
| 227 | 18.92 | 0.07 | 0.036 | ( 0.055) | 0.033 | 0.004 |
| 228 | 19.00 | 0.07 | 0.036 | ( 0.055) | 0.033 | 0.004 |
| 229 | 19.08 | 0.10 | 0.054 | ( 0.054) | 0.049 | 0.005 |
| 230 | 19.17 | 0.10 | 0.054 | ( 0.054) | 0.049 | 0.005 |
| 231 | 19.25 | 0.10 | 0.054 | ( 0.054) | 0.049 | 0.005 |
| 232 | 19.33 | 0.13 | 0.072 | 0.054 | ( 0.065) | 0.019 |
| 233 | 19.42 | 0.13 | 0.072 | 0.053 | ( 0.065) | 0.019 |
| 234 | 19.50 | 0.13 | 0.072 | 0.053 | ( 0.065) | 0.019 |
| 235 | 19.58 | 0.10 | 0.054 | ( 0.053) | 0.049 | 0.005 |
| 236 | 19.67 | 0.10 | 0.054 | ( 0.053) | 0.049 | 0.005 |
| 237 | 19.75 | 0.10 | 0.054 | ( 0.052) | 0.049 | 0.005 |
| 238 | 19.83 | 0.07 | 0.036 | ( 0.052) | 0.033 | 0.004 |
| 239 | 19.92 | 0.07 | 0.036 | ( 0.052) | 0.033 | 0.004 |
| 240 | 20.00 | 0.07 | 0.036 | ( 0.052) | 0.033 | 0.004 |
| 241 | 20.08 | 0.10 | 0.054 | ( 0.051) | 0.049 | 0.005 |
| 242 | 20.17 | 0.10 | 0.054 | ( 0.051) | 0.049 | 0.005 |
| 243 | 20.25 | 0.10 | 0.054 | ( 0.051) | 0.049 | 0.005 |
| 244 | 20.33 | 0.10 | 0.054 | ( 0.051) | 0.049 | 0.005 |
| 245 | 20.42 | 0.10 | 0.054 | ( 0.051) | 0.049 | 0.005 |
| 246 | 20.50 | 0.10 | 0.054 | ( 0.050) | 0.049 | 0.005 |
| 247 | 20.58 | 0.10 | 0.054 | ( 0.050) | 0.049 | 0.005 |
| 248 | 20.67 | 0.10 | 0.054 | ( 0.050) | 0.049 | 0.005 |
| 249 | 20.75 | 0.10 | 0.054 | ( 0.050) | 0.049 | 0.005 |
| 250 | 20.83 | 0.07 | 0.036 | ( 0.050) | 0.033 | 0.004 |
| 251 | 20.92 | 0.07 | 0.036 | ( 0.049) | 0.033 | 0.004 |
| 252 | 21.00 | 0.07 | 0.036 | ( 0.049) | 0.033 | 0.004 |
| 253 | 21.08 | 0.10 | 0.054 | ( 0.049) | 0.049 | 0.005 |
| 254 | 21.17 | 0.10 | 0.054 | 0.049 | ( 0.049) | 0.005 |
| 255 | 21.25 | 0.10 | 0.054 | 0.049 | ( 0.049) | 0.006 |
| 256 | 21.33 | 0.07 | 0.036 | ( 0.048) | 0.033 | 0.004 |
| 257 | 21.42 | 0.07 | 0.036 | ( 0.048) | 0.033 | 0.004 |
| 258 | 21.50 | 0.07 | 0.036 | ( 0.048) | 0.033 | 0.004 |
| 259 | 21.58 | 0.10 | 0.054 | 0.048 | ( 0.049) | 0.006 |
| 260 | 21.67 | 0.10 | 0.054 | 0.048 | ( 0.049) | 0.007 |
| 261 | 21.75 | 0.10 | 0.054 | 0.048 | ( 0.049) | 0.007 |
| 262 | 21.83 | 0.07 | 0.036 | ( 0.047) | 0.033 | 0.004 |
| 263 | 21.92 | 0.07 | 0.036 | ( 0.047) | 0.033 | 0.004 |
| 264 | 22.00 | 0.07 | 0.036 | ( 0.047) | 0.033 | 0.004 |
| 265 | 22.08 | 0.10 | 0.054 | 0.047 | ( 0.049) | 0.007 |
| 266 | 22.17 | 0.10 | 0.054 | 0.047 | ( 0.049) | 0.008 |
| 267 | 22.25 | 0.10 | 0.054 | 0.047 | ( 0.049) | 0.008 |
| 268 | 22.33 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 269 | 22.42 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 270 | 22.50 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 271 | 22.58 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 272 | 22.67 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 273 | 22.75 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 274 | 22.83 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 275 | 22.92 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 276 | 23.00 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 277 | 23.08 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 278 | 23.17 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 279 | 23.25 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 280 | 23.33 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 281 | 23.42 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 284 | 23.67 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 285 | 23.75 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 286 | 23.83 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 287 | 23.92 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 288 | 24.00 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 33.3

Flood volume = Effective rainfall 2.78(In)
times area 0.6(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 1.74(In)
Total soil loss = 0.087(Ac.Ft)
Total rainfall = 4.52(In)
Flood volume = 6046.4 Cubic Feet
Total soil loss = 3798.2 Cubic Feet

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Peak flow rate of this hydrograph = 0.326(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0000 | 0.00 | Q | | | | |
| 0+10 | 0.0000 | 0.00 | Q | | | | |
| 0+15 | 0.0000 | 0.00 | Q | | | | |
| 0+20 | 0.0001 | 0.00 | Q | | | | |
| 0+25 | 0.0001 | 0.00 | Q | | | | |
| 0+30 | 0.0001 | 0.00 | Q | | | | |
| 0+35 | 0.0001 | 0.00 | Q | | | | |
| 0+40 | 0.0002 | 0.00 | Q | | | | |
| 0+45 | 0.0002 | 0.00 | Q | | | | |
| 0+50 | 0.0002 | 0.00 | Q | | | | |
| 0+55 | 0.0002 | 0.00 | Q | | | | |
| 1+ 0 | 0.0003 | 0.00 | Q | | | | |
| 1+ 5 | 0.0003 | 0.00 | Q | | | | |
| 1+10 | 0.0003 | 0.00 | Q | | | | |
| 1+15 | 0.0003 | 0.00 | Q | | | | |
| 1+20 | 0.0004 | 0.00 | Q | | | | |
| 1+25 | 0.0004 | 0.00 | Q | | | | |
| 1+30 | 0.0004 | 0.00 | Q | | | | |
| 1+35 | 0.0004 | 0.00 | Q | | | | |
| 1+40 | 0.0005 | 0.00 | Q | | | | |
| 1+45 | 0.0005 | 0.00 | Q | | | | |
| 1+50 | 0.0005 | 0.00 | Q | | | | |
| 1+55 | 0.0005 | 0.00 | Q | | | | |
| 2+ 0 | 0.0006 | 0.00 | Q | | | | |
| 2+ 5 | 0.0006 | 0.00 | Q | | | | |
| 2+10 | 0.0006 | 0.00 | Q | | | | |
| 2+15 | 0.0007 | 0.00 | Q | | | | |
| 2+20 | 0.0007 | 0.00 | Q | | | | |
| 2+25 | 0.0007 | 0.00 | Q | | | | |
| 2+30 | 0.0007 | 0.00 | Q | | | | |
| 2+35 | 0.0008 | 0.01 | Q | | | | |
| 2+40 | 0.0008 | 0.01 | Q | | | | |
| 2+45 | 0.0009 | 0.01 | Q | | | | |
| 2+50 | 0.0009 | 0.01 | Q | | | | |
| 2+55 | 0.0009 | 0.01 | Q | | | | |
| 3+ 0 | 0.0010 | 0.01 | Q | | | | |
| 3+ 5 | 0.0010 | 0.01 | Q | | | | |
| 3+10 | 0.0010 | 0.01 | Q | | | | |
| 3+15 | 0.0011 | 0.01 | Q | | | | |
| 3+20 | 0.0011 | 0.01 | Q | | | | |
| 3+25 | 0.0012 | 0.01 | Q | | | | |
| 3+30 | 0.0012 | 0.01 | Q | | | | |
| 3+35 | 0.0012 | 0.01 | Q | | | | |
| 3+40 | 0.0013 | 0.01 | Q | | | | |
| 3+45 | 0.0013 | 0.01 | Q | | | | |
| 3+50 | 0.0014 | 0.01 | Q | | | | |
| 3+55 | 0.0014 | 0.01 | Q | | | | |
| 4+ 0 | 0.0014 | 0.01 | Q | | | | |
| 4+ 5 | 0.0015 | 0.01 | Q | | | | |
| 4+10 | 0.0015 | 0.01 | Q | | | | |
| 4+15 | 0.0016 | 0.01 | Q | | | | |
| 4+20 | 0.0016 | 0.01 | Q | | | | |
| 4+25 | 0.0017 | 0.01 | Q | | | | |
| 4+30 | 0.0017 | 0.01 | Q | | | | |
| 4+35 | 0.0018 | 0.01 | Q | | | | |
| 4+40 | 0.0018 | 0.01 | Q | | | | |
| 4+45 | 0.0019 | 0.01 | Q | | | | |
| 4+50 | 0.0020 | 0.01 | Q | | | | |

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 4+55       0.0021      0.01  Q          |          |          |          |
 5+ 0       0.0022      0.01  Q          |          |          |          |
 5+ 5       0.0022      0.01  Q          |          |          |          |
 5+10       0.0022      0.01  Q          |          |          |          |
 5+15       0.0023      0.01  Q          |          |          |          |
 5+20       0.0023      0.01  Q          |          |          |          |
 5+25       0.0024      0.01  Q          |          |          |          |
 5+30       0.0024      0.01  Q          |          |          |          |
 5+35       0.0025      0.01  Q          |          |          |          |
 5+40       0.0026      0.02  Q          |          |          |          |
 5+45       0.0028      0.02  Q          |          |          |          |
 5+50       0.0029      0.02  Q          |          |          |          |
 5+55       0.0030      0.02  Q          |          |          |          |
 6+ 0       0.0031      0.02  Q          |          |          |          |
 6+ 5       0.0033      0.03  Q          |          |          |          |
 6+10       0.0035      0.03  QV         |          |          |          |
 6+15       0.0037      0.03  QV         |          |          |          |
 6+20       0.0039      0.03  QV         |          |          |          |
 6+25       0.0041      0.03  QV         |          |          |          |
 6+30       0.0043      0.03  QV         |          |          |          |
 6+35       0.0045      0.04  QV         |          |          |          |
 6+40       0.0048      0.04  QV         |          |          |          |
 6+45       0.0051      0.04  QV         |          |          |          |
 6+50       0.0054      0.04  QV         |          |          |          |
 6+55       0.0057      0.04  QV         |          |          |          |
 7+ 0       0.0060      0.04  QV         |          |          |          |
 7+ 5       0.0063      0.04  QV         |          |          |          |
 7+10       0.0065      0.04  QV         |          |          |          |
 7+15       0.0068      0.04  QV         |          |          |          |
 7+20       0.0072      0.05  Q V        |          |          |          |
 7+25       0.0076      0.05  Q V        |          |          |          |
 7+30       0.0080      0.05  Q V        |          |          |          |
 7+35       0.0084      0.07  Q V        |          |          |          |
 7+40       0.0089      0.07  Q V        |          |          |          |
 7+45       0.0093      0.07  Q V        |          |          |          |
 7+50       0.0099      0.08  Q V        |          |          |          |
 7+55       0.0104      0.08  Q  V       |          |          |          |
 8+ 0       0.0110      0.08  Q  V       |          |          |          |
 8+ 5       0.0116      0.10  Q  V       |          |          |          |
 8+10       0.0123      0.10  Q  V       |          |          |          |
 8+15       0.0130      0.10  Q  V       |          |          |          |
 8+20       0.0137      0.10  Q  V       |          |          |          |
 8+25       0.0144      0.10  Q   V      |          |          |          |
 8+30       0.0151      0.10  Q   V      |          |          |          |
 8+35       0.0159      0.11  Q   V      |          |          |          |
 8+40       0.0167      0.11  Q   V      |          |          |          |
 8+45       0.0175      0.11  Q    V     |          |          |          |
 8+50       0.0183      0.13  Q    V     |          |          |          |
 8+55       0.0192      0.13  Q    V     |          |          |          |
 9+ 0       0.0201      0.13  Q    V     |          |          |          |
 9+ 5       0.0211      0.15  Q     V    |          |          |          |
 9+10       0.0221      0.15  Q     V    |          |          |          |
 9+15       0.0231      0.15  Q     V    |          |          |          |
 9+20       0.0242      0.16  Q     V    |          |          |          |
 9+25       0.0253      0.16  Q      V   |          |          |          |
 9+30       0.0264      0.16  Q      V   |          |          |          |
 9+35       0.0276      0.17  Q      V   |          |          |          |
 9+40       0.0288      0.17  Q       V  |          |          |          |
 9+45       0.0300      0.17  Q       V  |          |          |          |
 9+50       0.0313      0.18  Q        V |          |          |          |
 9+55       0.0325      0.18  Q        V |          |          |          |
10+ 0       0.0338      0.18  Q        V |          |          |          |
10+ 5       0.0345      0.11  Q        V |          |          |          |
10+10       0.0353      0.11  Q         V          |          |          |
10+15       0.0360      0.11  Q         V          |          |          |
10+20       0.0368      0.11  Q         V          |          |          |
10+25       0.0375      0.11  Q         V          |          |          |
10+30       0.0382      0.11  Q         |V         |          |          |
10+35       0.0394      0.16  Q         |V         |          |          |
10+40       0.0405      0.16  Q         |V         |          |          |
10+45       0.0416      0.16  Q         |V         |          |          |
10+50       0.0428      0.16  Q         | V        |          |          |
10+55       0.0439      0.16  Q         | V        |          |          |
11+ 0       0.0450      0.17  Q         | V        |          |          |
11+ 5       0.0461      0.15  Q         |  V       |          |          |
11+10       0.0472      0.15  Q         |  V       |          |          |
11+15       0.0482      0.15  Q         |  V       |          |          |
11+20       0.0493      0.16  Q         |   V      |          |          |
```

| | | | | |
|---|---|---|---|---|
| 11+25 | 0.0504 | 0.16 | Q | \| V \| \| \| |
| 11+30 | 0.0515 | 0.16 | Q | \| V \| \| \| |
| 11+35 | 0.0524 | 0.13 | Q | \| V \| \| \| |
| 11+40 | 0.0533 | 0.13 | Q | \| V \| \| \| |
| 11+45 | 0.0542 | 0.13 | Q | \| V \| \| \| |
| 11+50 | 0.0552 | 0.15 | Q | \| V \| \| \| |
| 11+55 | 0.0562 | 0.15 | Q | \| V \| \| \| |
| 12+ 0 | 0.0572 | 0.15 | Q | \| V \| \| \| |
| 12+ 5 | 0.0588 | 0.22 | Q | \| V \| \| \| |
| 12+10 | 0.0603 | 0.22 | Q | \| V \| \| \| |
| 12+15 | 0.0619 | 0.22 | Q | \| V \| \| \| |
| 12+20 | 0.0635 | 0.23 | Q | \| V \| \| \| |
| 12+25 | 0.0651 | 0.24 | Q | \| V \| \| \| |
| 12+30 | 0.0667 | 0.24 | Q | \| V\| \| \| |
| 12+35 | 0.0685 | 0.26 | \|Q | \| V\| \| \| |
| 12+40 | 0.0703 | 0.26 | \|Q | \| V \| \| |
| 12+45 | 0.0720 | 0.26 | \|Q | \| V \| \| |
| 12+50 | 0.0739 | 0.27 | \|Q | \| \|V \| \| |
| 12+55 | 0.0758 | 0.27 | \|Q | \| \|V \| \| |
| 13+ 0 | 0.0776 | 0.27 | \|Q | \| \| V \| \| |
| 13+ 5 | 0.0798 | 0.32 | \|Q | \| \| V \| \| |
| 13+10 | 0.0821 | 0.32 | \|Q | \| \| V \| \| |
| 13+15 | 0.0843 | 0.33 | \|Q | \| \| V \| \| |
| 13+20 | 0.0866 | 0.33 | \|Q | \| \| V \| \| |
| 13+25 | 0.0888 | 0.33 | \|Q | \| \| V \| \| |
| 13+30 | 0.0910 | 0.33 | \|Q | \| \| V \| \| |
| 13+35 | 0.0925 | 0.21 | Q | \| \| V \| \| |
| 13+40 | 0.0939 | 0.21 | Q | \| \| V \| \| |
| 13+45 | 0.0953 | 0.21 | Q | \| \| V \| \| |
| 13+50 | 0.0967 | 0.21 | Q | \| \| V \| \| |
| 13+55 | 0.0981 | 0.21 | Q | \| \| V \| \| |
| 14+ 0 | 0.0996 | 0.21 | Q | \| \| V \| \| |
| 14+ 5 | 0.1013 | 0.25 | \|Q | \| \| V\| \| |
| 14+10 | 0.1030 | 0.25 | \|Q | \| \| V\| \| |
| 14+15 | 0.1048 | 0.25 | \|Q | \| \| V \| |
| 14+20 | 0.1064 | 0.24 | Q | \| \| V \| |
| 14+25 | 0.1081 | 0.24 | Q | \| \| \|V \| |
| 14+30 | 0.1097 | 0.24 | Q | \| \| \|V \| |
| 14+35 | 0.1114 | 0.24 | Q | \| \| V \| |
| 14+40 | 0.1131 | 0.24 | Q | \| \| V \| |
| 14+45 | 0.1147 | 0.24 | Q | \| \| V \| |
| 14+50 | 0.1163 | 0.23 | Q | \| \| V \| |
| 14+55 | 0.1179 | 0.23 | Q | \| \| V \| |
| 15+ 0 | 0.1195 | 0.23 | Q | \| \| V \| |
| 15+ 5 | 0.1210 | 0.22 | Q | \| \| V \| |
| 15+10 | 0.1225 | 0.22 | Q | \| \| V \| |
| 15+15 | 0.1241 | 0.22 | Q | \| \| V \| |
| 15+20 | 0.1255 | 0.21 | Q | \| \| V \| |
| 15+25 | 0.1270 | 0.21 | Q | \| \| V \| |
| 15+30 | 0.1284 | 0.21 | Q | \| \| V \| |
| 15+35 | 0.1296 | 0.17 | Q | \| \| V \| |
| 15+40 | 0.1307 | 0.17 | Q | \| \| V \| |
| 15+45 | 0.1319 | 0.17 | Q | \| \| V \| |
| 15+50 | 0.1330 | 0.17 | Q | \| \| V \| |
| 15+55 | 0.1342 | 0.17 | Q | \| \| V \| |
| 16+ 0 | 0.1353 | 0.17 | Q | \| \| V\| |
| 16+ 5 | 0.1354 | 0.00 | Q | \| \| V\| |
| 16+10 | 0.1354 | 0.00 | Q | \| \| V\| |
| 16+15 | 0.1354 | 0.00 | Q | \| \| V\| |
| 16+20 | 0.1355 | 0.00 | Q | \| \| V\| |
| 16+25 | 0.1355 | 0.01 | Q | \| \| V\| |
| 16+30 | 0.1355 | 0.01 | Q | \| \| V\| |
| 16+35 | 0.1356 | 0.00 | Q | \| \| V\| |
| 16+40 | 0.1356 | 0.00 | Q | \| \| V\| |
| 16+45 | 0.1356 | 0.00 | Q | \| \| V\| |
| 16+50 | 0.1356 | 0.00 | Q | \| \| V\| |
| 16+55 | 0.1357 | 0.00 | Q | \| \| V\| |
| 17+ 0 | 0.1357 | 0.00 | Q | \| \| V\| |
| 17+ 5 | 0.1358 | 0.02 | Q | \| \| V\| |
| 17+10 | 0.1359 | 0.02 | Q | \| \| V\| |
| 17+15 | 0.1360 | 0.02 | Q | \| \| V\| |
| 17+20 | 0.1362 | 0.02 | Q | \| \| V\| |
| 17+25 | 0.1363 | 0.02 | Q | \| \| V\| |
| 17+30 | 0.1364 | 0.02 | Q | \| \| V\| |
| 17+35 | 0.1366 | 0.02 | Q | \| \| V\| |
| 17+40 | 0.1367 | 0.02 | Q | \| \| V\| |
| 17+45 | 0.1368 | 0.02 | Q | \| \| V\| |
| 17+50 | 0.1369 | 0.01 | Q | \| \| V\| |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+55 | 0.1369 | 0.01 | Q | \| | \| | \| | V\| |
| 18+ 0 | 0.1370 | 0.01 | Q | \| | \| | \| | V\| |
| 18+ 5 | 0.1371 | 0.01 | Q | \| | \| | \| | V\| |
| 18+10 | 0.1371 | 0.01 | Q | \| | \| | \| | V\| |
| 18+15 | 0.1372 | 0.01 | Q | \| | \| | \| | V\| |
| 18+20 | 0.1372 | 0.01 | Q | \| | \| | \| | V\| |
| 18+25 | 0.1373 | 0.01 | Q | \| | \| | \| | V\| |
| 18+30 | 0.1374 | 0.01 | Q | \| | \| | \| | V\| |
| 18+35 | 0.1374 | 0.00 | Q | \| | \| | \| | V\| |
| 18+40 | 0.1374 | 0.00 | Q | \| | \| | \| | V\| |
| 18+45 | 0.1374 | 0.00 | Q | \| | \| | \| | V\| |
| 18+50 | 0.1375 | 0.00 | Q | \| | \| | \| | V\| |
| 18+55 | 0.1375 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 0 | 0.1375 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 5 | 0.1375 | 0.00 | Q | \| | \| | \| | V\| |
| 19+10 | 0.1375 | 0.00 | Q | \| | \| | \| | V\| |
| 19+15 | 0.1376 | 0.00 | Q | \| | \| | \| | V\| |
| 19+20 | 0.1376 | 0.01 | Q | \| | \| | \| | V\| |
| 19+25 | 0.1377 | 0.01 | Q | \| | \| | \| | V\| |
| 19+30 | 0.1378 | 0.01 | Q | \| | \| | \| | V\| |
| 19+35 | 0.1378 | 0.00 | Q | \| | \| | \| | V\| |
| 19+40 | 0.1378 | 0.00 | Q | \| | \| | \| | V\| |
| 19+45 | 0.1379 | 0.00 | Q | \| | \| | \| | V\| |
| 19+50 | 0.1379 | 0.00 | Q | \| | \| | \| | V\| |
| 19+55 | 0.1379 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 0 | 0.1379 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 5 | 0.1379 | 0.00 | Q | \| | \| | \| | V\| |
| 20+10 | 0.1380 | 0.00 | Q | \| | \| | \| | V\| |
| 20+15 | 0.1380 | 0.00 | Q | \| | \| | \| | V\| |
| 20+20 | 0.1380 | 0.00 | Q | \| | \| | \| | V\| |
| 20+25 | 0.1380 | 0.00 | Q | \| | \| | \| | V\| |
| 20+30 | 0.1380 | 0.00 | Q | \| | \| | \| | V\| |
| 20+35 | 0.1381 | 0.00 | Q | \| | \| | \| | V\| |
| 20+40 | 0.1381 | 0.00 | Q | \| | \| | \| | V\| |
| 20+45 | 0.1381 | 0.00 | Q | \| | \| | \| | V\| |
| 20+50 | 0.1381 | 0.00 | Q | \| | \| | \| | V\| |
| 20+55 | 0.1381 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 0 | 0.1382 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 5 | 0.1382 | 0.00 | Q | \| | \| | \| | V\| |
| 21+10 | 0.1382 | 0.00 | Q | \| | \| | \| | V\| |
| 21+15 | 0.1382 | 0.00 | Q | \| | \| | \| | V\| |
| 21+20 | 0.1382 | 0.00 | Q | \| | \| | \| | V\| |
| 21+25 | 0.1383 | 0.00 | Q | \| | \| | \| | V\| |
| 21+30 | 0.1383 | 0.00 | Q | \| | \| | \| | V\| |
| 21+35 | 0.1383 | 0.00 | Q | \| | \| | \| | V\| |
| 21+40 | 0.1383 | 0.00 | Q | \| | \| | \| | V\| |
| 21+45 | 0.1384 | 0.00 | Q | \| | \| | \| | V\| |
| 21+50 | 0.1384 | 0.00 | Q | \| | \| | \| | V\| |
| 21+55 | 0.1384 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 0 | 0.1384 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 5 | 0.1384 | 0.00 | Q | \| | \| | \| | V\| |
| 22+10 | 0.1385 | 0.00 | Q | \| | \| | \| | V\| |
| 22+15 | 0.1385 | 0.00 | Q | \| | \| | \| | V\| |
| 22+20 | 0.1385 | 0.00 | Q | \| | \| | \| | V\| |
| 22+25 | 0.1385 | 0.00 | Q | \| | \| | \| | V\| |
| 22+30 | 0.1385 | 0.00 | Q | \| | \| | \| | V\| |
| 22+35 | 0.1385 | 0.00 | Q | \| | \| | \| | V\| |
| 22+40 | 0.1386 | 0.00 | Q | \| | \| | \| | V\| |
| 22+45 | 0.1386 | 0.00 | Q | \| | \| | \| | V\| |
| 22+50 | 0.1386 | 0.00 | Q | \| | \| | \| | V\| |
| 22+55 | 0.1386 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 0 | 0.1386 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 5 | 0.1386 | 0.00 | Q | \| | \| | \| | V\| |
| 23+10 | 0.1387 | 0.00 | Q | \| | \| | \| | V\| |
| 23+15 | 0.1387 | 0.00 | Q | \| | \| | \| | V\| |
| 23+20 | 0.1387 | 0.00 | Q | \| | \| | \| | V\| |
| 23+25 | 0.1387 | 0.00 | Q | \| | \| | \| | V\| |
| 23+30 | 0.1387 | 0.00 | Q | \| | \| | \| | V\| |
| 23+35 | 0.1387 | 0.00 | Q | \| | \| | \| | V\| |
| 23+40 | 0.1387 | 0.00 | Q | \| | \| | \| | V\| |
| 23+45 | 0.1388 | 0.00 | Q | \| | \| | \| | V\| |
| 23+50 | 0.1388 | 0.00 | Q | \| | \| | \| | V\| |
| 23+55 | 0.1388 | 0.00 | Q | \| | \| | \| | V\| |
| 24+ 0 | 0.1388 | 0.00 | Q | \| | \| | \| | V\| |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX231100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 23
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.60(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.60(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 207.00(Ft.)
Length along longest watercourse measured to centroid = 116.00(Ft.)
Length along longest watercourse = 0.039 Mi.
Length along longest watercourse measured to centroid = 0.022 Mi.
Difference in elevation = 124.00(Ft.)
Slope along watercourse = 3162.8986 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.012 Hr.
Lag time = 0.75 Min.
25% of lag time = 0.19 Min.
40% of lag time = 0.30 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 0.49 | 0.29 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 1.20 | 0.72 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.490(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.600 | 83.80 | 0.000 |

Total Area Entered = 0.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.8 | 93.3 | 0.087 | 0.000 | 0.087 | 1.000 | 0.087 |
| | | | | | Sum (F) = | 0.087 |

Area averaged mean soil loss (F) (In/Hr) = 0.087

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

---

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 670.185 | 80.129 | 0.485 |
| 2 | 0.167 | 1340.370 | 19.871 | 0.120 |
| | | Sum = 100.000 | Sum= | 0.605 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.087 | ( 0.544) | 0.517 |
| 2 | 0.17 | 4.30 | 0.619 | 0.087 | ( 0.557) | 0.532 |
| 3 | 0.25 | 5.00 | 0.720 | 0.087 | ( 0.648) | 0.633 |
| 4 | 0.33 | 5.00 | 0.720 | 0.087 | ( 0.648) | 0.633 |
| 5 | 0.42 | 5.80 | 0.835 | 0.087 | ( 0.752) | 0.748 |
| 6 | 0.50 | 6.50 | 0.936 | 0.087 | ( 0.842) | 0.849 |
| 7 | 0.58 | 7.40 | 1.066 | 0.087 | ( 0.959) | 0.978 |
| 8 | 0.67 | 8.60 | 1.238 | 0.087 | ( 1.115) | 1.151 |
| 9 | 0.75 | 12.30 | 1.771 | 0.087 | ( 1.594) | 1.684 |
| 10 | 0.83 | 29.10 | 4.190 | 0.087 | ( 3.771) | 4.103 |
| 11 | 0.92 | 6.80 | 0.979 | 0.087 | ( 0.881) | 0.892 |
| 12 | 1.00 | 5.00 | 0.720 | 0.087 | ( 0.648) | 0.633 |
| | | (Loss Rate Not Used) | | | |
| Sum = | 100.0 | | | | Sum = 13.4 |

Flood volume = Effective rainfall 1.11(In)
times area 0.6(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.004(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 2423.3 Cubic Feet
Total soil loss = 190.3 Cubic Feet

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Peak flow rate of this hydrograph = 2.191(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0017 | 0.25 | Q | | | | |
| 0+10 | 0.0039 | 0.32 | QV | | | | |
| 0+15 | 0.0065 | 0.37 | Q V | | | | |
| 0+20 | 0.0091 | 0.38 | Q V | | | | |
| 0+25 | 0.0121 | 0.44 | Q V | | | | |
| 0+30 | 0.0156 | 0.50 | Q V | | | | |
| 0+35 | 0.0196 | 0.58 | Q V | | | | |
| 0+40 | 0.0242 | 0.68 | Q V | | | | |
| 0+45 | 0.0308 | 0.95 | Q V | | | | |
| 0+50 | 0.0459 | 2.19 | Q V | | | | |
| 0+55 | 0.0523 | 0.93 | Q V | | | | |
| 1+ 0 | 0.0551 | 0.41 | Q V | | | | |
| 1+ 5 | 0.0556 | 0.08 | Q V | | | | |

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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX233100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 23
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.60(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.60(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 207.00(Ft.)
Length along longest watercourse measured to centroid = 116.00(Ft.)
Length along longest watercourse = 0.039 Mi.
Length along longest watercourse measured to centroid = 0.022 Mi.
Difference in elevation = 124.00(Ft.)
Slope along watercourse = 3162.8986 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.012 Hr.
Lag time = 0.75 Min.
25% of lag time = 0.19 Min.
40% of lag time = 0.30 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 0.80 | 0.48 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 1.80 | 1.08 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.600 | 83.80 | 0.000 |

Total Area Entered = 0.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.8 | 93.3 | 0.087 | 0.000 | 0.087 | 1.000 | 0.087 |
| | | | | | Sum (F) = | 0.087 |

Area averaged mean soil loss (F) (In/Hr) = 0.087

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 670.185 | 80.129 | 0.485 |
| 2 0.167 | 1340.370 | 19.871 | 0.120 |
| | | Sum = 100.000 Sum= | 0.605 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 1.30 | 0.281 | 0.087 | ( 0.253) | 0.193 |
| 2 0.17 | 1.30 | 0.281 | 0.087 | ( 0.253) | 0.193 |
| 3 0.25 | 1.10 | 0.238 | 0.087 | ( 0.214) | 0.150 |
| 4 0.33 | 1.50 | 0.324 | 0.087 | ( 0.292) | 0.237 |
| 5 0.42 | 1.50 | 0.324 | 0.087 | ( 0.292) | 0.237 |
| 6 0.50 | 1.80 | 0.389 | 0.087 | ( 0.350) | 0.301 |
| 7 0.58 | 1.50 | 0.324 | 0.087 | ( 0.292) | 0.237 |
| 8 0.67 | 1.80 | 0.389 | 0.087 | ( 0.350) | 0.301 |
| 9 0.75 | 1.80 | 0.389 | 0.087 | ( 0.350) | 0.301 |
| 10 0.83 | 1.50 | 0.324 | 0.087 | ( 0.292) | 0.237 |
| 11 0.92 | 1.60 | 0.346 | 0.087 | ( 0.311) | 0.258 |
| 12 1.00 | 1.80 | 0.389 | 0.087 | ( 0.350) | 0.301 |
| 13 1.08 | 2.20 | 0.475 | 0.087 | ( 0.428) | 0.388 |
| 14 1.17 | 2.20 | 0.475 | 0.087 | ( 0.428) | 0.388 |
| 15 1.25 | 2.20 | 0.475 | 0.087 | ( 0.428) | 0.388 |
| 16 1.33 | 2.00 | 0.432 | 0.087 | ( 0.389) | 0.345 |
| 17 1.42 | 2.60 | 0.562 | 0.087 | ( 0.505) | 0.474 |
| 18 1.50 | 2.70 | 0.583 | 0.087 | ( 0.525) | 0.496 |
| 19 1.58 | 2.40 | 0.518 | 0.087 | ( 0.467) | 0.431 |
| 20 1.67 | 2.70 | 0.583 | 0.087 | ( 0.525) | 0.496 |
| 21 1.75 | 3.30 | 0.713 | 0.087 | ( 0.642) | 0.625 |
| 22 1.83 | 3.10 | 0.670 | 0.087 | ( 0.603) | 0.582 |
| 23 1.92 | 2.90 | 0.626 | 0.087 | ( 0.564) | 0.539 |
| 24 2.00 | 3.00 | 0.648 | 0.087 | ( 0.583) | 0.561 |
| 25 2.08 | 3.10 | 0.670 | 0.087 | ( 0.603) | 0.582 |
| 26 2.17 | 4.20 | 0.907 | 0.087 | ( 0.816) | 0.820 |
| 27 2.25 | 5.00 | 1.080 | 0.087 | ( 0.972) | 0.993 |
| 28 2.33 | 3.50 | 0.756 | 0.087 | ( 0.680) | 0.669 |
| 29 2.42 | 6.80 | 1.469 | 0.087 | ( 1.322) | 1.381 |
| 30 2.50 | 7.30 | 1.577 | 0.087 | ( 1.419) | 1.489 |
| 31 2.58 | 8.20 | 1.771 | 0.087 | ( 1.594) | 1.684 |
| 32 2.67 | 5.90 | 1.274 | 0.087 | ( 1.147) | 1.187 |
| 33 2.75 | 2.00 | 0.432 | 0.087 | ( 0.389) | 0.345 |
| 34 2.83 | 1.80 | 0.389 | 0.087 | ( 0.350) | 0.301 |
| 35 2.92 | 1.80 | 0.389 | 0.087 | ( 0.350) | 0.301 |
| 36 3.00 | 0.60 | 0.130 | 0.087 | ( 0.117) | 0.042 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 18.5 |

Flood volume = Effective rainfall 1.54(In)
times area 0.6(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.013(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 3349.6 Cubic Feet
Total soil loss = 570.8 Cubic Feet

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Peak flow rate of this hydrograph = 0.995(CFS)

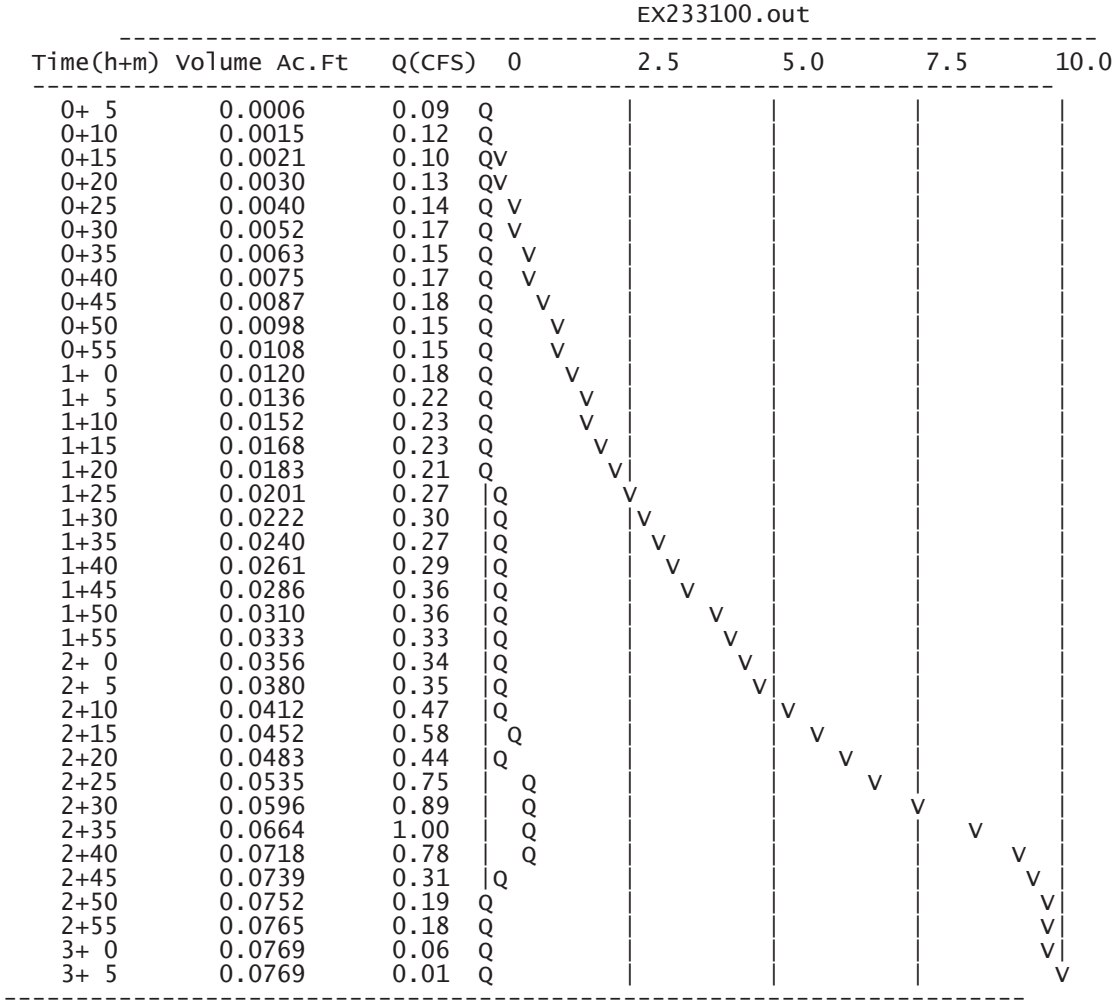
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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))


Time(h+m) Volume Ac.Ft Q(CFS) 0 2.5 5.0 7.5 10.0
0+ 5 0.0006 0.09
0+10 0.0015 0.12
0+15 0.0021 0.10
0+20 0.0030 0.13
0+25 0.0040 0.14
0+30 0.0052 0.17
0+35 0.0063 0.15
0+40 0.0075 0.17
0+45 0.0087 0.18
0+50 0.0098 0.15
0+55 0.0108 0.15
1+ 0 0.0120 0.18
1+ 5 0.0136 0.22
1+10 0.0152 0.23
1+15 0.0168 0.23
1+20 0.0183 0.21
1+25 0.0201 0.27
1+30 0.0222 0.30
1+35 0.0240 0.27
1+40 0.0261 0.29
1+45 0.0286 0.36
1+50 0.0310 0.36
1+55 0.0333 0.33
2+ 0 0.0356 0.34
2+ 5 0.0380 0.35
2+10 0.0412 0.47
2+15 0.0452 0.58
2+20 0.0483 0.44
2+25 0.0535 0.75
2+30 0.0596 0.89
2+35 0.0664 1.00
2+40 0.0718 0.78
2+45 0.0739 0.31
2+50 0.0752 0.19
2+55 0.0765 0.18
3+ 0 0.0769 0.06
3+ 5 0.0769 0.01

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX236100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 23
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.60(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.60(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 207.00(Ft.)
Length along longest watercourse measured to centroid = 116.00(Ft.)
Length along longest watercourse = 0.039 Mi.
Length along longest watercourse measured to centroid = 0.022 Mi.
Difference in elevation = 124.00(Ft.)
Slope along watercourse = 3162.8986 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.012 Hr.
Lag time = 0.75 Min.
25% of lag time = 0.19 Min.
40% of lag time = 0.30 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 1.12 | 0.67 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 2.50 | 1.50 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.120(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.600 | 83.80 | 0.000 |

Total Area Entered = 0.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.8 | 93.3 | 0.087 | 0.000 | 0.087 | 1.000 | 0.087 |
| | | | | | Sum (F) = | 0.087 |

Area averaged mean soil loss (F) (In/Hr) = 0.087

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 670.185 | 80.129 | 0.485 |
| 2 0.167 | 1340.370 | 19.871 | 0.120 |
| | | Sum = 100.000 Sum= | 0.605 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 0.50 | 0.150 | 0.087 | ( 0.135) | 0.063 |
| 2 0.17 | 0.60 | 0.180 | 0.087 | ( 0.162) | 0.093 |
| 3 0.25 | 0.60 | 0.180 | 0.087 | ( 0.162) | 0.093 |
| 4 0.33 | 0.60 | 0.180 | 0.087 | ( 0.162) | 0.093 |
| 5 0.42 | 0.60 | 0.180 | 0.087 | ( 0.162) | 0.093 |
| 6 0.50 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 7 0.58 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 8 0.67 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 9 0.75 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 10 0.83 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 11 0.92 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 12 1.00 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 13 1.08 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 14 1.17 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 15 1.25 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 16 1.33 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 17 1.42 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 18 1.50 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 19 1.58 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 20 1.67 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 21 1.75 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 22 1.83 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 23 1.92 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 24 2.00 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 25 2.08 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 26 2.17 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 27 2.25 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 28 2.33 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 29 2.42 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 30 2.50 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 31 2.58 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 32 2.67 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 33 2.75 | 1.00 | 0.300 | 0.087 | ( 0.270) | 0.213 |
| 34 2.83 | 1.00 | 0.300 | 0.087 | ( 0.270) | 0.213 |
| 35 2.92 | 1.00 | 0.300 | 0.087 | ( 0.270) | 0.213 |
| 36 3.00 | 1.00 | 0.300 | 0.087 | ( 0.270) | 0.213 |
| 37 3.08 | 1.00 | 0.300 | 0.087 | ( 0.270) | 0.213 |
| 38 3.17 | 1.10 | 0.330 | 0.087 | ( 0.297) | 0.243 |
| 39 3.25 | 1.10 | 0.330 | 0.087 | ( 0.297) | 0.243 |
| 40 3.33 | 1.10 | 0.330 | 0.087 | ( 0.297) | 0.243 |
| 41 3.42 | 1.20 | 0.360 | 0.087 | ( 0.324) | 0.273 |
| 42 3.50 | 1.30 | 0.390 | 0.087 | ( 0.351) | 0.303 |
| 43 3.58 | 1.40 | 0.420 | 0.087 | ( 0.378) | 0.333 |
| 44 3.67 | 1.40 | 0.420 | 0.087 | ( 0.378) | 0.333 |
| 45 3.75 | 1.50 | 0.450 | 0.087 | ( 0.405) | 0.363 |
| 46 3.83 | 1.50 | 0.450 | 0.087 | ( 0.405) | 0.363 |
| 47 3.92 | 1.60 | 0.480 | 0.087 | ( 0.432) | 0.393 |
| 48 4.00 | 1.60 | 0.480 | 0.087 | ( 0.432) | 0.393 |
| 49 4.08 | 1.70 | 0.510 | 0.087 | ( 0.459) | 0.423 |
| 50 4.17 | 1.80 | 0.540 | 0.087 | ( 0.486) | 0.453 |
| 51 4.25 | 1.90 | 0.570 | 0.087 | ( 0.513) | 0.483 |
| 52 4.33 | 2.00 | 0.600 | 0.087 | ( 0.540) | 0.513 |
| 53 4.42 | 2.10 | 0.630 | 0.087 | ( 0.567) | 0.543 |
| 54 4.50 | 2.10 | 0.630 | 0.087 | ( 0.567) | 0.543 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 55 | 4.58 | 2.20 | 0.660 | 0.087 | ( 0.594) | 0.573 |
| 56 | 4.67 | 2.30 | 0.690 | 0.087 | ( 0.621) | 0.603 |
| 57 | 4.75 | 2.40 | 0.720 | 0.087 | ( 0.648) | 0.633 |
| 58 | 4.83 | 2.40 | 0.720 | 0.087 | ( 0.648) | 0.633 |
| 59 | 4.92 | 2.50 | 0.750 | 0.087 | ( 0.675) | 0.663 |
| 60 | 5.00 | 2.60 | 0.780 | 0.087 | ( 0.702) | 0.693 |
| 61 | 5.08 | 3.10 | 0.930 | 0.087 | ( 0.837) | 0.843 |
| 62 | 5.17 | 3.60 | 1.080 | 0.087 | ( 0.972) | 0.993 |
| 63 | 5.25 | 3.90 | 1.170 | 0.087 | ( 1.053) | 1.083 |
| 64 | 5.33 | 4.20 | 1.260 | 0.087 | ( 1.134) | 1.173 |
| 65 | 5.42 | 4.70 | 1.410 | 0.087 | ( 1.269) | 1.323 |
| 66 | 5.50 | 5.60 | 1.680 | 0.087 | ( 1.512) | 1.593 |
| 67 | 5.58 | 1.90 | 0.570 | 0.087 | ( 0.513) | 0.483 |
| 68 | 5.67 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 69 | 5.75 | 0.60 | 0.180 | 0.087 | ( 0.162) | 0.093 |
| 70 | 5.83 | 0.50 | 0.150 | 0.087 | ( 0.135) | 0.063 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.087) | 0.081 | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.087) | 0.054 | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.7

Flood volume = Effective rainfall 1.98(In)
times area 0.6(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.52(In)
Total soil loss = 0.026(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 4310.6 Cubic Feet
Total soil loss = 1134.4 Cubic Feet

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Peak flow rate of this hydrograph = 0.931(CFS)

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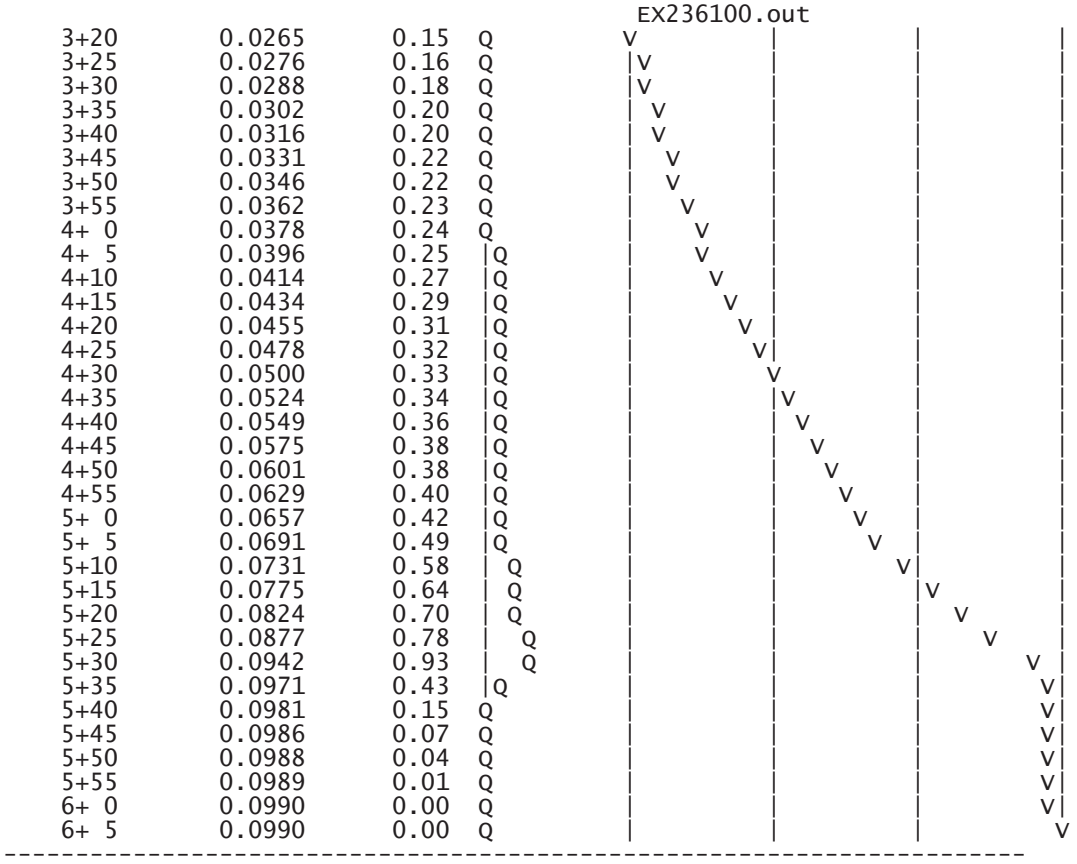
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0002 | 0.03 | Q | | | | |
| 0+10 | 0.0006 | 0.05 | Q | | | | |
| 0+15 | 0.0010 | 0.06 | Q | | | | |
| 0+20 | 0.0013 | 0.06 | Q | | | | |
| 0+25 | 0.0017 | 0.06 | Q | | | | |
| 0+30 | 0.0022 | 0.07 | Q | | | | |
| 0+35 | 0.0027 | 0.07 | QV | | | | |
| 0+40 | 0.0032 | 0.07 | QV | | | | |
| 0+45 | 0.0037 | 0.07 | QV | | | | |
| 0+50 | 0.0043 | 0.07 | QV | | | | |
| 0+55 | 0.0048 | 0.07 | QV | | | | |
| 1+ 0 | 0.0054 | 0.09 | Q V | | | | |
| 1+ 5 | 0.0060 | 0.09 | Q V | | | | |
| 1+10 | 0.0067 | 0.09 | Q V | | | | |
| 1+15 | 0.0073 | 0.09 | Q V | | | | |
| 1+20 | 0.0079 | 0.09 | Q V | | | | |
| 1+25 | 0.0086 | 0.09 | Q V | | | | |
| 1+30 | 0.0092 | 0.09 | Q V | | | | |
| 1+35 | 0.0098 | 0.09 | Q V | | | | |
| 1+40 | 0.0105 | 0.09 | Q V | | | | |
| 1+45 | 0.0111 | 0.09 | Q V | | | | |
| 1+50 | 0.0117 | 0.09 | Q V | | | | |
| 1+55 | 0.0124 | 0.09 | Q V | | | | |
| 2+ 0 | 0.0131 | 0.11 | Q V | | | | |
| 2+ 5 | 0.0138 | 0.10 | Q V | | | | |
| 2+10 | 0.0145 | 0.11 | Q V | | | | |
| 2+15 | 0.0153 | 0.11 | Q V | | | | |
| 2+20 | 0.0160 | 0.11 | Q V | | | | |
| 2+25 | 0.0168 | 0.11 | Q V | | | | |
| 2+30 | 0.0176 | 0.11 | Q V | | | | |
| 2+35 | 0.0183 | 0.11 | Q V | | | | |
| 2+40 | 0.0191 | 0.11 | Q V | | | | |
| 2+45 | 0.0199 | 0.13 | Q V | | | | |
| 2+50 | 0.0208 | 0.13 | Q V | | | | |
| 2+55 | 0.0217 | 0.13 | Q V | | | | |
| 3+ 0 | 0.0226 | 0.13 | Q V | | | | |
| 3+ 5 | 0.0235 | 0.13 | Q V | | | | |
| 3+10 | 0.0245 | 0.14 | Q V | | | | |
| 3+15 | 0.0255 | 0.15 | Q V | | | | |



| | | | |
|---|---|---|---|
| 3+20 | 0.0265 | 0.15 | Q |
| 3+25 | 0.0276 | 0.16 | Q |
| 3+30 | 0.0288 | 0.18 | Q |
| 3+35 | 0.0302 | 0.20 | Q |
| 3+40 | 0.0316 | 0.20 | Q |
| 3+45 | 0.0331 | 0.22 | Q |
| 3+50 | 0.0346 | 0.22 | Q |
| 3+55 | 0.0362 | 0.23 | Q |
| 4+ 0 | 0.0378 | 0.24 | Q |
| 4+ 5 | 0.0396 | 0.25 | Q |
| 4+10 | 0.0414 | 0.27 | Q |
| 4+15 | 0.0434 | 0.29 | Q |
| 4+20 | 0.0455 | 0.31 | Q |
| 4+25 | 0.0478 | 0.32 | Q |
| 4+30 | 0.0500 | 0.33 | Q |
| 4+35 | 0.0524 | 0.34 | Q |
| 4+40 | 0.0549 | 0.36 | Q |
| 4+45 | 0.0575 | 0.38 | Q |
| 4+50 | 0.0601 | 0.38 | Q |
| 4+55 | 0.0629 | 0.40 | Q |
| 5+ 0 | 0.0657 | 0.42 | Q |
| 5+ 5 | 0.0691 | 0.49 | Q |
| 5+10 | 0.0731 | 0.58 | Q |
| 5+15 | 0.0775 | 0.64 | Q |
| 5+20 | 0.0824 | 0.70 | Q |
| 5+25 | 0.0877 | 0.78 | Q |
| 5+30 | 0.0942 | 0.93 | Q |
| 5+35 | 0.0971 | 0.43 | Q |
| 5+40 | 0.0981 | 0.15 | Q |
| 5+45 | 0.0986 | 0.07 | Q |
| 5+50 | 0.0988 | 0.04 | Q |
| 5+55 | 0.0989 | 0.01 | Q |
| 6+ 0 | 0.0990 | 0.00 | Q |
| 6+ 5 | 0.0990 | 0.00 | Q |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX2324100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 23
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 0.60(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.60(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 207.00(Ft.)
Length along longest watercourse measured to centroid = 116.00(Ft.)
Length along longest watercourse = 0.039 Mi.
Length along longest watercourse measured to centroid = 0.022 Mi.
Difference in elevation = 124.00(Ft.)
Slope along watercourse = 3162.8986 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.012 Hr.
Lag time = 0.75 Min.
25% of lag time = 0.19 Min.
40% of lag time = 0.30 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 1.80 | 1.08 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 4.52 | 2.71 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.520(In)

Point rain (area averaged) = 4.520(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.520(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.600 | 83.80 | 0.000 |

Total Area Entered = 0.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.8 | 93.3 | 0.087 | 0.000 | 0.087 | 1.000 | 0.087 |
| | | | | | Sum (F) = | 0.087 |

Area averaged mean soil loss (F) (In/Hr) = 0.087

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 670.185 | 80.129 | 0.485 |
| 2 0.167 | 1340.370 | 19.871 | 0.120 |
| | | Sum = 100.000 | Sum= 0.605 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 0.07 | 0.036 | ( 0.155) | 0.033 | 0.004 |
| 2 0.17 | 0.07 | 0.036 | ( 0.154) | 0.033 | 0.004 |
| 3 0.25 | 0.07 | 0.036 | ( 0.154) | 0.033 | 0.004 |
| 4 0.33 | 0.10 | 0.054 | ( 0.153) | 0.049 | 0.005 |
| 5 0.42 | 0.10 | 0.054 | ( 0.152) | 0.049 | 0.005 |
| 6 0.50 | 0.10 | 0.054 | ( 0.152) | 0.049 | 0.005 |
| 7 0.58 | 0.10 | 0.054 | ( 0.151) | 0.049 | 0.005 |
| 8 0.67 | 0.10 | 0.054 | ( 0.151) | 0.049 | 0.005 |
| 9 0.75 | 0.10 | 0.054 | ( 0.150) | 0.049 | 0.005 |
| 10 0.83 | 0.13 | 0.072 | ( 0.150) | 0.065 | 0.007 |
| 11 0.92 | 0.13 | 0.072 | ( 0.149) | 0.065 | 0.007 |
| 12 1.00 | 0.13 | 0.072 | ( 0.148) | 0.065 | 0.007 |
| 13 1.08 | 0.10 | 0.054 | ( 0.148) | 0.049 | 0.005 |
| 14 1.17 | 0.10 | 0.054 | ( 0.147) | 0.049 | 0.005 |
| 15 1.25 | 0.10 | 0.054 | ( 0.147) | 0.049 | 0.005 |
| 16 1.33 | 0.10 | 0.054 | ( 0.146) | 0.049 | 0.005 |
| 17 1.42 | 0.10 | 0.054 | ( 0.145) | 0.049 | 0.005 |
| 18 1.50 | 0.10 | 0.054 | ( 0.145) | 0.049 | 0.005 |
| 19 1.58 | 0.10 | 0.054 | ( 0.144) | 0.049 | 0.005 |
| 20 1.67 | 0.10 | 0.054 | ( 0.144) | 0.049 | 0.005 |
| 21 1.75 | 0.10 | 0.054 | ( 0.143) | 0.049 | 0.005 |
| 22 1.83 | 0.13 | 0.072 | ( 0.143) | 0.065 | 0.007 |
| 23 1.92 | 0.13 | 0.072 | ( 0.142) | 0.065 | 0.007 |
| 24 2.00 | 0.13 | 0.072 | ( 0.141) | 0.065 | 0.007 |
| 25 2.08 | 0.13 | 0.072 | ( 0.141) | 0.065 | 0.007 |
| 26 2.17 | 0.13 | 0.072 | ( 0.140) | 0.065 | 0.007 |
| 27 2.25 | 0.13 | 0.072 | ( 0.140) | 0.065 | 0.007 |
| 28 2.33 | 0.13 | 0.072 | ( 0.139) | 0.065 | 0.007 |
| 29 2.42 | 0.13 | 0.072 | ( 0.139) | 0.065 | 0.007 |
| 30 2.50 | 0.13 | 0.072 | ( 0.138) | 0.065 | 0.007 |
| 31 2.58 | 0.17 | 0.090 | ( 0.137) | 0.081 | 0.009 |
| 32 2.67 | 0.17 | 0.090 | ( 0.137) | 0.081 | 0.009 |
| 33 2.75 | 0.17 | 0.090 | ( 0.136) | 0.081 | 0.009 |
| 34 2.83 | 0.17 | 0.090 | ( 0.136) | 0.081 | 0.009 |
| 35 2.92 | 0.17 | 0.090 | ( 0.135) | 0.081 | 0.009 |
| 36 3.00 | 0.17 | 0.090 | ( 0.135) | 0.081 | 0.009 |
| 37 3.08 | 0.17 | 0.090 | ( 0.134) | 0.081 | 0.009 |
| 38 3.17 | 0.17 | 0.090 | ( 0.133) | 0.081 | 0.009 |
| 39 3.25 | 0.17 | 0.090 | ( 0.133) | 0.081 | 0.009 |
| 40 3.33 | 0.17 | 0.090 | ( 0.132) | 0.081 | 0.009 |
| 41 3.42 | 0.17 | 0.090 | ( 0.132) | 0.081 | 0.009 |
| 42 3.50 | 0.17 | 0.090 | ( 0.131) | 0.081 | 0.009 |
| 43 3.58 | 0.17 | 0.090 | ( 0.131) | 0.081 | 0.009 |
| 44 3.67 | 0.17 | 0.090 | ( 0.130) | 0.081 | 0.009 |
| 45 3.75 | 0.17 | 0.090 | ( 0.130) | 0.081 | 0.009 |
| 46 3.83 | 0.20 | 0.108 | ( 0.129) | 0.098 | 0.011 |
| 47 3.92 | 0.20 | 0.108 | ( 0.129) | 0.098 | 0.011 |
| 48 4.00 | 0.20 | 0.108 | ( 0.128) | 0.098 | 0.011 |
| 49 4.08 | 0.20 | 0.108 | ( 0.127) | 0.098 | 0.011 |
| 50 4.17 | 0.20 | 0.108 | ( 0.127) | 0.098 | 0.011 |
| 51 4.25 | 0.20 | 0.108 | ( 0.126) | 0.098 | 0.011 |
| 52 4.33 | 0.23 | 0.127 | ( 0.126) | 0.114 | 0.013 |
| 53 4.42 | 0.23 | 0.127 | ( 0.125) | 0.114 | 0.013 |
| 54 4.50 | 0.23 | 0.127 | ( 0.125) | 0.114 | 0.013 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 55 | 4.58 | 0.23 | 0.127 | ( | 0.124) | 0.114 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.127 | ( | 0.124) | 0.114 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.127 | ( | 0.123) | 0.114 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.145 | | 0.123 | ( 0.130) | | 0.022 |
| 59 | 4.92 | 0.27 | 0.145 | | 0.122 | ( 0.130) | | 0.023 |
| 60 | 5.00 | 0.27 | 0.145 | | 0.122 | ( 0.130) | | 0.023 |
| 61 | 5.08 | 0.20 | 0.108 | ( | 0.121) | 0.098 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.108 | ( | 0.121) | 0.098 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.108 | ( | 0.120) | 0.098 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.127 | ( | 0.119) | 0.114 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.127 | ( | 0.119) | 0.114 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.127 | ( | 0.118) | 0.114 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.145 | | 0.118 | ( 0.130) | | 0.027 |
| 68 | 5.67 | 0.27 | 0.145 | | 0.117 | ( 0.130) | | 0.027 |
| 69 | 5.75 | 0.27 | 0.145 | | 0.117 | ( 0.130) | | 0.028 |
| 70 | 5.83 | 0.27 | 0.145 | | 0.116 | ( 0.130) | | 0.028 |
| 71 | 5.92 | 0.27 | 0.145 | | 0.116 | ( 0.130) | | 0.029 |
| 72 | 6.00 | 0.27 | 0.145 | | 0.115 | ( 0.130) | | 0.029 |
| 73 | 6.08 | 0.30 | 0.163 | | 0.115 | ( 0.146) | | 0.048 |
| 74 | 6.17 | 0.30 | 0.163 | | 0.114 | ( 0.146) | | 0.048 |
| 75 | 6.25 | 0.30 | 0.163 | | 0.114 | ( 0.146) | | 0.049 |
| 76 | 6.33 | 0.30 | 0.163 | | 0.113 | ( 0.146) | | 0.049 |
| 77 | 6.42 | 0.30 | 0.163 | | 0.113 | ( 0.146) | | 0.050 |
| 78 | 6.50 | 0.30 | 0.163 | | 0.112 | ( 0.146) | | 0.050 |
| 79 | 6.58 | 0.33 | 0.181 | | 0.112 | ( 0.163) | | 0.069 |
| 80 | 6.67 | 0.33 | 0.181 | | 0.111 | ( 0.163) | | 0.070 |
| 81 | 6.75 | 0.33 | 0.181 | | 0.111 | ( 0.163) | | 0.070 |
| 82 | 6.83 | 0.33 | 0.181 | | 0.110 | ( 0.163) | | 0.071 |
| 83 | 6.92 | 0.33 | 0.181 | | 0.110 | ( 0.163) | | 0.071 |
| 84 | 7.00 | 0.33 | 0.181 | | 0.109 | ( 0.163) | | 0.072 |
| 85 | 7.08 | 0.33 | 0.181 | | 0.109 | ( 0.163) | | 0.072 |
| 86 | 7.17 | 0.33 | 0.181 | | 0.108 | ( 0.163) | | 0.073 |
| 87 | 7.25 | 0.33 | 0.181 | | 0.108 | ( 0.163) | | 0.073 |
| 88 | 7.33 | 0.37 | 0.199 | | 0.107 | ( 0.179) | | 0.092 |
| 89 | 7.42 | 0.37 | 0.199 | | 0.107 | ( 0.179) | | 0.092 |
| 90 | 7.50 | 0.37 | 0.199 | | 0.106 | ( 0.179) | | 0.093 |
| 91 | 7.58 | 0.40 | 0.217 | | 0.106 | ( 0.195) | | 0.111 |
| 92 | 7.67 | 0.40 | 0.217 | | 0.105 | ( 0.195) | | 0.112 |
| 93 | 7.75 | 0.40 | 0.217 | | 0.105 | ( 0.195) | | 0.112 |
| 94 | 7.83 | 0.43 | 0.235 | | 0.104 | ( 0.212) | | 0.131 |
| 95 | 7.92 | 0.43 | 0.235 | | 0.104 | ( 0.212) | | 0.131 |
| 96 | 8.00 | 0.43 | 0.235 | | 0.103 | ( 0.212) | | 0.132 |
| 97 | 8.08 | 0.50 | 0.271 | | 0.103 | ( 0.244) | | 0.168 |
| 98 | 8.17 | 0.50 | 0.271 | | 0.102 | ( 0.244) | | 0.169 |
| 99 | 8.25 | 0.50 | 0.271 | | 0.102 | ( 0.244) | | 0.169 |
| 100 | 8.33 | 0.50 | 0.271 | | 0.101 | ( 0.244) | | 0.170 |
| 101 | 8.42 | 0.50 | 0.271 | | 0.101 | ( 0.244) | | 0.170 |
| 102 | 8.50 | 0.50 | 0.271 | | 0.101 | ( 0.244) | | 0.171 |
| 103 | 8.58 | 0.53 | 0.289 | | 0.100 | ( 0.260) | | 0.189 |
| 104 | 8.67 | 0.53 | 0.289 | | 0.100 | ( 0.260) | | 0.190 |
| 105 | 8.75 | 0.53 | 0.289 | | 0.099 | ( 0.260) | | 0.190 |
| 106 | 8.83 | 0.57 | 0.307 | | 0.099 | ( 0.277) | | 0.209 |
| 107 | 8.92 | 0.57 | 0.307 | | 0.098 | ( 0.277) | | 0.209 |
| 108 | 9.00 | 0.57 | 0.307 | | 0.098 | ( 0.277) | | 0.210 |
| 109 | 9.08 | 0.63 | 0.344 | | 0.097 | ( 0.309) | | 0.246 |
| 110 | 9.17 | 0.63 | 0.344 | | 0.097 | ( 0.309) | | 0.247 |
| 111 | 9.25 | 0.63 | 0.344 | | 0.096 | ( 0.309) | | 0.247 |
| 112 | 9.33 | 0.67 | 0.362 | | 0.096 | ( 0.325) | | 0.266 |
| 113 | 9.42 | 0.67 | 0.362 | | 0.095 | ( 0.325) | | 0.266 |
| 114 | 9.50 | 0.67 | 0.362 | | 0.095 | ( 0.325) | | 0.267 |
| 115 | 9.58 | 0.70 | 0.380 | | 0.095 | ( 0.342) | | 0.285 |
| 116 | 9.67 | 0.70 | 0.380 | | 0.094 | ( 0.342) | | 0.286 |
| 117 | 9.75 | 0.70 | 0.380 | | 0.094 | ( 0.342) | | 0.286 |
| 118 | 9.83 | 0.73 | 0.398 | | 0.093 | ( 0.358) | | 0.305 |
| 119 | 9.92 | 0.73 | 0.398 | | 0.093 | ( 0.358) | | 0.305 |
| 120 | 10.00 | 0.73 | 0.398 | | 0.092 | ( 0.358) | | 0.306 |
| 121 | 10.08 | 0.50 | 0.271 | | 0.092 | ( 0.244) | | 0.179 |
| 122 | 10.17 | 0.50 | 0.271 | | 0.091 | ( 0.244) | | 0.180 |
| 123 | 10.25 | 0.50 | 0.271 | | 0.091 | ( 0.244) | | 0.180 |
| 124 | 10.33 | 0.50 | 0.271 | | 0.090 | ( 0.244) | | 0.181 |
| 125 | 10.42 | 0.50 | 0.271 | | 0.090 | ( 0.244) | | 0.181 |
| 126 | 10.50 | 0.50 | 0.271 | | 0.090 | ( 0.244) | | 0.182 |
| 127 | 10.58 | 0.67 | 0.362 | | 0.089 | ( 0.325) | | 0.272 |
| 128 | 10.67 | 0.67 | 0.362 | | 0.089 | ( 0.325) | | 0.273 |
| 129 | 10.75 | 0.67 | 0.362 | | 0.088 | ( 0.325) | | 0.273 |
| 130 | 10.83 | 0.67 | 0.362 | | 0.088 | ( 0.325) | | 0.274 |
| 131 | 10.92 | 0.67 | 0.362 | | 0.087 | ( 0.325) | | 0.274 |
| 132 | 11.00 | 0.67 | 0.362 | | 0.087 | ( 0.325) | | 0.275 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 133 | 11.08 | 0.63 | 0.344 | 0.087 | ( 0.309) | 0.257 |
| 134 | 11.17 | 0.63 | 0.344 | 0.086 | ( 0.309) | 0.257 |
| 135 | 11.25 | 0.63 | 0.344 | 0.086 | ( 0.309) | 0.258 |
| 136 | 11.33 | 0.63 | 0.344 | 0.085 | ( 0.309) | 0.258 |
| 137 | 11.42 | 0.63 | 0.344 | 0.085 | ( 0.309) | 0.259 |
| 138 | 11.50 | 0.63 | 0.344 | 0.084 | ( 0.309) | 0.259 |
| 139 | 11.58 | 0.57 | 0.307 | 0.084 | ( 0.277) | 0.223 |
| 140 | 11.67 | 0.57 | 0.307 | 0.084 | ( 0.277) | 0.224 |
| 141 | 11.75 | 0.57 | 0.307 | 0.083 | ( 0.277) | 0.224 |
| 142 | 11.83 | 0.60 | 0.325 | 0.083 | ( 0.293) | 0.243 |
| 143 | 11.92 | 0.60 | 0.325 | 0.082 | ( 0.293) | 0.243 |
| 144 | 12.00 | 0.60 | 0.325 | 0.082 | ( 0.293) | 0.243 |
| 145 | 12.08 | 0.83 | 0.452 | 0.082 | ( 0.407) | 0.370 |
| 146 | 12.17 | 0.83 | 0.452 | 0.081 | ( 0.407) | 0.371 |
| 147 | 12.25 | 0.83 | 0.452 | 0.081 | ( 0.407) | 0.371 |
| 148 | 12.33 | 0.87 | 0.470 | 0.080 | ( 0.423) | 0.390 |
| 149 | 12.42 | 0.87 | 0.470 | 0.080 | ( 0.423) | 0.390 |
| 150 | 12.50 | 0.87 | 0.470 | 0.080 | ( 0.423) | 0.391 |
| 151 | 12.58 | 0.93 | 0.506 | 0.079 | ( 0.456) | 0.427 |
| 152 | 12.67 | 0.93 | 0.506 | 0.079 | ( 0.456) | 0.428 |
| 153 | 12.75 | 0.93 | 0.506 | 0.078 | ( 0.456) | 0.428 |
| 154 | 12.83 | 0.97 | 0.524 | 0.078 | ( 0.472) | 0.446 |
| 155 | 12.92 | 0.97 | 0.524 | 0.078 | ( 0.472) | 0.447 |
| 156 | 13.00 | 0.97 | 0.524 | 0.077 | ( 0.472) | 0.447 |
| 157 | 13.08 | 1.13 | 0.615 | 0.077 | ( 0.553) | 0.538 |
| 158 | 13.17 | 1.13 | 0.615 | 0.076 | ( 0.553) | 0.538 |
| 159 | 13.25 | 1.13 | 0.615 | 0.076 | ( 0.553) | 0.539 |
| 160 | 13.33 | 1.13 | 0.615 | 0.076 | ( 0.553) | 0.539 |
| 161 | 13.42 | 1.13 | 0.615 | 0.075 | ( 0.553) | 0.540 |
| 162 | 13.50 | 1.13 | 0.615 | 0.075 | ( 0.553) | 0.540 |
| 163 | 13.58 | 0.77 | 0.416 | 0.074 | ( 0.374) | 0.341 |
| 164 | 13.67 | 0.77 | 0.416 | 0.074 | ( 0.374) | 0.342 |
| 165 | 13.75 | 0.77 | 0.416 | 0.074 | ( 0.374) | 0.342 |
| 166 | 13.83 | 0.77 | 0.416 | 0.073 | ( 0.374) | 0.343 |
| 167 | 13.92 | 0.77 | 0.416 | 0.073 | ( 0.374) | 0.343 |
| 168 | 14.00 | 0.77 | 0.416 | 0.073 | ( 0.374) | 0.343 |
| 169 | 14.08 | 0.90 | 0.488 | 0.072 | ( 0.439) | 0.416 |
| 170 | 14.17 | 0.90 | 0.488 | 0.072 | ( 0.439) | 0.416 |
| 171 | 14.25 | 0.90 | 0.488 | 0.071 | ( 0.439) | 0.417 |
| 172 | 14.33 | 0.87 | 0.470 | 0.071 | ( 0.423) | 0.399 |
| 173 | 14.42 | 0.87 | 0.470 | 0.071 | ( 0.423) | 0.399 |
| 174 | 14.50 | 0.87 | 0.470 | 0.070 | ( 0.423) | 0.400 |
| 175 | 14.58 | 0.87 | 0.470 | 0.070 | ( 0.423) | 0.400 |
| 176 | 14.67 | 0.87 | 0.470 | 0.070 | ( 0.423) | 0.400 |
| 177 | 14.75 | 0.87 | 0.470 | 0.069 | ( 0.423) | 0.401 |
| 178 | 14.83 | 0.83 | 0.452 | 0.069 | ( 0.407) | 0.383 |
| 179 | 14.92 | 0.83 | 0.452 | 0.069 | ( 0.407) | 0.383 |
| 180 | 15.00 | 0.83 | 0.452 | 0.068 | ( 0.407) | 0.384 |
| 181 | 15.08 | 0.80 | 0.434 | 0.068 | ( 0.391) | 0.366 |
| 182 | 15.17 | 0.80 | 0.434 | 0.068 | ( 0.391) | 0.366 |
| 183 | 15.25 | 0.80 | 0.434 | 0.067 | ( 0.391) | 0.367 |
| 184 | 15.33 | 0.77 | 0.416 | 0.067 | ( 0.374) | 0.349 |
| 185 | 15.42 | 0.77 | 0.416 | 0.066 | ( 0.374) | 0.349 |
| 186 | 15.50 | 0.77 | 0.416 | 0.066 | ( 0.374) | 0.350 |
| 187 | 15.58 | 0.63 | 0.344 | 0.066 | ( 0.309) | 0.278 |
| 188 | 15.67 | 0.63 | 0.344 | 0.065 | ( 0.309) | 0.278 |
| 189 | 15.75 | 0.63 | 0.344 | 0.065 | ( 0.309) | 0.278 |
| 190 | 15.83 | 0.63 | 0.344 | 0.065 | ( 0.309) | 0.279 |
| 191 | 15.92 | 0.63 | 0.344 | 0.064 | ( 0.309) | 0.279 |
| 192 | 16.00 | 0.63 | 0.344 | 0.064 | ( 0.309) | 0.279 |
| 193 | 16.08 | 0.13 | 0.072 | 0.064 | ( 0.065) | 0.008 |
| 194 | 16.17 | 0.13 | 0.072 | 0.063 | ( 0.065) | 0.009 |
| 195 | 16.25 | 0.13 | 0.072 | 0.063 | ( 0.065) | 0.009 |
| 196 | 16.33 | 0.13 | 0.072 | 0.063 | ( 0.065) | 0.009 |
| 197 | 16.42 | 0.13 | 0.072 | 0.063 | ( 0.065) | 0.010 |
| 198 | 16.50 | 0.13 | 0.072 | 0.062 | ( 0.065) | 0.010 |
| 199 | 16.58 | 0.10 | 0.054 | ( 0.062) | 0.049 | 0.005 |
| 200 | 16.67 | 0.10 | 0.054 | ( 0.062) | 0.049 | 0.005 |
| 201 | 16.75 | 0.10 | 0.054 | ( 0.061) | 0.049 | 0.005 |
| 202 | 16.83 | 0.10 | 0.054 | ( 0.061) | 0.049 | 0.005 |
| 203 | 16.92 | 0.10 | 0.054 | ( 0.061) | 0.049 | 0.005 |
| 204 | 17.00 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 205 | 17.08 | 0.17 | 0.090 | 0.060 | ( 0.081) | 0.030 |
| 206 | 17.17 | 0.17 | 0.090 | 0.060 | ( 0.081) | 0.031 |
| 207 | 17.25 | 0.17 | 0.090 | 0.059 | ( 0.081) | 0.031 |
| 208 | 17.33 | 0.17 | 0.090 | 0.059 | ( 0.081) | 0.031 |
| 209 | 17.42 | 0.17 | 0.090 | 0.059 | ( 0.081) | 0.032 |
| 210 | 17.50 | 0.17 | 0.090 | 0.059 | ( 0.081) | 0.032 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 211 | 17.58 | 0.17 | 0.090 | | 0.058 | ( | 0.081) | 0.032 |
| 212 | 17.67 | 0.17 | 0.090 | | 0.058 | ( | 0.081) | 0.032 |
| 213 | 17.75 | 0.17 | 0.090 | | 0.058 | ( | 0.081) | 0.033 |
| 214 | 17.83 | 0.13 | 0.072 | | 0.057 | ( | 0.065) | 0.015 |
| 215 | 17.92 | 0.13 | 0.072 | | 0.057 | ( | 0.065) | 0.015 |
| 216 | 18.00 | 0.13 | 0.072 | | 0.057 | ( | 0.065) | 0.015 |
| 217 | 18.08 | 0.13 | 0.072 | | 0.057 | ( | 0.065) | 0.016 |
| 218 | 18.17 | 0.13 | 0.072 | | 0.056 | ( | 0.065) | 0.016 |
| 219 | 18.25 | 0.13 | 0.072 | | 0.056 | ( | 0.065) | 0.016 |
| 220 | 18.33 | 0.13 | 0.072 | | 0.056 | ( | 0.065) | 0.017 |
| 221 | 18.42 | 0.13 | 0.072 | | 0.055 | ( | 0.065) | 0.017 |
| 222 | 18.50 | 0.13 | 0.072 | | 0.055 | ( | 0.065) | 0.017 |
| 223 | 18.58 | 0.10 | 0.054 | ( | 0.055) | | 0.049 | 0.005 |
| 224 | 18.67 | 0.10 | 0.054 | ( | 0.055) | | 0.049 | 0.005 |
| 225 | 18.75 | 0.10 | 0.054 | ( | 0.054) | | 0.049 | 0.005 |
| 226 | 18.83 | 0.07 | 0.036 | ( | 0.054) | | 0.033 | 0.004 |
| 227 | 18.92 | 0.07 | 0.036 | ( | 0.054) | | 0.033 | 0.004 |
| 228 | 19.00 | 0.07 | 0.036 | ( | 0.054) | | 0.033 | 0.004 |
| 229 | 19.08 | 0.10 | 0.054 | ( | 0.053) | | 0.049 | 0.005 |
| 230 | 19.17 | 0.10 | 0.054 | ( | 0.053) | | 0.049 | 0.005 |
| 231 | 19.25 | 0.10 | 0.054 | ( | 0.053) | | 0.049 | 0.005 |
| 232 | 19.33 | 0.13 | 0.072 | | 0.053 | ( | 0.065) | 0.020 |
| 233 | 19.42 | 0.13 | 0.072 | | 0.052 | ( | 0.065) | 0.020 |
| 234 | 19.50 | 0.13 | 0.072 | | 0.052 | ( | 0.065) | 0.020 |
| 235 | 19.58 | 0.10 | 0.054 | ( | 0.052) | | 0.049 | 0.005 |
| 236 | 19.67 | 0.10 | 0.054 | ( | 0.052) | | 0.049 | 0.005 |
| 237 | 19.75 | 0.10 | 0.054 | ( | 0.051) | | 0.049 | 0.005 |
| 238 | 19.83 | 0.07 | 0.036 | ( | 0.051) | | 0.033 | 0.004 |
| 239 | 19.92 | 0.07 | 0.036 | ( | 0.051) | | 0.033 | 0.004 |
| 240 | 20.00 | 0.07 | 0.036 | ( | 0.051) | | 0.033 | 0.004 |
| 241 | 20.08 | 0.10 | 0.054 | ( | 0.051) | | 0.049 | 0.005 |
| 242 | 20.17 | 0.10 | 0.054 | ( | 0.050) | | 0.049 | 0.005 |
| 243 | 20.25 | 0.10 | 0.054 | ( | 0.050) | | 0.049 | 0.005 |
| 244 | 20.33 | 0.10 | 0.054 | ( | 0.050) | | 0.049 | 0.005 |
| 245 | 20.42 | 0.10 | 0.054 | ( | 0.050) | | 0.049 | 0.005 |
| 246 | 20.50 | 0.10 | 0.054 | ( | 0.049) | | 0.049 | 0.005 |
| 247 | 20.58 | 0.10 | 0.054 | ( | 0.049) | | 0.049 | 0.005 |
| 248 | 20.67 | 0.10 | 0.054 | ( | 0.049) | | 0.049 | 0.005 |
| 249 | 20.75 | 0.10 | 0.054 | | 0.049 | ( | 0.049) | 0.005 |
| 250 | 20.83 | 0.07 | 0.036 | ( | 0.049) | | 0.033 | 0.004 |
| 251 | 20.92 | 0.07 | 0.036 | ( | 0.048) | | 0.033 | 0.004 |
| 252 | 21.00 | 0.07 | 0.036 | ( | 0.048) | | 0.033 | 0.004 |
| 253 | 21.08 | 0.10 | 0.054 | | 0.048 | ( | 0.049) | 0.006 |
| 254 | 21.17 | 0.10 | 0.054 | | 0.048 | ( | 0.049) | 0.006 |
| 255 | 21.25 | 0.10 | 0.054 | | 0.048 | ( | 0.049) | 0.007 |
| 256 | 21.33 | 0.07 | 0.036 | ( | 0.047) | | 0.033 | 0.004 |
| 257 | 21.42 | 0.07 | 0.036 | ( | 0.047) | | 0.033 | 0.004 |
| 258 | 21.50 | 0.07 | 0.036 | ( | 0.047) | | 0.033 | 0.004 |
| 259 | 21.58 | 0.10 | 0.054 | | 0.047 | ( | 0.049) | 0.007 |
| 260 | 21.67 | 0.10 | 0.054 | | 0.047 | ( | 0.049) | 0.007 |
| 261 | 21.75 | 0.10 | 0.054 | | 0.047 | ( | 0.049) | 0.008 |
| 262 | 21.83 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 263 | 21.92 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 264 | 22.00 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 265 | 22.08 | 0.10 | 0.054 | | 0.046 | ( | 0.049) | 0.008 |
| 266 | 22.17 | 0.10 | 0.054 | | 0.046 | ( | 0.049) | 0.008 |
| 267 | 22.25 | 0.10 | 0.054 | | 0.046 | ( | 0.049) | 0.009 |
| 268 | 22.33 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 269 | 22.42 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 270 | 22.50 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 271 | 22.58 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 272 | 22.67 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 273 | 22.75 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 274 | 22.83 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 275 | 22.92 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 276 | 23.00 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 277 | 23.08 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 278 | 23.17 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 279 | 23.25 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 280 | 23.33 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 281 | 23.42 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 284 | 23.67 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 285 | 23.75 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 286 | 23.83 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 287 | 23.92 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 288 | 24.00 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |

(Loss Rate Not Used)
Sum = 100.0 Sum = 33.6
Flood volume = Effective rainfall 2.80(In)
times area 0.6(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 1.72(In)
Total soil loss = 0.086(Ac.Ft)
Total rainfall = 4.52(In)
Flood volume = 6094.8 Cubic Feet
Total soil loss = 3749.8 Cubic Feet

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Peak flow rate of this hydrograph = 0.327(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0000 | 0.00 | Q | | | | |
| 0+10 | 0.0000 | 0.00 | Q | | | | |
| 0+15 | 0.0000 | 0.00 | Q | | | | |
| 0+20 | 0.0001 | 0.00 | Q | | | | |
| 0+25 | 0.0001 | 0.00 | Q | | | | |
| 0+30 | 0.0001 | 0.00 | Q | | | | |
| 0+35 | 0.0001 | 0.00 | Q | | | | |
| 0+40 | 0.0002 | 0.00 | Q | | | | |
| 0+45 | 0.0002 | 0.00 | Q | | | | |
| 0+50 | 0.0002 | 0.00 | Q | | | | |
| 0+55 | 0.0002 | 0.00 | Q | | | | |
| 1+ 0 | 0.0003 | 0.00 | Q | | | | |
| 1+ 5 | 0.0003 | 0.00 | Q | | | | |
| 1+10 | 0.0003 | 0.00 | Q | | | | |
| 1+15 | 0.0003 | 0.00 | Q | | | | |
| 1+20 | 0.0004 | 0.00 | Q | | | | |
| 1+25 | 0.0004 | 0.00 | Q | | | | |
| 1+30 | 0.0004 | 0.00 | Q | | | | |
| 1+35 | 0.0004 | 0.00 | Q | | | | |
| 1+40 | 0.0004 | 0.00 | Q | | | | |
| 1+45 | 0.0005 | 0.00 | Q | | | | |
| 1+50 | 0.0005 | 0.00 | Q | | | | |
| 1+55 | 0.0005 | 0.00 | Q | | | | |
| 2+ 0 | 0.0006 | 0.00 | Q | | | | |
| 2+ 5 | 0.0006 | 0.00 | Q | | | | |
| 2+10 | 0.0006 | 0.00 | Q | | | | |
| 2+15 | 0.0006 | 0.00 | Q | | | | |
| 2+20 | 0.0007 | 0.00 | Q | | | | |
| 2+25 | 0.0007 | 0.00 | Q | | | | |
| 2+30 | 0.0007 | 0.00 | Q | | | | |
| 2+35 | 0.0008 | 0.01 | Q | | | | |
| 2+40 | 0.0008 | 0.01 | Q | | | | |
| 2+45 | 0.0009 | 0.01 | Q | | | | |
| 2+50 | 0.0009 | 0.01 | Q | | | | |
| 2+55 | 0.0009 | 0.01 | Q | | | | |
| 3+ 0 | 0.0010 | 0.01 | Q | | | | |
| 3+ 5 | 0.0010 | 0.01 | Q | | | | |
| 3+10 | 0.0010 | 0.01 | Q | | | | |
| 3+15 | 0.0011 | 0.01 | Q | | | | |
| 3+20 | 0.0011 | 0.01 | Q | | | | |
| 3+25 | 0.0012 | 0.01 | Q | | | | |
| 3+30 | 0.0012 | 0.01 | Q | | | | |
| 3+35 | 0.0012 | 0.01 | Q | | | | |
| 3+40 | 0.0013 | 0.01 | Q | | | | |
| 3+45 | 0.0013 | 0.01 | Q | | | | |
| 3+50 | 0.0013 | 0.01 | Q | | | | |
| 3+55 | 0.0014 | 0.01 | Q | | | | |
| 4+ 0 | 0.0014 | 0.01 | Q | | | | |
| 4+ 5 | 0.0015 | 0.01 | Q | | | | |
| 4+10 | 0.0015 | 0.01 | Q | | | | |
| 4+15 | 0.0016 | 0.01 | Q | | | | |
| 4+20 | 0.0016 | 0.01 | Q | | | | |
| 4+25 | 0.0017 | 0.01 | Q | | | | |
| 4+30 | 0.0017 | 0.01 | Q | | | | |
| 4+35 | 0.0018 | 0.01 | Q | | | | |
| 4+40 | 0.0018 | 0.01 | Q | | | | |
| 4+45 | 0.0019 | 0.01 | Q | | | | |

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 4+50       0.0020      0.01  Q          |          |          |          |
 4+55       0.0021      0.01  Q          |          |          |          |
 5+ 0       0.0022      0.01  Q          |          |          |          |
 5+ 5       0.0022      0.01  Q          |          |          |          |
 5+10       0.0023      0.01  Q          |          |          |          |
 5+15       0.0023      0.01  Q          |          |          |          |
 5+20       0.0024      0.01  Q          |          |          |          |
 5+25       0.0024      0.01  Q          |          |          |          |
 5+30       0.0025      0.01  Q          |          |          |          |
 5+35       0.0026      0.01  Q          |          |          |          |
 5+40       0.0027      0.02  Q          |          |          |          |
 5+45       0.0028      0.02  Q          |          |          |          |
 5+50       0.0029      0.02  Q          |          |          |          |
 5+55       0.0030      0.02  Q          |          |          |          |
 6+ 0       0.0032      0.02  Q          |          |          |          |
 6+ 5       0.0033      0.03  Q          |          |          |          |
 6+10       0.0035      0.03  QV         |          |          |          |
 6+15       0.0037      0.03  QV         |          |          |          |
 6+20       0.0039      0.03  QV         |          |          |          |
 6+25       0.0042      0.03  QV         |          |          |          |
 6+30       0.0044      0.03  QV         |          |          |          |
 6+35       0.0046      0.04  QV         |          |          |          |
 6+40       0.0049      0.04  QV         |          |          |          |
 6+45       0.0052      0.04  QV         |          |          |          |
 6+50       0.0055      0.04  QV         |          |          |          |
 6+55       0.0058      0.04  QV         |          |          |          |
 7+ 0       0.0061      0.04  QV         |          |          |          |
 7+ 5       0.0064      0.04  QV         |          |          |          |
 7+10       0.0067      0.04  QV         |          |          |          |
 7+15       0.0070      0.04  Q V        |          |          |          |
 7+20       0.0074      0.05  Q V        |          |          |          |
 7+25       0.0078      0.06  Q V        |          |          |          |
 7+30       0.0081      0.06  Q V        |          |          |          |
 7+35       0.0086      0.07  Q V        |          |          |          |
 7+40       0.0091      0.07  Q V        |          |          |          |
 7+45       0.0095      0.07  Q V        |          |          |          |
 7+50       0.0101      0.08  Q V        |          |          |          |
 7+55       0.0106      0.08  Q  V       |          |          |          |
 8+ 0       0.0111      0.08  Q  V       |          |          |          |
 8+ 5       0.0118      0.10  Q  V       |          |          |          |
 8+10       0.0125      0.10  Q  V       |          |          |          |
 8+15       0.0132      0.10  Q  V       |          |          |          |
 8+20       0.0139      0.10  Q  V       |          |          |          |
 8+25       0.0146      0.10  Q   V      |          |          |          |
 8+30       0.0154      0.10  Q   V      |          |          |          |
 8+35       0.0161      0.11  Q   V      |          |          |          |
 8+40       0.0169      0.11  Q   V      |          |          |          |
 8+45       0.0177      0.11  Q    V     |          |          |          |
 8+50       0.0186      0.12  Q    V     |          |          |          |
 8+55       0.0194      0.13  Q    V     |          |          |          |
 9+ 0       0.0203      0.13  Q    V     |          |          |          |
 9+ 5       0.0213      0.14  Q     V    |          |          |          |
 9+10       0.0223      0.15  Q     V    |          |          |          |
 9+15       0.0234      0.15  Q     V    |          |          |          |
 9+20       0.0244      0.16  Q     V    |          |          |          |
 9+25       0.0256      0.16  Q      V   |          |          |          |
 9+30       0.0267      0.16  Q      V   |          |          |          |
 9+35       0.0278      0.17  Q      V   |          |          |          |
 9+40       0.0290      0.17  Q       V  |          |          |          |
 9+45       0.0302      0.17  Q       V  |          |          |          |
 9+50       0.0315      0.18  Q       V  |          |          |          |
 9+55       0.0327      0.18  Q        V |          |          |          |
10+ 0       0.0340      0.18  Q        V |          |          |          |
10+ 5       0.0349      0.12  Q        V |          |          |          |
10+10       0.0356      0.11  Q         V          |          |          |
10+15       0.0364      0.11  Q         V          |          |          |
10+20       0.0371      0.11  Q         V          |          |          |
10+25       0.0379      0.11  Q         V          |          |          |
10+30       0.0386      0.11  Q         |V         |          |          |
10+35       0.0397      0.15  Q         |V         |          |          |
10+40       0.0408      0.17  Q         |V         |          |          |
10+45       0.0420      0.17  Q         |V         |          |          |
10+50       0.0431      0.17  Q         | V        |          |          |
10+55       0.0443      0.17  Q         | V        |          |          |
11+ 0       0.0454      0.17  Q         | V        |          |          |
11+ 5       0.0465      0.16  Q         |  V       |          |          |
11+10       0.0476      0.16  Q         |  V       |          |          |
11+15       0.0486      0.16  Q         |  V       |          |          |
```

```
11+20       0.0497      0.16  Q          |    V      |           |           |
11+25       0.0508      0.16  Q          |    V      |           |           |
11+30       0.0519      0.16  Q          |    V      |           |           |
11+35       0.0528      0.14  Q          |     V     |           |           |
11+40       0.0538      0.14  Q          |     V     |           |           |
11+45       0.0547      0.14  Q          |     V     |           |           |
11+50       0.0557      0.14  Q          |     V     |           |           |
11+55       0.0567      0.15  Q          |      V    |           |           |
12+ 0       0.0577      0.15  Q          |      V    |           |           |
12+ 5       0.0591      0.21  Q          |      V    |           |           |
12+10       0.0607      0.22  Q          |       V   |           |           |
12+15       0.0622      0.22  Q          |       V   |           |           |
12+20       0.0638      0.23  Q          |        V  |           |           |
12+25       0.0655      0.24  Q          |        V  |           |           |
12+30       0.0671      0.24  Q          |         V |           |           |
12+35       0.0688      0.25  |Q         |         V |           |           |
12+40       0.0706      0.26  |Q         |          V|           |           |
12+45       0.0724      0.26  |Q         |          V|           |           |
12+50       0.0743      0.27  |Q         |           V           |           |
12+55       0.0761      0.27  |Q         |           V           |           |
13+ 0       0.0780      0.27  |Q         |            V          |           |
13+ 5       0.0801      0.31  |Q         |            V          |           |
13+10       0.0824      0.33  |Q         |             V         |           |
13+15       0.0846      0.33  |Q         |              V        |           |
13+20       0.0869      0.33  |Q         |              V        |           |
13+25       0.0891      0.33  |Q         |               V       |           |
13+30       0.0914      0.33  |Q         |                V      |           |
13+35       0.0930      0.23  Q          |                V      |           |
13+40       0.0944      0.21  Q          |                V      |           |
13+45       0.0958      0.21  Q          |                 V     |           |
13+50       0.0972      0.21  Q          |                 V     |           |
13+55       0.0987      0.21  Q          |                  V    |           |
14+ 0       0.1001      0.21  Q          |                  V    |           |
14+ 5       0.1018      0.24  Q          |                   V   |           |
14+10       0.1035      0.25  |Q         |                   V   |           |
14+15       0.1052      0.25  |Q         |                    V  |           |
14+20       0.1069      0.24  Q          |                    V  |           |
14+25       0.1086      0.24  Q          |                     V |           |
14+30       0.1102      0.24  Q          |                     V |           |
14+35       0.1119      0.24  Q          |                     V |           |
14+40       0.1136      0.24  Q          |                      V|           |
14+45       0.1153      0.24  Q          |                      V|           |
14+50       0.1169      0.23  Q          |                       V           |
14+55       0.1185      0.23  Q          |                       V           |
15+ 0       0.1201      0.23  Q          |                        V          |
15+ 5       0.1216      0.22  Q          |                        V          |
15+10       0.1231      0.22  Q          |                         V         |
15+15       0.1247      0.22  Q          |                         V         |
15+20       0.1261      0.21  Q          |                          V        |
15+25       0.1276      0.21  Q          |                          V        |
15+30       0.1290      0.21  Q          |                          V        |
15+35       0.1303      0.18  Q          |                           V       |
15+40       0.1314      0.17  Q          |                           V       |
15+45       0.1326      0.17  Q          |                           V       |
15+50       0.1337      0.17  Q          |                            V      |
15+55       0.1349      0.17  Q          |                            V      |
16+ 0       0.1361      0.17  Q          |                            V      |
16+ 5       0.1363      0.04  Q          |                            V      |
16+10       0.1364      0.01  Q          |                            V      |
16+15       0.1364      0.01  Q          |                            V      |
16+20       0.1364      0.01  Q          |                             V|
16+25       0.1365      0.01  Q          |                             V|
16+30       0.1365      0.01  Q          |                             V|
16+35       0.1365      0.00  Q          |                             V|
16+40       0.1366      0.00  Q          |                             V|
16+45       0.1366      0.00  Q          |                             V|
16+50       0.1366      0.00  Q          |                             V|
16+55       0.1366      0.00  Q          |                             V|
17+ 0       0.1367      0.00  Q          |                             V|
17+ 5       0.1368      0.02  Q          |                             V|
17+10       0.1369      0.02  Q          |                             V|
17+15       0.1370      0.02  Q          |                             V|
17+20       0.1371      0.02  Q          |                             V|
17+25       0.1373      0.02  Q          |                             V|
17+30       0.1374      0.02  Q          |                             V|
17+35       0.1375      0.02  Q          |                             V|
17+40       0.1377      0.02  Q          |                             V|
17+45       0.1378      0.02  Q          |                             V|
```

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+50 | 0.1379 | 0.01 | Q | \| | \| | \| | V\| |
| 17+55 | 0.1380 | 0.01 | Q | \| | \| | \| | V\| |
| 18+ 0 | 0.1380 | 0.01 | Q | \| | \| | \| | V\| |
| 18+ 5 | 0.1381 | 0.01 | Q | \| | \| | \| | V\| |
| 18+10 | 0.1381 | 0.01 | Q | \| | \| | \| | V\| |
| 18+15 | 0.1382 | 0.01 | Q | \| | \| | \| | V\| |
| 18+20 | 0.1383 | 0.01 | Q | \| | \| | \| | V\| |
| 18+25 | 0.1384 | 0.01 | Q | \| | \| | \| | V\| |
| 18+30 | 0.1384 | 0.01 | Q | \| | \| | \| | V\| |
| 18+35 | 0.1385 | 0.00 | Q | \| | \| | \| | V\| |
| 18+40 | 0.1385 | 0.00 | Q | \| | \| | \| | V\| |
| 18+45 | 0.1385 | 0.00 | Q | \| | \| | \| | V\| |
| 18+50 | 0.1385 | 0.00 | Q | \| | \| | \| | V\| |
| 18+55 | 0.1385 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 0 | 0.1385 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 5 | 0.1386 | 0.00 | Q | \| | \| | \| | V\| |
| 19+10 | 0.1386 | 0.00 | Q | \| | \| | \| | V\| |
| 19+15 | 0.1386 | 0.00 | Q | \| | \| | \| | V\| |
| 19+20 | 0.1387 | 0.01 | Q | \| | \| | \| | V\| |
| 19+25 | 0.1388 | 0.01 | Q | \| | \| | \| | V\| |
| 19+30 | 0.1389 | 0.01 | Q | \| | \| | \| | V\| |
| 19+35 | 0.1389 | 0.01 | Q | \| | \| | \| | V\| |
| 19+40 | 0.1389 | 0.00 | Q | \| | \| | \| | V\| |
| 19+45 | 0.1389 | 0.00 | Q | \| | \| | \| | V\| |
| 19+50 | 0.1389 | 0.00 | Q | \| | \| | \| | V\| |
| 19+55 | 0.1390 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 0 | 0.1390 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 5 | 0.1390 | 0.00 | Q | \| | \| | \| | V\| |
| 20+10 | 0.1390 | 0.00 | Q | \| | \| | \| | V\| |
| 20+15 | 0.1390 | 0.00 | Q | \| | \| | \| | V\| |
| 20+20 | 0.1391 | 0.00 | Q | \| | \| | \| | V\| |
| 20+25 | 0.1391 | 0.00 | Q | \| | \| | \| | V\| |
| 20+30 | 0.1391 | 0.00 | Q | \| | \| | \| | V\| |
| 20+35 | 0.1391 | 0.00 | Q | \| | \| | \| | V\| |
| 20+40 | 0.1392 | 0.00 | Q | \| | \| | \| | V\| |
| 20+45 | 0.1392 | 0.00 | Q | \| | \| | \| | V\| |
| 20+50 | 0.1392 | 0.00 | Q | \| | \| | \| | V\| |
| 20+55 | 0.1392 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 0 | 0.1392 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 5 | 0.1393 | 0.00 | Q | \| | \| | \| | V\| |
| 21+10 | 0.1393 | 0.00 | Q | \| | \| | \| | V\| |
| 21+15 | 0.1393 | 0.00 | Q | \| | \| | \| | V\| |
| 21+20 | 0.1393 | 0.00 | Q | \| | \| | \| | V\| |
| 21+25 | 0.1393 | 0.00 | Q | \| | \| | \| | V\| |
| 21+30 | 0.1394 | 0.00 | Q | \| | \| | \| | V\| |
| 21+35 | 0.1394 | 0.00 | Q | \| | \| | \| | V\| |
| 21+40 | 0.1394 | 0.00 | Q | \| | \| | \| | V\| |
| 21+45 | 0.1394 | 0.00 | Q | \| | \| | \| | V\| |
| 21+50 | 0.1395 | 0.00 | Q | \| | \| | \| | V\| |
| 21+55 | 0.1395 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 0 | 0.1395 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 5 | 0.1395 | 0.00 | Q | \| | \| | \| | V\| |
| 22+10 | 0.1396 | 0.01 | Q | \| | \| | \| | V\| |
| 22+15 | 0.1396 | 0.01 | Q | \| | \| | \| | V\| |
| 22+20 | 0.1396 | 0.00 | Q | \| | \| | \| | V\| |
| 22+25 | 0.1396 | 0.00 | Q | \| | \| | \| | V\| |
| 22+30 | 0.1396 | 0.00 | Q | \| | \| | \| | V\| |
| 22+35 | 0.1397 | 0.00 | Q | \| | \| | \| | V\| |
| 22+40 | 0.1397 | 0.00 | Q | \| | \| | \| | V\| |
| 22+45 | 0.1397 | 0.00 | Q | \| | \| | \| | V\| |
| 22+50 | 0.1397 | 0.00 | Q | \| | \| | \| | V\| |
| 22+55 | 0.1397 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 0 | 0.1397 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 5 | 0.1397 | 0.00 | Q | \| | \| | \| | V\| |
| 23+10 | 0.1398 | 0.00 | Q | \| | \| | \| | V\| |
| 23+15 | 0.1398 | 0.00 | Q | \| | \| | \| | V\| |
| 23+20 | 0.1398 | 0.00 | Q | \| | \| | \| | V\| |
| 23+25 | 0.1398 | 0.00 | Q | \| | \| | \| | V\| |
| 23+30 | 0.1398 | 0.00 | Q | \| | \| | \| | V\| |
| 23+35 | 0.1398 | 0.00 | Q | \| | \| | \| | V\| |
| 23+40 | 0.1399 | 0.00 | Q | \| | \| | \| | V\| |
| 23+45 | 0.1399 | 0.00 | Q | \| | \| | \| | V\| |
| 23+50 | 0.1399 | 0.00 | Q | \| | \| | \| | V\| |
| 23+55 | 0.1399 | 0.00 | Q | \| | \| | \| | V\| |
| 24+ 0 | 0.1399 | 0.00 | Q | \| | \| | \| | V\| |
| 24+ 5 | 0.1399 | 0.00 | Q | \| | \| | \| | V\| |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX241100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 24
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.70(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.70(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 246.00(Ft.)
Length along longest watercourse measured to centroid = 132.00(Ft.)
Length along longest watercourse = 0.047 Mi.
Length along longest watercourse measured to centroid = 0.025 Mi.
Difference in elevation = 140.00(Ft.)
Slope along watercourse = 3004.8780 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.014 Hr.
Lag time = 0.84 Min.
25% of lag time = 0.21 Min.
40% of lag time = 0.34 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.70 | 0.49 | 0.34 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.70 | 1.20 | 0.84 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.490(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.700 | 84.00 | 0.000 |

Total Area Entered = 0.70(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

---

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 591.773 | 77.520 | 0.547 |
| 2 | 0.167 | 1183.545 | 22.480 | 0.159 |
| | | Sum = 100.000 | Sum= 0.705 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.086 | ( 0.544) | 0.519 |
| 2 | 0.17 | 4.30 | 0.619 | 0.086 | ( 0.557) | 0.533 |
| 3 | 0.25 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 4 | 0.33 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 5 | 0.42 | 5.80 | 0.835 | 0.086 | ( 0.752) | 0.749 |
| 6 | 0.50 | 6.50 | 0.936 | 0.086 | ( 0.842) | 0.850 |
| 7 | 0.58 | 7.40 | 1.066 | 0.086 | ( 0.959) | 0.980 |
| 8 | 0.67 | 8.60 | 1.238 | 0.086 | ( 1.115) | 1.153 |
| 9 | 0.75 | 12.30 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 10 | 0.83 | 29.10 | 4.190 | 0.086 | ( 3.771) | 4.105 |
| 11 | 0.92 | 6.80 | 0.979 | 0.086 | ( 0.881) | 0.893 |
| 12 | 1.00 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 13.4 |

Flood volume = Effective rainfall 1.11(In)
times area 0.7(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.005(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 2831.2 Cubic Feet
Total soil loss = 218.0 Cubic Feet

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Peak flow rate of this hydrograph = 2.513(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0020 | 0.28 | Q | | | | |
| 0+10 | 0.0045 | 0.37 | QV | | | | |
| 0+15 | 0.0075 | 0.43 | Q V | | | | |
| 0+20 | 0.0106 | 0.45 | Q V | | | | |
| 0+25 | 0.0141 | 0.51 | Q V | | | | |
| 0+30 | 0.0181 | 0.58 | Q V | | | | |
| 0+35 | 0.0227 | 0.67 | Q V | | | | |
| 0+40 | 0.0282 | 0.79 | Q V | | | | |
| 0+45 | 0.0358 | 1.11 | Q V | | | | |
| 0+50 | 0.0531 | 2.51 | Q V | | | | |
| 0+55 | 0.0609 | 1.14 | Q V | | | | |
| 1+ 0 | 0.0643 | 0.49 | Q V | | | | |
| 1+ 5 | 0.0650 | 0.10 | Q V | | | | |

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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX243100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 24
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.70(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.70(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 246.00(Ft.)
Length along longest watercourse measured to centroid = 132.00(Ft.)
Length along longest watercourse = 0.047 Mi.
Length along longest watercourse measured to centroid = 0.025 Mi.
Difference in elevation = 140.00(Ft.)
Slope along watercourse = 3004.8780 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.014 Hr.
Lag time = 0.84 Min.
25% of lag time = 0.21 Min.
40% of lag time = 0.34 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.70 | 0.80 | 0.56 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.70 | 1.80 | 1.26 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.700 | 84.00 | 0.000 |

Total Area Entered = 0.70(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 591.773 | 77.520 | 0.547 |
| 2 0.167 | 1183.545 | 22.480 | 0.159 |
| | | Sum = 100.000 Sum= | 0.705 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 1.30 | 0.281 | 0.086 | ( 0.253) | 0.195 |
| 2 0.17 | 1.30 | 0.281 | 0.086 | ( 0.253) | 0.195 |
| 3 0.25 | 1.10 | 0.238 | 0.086 | ( 0.214) | 0.152 |
| 4 0.33 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 5 0.42 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 6 0.50 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 7 0.58 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 8 0.67 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 9 0.75 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 10 0.83 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 11 0.92 | 1.60 | 0.346 | 0.086 | ( 0.311) | 0.260 |
| 12 1.00 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 13 1.08 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 14 1.17 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 15 1.25 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 16 1.33 | 2.00 | 0.432 | 0.086 | ( 0.389) | 0.346 |
| 17 1.42 | 2.60 | 0.562 | 0.086 | ( 0.505) | 0.476 |
| 18 1.50 | 2.70 | 0.583 | 0.086 | ( 0.525) | 0.497 |
| 19 1.58 | 2.40 | 0.518 | 0.086 | ( 0.467) | 0.433 |
| 20 1.67 | 2.70 | 0.583 | 0.086 | ( 0.525) | 0.497 |
| 21 1.75 | 3.30 | 0.713 | 0.086 | ( 0.642) | 0.627 |
| 22 1.83 | 3.10 | 0.670 | 0.086 | ( 0.603) | 0.584 |
| 23 1.92 | 2.90 | 0.626 | 0.086 | ( 0.564) | 0.541 |
| 24 2.00 | 3.00 | 0.648 | 0.086 | ( 0.583) | 0.562 |
| 25 2.08 | 3.10 | 0.670 | 0.086 | ( 0.603) | 0.584 |
| 26 2.17 | 4.20 | 0.907 | 0.086 | ( 0.816) | 0.821 |
| 27 2.25 | 5.00 | 1.080 | 0.086 | ( 0.972) | 0.994 |
| 28 2.33 | 3.50 | 0.756 | 0.086 | ( 0.680) | 0.670 |
| 29 2.42 | 6.80 | 1.469 | 0.086 | ( 1.322) | 1.383 |
| 30 2.50 | 7.30 | 1.577 | 0.086 | ( 1.419) | 1.491 |
| 31 2.58 | 8.20 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 32 2.67 | 5.90 | 1.274 | 0.086 | ( 1.147) | 1.189 |
| 33 2.75 | 2.00 | 0.432 | 0.086 | ( 0.389) | 0.346 |
| 34 2.83 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 35 2.92 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 36 3.00 | 0.60 | 0.130 | 0.086 | ( 0.117) | 0.044 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 18.5 |

Flood volume = Effective rainfall 1.54(In)
times area 0.7(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.015(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 3919.7 Cubic Feet
Total soil loss = 654.1 Cubic Feet

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Peak flow rate of this hydrograph = 1.159(CFS)

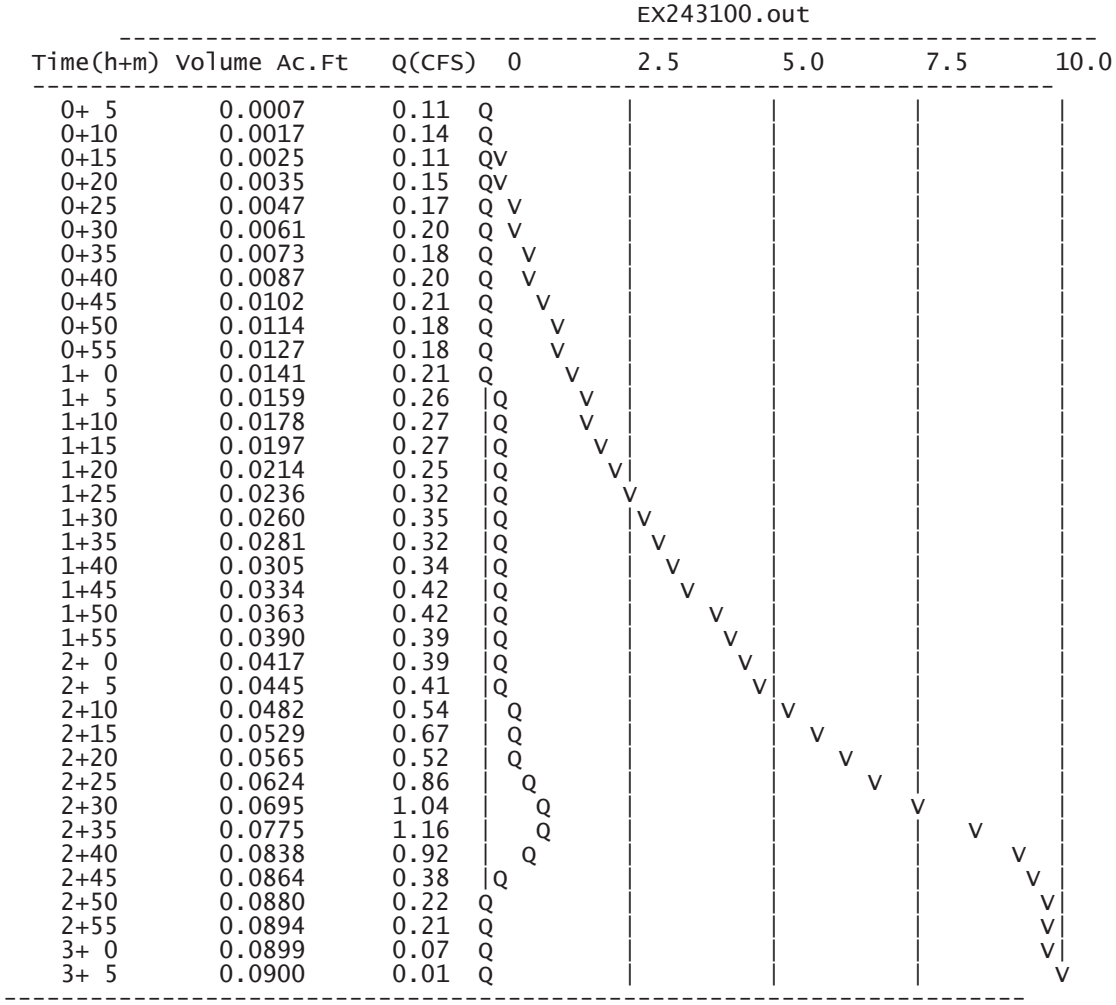
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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))


Time(h+m) Volume Ac.Ft Q(CFS) 0 2.5 5.0 7.5 10.0
0+ 5 0.0007 0.11
0+10 0.0017 0.14
0+15 0.0025 0.11
0+20 0.0035 0.15
0+25 0.0047 0.17
0+30 0.0061 0.20
0+35 0.0073 0.18
0+40 0.0087 0.20
0+45 0.0102 0.21
0+50 0.0114 0.18
0+55 0.0127 0.18
1+ 0 0.0141 0.21
1+ 5 0.0159 0.26
1+10 0.0178 0.27
1+15 0.0197 0.27
1+20 0.0214 0.25
1+25 0.0236 0.32
1+30 0.0260 0.35
1+35 0.0281 0.32
1+40 0.0305 0.34
1+45 0.0334 0.42
1+50 0.0363 0.42
1+55 0.0390 0.39
2+ 0 0.0417 0.39
2+ 5 0.0445 0.41
2+10 0.0482 0.54
2+15 0.0529 0.67
2+20 0.0565 0.52
2+25 0.0624 0.86
2+30 0.0695 1.04
2+35 0.0775 1.16
2+40 0.0838 0.92
2+45 0.0864 0.38
2+50 0.0880 0.22
2+55 0.0894 0.21
3+ 0 0.0899 0.07
3+ 5 0.0900 0.01

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX246100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 24
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.70(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.70(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 246.00(Ft.)
Length along longest watercourse measured to centroid = 132.00(Ft.)
Length along longest watercourse = 0.047 Mi.
Length along longest watercourse measured to centroid = 0.025 Mi.
Difference in elevation = 140.00(Ft.)
Slope along watercourse = 3004.8780 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.014 Hr.
Lag time = 0.84 Min.
25% of lag time = 0.21 Min.
40% of lag time = 0.34 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.70 | 1.12 | 0.78 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.70 | 2.50 | 1.75 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.120(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.700 | 84.00 | 0.000 |

Total Area Entered = 0.70(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 591.773 | 77.520 | 0.547 |
| 2 | 0.167 | 1183.545 | 22.480 | 0.159 |
| | | | Sum = 100.000 Sum= | 0.705 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.086 | ( 0.135) | 0.064 |
| 2 | 0.17 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 3 | 0.25 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 4 | 0.33 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 5 | 0.42 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 6 | 0.50 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 7 | 0.58 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 8 | 0.67 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 9 | 0.75 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 10 | 0.83 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 11 | 0.92 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 12 | 1.00 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 13 | 1.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 14 | 1.17 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 15 | 1.25 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 16 | 1.33 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 17 | 1.42 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 18 | 1.50 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 19 | 1.58 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 20 | 1.67 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 21 | 1.75 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 22 | 1.83 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 23 | 1.92 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 24 | 2.00 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 25 | 2.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 26 | 2.17 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 27 | 2.25 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 28 | 2.33 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 29 | 2.42 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 30 | 2.50 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 31 | 2.58 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 32 | 2.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 33 | 2.75 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 34 | 2.83 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 35 | 2.92 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 36 | 3.00 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 37 | 3.08 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 38 | 3.17 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 39 | 3.25 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 40 | 3.33 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 41 | 3.42 | 1.20 | 0.360 | 0.086 | ( 0.324) | 0.274 |
| 42 | 3.50 | 1.30 | 0.390 | 0.086 | ( 0.351) | 0.304 |
| 43 | 3.58 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 44 | 3.67 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 45 | 3.75 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 46 | 3.83 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 47 | 3.92 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 48 | 4.00 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 49 | 4.08 | 1.70 | 0.510 | 0.086 | ( 0.459) | 0.424 |
| 50 | 4.17 | 1.80 | 0.540 | 0.086 | ( 0.486) | 0.454 |
| 51 | 4.25 | 1.90 | 0.570 | 0.086 | ( 0.513) | 0.484 |
| 52 | 4.33 | 2.00 | 0.600 | 0.086 | ( 0.540) | 0.514 |
| 53 | 4.42 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 |
| 54 | 4.50 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 55 | 4.58 | 2.20 | 0.660 | 0.086 | ( 0.594) | 0.574 | |
| 56 | 4.67 | 2.30 | 0.690 | 0.086 | ( 0.621) | 0.604 | |
| 57 | 4.75 | 2.40 | 0.720 | 0.086 | ( 0.648) | 0.634 | |
| 58 | 4.83 | 2.40 | 0.720 | 0.086 | ( 0.648) | 0.634 | |
| 59 | 4.92 | 2.50 | 0.750 | 0.086 | ( 0.675) | 0.664 | |
| 60 | 5.00 | 2.60 | 0.780 | 0.086 | ( 0.702) | 0.694 | |
| 61 | 5.08 | 3.10 | 0.930 | 0.086 | ( 0.837) | 0.844 | |
| 62 | 5.17 | 3.60 | 1.080 | 0.086 | ( 0.972) | 0.994 | |
| 63 | 5.25 | 3.90 | 1.170 | 0.086 | ( 1.053) | 1.084 | |
| 64 | 5.33 | 4.20 | 1.260 | 0.086 | ( 1.134) | 1.174 | |
| 65 | 5.42 | 4.70 | 1.410 | 0.086 | ( 1.269) | 1.324 | |
| 66 | 5.50 | 5.60 | 1.680 | 0.086 | ( 1.512) | 1.594 | |
| 67 | 5.58 | 1.90 | 0.570 | 0.086 | ( 0.513) | 0.484 | |
| 68 | 5.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 | |
| 69 | 5.75 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 | |
| 70 | 5.83 | 0.50 | 0.150 | 0.086 | ( 0.135) | 0.064 | |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.086) | 0.081 | 0.009 | |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.086) | 0.054 | 0.006 | |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.9

Flood volume = Effective rainfall 1.99(In)
times area 0.7(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.51(In)
Total soil loss = 0.030(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 5052.1 Cubic Feet
Total soil loss = 1300.4 Cubic Feet

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Peak flow rate of this hydrograph = 1.082(CFS)

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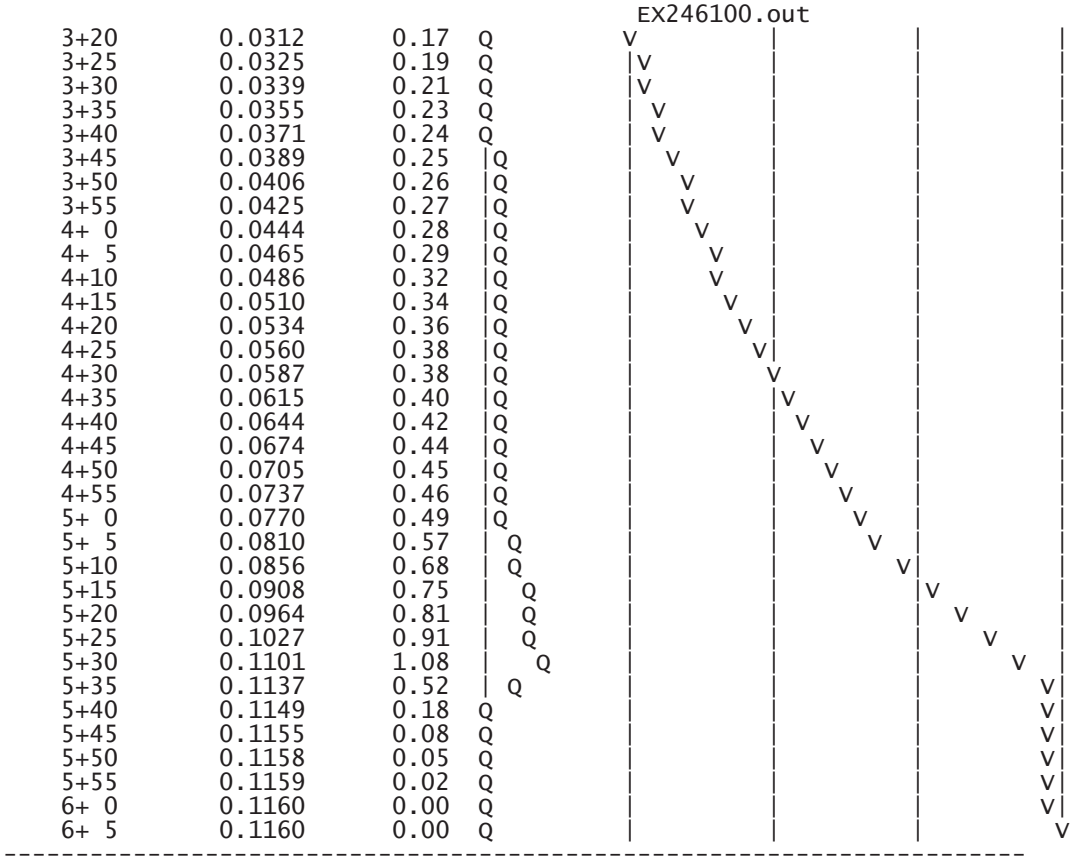
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

---

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0002 | 0.04 | Q | | | | |
| 0+10 | 0.0007 | 0.06 | Q | | | | |
| 0+15 | 0.0011 | 0.07 | Q | | | | |
| 0+20 | 0.0016 | 0.07 | Q | | | | |
| 0+25 | 0.0020 | 0.07 | Q | | | | |
| 0+30 | 0.0026 | 0.08 | Q | | | | |
| 0+35 | 0.0032 | 0.09 | QV | | | | |
| 0+40 | 0.0038 | 0.09 | QV | | | | |
| 0+45 | 0.0044 | 0.09 | QV | | | | |
| 0+50 | 0.0050 | 0.09 | QV | | | | |
| 0+55 | 0.0056 | 0.09 | QV | | | | |
| 1+ 0 | 0.0063 | 0.10 | Q V | | | | |
| 1+ 5 | 0.0071 | 0.11 | Q V | | | | |
| 1+10 | 0.0078 | 0.11 | Q V | | | | |
| 1+15 | 0.0086 | 0.11 | Q V | | | | |
| 1+20 | 0.0093 | 0.11 | Q V | | | | |
| 1+25 | 0.0101 | 0.11 | Q V | | | | |
| 1+30 | 0.0108 | 0.11 | Q V | | | | |
| 1+35 | 0.0116 | 0.11 | Q V | | | | |
| 1+40 | 0.0123 | 0.11 | Q V | | | | |
| 1+45 | 0.0131 | 0.11 | Q V | | | | |
| 1+50 | 0.0138 | 0.11 | Q V | | | | |
| 1+55 | 0.0146 | 0.11 | Q V | | | | |
| 2+ 0 | 0.0155 | 0.13 | Q V | | | | |
| 2+ 5 | 0.0162 | 0.11 | Q V | | | | |
| 2+10 | 0.0171 | 0.13 | Q V | | | | |
| 2+15 | 0.0180 | 0.13 | Q V | | | | |
| 2+20 | 0.0189 | 0.13 | Q V | | | | |
| 2+25 | 0.0198 | 0.13 | Q V | | | | |
| 2+30 | 0.0207 | 0.13 | Q V | | | | |
| 2+35 | 0.0216 | 0.13 | Q V | | | | |
| 2+40 | 0.0225 | 0.13 | Q V | | | | |
| 2+45 | 0.0235 | 0.15 | Q V | | | | |
| 2+50 | 0.0245 | 0.15 | Q V | | | | |
| 2+55 | 0.0256 | 0.15 | Q V | | | | |
| 3+ 0 | 0.0266 | 0.15 | Q V | | | | |
| 3+ 5 | 0.0276 | 0.15 | Q V | | | | |
| 3+10 | 0.0288 | 0.17 | Q V | | | | |
| 3+15 | 0.0300 | 0.17 | Q V | | | | |



| | | | |
|---|---|---|---|
| 3+20 | 0.0312 | 0.17 | Q |
| 3+25 | 0.0325 | 0.19 | Q |
| 3+30 | 0.0339 | 0.21 | Q |
| 3+35 | 0.0355 | 0.23 | Q |
| 3+40 | 0.0371 | 0.24 | Q |
| 3+45 | 0.0389 | 0.25 | Q |
| 3+50 | 0.0406 | 0.26 | Q |
| 3+55 | 0.0425 | 0.27 | Q |
| 4+ 0 | 0.0444 | 0.28 | Q |
| 4+ 5 | 0.0465 | 0.29 | Q |
| 4+10 | 0.0486 | 0.32 | Q |
| 4+15 | 0.0510 | 0.34 | Q |
| 4+20 | 0.0534 | 0.36 | Q |
| 4+25 | 0.0560 | 0.38 | Q |
| 4+30 | 0.0587 | 0.38 | Q |
| 4+35 | 0.0615 | 0.40 | Q |
| 4+40 | 0.0644 | 0.42 | Q |
| 4+45 | 0.0674 | 0.44 | Q |
| 4+50 | 0.0705 | 0.45 | Q |
| 4+55 | 0.0737 | 0.46 | Q |
| 5+ 0 | 0.0770 | 0.49 | Q |
| 5+ 5 | 0.0810 | 0.57 | Q |
| 5+10 | 0.0856 | 0.68 | Q |
| 5+15 | 0.0908 | 0.75 | Q |
| 5+20 | 0.0964 | 0.81 | Q |
| 5+25 | 0.1027 | 0.91 | Q |
| 5+30 | 0.1101 | 1.08 | Q |
| 5+35 | 0.1137 | 0.52 | Q |
| 5+40 | 0.1149 | 0.18 | Q |
| 5+45 | 0.1155 | 0.08 | Q |
| 5+50 | 0.1158 | 0.05 | Q |
| 5+55 | 0.1159 | 0.02 | Q |
| 6+ 0 | 0.1160 | 0.00 | Q |
| 6+ 5 | 0.1160 | 0.00 | Q |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX2424100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 24
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.70(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.70(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 246.00(Ft.)
Length along longest watercourse measured to centroid = 132.00(Ft.)
Length along longest watercourse = 0.047 Mi.
Length along longest watercourse measured to centroid = 0.025 Mi.
Difference in elevation = 140.00(Ft.)
Slope along watercourse = 3004.8780 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.014 Hr.
Lag time = 0.84 Min.
25% of lag time = 0.21 Min.
40% of lag time = 0.34 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.70 | 1.80 | 1.26 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.70 | 4.53 | 3.17 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.530(In)

Point rain (area averaged) = 4.530(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.530(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.700 | 84.00 | 0.000 |

Total Area Entered = 0.70(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | | Unit Hydrograph (CFS) |
|---|---|---|---|---|---|
| 1 | 0.083 | 591.773 | 77.520 | | 0.547 |
| 2 | 0.167 | 1183.545 | 22.480 | | 0.159 |
| | | | Sum = 100.000 | Sum= | 0.705 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.036 | ( 0.152) | 0.033 | 0.004 |
| 2 | 0.17 | 0.07 | 0.036 | ( 0.152) | 0.033 | 0.004 |
| 3 | 0.25 | 0.07 | 0.036 | ( 0.151) | 0.033 | 0.004 |
| 4 | 0.33 | 0.10 | 0.054 | ( 0.150) | 0.049 | 0.005 |
| 5 | 0.42 | 0.10 | 0.054 | ( 0.150) | 0.049 | 0.005 |
| 6 | 0.50 | 0.10 | 0.054 | ( 0.149) | 0.049 | 0.005 |
| 7 | 0.58 | 0.10 | 0.054 | ( 0.149) | 0.049 | 0.005 |
| 8 | 0.67 | 0.10 | 0.054 | ( 0.148) | 0.049 | 0.005 |
| 9 | 0.75 | 0.10 | 0.054 | ( 0.147) | 0.049 | 0.005 |
| 10 | 0.83 | 0.13 | 0.072 | ( 0.147) | 0.065 | 0.007 |
| 11 | 0.92 | 0.13 | 0.072 | ( 0.146) | 0.065 | 0.007 |
| 12 | 1.00 | 0.13 | 0.072 | ( 0.146) | 0.065 | 0.007 |
| 13 | 1.08 | 0.10 | 0.054 | ( 0.145) | 0.049 | 0.005 |
| 14 | 1.17 | 0.10 | 0.054 | ( 0.145) | 0.049 | 0.005 |
| 15 | 1.25 | 0.10 | 0.054 | ( 0.144) | 0.049 | 0.005 |
| 16 | 1.33 | 0.10 | 0.054 | ( 0.143) | 0.049 | 0.005 |
| 17 | 1.42 | 0.10 | 0.054 | ( 0.143) | 0.049 | 0.005 |
| 18 | 1.50 | 0.10 | 0.054 | ( 0.142) | 0.049 | 0.005 |
| 19 | 1.58 | 0.10 | 0.054 | ( 0.142) | 0.049 | 0.005 |
| 20 | 1.67 | 0.10 | 0.054 | ( 0.141) | 0.049 | 0.005 |
| 21 | 1.75 | 0.10 | 0.054 | ( 0.141) | 0.049 | 0.005 |
| 22 | 1.83 | 0.13 | 0.072 | ( 0.140) | 0.065 | 0.007 |
| 23 | 1.92 | 0.13 | 0.072 | ( 0.139) | 0.065 | 0.007 |
| 24 | 2.00 | 0.13 | 0.072 | ( 0.139) | 0.065 | 0.007 |
| 25 | 2.08 | 0.13 | 0.072 | ( 0.138) | 0.065 | 0.007 |
| 26 | 2.17 | 0.13 | 0.072 | ( 0.138) | 0.065 | 0.007 |
| 27 | 2.25 | 0.13 | 0.072 | ( 0.137) | 0.065 | 0.007 |
| 28 | 2.33 | 0.13 | 0.072 | ( 0.137) | 0.065 | 0.007 |
| 29 | 2.42 | 0.13 | 0.072 | ( 0.136) | 0.065 | 0.007 |
| 30 | 2.50 | 0.13 | 0.072 | ( 0.136) | 0.065 | 0.007 |
| 31 | 2.58 | 0.17 | 0.091 | ( 0.135) | 0.082 | 0.009 |
| 32 | 2.67 | 0.17 | 0.091 | ( 0.134) | 0.082 | 0.009 |
| 33 | 2.75 | 0.17 | 0.091 | ( 0.134) | 0.082 | 0.009 |
| 34 | 2.83 | 0.17 | 0.091 | ( 0.133) | 0.082 | 0.009 |
| 35 | 2.92 | 0.17 | 0.091 | ( 0.133) | 0.082 | 0.009 |
| 36 | 3.00 | 0.17 | 0.091 | ( 0.132) | 0.082 | 0.009 |
| 37 | 3.08 | 0.17 | 0.091 | ( 0.132) | 0.082 | 0.009 |
| 38 | 3.17 | 0.17 | 0.091 | ( 0.131) | 0.082 | 0.009 |
| 39 | 3.25 | 0.17 | 0.091 | ( 0.131) | 0.082 | 0.009 |
| 40 | 3.33 | 0.17 | 0.091 | ( 0.130) | 0.082 | 0.009 |
| 41 | 3.42 | 0.17 | 0.091 | ( 0.129) | 0.082 | 0.009 |
| 42 | 3.50 | 0.17 | 0.091 | ( 0.129) | 0.082 | 0.009 |
| 43 | 3.58 | 0.17 | 0.091 | ( 0.128) | 0.082 | 0.009 |
| 44 | 3.67 | 0.17 | 0.091 | ( 0.128) | 0.082 | 0.009 |
| 45 | 3.75 | 0.17 | 0.091 | ( 0.127) | 0.082 | 0.009 |
| 46 | 3.83 | 0.20 | 0.109 | ( 0.127) | 0.098 | 0.011 |
| 47 | 3.92 | 0.20 | 0.109 | ( 0.126) | 0.098 | 0.011 |
| 48 | 4.00 | 0.20 | 0.109 | ( 0.126) | 0.098 | 0.011 |
| 49 | 4.08 | 0.20 | 0.109 | ( 0.125) | 0.098 | 0.011 |
| 50 | 4.17 | 0.20 | 0.109 | ( 0.125) | 0.098 | 0.011 |
| 51 | 4.25 | 0.20 | 0.109 | ( 0.124) | 0.098 | 0.011 |
| 52 | 4.33 | 0.23 | 0.127 | ( 0.124) | 0.114 | 0.013 |
| 53 | 4.42 | 0.23 | 0.127 | ( 0.123) | 0.114 | 0.013 |
| 54 | 4.50 | 0.23 | 0.127 | ( 0.123) | 0.114 | 0.013 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 55 | 4.58 | 0.23 | 0.127 | ( | 0.122) | 0.114 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.127 | ( | 0.121) | 0.114 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.127 | ( | 0.121) | 0.114 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.145 | | 0.120 | ( 0.130) | | 0.025 |
| 59 | 4.92 | 0.27 | 0.145 | | 0.120 | ( 0.130) | | 0.025 |
| 60 | 5.00 | 0.27 | 0.145 | | 0.119 | ( 0.130) | | 0.026 |
| 61 | 5.08 | 0.20 | 0.109 | ( | 0.119) | 0.098 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.109 | ( | 0.118) | 0.098 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.109 | ( | 0.118) | 0.098 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.127 | ( | 0.117) | 0.114 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.127 | ( | 0.117) | 0.114 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.127 | ( | 0.116) | 0.114 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.145 | | 0.116 | ( 0.130) | | 0.029 |
| 68 | 5.67 | 0.27 | 0.145 | | 0.115 | ( 0.130) | | 0.030 |
| 69 | 5.75 | 0.27 | 0.145 | | 0.115 | ( 0.130) | | 0.030 |
| 70 | 5.83 | 0.27 | 0.145 | | 0.114 | ( 0.130) | | 0.031 |
| 71 | 5.92 | 0.27 | 0.145 | | 0.114 | ( 0.130) | | 0.031 |
| 72 | 6.00 | 0.27 | 0.145 | | 0.113 | ( 0.130) | | 0.032 |
| 73 | 6.08 | 0.30 | 0.163 | | 0.113 | ( 0.147) | | 0.050 |
| 74 | 6.17 | 0.30 | 0.163 | | 0.112 | ( 0.147) | | 0.051 |
| 75 | 6.25 | 0.30 | 0.163 | | 0.112 | ( 0.147) | | 0.051 |
| 76 | 6.33 | 0.30 | 0.163 | | 0.111 | ( 0.147) | | 0.052 |
| 77 | 6.42 | 0.30 | 0.163 | | 0.111 | ( 0.147) | | 0.052 |
| 78 | 6.50 | 0.30 | 0.163 | | 0.110 | ( 0.147) | | 0.053 |
| 79 | 6.58 | 0.33 | 0.181 | | 0.110 | ( 0.163) | | 0.071 |
| 80 | 6.67 | 0.33 | 0.181 | | 0.109 | ( 0.163) | | 0.072 |
| 81 | 6.75 | 0.33 | 0.181 | | 0.109 | ( 0.163) | | 0.072 |
| 82 | 6.83 | 0.33 | 0.181 | | 0.108 | ( 0.163) | | 0.073 |
| 83 | 6.92 | 0.33 | 0.181 | | 0.108 | ( 0.163) | | 0.073 |
| 84 | 7.00 | 0.33 | 0.181 | | 0.107 | ( 0.163) | | 0.074 |
| 85 | 7.08 | 0.33 | 0.181 | | 0.107 | ( 0.163) | | 0.074 |
| 86 | 7.17 | 0.33 | 0.181 | | 0.106 | ( 0.163) | | 0.075 |
| 87 | 7.25 | 0.33 | 0.181 | | 0.106 | ( 0.163) | | 0.075 |
| 88 | 7.33 | 0.37 | 0.199 | | 0.105 | ( 0.179) | | 0.094 |
| 89 | 7.42 | 0.37 | 0.199 | | 0.105 | ( 0.179) | | 0.094 |
| 90 | 7.50 | 0.37 | 0.199 | | 0.104 | ( 0.179) | | 0.095 |
| 91 | 7.58 | 0.40 | 0.217 | | 0.104 | ( 0.196) | | 0.114 |
| 92 | 7.67 | 0.40 | 0.217 | | 0.103 | ( 0.196) | | 0.114 |
| 93 | 7.75 | 0.40 | 0.217 | | 0.103 | ( 0.196) | | 0.114 |
| 94 | 7.83 | 0.43 | 0.236 | | 0.102 | ( 0.212) | | 0.133 |
| 95 | 7.92 | 0.43 | 0.236 | | 0.102 | ( 0.212) | | 0.134 |
| 96 | 8.00 | 0.43 | 0.236 | | 0.102 | ( 0.212) | | 0.134 |
| 97 | 8.08 | 0.50 | 0.272 | | 0.101 | ( 0.245) | | 0.171 |
| 98 | 8.17 | 0.50 | 0.272 | | 0.101 | ( 0.245) | | 0.171 |
| 99 | 8.25 | 0.50 | 0.272 | | 0.100 | ( 0.245) | | 0.172 |
| 100 | 8.33 | 0.50 | 0.272 | | 0.100 | ( 0.245) | | 0.172 |
| 101 | 8.42 | 0.50 | 0.272 | | 0.099 | ( 0.245) | | 0.173 |
| 102 | 8.50 | 0.50 | 0.272 | | 0.099 | ( 0.245) | | 0.173 |
| 103 | 8.58 | 0.53 | 0.290 | | 0.098 | ( 0.261) | | 0.192 |
| 104 | 8.67 | 0.53 | 0.290 | | 0.098 | ( 0.261) | | 0.192 |
| 105 | 8.75 | 0.53 | 0.290 | | 0.097 | ( 0.261) | | 0.193 |
| 106 | 8.83 | 0.57 | 0.308 | | 0.097 | ( 0.277) | | 0.211 |
| 107 | 8.92 | 0.57 | 0.308 | | 0.096 | ( 0.277) | | 0.212 |
| 108 | 9.00 | 0.57 | 0.308 | | 0.096 | ( 0.277) | | 0.212 |
| 109 | 9.08 | 0.63 | 0.344 | | 0.096 | ( 0.310) | | 0.249 |
| 110 | 9.17 | 0.63 | 0.344 | | 0.095 | ( 0.310) | | 0.249 |
| 111 | 9.25 | 0.63 | 0.344 | | 0.095 | ( 0.310) | | 0.250 |
| 112 | 9.33 | 0.67 | 0.362 | | 0.094 | ( 0.326) | | 0.268 |
| 113 | 9.42 | 0.67 | 0.362 | | 0.094 | ( 0.326) | | 0.269 |
| 114 | 9.50 | 0.67 | 0.362 | | 0.093 | ( 0.326) | | 0.269 |
| 115 | 9.58 | 0.70 | 0.381 | | 0.093 | ( 0.342) | | 0.288 |
| 116 | 9.67 | 0.70 | 0.381 | | 0.092 | ( 0.342) | | 0.288 |
| 117 | 9.75 | 0.70 | 0.381 | | 0.092 | ( 0.342) | | 0.289 |
| 118 | 9.83 | 0.73 | 0.399 | | 0.091 | ( 0.359) | | 0.307 |
| 119 | 9.92 | 0.73 | 0.399 | | 0.091 | ( 0.359) | | 0.308 |
| 120 | 10.00 | 0.73 | 0.399 | | 0.091 | ( 0.359) | | 0.308 |
| 121 | 10.08 | 0.50 | 0.272 | | 0.090 | ( 0.245) | | 0.182 |
| 122 | 10.17 | 0.50 | 0.272 | | 0.090 | ( 0.245) | | 0.182 |
| 123 | 10.25 | 0.50 | 0.272 | | 0.089 | ( 0.245) | | 0.183 |
| 124 | 10.33 | 0.50 | 0.272 | | 0.089 | ( 0.245) | | 0.183 |
| 125 | 10.42 | 0.50 | 0.272 | | 0.088 | ( 0.245) | | 0.183 |
| 126 | 10.50 | 0.50 | 0.272 | | 0.088 | ( 0.245) | | 0.184 |
| 127 | 10.58 | 0.67 | 0.362 | | 0.088 | ( 0.326) | | 0.275 |
| 128 | 10.67 | 0.67 | 0.362 | | 0.087 | ( 0.326) | | 0.275 |
| 129 | 10.75 | 0.67 | 0.362 | | 0.087 | ( 0.326) | | 0.276 |
| 130 | 10.83 | 0.67 | 0.362 | | 0.086 | ( 0.326) | | 0.276 |
| 131 | 10.92 | 0.67 | 0.362 | | 0.086 | ( 0.326) | | 0.277 |
| 132 | 11.00 | 0.67 | 0.362 | | 0.085 | ( 0.326) | | 0.277 |

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| 133 | 11.08 | 0.63 | 0.344 | 0.085 | ( 0.310) | 0.259 |
| 134 | 11.17 | 0.63 | 0.344 | 0.085 | ( 0.310) | 0.260 |
| 135 | 11.25 | 0.63 | 0.344 | 0.084 | ( 0.310) | 0.260 |
| 136 | 11.33 | 0.63 | 0.344 | 0.084 | ( 0.310) | 0.261 |
| 137 | 11.42 | 0.63 | 0.344 | 0.083 | ( 0.310) | 0.261 |
| 138 | 11.50 | 0.63 | 0.344 | 0.083 | ( 0.310) | 0.261 |
| 139 | 11.58 | 0.57 | 0.308 | 0.083 | ( 0.277) | 0.226 |
| 140 | 11.67 | 0.57 | 0.308 | 0.082 | ( 0.277) | 0.226 |
| 141 | 11.75 | 0.57 | 0.308 | 0.082 | ( 0.277) | 0.226 |
| 142 | 11.83 | 0.60 | 0.326 | 0.081 | ( 0.294) | 0.245 |
| 143 | 11.92 | 0.60 | 0.326 | 0.081 | ( 0.294) | 0.245 |
| 144 | 12.00 | 0.60 | 0.326 | 0.080 | ( 0.294) | 0.246 |
| 145 | 12.08 | 0.83 | 0.453 | 0.080 | ( 0.408) | 0.373 |
| 146 | 12.17 | 0.83 | 0.453 | 0.080 | ( 0.408) | 0.373 |
| 147 | 12.25 | 0.83 | 0.453 | 0.079 | ( 0.408) | 0.374 |
| 148 | 12.33 | 0.87 | 0.471 | 0.079 | ( 0.424) | 0.392 |
| 149 | 12.42 | 0.87 | 0.471 | 0.078 | ( 0.424) | 0.393 |
| 150 | 12.50 | 0.87 | 0.471 | 0.078 | ( 0.424) | 0.393 |
| 151 | 12.58 | 0.93 | 0.507 | 0.078 | ( 0.457) | 0.430 |
| 152 | 12.67 | 0.93 | 0.507 | 0.077 | ( 0.457) | 0.430 |
| 153 | 12.75 | 0.93 | 0.507 | 0.077 | ( 0.457) | 0.430 |
| 154 | 12.83 | 0.97 | 0.525 | 0.077 | ( 0.473) | 0.449 |
| 155 | 12.92 | 0.97 | 0.525 | 0.076 | ( 0.473) | 0.449 |
| 156 | 13.00 | 0.97 | 0.525 | 0.076 | ( 0.473) | 0.450 |
| 157 | 13.08 | 1.13 | 0.616 | 0.075 | ( 0.554) | 0.541 |
| 158 | 13.17 | 1.13 | 0.616 | 0.075 | ( 0.554) | 0.541 |
| 159 | 13.25 | 1.13 | 0.616 | 0.075 | ( 0.554) | 0.541 |
| 160 | 13.33 | 1.13 | 0.616 | 0.074 | ( 0.554) | 0.542 |
| 161 | 13.42 | 1.13 | 0.616 | 0.074 | ( 0.554) | 0.542 |
| 162 | 13.50 | 1.13 | 0.616 | 0.073 | ( 0.554) | 0.543 |
| 163 | 13.58 | 0.77 | 0.417 | 0.073 | ( 0.375) | 0.344 |
| 164 | 13.67 | 0.77 | 0.417 | 0.073 | ( 0.375) | 0.344 |
| 165 | 13.75 | 0.77 | 0.417 | 0.072 | ( 0.375) | 0.344 |
| 166 | 13.83 | 0.77 | 0.417 | 0.072 | ( 0.375) | 0.345 |
| 167 | 13.92 | 0.77 | 0.417 | 0.072 | ( 0.375) | 0.345 |
| 168 | 14.00 | 0.77 | 0.417 | 0.071 | ( 0.375) | 0.345 |
| 169 | 14.08 | 0.90 | 0.489 | 0.071 | ( 0.440) | 0.418 |
| 170 | 14.17 | 0.90 | 0.489 | 0.071 | ( 0.440) | 0.419 |
| 171 | 14.25 | 0.90 | 0.489 | 0.070 | ( 0.440) | 0.419 |
| 172 | 14.33 | 0.87 | 0.471 | 0.070 | ( 0.424) | 0.401 |
| 173 | 14.42 | 0.87 | 0.471 | 0.069 | ( 0.424) | 0.402 |
| 174 | 14.50 | 0.87 | 0.471 | 0.069 | ( 0.424) | 0.402 |
| 175 | 14.58 | 0.87 | 0.471 | 0.069 | ( 0.424) | 0.402 |
| 176 | 14.67 | 0.87 | 0.471 | 0.068 | ( 0.424) | 0.403 |
| 177 | 14.75 | 0.87 | 0.471 | 0.068 | ( 0.424) | 0.403 |
| 178 | 14.83 | 0.83 | 0.453 | 0.068 | ( 0.408) | 0.385 |
| 179 | 14.92 | 0.83 | 0.453 | 0.067 | ( 0.408) | 0.386 |
| 180 | 15.00 | 0.83 | 0.453 | 0.067 | ( 0.408) | 0.386 |
| 181 | 15.08 | 0.80 | 0.435 | 0.067 | ( 0.391) | 0.368 |
| 182 | 15.17 | 0.80 | 0.435 | 0.066 | ( 0.391) | 0.369 |
| 183 | 15.25 | 0.80 | 0.435 | 0.066 | ( 0.391) | 0.369 |
| 184 | 15.33 | 0.77 | 0.417 | 0.066 | ( 0.375) | 0.351 |
| 185 | 15.42 | 0.77 | 0.417 | 0.065 | ( 0.375) | 0.351 |
| 186 | 15.50 | 0.77 | 0.417 | 0.065 | ( 0.375) | 0.352 |
| 187 | 15.58 | 0.63 | 0.344 | 0.065 | ( 0.310) | 0.280 |
| 188 | 15.67 | 0.63 | 0.344 | 0.064 | ( 0.310) | 0.280 |
| 189 | 15.75 | 0.63 | 0.344 | 0.064 | ( 0.310) | 0.280 |
| 190 | 15.83 | 0.63 | 0.344 | 0.064 | ( 0.310) | 0.281 |
| 191 | 15.92 | 0.63 | 0.344 | 0.063 | ( 0.310) | 0.281 |
| 192 | 16.00 | 0.63 | 0.344 | 0.063 | ( 0.310) | 0.281 |
| 193 | 16.08 | 0.13 | 0.072 | 0.063 | ( 0.065) | 0.010 |
| 194 | 16.17 | 0.13 | 0.072 | 0.062 | ( 0.065) | 0.010 |
| 195 | 16.25 | 0.13 | 0.072 | 0.062 | ( 0.065) | 0.010 |
| 196 | 16.33 | 0.13 | 0.072 | 0.062 | ( 0.065) | 0.011 |
| 197 | 16.42 | 0.13 | 0.072 | 0.061 | ( 0.065) | 0.011 |
| 198 | 16.50 | 0.13 | 0.072 | 0.061 | ( 0.065) | 0.011 |
| 199 | 16.58 | 0.10 | 0.054 | ( 0.061) | 0.049 | 0.005 |
| 200 | 16.67 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 201 | 16.75 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 202 | 16.83 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 203 | 16.92 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 204 | 17.00 | 0.10 | 0.054 | ( 0.059) | 0.049 | 0.005 |
| 205 | 17.08 | 0.17 | 0.091 | 0.059 | ( 0.082) | 0.032 |
| 206 | 17.17 | 0.17 | 0.091 | 0.059 | ( 0.082) | 0.032 |
| 207 | 17.25 | 0.17 | 0.091 | 0.058 | ( 0.082) | 0.032 |
| 208 | 17.33 | 0.17 | 0.091 | 0.058 | ( 0.082) | 0.033 |
| 209 | 17.42 | 0.17 | 0.091 | 0.058 | ( 0.082) | 0.033 |
| 210 | 17.50 | 0.17 | 0.091 | 0.058 | ( 0.082) | 0.033 |

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| 211 | 17.58 | 0.17 | 0.091 | 0.057 | ( 0.082) | 0.033 |
| 212 | 17.67 | 0.17 | 0.091 | 0.057 | ( 0.082) | 0.034 |
| 213 | 17.75 | 0.17 | 0.091 | 0.057 | ( 0.082) | 0.034 |
| 214 | 17.83 | 0.13 | 0.072 | 0.056 | ( 0.065) | 0.016 |
| 215 | 17.92 | 0.13 | 0.072 | 0.056 | ( 0.065) | 0.016 |
| 216 | 18.00 | 0.13 | 0.072 | 0.056 | ( 0.065) | 0.017 |
| 217 | 18.08 | 0.13 | 0.072 | 0.056 | ( 0.065) | 0.017 |
| 218 | 18.17 | 0.13 | 0.072 | 0.055 | ( 0.065) | 0.017 |
| 219 | 18.25 | 0.13 | 0.072 | 0.055 | ( 0.065) | 0.017 |
| 220 | 18.33 | 0.13 | 0.072 | 0.055 | ( 0.065) | 0.018 |
| 221 | 18.42 | 0.13 | 0.072 | 0.054 | ( 0.065) | 0.018 |
| 222 | 18.50 | 0.13 | 0.072 | 0.054 | ( 0.065) | 0.018 |
| 223 | 18.58 | 0.10 | 0.054 | ( 0.054) | 0.049 | 0.005 |
| 224 | 18.67 | 0.10 | 0.054 | ( 0.054) | 0.049 | 0.005 |
| 225 | 18.75 | 0.10 | 0.054 | ( 0.053) | 0.049 | 0.005 |
| 226 | 18.83 | 0.07 | 0.036 | ( 0.053) | 0.033 | 0.004 |
| 227 | 18.92 | 0.07 | 0.036 | ( 0.053) | 0.033 | 0.004 |
| 228 | 19.00 | 0.07 | 0.036 | ( 0.053) | 0.033 | 0.004 |
| 229 | 19.08 | 0.10 | 0.054 | ( 0.052) | 0.049 | 0.005 |
| 230 | 19.17 | 0.10 | 0.054 | ( 0.052) | 0.049 | 0.005 |
| 231 | 19.25 | 0.10 | 0.054 | ( 0.052) | 0.049 | 0.005 |
| 232 | 19.33 | 0.13 | 0.072 | 0.052 | ( 0.065) | 0.021 |
| 233 | 19.42 | 0.13 | 0.072 | 0.051 | ( 0.065) | 0.021 |
| 234 | 19.50 | 0.13 | 0.072 | 0.051 | ( 0.065) | 0.021 |
| 235 | 19.58 | 0.10 | 0.054 | ( 0.051) | 0.049 | 0.005 |
| 236 | 19.67 | 0.10 | 0.054 | ( 0.051) | 0.049 | 0.005 |
| 237 | 19.75 | 0.10 | 0.054 | ( 0.050) | 0.049 | 0.005 |
| 238 | 19.83 | 0.07 | 0.036 | ( 0.050) | 0.033 | 0.004 |
| 239 | 19.92 | 0.07 | 0.036 | ( 0.050) | 0.033 | 0.004 |
| 240 | 20.00 | 0.07 | 0.036 | ( 0.050) | 0.033 | 0.004 |
| 241 | 20.08 | 0.10 | 0.054 | ( 0.050) | 0.049 | 0.005 |
| 242 | 20.17 | 0.10 | 0.054 | ( 0.049) | 0.049 | 0.005 |
| 243 | 20.25 | 0.10 | 0.054 | ( 0.049) | 0.049 | 0.005 |
| 244 | 20.33 | 0.10 | 0.054 | ( 0.049) | 0.049 | 0.005 |
| 245 | 20.42 | 0.10 | 0.054 | 0.049 | ( 0.049) | 0.006 |
| 246 | 20.50 | 0.10 | 0.054 | 0.049 | ( 0.049) | 0.006 |
| 247 | 20.58 | 0.10 | 0.054 | 0.048 | ( 0.049) | 0.006 |
| 248 | 20.67 | 0.10 | 0.054 | 0.048 | ( 0.049) | 0.006 |
| 249 | 20.75 | 0.10 | 0.054 | 0.048 | ( 0.049) | 0.006 |
| 250 | 20.83 | 0.07 | 0.036 | ( 0.048) | 0.033 | 0.004 |
| 251 | 20.92 | 0.07 | 0.036 | ( 0.048) | 0.033 | 0.004 |
| 252 | 21.00 | 0.07 | 0.036 | ( 0.047) | 0.033 | 0.004 |
| 253 | 21.08 | 0.10 | 0.054 | 0.047 | ( 0.049) | 0.007 |
| 254 | 21.17 | 0.10 | 0.054 | 0.047 | ( 0.049) | 0.007 |
| 255 | 21.25 | 0.10 | 0.054 | 0.047 | ( 0.049) | 0.008 |
| 256 | 21.33 | 0.07 | 0.036 | ( 0.047) | 0.033 | 0.004 |
| 257 | 21.42 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 258 | 21.50 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 259 | 21.58 | 0.10 | 0.054 | 0.046 | ( 0.049) | 0.008 |
| 260 | 21.67 | 0.10 | 0.054 | 0.046 | ( 0.049) | 0.008 |
| 261 | 21.75 | 0.10 | 0.054 | 0.046 | ( 0.049) | 0.009 |
| 262 | 21.83 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 263 | 21.92 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 264 | 22.00 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 265 | 22.08 | 0.10 | 0.054 | 0.045 | ( 0.049) | 0.009 |
| 266 | 22.17 | 0.10 | 0.054 | 0.045 | ( 0.049) | 0.009 |
| 267 | 22.25 | 0.10 | 0.054 | 0.045 | ( 0.049) | 0.009 |
| 268 | 22.33 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 269 | 22.42 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 270 | 22.50 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 271 | 22.58 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 272 | 22.67 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 273 | 22.75 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 274 | 22.83 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 275 | 22.92 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 276 | 23.00 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 277 | 23.08 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 278 | 23.17 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 279 | 23.25 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 280 | 23.33 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 281 | 23.42 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 284 | 23.67 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 285 | 23.75 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 286 | 23.83 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 287 | 23.92 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 288 | 24.00 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |

(Loss Rate Not Used)
Sum = 100.0 Sum = 33.9
Flood volume = Effective rainfall 2.83(In)
times area 0.7(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 1.70(In)
Total soil loss = 0.099(Ac.Ft)
Total rainfall = 4.53(In)
Flood volume = 7184.6 Cubic Feet
Total soil loss = 4326.1 Cubic Feet

Peak flow rate of this hydrograph = 0.383(CFS)

24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0000 | 0.00 | Q | | | | |
| 0+10 | 0.0000 | 0.00 | Q | | | | |
| 0+15 | 0.0000 | 0.00 | Q | | | | |
| 0+20 | 0.0001 | 0.00 | Q | | | | |
| 0+25 | 0.0001 | 0.00 | Q | | | | |
| 0+30 | 0.0001 | 0.00 | Q | | | | |
| 0+35 | 0.0002 | 0.00 | Q | | | | |
| 0+40 | 0.0002 | 0.00 | Q | | | | |
| 0+45 | 0.0002 | 0.00 | Q | | | | |
| 0+50 | 0.0002 | 0.00 | Q | | | | |
| 0+55 | 0.0003 | 0.01 | Q | | | | |
| 1+ 0 | 0.0003 | 0.01 | Q | | | | |
| 1+ 5 | 0.0003 | 0.00 | Q | | | | |
| 1+10 | 0.0004 | 0.00 | Q | | | | |
| 1+15 | 0.0004 | 0.00 | Q | | | | |
| 1+20 | 0.0004 | 0.00 | Q | | | | |
| 1+25 | 0.0004 | 0.00 | Q | | | | |
| 1+30 | 0.0005 | 0.00 | Q | | | | |
| 1+35 | 0.0005 | 0.00 | Q | | | | |
| 1+40 | 0.0005 | 0.00 | Q | | | | |
| 1+45 | 0.0005 | 0.00 | Q | | | | |
| 1+50 | 0.0006 | 0.00 | Q | | | | |
| 1+55 | 0.0006 | 0.01 | Q | | | | |
| 2+ 0 | 0.0007 | 0.01 | Q | | | | |
| 2+ 5 | 0.0007 | 0.01 | Q | | | | |
| 2+10 | 0.0007 | 0.01 | Q | | | | |
| 2+15 | 0.0008 | 0.01 | Q | | | | |
| 2+20 | 0.0008 | 0.01 | Q | | | | |
| 2+25 | 0.0008 | 0.01 | Q | | | | |
| 2+30 | 0.0009 | 0.01 | Q | | | | |
| 2+35 | 0.0009 | 0.01 | Q | | | | |
| 2+40 | 0.0010 | 0.01 | Q | | | | |
| 2+45 | 0.0010 | 0.01 | Q | | | | |
| 2+50 | 0.0010 | 0.01 | Q | | | | |
| 2+55 | 0.0011 | 0.01 | Q | | | | |
| 3+ 0 | 0.0011 | 0.01 | Q | | | | |
| 3+ 5 | 0.0012 | 0.01 | Q | | | | |
| 3+10 | 0.0012 | 0.01 | Q | | | | |
| 3+15 | 0.0013 | 0.01 | Q | | | | |
| 3+20 | 0.0013 | 0.01 | Q | | | | |
| 3+25 | 0.0013 | 0.01 | Q | | | | |
| 3+30 | 0.0014 | 0.01 | Q | | | | |
| 3+35 | 0.0014 | 0.01 | Q | | | | |
| 3+40 | 0.0015 | 0.01 | Q | | | | |
| 3+45 | 0.0015 | 0.01 | Q | | | | |
| 3+50 | 0.0016 | 0.01 | Q | | | | |
| 3+55 | 0.0016 | 0.01 | Q | | | | |
| 4+ 0 | 0.0017 | 0.01 | Q | | | | |
| 4+ 5 | 0.0017 | 0.01 | Q | | | | |
| 4+10 | 0.0018 | 0.01 | Q | | | | |
| 4+15 | 0.0018 | 0.01 | Q | | | | |
| 4+20 | 0.0019 | 0.01 | Q | | | | |
| 4+25 | 0.0020 | 0.01 | Q | | | | |
| 4+30 | 0.0020 | 0.01 | Q | | | | |
| 4+35 | 0.0021 | 0.01 | Q | | | | |
| 4+40 | 0.0021 | 0.01 | Q | | | | |
| 4+45 | 0.0022 | 0.01 | Q | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 4+50 | 0.0023 | 0.02 | Q | \| | \| | \| | \| |
| 4+55 | 0.0024 | 0.02 | Q | \| | \| | \| | \| |
| 5+ 0 | 0.0026 | 0.02 | Q | \| | \| | \| | \| |
| 5+ 5 | 0.0026 | 0.01 | Q | \| | \| | \| | \| |
| 5+10 | 0.0027 | 0.01 | Q | \| | \| | \| | \| |
| 5+15 | 0.0027 | 0.01 | Q | \| | \| | \| | \| |
| 5+20 | 0.0028 | 0.01 | Q | \| | \| | \| | \| |
| 5+25 | 0.0029 | 0.01 | Q | \| | \| | \| | \| |
| 5+30 | 0.0029 | 0.01 | Q | \| | \| | \| | \| |
| 5+35 | 0.0030 | 0.02 | Q | \| | \| | \| | \| |
| 5+40 | 0.0032 | 0.02 | Q | \| | \| | \| | \| |
| 5+45 | 0.0033 | 0.02 | Q | \| | \| | \| | \| |
| 5+50 | 0.0035 | 0.02 | Q | \| | \| | \| | \| |
| 5+55 | 0.0036 | 0.02 | Q | \| | \| | \| | \| |
| 6+ 0 | 0.0038 | 0.02 | Q | \| | \| | \| | \| |
| 6+ 5 | 0.0040 | 0.03 | Q | \| | \| | \| | \| |
| 6+10 | 0.0043 | 0.04 | QV | \| | \| | \| | \| |
| 6+15 | 0.0045 | 0.04 | QV | \| | \| | \| | \| |
| 6+20 | 0.0048 | 0.04 | QV | \| | \| | \| | \| |
| 6+25 | 0.0050 | 0.04 | QV | \| | \| | \| | \| |
| 6+30 | 0.0053 | 0.04 | QV | \| | \| | \| | \| |
| 6+35 | 0.0056 | 0.05 | QV | \| | \| | \| | \| |
| 6+40 | 0.0059 | 0.05 | QV | \| | \| | \| | \| |
| 6+45 | 0.0063 | 0.05 | QV | \| | \| | \| | \| |
| 6+50 | 0.0066 | 0.05 | QV | \| | \| | \| | \| |
| 6+55 | 0.0070 | 0.05 | QV | \| | \| | \| | \| |
| 7+ 0 | 0.0074 | 0.05 | QV | \| | \| | \| | \| |
| 7+ 5 | 0.0077 | 0.05 | QV | \| | \| | \| | \| |
| 7+10 | 0.0081 | 0.05 | QV | \| | \| | \| | \| |
| 7+15 | 0.0084 | 0.05 | Q V | \| | \| | \| | \| |
| 7+20 | 0.0089 | 0.06 | Q V | \| | \| | \| | \| |
| 7+25 | 0.0093 | 0.07 | Q V | \| | \| | \| | \| |
| 7+30 | 0.0098 | 0.07 | Q V | \| | \| | \| | \| |
| 7+35 | 0.0103 | 0.08 | Q V | \| | \| | \| | \| |
| 7+40 | 0.0109 | 0.08 | Q V | \| | \| | \| | \| |
| 7+45 | 0.0114 | 0.08 | Q V | \| | \| | \| | \| |
| 7+50 | 0.0121 | 0.09 | Q V | \| | \| | \| | \| |
| 7+55 | 0.0127 | 0.09 | Q  V | \| | \| | \| | \| |
| 8+ 0 | 0.0134 | 0.09 | Q  V | \| | \| | \| | \| |
| 8+ 5 | 0.0142 | 0.11 | Q  V | \| | \| | \| | \| |
| 8+10 | 0.0150 | 0.12 | Q  V | \| | \| | \| | \| |
| 8+15 | 0.0158 | 0.12 | Q  V | \| | \| | \| | \| |
| 8+20 | 0.0167 | 0.12 | Q   V | \| | \| | \| | \| |
| 8+25 | 0.0175 | 0.12 | Q   V | \| | \| | \| | \| |
| 8+30 | 0.0183 | 0.12 | Q   V | \| | \| | \| | \| |
| 8+35 | 0.0193 | 0.13 | Q   V | \| | \| | \| | \| |
| 8+40 | 0.0202 | 0.14 | Q   V | \| | \| | \| | \| |
| 8+45 | 0.0211 | 0.14 | Q    V | \| | \| | \| | \| |
| 8+50 | 0.0221 | 0.15 | Q    V | \| | \| | \| | \| |
| 8+55 | 0.0232 | 0.15 | Q    V | \| | \| | \| | \| |
| 9+ 0 | 0.0242 | 0.15 | Q    V | \| | \| | \| | \| |
| 9+ 5 | 0.0254 | 0.17 | Q     V | \| | \| | \| | \| |
| 9+10 | 0.0266 | 0.18 | Q     V | \| | \| | \| | \| |
| 9+15 | 0.0278 | 0.18 | Q     V | \| | \| | \| | \| |
| 9+20 | 0.0291 | 0.19 | Q      V | \| | \| | \| | \| |
| 9+25 | 0.0304 | 0.19 | Q      V | \| | \| | \| | \| |
| 9+30 | 0.0317 | 0.19 | Q      V | \| | \| | \| | \| |
| 9+35 | 0.0331 | 0.20 | Q       V | \| | \| | \| | \| |
| 9+40 | 0.0345 | 0.20 | Q       V | \| | \| | \| | \| |
| 9+45 | 0.0359 | 0.20 | Q       V | \| | \| | \| | \| |
| 9+50 | 0.0373 | 0.21 | Q        V\| | \| | \| | \| |
| 9+55 | 0.0388 | 0.22 | Q        V\| | \| | \| | \| |
| 10+ 0 | 0.0403 | 0.22 | Q        V\| | \| | \| | \| |
| 10+ 5 | 0.0413 | 0.15 | Q         V | \| | \| | \| |
| 10+10 | 0.0422 | 0.13 | Q         V | \| | \| | \| |
| 10+15 | 0.0431 | 0.13 | Q         V | \| | \| | \| |
| 10+20 | 0.0440 | 0.13 | Q         V | \| | \| | \| |
| 10+25 | 0.0449 | 0.13 | Q         V | \| | \| | \| |
| 10+30 | 0.0458 | 0.13 | Q         \|V | \| | \| | \| |
| 10+35 | 0.0470 | 0.18 | Q         \|V | \| | \| | \| |
| 10+40 | 0.0484 | 0.19 | Q         \|V | \| | \| | \| |
| 10+45 | 0.0497 | 0.19 | Q         \| V | \| | \| | \| |
| 10+50 | 0.0510 | 0.19 | Q         \| V | \| | \| | \| |
| 10+55 | 0.0524 | 0.20 | Q         \| V | \| | \| | \| |
| 11+ 0 | 0.0537 | 0.20 | Q         \|  V | \| | \| | \| |
| 11+ 5 | 0.0550 | 0.19 | Q         \|  V | \| | \| | \| |
| 11+10 | 0.0563 | 0.18 | Q         \|  V | \| | \| | \| |
| 11+15 | 0.0575 | 0.18 | Q         \|  V | \| | \| | \| |

| | | | | |
|---|---|---|---|---|
| 11+20 | 0.0588 | 0.18 | Q | \| V \| \| \| |
| 11+25 | 0.0601 | 0.18 | Q | \| V \| \| \| |
| 11+30 | 0.0613 | 0.18 | Q | \| V \| \| \| |
| 11+35 | 0.0625 | 0.16 | Q | \| V \| \| \| |
| 11+40 | 0.0636 | 0.16 | Q | \| V \| \| \| |
| 11+45 | 0.0647 | 0.16 | Q | \| V \| \| \| |
| 11+50 | 0.0658 | 0.17 | Q | \| V \| \| \| |
| 11+55 | 0.0670 | 0.17 | Q | \| V \| \| \| |
| 12+ 0 | 0.0682 | 0.17 | Q | \| V \| \| \| |
| 12+ 5 | 0.0699 | 0.24 | Q | \| V \| \| \| |
| 12+10 | 0.0717 | 0.26 | \|Q | \| V \| \| \| |
| 12+15 | 0.0735 | 0.26 | \|Q | \| V \| \| \| |
| 12+20 | 0.0754 | 0.27 | \|Q | \| V \| \| \| |
| 12+25 | 0.0773 | 0.28 | \|Q | \| V \| \| \| |
| 12+30 | 0.0792 | 0.28 | \|Q | \| V\| \| \| |
| 12+35 | 0.0813 | 0.30 | \|Q | \| V\| \| \| |
| 12+40 | 0.0834 | 0.30 | \|Q | \| V \| \| \| |
| 12+45 | 0.0855 | 0.30 | \|Q | \| V \| \| \| |
| 12+50 | 0.0876 | 0.31 | \|Q | \| V \| \| \| |
| 12+55 | 0.0898 | 0.32 | \|Q | \| V \| \| \| |
| 13+ 0 | 0.0920 | 0.32 | \|Q | \| V \| \| \| |
| 13+ 5 | 0.0945 | 0.37 | \|Q | \| V \| \| \| |
| 13+10 | 0.0972 | 0.38 | \|Q | \| V \| \| \| |
| 13+15 | 0.0998 | 0.38 | \|Q | \| V \| \| \| |
| 13+20 | 0.1024 | 0.38 | \|Q | \| V \| \| \| |
| 13+25 | 0.1051 | 0.38 | \|Q | \| V \| \| \| |
| 13+30 | 0.1077 | 0.38 | \|Q | \| V \| \| \| |
| 13+35 | 0.1096 | 0.27 | \|Q | \| V \| \| \| |
| 13+40 | 0.1113 | 0.24 | Q | \| V \| \| \| |
| 13+45 | 0.1129 | 0.24 | Q | \| V \| \| \| |
| 13+50 | 0.1146 | 0.24 | Q | \| V \| \| \| |
| 13+55 | 0.1163 | 0.24 | Q | \| V \| \| \| |
| 14+ 0 | 0.1180 | 0.24 | Q | \| V \| \| \| |
| 14+ 5 | 0.1199 | 0.28 | \|Q | \| V\| \| \| |
| 14+10 | 0.1220 | 0.30 | \|Q | \| V\| \| \| |
| 14+15 | 0.1240 | 0.30 | \|Q | \| V \| \| \| |
| 14+20 | 0.1260 | 0.29 | \|Q | \| V \| \| \| |
| 14+25 | 0.1279 | 0.28 | \|Q | \| \|V \| \| |
| 14+30 | 0.1299 | 0.28 | \|Q | \| \|V \| \| |
| 14+35 | 0.1318 | 0.28 | \|Q | \| \|V \| \| |
| 14+40 | 0.1338 | 0.28 | \|Q | \| \| V \| \| |
| 14+45 | 0.1357 | 0.28 | \|Q | \| \| V \| \| |
| 14+50 | 0.1376 | 0.27 | \|Q | \| \| V \| \| |
| 14+55 | 0.1395 | 0.27 | \|Q | \| \| V \| \| |
| 15+ 0 | 0.1414 | 0.27 | \|Q | \| \| V \| \| |
| 15+ 5 | 0.1432 | 0.26 | \|Q | \| \| V \| \| |
| 15+10 | 0.1450 | 0.26 | \|Q | \| \| V \| \| |
| 15+15 | 0.1468 | 0.26 | \|Q | \| \| V \| \| |
| 15+20 | 0.1485 | 0.25 | \|Q | \| \| V \| \| |
| 15+25 | 0.1502 | 0.25 | Q | \| \| V \| \| |
| 15+30 | 0.1519 | 0.25 | Q | \| \| V \| \| |
| 15+35 | 0.1534 | 0.21 | Q | \| \| V \| \| |
| 15+40 | 0.1547 | 0.20 | Q | \| \| V \| \| |
| 15+45 | 0.1561 | 0.20 | Q | \| \| V \| \| |
| 15+50 | 0.1574 | 0.20 | Q | \| \| V \| \| |
| 15+55 | 0.1588 | 0.20 | Q | \| \| V \| \| |
| 16+ 0 | 0.1602 | 0.20 | Q | \| \| V \| \| |
| 16+ 5 | 0.1605 | 0.05 | Q | \| \| V \| \| |
| 16+10 | 0.1606 | 0.01 | Q | \| \| V \| \| |
| 16+15 | 0.1606 | 0.01 | Q | \| \| V \| \| |
| 16+20 | 0.1607 | 0.01 | Q | \| \| V \| \| |
| 16+25 | 0.1607 | 0.01 | Q | \| \| V \| \| |
| 16+30 | 0.1608 | 0.01 | Q | \| \| V \| \| |
| 16+35 | 0.1608 | 0.00 | Q | \| \| V \| \| |
| 16+40 | 0.1608 | 0.00 | Q | \| \| V\| |
| 16+45 | 0.1609 | 0.00 | Q | \| \| V\| |
| 16+50 | 0.1609 | 0.00 | Q | \| \| V\| |
| 16+55 | 0.1609 | 0.00 | Q | \| \| V\| |
| 17+ 0 | 0.1609 | 0.00 | Q | \| \| V\| |
| 17+ 5 | 0.1611 | 0.02 | Q | \| \| V\| |
| 17+10 | 0.1612 | 0.02 | Q | \| \| V\| |
| 17+15 | 0.1614 | 0.02 | Q | \| \| V\| |
| 17+20 | 0.1615 | 0.02 | Q | \| \| V\| |
| 17+25 | 0.1617 | 0.02 | Q | \| \| V\| |
| 17+30 | 0.1619 | 0.02 | Q | \| \| V\| |
| 17+35 | 0.1620 | 0.02 | Q | \| \| V\| |
| 17+40 | 0.1622 | 0.02 | Q | \| \| V\| |
| 17+45 | 0.1623 | 0.02 | Q | \| \| V\| |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+50 | 0.1624 | 0.01 | Q | \| | \| | \| | V\| |
| 17+55 | 0.1625 | 0.01 | Q | \| | \| | \| | V\| |
| 18+ 0 | 0.1626 | 0.01 | Q | \| | \| | \| | V\| |
| 18+ 5 | 0.1627 | 0.01 | Q | \| | \| | \| | V\| |
| 18+10 | 0.1628 | 0.01 | Q | \| | \| | \| | V\| |
| 18+15 | 0.1629 | 0.01 | Q | \| | \| | \| | V\| |
| 18+20 | 0.1629 | 0.01 | Q | \| | \| | \| | V\| |
| 18+25 | 0.1630 | 0.01 | Q | \| | \| | \| | V\| |
| 18+30 | 0.1631 | 0.01 | Q | \| | \| | \| | V\| |
| 18+35 | 0.1632 | 0.01 | Q | \| | \| | \| | V\| |
| 18+40 | 0.1632 | 0.00 | Q | \| | \| | \| | V\| |
| 18+45 | 0.1632 | 0.00 | Q | \| | \| | \| | V\| |
| 18+50 | 0.1632 | 0.00 | Q | \| | \| | \| | V\| |
| 18+55 | 0.1632 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 0 | 0.1633 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 5 | 0.1633 | 0.00 | Q | \| | \| | \| | V\| |
| 19+10 | 0.1633 | 0.00 | Q | \| | \| | \| | V\| |
| 19+15 | 0.1633 | 0.00 | Q | \| | \| | \| | V\| |
| 19+20 | 0.1634 | 0.01 | Q | \| | \| | \| | V\| |
| 19+25 | 0.1635 | 0.01 | Q | \| | \| | \| | V\| |
| 19+30 | 0.1636 | 0.01 | Q | \| | \| | \| | V\| |
| 19+35 | 0.1637 | 0.01 | Q | \| | \| | \| | V\| |
| 19+40 | 0.1637 | 0.00 | Q | \| | \| | \| | V\| |
| 19+45 | 0.1637 | 0.00 | Q | \| | \| | \| | V\| |
| 19+50 | 0.1638 | 0.00 | Q | \| | \| | \| | V\| |
| 19+55 | 0.1638 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 0 | 0.1638 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 5 | 0.1638 | 0.00 | Q | \| | \| | \| | V\| |
| 20+10 | 0.1638 | 0.00 | Q | \| | \| | \| | V\| |
| 20+15 | 0.1639 | 0.00 | Q | \| | \| | \| | V\| |
| 20+20 | 0.1639 | 0.00 | Q | \| | \| | \| | V\| |
| 20+25 | 0.1639 | 0.00 | Q | \| | \| | \| | V\| |
| 20+30 | 0.1639 | 0.00 | Q | \| | \| | \| | V\| |
| 20+35 | 0.1640 | 0.00 | Q | \| | \| | \| | V\| |
| 20+40 | 0.1640 | 0.00 | Q | \| | \| | \| | V\| |
| 20+45 | 0.1640 | 0.00 | Q | \| | \| | \| | V\| |
| 20+50 | 0.1641 | 0.00 | Q | \| | \| | \| | V\| |
| 20+55 | 0.1641 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 0 | 0.1641 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 5 | 0.1641 | 0.00 | Q | \| | \| | \| | V\| |
| 21+10 | 0.1642 | 0.01 | Q | \| | \| | \| | V\| |
| 21+15 | 0.1642 | 0.01 | Q | \| | \| | \| | V\| |
| 21+20 | 0.1642 | 0.00 | Q | \| | \| | \| | V\| |
| 21+25 | 0.1642 | 0.00 | Q | \| | \| | \| | V\| |
| 21+30 | 0.1643 | 0.00 | Q | \| | \| | \| | V\| |
| 21+35 | 0.1643 | 0.01 | Q | \| | \| | \| | V\| |
| 21+40 | 0.1643 | 0.01 | Q | \| | \| | \| | V\| |
| 21+45 | 0.1644 | 0.01 | Q | \| | \| | \| | V\| |
| 21+50 | 0.1644 | 0.00 | Q | \| | \| | \| | V\| |
| 21+55 | 0.1644 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 0 | 0.1644 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 5 | 0.1645 | 0.01 | Q | \| | \| | \| | V\| |
| 22+10 | 0.1645 | 0.01 | Q | \| | \| | \| | V\| |
| 22+15 | 0.1646 | 0.01 | Q | \| | \| | \| | V\| |
| 22+20 | 0.1646 | 0.00 | Q | \| | \| | \| | V\| |
| 22+25 | 0.1646 | 0.00 | Q | \| | \| | \| | V\| |
| 22+30 | 0.1646 | 0.00 | Q | \| | \| | \| | V\| |
| 22+35 | 0.1646 | 0.00 | Q | \| | \| | \| | V\| |
| 22+40 | 0.1647 | 0.00 | Q | \| | \| | \| | V\| |
| 22+45 | 0.1647 | 0.00 | Q | \| | \| | \| | V\| |
| 22+50 | 0.1647 | 0.00 | Q | \| | \| | \| | V\| |
| 22+55 | 0.1647 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 0 | 0.1647 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 5 | 0.1647 | 0.00 | Q | \| | \| | \| | V\| |
| 23+10 | 0.1648 | 0.00 | Q | \| | \| | \| | V\| |
| 23+15 | 0.1648 | 0.00 | Q | \| | \| | \| | V\| |
| 23+20 | 0.1648 | 0.00 | Q | \| | \| | \| | V\| |
| 23+25 | 0.1648 | 0.00 | Q | \| | \| | \| | V\| |
| 23+30 | 0.1648 | 0.00 | Q | \| | \| | \| | V\| |
| 23+35 | 0.1648 | 0.00 | Q | \| | \| | \| | V\| |
| 23+40 | 0.1649 | 0.00 | Q | \| | \| | \| | V\| |
| 23+45 | 0.1649 | 0.00 | Q | \| | \| | \| | V\| |
| 23+50 | 0.1649 | 0.00 | Q | \| | \| | \| | V\| |
| 23+55 | 0.1649 | 0.00 | Q | \| | \| | \| | V\| |
| 24+ 0 | 0.1649 | 0.00 | Q | \| | \| | \| | V\| |
| 24+ 5 | 0.1649 | 0.00 | Q | \| | \| | \| | V\| |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX251100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 25
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 11.00(Ac.) = 0.017 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 11.00(Ac.) = 0.017 Sq. Mi.
Length along longest watercourse = 956.00(Ft.)
Length along longest watercourse measured to centroid = 574.00(Ft.)
Length along longest watercourse = 0.181 Mi.
Length along longest watercourse measured to centroid = 0.109 Mi.
Difference in elevation = 144.00(Ft.)
Slope along watercourse = 795.3138 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.053 Hr.
Lag time = 3.18 Min.
25% of lag time = 0.80 Min.
40% of lag time = 1.27 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 11.00 | 0.49 | 5.39 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 11.00 | 1.20 | 13.20 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.490(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 11.000 | 83.85 | 0.000 |

Total Area Entered = 11.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.8 | 93.3 | 0.087 | 0.000 | 0.087 | 1.000 | 0.087 |
| | | | | | Sum (F) = | 0.087 |

Area averaged mean soil loss (F) (In/Hr) = 0.087

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 156.994 | 32.426 | 3.595 |
| 2 0.167 | 313.988 | 53.790 | 5.963 |
| 3 0.250 | 470.982 | 11.033 | 1.223 |
| 4 0.333 | 627.976 | 2.066 | 0.229 |
| 5 0.417 | 784.970 | 0.685 | 0.076 |
| | Sum = 100.000 | Sum= | 11.086 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 4.20 | 0.605 | 0.087 | ( 0.544) | 0.518 |
| 2 0.17 | 4.30 | 0.619 | 0.087 | ( 0.557) | 0.532 |
| 3 0.25 | 5.00 | 0.720 | 0.087 | ( 0.648) | 0.633 |
| 4 0.33 | 5.00 | 0.720 | 0.087 | ( 0.648) | 0.633 |
| 5 0.42 | 5.80 | 0.835 | 0.087 | ( 0.752) | 0.748 |
| 6 0.50 | 6.50 | 0.936 | 0.087 | ( 0.842) | 0.849 |
| 7 0.58 | 7.40 | 1.065 | 0.087 | ( 0.959) | 0.979 |
| 8 0.67 | 8.60 | 1.238 | 0.087 | ( 1.114) | 1.151 |
| 9 0.75 | 12.30 | 1.771 | 0.087 | ( 1.594) | 1.684 |
| 10 0.83 | 29.10 | 4.190 | 0.087 | ( 3.771) | 4.103 |
| 11 0.92 | 6.80 | 0.979 | 0.087 | ( 0.881) | 0.892 |
| 12 1.00 | 5.00 | 0.720 | 0.087 | ( 0.648) | 0.633 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 13.4 |

Flood volume = Effective rainfall 1.11(In)
times area 11.0(Ac.)/[(In)/(Ft.)] = 1.0(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.080(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 44438.5 Cubic Feet
Total soil loss = 3472.7 Cubic Feet

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Peak flow rate of this hydrograph = 30.087(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 10.0 20.0 30.0 40.0 |
|---|---|---|---|
| 0+ 5 | 0.0128 | 1.86 | VQ |
| 0+10 | 0.0473 | 5.00 | V Q |
| 0+15 | 0.0892 | 6.09 | V Q |
| 0+20 | 0.1362 | 6.82 | VQ |
| 0+25 | 0.1872 | 7.40 | Q |
| 0+30 | 0.2455 | 8.48 | QV |
| 0+35 | 0.3123 | 9.69 | Q V |
| 0+40 | 0.3897 | 11.24 | Q V |
| 0+45 | 0.4887 | 14.37 | Q V |
| 0+50 | 0.6712 | 26.50 | Q |
| 0+55 | 0.8784 | 30.09 | Q V |
| 1+ 0 | 0.9686 | 13.09 | Q V |
| 1+ 5 | 1.0095 | 5.94 | Q V |
| 1+10 | 1.0184 | 1.29 | Q V |
| 1+15 | 1.0198 | 0.21 | Q V |
| 1+20 | 1.0202 | 0.05 | Q V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX253100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 25
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 11.00(Ac.) = 0.017 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 11.00(Ac.) = 0.017 Sq. Mi.
Length along longest watercourse = 956.00(Ft.)
Length along longest watercourse measured to centroid = 574.00(Ft.)
Length along longest watercourse = 0.181 Mi.
Length along longest watercourse measured to centroid = 0.109 Mi.
Difference in elevation = 144.00(Ft.)
Slope along watercourse = 795.3138 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.053 Hr.
Lag time = 3.18 Min.
25% of lag time = 0.80 Min.
40% of lag time = 1.27 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 11.00 | 0.80 | 8.80 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 11.00 | 1.80 | 19.80 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 11.000 | 83.85 | 0.000 |

Total Area Entered = 11.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.8 | 93.3 | 0.087 | 0.000 | 0.087 | 1.000 | 0.087 |
| | | | | | Sum (F) = | 0.087 |

Area averaged mean soil loss (F) (In/Hr) = 0.087

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 156.994 | 32.426 | 3.595 |
| 2 | 0.167 | 313.988 | 53.790 | 5.963 |
| 3 | 0.250 | 470.982 | 11.033 | 1.223 |
| 4 | 0.333 | 627.976 | 2.066 | 0.229 |
| 5 | 0.417 | 784.970 | 0.685 | 0.076 |
| | | | Sum = 100.000 | Sum= 11.086 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.281 | 0.087 | ( 0.253) | 0.194 |
| 2 | 0.17 | 1.30 | 0.281 | 0.087 | ( 0.253) | 0.194 |
| 3 | 0.25 | 1.10 | 0.238 | 0.087 | ( 0.214) | 0.151 |
| 4 | 0.33 | 1.50 | 0.324 | 0.087 | ( 0.292) | 0.237 |
| 5 | 0.42 | 1.50 | 0.324 | 0.087 | ( 0.292) | 0.237 |
| 6 | 0.50 | 1.80 | 0.389 | 0.087 | ( 0.350) | 0.302 |
| 7 | 0.58 | 1.50 | 0.324 | 0.087 | ( 0.292) | 0.237 |
| 8 | 0.67 | 1.80 | 0.389 | 0.087 | ( 0.350) | 0.302 |
| 9 | 0.75 | 1.80 | 0.389 | 0.087 | ( 0.350) | 0.302 |
| 10 | 0.83 | 1.50 | 0.324 | 0.087 | ( 0.292) | 0.237 |
| 11 | 0.92 | 1.60 | 0.346 | 0.087 | ( 0.311) | 0.259 |
| 12 | 1.00 | 1.80 | 0.389 | 0.087 | ( 0.350) | 0.302 |
| 13 | 1.08 | 2.20 | 0.475 | 0.087 | ( 0.428) | 0.388 |
| 14 | 1.17 | 2.20 | 0.475 | 0.087 | ( 0.428) | 0.388 |
| 15 | 1.25 | 2.20 | 0.475 | 0.087 | ( 0.428) | 0.388 |
| 16 | 1.33 | 2.00 | 0.432 | 0.087 | ( 0.389) | 0.345 |
| 17 | 1.42 | 2.60 | 0.562 | 0.087 | ( 0.505) | 0.475 |
| 18 | 1.50 | 2.70 | 0.583 | 0.087 | ( 0.525) | 0.496 |
| 19 | 1.58 | 2.40 | 0.518 | 0.087 | ( 0.467) | 0.431 |
| 20 | 1.67 | 2.70 | 0.583 | 0.087 | ( 0.525) | 0.496 |
| 21 | 1.75 | 3.30 | 0.713 | 0.087 | ( 0.641) | 0.626 |
| 22 | 1.83 | 3.10 | 0.670 | 0.087 | ( 0.603) | 0.583 |
| 23 | 1.92 | 2.90 | 0.626 | 0.087 | ( 0.564) | 0.539 |
| 24 | 2.00 | 3.00 | 0.648 | 0.087 | ( 0.583) | 0.561 |
| 25 | 2.08 | 3.10 | 0.670 | 0.087 | ( 0.603) | 0.583 |
| 26 | 2.17 | 4.20 | 0.907 | 0.087 | ( 0.816) | 0.820 |
| 27 | 2.25 | 5.00 | 1.080 | 0.087 | ( 0.972) | 0.993 |
| 28 | 2.33 | 3.50 | 0.756 | 0.087 | ( 0.680) | 0.669 |
| 29 | 2.42 | 6.80 | 1.469 | 0.087 | ( 1.322) | 1.382 |
| 30 | 2.50 | 7.30 | 1.577 | 0.087 | ( 1.419) | 1.490 |
| 31 | 2.58 | 8.20 | 1.771 | 0.087 | ( 1.594) | 1.684 |
| 32 | 2.67 | 5.90 | 1.274 | 0.087 | ( 1.147) | 1.187 |
| 33 | 2.75 | 2.00 | 0.432 | 0.087 | ( 0.389) | 0.345 |
| 34 | 2.83 | 1.80 | 0.389 | 0.087 | ( 0.350) | 0.302 |
| 35 | 2.92 | 1.80 | 0.389 | 0.087 | ( 0.350) | 0.302 |
| 36 | 3.00 | 0.60 | 0.130 | 0.087 | ( 0.117) | 0.043 |
| | | (Loss Rate Not Used) | | | |
| Sum = | | 100.0 | | | Sum = 18.5 |

Flood volume = Effective rainfall 1.54(In)
times area 11.0(Ac.)/[(In)/(Ft.)] = 1.4(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.239(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 61452.4 Cubic Feet
Total soil loss = 10418.1 Cubic Feet

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Peak flow rate of this hydrograph = 16.865(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 5.0 10.0 15.0 20.0 |
|---|---|---|---|
| 0+ 5 | 0.0048 | 0.70 | VQ |
| 0+10 | 0.0176 | 1.85 | V Q |
| 0+15 | 0.0309 | 1.94 | V Q |
| 0+20 | 0.0449 | 2.03 | V Q |
| 0+25 | 0.0622 | 2.51 | V Q |
| 0+30 | 0.0817 | 2.84 | V Q |
| 0+35 | 0.1025 | 3.01 | V Q |
| 0+40 | 0.1227 | 2.94 | V Q |
| 0+45 | 0.1452 | 3.26 | V Q |
| 0+50 | 0.1665 | 3.10 | V Q |
| 0+55 | 0.1858 | 2.80 | Q |
| 1+ 0 | 0.2066 | 3.01 | VQ |
| 1+ 5 | 0.2313 | 3.59 | VQ |
| 1+10 | 0.2599 | 4.16 | VQ |
| 1+15 | 0.2894 | 4.28 | Q |
| 1+20 | 0.3179 | 4.14 | QV |
| 1+25 | 0.3479 | 4.36 | QV |
| 1+30 | 0.3835 | 5.16 | Q |
| 1+35 | 0.4193 | 5.20 | QV |
| 1+40 | 0.4544 | 5.10 | Q V |
| 1+45 | 0.4950 | 5.89 | Q V |
| 1+50 | 0.5402 | 6.57 | Q V |
| 1+55 | 0.5838 | 6.33 | Q V |
| 2+ 0 | 0.6260 | 6.13 | Q V |
| 2+ 5 | 0.6693 | 6.28 | Q V |
| 2+10 | 0.7194 | 7.28 | Q V |
| 2+15 | 0.7838 | 9.35 | Q V |
| 2+20 | 0.8493 | 9.51 | Q V |
| 2+25 | 0.9210 | 10.41 | Q V |
| 2+30 | 1.0223 | 14.71 | VQ |
| 2+35 | 1.1385 | 16.86 | VQ |
| 2+40 | 1.2522 | 16.51 | Q V |
| 2+45 | 1.3268 | 10.83 | Q V |
| 2+50 | 1.3619 | 5.10 | Q V |
| 2+55 | 1.3874 | 3.71 | Q V |
| 3+ 0 | 1.4046 | 2.49 | Q V |
| 3+ 5 | 1.4095 | 0.72 | Q V |
| 3+10 | 1.4105 | 0.14 | Q V |
| 3+15 | 1.4107 | 0.03 | Q V |
| 3+20 | 1.4108 | 0.00 | Q V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX256100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 25
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 11.00(Ac.) = 0.017 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 11.00(Ac.) = 0.017 Sq. Mi.
Length along longest watercourse = 956.00(Ft.)
Length along longest watercourse measured to centroid = 574.00(Ft.)
Length along longest watercourse = 0.181 Mi.
Length along longest watercourse measured to centroid = 0.109 Mi.
Difference in elevation = 144.00(Ft.)
Slope along watercourse = 795.3138 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.053 Hr.
Lag time = 3.18 Min.
25% of lag time = 0.80 Min.
40% of lag time = 1.27 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 11.00 | 1.12 | 12.32 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 11.00 | 2.50 | 27.50 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.120(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 11.000 | 83.85 | 0.000 |

Total Area Entered = 11.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.8 | 93.3 | 0.087 | 0.000 | 0.087 | 1.000 | 0.087 |
| | | | | | Sum (F) = | 0.087 |

Area averaged mean soil loss (F) (In/Hr) = 0.087

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 156.994 | 32.426 | 3.595 |
| 2 0.167 | 313.988 | 53.790 | 5.963 |
| 3 0.250 | 470.982 | 11.033 | 1.223 |
| 4 0.333 | 627.976 | 2.066 | 0.229 |
| 5 0.417 | 784.970 | 0.685 | 0.076 |
| | Sum = | 100.000 Sum= | 11.086 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.087 | ( 0.135) | 0.063 |
| 2 | 0.17 | 0.60 | 0.180 | 0.087 | ( 0.162) | 0.093 |
| 3 | 0.25 | 0.60 | 0.180 | 0.087 | ( 0.162) | 0.093 |
| 4 | 0.33 | 0.60 | 0.180 | 0.087 | ( 0.162) | 0.093 |
| 5 | 0.42 | 0.60 | 0.180 | 0.087 | ( 0.162) | 0.093 |
| 6 | 0.50 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 7 | 0.58 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 8 | 0.67 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 9 | 0.75 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 10 | 0.83 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 11 | 0.92 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 12 | 1.00 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 13 | 1.08 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 14 | 1.17 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 15 | 1.25 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 16 | 1.33 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 17 | 1.42 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 18 | 1.50 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 19 | 1.58 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 20 | 1.67 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 21 | 1.75 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 22 | 1.83 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 23 | 1.92 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 24 | 2.00 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 25 | 2.08 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 26 | 2.17 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 27 | 2.25 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 28 | 2.33 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 29 | 2.42 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 30 | 2.50 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 31 | 2.58 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 32 | 2.67 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 33 | 2.75 | 1.00 | 0.300 | 0.087 | ( 0.270) | 0.213 |
| 34 | 2.83 | 1.00 | 0.300 | 0.087 | ( 0.270) | 0.213 |
| 35 | 2.92 | 1.00 | 0.300 | 0.087 | ( 0.270) | 0.213 |
| 36 | 3.00 | 1.00 | 0.300 | 0.087 | ( 0.270) | 0.213 |
| 37 | 3.08 | 1.00 | 0.300 | 0.087 | ( 0.270) | 0.213 |
| 38 | 3.17 | 1.10 | 0.330 | 0.087 | ( 0.297) | 0.243 |
| 39 | 3.25 | 1.10 | 0.330 | 0.087 | ( 0.297) | 0.243 |
| 40 | 3.33 | 1.10 | 0.330 | 0.087 | ( 0.297) | 0.243 |
| 41 | 3.42 | 1.20 | 0.360 | 0.087 | ( 0.324) | 0.273 |
| 42 | 3.50 | 1.30 | 0.390 | 0.087 | ( 0.351) | 0.303 |
| 43 | 3.58 | 1.40 | 0.420 | 0.087 | ( 0.378) | 0.333 |
| 44 | 3.67 | 1.40 | 0.420 | 0.087 | ( 0.378) | 0.333 |
| 45 | 3.75 | 1.50 | 0.450 | 0.087 | ( 0.405) | 0.363 |
| 46 | 3.83 | 1.50 | 0.450 | 0.087 | ( 0.405) | 0.363 |
| 47 | 3.92 | 1.60 | 0.480 | 0.087 | ( 0.432) | 0.393 |
| 48 | 4.00 | 1.60 | 0.480 | 0.087 | ( 0.432) | 0.393 |
| 49 | 4.08 | 1.70 | 0.510 | 0.087 | ( 0.459) | 0.423 |
| 50 | 4.17 | 1.80 | 0.540 | 0.087 | ( 0.486) | 0.453 |
| 51 | 4.25 | 1.90 | 0.570 | 0.087 | ( 0.513) | 0.483 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 52 | 4.33 | 2.00 | 0.600 | 0.087 | ( 0.540) | 0.513 | |
| 53 | 4.42 | 2.10 | 0.630 | 0.087 | ( 0.567) | 0.543 | |
| 54 | 4.50 | 2.10 | 0.630 | 0.087 | ( 0.567) | 0.543 | |
| 55 | 4.58 | 2.20 | 0.660 | 0.087 | ( 0.594) | 0.573 | |
| 56 | 4.67 | 2.30 | 0.690 | 0.087 | ( 0.621) | 0.603 | |
| 57 | 4.75 | 2.40 | 0.720 | 0.087 | ( 0.648) | 0.633 | |
| 58 | 4.83 | 2.40 | 0.720 | 0.087 | ( 0.648) | 0.633 | |
| 59 | 4.92 | 2.50 | 0.750 | 0.087 | ( 0.675) | 0.663 | |
| 60 | 5.00 | 2.60 | 0.780 | 0.087 | ( 0.702) | 0.693 | |
| 61 | 5.08 | 3.10 | 0.930 | 0.087 | ( 0.837) | 0.843 | |
| 62 | 5.17 | 3.60 | 1.080 | 0.087 | ( 0.972) | 0.993 | |
| 63 | 5.25 | 3.90 | 1.170 | 0.087 | ( 1.053) | 1.083 | |
| 64 | 5.33 | 4.20 | 1.260 | 0.087 | ( 1.134) | 1.173 | |
| 65 | 5.42 | 4.70 | 1.410 | 0.087 | ( 1.269) | 1.323 | |
| 66 | 5.50 | 5.60 | 1.680 | 0.087 | ( 1.512) | 1.593 | |
| 67 | 5.58 | 1.90 | 0.570 | 0.087 | ( 0.513) | 0.483 | |
| 68 | 5.67 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 | |
| 69 | 5.75 | 0.60 | 0.180 | 0.087 | ( 0.162) | 0.093 | |
| 70 | 5.83 | 0.50 | 0.150 | 0.087 | ( 0.135) | 0.063 | |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.087) | 0.081 | 0.009 | |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.087) | 0.054 | 0.006 | |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.8

Flood volume = Effective rainfall 1.98(In)
times area 11.0(Ac.)/[(In)/(Ft.)] = 1.8(Ac.Ft)
Total soil loss = 0.52(In)
Total soil loss = 0.475(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 79114.5 Cubic Feet
Total soil loss = 20706.7 Cubic Feet

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Peak flow rate of this hydrograph = 15.381(CFS)

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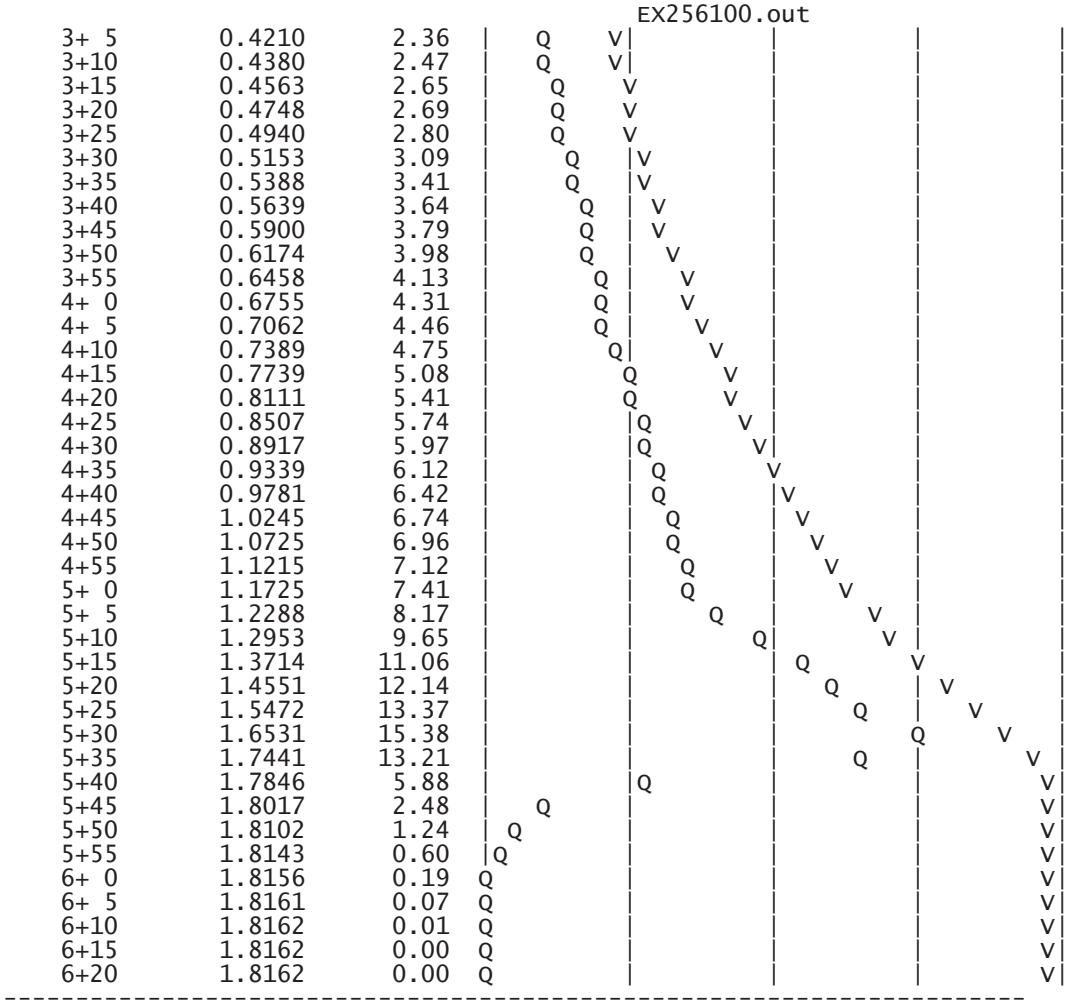
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 5.0 | 10.0 | 15.0 | 20.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0016 | 0.23 | Q | | | | |
| 0+10 | 0.0065 | 0.71 | VQ | | | | |
| 0+15 | 0.0131 | 0.97 | VQ | | | | |
| 0+20 | 0.0201 | 1.02 | V Q | | | | |
| 0+25 | 0.0272 | 1.03 | V Q | | | | |
| 0+30 | 0.0351 | 1.14 | V Q | | | | |
| 0+35 | 0.0441 | 1.32 | V Q | | | | |
| 0+40 | 0.0535 | 1.36 | \|VQ | | | | |
| 0+45 | 0.0629 | 1.36 | \|VQ | | | | |
| 0+50 | 0.0723 | 1.36 | \|VQ | | | | |
| 0+55 | 0.0817 | 1.36 | \|VQ | | | | |
| 1+ 0 | 0.0918 | 1.47 | \| Q | | | | |
| 1+ 5 | 0.1032 | 1.65 | \| VQ | | | | |
| 1+10 | 0.1148 | 1.69 | \| VQ | | | | |
| 1+15 | 0.1265 | 1.69 | \| VQ | | | | |
| 1+20 | 0.1382 | 1.70 | \| Q | | | | |
| 1+25 | 0.1498 | 1.70 | \| Q | | | | |
| 1+30 | 0.1615 | 1.70 | \| Q | | | | |
| 1+35 | 0.1732 | 1.70 | \| Q | | | | |
| 1+40 | 0.1849 | 1.70 | \| QV | | | | |
| 1+45 | 0.1966 | 1.70 | \| QV | | | | |
| 1+50 | 0.2083 | 1.70 | \| QV | | | | |
| 1+55 | 0.2200 | 1.70 | \| QV | | | | |
| 2+ 0 | 0.2324 | 1.81 | \| Q V | | | | |
| 2+ 5 | 0.2453 | 1.88 | \| Q V | | | | |
| 2+10 | 0.2580 | 1.84 | \| Q V | | | | |
| 2+15 | 0.2717 | 1.99 | \| Q V | | | | |
| 2+20 | 0.2857 | 2.02 | \| Q V | | | | |
| 2+25 | 0.2996 | 2.03 | \| Q V | | | | |
| 2+30 | 0.3136 | 2.03 | \| Q V | | | | |
| 2+35 | 0.3276 | 2.03 | \| Q V | | | | |
| 2+40 | 0.3416 | 2.03 | \| Q V | | | | |
| 2+45 | 0.3563 | 2.14 | \| Q V | | | | |
| 2+50 | 0.3723 | 2.32 | \| Q V | | | | |
| 2+55 | 0.3885 | 2.35 | \| Q V | | | | |
| 3+ 0 | 0.4047 | 2.36 | \| Q V | | | | |


3+ 5 0.4210 2.36
3+10 0.4380 2.47
3+15 0.4563 2.65
3+20 0.4748 2.69
3+25 0.4940 2.80
3+30 0.5153 3.09
3+35 0.5388 3.41
3+40 0.5639 3.64
3+45 0.5900 3.79
3+50 0.6174 3.98
3+55 0.6458 4.13
4+ 0 0.6755 4.31
4+ 5 0.7062 4.46
4+10 0.7389 4.75
4+15 0.7739 5.08
4+20 0.8111 5.41
4+25 0.8507 5.74
4+30 0.8917 5.97
4+35 0.9339 6.12
4+40 0.9781 6.42
4+45 1.0245 6.74
4+50 1.0725 6.96
4+55 1.1215 7.12
5+ 0 1.1725 7.41
5+ 5 1.2288 8.17
5+10 1.2953 9.65
5+15 1.3714 11.06
5+20 1.4551 12.14
5+25 1.5472 13.37
5+30 1.6531 15.38
5+35 1.7441 13.21
5+40 1.7846 5.88
5+45 1.8017 2.48
5+50 1.8102 1.24
5+55 1.8143 0.60
6+ 0 1.8156 0.19
6+ 5 1.8161 0.07
6+10 1.8162 0.01
6+15 1.8162 0.00
6+20 1.8162 0.00

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX2524100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 25
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 11.00(Ac.) = 0.017 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 11.00(Ac.) = 0.017 Sq. Mi.
Length along longest watercourse = 956.00(Ft.)
Length along longest watercourse measured to centroid = 574.00(Ft.)
Length along longest watercourse = 0.181 Mi.
Length along longest watercourse measured to centroid = 0.109 Mi.
Difference in elevation = 144.00(Ft.)
Slope along watercourse = 795.3138 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.053 Hr.
Lag time = 3.18 Min.
25% of lag time = 0.80 Min.
40% of lag time = 1.27 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 11.00 | 1.80 | 19.80 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 11.00 | 4.54 | 49.94 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.540(In)

Point rain (area averaged) = 4.540(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.540(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 11.000 | 83.85 | 0.000 |

Total Area Entered = 11.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.8 | 93.3 | 0.087 | 0.000 | 0.087 | 1.000 | 0.087 |
| | | | | | Sum (F) = | 0.087 |

Area averaged mean soil loss (F) (In/Hr) = 0.087

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 156.994 | 32.426 | 3.595 |
| 2 | 0.167 | 313.988 | 53.790 | 5.963 |
| 3 | 0.250 | 470.982 | 11.033 | 1.223 |
| 4 | 0.333 | 627.976 | 2.066 | 0.229 |
| 5 | 0.417 | 784.970 | 0.685 | 0.076 |
| | | | Sum = 100.000 | Sum= 11.086 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.036 | ( 0.154) | 0.033 | 0.004 |
| 2 | 0.17 | 0.07 | 0.036 | ( 0.154) | 0.033 | 0.004 |
| 3 | 0.25 | 0.07 | 0.036 | ( 0.153) | 0.033 | 0.004 |
| 4 | 0.33 | 0.10 | 0.054 | ( 0.152) | 0.049 | 0.005 |
| 5 | 0.42 | 0.10 | 0.054 | ( 0.152) | 0.049 | 0.005 |
| 6 | 0.50 | 0.10 | 0.054 | ( 0.151) | 0.049 | 0.005 |
| 7 | 0.58 | 0.10 | 0.054 | ( 0.151) | 0.049 | 0.005 |
| 8 | 0.67 | 0.10 | 0.054 | ( 0.150) | 0.049 | 0.005 |
| 9 | 0.75 | 0.10 | 0.054 | ( 0.149) | 0.049 | 0.005 |
| 10 | 0.83 | 0.13 | 0.073 | ( 0.149) | 0.065 | 0.007 |
| 11 | 0.92 | 0.13 | 0.073 | ( 0.148) | 0.065 | 0.007 |
| 12 | 1.00 | 0.13 | 0.073 | ( 0.148) | 0.065 | 0.007 |
| 13 | 1.08 | 0.10 | 0.054 | ( 0.147) | 0.049 | 0.005 |
| 14 | 1.17 | 0.10 | 0.054 | ( 0.147) | 0.049 | 0.005 |
| 15 | 1.25 | 0.10 | 0.054 | ( 0.146) | 0.049 | 0.005 |
| 16 | 1.33 | 0.10 | 0.054 | ( 0.145) | 0.049 | 0.005 |
| 17 | 1.42 | 0.10 | 0.054 | ( 0.145) | 0.049 | 0.005 |
| 18 | 1.50 | 0.10 | 0.054 | ( 0.144) | 0.049 | 0.005 |
| 19 | 1.58 | 0.10 | 0.054 | ( 0.144) | 0.049 | 0.005 |
| 20 | 1.67 | 0.10 | 0.054 | ( 0.143) | 0.049 | 0.005 |
| 21 | 1.75 | 0.10 | 0.054 | ( 0.142) | 0.049 | 0.005 |
| 22 | 1.83 | 0.13 | 0.073 | ( 0.142) | 0.065 | 0.007 |
| 23 | 1.92 | 0.13 | 0.073 | ( 0.141) | 0.065 | 0.007 |
| 24 | 2.00 | 0.13 | 0.073 | ( 0.141) | 0.065 | 0.007 |
| 25 | 2.08 | 0.13 | 0.073 | ( 0.140) | 0.065 | 0.007 |
| 26 | 2.17 | 0.13 | 0.073 | ( 0.140) | 0.065 | 0.007 |
| 27 | 2.25 | 0.13 | 0.073 | ( 0.139) | 0.065 | 0.007 |
| 28 | 2.33 | 0.13 | 0.073 | ( 0.138) | 0.065 | 0.007 |
| 29 | 2.42 | 0.13 | 0.073 | ( 0.138) | 0.065 | 0.007 |
| 30 | 2.50 | 0.13 | 0.073 | ( 0.137) | 0.065 | 0.007 |
| 31 | 2.58 | 0.17 | 0.091 | ( 0.137) | 0.082 | 0.009 |
| 32 | 2.67 | 0.17 | 0.091 | ( 0.136) | 0.082 | 0.009 |
| 33 | 2.75 | 0.17 | 0.091 | ( 0.136) | 0.082 | 0.009 |
| 34 | 2.83 | 0.17 | 0.091 | ( 0.135) | 0.082 | 0.009 |
| 35 | 2.92 | 0.17 | 0.091 | ( 0.135) | 0.082 | 0.009 |
| 36 | 3.00 | 0.17 | 0.091 | ( 0.134) | 0.082 | 0.009 |
| 37 | 3.08 | 0.17 | 0.091 | ( 0.133) | 0.082 | 0.009 |
| 38 | 3.17 | 0.17 | 0.091 | ( 0.133) | 0.082 | 0.009 |
| 39 | 3.25 | 0.17 | 0.091 | ( 0.132) | 0.082 | 0.009 |
| 40 | 3.33 | 0.17 | 0.091 | ( 0.132) | 0.082 | 0.009 |
| 41 | 3.42 | 0.17 | 0.091 | ( 0.131) | 0.082 | 0.009 |
| 42 | 3.50 | 0.17 | 0.091 | ( 0.131) | 0.082 | 0.009 |
| 43 | 3.58 | 0.17 | 0.091 | ( 0.130) | 0.082 | 0.009 |
| 44 | 3.67 | 0.17 | 0.091 | ( 0.130) | 0.082 | 0.009 |
| 45 | 3.75 | 0.17 | 0.091 | ( 0.129) | 0.082 | 0.009 |
| 46 | 3.83 | 0.20 | 0.109 | ( 0.129) | 0.098 | 0.011 |
| 47 | 3.92 | 0.20 | 0.109 | ( 0.128) | 0.098 | 0.011 |
| 48 | 4.00 | 0.20 | 0.109 | ( 0.127) | 0.098 | 0.011 |
| 49 | 4.08 | 0.20 | 0.109 | ( 0.127) | 0.098 | 0.011 |
| 50 | 4.17 | 0.20 | 0.109 | ( 0.126) | 0.098 | 0.011 |
| 51 | 4.25 | 0.20 | 0.109 | ( 0.126) | 0.098 | 0.011 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 52 | 4.33 | 0.23 | 0.127 | ( 0.125) | 0.114 | 0.013 |
| 53 | 4.42 | 0.23 | 0.127 | ( 0.125) | 0.114 | 0.013 |
| 54 | 4.50 | 0.23 | 0.127 | ( 0.124) | 0.114 | 0.013 |
| 55 | 4.58 | 0.23 | 0.127 | ( 0.124) | 0.114 | 0.013 |
| 56 | 4.67 | 0.23 | 0.127 | ( 0.123) | 0.114 | 0.013 |
| 57 | 4.75 | 0.23 | 0.127 | ( 0.123) | 0.114 | 0.013 |
| 58 | 4.83 | 0.27 | 0.145 | 0.122 | ( 0.131) | 0.023 |
| 59 | 4.92 | 0.27 | 0.145 | 0.122 | ( 0.131) | 0.024 |
| 60 | 5.00 | 0.27 | 0.145 | 0.121 | ( 0.131) | 0.024 |
| 61 | 5.08 | 0.20 | 0.109 | ( 0.120) | 0.098 | 0.011 |
| 62 | 5.17 | 0.20 | 0.109 | ( 0.120) | 0.098 | 0.011 |
| 63 | 5.25 | 0.20 | 0.109 | ( 0.119) | 0.098 | 0.011 |
| 64 | 5.33 | 0.23 | 0.127 | ( 0.119) | 0.114 | 0.013 |
| 65 | 5.42 | 0.23 | 0.127 | ( 0.118) | 0.114 | 0.013 |
| 66 | 5.50 | 0.23 | 0.127 | ( 0.118) | 0.114 | 0.013 |
| 67 | 5.58 | 0.27 | 0.145 | 0.117 | ( 0.131) | 0.028 |
| 68 | 5.67 | 0.27 | 0.145 | 0.117 | ( 0.131) | 0.028 |
| 69 | 5.75 | 0.27 | 0.145 | 0.116 | ( 0.131) | 0.029 |
| 70 | 5.83 | 0.27 | 0.145 | 0.116 | ( 0.131) | 0.029 |
| 71 | 5.92 | 0.27 | 0.145 | 0.115 | ( 0.131) | 0.030 |
| 72 | 6.00 | 0.27 | 0.145 | 0.115 | ( 0.131) | 0.030 |
| 73 | 6.08 | 0.30 | 0.163 | 0.114 | ( 0.147) | 0.049 |
| 74 | 6.17 | 0.30 | 0.163 | 0.114 | ( 0.147) | 0.050 |
| 75 | 6.25 | 0.30 | 0.163 | 0.113 | ( 0.147) | 0.050 |
| 76 | 6.33 | 0.30 | 0.163 | 0.113 | ( 0.147) | 0.051 |
| 77 | 6.42 | 0.30 | 0.163 | 0.112 | ( 0.147) | 0.051 |
| 78 | 6.50 | 0.30 | 0.163 | 0.112 | ( 0.147) | 0.052 |
| 79 | 6.58 | 0.33 | 0.182 | 0.111 | ( 0.163) | 0.070 |
| 80 | 6.67 | 0.33 | 0.182 | 0.111 | ( 0.163) | 0.071 |
| 81 | 6.75 | 0.33 | 0.182 | 0.110 | ( 0.163) | 0.071 |
| 82 | 6.83 | 0.33 | 0.182 | 0.110 | ( 0.163) | 0.072 |
| 83 | 6.92 | 0.33 | 0.182 | 0.109 | ( 0.163) | 0.072 |
| 84 | 7.00 | 0.33 | 0.182 | 0.109 | ( 0.163) | 0.073 |
| 85 | 7.08 | 0.33 | 0.182 | 0.108 | ( 0.163) | 0.073 |
| 86 | 7.17 | 0.33 | 0.182 | 0.108 | ( 0.163) | 0.074 |
| 87 | 7.25 | 0.33 | 0.182 | 0.107 | ( 0.163) | 0.074 |
| 88 | 7.33 | 0.37 | 0.200 | 0.107 | ( 0.180) | 0.093 |
| 89 | 7.42 | 0.37 | 0.200 | 0.106 | ( 0.180) | 0.093 |
| 90 | 7.50 | 0.37 | 0.200 | 0.106 | ( 0.180) | 0.094 |
| 91 | 7.58 | 0.40 | 0.218 | 0.105 | ( 0.196) | 0.113 |
| 92 | 7.67 | 0.40 | 0.218 | 0.105 | ( 0.196) | 0.113 |
| 93 | 7.75 | 0.40 | 0.218 | 0.104 | ( 0.196) | 0.114 |
| 94 | 7.83 | 0.43 | 0.236 | 0.104 | ( 0.212) | 0.132 |
| 95 | 7.92 | 0.43 | 0.236 | 0.103 | ( 0.212) | 0.133 |
| 96 | 8.00 | 0.43 | 0.236 | 0.103 | ( 0.212) | 0.133 |
| 97 | 8.08 | 0.50 | 0.272 | 0.102 | ( 0.245) | 0.170 |
| 98 | 8.17 | 0.50 | 0.272 | 0.102 | ( 0.245) | 0.170 |
| 99 | 8.25 | 0.50 | 0.272 | 0.101 | ( 0.245) | 0.171 |
| 100 | 8.33 | 0.50 | 0.272 | 0.101 | ( 0.245) | 0.171 |
| 101 | 8.42 | 0.50 | 0.272 | 0.101 | ( 0.245) | 0.172 |
| 102 | 8.50 | 0.50 | 0.272 | 0.100 | ( 0.245) | 0.172 |
| 103 | 8.58 | 0.53 | 0.291 | 0.100 | ( 0.261) | 0.191 |
| 104 | 8.67 | 0.53 | 0.291 | 0.099 | ( 0.261) | 0.191 |
| 105 | 8.75 | 0.53 | 0.291 | 0.099 | ( 0.261) | 0.192 |
| 106 | 8.83 | 0.57 | 0.309 | 0.098 | ( 0.278) | 0.211 |
| 107 | 8.92 | 0.57 | 0.309 | 0.098 | ( 0.278) | 0.211 |
| 108 | 9.00 | 0.57 | 0.309 | 0.097 | ( 0.278) | 0.211 |
| 109 | 9.08 | 0.63 | 0.345 | 0.097 | ( 0.311) | 0.248 |
| 110 | 9.17 | 0.63 | 0.345 | 0.096 | ( 0.311) | 0.249 |
| 111 | 9.25 | 0.63 | 0.345 | 0.096 | ( 0.311) | 0.249 |
| 112 | 9.33 | 0.67 | 0.363 | 0.095 | ( 0.327) | 0.268 |
| 113 | 9.42 | 0.67 | 0.363 | 0.095 | ( 0.327) | 0.268 |
| 114 | 9.50 | 0.67 | 0.363 | 0.095 | ( 0.327) | 0.269 |
| 115 | 9.58 | 0.70 | 0.381 | 0.094 | ( 0.343) | 0.287 |
| 116 | 9.67 | 0.70 | 0.381 | 0.094 | ( 0.343) | 0.288 |
| 117 | 9.75 | 0.70 | 0.381 | 0.093 | ( 0.343) | 0.288 |
| 118 | 9.83 | 0.73 | 0.400 | 0.093 | ( 0.360) | 0.307 |
| 119 | 9.92 | 0.73 | 0.400 | 0.092 | ( 0.360) | 0.307 |
| 120 | 10.00 | 0.73 | 0.400 | 0.092 | ( 0.360) | 0.308 |
| 121 | 10.08 | 0.50 | 0.272 | 0.091 | ( 0.245) | 0.181 |
| 122 | 10.17 | 0.50 | 0.272 | 0.091 | ( 0.245) | 0.181 |
| 123 | 10.25 | 0.50 | 0.272 | 0.091 | ( 0.245) | 0.182 |
| 124 | 10.33 | 0.50 | 0.272 | 0.090 | ( 0.245) | 0.182 |
| 125 | 10.42 | 0.50 | 0.272 | 0.090 | ( 0.245) | 0.183 |
| 126 | 10.50 | 0.50 | 0.272 | 0.089 | ( 0.245) | 0.183 |
| 127 | 10.58 | 0.67 | 0.363 | 0.089 | ( 0.327) | 0.274 |
| 128 | 10.67 | 0.67 | 0.363 | 0.088 | ( 0.327) | 0.275 |
| 129 | 10.75 | 0.67 | 0.363 | 0.088 | ( 0.327) | 0.275 |

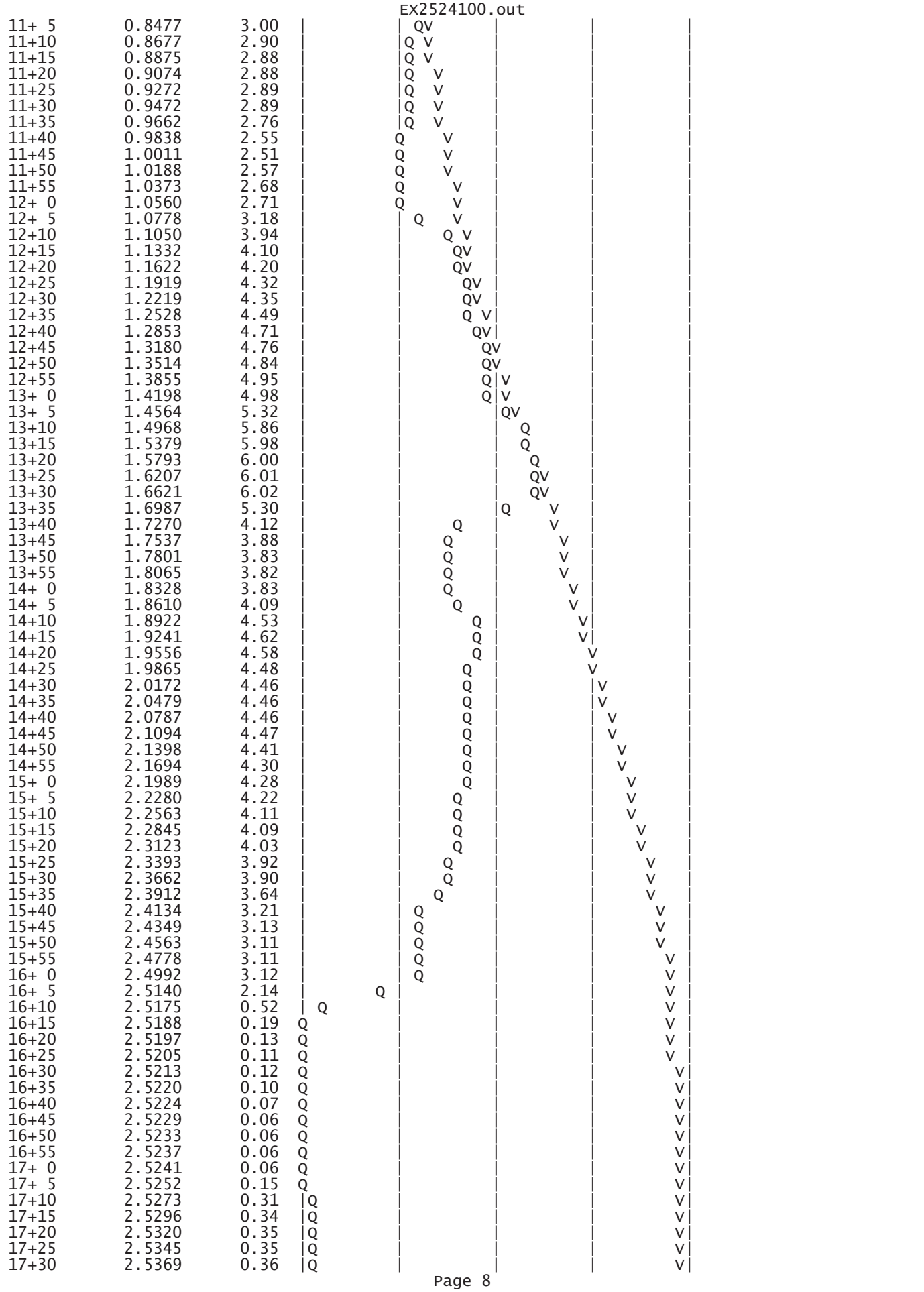
| | | | | | | |
|---|---|---|---|---|---|---|
| 130 | 10.83 | 0.67 | 0.363 | 0.087 | ( 0.327) | 0.276 |
| 131 | 10.92 | 0.67 | 0.363 | 0.087 | ( 0.327) | 0.276 |
| 132 | 11.00 | 0.67 | 0.363 | 0.087 | ( 0.327) | 0.277 |
| 133 | 11.08 | 0.63 | 0.345 | 0.086 | ( 0.311) | 0.259 |
| 134 | 11.17 | 0.63 | 0.345 | 0.086 | ( 0.311) | 0.259 |
| 135 | 11.25 | 0.63 | 0.345 | 0.085 | ( 0.311) | 0.260 |
| 136 | 11.33 | 0.63 | 0.345 | 0.085 | ( 0.311) | 0.260 |
| 137 | 11.42 | 0.63 | 0.345 | 0.084 | ( 0.311) | 0.261 |
| 138 | 11.50 | 0.63 | 0.345 | 0.084 | ( 0.311) | 0.261 |
| 139 | 11.58 | 0.57 | 0.309 | 0.084 | ( 0.278) | 0.225 |
| 140 | 11.67 | 0.57 | 0.309 | 0.083 | ( 0.278) | 0.225 |
| 141 | 11.75 | 0.57 | 0.309 | 0.083 | ( 0.278) | 0.226 |
| 142 | 11.83 | 0.60 | 0.327 | 0.082 | ( 0.294) | 0.244 |
| 143 | 11.92 | 0.60 | 0.327 | 0.082 | ( 0.294) | 0.245 |
| 144 | 12.00 | 0.60 | 0.327 | 0.082 | ( 0.294) | 0.245 |
| 145 | 12.08 | 0.83 | 0.454 | 0.081 | ( 0.409) | 0.373 |
| 146 | 12.17 | 0.83 | 0.454 | 0.081 | ( 0.409) | 0.373 |
| 147 | 12.25 | 0.83 | 0.454 | 0.080 | ( 0.409) | 0.374 |
| 148 | 12.33 | 0.87 | 0.472 | 0.080 | ( 0.425) | 0.392 |
| 149 | 12.42 | 0.87 | 0.472 | 0.080 | ( 0.425) | 0.393 |
| 150 | 12.50 | 0.87 | 0.472 | 0.079 | ( 0.425) | 0.393 |
| 151 | 12.58 | 0.93 | 0.508 | 0.079 | ( 0.458) | 0.430 |
| 152 | 12.67 | 0.93 | 0.508 | 0.078 | ( 0.458) | 0.430 |
| 153 | 12.75 | 0.93 | 0.508 | 0.078 | ( 0.458) | 0.430 |
| 154 | 12.83 | 0.97 | 0.527 | 0.078 | ( 0.474) | 0.449 |
| 155 | 12.92 | 0.97 | 0.527 | 0.077 | ( 0.474) | 0.449 |
| 156 | 13.00 | 0.97 | 0.527 | 0.077 | ( 0.474) | 0.450 |
| 157 | 13.08 | 1.13 | 0.617 | 0.076 | ( 0.556) | 0.541 |
| 158 | 13.17 | 1.13 | 0.617 | 0.076 | ( 0.556) | 0.541 |
| 159 | 13.25 | 1.13 | 0.617 | 0.076 | ( 0.556) | 0.542 |
| 160 | 13.33 | 1.13 | 0.617 | 0.075 | ( 0.556) | 0.542 |
| 161 | 13.42 | 1.13 | 0.617 | 0.075 | ( 0.556) | 0.543 |
| 162 | 13.50 | 1.13 | 0.617 | 0.074 | ( 0.556) | 0.543 |
| 163 | 13.58 | 0.77 | 0.418 | 0.074 | ( 0.376) | 0.344 |
| 164 | 13.67 | 0.77 | 0.418 | 0.074 | ( 0.376) | 0.344 |
| 165 | 13.75 | 0.77 | 0.418 | 0.073 | ( 0.376) | 0.344 |
| 166 | 13.83 | 0.77 | 0.418 | 0.073 | ( 0.376) | 0.345 |
| 167 | 13.92 | 0.77 | 0.418 | 0.073 | ( 0.376) | 0.345 |
| 168 | 14.00 | 0.77 | 0.418 | 0.072 | ( 0.376) | 0.345 |
| 169 | 14.08 | 0.90 | 0.490 | 0.072 | ( 0.441) | 0.418 |
| 170 | 14.17 | 0.90 | 0.490 | 0.072 | ( 0.441) | 0.419 |
| 171 | 14.25 | 0.90 | 0.490 | 0.071 | ( 0.441) | 0.419 |
| 172 | 14.33 | 0.87 | 0.472 | 0.071 | ( 0.425) | 0.401 |
| 173 | 14.42 | 0.87 | 0.472 | 0.070 | ( 0.425) | 0.402 |
| 174 | 14.50 | 0.87 | 0.472 | 0.070 | ( 0.425) | 0.402 |
| 175 | 14.58 | 0.87 | 0.472 | 0.070 | ( 0.425) | 0.402 |
| 176 | 14.67 | 0.87 | 0.472 | 0.069 | ( 0.425) | 0.403 |
| 177 | 14.75 | 0.87 | 0.472 | 0.069 | ( 0.425) | 0.403 |
| 178 | 14.83 | 0.83 | 0.454 | 0.069 | ( 0.409) | 0.385 |
| 179 | 14.92 | 0.83 | 0.454 | 0.068 | ( 0.409) | 0.386 |
| 180 | 15.00 | 0.83 | 0.454 | 0.068 | ( 0.409) | 0.386 |
| 181 | 15.08 | 0.80 | 0.436 | 0.068 | ( 0.392) | 0.368 |
| 182 | 15.17 | 0.80 | 0.436 | 0.067 | ( 0.392) | 0.369 |
| 183 | 15.25 | 0.80 | 0.436 | 0.067 | ( 0.392) | 0.369 |
| 184 | 15.33 | 0.77 | 0.418 | 0.067 | ( 0.376) | 0.351 |
| 185 | 15.42 | 0.77 | 0.418 | 0.066 | ( 0.376) | 0.351 |
| 186 | 15.50 | 0.77 | 0.418 | 0.066 | ( 0.376) | 0.352 |
| 187 | 15.58 | 0.63 | 0.345 | 0.066 | ( 0.311) | 0.280 |
| 188 | 15.67 | 0.63 | 0.345 | 0.065 | ( 0.311) | 0.280 |
| 189 | 15.75 | 0.63 | 0.345 | 0.065 | ( 0.311) | 0.280 |
| 190 | 15.83 | 0.63 | 0.345 | 0.065 | ( 0.311) | 0.281 |
| 191 | 15.92 | 0.63 | 0.345 | 0.064 | ( 0.311) | 0.281 |
| 192 | 16.00 | 0.63 | 0.345 | 0.064 | ( 0.311) | 0.281 |
| 193 | 16.08 | 0.13 | 0.073 | 0.064 | ( 0.065) | 0.009 |
| 194 | 16.17 | 0.13 | 0.073 | 0.063 | ( 0.065) | 0.009 |
| 195 | 16.25 | 0.13 | 0.073 | 0.063 | ( 0.065) | 0.010 |
| 196 | 16.33 | 0.13 | 0.073 | 0.063 | ( 0.065) | 0.010 |
| 197 | 16.42 | 0.13 | 0.073 | 0.062 | ( 0.065) | 0.010 |
| 198 | 16.50 | 0.13 | 0.073 | 0.062 | ( 0.065) | 0.011 |
| 199 | 16.58 | 0.10 | 0.054 | ( 0.062) | 0.049 | 0.005 |
| 200 | 16.67 | 0.10 | 0.054 | ( 0.061) | 0.049 | 0.005 |
| 201 | 16.75 | 0.10 | 0.054 | ( 0.061) | 0.049 | 0.005 |
| 202 | 16.83 | 0.10 | 0.054 | ( 0.061) | 0.049 | 0.005 |
| 203 | 16.92 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 204 | 17.00 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 205 | 17.08 | 0.17 | 0.091 | 0.060 | ( 0.082) | 0.031 |
| 206 | 17.17 | 0.17 | 0.091 | 0.059 | ( 0.082) | 0.031 |
| 207 | 17.25 | 0.17 | 0.091 | 0.059 | ( 0.082) | 0.032 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 208 | 17.33 | 0.17 | 0.091 | 0.059 | ( 0.082) | 0.032 |
| 209 | 17.42 | 0.17 | 0.091 | 0.059 | ( 0.082) | 0.032 |
| 210 | 17.50 | 0.17 | 0.091 | 0.058 | ( 0.082) | 0.033 |
| 211 | 17.58 | 0.17 | 0.091 | 0.058 | ( 0.082) | 0.033 |
| 212 | 17.67 | 0.17 | 0.091 | 0.058 | ( 0.082) | 0.033 |
| 213 | 17.75 | 0.17 | 0.091 | 0.057 | ( 0.082) | 0.033 |
| 214 | 17.83 | 0.13 | 0.073 | 0.057 | ( 0.065) | 0.016 |
| 215 | 17.92 | 0.13 | 0.073 | 0.057 | ( 0.065) | 0.016 |
| 216 | 18.00 | 0.13 | 0.073 | 0.057 | ( 0.065) | 0.016 |
| 217 | 18.08 | 0.13 | 0.073 | 0.056 | ( 0.065) | 0.016 |
| 218 | 18.17 | 0.13 | 0.073 | 0.056 | ( 0.065) | 0.017 |
| 219 | 18.25 | 0.13 | 0.073 | 0.056 | ( 0.065) | 0.017 |
| 220 | 18.33 | 0.13 | 0.073 | 0.055 | ( 0.065) | 0.017 |
| 221 | 18.42 | 0.13 | 0.073 | 0.055 | ( 0.065) | 0.017 |
| 222 | 18.50 | 0.13 | 0.073 | 0.055 | ( 0.065) | 0.018 |
| 223 | 18.58 | 0.10 | 0.054 | ( 0.055) | 0.049 | 0.005 |
| 224 | 18.67 | 0.10 | 0.054 | ( 0.054) | 0.049 | 0.005 |
| 225 | 18.75 | 0.10 | 0.054 | ( 0.054) | 0.049 | 0.005 |
| 226 | 18.83 | 0.07 | 0.036 | ( 0.054) | 0.033 | 0.004 |
| 227 | 18.92 | 0.07 | 0.036 | ( 0.054) | 0.033 | 0.004 |
| 228 | 19.00 | 0.07 | 0.036 | ( 0.053) | 0.033 | 0.004 |
| 229 | 19.08 | 0.10 | 0.054 | ( 0.053) | 0.049 | 0.005 |
| 230 | 19.17 | 0.10 | 0.054 | ( 0.053) | 0.049 | 0.005 |
| 231 | 19.25 | 0.10 | 0.054 | ( 0.053) | 0.049 | 0.005 |
| 232 | 19.33 | 0.13 | 0.073 | 0.052 | ( 0.065) | 0.020 |
| 233 | 19.42 | 0.13 | 0.073 | 0.052 | ( 0.065) | 0.021 |
| 234 | 19.50 | 0.13 | 0.073 | 0.052 | ( 0.065) | 0.021 |
| 235 | 19.58 | 0.10 | 0.054 | ( 0.052) | 0.049 | 0.005 |
| 236 | 19.67 | 0.10 | 0.054 | ( 0.051) | 0.049 | 0.005 |
| 237 | 19.75 | 0.10 | 0.054 | ( 0.051) | 0.049 | 0.005 |
| 238 | 19.83 | 0.07 | 0.036 | ( 0.051) | 0.033 | 0.004 |
| 239 | 19.92 | 0.07 | 0.036 | ( 0.051) | 0.033 | 0.004 |
| 240 | 20.00 | 0.07 | 0.036 | ( 0.051) | 0.033 | 0.004 |
| 241 | 20.08 | 0.10 | 0.054 | ( 0.050) | 0.049 | 0.005 |
| 242 | 20.17 | 0.10 | 0.054 | ( 0.050) | 0.049 | 0.005 |
| 243 | 20.25 | 0.10 | 0.054 | ( 0.050) | 0.049 | 0.005 |
| 244 | 20.33 | 0.10 | 0.054 | ( 0.050) | 0.049 | 0.005 |
| 245 | 20.42 | 0.10 | 0.054 | ( 0.049) | 0.049 | 0.005 |
| 246 | 20.50 | 0.10 | 0.054 | ( 0.049) | 0.049 | 0.005 |
| 247 | 20.58 | 0.10 | 0.054 | 0.049 | ( 0.049) | 0.005 |
| 248 | 20.67 | 0.10 | 0.054 | 0.049 | ( 0.049) | 0.006 |
| 249 | 20.75 | 0.10 | 0.054 | 0.049 | ( 0.049) | 0.006 |
| 250 | 20.83 | 0.07 | 0.036 | ( 0.048) | 0.033 | 0.004 |
| 251 | 20.92 | 0.07 | 0.036 | ( 0.048) | 0.033 | 0.004 |
| 252 | 21.00 | 0.07 | 0.036 | ( 0.048) | 0.033 | 0.004 |
| 253 | 21.08 | 0.10 | 0.054 | 0.048 | ( 0.049) | 0.007 |
| 254 | 21.17 | 0.10 | 0.054 | 0.048 | ( 0.049) | 0.007 |
| 255 | 21.25 | 0.10 | 0.054 | 0.047 | ( 0.049) | 0.007 |
| 256 | 21.33 | 0.07 | 0.036 | ( 0.047) | 0.033 | 0.004 |
| 257 | 21.42 | 0.07 | 0.036 | ( 0.047) | 0.033 | 0.004 |
| 258 | 21.50 | 0.07 | 0.036 | ( 0.047) | 0.033 | 0.004 |
| 259 | 21.58 | 0.10 | 0.054 | 0.047 | ( 0.049) | 0.008 |
| 260 | 21.67 | 0.10 | 0.054 | 0.047 | ( 0.049) | 0.008 |
| 261 | 21.75 | 0.10 | 0.054 | 0.046 | ( 0.049) | 0.008 |
| 262 | 21.83 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 263 | 21.92 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 264 | 22.00 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 265 | 22.08 | 0.10 | 0.054 | 0.046 | ( 0.049) | 0.009 |
| 266 | 22.17 | 0.10 | 0.054 | 0.046 | ( 0.049) | 0.009 |
| 267 | 22.25 | 0.10 | 0.054 | 0.045 | ( 0.049) | 0.009 |
| 268 | 22.33 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 269 | 22.42 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 270 | 22.50 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 271 | 22.58 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 272 | 22.67 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 273 | 22.75 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 274 | 22.83 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 275 | 22.92 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 276 | 23.00 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 277 | 23.08 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 278 | 23.17 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 279 | 23.25 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 280 | 23.33 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 281 | 23.42 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 284 | 23.67 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 285 | 23.75 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |

```
286  23.83     0.07      0.036       (  0.044)       0.033        0.004
287  23.92     0.07      0.036       (  0.044)       0.033        0.004
288  24.00     0.07      0.036       (  0.043)       0.033        0.004
              (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    33.8
       Flood volume = Effective rainfall      2.82(In)
        times area      11.0(Ac.)/[(In)/(Ft.)] =       2.6(Ac.Ft)
       Total soil loss =      1.72(In)
       Total soil loss =     1.576(Ac.Ft)
       Total rainfall =      4.54(In)
       Flood volume =      112632.9 Cubic Feet
       Total soil loss =       68645.4 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =      6.018(CFS)
       ---------------------------------------------------------------------
       +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
       ---------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))

       ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ----------------------------------------------------------------------------
   0+ 5       0.0001      0.01  Q          |         |         |         |
   0+10       0.0003      0.03  Q          |         |         |         |
   0+15       0.0006      0.04  Q          |         |         |         |
   0+20       0.0009      0.05  Q          |         |         |         |
   0+25       0.0013      0.06  Q          |         |         |         |
   0+30       0.0017      0.06  Q          |         |         |         |
   0+35       0.0021      0.06  Q          |         |         |         |
   0+40       0.0026      0.06  Q          |         |         |         |
   0+45       0.0030      0.06  Q          |         |         |         |
   0+50       0.0034      0.07  Q          |         |         |         |
   0+55       0.0040      0.08  Q          |         |         |         |
   1+ 0       0.0045      0.08  Q          |         |         |         |
   1+ 5       0.0050      0.07  Q          |         |         |         |
   1+10       0.0055      0.06  Q          |         |         |         |
   1+15       0.0059      0.06  Q          |         |         |         |
   1+20       0.0063      0.06  Q          |         |         |         |
   1+25       0.0067      0.06  Q          |         |         |         |
   1+30       0.0071      0.06  Q          |         |         |         |
   1+35       0.0076      0.06  Q          |         |         |         |
   1+40       0.0080      0.06  Q          |         |         |         |
   1+45       0.0084      0.06  Q          |         |         |         |
   1+50       0.0088      0.07  Q          |         |         |         |
   1+55       0.0094      0.08  Q          |         |         |         |
   2+ 0       0.0099      0.08  Q          |         |         |         |
   2+ 5       0.0105      0.08  Q          |         |         |         |
   2+10       0.0110      0.08  Q          |         |         |         |
   2+15       0.0116      0.08  Q          |         |         |         |
   2+20       0.0122      0.08  Q          |         |         |         |
   2+25       0.0127      0.08  Q          |         |         |         |
   2+30       0.0133      0.08  Q          |         |         |         |
   2+35       0.0139      0.09  Q          |         |         |         |
   2+40       0.0145      0.10  Q          |         |         |         |
   2+45       0.0152      0.10  Q          |         |         |         |
   2+50       0.0159      0.10  Q          |         |         |         |
   2+55       0.0166      0.10  Q          |         |         |         |
   3+ 0       0.0173      0.10  Q          |         |         |         |
   3+ 5       0.0180      0.10  Q          |         |         |         |
   3+10       0.0187      0.10  Q          |         |         |         |
   3+15       0.0194      0.10  Q          |         |         |         |
   3+20       0.0201      0.10  Q          |         |         |         |
   3+25       0.0208      0.10  Q          |         |         |         |
   3+30       0.0215      0.10  Q          |         |         |         |
   3+35       0.0222      0.10  Q          |         |         |         |
   3+40       0.0229      0.10  Q          |         |         |         |
   3+45       0.0235      0.10  Q          |         |         |         |
   3+50       0.0243      0.11  Q          |         |         |         |
   3+55       0.0251      0.12  Q          |         |         |         |
   4+ 0       0.0259      0.12  Q          |         |         |         |
   4+ 5       0.0268      0.12  Q          |         |         |         |
   4+10       0.0276      0.12  Q          |         |         |         |
   4+15       0.0284      0.12  Q          |         |         |         |
   4+20       0.0293      0.13  Q          |         |         |         |
   4+25       0.0303      0.14  Q          |         |         |         |
   4+30       0.0312      0.14  Q          |         |         |         |
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 4+35       0.0322      0.14  Q          |          |          |          |
 4+40       0.0332      0.14  Q          |          |          |          |
 4+45       0.0341      0.14  Q          |          |          |          |
 4+50       0.0354      0.18  Q          |          |          |          |
 4+55       0.0370      0.24  Q          |          |          |          |
 5+ 0       0.0388      0.26  VQ         |          |          |          |
 5+ 5       0.0403      0.22  Q          |          |          |          |
 5+10       0.0413      0.14  Q          |          |          |          |
 5+15       0.0422      0.12  Q          |          |          |          |
 5+20       0.0431      0.13  Q          |          |          |          |
 5+25       0.0440      0.14  Q          |          |          |          |
 5+30       0.0450      0.14  Q          |          |          |          |
 5+35       0.0463      0.20  Q          |          |          |          |
 5+40       0.0483      0.29  VQ         |          |          |          |
 5+45       0.0505      0.31  VQ         |          |          |          |
 5+50       0.0527      0.32  VQ         |          |          |          |
 5+55       0.0549      0.33  VQ         |          |          |          |
 6+ 0       0.0572      0.33  VQ         |          |          |          |
 6+ 5       0.0600      0.40  VQ         |          |          |          |
 6+10       0.0636      0.52  V Q        |          |          |          |
 6+15       0.0673      0.55  |VQ        |          |          |          |
 6+20       0.0712      0.56  |VQ        |          |          |          |
 6+25       0.0750      0.56  |VQ        |          |          |          |
 6+30       0.0790      0.57  |VQ        |          |          |          |
 6+35       0.0834      0.64  |VQ        |          |          |          |
 6+40       0.0885      0.75  |V Q       |          |          |          |
 6+45       0.0939      0.78  |V Q       |          |          |          |
 6+50       0.0994      0.79  |V Q       |          |          |          |
 6+55       0.1049      0.80  |V Q       |          |          |          |
 7+ 0       0.1104      0.80  |V Q       |          |          |          |
 7+ 5       0.1160      0.81  |V Q       |          |          |          |
 7+10       0.1216      0.81  |V Q       |          |          |          |
 7+15       0.1272      0.82  |V Q       |          |          |          |
 7+20       0.1333      0.89  | VQ       |          |          |          |
 7+25       0.1403      1.00  | V Q      |          |          |          |
 7+30       0.1474      1.03  | V Q      |          |          |          |
 7+35       0.1550      1.11  | V Q      |          |          |          |
 7+40       0.1634      1.22  | V Q      |          |          |          |
 7+45       0.1720      1.25  | V Q      |          |          |          |
 7+50       0.1811      1.32  | V  Q     |          |          |          |
 7+55       0.1910      1.44  | V  Q     |          |          |          |
 8+ 0       0.2011      1.47  |  V Q     |          |          |          |
 8+ 5       0.2122      1.61  |  V  Q    |          |          |          |
 8+10       0.2248      1.83  |  V   Q   |          |          |          |
 8+15       0.2378      1.88  |  V   Q   |          |          |          |
 8+20       0.2508      1.89  |  V   Q   |          |          |          |
 8+25       0.2639      1.90  |   V  Q   |          |          |          |
 8+30       0.2770      1.91  |   V  Q   |          |          |          |
 8+35       0.2906      1.98  |   V  Q   |          |          |          |
 8+40       0.3051      2.09  |   V   Q  |          |          |          |
 8+45       0.3196      2.12  |   V   Q  |          |          |          |
 8+50       0.3347      2.19  |    V  Q  |          |          |          |
 8+55       0.3506      2.31  |    V   Q|          |          |          |
 9+ 0       0.3667      2.34  |    V   Q|          |          |          |
 9+ 5       0.3838      2.48  |    V   Q|          |          |          |
 9+10       0.4023      2.70  |     V   Q          |          |          |
 9+15       0.4213      2.75  |     V   Q          |          |          |
 9+20       0.4407      2.83  |     V   |Q         |          |          |
 9+25       0.4610      2.94  |      V  |Q         |          |          |
 9+30       0.4815      2.97  |      V  |Q         |          |          |
 9+35       0.5024      3.04  |      V  | Q        |          |          |
 9+40       0.5242      3.16  |       V | Q        |          |          |
 9+45       0.5461      3.19  |       V | Q        |          |          |
 9+50       0.5686      3.26  |       V |  Q       |          |          |
 9+55       0.5918      3.38  |        V|  Q       |          |          |
10+ 0       0.6153      3.40  |        V|  Q       |          |          |
10+ 5       0.6356      2.95  |        V|Q         |          |          |
10+10       0.6508      2.20  |       Q V          |          |          |
10+15       0.6649      2.05  |       Q V          |          |          |
10+20       0.6789      2.03  |       Q V          |          |          |
10+25       0.6928      2.02  |       Q V          |          |          |
10+30       0.7068      2.03  |       Q V          |          |          |
10+35       0.7230      2.36  |        Q|V         |          |          |
10+40       0.7431      2.91  |         |Q         |          |          |
10+45       0.7639      3.02  |         |VQ        |          |          |
10+50       0.7849      3.05  |         | Q        |          |          |
10+55       0.8059      3.06  |         | Q        |          |          |
11+ 0       0.8270      3.06  |         | Q        |          |          |
```



| | | | |
|---|---|---|---|
| 11+ 5 | 0.8477 | 3.00 | |
| 11+10 | 0.8677 | 2.90 | |
| 11+15 | 0.8875 | 2.88 | |
| 11+20 | 0.9074 | 2.88 | |
| 11+25 | 0.9272 | 2.89 | |
| 11+30 | 0.9472 | 2.89 | |
| 11+35 | 0.9662 | 2.76 | |
| 11+40 | 0.9838 | 2.55 | |
| 11+45 | 1.0011 | 2.51 | |
| 11+50 | 1.0188 | 2.57 | |
| 11+55 | 1.0373 | 2.68 | |
| 12+ 0 | 1.0560 | 2.71 | |
| 12+ 5 | 1.0778 | 3.18 | |
| 12+10 | 1.1050 | 3.94 | |
| 12+15 | 1.1332 | 4.10 | |
| 12+20 | 1.1622 | 4.20 | |
| 12+25 | 1.1919 | 4.32 | |
| 12+30 | 1.2219 | 4.35 | |
| 12+35 | 1.2528 | 4.49 | |
| 12+40 | 1.2853 | 4.71 | |
| 12+45 | 1.3180 | 4.76 | |
| 12+50 | 1.3514 | 4.84 | |
| 12+55 | 1.3855 | 4.95 | |
| 13+ 0 | 1.4198 | 4.98 | |
| 13+ 5 | 1.4564 | 5.32 | |
| 13+10 | 1.4968 | 5.86 | |
| 13+15 | 1.5379 | 5.98 | |
| 13+20 | 1.5793 | 6.00 | |
| 13+25 | 1.6207 | 6.01 | |
| 13+30 | 1.6621 | 6.02 | |
| 13+35 | 1.6987 | 5.30 | |
| 13+40 | 1.7270 | 4.12 | |
| 13+45 | 1.7537 | 3.88 | |
| 13+50 | 1.7801 | 3.83 | |
| 13+55 | 1.8065 | 3.82 | |
| 14+ 0 | 1.8328 | 3.83 | |
| 14+ 5 | 1.8610 | 4.09 | |
| 14+10 | 1.8922 | 4.53 | |
| 14+15 | 1.9241 | 4.62 | |
| 14+20 | 1.9556 | 4.58 | |
| 14+25 | 1.9865 | 4.48 | |
| 14+30 | 2.0172 | 4.46 | |
| 14+35 | 2.0479 | 4.46 | |
| 14+40 | 2.0787 | 4.46 | |
| 14+45 | 2.1094 | 4.47 | |
| 14+50 | 2.1398 | 4.41 | |
| 14+55 | 2.1694 | 4.30 | |
| 15+ 0 | 2.1989 | 4.28 | |
| 15+ 5 | 2.2280 | 4.22 | |
| 15+10 | 2.2563 | 4.11 | |
| 15+15 | 2.2845 | 4.09 | |
| 15+20 | 2.3123 | 4.03 | |
| 15+25 | 2.3393 | 3.92 | |
| 15+30 | 2.3662 | 3.90 | |
| 15+35 | 2.3912 | 3.64 | |
| 15+40 | 2.4134 | 3.21 | |
| 15+45 | 2.4349 | 3.13 | |
| 15+50 | 2.4563 | 3.11 | |
| 15+55 | 2.4778 | 3.11 | |
| 16+ 0 | 2.4992 | 3.12 | |
| 16+ 5 | 2.5140 | 2.14 | |
| 16+10 | 2.5175 | 0.52 | |
| 16+15 | 2.5188 | 0.19 | |
| 16+20 | 2.5197 | 0.13 | |
| 16+25 | 2.5205 | 0.11 | |
| 16+30 | 2.5213 | 0.12 | |
| 16+35 | 2.5220 | 0.10 | |
| 16+40 | 2.5224 | 0.07 | |
| 16+45 | 2.5229 | 0.06 | |
| 16+50 | 2.5233 | 0.06 | |
| 16+55 | 2.5237 | 0.06 | |
| 17+ 0 | 2.5241 | 0.06 | |
| 17+ 5 | 2.5252 | 0.15 | |
| 17+10 | 2.5273 | 0.31 | |
| 17+15 | 2.5296 | 0.34 | |
| 17+20 | 2.5320 | 0.35 | |
| 17+25 | 2.5345 | 0.35 | |
| 17+30 | 2.5369 | 0.36 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+35 | 2.5394 | 0.36 | \|Q | \| | \| | \| | V\| |
| 17+40 | 2.5419 | 0.36 | \|Q | \| | \| | \| | V\| |
| 17+45 | 2.5445 | 0.37 | \|Q | \| | \| | \| | V\| |
| 17+50 | 2.5466 | 0.31 | \|Q | \| | \| | \| | V\| |
| 17+55 | 2.5479 | 0.20 | Q | \| | \| | \| | V\| |
| 18+ 0 | 2.5492 | 0.18 | Q | \| | \| | \| | V\| |
| 18+ 5 | 2.5504 | 0.18 | Q | \| | \| | \| | V\| |
| 18+10 | 2.5517 | 0.18 | Q | \| | \| | \| | V\| |
| 18+15 | 2.5530 | 0.18 | Q | \| | \| | \| | V\| |
| 18+20 | 2.5543 | 0.19 | Q | \| | \| | \| | V\| |
| 18+25 | 2.5556 | 0.19 | Q | \| | \| | \| | V\| |
| 18+30 | 2.5569 | 0.19 | Q | \| | \| | \| | V\| |
| 18+35 | 2.5580 | 0.15 | Q | \| | \| | \| | V\| |
| 18+40 | 2.5585 | 0.08 | Q | \| | \| | \| | V\| |
| 18+45 | 2.5589 | 0.06 | Q | \| | \| | \| | V\| |
| 18+50 | 2.5593 | 0.05 | Q | \| | \| | \| | V\| |
| 18+55 | 2.5596 | 0.04 | Q | \| | \| | \| | V\| |
| 19+ 0 | 2.5599 | 0.04 | Q | \| | \| | \| | V\| |
| 19+ 5 | 2.5602 | 0.05 | Q | \| | \| | \| | V\| |
| 19+10 | 2.5606 | 0.06 | Q | \| | \| | \| | V\| |
| 19+15 | 2.5610 | 0.06 | Q | \| | \| | \| | V\| |
| 19+20 | 2.5618 | 0.11 | Q | \| | \| | \| | V\| |
| 19+25 | 2.5632 | 0.20 | Q | \| | \| | \| | V\| |
| 19+30 | 2.5647 | 0.22 | Q | \| | \| | \| | V\| |
| 19+35 | 2.5659 | 0.17 | Q | \| | \| | \| | V\| |
| 19+40 | 2.5665 | 0.08 | Q | \| | \| | \| | V\| |
| 19+45 | 2.5670 | 0.07 | Q | \| | \| | \| | V\| |
| 19+50 | 2.5673 | 0.06 | Q | \| | \| | \| | V\| |
| 19+55 | 2.5676 | 0.04 | Q | \| | \| | \| | V\| |
| 20+ 0 | 2.5679 | 0.04 | Q | \| | \| | \| | V\| |
| 20+ 5 | 2.5682 | 0.05 | Q | \| | \| | \| | V\| |
| 20+10 | 2.5686 | 0.06 | Q | \| | \| | \| | V\| |
| 20+15 | 2.5691 | 0.06 | Q | \| | \| | \| | V\| |
| 20+20 | 2.5695 | 0.06 | Q | \| | \| | \| | V\| |
| 20+25 | 2.5699 | 0.06 | Q | \| | \| | \| | V\| |
| 20+30 | 2.5703 | 0.06 | Q | \| | \| | \| | V\| |
| 20+35 | 2.5707 | 0.06 | Q | \| | \| | \| | V\| |
| 20+40 | 2.5711 | 0.06 | Q | \| | \| | \| | V\| |
| 20+45 | 2.5716 | 0.06 | Q | \| | \| | \| | V\| |
| 20+50 | 2.5720 | 0.06 | Q | \| | \| | \| | V\| |
| 20+55 | 2.5723 | 0.04 | Q | \| | \| | \| | V\| |
| 21+ 0 | 2.5726 | 0.04 | Q | \| | \| | \| | V\| |
| 21+ 5 | 2.5729 | 0.05 | Q | \| | \| | \| | V\| |
| 21+10 | 2.5734 | 0.07 | Q | \| | \| | \| | V\| |
| 21+15 | 2.5739 | 0.08 | Q | \| | \| | \| | V\| |
| 21+20 | 2.5744 | 0.07 | Q | \| | \| | \| | V\| |
| 21+25 | 2.5747 | 0.05 | Q | \| | \| | \| | V\| |
| 21+30 | 2.5750 | 0.04 | Q | \| | \| | \| | V\| |
| 21+35 | 2.5753 | 0.06 | Q | \| | \| | \| | V\| |
| 21+40 | 2.5759 | 0.08 | Q | \| | \| | \| | V\| |
| 21+45 | 2.5765 | 0.09 | Q | \| | \| | \| | V\| |
| 21+50 | 2.5770 | 0.07 | Q | \| | \| | \| | V\| |
| 21+55 | 2.5773 | 0.05 | Q | \| | \| | \| | V\| |
| 22+ 0 | 2.5776 | 0.04 | Q | \| | \| | \| | V\| |
| 22+ 5 | 2.5780 | 0.06 | Q | \| | \| | \| | V\| |
| 22+10 | 2.5786 | 0.09 | Q | \| | \| | \| | V\| |
| 22+15 | 2.5793 | 0.10 | Q | \| | \| | \| | V\| |
| 22+20 | 2.5798 | 0.08 | Q | \| | \| | \| | V\| |
| 22+25 | 2.5802 | 0.05 | Q | \| | \| | \| | V\| |
| 22+30 | 2.5805 | 0.04 | Q | \| | \| | \| | V\| |
| 22+35 | 2.5807 | 0.04 | Q | \| | \| | \| | V\| |
| 22+40 | 2.5810 | 0.04 | Q | \| | \| | \| | V\| |
| 22+45 | 2.5813 | 0.04 | Q | \| | \| | \| | V\| |
| 22+50 | 2.5816 | 0.04 | Q | \| | \| | \| | V\| |
| 22+55 | 2.5819 | 0.04 | Q | \| | \| | \| | V\| |
| 23+ 0 | 2.5821 | 0.04 | Q | \| | \| | \| | V\| |
| 23+ 5 | 2.5824 | 0.04 | Q | \| | \| | \| | V\| |
| 23+10 | 2.5827 | 0.04 | Q | \| | \| | \| | V\| |
| 23+15 | 2.5830 | 0.04 | Q | \| | \| | \| | V\| |
| 23+20 | 2.5832 | 0.04 | Q | \| | \| | \| | V\| |
| 23+25 | 2.5835 | 0.04 | Q | \| | \| | \| | V\| |
| 23+30 | 2.5838 | 0.04 | Q | \| | \| | \| | V\| |
| 23+35 | 2.5841 | 0.04 | Q | \| | \| | \| | V\| |
| 23+40 | 2.5844 | 0.04 | Q | \| | \| | \| | V\| |
| 23+45 | 2.5846 | 0.04 | Q | \| | \| | \| | V\| |
| 23+50 | 2.5849 | 0.04 | Q | \| | \| | \| | V\| |
| 23+55 | 2.5852 | 0.04 | Q | \| | \| | \| | V\| |
| 24+ 0 | 2.5855 | 0.04 | Q | \| | \| | \| | V\| |

```
   24+ 5       2.5856      0.03  Q         |          |          |         V|
   24+10       2.5857      0.01  Q         |          |          |         V|
   24+15       2.5857      0.00  Q         |          |          |         V|
   24+20       2.5857      0.00  Q         |          |          |          V
-------------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX261100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 26
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.30(Ac.) = 0.000 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.30(Ac.) = 0.000 Sq. Mi.
Length along longest watercourse = 115.00(Ft.)
Length along longest watercourse measured to centroid = 61.00(Ft.)
Length along longest watercourse = 0.022 Mi.
Length along longest watercourse measured to centroid = 0.012 Mi.
Difference in elevation = 58.00(Ft.)
Slope along watercourse = 2662.9565 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.008 Hr.
Lag time = 0.48 Min.
25% of lag time = 0.12 Min.
40% of lag time = 0.19 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.30 | 0.49 | 0.15 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.30 | 1.20 | 0.36 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.490(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.300 | 83.55 | 0.000 |

Total Area Entered = 0.30(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.5 | 93.1 | 0.089 | 0.000 | 0.089 | 1.000 | 0.089 |
| | | | | | Sum (F) = | 0.089 |

Area averaged mean soil loss (F) (In/Hr) = 0.089

Minimum soil loss rate ((In/Hr)) = 0.045
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

---

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 1035.309 | 100.000 | 0.302 |
| | | Sum = 100.000 Sum= | 0.302 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.089 | ( 0.544) | 0.515 |
| 2 | 0.17 | 4.30 | 0.619 | 0.089 | ( 0.557) | 0.530 |
| 3 | 0.25 | 5.00 | 0.720 | 0.089 | ( 0.648) | 0.631 |
| 4 | 0.33 | 5.00 | 0.720 | 0.089 | ( 0.648) | 0.631 |
| 5 | 0.42 | 5.80 | 0.835 | 0.089 | ( 0.752) | 0.746 |
| 6 | 0.50 | 6.50 | 0.936 | 0.089 | ( 0.842) | 0.847 |
| 7 | 0.58 | 7.40 | 1.066 | 0.089 | ( 0.959) | 0.976 |
| 8 | 0.67 | 8.60 | 1.238 | 0.089 | ( 1.115) | 1.149 |
| 9 | 0.75 | 12.30 | 1.771 | 0.089 | ( 1.594) | 1.682 |
| 10 | 0.83 | 29.10 | 4.190 | 0.089 | ( 3.771) | 4.101 |
| 11 | 0.92 | 6.80 | 0.979 | 0.089 | ( 0.881) | 0.890 |
| 12 | 1.00 | 5.00 | 0.720 | 0.089 | ( 0.648) | 0.631 |
| | | (Loss Rate Not Used) | | | |
| Sum = | 100.0 | | | | Sum = 13.3 |

Flood volume = Effective rainfall 1.11(In)
times area 0.3(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.002(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 1209.5 Cubic Feet
Total soil loss = 97.3 Cubic Feet

---

Peak flow rate of this hydrograph = 1.241(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0011 | 0.16 | QV | | | | |
| 0+10 | 0.0022 | 0.16 | Q V | | | | |
| 0+15 | 0.0035 | 0.19 | Q V | | | | |
| 0+20 | 0.0048 | 0.19 | Q V | | | | |
| 0+25 | 0.0064 | 0.23 | Q V | | | | |
| 0+30 | 0.0081 | 0.26 | \|Q \|V | | | | |
| 0+35 | 0.0102 | 0.30 | \|Q \| V | | | | |
| 0+40 | 0.0126 | 0.35 | \|Q \| V | | | | |
| 0+45 | 0.0161 | 0.51 | \| Q \| V | | | | |
| 0+50 | 0.0246 | 1.24 | \| Q \| V | | | | |
| 0+55 | 0.0265 | 0.27 | \|Q \| V | | | | |
| 1+ 0 | 0.0278 | 0.19 | Q \| V | | | | |

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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX263100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 26
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.30(Ac.) = 0.000 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.30(Ac.) = 0.000 Sq. Mi.
Length along longest watercourse = 115.00(Ft.)
Length along longest watercourse measured to centroid = 61.00(Ft.)
Length along longest watercourse = 0.022 Mi.
Length along longest watercourse measured to centroid = 0.012 Mi.
Difference in elevation = 58.00(Ft.)
Slope along watercourse = 2662.9565 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.008 Hr.
Lag time = 0.48 Min.
25% of lag time = 0.12 Min.
40% of lag time = 0.19 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.30 | 0.80 | 0.24 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.30 | 1.80 | 0.54 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.300 | 83.55 | 0.000 |

Total Area Entered = 0.30(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.5 | 93.1 | 0.089 | 0.000 | 0.089 | 1.000 | 0.089 |
| | | | | | Sum (F) = | 0.089 |

Area averaged mean soil loss (F) (In/Hr) = 0.089

Minimum soil loss rate ((In/Hr)) = 0.045
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 1035.309 | 100.000 | 0.302 |
| | | Sum = 100.000 Sum= | 0.302 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.281 | 0.089 | ( 0.253) | 0.191 |
| 2 | 0.17 | 1.30 | 0.281 | 0.089 | ( 0.253) | 0.191 |
| 3 | 0.25 | 1.10 | 0.238 | 0.089 | ( 0.214) | 0.148 |
| 4 | 0.33 | 1.50 | 0.324 | 0.089 | ( 0.292) | 0.235 |
| 5 | 0.42 | 1.50 | 0.324 | 0.089 | ( 0.292) | 0.235 |
| 6 | 0.50 | 1.80 | 0.389 | 0.089 | ( 0.350) | 0.299 |
| 7 | 0.58 | 1.50 | 0.324 | 0.089 | ( 0.292) | 0.235 |
| 8 | 0.67 | 1.80 | 0.389 | 0.089 | ( 0.350) | 0.299 |
| 9 | 0.75 | 1.80 | 0.389 | 0.089 | ( 0.350) | 0.299 |
| 10 | 0.83 | 1.50 | 0.324 | 0.089 | ( 0.292) | 0.235 |
| 11 | 0.92 | 1.60 | 0.346 | 0.089 | ( 0.311) | 0.256 |
| 12 | 1.00 | 1.80 | 0.389 | 0.089 | ( 0.350) | 0.299 |
| 13 | 1.08 | 2.20 | 0.475 | 0.089 | ( 0.428) | 0.386 |
| 14 | 1.17 | 2.20 | 0.475 | 0.089 | ( 0.428) | 0.386 |
| 15 | 1.25 | 2.20 | 0.475 | 0.089 | ( 0.428) | 0.386 |
| 16 | 1.33 | 2.00 | 0.432 | 0.089 | ( 0.389) | 0.343 |
| 17 | 1.42 | 2.60 | 0.562 | 0.089 | ( 0.505) | 0.472 |
| 18 | 1.50 | 2.70 | 0.583 | 0.089 | ( 0.525) | 0.494 |
| 19 | 1.58 | 2.40 | 0.518 | 0.089 | ( 0.467) | 0.429 |
| 20 | 1.67 | 2.70 | 0.583 | 0.089 | ( 0.525) | 0.494 |
| 21 | 1.75 | 3.30 | 0.713 | 0.089 | ( 0.642) | 0.623 |
| 22 | 1.83 | 3.10 | 0.670 | 0.089 | ( 0.603) | 0.580 |
| 23 | 1.92 | 2.90 | 0.626 | 0.089 | ( 0.564) | 0.537 |
| 24 | 2.00 | 3.00 | 0.648 | 0.089 | ( 0.583) | 0.559 |
| 25 | 2.08 | 3.10 | 0.670 | 0.089 | ( 0.603) | 0.580 |
| 26 | 2.17 | 4.20 | 0.907 | 0.089 | ( 0.816) | 0.818 |
| 27 | 2.25 | 5.00 | 1.080 | 0.089 | ( 0.972) | 0.991 |
| 28 | 2.33 | 3.50 | 0.756 | 0.089 | ( 0.680) | 0.667 |
| 29 | 2.42 | 6.80 | 1.469 | 0.089 | ( 1.322) | 1.379 |
| 30 | 2.50 | 7.30 | 1.577 | 0.089 | ( 1.419) | 1.487 |
| 31 | 2.58 | 8.20 | 1.771 | 0.089 | ( 1.594) | 1.682 |
| 32 | 2.67 | 5.90 | 1.274 | 0.089 | ( 1.147) | 1.185 |
| 33 | 2.75 | 2.00 | 0.432 | 0.089 | ( 0.389) | 0.343 |
| 34 | 2.83 | 1.80 | 0.389 | 0.089 | ( 0.350) | 0.299 |
| 35 | 2.92 | 1.80 | 0.389 | 0.089 | ( 0.350) | 0.299 |
| 36 | 3.00 | 0.60 | 0.130 | 0.089 | ( 0.117) | 0.040 |
| | | (Loss Rate Not Used) | | | |
| Sum = | | 100.0 | | | Sum = 18.4 |

Flood volume = Effective rainfall 1.53(In)
times area 0.3(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.27(In)
Total soil loss = 0.007(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 1668.4 Cubic Feet
Total soil loss = 291.8 Cubic Feet

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Peak flow rate of this hydrograph = 0.509(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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```
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
----------------------------------------------------------------------------
  0+ 5       0.0004      0.06  Q          |         |         |         |
  0+10       0.0008      0.06  Q          |         |         |         |
  0+15       0.0011      0.04  QV         |         |         |         |
  0+20       0.0016      0.07  QV         |         |         |         |
  0+25       0.0021      0.07  Q V        |         |         |         |
  0+30       0.0027      0.09  Q V        |         |         |         |
  0+35       0.0032      0.07  Q  V       |         |         |         |
  0+40       0.0038      0.09  Q  V       |         |         |         |
  0+45       0.0044      0.09  Q   V      |         |         |         |
  0+50       0.0049      0.07  Q    V     |         |         |         |
  0+55       0.0055      0.08  Q    V     |         |         |         |
  1+ 0       0.0061      0.09  Q     V    |         |         |         |
  1+ 5       0.0069      0.12  Q      V   |         |         |         |
  1+10       0.0077      0.12  Q       V  |         |         |         |
  1+15       0.0085      0.12  Q       V  |         |         |         |
  1+20       0.0092      0.10  Q        V |         |         |         |
  1+25       0.0102      0.14  Q         V|         |         |         |
  1+30       0.0112      0.15  Q          V         |         |         |
  1+35       0.0121      0.13  Q          | V       |         |         |
  1+40       0.0132      0.15  Q          |  V      |         |         |
  1+45       0.0145      0.19  Q          |    V    |         |         |
  1+50       0.0157      0.18  Q          |     V   |         |         |
  1+55       0.0168      0.16  Q          |      V  |         |         |
  2+ 0       0.0179      0.17  Q          |       V |         |         |
  2+ 5       0.0192      0.18  Q          |         V         |         |
  2+10       0.0209      0.25  Q          |         |V        |         |
  2+15       0.0229      0.30  |Q         |         |  V      |         |
  2+20       0.0243      0.20  Q          |         |    V    |         |
  2+25       0.0272      0.42  |Q         |         |       V |         |
  2+30       0.0303      0.45  |Q         |         |         |V        |
  2+35       0.0338      0.51  | Q        |         |         |    V    |
  2+40       0.0363      0.36  |Q         |         |         |     V   |
  2+45       0.0370      0.10  Q          |         |         |      V  |
  2+50       0.0376      0.09  Q          |         |         |       V |
  2+55       0.0382      0.09  Q          |         |         |       V |
  3+ 0       0.0383      0.01  Q          |         |         |        V
----------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX266100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 26
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.30(Ac.) = 0.000 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.30(Ac.) = 0.000 Sq. Mi.
Length along longest watercourse = 115.00(Ft.)
Length along longest watercourse measured to centroid = 61.00(Ft.)
Length along longest watercourse = 0.022 Mi.
Length along longest watercourse measured to centroid = 0.012 Mi.
Difference in elevation = 58.00(Ft.)
Slope along watercourse = 2662.9565 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.008 Hr.
Lag time = 0.48 Min.
25% of lag time = 0.12 Min.
40% of lag time = 0.19 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.30 | 1.12 | 0.34 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.30 | 2.50 | 0.75 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.120(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.300 | 83.55 | 0.000 |

Total Area Entered = 0.30(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.5 | 93.1 | 0.089 | 0.000 | 0.089 | 1.000 | 0.089 |
| | | | | | Sum (F) = | 0.089 |

Area averaged mean soil loss (F) (In/Hr) = 0.089

Minimum soil loss rate ((In/Hr)) = 0.045
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 1035.309 | 100.000 | 0.302 |
| | | Sum = 100.000 | Sum= 0.302 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.089 | ( 0.135) | 0.061 |
| 2 | 0.17 | 0.60 | 0.180 | 0.089 | ( 0.162) | 0.091 |
| 3 | 0.25 | 0.60 | 0.180 | 0.089 | ( 0.162) | 0.091 |
| 4 | 0.33 | 0.60 | 0.180 | 0.089 | ( 0.162) | 0.091 |
| 5 | 0.42 | 0.60 | 0.180 | 0.089 | ( 0.162) | 0.091 |
| 6 | 0.50 | 0.70 | 0.210 | 0.089 | ( 0.189) | 0.121 |
| 7 | 0.58 | 0.70 | 0.210 | 0.089 | ( 0.189) | 0.121 |
| 8 | 0.67 | 0.70 | 0.210 | 0.089 | ( 0.189) | 0.121 |
| 9 | 0.75 | 0.70 | 0.210 | 0.089 | ( 0.189) | 0.121 |
| 10 | 0.83 | 0.70 | 0.210 | 0.089 | ( 0.189) | 0.121 |
| 11 | 0.92 | 0.70 | 0.210 | 0.089 | ( 0.189) | 0.121 |
| 12 | 1.00 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 13 | 1.08 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 14 | 1.17 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 15 | 1.25 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 16 | 1.33 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 17 | 1.42 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 18 | 1.50 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 19 | 1.58 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 20 | 1.67 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 21 | 1.75 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 22 | 1.83 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 23 | 1.92 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 24 | 2.00 | 0.90 | 0.270 | 0.089 | ( 0.243) | 0.181 |
| 25 | 2.08 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 26 | 2.17 | 0.90 | 0.270 | 0.089 | ( 0.243) | 0.181 |
| 27 | 2.25 | 0.90 | 0.270 | 0.089 | ( 0.243) | 0.181 |
| 28 | 2.33 | 0.90 | 0.270 | 0.089 | ( 0.243) | 0.181 |
| 29 | 2.42 | 0.90 | 0.270 | 0.089 | ( 0.243) | 0.181 |
| 30 | 2.50 | 0.90 | 0.270 | 0.089 | ( 0.243) | 0.181 |
| 31 | 2.58 | 0.90 | 0.270 | 0.089 | ( 0.243) | 0.181 |
| 32 | 2.67 | 0.90 | 0.270 | 0.089 | ( 0.243) | 0.181 |
| 33 | 2.75 | 1.00 | 0.300 | 0.089 | ( 0.270) | 0.211 |
| 34 | 2.83 | 1.00 | 0.300 | 0.089 | ( 0.270) | 0.211 |
| 35 | 2.92 | 1.00 | 0.300 | 0.089 | ( 0.270) | 0.211 |
| 36 | 3.00 | 1.00 | 0.300 | 0.089 | ( 0.270) | 0.211 |
| 37 | 3.08 | 1.00 | 0.300 | 0.089 | ( 0.270) | 0.211 |
| 38 | 3.17 | 1.10 | 0.330 | 0.089 | ( 0.297) | 0.241 |
| 39 | 3.25 | 1.10 | 0.330 | 0.089 | ( 0.297) | 0.241 |
| 40 | 3.33 | 1.10 | 0.330 | 0.089 | ( 0.297) | 0.241 |
| 41 | 3.42 | 1.20 | 0.360 | 0.089 | ( 0.324) | 0.271 |
| 42 | 3.50 | 1.30 | 0.390 | 0.089 | ( 0.351) | 0.301 |
| 43 | 3.58 | 1.40 | 0.420 | 0.089 | ( 0.378) | 0.331 |
| 44 | 3.67 | 1.40 | 0.420 | 0.089 | ( 0.378) | 0.331 |
| 45 | 3.75 | 1.50 | 0.450 | 0.089 | ( 0.405) | 0.361 |
| 46 | 3.83 | 1.50 | 0.450 | 0.089 | ( 0.405) | 0.361 |
| 47 | 3.92 | 1.60 | 0.480 | 0.089 | ( 0.432) | 0.391 |
| 48 | 4.00 | 1.60 | 0.480 | 0.089 | ( 0.432) | 0.391 |
| 49 | 4.08 | 1.70 | 0.510 | 0.089 | ( 0.459) | 0.421 |
| 50 | 4.17 | 1.80 | 0.540 | 0.089 | ( 0.486) | 0.451 |
| 51 | 4.25 | 1.90 | 0.570 | 0.089 | ( 0.513) | 0.481 |
| 52 | 4.33 | 2.00 | 0.600 | 0.089 | ( 0.540) | 0.511 |
| 53 | 4.42 | 2.10 | 0.630 | 0.089 | ( 0.567) | 0.541 |
| 54 | 4.50 | 2.10 | 0.630 | 0.089 | ( 0.567) | 0.541 |
| 55 | 4.58 | 2.20 | 0.660 | 0.089 | ( 0.594) | 0.571 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 56 | 4.67 | 2.30 | 0.690 | 0.089 | ( 0.621) | 0.601 | |
| 57 | 4.75 | 2.40 | 0.720 | 0.089 | ( 0.648) | 0.631 | |
| 58 | 4.83 | 2.40 | 0.720 | 0.089 | ( 0.648) | 0.631 | |
| 59 | 4.92 | 2.50 | 0.750 | 0.089 | ( 0.675) | 0.661 | |
| 60 | 5.00 | 2.60 | 0.780 | 0.089 | ( 0.702) | 0.691 | |
| 61 | 5.08 | 3.10 | 0.930 | 0.089 | ( 0.837) | 0.841 | |
| 62 | 5.17 | 3.60 | 1.080 | 0.089 | ( 0.972) | 0.991 | |
| 63 | 5.25 | 3.90 | 1.170 | 0.089 | ( 1.053) | 1.081 | |
| 64 | 5.33 | 4.20 | 1.260 | 0.089 | ( 1.134) | 1.171 | |
| 65 | 5.42 | 4.70 | 1.410 | 0.089 | ( 1.269) | 1.321 | |
| 66 | 5.50 | 5.60 | 1.680 | 0.089 | ( 1.512) | 1.591 | |
| 67 | 5.58 | 1.90 | 0.570 | 0.089 | ( 0.513) | 0.481 | |
| 68 | 5.67 | 0.90 | 0.270 | 0.089 | ( 0.243) | 0.181 | |
| 69 | 5.75 | 0.60 | 0.180 | 0.089 | ( 0.162) | 0.091 | |
| 70 | 5.83 | 0.50 | 0.150 | 0.089 | ( 0.135) | 0.061 | |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.089) | 0.081 | 0.009 | |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.089) | 0.054 | 0.006 | |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.6

Flood volume = Effective rainfall 1.97(In)
times area 0.3(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.53(In)
Total soil loss = 0.013(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 2142.9 Cubic Feet
Total soil loss = 579.6 Cubic Feet

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Peak flow rate of this hydrograph = 0.481(CFS)

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6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

---

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0001 | 0.02 | Q | \| | \| | \| | \| |
| 0+10 | 0.0003 | 0.03 | Q | \| | \| | \| | \| |
| 0+15 | 0.0005 | 0.03 | Q | \| | \| | \| | \| |
| 0+20 | 0.0007 | 0.03 | Q | \| | \| | \| | \| |
| 0+25 | 0.0009 | 0.03 | Q | \| | \| | \| | \| |
| 0+30 | 0.0011 | 0.04 | Q | \| | \| | \| | \| |
| 0+35 | 0.0014 | 0.04 | QV | \| | \| | \| | \| |
| 0+40 | 0.0016 | 0.04 | QV | \| | \| | \| | \| |
| 0+45 | 0.0019 | 0.04 | QV | \| | \| | \| | \| |
| 0+50 | 0.0021 | 0.04 | QV | \| | \| | \| | \| |
| 0+55 | 0.0024 | 0.04 | QV | \| | \| | \| | \| |
| 1+ 0 | 0.0027 | 0.05 | Q V | \| | \| | \| | \| |
| 1+ 5 | 0.0030 | 0.05 | Q V | \| | \| | \| | \| |
| 1+10 | 0.0033 | 0.05 | Q V | \| | \| | \| | \| |
| 1+15 | 0.0036 | 0.05 | Q V | \| | \| | \| | \| |
| 1+20 | 0.0040 | 0.05 | Q V | \| | \| | \| | \| |
| 1+25 | 0.0043 | 0.05 | Q V | \| | \| | \| | \| |
| 1+30 | 0.0046 | 0.05 | Q V | \| | \| | \| | \| |
| 1+35 | 0.0049 | 0.05 | Q V | \| | \| | \| | \| |
| 1+40 | 0.0052 | 0.05 | Q V | \| | \| | \| | \| |
| 1+45 | 0.0055 | 0.05 | Q V | \| | \| | \| | \| |
| 1+50 | 0.0058 | 0.05 | Q V | \| | \| | \| | \| |
| 1+55 | 0.0062 | 0.05 | Q V | \| | \| | \| | \| |
| 2+ 0 | 0.0065 | 0.05 | Q V | \| | \| | \| | \| |
| 2+ 5 | 0.0068 | 0.05 | Q V | \| | \| | \| | \| |
| 2+10 | 0.0072 | 0.05 | Q V | \| | \| | \| | \| |
| 2+15 | 0.0076 | 0.05 | Q V | \| | \| | \| | \| |
| 2+20 | 0.0080 | 0.05 | Q V | \| | \| | \| | \| |
| 2+25 | 0.0084 | 0.05 | Q V | \| | \| | \| | \| |
| 2+30 | 0.0087 | 0.05 | Q V | \| | \| | \| | \| |
| 2+35 | 0.0091 | 0.05 | Q V | \| | \| | \| | \| |
| 2+40 | 0.0095 | 0.05 | Q V | \| | \| | \| | \| |
| 2+45 | 0.0099 | 0.06 | Q V | \| | \| | \| | \| |
| 2+50 | 0.0104 | 0.06 | Q V | \| | \| | \| | \| |
| 2+55 | 0.0108 | 0.06 | Q V | \| | \| | \| | \| |
| 3+ 0 | 0.0112 | 0.06 | Q V | \| | \| | \| | \| |
| 3+ 5 | 0.0117 | 0.06 | Q V | \| | \| | \| | \| |
| 3+10 | 0.0122 | 0.07 | Q V | \| | \| | \| | \| |
| 3+15 | 0.0127 | 0.07 | Q V | \| | \| | \| | \| |
| 3+20 | 0.0132 | 0.07 | Q V | \| | \| | \| | \| |

```
    3+25       0.0137      0.08  Q          |V        |         |          |
    3+30       0.0144      0.09  Q          |V        |         |          |
    3+35       0.0151      0.10  Q          | V       |         |          |
    3+40       0.0158      0.10  Q          | V       |         |          |
    3+45       0.0165      0.11  Q          |  V      |         |          |
    3+50       0.0173      0.11  Q          |   V     |         |          |
    3+55       0.0181      0.12  Q          |   V     |         |          |
    4+ 0       0.0189      0.12  Q          |    V    |         |          |
    4+ 5       0.0198      0.13  Q          |     V   |         |          |
    4+10       0.0207      0.14  Q          |     V   |         |          |
    4+15       0.0217      0.15  Q          |      V  |         |          |
    4+20       0.0228      0.15  Q          |       V |         |          |
    4+25       0.0239      0.16  Q          |        V|         |          |
    4+30       0.0250      0.16  Q          |         V         |          |
    4+35       0.0262      0.17  Q          |         |V        |          |
    4+40       0.0275      0.18  Q          |         | V       |          |
    4+45       0.0288      0.19  Q          |         |  V      |          |
    4+50       0.0301      0.19  Q          |         |   V     |          |
    4+55       0.0315      0.20  Q          |         |    V    |          |
    5+ 0       0.0329      0.21  Q          |         |     V   |          |
    5+ 5       0.0347      0.25  |Q         |         |      V  |          |
    5+10       0.0367      0.30  |Q         |         |       V |          |
    5+15       0.0390      0.33  |Q         |         |         |V         |
    5+20       0.0414      0.35  |Q         |         |         |  V       |
    5+25       0.0442      0.40  |Q         |         |         |    V     |
    5+30       0.0475      0.48  |Q         |         |         |      V   |
    5+35       0.0485      0.15  Q          |         |         |       V  |
    5+40       0.0488      0.05  Q          |         |         |       V  |
    5+45       0.0490      0.03  Q          |         |         |       V  |
    5+50       0.0492      0.02  Q          |         |         |       V  |
    5+55       0.0492      0.00  Q          |         |         |       V  |
    6+ 0       0.0492      0.00  Q          |         |         |        V
-------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX2624100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 26
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.30(Ac.) = 0.000 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.30(Ac.) = 0.000 Sq. Mi.
Length along longest watercourse = 115.00(Ft.)
Length along longest watercourse measured to centroid = 61.00(Ft.)
Length along longest watercourse = 0.022 Mi.
Length along longest watercourse measured to centroid = 0.012 Mi.
Difference in elevation = 58.00(Ft.)
Slope along watercourse = 2662.9565 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.008 Hr.
Lag time = 0.48 Min.
25% of lag time = 0.12 Min.
40% of lag time = 0.19 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.30 | 1.80 | 0.54 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.30 | 4.56 | 1.37 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.560(In)

Point rain (area averaged) = 4.560(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.560(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.300 | 83.55 | 0.000 |

Total Area Entered = 0.30(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.5 | 93.1 | 0.089 | 0.000 | 0.089 | 1.000 | 0.089 |
| | | | | | Sum (F) = | 0.089 |

Area averaged mean soil loss (F) (In/Hr) = 0.089

Minimum soil loss rate ((In/Hr)) = 0.045
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 1035.309 | 100.000 | 0.302 |
| | | Sum = 100.000 | Sum= 0.302 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.036 | ( 0.158) | 0.033 | 0.004 |
| 2 | 0.17 | 0.07 | 0.036 | ( 0.158) | 0.033 | 0.004 |
| 3 | 0.25 | 0.07 | 0.036 | ( 0.157) | 0.033 | 0.004 |
| 4 | 0.33 | 0.10 | 0.055 | ( 0.156) | 0.049 | 0.005 |
| 5 | 0.42 | 0.10 | 0.055 | ( 0.156) | 0.049 | 0.005 |
| 6 | 0.50 | 0.10 | 0.055 | ( 0.155) | 0.049 | 0.005 |
| 7 | 0.58 | 0.10 | 0.055 | ( 0.155) | 0.049 | 0.005 |
| 8 | 0.67 | 0.10 | 0.055 | ( 0.154) | 0.049 | 0.005 |
| 9 | 0.75 | 0.10 | 0.055 | ( 0.153) | 0.049 | 0.005 |
| 10 | 0.83 | 0.13 | 0.073 | ( 0.153) | 0.066 | 0.007 |
| 11 | 0.92 | 0.13 | 0.073 | ( 0.152) | 0.066 | 0.007 |
| 12 | 1.00 | 0.13 | 0.073 | ( 0.152) | 0.066 | 0.007 |
| 13 | 1.08 | 0.10 | 0.055 | ( 0.151) | 0.049 | 0.005 |
| 14 | 1.17 | 0.10 | 0.055 | ( 0.150) | 0.049 | 0.005 |
| 15 | 1.25 | 0.10 | 0.055 | ( 0.150) | 0.049 | 0.005 |
| 16 | 1.33 | 0.10 | 0.055 | ( 0.149) | 0.049 | 0.005 |
| 17 | 1.42 | 0.10 | 0.055 | ( 0.149) | 0.049 | 0.005 |
| 18 | 1.50 | 0.10 | 0.055 | ( 0.148) | 0.049 | 0.005 |
| 19 | 1.58 | 0.10 | 0.055 | ( 0.147) | 0.049 | 0.005 |
| 20 | 1.67 | 0.10 | 0.055 | ( 0.147) | 0.049 | 0.005 |
| 21 | 1.75 | 0.10 | 0.055 | ( 0.146) | 0.049 | 0.005 |
| 22 | 1.83 | 0.13 | 0.073 | ( 0.146) | 0.066 | 0.007 |
| 23 | 1.92 | 0.13 | 0.073 | ( 0.145) | 0.066 | 0.007 |
| 24 | 2.00 | 0.13 | 0.073 | ( 0.145) | 0.066 | 0.007 |
| 25 | 2.08 | 0.13 | 0.073 | ( 0.144) | 0.066 | 0.007 |
| 26 | 2.17 | 0.13 | 0.073 | ( 0.143) | 0.066 | 0.007 |
| 27 | 2.25 | 0.13 | 0.073 | ( 0.143) | 0.066 | 0.007 |
| 28 | 2.33 | 0.13 | 0.073 | ( 0.142) | 0.066 | 0.007 |
| 29 | 2.42 | 0.13 | 0.073 | ( 0.142) | 0.066 | 0.007 |
| 30 | 2.50 | 0.13 | 0.073 | ( 0.141) | 0.066 | 0.007 |
| 31 | 2.58 | 0.17 | 0.091 | ( 0.140) | 0.082 | 0.009 |
| 32 | 2.67 | 0.17 | 0.091 | ( 0.140) | 0.082 | 0.009 |
| 33 | 2.75 | 0.17 | 0.091 | ( 0.139) | 0.082 | 0.009 |
| 34 | 2.83 | 0.17 | 0.091 | ( 0.139) | 0.082 | 0.009 |
| 35 | 2.92 | 0.17 | 0.091 | ( 0.138) | 0.082 | 0.009 |
| 36 | 3.00 | 0.17 | 0.091 | ( 0.138) | 0.082 | 0.009 |
| 37 | 3.08 | 0.17 | 0.091 | ( 0.137) | 0.082 | 0.009 |
| 38 | 3.17 | 0.17 | 0.091 | ( 0.136) | 0.082 | 0.009 |
| 39 | 3.25 | 0.17 | 0.091 | ( 0.136) | 0.082 | 0.009 |
| 40 | 3.33 | 0.17 | 0.091 | ( 0.135) | 0.082 | 0.009 |
| 41 | 3.42 | 0.17 | 0.091 | ( 0.135) | 0.082 | 0.009 |
| 42 | 3.50 | 0.17 | 0.091 | ( 0.134) | 0.082 | 0.009 |
| 43 | 3.58 | 0.17 | 0.091 | ( 0.134) | 0.082 | 0.009 |
| 44 | 3.67 | 0.17 | 0.091 | ( 0.133) | 0.082 | 0.009 |
| 45 | 3.75 | 0.17 | 0.091 | ( 0.133) | 0.082 | 0.009 |
| 46 | 3.83 | 0.20 | 0.109 | ( 0.132) | 0.098 | 0.011 |
| 47 | 3.92 | 0.20 | 0.109 | ( 0.131) | 0.098 | 0.011 |
| 48 | 4.00 | 0.20 | 0.109 | ( 0.131) | 0.098 | 0.011 |
| 49 | 4.08 | 0.20 | 0.109 | ( 0.130) | 0.098 | 0.011 |
| 50 | 4.17 | 0.20 | 0.109 | ( 0.130) | 0.098 | 0.011 |
| 51 | 4.25 | 0.20 | 0.109 | ( 0.129) | 0.098 | 0.011 |
| 52 | 4.33 | 0.23 | 0.128 | ( 0.129) | 0.115 | 0.013 |
| 53 | 4.42 | 0.23 | 0.128 | ( 0.128) | 0.115 | 0.013 |
| 54 | 4.50 | 0.23 | 0.128 | ( 0.128) | 0.115 | 0.013 |
| 55 | 4.58 | 0.23 | 0.128 | ( 0.127) | 0.115 | 0.013 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 56 | 4.67 | 0.23 | 0.128 | ( | 0.126) | 0.115 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.128 | ( | 0.126) | 0.115 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.146 | | 0.125 | ( 0.131) | | 0.021 |
| 59 | 4.92 | 0.27 | 0.146 | | 0.125 | ( 0.131) | | 0.021 |
| 60 | 5.00 | 0.27 | 0.146 | | 0.124 | ( 0.131) | | 0.022 |
| 61 | 5.08 | 0.20 | 0.109 | ( | 0.124) | 0.098 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.109 | ( | 0.123) | 0.098 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.109 | ( | 0.123) | 0.098 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.128 | ( | 0.122) | 0.115 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.128 | ( | 0.122) | 0.115 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.128 | ( | 0.121) | 0.115 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.146 | | 0.121 | ( 0.131) | | 0.025 |
| 68 | 5.67 | 0.27 | 0.146 | | 0.120 | ( 0.131) | | 0.026 |
| 69 | 5.75 | 0.27 | 0.146 | | 0.119 | ( 0.131) | | 0.026 |
| 70 | 5.83 | 0.27 | 0.146 | | 0.119 | ( 0.131) | | 0.027 |
| 71 | 5.92 | 0.27 | 0.146 | | 0.118 | ( 0.131) | | 0.028 |
| 72 | 6.00 | 0.27 | 0.146 | | 0.118 | ( 0.131) | | 0.028 |
| 73 | 6.08 | 0.30 | 0.164 | | 0.117 | ( 0.148) | | 0.047 |
| 74 | 6.17 | 0.30 | 0.164 | | 0.117 | ( 0.148) | | 0.047 |
| 75 | 6.25 | 0.30 | 0.164 | | 0.116 | ( 0.148) | | 0.048 |
| 76 | 6.33 | 0.30 | 0.164 | | 0.116 | ( 0.148) | | 0.048 |
| 77 | 6.42 | 0.30 | 0.164 | | 0.115 | ( 0.148) | | 0.049 |
| 78 | 6.50 | 0.30 | 0.164 | | 0.115 | ( 0.148) | | 0.049 |
| 79 | 6.58 | 0.33 | 0.182 | | 0.114 | ( 0.164) | | 0.068 |
| 80 | 6.67 | 0.33 | 0.182 | | 0.114 | ( 0.164) | | 0.069 |
| 81 | 6.75 | 0.33 | 0.182 | | 0.113 | ( 0.164) | | 0.069 |
| 82 | 6.83 | 0.33 | 0.182 | | 0.113 | ( 0.164) | | 0.070 |
| 83 | 6.92 | 0.33 | 0.182 | | 0.112 | ( 0.164) | | 0.070 |
| 84 | 7.00 | 0.33 | 0.182 | | 0.112 | ( 0.164) | | 0.071 |
| 85 | 7.08 | 0.33 | 0.182 | | 0.111 | ( 0.164) | | 0.071 |
| 86 | 7.17 | 0.33 | 0.182 | | 0.111 | ( 0.164) | | 0.072 |
| 87 | 7.25 | 0.33 | 0.182 | | 0.110 | ( 0.164) | | 0.072 |
| 88 | 7.33 | 0.37 | 0.201 | | 0.110 | ( 0.181) | | 0.091 |
| 89 | 7.42 | 0.37 | 0.201 | | 0.109 | ( 0.181) | | 0.091 |
| 90 | 7.50 | 0.37 | 0.201 | | 0.109 | ( 0.181) | | 0.092 |
| 91 | 7.58 | 0.40 | 0.219 | | 0.108 | ( 0.197) | | 0.111 |
| 92 | 7.67 | 0.40 | 0.219 | | 0.108 | ( 0.197) | | 0.111 |
| 93 | 7.75 | 0.40 | 0.219 | | 0.107 | ( 0.197) | | 0.112 |
| 94 | 7.83 | 0.43 | 0.237 | | 0.107 | ( 0.213) | | 0.130 |
| 95 | 7.92 | 0.43 | 0.237 | | 0.106 | ( 0.213) | | 0.131 |
| 96 | 8.00 | 0.43 | 0.237 | | 0.106 | ( 0.213) | | 0.131 |
| 97 | 8.08 | 0.50 | 0.274 | | 0.105 | ( 0.246) | | 0.168 |
| 98 | 8.17 | 0.50 | 0.274 | | 0.105 | ( 0.246) | | 0.169 |
| 99 | 8.25 | 0.50 | 0.274 | | 0.104 | ( 0.246) | | 0.169 |
| 100 | 8.33 | 0.50 | 0.274 | | 0.104 | ( 0.246) | | 0.170 |
| 101 | 8.42 | 0.50 | 0.274 | | 0.103 | ( 0.246) | | 0.170 |
| 102 | 8.50 | 0.50 | 0.274 | | 0.103 | ( 0.246) | | 0.171 |
| 103 | 8.58 | 0.53 | 0.292 | | 0.102 | ( 0.263) | | 0.190 |
| 104 | 8.67 | 0.53 | 0.292 | | 0.102 | ( 0.263) | | 0.190 |
| 105 | 8.75 | 0.53 | 0.292 | | 0.101 | ( 0.263) | | 0.191 |
| 106 | 8.83 | 0.57 | 0.310 | | 0.101 | ( 0.279) | | 0.209 |
| 107 | 8.92 | 0.57 | 0.310 | | 0.100 | ( 0.279) | | 0.210 |
| 108 | 9.00 | 0.57 | 0.310 | | 0.100 | ( 0.279) | | 0.210 |
| 109 | 9.08 | 0.63 | 0.347 | | 0.099 | ( 0.312) | | 0.247 |
| 110 | 9.17 | 0.63 | 0.347 | | 0.099 | ( 0.312) | | 0.248 |
| 111 | 9.25 | 0.63 | 0.347 | | 0.098 | ( 0.312) | | 0.248 |
| 112 | 9.33 | 0.67 | 0.365 | | 0.098 | ( 0.328) | | 0.267 |
| 113 | 9.42 | 0.67 | 0.365 | | 0.098 | ( 0.328) | | 0.267 |
| 114 | 9.50 | 0.67 | 0.365 | | 0.097 | ( 0.328) | | 0.268 |
| 115 | 9.58 | 0.70 | 0.383 | | 0.097 | ( 0.345) | | 0.286 |
| 116 | 9.67 | 0.70 | 0.383 | | 0.096 | ( 0.345) | | 0.287 |
| 117 | 9.75 | 0.70 | 0.383 | | 0.096 | ( 0.345) | | 0.287 |
| 118 | 9.83 | 0.73 | 0.401 | | 0.095 | ( 0.361) | | 0.306 |
| 119 | 9.92 | 0.73 | 0.401 | | 0.095 | ( 0.361) | | 0.307 |
| 120 | 10.00 | 0.73 | 0.401 | | 0.094 | ( 0.361) | | 0.307 |
| 121 | 10.08 | 0.50 | 0.274 | | 0.094 | ( 0.246) | | 0.180 |
| 122 | 10.17 | 0.50 | 0.274 | | 0.093 | ( 0.246) | | 0.180 |
| 123 | 10.25 | 0.50 | 0.274 | | 0.093 | ( 0.246) | | 0.181 |
| 124 | 10.33 | 0.50 | 0.274 | | 0.092 | ( 0.246) | | 0.181 |
| 125 | 10.42 | 0.50 | 0.274 | | 0.092 | ( 0.246) | | 0.182 |
| 126 | 10.50 | 0.50 | 0.274 | | 0.092 | ( 0.246) | | 0.182 |
| 127 | 10.58 | 0.67 | 0.365 | | 0.091 | ( 0.328) | | 0.274 |
| 128 | 10.67 | 0.67 | 0.365 | | 0.091 | ( 0.328) | | 0.274 |
| 129 | 10.75 | 0.67 | 0.365 | | 0.090 | ( 0.328) | | 0.275 |
| 130 | 10.83 | 0.67 | 0.365 | | 0.090 | ( 0.328) | | 0.275 |
| 131 | 10.92 | 0.67 | 0.365 | | 0.089 | ( 0.328) | | 0.275 |
| 132 | 11.00 | 0.67 | 0.365 | | 0.089 | ( 0.328) | | 0.276 |
| 133 | 11.08 | 0.63 | 0.347 | | 0.089 | ( 0.312) | | 0.258 |

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|---|---|---|---|---|---|---|
| 134 | 11.17 | 0.63 | 0.347 | 0.088 | ( 0.312) | 0.258 |
| 135 | 11.25 | 0.63 | 0.347 | 0.088 | ( 0.312) | 0.259 |
| 136 | 11.33 | 0.63 | 0.347 | 0.087 | ( 0.312) | 0.259 |
| 137 | 11.42 | 0.63 | 0.347 | 0.087 | ( 0.312) | 0.260 |
| 138 | 11.50 | 0.63 | 0.347 | 0.086 | ( 0.312) | 0.260 |
| 139 | 11.58 | 0.57 | 0.310 | 0.086 | ( 0.279) | 0.224 |
| 140 | 11.67 | 0.57 | 0.310 | 0.085 | ( 0.279) | 0.225 |
| 141 | 11.75 | 0.57 | 0.310 | 0.085 | ( 0.279) | 0.225 |
| 142 | 11.83 | 0.60 | 0.328 | 0.085 | ( 0.295) | 0.244 |
| 143 | 11.92 | 0.60 | 0.328 | 0.084 | ( 0.295) | 0.244 |
| 144 | 12.00 | 0.60 | 0.328 | 0.084 | ( 0.295) | 0.245 |
| 145 | 12.08 | 0.83 | 0.456 | 0.083 | ( 0.410) | 0.373 |
| 146 | 12.17 | 0.83 | 0.456 | 0.083 | ( 0.410) | 0.373 |
| 147 | 12.25 | 0.83 | 0.456 | 0.083 | ( 0.410) | 0.373 |
| 148 | 12.33 | 0.87 | 0.474 | 0.082 | ( 0.427) | 0.392 |
| 149 | 12.42 | 0.87 | 0.474 | 0.082 | ( 0.427) | 0.393 |
| 150 | 12.50 | 0.87 | 0.474 | 0.081 | ( 0.427) | 0.393 |
| 151 | 12.58 | 0.93 | 0.511 | 0.081 | ( 0.460) | 0.430 |
| 152 | 12.67 | 0.93 | 0.511 | 0.080 | ( 0.460) | 0.430 |
| 153 | 12.75 | 0.93 | 0.511 | 0.080 | ( 0.460) | 0.431 |
| 154 | 12.83 | 0.97 | 0.529 | 0.080 | ( 0.476) | 0.449 |
| 155 | 12.92 | 0.97 | 0.529 | 0.079 | ( 0.476) | 0.450 |
| 156 | 13.00 | 0.97 | 0.529 | 0.079 | ( 0.476) | 0.450 |
| 157 | 13.08 | 1.13 | 0.620 | 0.078 | ( 0.558) | 0.542 |
| 158 | 13.17 | 1.13 | 0.620 | 0.078 | ( 0.558) | 0.542 |
| 159 | 13.25 | 1.13 | 0.620 | 0.078 | ( 0.558) | 0.542 |
| 160 | 13.33 | 1.13 | 0.620 | 0.077 | ( 0.558) | 0.543 |
| 161 | 13.42 | 1.13 | 0.620 | 0.077 | ( 0.558) | 0.543 |
| 162 | 13.50 | 1.13 | 0.620 | 0.076 | ( 0.558) | 0.544 |
| 163 | 13.58 | 0.77 | 0.420 | 0.076 | ( 0.378) | 0.343 |
| 164 | 13.67 | 0.77 | 0.420 | 0.076 | ( 0.378) | 0.344 |
| 165 | 13.75 | 0.77 | 0.420 | 0.075 | ( 0.378) | 0.344 |
| 166 | 13.83 | 0.77 | 0.420 | 0.075 | ( 0.378) | 0.345 |
| 167 | 13.92 | 0.77 | 0.420 | 0.075 | ( 0.378) | 0.345 |
| 168 | 14.00 | 0.77 | 0.420 | 0.074 | ( 0.378) | 0.345 |
| 169 | 14.08 | 0.90 | 0.492 | 0.074 | ( 0.443) | 0.419 |
| 170 | 14.17 | 0.90 | 0.492 | 0.073 | ( 0.443) | 0.419 |
| 171 | 14.25 | 0.90 | 0.492 | 0.073 | ( 0.443) | 0.419 |
| 172 | 14.33 | 0.87 | 0.474 | 0.073 | ( 0.427) | 0.402 |
| 173 | 14.42 | 0.87 | 0.474 | 0.072 | ( 0.427) | 0.402 |
| 174 | 14.50 | 0.87 | 0.474 | 0.072 | ( 0.427) | 0.402 |
| 175 | 14.58 | 0.87 | 0.474 | 0.072 | ( 0.427) | 0.403 |
| 176 | 14.67 | 0.87 | 0.474 | 0.071 | ( 0.427) | 0.403 |
| 177 | 14.75 | 0.87 | 0.474 | 0.071 | ( 0.427) | 0.403 |
| 178 | 14.83 | 0.83 | 0.456 | 0.070 | ( 0.410) | 0.386 |
| 179 | 14.92 | 0.83 | 0.456 | 0.070 | ( 0.410) | 0.386 |
| 180 | 15.00 | 0.83 | 0.456 | 0.070 | ( 0.410) | 0.386 |
| 181 | 15.08 | 0.80 | 0.438 | 0.069 | ( 0.394) | 0.368 |
| 182 | 15.17 | 0.80 | 0.438 | 0.069 | ( 0.394) | 0.369 |
| 183 | 15.25 | 0.80 | 0.438 | 0.069 | ( 0.394) | 0.369 |
| 184 | 15.33 | 0.77 | 0.420 | 0.068 | ( 0.378) | 0.351 |
| 185 | 15.42 | 0.77 | 0.420 | 0.068 | ( 0.378) | 0.352 |
| 186 | 15.50 | 0.77 | 0.420 | 0.068 | ( 0.378) | 0.352 |
| 187 | 15.58 | 0.63 | 0.347 | 0.067 | ( 0.312) | 0.279 |
| 188 | 15.67 | 0.63 | 0.347 | 0.067 | ( 0.312) | 0.280 |
| 189 | 15.75 | 0.63 | 0.347 | 0.067 | ( 0.312) | 0.280 |
| 190 | 15.83 | 0.63 | 0.347 | 0.066 | ( 0.312) | 0.280 |
| 191 | 15.92 | 0.63 | 0.347 | 0.066 | ( 0.312) | 0.281 |
| 192 | 16.00 | 0.63 | 0.347 | 0.066 | ( 0.312) | 0.281 |
| 193 | 16.08 | 0.13 | 0.073 | 0.065 | ( 0.066) | 0.008 |
| 194 | 16.17 | 0.13 | 0.073 | 0.065 | ( 0.066) | 0.008 |
| 195 | 16.25 | 0.13 | 0.073 | 0.065 | ( 0.066) | 0.008 |
| 196 | 16.33 | 0.13 | 0.073 | 0.064 | ( 0.066) | 0.009 |
| 197 | 16.42 | 0.13 | 0.073 | 0.064 | ( 0.066) | 0.009 |
| 198 | 16.50 | 0.13 | 0.073 | 0.064 | ( 0.066) | 0.009 |
| 199 | 16.58 | 0.10 | 0.055 | ( 0.063) | 0.049 | 0.005 |
| 200 | 16.67 | 0.10 | 0.055 | ( 0.063) | 0.049 | 0.005 |
| 201 | 16.75 | 0.10 | 0.055 | ( 0.063) | 0.049 | 0.005 |
| 202 | 16.83 | 0.10 | 0.055 | ( 0.062) | 0.049 | 0.005 |
| 203 | 16.92 | 0.10 | 0.055 | ( 0.062) | 0.049 | 0.005 |
| 204 | 17.00 | 0.10 | 0.055 | ( 0.062) | 0.049 | 0.005 |
| 205 | 17.08 | 0.17 | 0.091 | 0.061 | ( 0.082) | 0.030 |
| 206 | 17.17 | 0.17 | 0.091 | 0.061 | ( 0.082) | 0.030 |
| 207 | 17.25 | 0.17 | 0.091 | 0.061 | ( 0.082) | 0.030 |
| 208 | 17.33 | 0.17 | 0.091 | 0.060 | ( 0.082) | 0.031 |
| 209 | 17.42 | 0.17 | 0.091 | 0.060 | ( 0.082) | 0.031 |
| 210 | 17.50 | 0.17 | 0.091 | 0.060 | ( 0.082) | 0.031 |
| 211 | 17.58 | 0.17 | 0.091 | 0.060 | ( 0.082) | 0.032 |

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|---|---|---|---|---|---|---|
| 212 | 17.67 | 0.17 | 0.091 | 0.059 | ( 0.082) | 0.032 |
| 213 | 17.75 | 0.17 | 0.091 | 0.059 | ( 0.082) | 0.032 |
| 214 | 17.83 | 0.13 | 0.073 | 0.059 | ( 0.066) | 0.014 |
| 215 | 17.92 | 0.13 | 0.073 | 0.058 | ( 0.066) | 0.015 |
| 216 | 18.00 | 0.13 | 0.073 | 0.058 | ( 0.066) | 0.015 |
| 217 | 18.08 | 0.13 | 0.073 | 0.058 | ( 0.066) | 0.015 |
| 218 | 18.17 | 0.13 | 0.073 | 0.058 | ( 0.066) | 0.015 |
| 219 | 18.25 | 0.13 | 0.073 | 0.057 | ( 0.066) | 0.016 |
| 220 | 18.33 | 0.13 | 0.073 | 0.057 | ( 0.066) | 0.016 |
| 221 | 18.42 | 0.13 | 0.073 | 0.057 | ( 0.066) | 0.016 |
| 222 | 18.50 | 0.13 | 0.073 | 0.056 | ( 0.066) | 0.017 |
| 223 | 18.58 | 0.10 | 0.055 | ( 0.056) | 0.049 | 0.005 |
| 224 | 18.67 | 0.10 | 0.055 | ( 0.056) | 0.049 | 0.005 |
| 225 | 18.75 | 0.10 | 0.055 | ( 0.056) | 0.049 | 0.005 |
| 226 | 18.83 | 0.07 | 0.036 | ( 0.055) | 0.033 | 0.004 |
| 227 | 18.92 | 0.07 | 0.036 | ( 0.055) | 0.033 | 0.004 |
| 228 | 19.00 | 0.07 | 0.036 | ( 0.055) | 0.033 | 0.004 |
| 229 | 19.08 | 0.10 | 0.055 | ( 0.055) | 0.049 | 0.005 |
| 230 | 19.17 | 0.10 | 0.055 | ( 0.054) | 0.049 | 0.005 |
| 231 | 19.25 | 0.10 | 0.055 | ( 0.054) | 0.049 | 0.005 |
| 232 | 19.33 | 0.13 | 0.073 | 0.054 | ( 0.066) | 0.019 |
| 233 | 19.42 | 0.13 | 0.073 | 0.054 | ( 0.066) | 0.019 |
| 234 | 19.50 | 0.13 | 0.073 | 0.053 | ( 0.066) | 0.020 |
| 235 | 19.58 | 0.10 | 0.055 | ( 0.053) | 0.049 | 0.005 |
| 236 | 19.67 | 0.10 | 0.055 | ( 0.053) | 0.049 | 0.005 |
| 237 | 19.75 | 0.10 | 0.055 | ( 0.053) | 0.049 | 0.005 |
| 238 | 19.83 | 0.07 | 0.036 | ( 0.052) | 0.033 | 0.004 |
| 239 | 19.92 | 0.07 | 0.036 | ( 0.052) | 0.033 | 0.004 |
| 240 | 20.00 | 0.07 | 0.036 | ( 0.052) | 0.033 | 0.004 |
| 241 | 20.08 | 0.10 | 0.055 | ( 0.052) | 0.049 | 0.005 |
| 242 | 20.17 | 0.10 | 0.055 | ( 0.051) | 0.049 | 0.005 |
| 243 | 20.25 | 0.10 | 0.055 | ( 0.051) | 0.049 | 0.005 |
| 244 | 20.33 | 0.10 | 0.055 | ( 0.051) | 0.049 | 0.005 |
| 245 | 20.42 | 0.10 | 0.055 | ( 0.051) | 0.049 | 0.005 |
| 246 | 20.50 | 0.10 | 0.055 | ( 0.051) | 0.049 | 0.005 |
| 247 | 20.58 | 0.10 | 0.055 | ( 0.050) | 0.049 | 0.005 |
| 248 | 20.67 | 0.10 | 0.055 | ( 0.050) | 0.049 | 0.005 |
| 249 | 20.75 | 0.10 | 0.055 | ( 0.050) | 0.049 | 0.005 |
| 250 | 20.83 | 0.07 | 0.036 | ( 0.050) | 0.033 | 0.004 |
| 251 | 20.92 | 0.07 | 0.036 | ( 0.049) | 0.033 | 0.004 |
| 252 | 21.00 | 0.07 | 0.036 | ( 0.049) | 0.033 | 0.004 |
| 253 | 21.08 | 0.10 | 0.055 | 0.049 | ( 0.049) | 0.006 |
| 254 | 21.17 | 0.10 | 0.055 | 0.049 | ( 0.049) | 0.006 |
| 255 | 21.25 | 0.10 | 0.055 | 0.049 | ( 0.049) | 0.006 |
| 256 | 21.33 | 0.07 | 0.036 | ( 0.049) | 0.033 | 0.004 |
| 257 | 21.42 | 0.07 | 0.036 | ( 0.048) | 0.033 | 0.004 |
| 258 | 21.50 | 0.07 | 0.036 | ( 0.048) | 0.033 | 0.004 |
| 259 | 21.58 | 0.10 | 0.055 | 0.048 | ( 0.049) | 0.007 |
| 260 | 21.67 | 0.10 | 0.055 | 0.048 | ( 0.049) | 0.007 |
| 261 | 21.75 | 0.10 | 0.055 | 0.048 | ( 0.049) | 0.007 |
| 262 | 21.83 | 0.07 | 0.036 | ( 0.047) | 0.033 | 0.004 |
| 263 | 21.92 | 0.07 | 0.036 | ( 0.047) | 0.033 | 0.004 |
| 264 | 22.00 | 0.07 | 0.036 | ( 0.047) | 0.033 | 0.004 |
| 265 | 22.08 | 0.10 | 0.055 | 0.047 | ( 0.049) | 0.008 |
| 266 | 22.17 | 0.10 | 0.055 | 0.047 | ( 0.049) | 0.008 |
| 267 | 22.25 | 0.10 | 0.055 | 0.047 | ( 0.049) | 0.008 |
| 268 | 22.33 | 0.07 | 0.036 | ( 0.047) | 0.033 | 0.004 |
| 269 | 22.42 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 270 | 22.50 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 271 | 22.58 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 272 | 22.67 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 273 | 22.75 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 274 | 22.83 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 275 | 22.92 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 276 | 23.00 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 277 | 23.08 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 278 | 23.17 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 279 | 23.25 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 280 | 23.33 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 281 | 23.42 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 284 | 23.67 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 285 | 23.75 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 286 | 23.83 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 287 | 23.92 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 288 | 24.00 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 33.7

Flood volume = Effective rainfall 2.81(In)
times area 0.3(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 1.75(In)
Total soil loss = 0.044(Ac.Ft)
Total rainfall = 4.56(In)
Flood volume = 3057.8 Cubic Feet
Total soil loss = 1908.1 Cubic Feet

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Peak flow rate of this hydrograph = 0.164(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0000 | 0.00 | Q | | | | |
| 0+10 | 0.0000 | 0.00 | Q | | | | |
| 0+15 | 0.0000 | 0.00 | Q | | | | |
| 0+20 | 0.0000 | 0.00 | Q | | | | |
| 0+25 | 0.0000 | 0.00 | Q | | | | |
| 0+30 | 0.0001 | 0.00 | Q | | | | |
| 0+35 | 0.0001 | 0.00 | Q | | | | |
| 0+40 | 0.0001 | 0.00 | Q | | | | |
| 0+45 | 0.0001 | 0.00 | Q | | | | |
| 0+50 | 0.0001 | 0.00 | Q | | | | |
| 0+55 | 0.0001 | 0.00 | Q | | | | |
| 1+ 0 | 0.0001 | 0.00 | Q | | | | |
| 1+ 5 | 0.0001 | 0.00 | Q | | | | |
| 1+10 | 0.0002 | 0.00 | Q | | | | |
| 1+15 | 0.0002 | 0.00 | Q | | | | |
| 1+20 | 0.0002 | 0.00 | Q | | | | |
| 1+25 | 0.0002 | 0.00 | Q | | | | |
| 1+30 | 0.0002 | 0.00 | Q | | | | |
| 1+35 | 0.0002 | 0.00 | Q | | | | |
| 1+40 | 0.0002 | 0.00 | Q | | | | |
| 1+45 | 0.0002 | 0.00 | Q | | | | |
| 1+50 | 0.0003 | 0.00 | Q | | | | |
| 1+55 | 0.0003 | 0.00 | Q | | | | |
| 2+ 0 | 0.0003 | 0.00 | Q | | | | |
| 2+ 5 | 0.0003 | 0.00 | Q | | | | |
| 2+10 | 0.0003 | 0.00 | Q | | | | |
| 2+15 | 0.0003 | 0.00 | Q | | | | |
| 2+20 | 0.0003 | 0.00 | Q | | | | |
| 2+25 | 0.0004 | 0.00 | Q | | | | |
| 2+30 | 0.0004 | 0.00 | Q | | | | |
| 2+35 | 0.0004 | 0.00 | Q | | | | |
| 2+40 | 0.0004 | 0.00 | Q | | | | |
| 2+45 | 0.0004 | 0.00 | Q | | | | |
| 2+50 | 0.0005 | 0.00 | Q | | | | |
| 2+55 | 0.0005 | 0.00 | Q | | | | |
| 3+ 0 | 0.0005 | 0.00 | Q | | | | |
| 3+ 5 | 0.0005 | 0.00 | Q | | | | |
| 3+10 | 0.0005 | 0.00 | Q | | | | |
| 3+15 | 0.0005 | 0.00 | Q | | | | |
| 3+20 | 0.0006 | 0.00 | Q | | | | |
| 3+25 | 0.0006 | 0.00 | Q | | | | |
| 3+30 | 0.0006 | 0.00 | Q | | | | |
| 3+35 | 0.0006 | 0.00 | Q | | | | |
| 3+40 | 0.0006 | 0.00 | Q | | | | |
| 3+45 | 0.0007 | 0.00 | Q | | | | |
| 3+50 | 0.0007 | 0.00 | Q | | | | |
| 3+55 | 0.0007 | 0.00 | Q | | | | |
| 4+ 0 | 0.0007 | 0.00 | Q | | | | |
| 4+ 5 | 0.0008 | 0.00 | Q | | | | |
| 4+10 | 0.0008 | 0.00 | Q | | | | |
| 4+15 | 0.0008 | 0.00 | Q | | | | |
| 4+20 | 0.0008 | 0.00 | Q | | | | |
| 4+25 | 0.0009 | 0.00 | Q | | | | |
| 4+30 | 0.0009 | 0.00 | Q | | | | |
| 4+35 | 0.0009 | 0.00 | Q | | | | |
| 4+40 | 0.0009 | 0.00 | Q | | | | |
| 4+45 | 0.0010 | 0.00 | Q | | | | |
| 4+50 | 0.0010 | 0.01 | Q | | | | |

```
 4+55       0.0010      0.01  Q          |          |          |          |
 5+ 0       0.0011      0.01  Q          |          |          |          |
 5+ 5       0.0011      0.00  Q          |          |          |          |
 5+10       0.0011      0.00  Q          |          |          |          |
 5+15       0.0012      0.00  Q          |          |          |          |
 5+20       0.0012      0.00  Q          |          |          |          |
 5+25       0.0012      0.00  Q          |          |          |          |
 5+30       0.0012      0.00  Q          |          |          |          |
 5+35       0.0013      0.01  Q          |          |          |          |
 5+40       0.0013      0.01  Q          |          |          |          |
 5+45       0.0014      0.01  Q          |          |          |          |
 5+50       0.0015      0.01  Q          |          |          |          |
 5+55       0.0015      0.01  Q          |          |          |          |
 6+ 0       0.0016      0.01  Q          |          |          |          |
 6+ 5       0.0017      0.01  Q          |          |          |          |
 6+10       0.0018      0.01  QV         |          |          |          |
 6+15       0.0019      0.01  QV         |          |          |          |
 6+20       0.0020      0.01  QV         |          |          |          |
 6+25       0.0021      0.01  QV         |          |          |          |
 6+30       0.0022      0.01  QV         |          |          |          |
 6+35       0.0023      0.02  QV         |          |          |          |
 6+40       0.0025      0.02  QV         |          |          |          |
 6+45       0.0026      0.02  QV         |          |          |          |
 6+50       0.0027      0.02  QV         |          |          |          |
 6+55       0.0029      0.02  QV         |          |          |          |
 7+ 0       0.0030      0.02  QV         |          |          |          |
 7+ 5       0.0032      0.02  QV         |          |          |          |
 7+10       0.0033      0.02  QV         |          |          |          |
 7+15       0.0035      0.02  QV         |          |          |          |
 7+20       0.0037      0.03  Q V        |          |          |          |
 7+25       0.0039      0.03  Q V        |          |          |          |
 7+30       0.0041      0.03  Q V        |          |          |          |
 7+35       0.0043      0.03  Q V        |          |          |          |
 7+40       0.0045      0.03  Q V        |          |          |          |
 7+45       0.0048      0.03  Q V        |          |          |          |
 7+50       0.0050      0.04  Q V        |          |          |          |
 7+55       0.0053      0.04  Q  V       |          |          |          |
 8+ 0       0.0056      0.04  Q  V       |          |          |          |
 8+ 5       0.0059      0.05  Q  V       |          |          |          |
 8+10       0.0063      0.05  Q  V       |          |          |          |
 8+15       0.0066      0.05  Q  V       |          |          |          |
 8+20       0.0070      0.05  Q  V       |          |          |          |
 8+25       0.0073      0.05  Q   V      |          |          |          |
 8+30       0.0077      0.05  Q   V      |          |          |          |
 8+35       0.0081      0.06  Q   V      |          |          |          |
 8+40       0.0085      0.06  Q   V      |          |          |          |
 8+45       0.0089      0.06  Q    V     |          |          |          |
 8+50       0.0093      0.06  Q    V     |          |          |          |
 8+55       0.0098      0.06  Q    V     |          |          |          |
 9+ 0       0.0102      0.06  Q    V     |          |          |          |
 9+ 5       0.0107      0.07  Q     V    |          |          |          |
 9+10       0.0112      0.07  Q     V    |          |          |          |
 9+15       0.0117      0.08  Q     V    |          |          |          |
 9+20       0.0123      0.08  Q      V   |          |          |          |
 9+25       0.0129      0.08  Q      V   |          |          |          |
 9+30       0.0134      0.08  Q      V   |          |          |          |
 9+35       0.0140      0.09  Q      V   |          |          |          |
 9+40       0.0146      0.09  Q       V  |          |          |          |
 9+45       0.0152      0.09  Q       V  |          |          |          |
 9+50       0.0158      0.09  Q        V |          |          |          |
 9+55       0.0165      0.09  Q        V |          |          |          |
10+ 0       0.0171      0.09  Q        V |          |          |          |
10+ 5       0.0175      0.05  Q        V |          |          |          |
10+10       0.0179      0.05  Q         V          |          |          |
10+15       0.0182      0.05  Q         V          |          |          |
10+20       0.0186      0.05  Q         V          |          |          |
10+25       0.0190      0.05  Q         V          |          |          |
10+30       0.0194      0.06  Q         |V         |          |          |
10+35       0.0200      0.08  Q         |V         |          |          |
10+40       0.0205      0.08  Q         |V         |          |          |
10+45       0.0211      0.08  Q         | V        |          |          |
10+50       0.0217      0.08  Q         | V        |          |          |
10+55       0.0222      0.08  Q         | V        |          |          |
11+ 0       0.0228      0.08  Q         |  V       |          |          |
11+ 5       0.0234      0.08  Q         |  V       |          |          |
11+10       0.0239      0.08  Q         |  V       |          |          |
11+15       0.0244      0.08  Q         |  V       |          |          |
11+20       0.0250      0.08  Q         |   V      |          |          |
```

| | | | | |
|---|---|---|---|---|
| 11+25 | 0.0255 | 0.08 | Q | |
| 11+30 | 0.0261 | 0.08 | Q | |
| 11+35 | 0.0265 | 0.07 | Q | |
| 11+40 | 0.0270 | 0.07 | Q | |
| 11+45 | 0.0275 | 0.07 | Q | |
| 11+50 | 0.0280 | 0.07 | Q | |
| 11+55 | 0.0285 | 0.07 | Q | |
| 12+ 0 | 0.0290 | 0.07 | Q | |
| 12+ 5 | 0.0298 | 0.11 | Q | |
| 12+10 | 0.0305 | 0.11 | Q | |
| 12+15 | 0.0313 | 0.11 | Q | |
| 12+20 | 0.0321 | 0.12 | Q | |
| 12+25 | 0.0329 | 0.12 | Q | |
| 12+30 | 0.0338 | 0.12 | Q | |
| 12+35 | 0.0347 | 0.13 | Q | |
| 12+40 | 0.0356 | 0.13 | Q | |
| 12+45 | 0.0365 | 0.13 | Q | |
| 12+50 | 0.0374 | 0.14 | Q | |
| 12+55 | 0.0383 | 0.14 | Q | |
| 13+ 0 | 0.0393 | 0.14 | Q | |
| 13+ 5 | 0.0404 | 0.16 | Q | |
| 13+10 | 0.0415 | 0.16 | Q | |
| 13+15 | 0.0427 | 0.16 | Q | |
| 13+20 | 0.0438 | 0.16 | Q | |
| 13+25 | 0.0449 | 0.16 | Q | |
| 13+30 | 0.0461 | 0.16 | Q | |
| 13+35 | 0.0468 | 0.10 | Q | |
| 13+40 | 0.0475 | 0.10 | Q | |
| 13+45 | 0.0482 | 0.10 | Q | |
| 13+50 | 0.0489 | 0.10 | Q | |
| 13+55 | 0.0496 | 0.10 | Q | |
| 14+ 0 | 0.0504 | 0.10 | Q | |
| 14+ 5 | 0.0512 | 0.13 | Q | |
| 14+10 | 0.0521 | 0.13 | Q | |
| 14+15 | 0.0530 | 0.13 | Q | |
| 14+20 | 0.0538 | 0.12 | Q | |
| 14+25 | 0.0546 | 0.12 | Q | |
| 14+30 | 0.0555 | 0.12 | Q | |
| 14+35 | 0.0563 | 0.12 | Q | |
| 14+40 | 0.0572 | 0.12 | Q | |
| 14+45 | 0.0580 | 0.12 | Q | |
| 14+50 | 0.0588 | 0.12 | Q | |
| 14+55 | 0.0596 | 0.12 | Q | |
| 15+ 0 | 0.0604 | 0.12 | Q | |
| 15+ 5 | 0.0612 | 0.11 | Q | |
| 15+10 | 0.0620 | 0.11 | Q | |
| 15+15 | 0.0627 | 0.11 | Q | |
| 15+20 | 0.0635 | 0.11 | Q | |
| 15+25 | 0.0642 | 0.11 | Q | |
| 15+30 | 0.0649 | 0.11 | Q | |
| 15+35 | 0.0655 | 0.08 | Q | |
| 15+40 | 0.0661 | 0.08 | Q | |
| 15+45 | 0.0667 | 0.08 | Q | |
| 15+50 | 0.0673 | 0.08 | Q | |
| 15+55 | 0.0678 | 0.08 | Q | |
| 16+ 0 | 0.0684 | 0.08 | Q | |
| 16+ 5 | 0.0684 | 0.00 | Q | |
| 16+10 | 0.0685 | 0.00 | Q | |
| 16+15 | 0.0685 | 0.00 | Q | |
| 16+20 | 0.0685 | 0.00 | Q | |
| 16+25 | 0.0685 | 0.00 | Q | |
| 16+30 | 0.0685 | 0.00 | Q | |
| 16+35 | 0.0685 | 0.00 | Q | |
| 16+40 | 0.0686 | 0.00 | Q | |
| 16+45 | 0.0686 | 0.00 | Q | |
| 16+50 | 0.0686 | 0.00 | Q | |
| 16+55 | 0.0686 | 0.00 | Q | |
| 17+ 0 | 0.0686 | 0.00 | Q | |
| 17+ 5 | 0.0687 | 0.01 | Q | |
| 17+10 | 0.0687 | 0.01 | Q | |
| 17+15 | 0.0688 | 0.01 | Q | |
| 17+20 | 0.0688 | 0.01 | Q | |
| 17+25 | 0.0689 | 0.01 | Q | |
| 17+30 | 0.0690 | 0.01 | Q | |
| 17+35 | 0.0690 | 0.01 | Q | |
| 17+40 | 0.0691 | 0.01 | Q | |
| 17+45 | 0.0692 | 0.01 | Q | |
| 17+50 | 0.0692 | 0.00 | Q | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+55 | 0.0692 | 0.00 | Q | \| | \| | \| | V\| |
| 18+ 0 | 0.0693 | 0.00 | Q | \| | \| | \| | V\| |
| 18+ 5 | 0.0693 | 0.00 | Q | \| | \| | \| | V\| |
| 18+10 | 0.0693 | 0.00 | Q | \| | \| | \| | V\| |
| 18+15 | 0.0694 | 0.00 | Q | \| | \| | \| | V\| |
| 18+20 | 0.0694 | 0.00 | Q | \| | \| | \| | V\| |
| 18+25 | 0.0694 | 0.00 | Q | \| | \| | \| | V\| |
| 18+30 | 0.0695 | 0.01 | Q | \| | \| | \| | V\| |
| 18+35 | 0.0695 | 0.00 | Q | \| | \| | \| | V\| |
| 18+40 | 0.0695 | 0.00 | Q | \| | \| | \| | V\| |
| 18+45 | 0.0695 | 0.00 | Q | \| | \| | \| | V\| |
| 18+50 | 0.0695 | 0.00 | Q | \| | \| | \| | V\| |
| 18+55 | 0.0695 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 0 | 0.0695 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 5 | 0.0695 | 0.00 | Q | \| | \| | \| | V\| |
| 19+10 | 0.0695 | 0.00 | Q | \| | \| | \| | V\| |
| 19+15 | 0.0696 | 0.00 | Q | \| | \| | \| | V\| |
| 19+20 | 0.0696 | 0.01 | Q | \| | \| | \| | V\| |
| 19+25 | 0.0696 | 0.01 | Q | \| | \| | \| | V\| |
| 19+30 | 0.0697 | 0.01 | Q | \| | \| | \| | V\| |
| 19+35 | 0.0697 | 0.00 | Q | \| | \| | \| | V\| |
| 19+40 | 0.0697 | 0.00 | Q | \| | \| | \| | V\| |
| 19+45 | 0.0697 | 0.00 | Q | \| | \| | \| | V\| |
| 19+50 | 0.0697 | 0.00 | Q | \| | \| | \| | V\| |
| 19+55 | 0.0697 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 0 | 0.0697 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 5 | 0.0697 | 0.00 | Q | \| | \| | \| | V\| |
| 20+10 | 0.0698 | 0.00 | Q | \| | \| | \| | V\| |
| 20+15 | 0.0698 | 0.00 | Q | \| | \| | \| | V\| |
| 20+20 | 0.0698 | 0.00 | Q | \| | \| | \| | V\| |
| 20+25 | 0.0698 | 0.00 | Q | \| | \| | \| | V\| |
| 20+30 | 0.0698 | 0.00 | Q | \| | \| | \| | V\| |
| 20+35 | 0.0698 | 0.00 | Q | \| | \| | \| | V\| |
| 20+40 | 0.0698 | 0.00 | Q | \| | \| | \| | V\| |
| 20+45 | 0.0698 | 0.00 | Q | \| | \| | \| | V\| |
| 20+50 | 0.0698 | 0.00 | Q | \| | \| | \| | V\| |
| 20+55 | 0.0699 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 0 | 0.0699 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 5 | 0.0699 | 0.00 | Q | \| | \| | \| | V\| |
| 21+10 | 0.0699 | 0.00 | Q | \| | \| | \| | V\| |
| 21+15 | 0.0699 | 0.00 | Q | \| | \| | \| | V\| |
| 21+20 | 0.0699 | 0.00 | Q | \| | \| | \| | V\| |
| 21+25 | 0.0699 | 0.00 | Q | \| | \| | \| | V\| |
| 21+30 | 0.0699 | 0.00 | Q | \| | \| | \| | V\| |
| 21+35 | 0.0699 | 0.00 | Q | \| | \| | \| | V\| |
| 21+40 | 0.0700 | 0.00 | Q | \| | \| | \| | V\| |
| 21+45 | 0.0700 | 0.00 | Q | \| | \| | \| | V\| |
| 21+50 | 0.0700 | 0.00 | Q | \| | \| | \| | V\| |
| 21+55 | 0.0700 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 0 | 0.0700 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 5 | 0.0700 | 0.00 | Q | \| | \| | \| | V\| |
| 22+10 | 0.0700 | 0.00 | Q | \| | \| | \| | V\| |
| 22+15 | 0.0700 | 0.00 | Q | \| | \| | \| | V\| |
| 22+20 | 0.0700 | 0.00 | Q | \| | \| | \| | V\| |
| 22+25 | 0.0701 | 0.00 | Q | \| | \| | \| | V\| |
| 22+30 | 0.0701 | 0.00 | Q | \| | \| | \| | V\| |
| 22+35 | 0.0701 | 0.00 | Q | \| | \| | \| | V\| |
| 22+40 | 0.0701 | 0.00 | Q | \| | \| | \| | V\| |
| 22+45 | 0.0701 | 0.00 | Q | \| | \| | \| | V\| |
| 22+50 | 0.0701 | 0.00 | Q | \| | \| | \| | V\| |
| 22+55 | 0.0701 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 0 | 0.0701 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 5 | 0.0701 | 0.00 | Q | \| | \| | \| | V\| |
| 23+10 | 0.0701 | 0.00 | Q | \| | \| | \| | V\| |
| 23+15 | 0.0701 | 0.00 | Q | \| | \| | \| | V\| |
| 23+20 | 0.0701 | 0.00 | Q | \| | \| | \| | V\| |
| 23+25 | 0.0701 | 0.00 | Q | \| | \| | \| | V\| |
| 23+30 | 0.0702 | 0.00 | Q | \| | \| | \| | V\| |
| 23+35 | 0.0702 | 0.00 | Q | \| | \| | \| | V\| |
| 23+40 | 0.0702 | 0.00 | Q | \| | \| | \| | V\| |
| 23+45 | 0.0702 | 0.00 | Q | \| | \| | \| | V\| |
| 23+50 | 0.0702 | 0.00 | Q | \| | \| | \| | V\| |
| 23+55 | 0.0702 | 0.00 | Q | \| | \| | \| | V\| |
| 24+ 0 | 0.0702 | 0.00 | Q | \| | \| | \| | V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX271100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 27
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 0.10(Ac.) = 0.000 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.10(Ac.) = 0.000 Sq. Mi.
Length along longest watercourse = 50.00(Ft.)
Length along longest watercourse measured to centroid = 25.00(Ft.)
Length along longest watercourse = 0.009 Mi.
Length along longest watercourse measured to centroid = 0.005 Mi.
Difference in elevation = 24.00(Ft.)
Slope along watercourse = 2534.4000 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.004 Hr.
Lag time = 0.25 Min.
25% of lag time = 0.06 Min.
40% of lag time = 0.10 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.10 | 0.49 | 0.05 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.10 | 1.20 | 0.12 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.490(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.100 | 84.00 | 0.000 |

Total Area Entered = 0.10(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

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| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 1975.385 | 100.000 | 0.101 |
| | | Sum = 100.000 Sum= | 0.101 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 4.20 | 0.605 | 0.086 | ( 0.544) | 0.519 |
| 2 | 0.17 4.30 | 0.619 | 0.086 | ( 0.557) | 0.533 |
| 3 | 0.25 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 4 | 0.33 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 5 | 0.42 5.80 | 0.835 | 0.086 | ( 0.752) | 0.749 |
| 6 | 0.50 6.50 | 0.936 | 0.086 | ( 0.842) | 0.850 |
| 7 | 0.58 7.40 | 1.066 | 0.086 | ( 0.959) | 0.980 |
| 8 | 0.67 8.60 | 1.238 | 0.086 | ( 1.115) | 1.153 |
| 9 | 0.75 12.30 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 10 | 0.83 29.10 | 4.190 | 0.086 | ( 3.771) | 4.105 |
| 11 | 0.92 6.80 | 0.979 | 0.086 | ( 0.881) | 0.893 |
| 12 | 1.00 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 13.4 |

Flood volume = Effective rainfall 1.11(In)
times area 0.1(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.001(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 404.5 Cubic Feet
Total soil loss = 31.1 Cubic Feet

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Peak flow rate of this hydrograph = 0.414(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0004 | 0.05 | QV | | | | |
| 0+10 | 0.0007 | 0.05 | Q V | | | | |
| 0+15 | 0.0012 | 0.06 | Q V | | | | |
| 0+20 | 0.0016 | 0.06 | Q V | | | | |
| 0+25 | 0.0021 | 0.08 | Q V | | | | |
| 0+30 | 0.0027 | 0.09 | Q V | | | | |
| 0+35 | 0.0034 | 0.10 | Q V | | | | |
| 0+40 | 0.0042 | 0.12 | Q V | | | | |
| 0+45 | 0.0054 | 0.17 | Q V | | | | |
| 0+50 | 0.0082 | 0.41 | Q V | | | | |
| 0+55 | 0.0088 | 0.09 | Q V | | | | |
| 1+ 0 | 0.0093 | 0.06 | Q V | | | | |

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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX273100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 27
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.10(Ac.) = 0.000 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.10(Ac.) = 0.000 Sq. Mi.
Length along longest watercourse = 50.00(Ft.)
Length along longest watercourse measured to centroid = 25.00(Ft.)
Length along longest watercourse = 0.009 Mi.
Length along longest watercourse measured to centroid = 0.005 Mi.
Difference in elevation = 24.00(Ft.)
Slope along watercourse = 2534.4000 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.004 Hr.
Lag time = 0.25 Min.
25% of lag time = 0.06 Min.
40% of lag time = 0.10 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.10 | 0.80 | 0.08 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.10 | 1.80 | 0.18 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.100 | 84.00 | 0.000 |

Total Area Entered = 0.10(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 1975.385 | 100.000 | 0.101 |
| | | Sum = 100.000 Sum= | 0.101 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.281 | 0.086 | ( 0.253) | 0.195 |
| 2 | 0.17 | 1.30 | 0.281 | 0.086 | ( 0.253) | 0.195 |
| 3 | 0.25 | 1.10 | 0.238 | 0.086 | ( 0.214) | 0.152 |
| 4 | 0.33 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 5 | 0.42 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 6 | 0.50 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 7 | 0.58 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 8 | 0.67 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 9 | 0.75 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 10 | 0.83 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 11 | 0.92 | 1.60 | 0.346 | 0.086 | ( 0.311) | 0.260 |
| 12 | 1.00 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 13 | 1.08 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 14 | 1.17 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 15 | 1.25 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 16 | 1.33 | 2.00 | 0.432 | 0.086 | ( 0.389) | 0.346 |
| 17 | 1.42 | 2.60 | 0.562 | 0.086 | ( 0.505) | 0.476 |
| 18 | 1.50 | 2.70 | 0.583 | 0.086 | ( 0.525) | 0.497 |
| 19 | 1.58 | 2.40 | 0.518 | 0.086 | ( 0.467) | 0.433 |
| 20 | 1.67 | 2.70 | 0.583 | 0.086 | ( 0.525) | 0.497 |
| 21 | 1.75 | 3.30 | 0.713 | 0.086 | ( 0.642) | 0.627 |
| 22 | 1.83 | 3.10 | 0.670 | 0.086 | ( 0.603) | 0.584 |
| 23 | 1.92 | 2.90 | 0.626 | 0.086 | ( 0.564) | 0.541 |
| 24 | 2.00 | 3.00 | 0.648 | 0.086 | ( 0.583) | 0.562 |
| 25 | 2.08 | 3.10 | 0.670 | 0.086 | ( 0.603) | 0.584 |
| 26 | 2.17 | 4.20 | 0.907 | 0.086 | ( 0.816) | 0.821 |
| 27 | 2.25 | 5.00 | 1.080 | 0.086 | ( 0.972) | 0.994 |
| 28 | 2.33 | 3.50 | 0.756 | 0.086 | ( 0.680) | 0.670 |
| 29 | 2.42 | 6.80 | 1.469 | 0.086 | ( 1.322) | 1.383 |
| 30 | 2.50 | 7.30 | 1.577 | 0.086 | ( 1.419) | 1.491 |
| 31 | 2.58 | 8.20 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 32 | 2.67 | 5.90 | 1.274 | 0.086 | ( 1.147) | 1.189 |
| 33 | 2.75 | 2.00 | 0.432 | 0.086 | ( 0.389) | 0.346 |
| 34 | 2.83 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 35 | 2.92 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 36 | 3.00 | 0.60 | 0.130 | 0.086 | ( 0.117) | 0.044 |
| | | (Loss Rate Not Used) | | | |
| Sum = | | 100.0 | | | Sum = 18.5 |

Flood volume = Effective rainfall 1.54(In)
times area 0.1(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.002(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 560.0 Cubic Feet
Total soil loss = 93.4 Cubic Feet

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Peak flow rate of this hydrograph = 0.170(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 2.5 5.0 7.5 10.0 |
|---|---|---|---|
| 0+ 5 | 0.0001 | 0.02 | Q \| \| \| \| |
| 0+10 | 0.0003 | 0.02 | Q \| \| \| \| |
| 0+15 | 0.0004 | 0.02 | QV \| \| \| \| |
| 0+20 | 0.0005 | 0.02 | QV \| \| \| \| |
| 0+25 | 0.0007 | 0.02 | Q V \| \| \| \| |
| 0+30 | 0.0009 | 0.03 | Q V \| \| \| \| |
| 0+35 | 0.0011 | 0.02 | Q V \| \| \| \| |
| 0+40 | 0.0013 | 0.03 | Q V \| \| \| \| |
| 0+45 | 0.0015 | 0.03 | Q V \| \| \| \| |
| 0+50 | 0.0017 | 0.02 | Q V \| \| \| \| |
| 0+55 | 0.0018 | 0.03 | Q V \| \| \| \| |
| 1+ 0 | 0.0021 | 0.03 | Q V \| \| \| \| |
| 1+ 5 | 0.0023 | 0.04 | Q V \| \| \| \| |
| 1+10 | 0.0026 | 0.04 | Q V \| \| \| \| |
| 1+15 | 0.0029 | 0.04 | Q V \| \| \| \| |
| 1+20 | 0.0031 | 0.03 | Q V\| \| \| \| |
| 1+25 | 0.0034 | 0.05 | Q V \| \| \| |
| 1+30 | 0.0038 | 0.05 | Q \|V \| \| \| |
| 1+35 | 0.0041 | 0.04 | Q \| V \| \| \| |
| 1+40 | 0.0044 | 0.05 | Q \| V \| \| \| |
| 1+45 | 0.0049 | 0.06 | Q \| V \| \| \| |
| 1+50 | 0.0053 | 0.06 | Q \| V \| \| \| |
| 1+55 | 0.0056 | 0.05 | Q \| V \| \| \| |
| 2+ 0 | 0.0060 | 0.06 | Q \| V \| \| \| |
| 2+ 5 | 0.0064 | 0.06 | Q \| V \| \| \| |
| 2+10 | 0.0070 | 0.08 | Q \| \|V \| \| \| |
| 2+15 | 0.0077 | 0.10 | Q \| \| V \| \| \| |
| 2+20 | 0.0082 | 0.07 | Q \| \| V \| \| \| |
| 2+25 | 0.0091 | 0.14 | Q \| \| \| V \| \| |
| 2+30 | 0.0102 | 0.15 | Q \| \| \| \|V \| |
| 2+35 | 0.0113 | 0.17 | Q \| \| \| \| V \| |
| 2+40 | 0.0122 | 0.12 | Q \| \| \| \| V \| |
| 2+45 | 0.0124 | 0.03 | Q \| \| \| \| V \| |
| 2+50 | 0.0126 | 0.03 | Q \| \| \| \| V\| |
| 2+55 | 0.0128 | 0.03 | Q \| \| \| \| V\| |
| 3+ 0 | 0.0129 | 0.00 | Q \| \| \| \| V\| |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX276100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 27
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 0.10(Ac.) = 0.000 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.10(Ac.) = 0.000 Sq. Mi.
Length along longest watercourse = 50.00(Ft.)
Length along longest watercourse measured to centroid = 25.00(Ft.)
Length along longest watercourse = 0.009 Mi.
Length along longest watercourse measured to centroid = 0.005 Mi.
Difference in elevation = 24.00(Ft.)
Slope along watercourse = 2534.4000 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.004 Hr.
Lag time = 0.25 Min.
25% of lag time = 0.06 Min.
40% of lag time = 0.10 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.10 | 1.12 | 0.11 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.10 | 2.50 | 0.25 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.120(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.100 | 84.00 | 0.000 |

Total Area Entered = 0.10(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 1975.385 | 100.000 | 0.101 |
| | | Sum = 100.000 | Sum= 0.101 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.086 | ( 0.135) | 0.064 |
| 2 | 0.17 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 3 | 0.25 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 4 | 0.33 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 5 | 0.42 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 6 | 0.50 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 7 | 0.58 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 8 | 0.67 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 9 | 0.75 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 10 | 0.83 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 11 | 0.92 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 12 | 1.00 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 13 | 1.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 14 | 1.17 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 15 | 1.25 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 16 | 1.33 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 17 | 1.42 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 18 | 1.50 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 19 | 1.58 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 20 | 1.67 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 21 | 1.75 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 22 | 1.83 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 23 | 1.92 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 24 | 2.00 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 25 | 2.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 26 | 2.17 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 27 | 2.25 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 28 | 2.33 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 29 | 2.42 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 30 | 2.50 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 31 | 2.58 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 32 | 2.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 33 | 2.75 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 34 | 2.83 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 35 | 2.92 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 36 | 3.00 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 37 | 3.08 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 38 | 3.17 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 39 | 3.25 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 40 | 3.33 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 41 | 3.42 | 1.20 | 0.360 | 0.086 | ( 0.324) | 0.274 |
| 42 | 3.50 | 1.30 | 0.390 | 0.086 | ( 0.351) | 0.304 |
| 43 | 3.58 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 44 | 3.67 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 45 | 3.75 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 46 | 3.83 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 47 | 3.92 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 48 | 4.00 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 49 | 4.08 | 1.70 | 0.510 | 0.086 | ( 0.459) | 0.424 |
| 50 | 4.17 | 1.80 | 0.540 | 0.086 | ( 0.486) | 0.454 |
| 51 | 4.25 | 1.90 | 0.570 | 0.086 | ( 0.513) | 0.484 |
| 52 | 4.33 | 2.00 | 0.600 | 0.086 | ( 0.540) | 0.514 |
| 53 | 4.42 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 |
| 54 | 4.50 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 |
| 55 | 4.58 | 2.20 | 0.660 | 0.086 | ( 0.594) | 0.574 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 56 | 4.67 | 2.30 | 0.690 | 0.086 | ( 0.621) | | 0.604 |
| 57 | 4.75 | 2.40 | 0.720 | 0.086 | ( 0.648) | | 0.634 |
| 58 | 4.83 | 2.40 | 0.720 | 0.086 | ( 0.648) | | 0.634 |
| 59 | 4.92 | 2.50 | 0.750 | 0.086 | ( 0.675) | | 0.664 |
| 60 | 5.00 | 2.60 | 0.780 | 0.086 | ( 0.702) | | 0.694 |
| 61 | 5.08 | 3.10 | 0.930 | 0.086 | ( 0.837) | | 0.844 |
| 62 | 5.17 | 3.60 | 1.080 | 0.086 | ( 0.972) | | 0.994 |
| 63 | 5.25 | 3.90 | 1.170 | 0.086 | ( 1.053) | | 1.084 |
| 64 | 5.33 | 4.20 | 1.260 | 0.086 | ( 1.134) | | 1.174 |
| 65 | 5.42 | 4.70 | 1.410 | 0.086 | ( 1.269) | | 1.324 |
| 66 | 5.50 | 5.60 | 1.680 | 0.086 | ( 1.512) | | 1.594 |
| 67 | 5.58 | 1.90 | 0.570 | 0.086 | ( 0.513) | | 0.484 |
| 68 | 5.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | | 0.184 |
| 69 | 5.75 | 0.60 | 0.180 | 0.086 | ( 0.162) | | 0.094 |
| 70 | 5.83 | 0.50 | 0.150 | 0.086 | ( 0.135) | | 0.064 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.086) | 0.081 | | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.086) | 0.054 | | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.9

Flood volume = Effective rainfall 1.99(In)
times area 0.1(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.51(In)
Total soil loss = 0.004(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 721.7 Cubic Feet
Total soil loss = 185.8 Cubic Feet

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Peak flow rate of this hydrograph = 0.161(CFS)

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6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0000 | 0.01 | Q | \| | \| | \| | \| |
| 0+10 | 0.0001 | 0.01 | Q | \| | \| | \| | \| |
| 0+15 | 0.0002 | 0.01 | Q | \| | \| | \| | \| |
| 0+20 | 0.0002 | 0.01 | Q | \| | \| | \| | \| |
| 0+25 | 0.0003 | 0.01 | Q | \| | \| | \| | \| |
| 0+30 | 0.0004 | 0.01 | Q | \| | \| | \| | \| |
| 0+35 | 0.0005 | 0.01 | QV | \| | \| | \| | \| |
| 0+40 | 0.0006 | 0.01 | QV | \| | \| | \| | \| |
| 0+45 | 0.0007 | 0.01 | QV | \| | \| | \| | \| |
| 0+50 | 0.0007 | 0.01 | QV | \| | \| | \| | \| |
| 0+55 | 0.0008 | 0.01 | QV | \| | \| | \| | \| |
| 1+ 0 | 0.0009 | 0.02 | Q V | \| | \| | \| | \| |
| 1+ 5 | 0.0010 | 0.02 | Q V | \| | \| | \| | \| |
| 1+10 | 0.0011 | 0.02 | Q V | \| | \| | \| | \| |
| 1+15 | 0.0013 | 0.02 | Q V | \| | \| | \| | \| |
| 1+20 | 0.0014 | 0.02 | Q V | \| | \| | \| | \| |
| 1+25 | 0.0015 | 0.02 | Q V | \| | \| | \| | \| |
| 1+30 | 0.0016 | 0.02 | Q V | \| | \| | \| | \| |
| 1+35 | 0.0017 | 0.02 | Q V | \| | \| | \| | \| |
| 1+40 | 0.0018 | 0.02 | Q V | \| | \| | \| | \| |
| 1+45 | 0.0019 | 0.02 | Q V | \| | \| | \| | \| |
| 1+50 | 0.0020 | 0.02 | Q V | \| | \| | \| | \| |
| 1+55 | 0.0021 | 0.02 | Q V | \| | \| | \| | \| |
| 2+ 0 | 0.0022 | 0.02 | Q V | \| | \| | \| | \| |
| 2+ 5 | 0.0023 | 0.02 | Q V | \| | \| | \| | \| |
| 2+10 | 0.0025 | 0.02 | Q V | \| | \| | \| | \| |
| 2+15 | 0.0026 | 0.02 | Q V | \| | \| | \| | \| |
| 2+20 | 0.0027 | 0.02 | Q V | \| | \| | \| | \| |
| 2+25 | 0.0029 | 0.02 | Q V | \| | \| | \| | \| |
| 2+30 | 0.0030 | 0.02 | Q V | \| | \| | \| | \| |
| 2+35 | 0.0031 | 0.02 | Q V | \| | \| | \| | \| |
| 2+40 | 0.0032 | 0.02 | Q V | \| | \| | \| | \| |
| 2+45 | 0.0034 | 0.02 | Q V | \| | \| | \| | \| |
| 2+50 | 0.0035 | 0.02 | Q V | \| | \| | \| | \| |
| 2+55 | 0.0037 | 0.02 | Q V | \| | \| | \| | \| |
| 3+ 0 | 0.0038 | 0.02 | Q V | \| | \| | \| | \| |
| 3+ 5 | 0.0040 | 0.02 | Q V | \| | \| | \| | \| |
| 3+10 | 0.0042 | 0.02 | Q V | \| | \| | \| | \| |
| 3+15 | 0.0043 | 0.02 | Q V | \| | \| | \| | \| |
| 3+20 | 0.0045 | 0.02 | Q V | \| | \| | \| | \| |

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    3+25       0.0047      0.03  Q          |V         |          |          |
    3+30       0.0049      0.03  Q          |V         |          |          |
    3+35       0.0051      0.03  Q          | V        |          |          |
    3+40       0.0054      0.03  Q          | V        |          |          |
    3+45       0.0056      0.04  Q          |  V       |          |          |
    3+50       0.0059      0.04  Q          |   V      |          |          |
    3+55       0.0061      0.04  Q          |   V      |          |          |
    4+ 0       0.0064      0.04  Q          |    V     |          |          |
    4+ 5       0.0067      0.04  Q          |     V    |          |          |
    4+10       0.0070      0.05  Q          |     V    |          |          |
    4+15       0.0074      0.05  Q          |      V   |          |          |
    4+20       0.0077      0.05  Q          |       V  |          |          |
    4+25       0.0081      0.05  Q          |        V |          |          |
    4+30       0.0085      0.05  Q          |         V|          |          |
    4+35       0.0089      0.06  Q          |          |V         |          |
    4+40       0.0093      0.06  Q          |          | V        |          |
    4+45       0.0097      0.06  Q          |          |  V       |          |
    4+50       0.0102      0.06  Q          |          |   V      |          |
    4+55       0.0106      0.07  Q          |          |    V     |          |
    5+ 0       0.0111      0.07  Q          |          |     V    |          |
    5+ 5       0.0117      0.09  Q          |          |      V   |          |
    5+10       0.0124      0.10  Q          |          |       V  |          |
    5+15       0.0131      0.11  Q          |          |        V |          |
    5+20       0.0140      0.12  Q          |          |         V|          |
    5+25       0.0149      0.13  Q          |          |          |V         |
    5+30       0.0160      0.16  Q          |          |          |  V       |
    5+35       0.0163      0.05  Q          |          |          |   V      |
    5+40       0.0164      0.02  Q          |          |          |    V     |
    5+45       0.0165      0.01  Q          |          |          |     V    |
    5+50       0.0166      0.01  Q          |          |          |      V   |
    5+55       0.0166      0.00  Q          |          |          |       V  |
    6+ 0       0.0166      0.00  Q          |          |          |        V |
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX2724100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 27
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 0.10(Ac.) = 0.000 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.10(Ac.) = 0.000 Sq. Mi.
Length along longest watercourse = 50.00(Ft.)
Length along longest watercourse measured to centroid = 25.00(Ft.)
Length along longest watercourse = 0.009 Mi.
Length along longest watercourse measured to centroid = 0.005 Mi.
Difference in elevation = 24.00(Ft.)
Slope along watercourse = 2534.4000 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.004 Hr.
Lag time = 0.25 Min.
25% of lag time = 0.06 Min.
40% of lag time = 0.10 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.10 | 1.80 | 0.18 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.10 | 4.56 | 0.46 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.560(In)

Point rain (area averaged) = 4.560(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.560(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.100 | 84.00 | 0.000 |

Total Area Entered = 0.10(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 1975.385 | 100.000 | 0.101 |
| | | Sum = 100.000 | Sum= 0.101 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.036 | ( 0.152) | 0.033 | 0.004 |
| 2 | 0.17 | 0.07 | 0.036 | ( 0.152) | 0.033 | 0.004 |
| 3 | 0.25 | 0.07 | 0.036 | ( 0.151) | 0.033 | 0.004 |
| 4 | 0.33 | 0.10 | 0.055 | ( 0.150) | 0.049 | 0.005 |
| 5 | 0.42 | 0.10 | 0.055 | ( 0.150) | 0.049 | 0.005 |
| 6 | 0.50 | 0.10 | 0.055 | ( 0.149) | 0.049 | 0.005 |
| 7 | 0.58 | 0.10 | 0.055 | ( 0.149) | 0.049 | 0.005 |
| 8 | 0.67 | 0.10 | 0.055 | ( 0.148) | 0.049 | 0.005 |
| 9 | 0.75 | 0.10 | 0.055 | ( 0.147) | 0.049 | 0.005 |
| 10 | 0.83 | 0.13 | 0.073 | ( 0.147) | 0.066 | 0.007 |
| 11 | 0.92 | 0.13 | 0.073 | ( 0.146) | 0.066 | 0.007 |
| 12 | 1.00 | 0.13 | 0.073 | ( 0.146) | 0.066 | 0.007 |
| 13 | 1.08 | 0.10 | 0.055 | ( 0.145) | 0.049 | 0.005 |
| 14 | 1.17 | 0.10 | 0.055 | ( 0.145) | 0.049 | 0.005 |
| 15 | 1.25 | 0.10 | 0.055 | ( 0.144) | 0.049 | 0.005 |
| 16 | 1.33 | 0.10 | 0.055 | ( 0.143) | 0.049 | 0.005 |
| 17 | 1.42 | 0.10 | 0.055 | ( 0.143) | 0.049 | 0.005 |
| 18 | 1.50 | 0.10 | 0.055 | ( 0.142) | 0.049 | 0.005 |
| 19 | 1.58 | 0.10 | 0.055 | ( 0.142) | 0.049 | 0.005 |
| 20 | 1.67 | 0.10 | 0.055 | ( 0.141) | 0.049 | 0.005 |
| 21 | 1.75 | 0.10 | 0.055 | ( 0.141) | 0.049 | 0.005 |
| 22 | 1.83 | 0.13 | 0.073 | ( 0.140) | 0.066 | 0.007 |
| 23 | 1.92 | 0.13 | 0.073 | ( 0.139) | 0.066 | 0.007 |
| 24 | 2.00 | 0.13 | 0.073 | ( 0.139) | 0.066 | 0.007 |
| 25 | 2.08 | 0.13 | 0.073 | ( 0.138) | 0.066 | 0.007 |
| 26 | 2.17 | 0.13 | 0.073 | ( 0.138) | 0.066 | 0.007 |
| 27 | 2.25 | 0.13 | 0.073 | ( 0.137) | 0.066 | 0.007 |
| 28 | 2.33 | 0.13 | 0.073 | ( 0.137) | 0.066 | 0.007 |
| 29 | 2.42 | 0.13 | 0.073 | ( 0.136) | 0.066 | 0.007 |
| 30 | 2.50 | 0.13 | 0.073 | ( 0.136) | 0.066 | 0.007 |
| 31 | 2.58 | 0.17 | 0.091 | ( 0.135) | 0.082 | 0.009 |
| 32 | 2.67 | 0.17 | 0.091 | ( 0.134) | 0.082 | 0.009 |
| 33 | 2.75 | 0.17 | 0.091 | ( 0.134) | 0.082 | 0.009 |
| 34 | 2.83 | 0.17 | 0.091 | ( 0.133) | 0.082 | 0.009 |
| 35 | 2.92 | 0.17 | 0.091 | ( 0.133) | 0.082 | 0.009 |
| 36 | 3.00 | 0.17 | 0.091 | ( 0.132) | 0.082 | 0.009 |
| 37 | 3.08 | 0.17 | 0.091 | ( 0.132) | 0.082 | 0.009 |
| 38 | 3.17 | 0.17 | 0.091 | ( 0.131) | 0.082 | 0.009 |
| 39 | 3.25 | 0.17 | 0.091 | ( 0.131) | 0.082 | 0.009 |
| 40 | 3.33 | 0.17 | 0.091 | ( 0.130) | 0.082 | 0.009 |
| 41 | 3.42 | 0.17 | 0.091 | ( 0.129) | 0.082 | 0.009 |
| 42 | 3.50 | 0.17 | 0.091 | ( 0.129) | 0.082 | 0.009 |
| 43 | 3.58 | 0.17 | 0.091 | ( 0.128) | 0.082 | 0.009 |
| 44 | 3.67 | 0.17 | 0.091 | ( 0.128) | 0.082 | 0.009 |
| 45 | 3.75 | 0.17 | 0.091 | ( 0.127) | 0.082 | 0.009 |
| 46 | 3.83 | 0.20 | 0.109 | ( 0.127) | 0.098 | 0.011 |
| 47 | 3.92 | 0.20 | 0.109 | ( 0.126) | 0.098 | 0.011 |
| 48 | 4.00 | 0.20 | 0.109 | ( 0.126) | 0.098 | 0.011 |
| 49 | 4.08 | 0.20 | 0.109 | ( 0.125) | 0.098 | 0.011 |
| 50 | 4.17 | 0.20 | 0.109 | ( 0.125) | 0.098 | 0.011 |
| 51 | 4.25 | 0.20 | 0.109 | ( 0.124) | 0.098 | 0.011 |
| 52 | 4.33 | 0.23 | 0.128 | ( 0.124) | 0.115 | 0.013 |
| 53 | 4.42 | 0.23 | 0.128 | ( 0.123) | 0.115 | 0.013 |
| 54 | 4.50 | 0.23 | 0.128 | ( 0.123) | 0.115 | 0.013 |
| 55 | 4.58 | 0.23 | 0.128 | ( 0.122) | 0.115 | 0.013 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 56 | 4.67 | 0.23 | 0.128 | ( | 0.121) | 0.115 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.128 | ( | 0.121) | 0.115 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.146 | | 0.120 | ( 0.131) | | 0.025 |
| 59 | 4.92 | 0.27 | 0.146 | | 0.120 | ( 0.131) | | 0.026 |
| 60 | 5.00 | 0.27 | 0.146 | | 0.119 | ( 0.131) | | 0.027 |
| 61 | 5.08 | 0.20 | 0.109 | ( | 0.119) | 0.098 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.109 | ( | 0.118) | 0.098 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.109 | ( | 0.118) | 0.098 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.128 | ( | 0.117) | 0.115 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.128 | ( | 0.117) | 0.115 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.128 | ( | 0.116) | 0.115 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.146 | | 0.116 | ( 0.131) | | 0.030 |
| 68 | 5.67 | 0.27 | 0.146 | | 0.115 | ( 0.131) | | 0.031 |
| 69 | 5.75 | 0.27 | 0.146 | | 0.115 | ( 0.131) | | 0.031 |
| 70 | 5.83 | 0.27 | 0.146 | | 0.114 | ( 0.131) | | 0.032 |
| 71 | 5.92 | 0.27 | 0.146 | | 0.114 | ( 0.131) | | 0.032 |
| 72 | 6.00 | 0.27 | 0.146 | | 0.113 | ( 0.131) | | 0.033 |
| 73 | 6.08 | 0.30 | 0.164 | | 0.113 | ( 0.148) | | 0.051 |
| 74 | 6.17 | 0.30 | 0.164 | | 0.112 | ( 0.148) | | 0.052 |
| 75 | 6.25 | 0.30 | 0.164 | | 0.112 | ( 0.148) | | 0.052 |
| 76 | 6.33 | 0.30 | 0.164 | | 0.111 | ( 0.148) | | 0.053 |
| 77 | 6.42 | 0.30 | 0.164 | | 0.111 | ( 0.148) | | 0.053 |
| 78 | 6.50 | 0.30 | 0.164 | | 0.110 | ( 0.148) | | 0.054 |
| 79 | 6.58 | 0.33 | 0.182 | | 0.110 | ( 0.164) | | 0.073 |
| 80 | 6.67 | 0.33 | 0.182 | | 0.109 | ( 0.164) | | 0.073 |
| 81 | 6.75 | 0.33 | 0.182 | | 0.109 | ( 0.164) | | 0.074 |
| 82 | 6.83 | 0.33 | 0.182 | | 0.108 | ( 0.164) | | 0.074 |
| 83 | 6.92 | 0.33 | 0.182 | | 0.108 | ( 0.164) | | 0.075 |
| 84 | 7.00 | 0.33 | 0.182 | | 0.107 | ( 0.164) | | 0.075 |
| 85 | 7.08 | 0.33 | 0.182 | | 0.107 | ( 0.164) | | 0.076 |
| 86 | 7.17 | 0.33 | 0.182 | | 0.106 | ( 0.164) | | 0.076 |
| 87 | 7.25 | 0.33 | 0.182 | | 0.106 | ( 0.164) | | 0.077 |
| 88 | 7.33 | 0.37 | 0.201 | | 0.105 | ( 0.181) | | 0.095 |
| 89 | 7.42 | 0.37 | 0.201 | | 0.105 | ( 0.181) | | 0.096 |
| 90 | 7.50 | 0.37 | 0.201 | | 0.104 | ( 0.181) | | 0.096 |
| 91 | 7.58 | 0.40 | 0.219 | | 0.104 | ( 0.197) | | 0.115 |
| 92 | 7.67 | 0.40 | 0.219 | | 0.103 | ( 0.197) | | 0.115 |
| 93 | 7.75 | 0.40 | 0.219 | | 0.103 | ( 0.197) | | 0.116 |
| 94 | 7.83 | 0.43 | 0.237 | | 0.102 | ( 0.213) | | 0.135 |
| 95 | 7.92 | 0.43 | 0.237 | | 0.102 | ( 0.213) | | 0.135 |
| 96 | 8.00 | 0.43 | 0.237 | | 0.102 | ( 0.213) | | 0.136 |
| 97 | 8.08 | 0.50 | 0.274 | | 0.101 | ( 0.246) | | 0.173 |
| 98 | 8.17 | 0.50 | 0.274 | | 0.101 | ( 0.246) | | 0.173 |
| 99 | 8.25 | 0.50 | 0.274 | | 0.100 | ( 0.246) | | 0.173 |
| 100 | 8.33 | 0.50 | 0.274 | | 0.100 | ( 0.246) | | 0.174 |
| 101 | 8.42 | 0.50 | 0.274 | | 0.099 | ( 0.246) | | 0.174 |
| 102 | 8.50 | 0.50 | 0.274 | | 0.099 | ( 0.246) | | 0.175 |
| 103 | 8.58 | 0.53 | 0.292 | | 0.098 | ( 0.263) | | 0.194 |
| 104 | 8.67 | 0.53 | 0.292 | | 0.098 | ( 0.263) | | 0.194 |
| 105 | 8.75 | 0.53 | 0.292 | | 0.097 | ( 0.263) | | 0.194 |
| 106 | 8.83 | 0.57 | 0.310 | | 0.097 | ( 0.279) | | 0.213 |
| 107 | 8.92 | 0.57 | 0.310 | | 0.096 | ( 0.279) | | 0.214 |
| 108 | 9.00 | 0.57 | 0.310 | | 0.096 | ( 0.279) | | 0.214 |
| 109 | 9.08 | 0.63 | 0.347 | | 0.096 | ( 0.312) | | 0.251 |
| 110 | 9.17 | 0.63 | 0.347 | | 0.095 | ( 0.312) | | 0.251 |
| 111 | 9.25 | 0.63 | 0.347 | | 0.095 | ( 0.312) | | 0.252 |
| 112 | 9.33 | 0.67 | 0.365 | | 0.094 | ( 0.328) | | 0.271 |
| 113 | 9.42 | 0.67 | 0.365 | | 0.094 | ( 0.328) | | 0.271 |
| 114 | 9.50 | 0.67 | 0.365 | | 0.093 | ( 0.328) | | 0.272 |
| 115 | 9.58 | 0.70 | 0.383 | | 0.093 | ( 0.345) | | 0.290 |
| 116 | 9.67 | 0.70 | 0.383 | | 0.092 | ( 0.345) | | 0.291 |
| 117 | 9.75 | 0.70 | 0.383 | | 0.092 | ( 0.345) | | 0.291 |
| 118 | 9.83 | 0.73 | 0.401 | | 0.091 | ( 0.361) | | 0.310 |
| 119 | 9.92 | 0.73 | 0.401 | | 0.091 | ( 0.361) | | 0.310 |
| 120 | 10.00 | 0.73 | 0.401 | | 0.091 | ( 0.361) | | 0.311 |
| 121 | 10.08 | 0.50 | 0.274 | | 0.090 | ( 0.246) | | 0.183 |
| 122 | 10.17 | 0.50 | 0.274 | | 0.090 | ( 0.246) | | 0.184 |
| 123 | 10.25 | 0.50 | 0.274 | | 0.089 | ( 0.246) | | 0.184 |
| 124 | 10.33 | 0.50 | 0.274 | | 0.089 | ( 0.246) | | 0.185 |
| 125 | 10.42 | 0.50 | 0.274 | | 0.088 | ( 0.246) | | 0.185 |
| 126 | 10.50 | 0.50 | 0.274 | | 0.088 | ( 0.246) | | 0.186 |
| 127 | 10.58 | 0.67 | 0.365 | | 0.088 | ( 0.328) | | 0.277 |
| 128 | 10.67 | 0.67 | 0.365 | | 0.087 | ( 0.328) | | 0.278 |
| 129 | 10.75 | 0.67 | 0.365 | | 0.087 | ( 0.328) | | 0.278 |
| 130 | 10.83 | 0.67 | 0.365 | | 0.086 | ( 0.328) | | 0.279 |
| 131 | 10.92 | 0.67 | 0.365 | | 0.086 | ( 0.328) | | 0.279 |
| 132 | 11.00 | 0.67 | 0.365 | | 0.085 | ( 0.328) | | 0.279 |
| 133 | 11.08 | 0.63 | 0.347 | | 0.085 | ( 0.312) | | 0.262 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 134 | 11.17 | 0.63 | 0.347 | 0.085 | ( 0.312) | 0.262 |
| 135 | 11.25 | 0.63 | 0.347 | 0.084 | ( 0.312) | 0.262 |
| 136 | 11.33 | 0.63 | 0.347 | 0.084 | ( 0.312) | 0.263 |
| 137 | 11.42 | 0.63 | 0.347 | 0.083 | ( 0.312) | 0.263 |
| 138 | 11.50 | 0.63 | 0.347 | 0.083 | ( 0.312) | 0.264 |
| 139 | 11.58 | 0.57 | 0.310 | 0.083 | ( 0.279) | 0.228 |
| 140 | 11.67 | 0.57 | 0.310 | 0.082 | ( 0.279) | 0.228 |
| 141 | 11.75 | 0.57 | 0.310 | 0.082 | ( 0.279) | 0.228 |
| 142 | 11.83 | 0.60 | 0.328 | 0.081 | ( 0.295) | 0.247 |
| 143 | 11.92 | 0.60 | 0.328 | 0.081 | ( 0.295) | 0.247 |
| 144 | 12.00 | 0.60 | 0.328 | 0.080 | ( 0.295) | 0.248 |
| 145 | 12.08 | 0.83 | 0.456 | 0.080 | ( 0.410) | 0.376 |
| 146 | 12.17 | 0.83 | 0.456 | 0.080 | ( 0.410) | 0.376 |
| 147 | 12.25 | 0.83 | 0.456 | 0.079 | ( 0.410) | 0.377 |
| 148 | 12.33 | 0.87 | 0.474 | 0.079 | ( 0.427) | 0.395 |
| 149 | 12.42 | 0.87 | 0.474 | 0.078 | ( 0.427) | 0.396 |
| 150 | 12.50 | 0.87 | 0.474 | 0.078 | ( 0.427) | 0.396 |
| 151 | 12.58 | 0.93 | 0.511 | 0.078 | ( 0.460) | 0.433 |
| 152 | 12.67 | 0.93 | 0.511 | 0.077 | ( 0.460) | 0.433 |
| 153 | 12.75 | 0.93 | 0.511 | 0.077 | ( 0.460) | 0.434 |
| 154 | 12.83 | 0.97 | 0.529 | 0.077 | ( 0.476) | 0.452 |
| 155 | 12.92 | 0.97 | 0.529 | 0.076 | ( 0.476) | 0.453 |
| 156 | 13.00 | 0.97 | 0.529 | 0.076 | ( 0.476) | 0.453 |
| 157 | 13.08 | 1.13 | 0.620 | 0.075 | ( 0.558) | 0.545 |
| 158 | 13.17 | 1.13 | 0.620 | 0.075 | ( 0.558) | 0.545 |
| 159 | 13.25 | 1.13 | 0.620 | 0.075 | ( 0.558) | 0.546 |
| 160 | 13.33 | 1.13 | 0.620 | 0.074 | ( 0.558) | 0.546 |
| 161 | 13.42 | 1.13 | 0.620 | 0.074 | ( 0.558) | 0.546 |
| 162 | 13.50 | 1.13 | 0.620 | 0.073 | ( 0.558) | 0.547 |
| 163 | 13.58 | 0.77 | 0.420 | 0.073 | ( 0.378) | 0.346 |
| 164 | 13.67 | 0.77 | 0.420 | 0.073 | ( 0.378) | 0.347 |
| 165 | 13.75 | 0.77 | 0.420 | 0.072 | ( 0.378) | 0.347 |
| 166 | 13.83 | 0.77 | 0.420 | 0.072 | ( 0.378) | 0.348 |
| 167 | 13.92 | 0.77 | 0.420 | 0.072 | ( 0.378) | 0.348 |
| 168 | 14.00 | 0.77 | 0.420 | 0.071 | ( 0.378) | 0.348 |
| 169 | 14.08 | 0.90 | 0.492 | 0.071 | ( 0.443) | 0.422 |
| 170 | 14.17 | 0.90 | 0.492 | 0.071 | ( 0.443) | 0.422 |
| 171 | 14.25 | 0.90 | 0.492 | 0.070 | ( 0.443) | 0.422 |
| 172 | 14.33 | 0.87 | 0.474 | 0.070 | ( 0.427) | 0.404 |
| 173 | 14.42 | 0.87 | 0.474 | 0.069 | ( 0.427) | 0.405 |
| 174 | 14.50 | 0.87 | 0.474 | 0.069 | ( 0.427) | 0.405 |
| 175 | 14.58 | 0.87 | 0.474 | 0.069 | ( 0.427) | 0.405 |
| 176 | 14.67 | 0.87 | 0.474 | 0.068 | ( 0.427) | 0.406 |
| 177 | 14.75 | 0.87 | 0.474 | 0.068 | ( 0.427) | 0.406 |
| 178 | 14.83 | 0.83 | 0.456 | 0.068 | ( 0.410) | 0.388 |
| 179 | 14.92 | 0.83 | 0.456 | 0.067 | ( 0.410) | 0.389 |
| 180 | 15.00 | 0.83 | 0.456 | 0.067 | ( 0.410) | 0.389 |
| 181 | 15.08 | 0.80 | 0.438 | 0.067 | ( 0.394) | 0.371 |
| 182 | 15.17 | 0.80 | 0.438 | 0.066 | ( 0.394) | 0.371 |
| 183 | 15.25 | 0.80 | 0.438 | 0.066 | ( 0.394) | 0.372 |
| 184 | 15.33 | 0.77 | 0.420 | 0.066 | ( 0.378) | 0.354 |
| 185 | 15.42 | 0.77 | 0.420 | 0.065 | ( 0.378) | 0.354 |
| 186 | 15.50 | 0.77 | 0.420 | 0.065 | ( 0.378) | 0.355 |
| 187 | 15.58 | 0.63 | 0.347 | 0.065 | ( 0.312) | 0.282 |
| 188 | 15.67 | 0.63 | 0.347 | 0.064 | ( 0.312) | 0.282 |
| 189 | 15.75 | 0.63 | 0.347 | 0.064 | ( 0.312) | 0.283 |
| 190 | 15.83 | 0.63 | 0.347 | 0.064 | ( 0.312) | 0.283 |
| 191 | 15.92 | 0.63 | 0.347 | 0.063 | ( 0.312) | 0.283 |
| 192 | 16.00 | 0.63 | 0.347 | 0.063 | ( 0.312) | 0.284 |
| 193 | 16.08 | 0.13 | 0.073 | 0.063 | ( 0.066) | 0.010 |
| 194 | 16.17 | 0.13 | 0.073 | 0.062 | ( 0.066) | 0.011 |
| 195 | 16.25 | 0.13 | 0.073 | 0.062 | ( 0.066) | 0.011 |
| 196 | 16.33 | 0.13 | 0.073 | 0.062 | ( 0.066) | 0.011 |
| 197 | 16.42 | 0.13 | 0.073 | 0.061 | ( 0.066) | 0.012 |
| 198 | 16.50 | 0.13 | 0.073 | 0.061 | ( 0.066) | 0.012 |
| 199 | 16.58 | 0.10 | 0.055 | ( 0.061) | 0.049 | 0.005 |
| 200 | 16.67 | 0.10 | 0.055 | ( 0.060) | 0.049 | 0.005 |
| 201 | 16.75 | 0.10 | 0.055 | ( 0.060) | 0.049 | 0.005 |
| 202 | 16.83 | 0.10 | 0.055 | ( 0.060) | 0.049 | 0.005 |
| 203 | 16.92 | 0.10 | 0.055 | ( 0.060) | 0.049 | 0.005 |
| 204 | 17.00 | 0.10 | 0.055 | ( 0.059) | 0.049 | 0.005 |
| 205 | 17.08 | 0.17 | 0.091 | 0.059 | ( 0.082) | 0.032 |
| 206 | 17.17 | 0.17 | 0.091 | 0.059 | ( 0.082) | 0.033 |
| 207 | 17.25 | 0.17 | 0.091 | 0.058 | ( 0.082) | 0.033 |
| 208 | 17.33 | 0.17 | 0.091 | 0.058 | ( 0.082) | 0.033 |
| 209 | 17.42 | 0.17 | 0.091 | 0.058 | ( 0.082) | 0.033 |
| 210 | 17.50 | 0.17 | 0.091 | 0.058 | ( 0.082) | 0.034 |
| 211 | 17.58 | 0.17 | 0.091 | 0.057 | ( 0.082) | 0.034 |

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|---|---|---|---|---|---|---|
| 212 | 17.67 | 0.17 | 0.091 | 0.057 | ( 0.082) | 0.034 |
| 213 | 17.75 | 0.17 | 0.091 | 0.057 | ( 0.082) | 0.035 |
| 214 | 17.83 | 0.13 | 0.073 | 0.056 | ( 0.066) | 0.017 |
| 215 | 17.92 | 0.13 | 0.073 | 0.056 | ( 0.066) | 0.017 |
| 216 | 18.00 | 0.13 | 0.073 | 0.056 | ( 0.066) | 0.017 |
| 217 | 18.08 | 0.13 | 0.073 | 0.056 | ( 0.066) | 0.017 |
| 218 | 18.17 | 0.13 | 0.073 | 0.055 | ( 0.066) | 0.018 |
| 219 | 18.25 | 0.13 | 0.073 | 0.055 | ( 0.066) | 0.018 |
| 220 | 18.33 | 0.13 | 0.073 | 0.055 | ( 0.066) | 0.018 |
| 221 | 18.42 | 0.13 | 0.073 | 0.054 | ( 0.066) | 0.019 |
| 222 | 18.50 | 0.13 | 0.073 | 0.054 | ( 0.066) | 0.019 |
| 223 | 18.58 | 0.10 | 0.055 | ( 0.054) | 0.049 | 0.005 |
| 224 | 18.67 | 0.10 | 0.055 | ( 0.054) | 0.049 | 0.005 |
| 225 | 18.75 | 0.10 | 0.055 | ( 0.053) | 0.049 | 0.005 |
| 226 | 18.83 | 0.07 | 0.036 | ( 0.053) | 0.033 | 0.004 |
| 227 | 18.92 | 0.07 | 0.036 | ( 0.053) | 0.033 | 0.004 |
| 228 | 19.00 | 0.07 | 0.036 | ( 0.053) | 0.033 | 0.004 |
| 229 | 19.08 | 0.10 | 0.055 | ( 0.052) | 0.049 | 0.005 |
| 230 | 19.17 | 0.10 | 0.055 | ( 0.052) | 0.049 | 0.005 |
| 231 | 19.25 | 0.10 | 0.055 | ( 0.052) | 0.049 | 0.005 |
| 232 | 19.33 | 0.13 | 0.073 | 0.052 | ( 0.066) | 0.021 |
| 233 | 19.42 | 0.13 | 0.073 | 0.051 | ( 0.066) | 0.022 |
| 234 | 19.50 | 0.13 | 0.073 | 0.051 | ( 0.066) | 0.022 |
| 235 | 19.58 | 0.10 | 0.055 | ( 0.051) | 0.049 | 0.005 |
| 236 | 19.67 | 0.10 | 0.055 | ( 0.051) | 0.049 | 0.005 |
| 237 | 19.75 | 0.10 | 0.055 | ( 0.050) | 0.049 | 0.005 |
| 238 | 19.83 | 0.07 | 0.036 | ( 0.050) | 0.033 | 0.004 |
| 239 | 19.92 | 0.07 | 0.036 | ( 0.050) | 0.033 | 0.004 |
| 240 | 20.00 | 0.07 | 0.036 | ( 0.050) | 0.033 | 0.004 |
| 241 | 20.08 | 0.10 | 0.055 | ( 0.050) | 0.049 | 0.005 |
| 242 | 20.17 | 0.10 | 0.055 | ( 0.049) | 0.049 | 0.005 |
| 243 | 20.25 | 0.10 | 0.055 | 0.049 | ( 0.049) | 0.006 |
| 244 | 20.33 | 0.10 | 0.055 | 0.049 | ( 0.049) | 0.006 |
| 245 | 20.42 | 0.10 | 0.055 | 0.049 | ( 0.049) | 0.006 |
| 246 | 20.50 | 0.10 | 0.055 | 0.049 | ( 0.049) | 0.006 |
| 247 | 20.58 | 0.10 | 0.055 | 0.048 | ( 0.049) | 0.006 |
| 248 | 20.67 | 0.10 | 0.055 | 0.048 | ( 0.049) | 0.007 |
| 249 | 20.75 | 0.10 | 0.055 | 0.048 | ( 0.049) | 0.007 |
| 250 | 20.83 | 0.07 | 0.036 | ( 0.048) | 0.033 | 0.004 |
| 251 | 20.92 | 0.07 | 0.036 | ( 0.048) | 0.033 | 0.004 |
| 252 | 21.00 | 0.07 | 0.036 | ( 0.047) | 0.033 | 0.004 |
| 253 | 21.08 | 0.10 | 0.055 | 0.047 | ( 0.049) | 0.008 |
| 254 | 21.17 | 0.10 | 0.055 | 0.047 | ( 0.049) | 0.008 |
| 255 | 21.25 | 0.10 | 0.055 | 0.047 | ( 0.049) | 0.008 |
| 256 | 21.33 | 0.07 | 0.036 | ( 0.047) | 0.033 | 0.004 |
| 257 | 21.42 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 258 | 21.50 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 259 | 21.58 | 0.10 | 0.055 | 0.046 | ( 0.049) | 0.009 |
| 260 | 21.67 | 0.10 | 0.055 | 0.046 | ( 0.049) | 0.009 |
| 261 | 21.75 | 0.10 | 0.055 | 0.046 | ( 0.049) | 0.009 |
| 262 | 21.83 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 263 | 21.92 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 264 | 22.00 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 265 | 22.08 | 0.10 | 0.055 | 0.045 | ( 0.049) | 0.010 |
| 266 | 22.17 | 0.10 | 0.055 | 0.045 | ( 0.049) | 0.010 |
| 267 | 22.25 | 0.10 | 0.055 | 0.045 | ( 0.049) | 0.010 |
| 268 | 22.33 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 269 | 22.42 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 270 | 22.50 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 271 | 22.58 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 272 | 22.67 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 273 | 22.75 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 274 | 22.83 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 275 | 22.92 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 276 | 23.00 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 277 | 23.08 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 278 | 23.17 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 279 | 23.25 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 280 | 23.33 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 281 | 23.42 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 284 | 23.67 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 285 | 23.75 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 286 | 23.83 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 287 | 23.92 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 288 | 24.00 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 34.2

Flood volume = Effective rainfall 2.85(In)
times area 0.1(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 1.71(In)
Total soil loss = 0.014(Ac.Ft)
Total rainfall = 4.56(In)
Flood volume = 1035.9 Cubic Feet
Total soil loss = 619.4 Cubic Feet

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Peak flow rate of this hydrograph = 0.055(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0000 | 0.00 | Q | | | | |
| 0+10 | 0.0000 | 0.00 | Q | | | | |
| 0+15 | 0.0000 | 0.00 | Q | | | | |
| 0+20 | 0.0000 | 0.00 | Q | | | | |
| 0+25 | 0.0000 | 0.00 | Q | | | | |
| 0+30 | 0.0000 | 0.00 | Q | | | | |
| 0+35 | 0.0000 | 0.00 | Q | | | | |
| 0+40 | 0.0000 | 0.00 | Q | | | | |
| 0+45 | 0.0000 | 0.00 | Q | | | | |
| 0+50 | 0.0000 | 0.00 | Q | | | | |
| 0+55 | 0.0000 | 0.00 | Q | | | | |
| 1+ 0 | 0.0000 | 0.00 | Q | | | | |
| 1+ 5 | 0.0000 | 0.00 | Q | | | | |
| 1+10 | 0.0001 | 0.00 | Q | | | | |
| 1+15 | 0.0001 | 0.00 | Q | | | | |
| 1+20 | 0.0001 | 0.00 | Q | | | | |
| 1+25 | 0.0001 | 0.00 | Q | | | | |
| 1+30 | 0.0001 | 0.00 | Q | | | | |
| 1+35 | 0.0001 | 0.00 | Q | | | | |
| 1+40 | 0.0001 | 0.00 | Q | | | | |
| 1+45 | 0.0001 | 0.00 | Q | | | | |
| 1+50 | 0.0001 | 0.00 | Q | | | | |
| 1+55 | 0.0001 | 0.00 | Q | | | | |
| 2+ 0 | 0.0001 | 0.00 | Q | | | | |
| 2+ 5 | 0.0001 | 0.00 | Q | | | | |
| 2+10 | 0.0001 | 0.00 | Q | | | | |
| 2+15 | 0.0001 | 0.00 | Q | | | | |
| 2+20 | 0.0001 | 0.00 | Q | | | | |
| 2+25 | 0.0001 | 0.00 | Q | | | | |
| 2+30 | 0.0001 | 0.00 | Q | | | | |
| 2+35 | 0.0001 | 0.00 | Q | | | | |
| 2+40 | 0.0001 | 0.00 | Q | | | | |
| 2+45 | 0.0001 | 0.00 | Q | | | | |
| 2+50 | 0.0002 | 0.00 | Q | | | | |
| 2+55 | 0.0002 | 0.00 | Q | | | | |
| 3+ 0 | 0.0002 | 0.00 | Q | | | | |
| 3+ 5 | 0.0002 | 0.00 | Q | | | | |
| 3+10 | 0.0002 | 0.00 | Q | | | | |
| 3+15 | 0.0002 | 0.00 | Q | | | | |
| 3+20 | 0.0002 | 0.00 | Q | | | | |
| 3+25 | 0.0002 | 0.00 | Q | | | | |
| 3+30 | 0.0002 | 0.00 | Q | | | | |
| 3+35 | 0.0002 | 0.00 | Q | | | | |
| 3+40 | 0.0002 | 0.00 | Q | | | | |
| 3+45 | 0.0002 | 0.00 | Q | | | | |
| 3+50 | 0.0002 | 0.00 | Q | | | | |
| 3+55 | 0.0002 | 0.00 | Q | | | | |
| 4+ 0 | 0.0002 | 0.00 | Q | | | | |
| 4+ 5 | 0.0003 | 0.00 | Q | | | | |
| 4+10 | 0.0003 | 0.00 | Q | | | | |
| 4+15 | 0.0003 | 0.00 | Q | | | | |
| 4+20 | 0.0003 | 0.00 | Q | | | | |
| 4+25 | 0.0003 | 0.00 | Q | | | | |
| 4+30 | 0.0003 | 0.00 | Q | | | | |
| 4+35 | 0.0003 | 0.00 | Q | | | | |
| 4+40 | 0.0003 | 0.00 | Q | | | | |
| 4+45 | 0.0003 | 0.00 | Q | | | | |
| 4+50 | 0.0003 | 0.00 | Q | | | | |

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 4+55       0.0004      0.00  Q          |          |          |          |
 5+ 0       0.0004      0.00  Q          |          |          |          |
 5+ 5       0.0004      0.00  Q          |          |          |          |
 5+10       0.0004      0.00  Q          |          |          |          |
 5+15       0.0004      0.00  Q          |          |          |          |
 5+20       0.0004      0.00  Q          |          |          |          |
 5+25       0.0004      0.00  Q          |          |          |          |
 5+30       0.0004      0.00  Q          |          |          |          |
 5+35       0.0004      0.00  Q          |          |          |          |
 5+40       0.0005      0.00  Q          |          |          |          |
 5+45       0.0005      0.00  Q          |          |          |          |
 5+50       0.0005      0.00  Q          |          |          |          |
 5+55       0.0005      0.00  Q          |          |          |          |
 6+ 0       0.0006      0.00  Q          |          |          |          |
 6+ 5       0.0006      0.01  Q          |          |          |          |
 6+10       0.0006      0.01  QV         |          |          |          |
 6+15       0.0007      0.01  QV         |          |          |          |
 6+20       0.0007      0.01  QV         |          |          |          |
 6+25       0.0007      0.01  QV         |          |          |          |
 6+30       0.0008      0.01  QV         |          |          |          |
 6+35       0.0008      0.01  QV         |          |          |          |
 6+40       0.0009      0.01  QV         |          |          |          |
 6+45       0.0009      0.01  QV         |          |          |          |
 6+50       0.0010      0.01  QV         |          |          |          |
 6+55       0.0010      0.01  QV         |          |          |          |
 7+ 0       0.0011      0.01  QV         |          |          |          |
 7+ 5       0.0011      0.01  QV         |          |          |          |
 7+10       0.0012      0.01  QV         |          |          |          |
 7+15       0.0012      0.01  Q V        |          |          |          |
 7+20       0.0013      0.01  Q V        |          |          |          |
 7+25       0.0014      0.01  Q V        |          |          |          |
 7+30       0.0014      0.01  Q V        |          |          |          |
 7+35       0.0015      0.01  Q V        |          |          |          |
 7+40       0.0016      0.01  Q V        |          |          |          |
 7+45       0.0017      0.01  Q V        |          |          |          |
 7+50       0.0018      0.01  Q V        |          |          |          |
 7+55       0.0019      0.01  Q  V       |          |          |          |
 8+ 0       0.0020      0.01  Q  V       |          |          |          |
 8+ 5       0.0021      0.02  Q  V       |          |          |          |
 8+10       0.0022      0.02  Q  V       |          |          |          |
 8+15       0.0023      0.02  Q  V       |          |          |          |
 8+20       0.0024      0.02  Q   V      |          |          |          |
 8+25       0.0026      0.02  Q   V      |          |          |          |
 8+30       0.0027      0.02  Q   V      |          |          |          |
 8+35       0.0028      0.02  Q   V      |          |          |          |
 8+40       0.0030      0.02  Q   V      |          |          |          |
 8+45       0.0031      0.02  Q    V     |          |          |          |
 8+50       0.0032      0.02  Q    V     |          |          |          |
 8+55       0.0034      0.02  Q    V     |          |          |          |
 9+ 0       0.0035      0.02  Q    V     |          |          |          |
 9+ 5       0.0037      0.03  Q     V    |          |          |          |
 9+10       0.0039      0.03  Q     V    |          |          |          |
 9+15       0.0041      0.03  Q     V    |          |          |          |
 9+20       0.0042      0.03  Q      V   |          |          |          |
 9+25       0.0044      0.03  Q      V   |          |          |          |
 9+30       0.0046      0.03  Q      V   |          |          |          |
 9+35       0.0048      0.03  Q       V  |          |          |          |
 9+40       0.0050      0.03  Q       V  |          |          |          |
 9+45       0.0052      0.03  Q       V  |          |          |          |
 9+50       0.0054      0.03  Q        V |          |          |          |
 9+55       0.0057      0.03  Q        V |          |          |          |
10+ 0       0.0059      0.03  Q        V |          |          |          |
10+ 5       0.0060      0.02  Q         V          |          |          |
10+10       0.0061      0.02  Q         V          |          |          |
10+15       0.0063      0.02  Q         V          |          |          |
10+20       0.0064      0.02  Q         V          |          |          |
10+25       0.0065      0.02  Q         V          |          |          |
10+30       0.0066      0.02  Q         |V         |          |          |
10+35       0.0068      0.03  Q         |V         |          |          |
10+40       0.0070      0.03  Q         |V         |          |          |
10+45       0.0072      0.03  Q         | V        |          |          |
10+50       0.0074      0.03  Q         | V        |          |          |
10+55       0.0076      0.03  Q         | V        |          |          |
11+ 0       0.0078      0.03  Q         |  V       |          |          |
11+ 5       0.0080      0.03  Q         |  V       |          |          |
11+10       0.0082      0.03  Q         |  V       |          |          |
11+15       0.0083      0.03  Q         |   V      |          |          |
11+20       0.0085      0.03  Q         |   V      |          |          |
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| | | | | |
|---|---|---|---|---|
| 11+25 | 0.0087 | 0.03 | Q | \| V \| \| \| |
| 11+30 | 0.0089 | 0.03 | Q | \| V \| \| \| |
| 11+35 | 0.0091 | 0.02 | Q | \| V \| \| \| |
| 11+40 | 0.0092 | 0.02 | Q | \| V \| \| \| |
| 11+45 | 0.0094 | 0.02 | Q | \| V \| \| \| |
| 11+50 | 0.0095 | 0.02 | Q | \| V \| \| \| |
| 11+55 | 0.0097 | 0.02 | Q | \| V \| \| \| |
| 12+ 0 | 0.0099 | 0.02 | Q | \| V \| \| \| |
| 12+ 5 | 0.0101 | 0.04 | Q | \| V \| \| \| |
| 12+10 | 0.0104 | 0.04 | Q | \| V \| \| \| |
| 12+15 | 0.0107 | 0.04 | Q | \| V \| \| \| |
| 12+20 | 0.0109 | 0.04 | Q | \| V \| \| \| |
| 12+25 | 0.0112 | 0.04 | Q | \| V \| \| \| |
| 12+30 | 0.0115 | 0.04 | Q | \| V\| \| \| |
| 12+35 | 0.0118 | 0.04 | Q | \| V\| \| \| |
| 12+40 | 0.0121 | 0.04 | Q | \| V \| \| |
| 12+45 | 0.0124 | 0.04 | Q | \| V \| \| |
| 12+50 | 0.0127 | 0.05 | Q | \| \|V \| \| |
| 12+55 | 0.0130 | 0.05 | Q | \| \|V \| \| |
| 13+ 0 | 0.0133 | 0.05 | Q | \| \| V \| \| |
| 13+ 5 | 0.0137 | 0.05 | Q | \| \| V \| \| |
| 13+10 | 0.0141 | 0.05 | Q | \| \| V \| \| |
| 13+15 | 0.0145 | 0.06 | Q | \| \| V \| \| |
| 13+20 | 0.0149 | 0.06 | Q | \| \| V \| \| |
| 13+25 | 0.0152 | 0.06 | Q | \| \| V \| \| |
| 13+30 | 0.0156 | 0.06 | Q | \| \| V \| \| |
| 13+35 | 0.0159 | 0.03 | Q | \| \| V \| \| |
| 13+40 | 0.0161 | 0.03 | Q | \| \| V \| \| |
| 13+45 | 0.0163 | 0.04 | Q | \| \| V \| \| |
| 13+50 | 0.0166 | 0.04 | Q | \| \| V \| \| |
| 13+55 | 0.0168 | 0.04 | Q | \| \| V \| \| |
| 14+ 0 | 0.0171 | 0.04 | Q | \| \| V \| \| |
| 14+ 5 | 0.0174 | 0.04 | Q | \| \| V\| \| |
| 14+10 | 0.0176 | 0.04 | Q | \| \| V\| \| |
| 14+15 | 0.0179 | 0.04 | Q | \| \| V \| |
| 14+20 | 0.0182 | 0.04 | Q | \| \| V \| |
| 14+25 | 0.0185 | 0.04 | Q | \| \| \|V \| |
| 14+30 | 0.0188 | 0.04 | Q | \| \| \|V \| |
| 14+35 | 0.0191 | 0.04 | Q | \| \| V \| |
| 14+40 | 0.0193 | 0.04 | Q | \| \| V \| |
| 14+45 | 0.0196 | 0.04 | Q | \| \| V \| |
| 14+50 | 0.0199 | 0.04 | Q | \| \| V \| |
| 14+55 | 0.0202 | 0.04 | Q | \| \| V \| |
| 15+ 0 | 0.0204 | 0.04 | Q | \| \| V \| |
| 15+ 5 | 0.0207 | 0.04 | Q | \| \| V \| |
| 15+10 | 0.0210 | 0.04 | Q | \| \| V \| |
| 15+15 | 0.0212 | 0.04 | Q | \| \| V \| |
| 15+20 | 0.0215 | 0.04 | Q | \| \| V \| |
| 15+25 | 0.0217 | 0.04 | Q | \| \| V \| |
| 15+30 | 0.0220 | 0.04 | Q | \| \| V \| |
| 15+35 | 0.0221 | 0.03 | Q | \| \| V \| |
| 15+40 | 0.0223 | 0.03 | Q | \| \| V \| |
| 15+45 | 0.0225 | 0.03 | Q | \| \| V \| |
| 15+50 | 0.0227 | 0.03 | Q | \| \| V \| |
| 15+55 | 0.0229 | 0.03 | Q | \| \| V \| |
| 16+ 0 | 0.0231 | 0.03 | Q | \| \| V \| |
| 16+ 5 | 0.0231 | 0.00 | Q | \| \| V \| |
| 16+10 | 0.0231 | 0.00 | Q | \| \| V \| |
| 16+15 | 0.0232 | 0.00 | Q | \| \| V \| |
| 16+20 | 0.0232 | 0.00 | Q | \| \| V \| |
| 16+25 | 0.0232 | 0.00 | Q | \| \| V \| |
| 16+30 | 0.0232 | 0.00 | Q | \| \| V \| |
| 16+35 | 0.0232 | 0.00 | Q | \| \| V \| |
| 16+40 | 0.0232 | 0.00 | Q | \| \| V \| |
| 16+45 | 0.0232 | 0.00 | Q | \| \| V\| |
| 16+50 | 0.0232 | 0.00 | Q | \| \| V\| |
| 16+55 | 0.0232 | 0.00 | Q | \| \| V\| |
| 17+ 0 | 0.0232 | 0.00 | Q | \| \| V\| |
| 17+ 5 | 0.0232 | 0.00 | Q | \| \| V\| |
| 17+10 | 0.0232 | 0.00 | Q | \| \| V\| |
| 17+15 | 0.0233 | 0.00 | Q | \| \| V\| |
| 17+20 | 0.0233 | 0.00 | Q | \| \| V\| |
| 17+25 | 0.0233 | 0.00 | Q | \| \| V\| |
| 17+30 | 0.0233 | 0.00 | Q | \| \| V\| |
| 17+35 | 0.0234 | 0.00 | Q | \| \| V\| |
| 17+40 | 0.0234 | 0.00 | Q | \| \| V\| |
| 17+45 | 0.0234 | 0.00 | Q | \| \| V\| |
| 17+50 | 0.0234 | 0.00 | Q | \| \| V\| |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+55 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 18+ 0 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 18+ 5 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 18+10 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 18+15 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 18+20 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 18+25 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 18+30 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 18+35 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 18+40 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 18+45 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 18+50 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 18+55 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 0 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 5 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 19+10 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 19+15 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 19+20 | 0.0236 | 0.00 | Q | \| | \| | \| | V\| |
| 19+25 | 0.0236 | 0.00 | Q | \| | \| | \| | V\| |
| 19+30 | 0.0236 | 0.00 | Q | \| | \| | \| | V\| |
| 19+35 | 0.0236 | 0.00 | Q | \| | \| | \| | V\| |
| 19+40 | 0.0236 | 0.00 | Q | \| | \| | \| | V\| |
| 19+45 | 0.0236 | 0.00 | Q | \| | \| | \| | V\| |
| 19+50 | 0.0236 | 0.00 | Q | \| | \| | \| | V\| |
| 19+55 | 0.0236 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 0 | 0.0236 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 5 | 0.0236 | 0.00 | Q | \| | \| | \| | V\| |
| 20+10 | 0.0236 | 0.00 | Q | \| | \| | \| | V\| |
| 20+15 | 0.0236 | 0.00 | Q | \| | \| | \| | V\| |
| 20+20 | 0.0236 | 0.00 | Q | \| | \| | \| | V\| |
| 20+25 | 0.0236 | 0.00 | Q | \| | \| | \| | V\| |
| 20+30 | 0.0236 | 0.00 | Q | \| | \| | \| | V\| |
| 20+35 | 0.0236 | 0.00 | Q | \| | \| | \| | V\| |
| 20+40 | 0.0236 | 0.00 | Q | \| | \| | \| | V\| |
| 20+45 | 0.0237 | 0.00 | Q | \| | \| | \| | V\| |
| 20+50 | 0.0237 | 0.00 | Q | \| | \| | \| | V\| |
| 20+55 | 0.0237 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 0 | 0.0237 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 5 | 0.0237 | 0.00 | Q | \| | \| | \| | V\| |
| 21+10 | 0.0237 | 0.00 | Q | \| | \| | \| | V\| |
| 21+15 | 0.0237 | 0.00 | Q | \| | \| | \| | V\| |
| 21+20 | 0.0237 | 0.00 | Q | \| | \| | \| | V\| |
| 21+25 | 0.0237 | 0.00 | Q | \| | \| | \| | V\| |
| 21+30 | 0.0237 | 0.00 | Q | \| | \| | \| | V\| |
| 21+35 | 0.0237 | 0.00 | Q | \| | \| | \| | V\| |
| 21+40 | 0.0237 | 0.00 | Q | \| | \| | \| | V\| |
| 21+45 | 0.0237 | 0.00 | Q | \| | \| | \| | V\| |
| 21+50 | 0.0237 | 0.00 | Q | \| | \| | \| | V\| |
| 21+55 | 0.0237 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 0 | 0.0237 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 5 | 0.0237 | 0.00 | Q | \| | \| | \| | V\| |
| 22+10 | 0.0237 | 0.00 | Q | \| | \| | \| | V\| |
| 22+15 | 0.0237 | 0.00 | Q | \| | \| | \| | V\| |
| 22+20 | 0.0237 | 0.00 | Q | \| | \| | \| | V\| |
| 22+25 | 0.0237 | 0.00 | Q | \| | \| | \| | V\| |
| 22+30 | 0.0237 | 0.00 | Q | \| | \| | \| | V\| |
| 22+35 | 0.0237 | 0.00 | Q | \| | \| | \| | V\| |
| 22+40 | 0.0237 | 0.00 | Q | \| | \| | \| | V\| |
| 22+45 | 0.0237 | 0.00 | Q | \| | \| | \| | V\| |
| 22+50 | 0.0237 | 0.00 | Q | \| | \| | \| | V\| |
| 22+55 | 0.0237 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 0 | 0.0238 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 5 | 0.0238 | 0.00 | Q | \| | \| | \| | V\| |
| 23+10 | 0.0238 | 0.00 | Q | \| | \| | \| | V\| |
| 23+15 | 0.0238 | 0.00 | Q | \| | \| | \| | V\| |
| 23+20 | 0.0238 | 0.00 | Q | \| | \| | \| | V\| |
| 23+25 | 0.0238 | 0.00 | Q | \| | \| | \| | V\| |
| 23+30 | 0.0238 | 0.00 | Q | \| | \| | \| | V\| |
| 23+35 | 0.0238 | 0.00 | Q | \| | \| | \| | V\| |
| 23+40 | 0.0238 | 0.00 | Q | \| | \| | \| | V\| |
| 23+45 | 0.0238 | 0.00 | Q | \| | \| | \| | V\| |
| 23+50 | 0.0238 | 0.00 | Q | \| | \| | \| | V\| |
| 23+55 | 0.0238 | 0.00 | Q | \| | \| | \| | V\| |
| 24+ 0 | 0.0238 | 0.00 | Q | \| | \| | \| | V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX281100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 28
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 29.20(Ac.) = 0.046 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 29.20(Ac.) = 0.046 Sq. Mi.
Length along longest watercourse = 1699.00(Ft.)
Length along longest watercourse measured to centroid = 946.00(Ft.)
Length along longest watercourse = 0.322 Mi.
Length along longest watercourse measured to centroid = 0.179 Mi.
Difference in elevation = 532.00(Ft.)
Slope along watercourse = 1653.3019 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.069 Hr.
Lag time = 4.17 Min.
25% of lag time = 1.04 Min.
40% of lag time = 1.67 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 29.20 | 0.49 | 14.31 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 29.20 | 1.20 | 35.04 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.490(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.97 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 29.200 | 79.11 | 0.000 |

Total Area Entered = 29.20(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 79.1 | 90.5 | 0.124 | 0.000 | 0.124 | 1.000 | 0.124 |
| | | | | | Sum (F) = | 0.124 |

Area averaged mean soil loss (F) (In/Hr) = 0.124

Minimum soil loss rate ((In/Hr)) = 0.062
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

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| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 119.927 | 21.378 | 6.291 |
| 2 | 0.167 | 239.853 | 56.067 | 16.499 |
| 3 | 0.250 | 359.780 | 15.526 | 4.569 |
| 4 | 0.333 | 479.707 | 5.040 | 1.483 |
| 5 | 0.417 | 599.634 | 1.242 | 0.365 |
| 6 | 0.500 | 719.560 | 0.748 | 0.220 |
| | | Sum = 100.000 | Sum= | 29.428 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.124 | ( 0.544) | 0.481 |
| 2 | 0.17 | 4.30 | 0.619 | 0.124 | ( 0.557) | 0.495 |
| 3 | 0.25 | 5.00 | 0.720 | 0.124 | ( 0.648) | 0.596 |
| 4 | 0.33 | 5.00 | 0.720 | 0.124 | ( 0.648) | 0.596 |
| 5 | 0.42 | 5.80 | 0.835 | 0.124 | ( 0.751) | 0.711 |
| 6 | 0.50 | 6.50 | 0.936 | 0.124 | ( 0.842) | 0.812 |
| 7 | 0.58 | 7.40 | 1.065 | 0.124 | ( 0.959) | 0.941 |
| 8 | 0.67 | 8.60 | 1.238 | 0.124 | ( 1.114) | 1.114 |
| 9 | 0.75 | 12.30 | 1.771 | 0.124 | ( 1.594) | 1.647 |
| 10 | 0.83 | 29.10 | 4.189 | 0.124 | ( 3.770) | 4.065 |
| 11 | 0.92 | 6.80 | 0.979 | 0.124 | ( 0.881) | 0.855 |
| 12 | 1.00 | 5.00 | 0.720 | 0.124 | ( 0.648) | 0.596 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 12.9 |

Flood volume = Effective rainfall 1.08(In)
times area 29.2(Ac.)/[(In)/(Ft.)] = 2.6(Ac.Ft)
Total soil loss = 0.12(In)
Total soil loss = 0.302(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 114024.2 Cubic Feet
Total soil loss = 13137.4 Cubic Feet

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Peak flow rate of this hydrograph = 82.196(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 22.5 | 45.0 | 67.5 | 90.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0208 | 3.03 | VQ | | | | |
| 0+10 | 0.0970 | 11.05 | V Q | | | | |
| 0+15 | 0.1942 | 14.12 | V Q | | | | |
| 0+20 | 0.3083 | 16.56 | V Q | | | | |
| 0+25 | 0.4319 | 17.95 | VQ | | | | |
| 0+30 | 0.5747 | 20.74 | VQ | | | | |
| 0+35 | 0.7386 | 23.79 | QV | | | | |
| 0+40 | 0.9291 | 27.67 | Q V | | | | |
| 0+45 | 1.1678 | 34.66 | Q V | | | | |
| 0+50 | 1.5791 | 59.72 | V Q | | | | |
| 0+55 | 2.1452 | 82.20 | V Q | | | | |
| 1+ 0 | 2.4172 | 39.51 | Q | | | V | |
| 1+ 5 | 2.5593 | 20.62 | Q | | | | V |
| 1+10 | 2.5995 | 5.84 | Q | | | | V |
| 1+15 | 2.6139 | 2.09 | Q | | | | V |

```
    1+20       2.6167      0.41  Q         |         |         |        V|
    1+25       2.6176      0.13  Q         |         |         |         V
-----------------------------------------------------------------------
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX283100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 28
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 29.20(Ac.) = 0.046 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 29.20(Ac.) = 0.046 Sq. Mi.
Length along longest watercourse = 1699.00(Ft.)
Length along longest watercourse measured to centroid = 946.00(Ft.)
Length along longest watercourse = 0.322 Mi.
Length along longest watercourse measured to centroid = 0.179 Mi.
Difference in elevation = 532.00(Ft.)
Slope along watercourse = 1653.3019 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.069 Hr.
Lag time = 4.17 Min.
25% of lag time = 1.04 Min.
40% of lag time = 1.67 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 29.20 | 0.80 | 23.36 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 29.20 | 1.80 | 52.56 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 29.200 | 79.11 | 0.000 |

Total Area Entered = 29.20(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 79.1 | 90.5 | 0.124 | 0.000 | 0.124 | 1.000 | 0.124 |
| | | | | | Sum (F) = | 0.124 |

Area averaged mean soil loss (F) (In/Hr) = 0.124

Minimum soil loss rate ((In/Hr)) = 0.062
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 119.927 | 21.378 | 6.291 |
| 2 0.167 | 239.853 | 56.067 | 16.499 |
| 3 0.250 | 359.780 | 15.526 | 4.569 |
| 4 0.333 | 479.707 | 5.040 | 1.483 |
| 5 0.417 | 599.634 | 1.242 | 0.365 |
| 6 0.500 | 719.560 | 0.748 | 0.220 |
| | Sum = | 100.000 Sum= | 29.428 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 1.30 | 0.281 | 0.124 | ( 0.253) | 0.157 |
| 2 0.17 | 1.30 | 0.281 | 0.124 | ( 0.253) | 0.157 |
| 3 0.25 | 1.10 | 0.238 | 0.124 | ( 0.214) | 0.114 |
| 4 0.33 | 1.50 | 0.324 | 0.124 | ( 0.292) | 0.200 |
| 5 0.42 | 1.50 | 0.324 | 0.124 | ( 0.292) | 0.200 |
| 6 0.50 | 1.80 | 0.389 | 0.124 | ( 0.350) | 0.265 |
| 7 0.58 | 1.50 | 0.324 | 0.124 | ( 0.292) | 0.200 |
| 8 0.67 | 1.80 | 0.389 | 0.124 | ( 0.350) | 0.265 |
| 9 0.75 | 1.80 | 0.389 | 0.124 | ( 0.350) | 0.265 |
| 10 0.83 | 1.50 | 0.324 | 0.124 | ( 0.292) | 0.200 |
| 11 0.92 | 1.60 | 0.346 | 0.124 | ( 0.311) | 0.222 |
| 12 1.00 | 1.80 | 0.389 | 0.124 | ( 0.350) | 0.265 |
| 13 1.08 | 2.20 | 0.475 | 0.124 | ( 0.428) | 0.351 |
| 14 1.17 | 2.20 | 0.475 | 0.124 | ( 0.428) | 0.351 |
| 15 1.25 | 2.20 | 0.475 | 0.124 | ( 0.428) | 0.351 |
| 16 1.33 | 2.00 | 0.432 | 0.124 | ( 0.389) | 0.308 |
| 17 1.42 | 2.60 | 0.562 | 0.124 | ( 0.505) | 0.438 |
| 18 1.50 | 2.70 | 0.583 | 0.124 | ( 0.525) | 0.459 |
| 19 1.58 | 2.40 | 0.518 | 0.124 | ( 0.467) | 0.394 |
| 20 1.67 | 2.70 | 0.583 | 0.124 | ( 0.525) | 0.459 |
| 21 1.75 | 3.30 | 0.713 | 0.124 | ( 0.641) | 0.589 |
| 22 1.83 | 3.10 | 0.670 | 0.124 | ( 0.603) | 0.546 |
| 23 1.92 | 2.90 | 0.626 | 0.124 | ( 0.564) | 0.502 |
| 24 2.00 | 3.00 | 0.648 | 0.124 | ( 0.583) | 0.524 |
| 25 2.08 | 3.10 | 0.670 | 0.124 | ( 0.603) | 0.546 |
| 26 2.17 | 4.20 | 0.907 | 0.124 | ( 0.816) | 0.783 |
| 27 2.25 | 5.00 | 1.080 | 0.124 | ( 0.972) | 0.956 |
| 28 2.33 | 3.50 | 0.756 | 0.124 | ( 0.680) | 0.632 |
| 29 2.42 | 6.80 | 1.469 | 0.124 | ( 1.322) | 1.345 |
| 30 2.50 | 7.30 | 1.577 | 0.124 | ( 1.419) | 1.453 |
| 31 2.58 | 8.20 | 1.771 | 0.124 | ( 1.594) | 1.647 |
| 32 2.67 | 5.90 | 1.274 | 0.124 | ( 1.147) | 1.150 |
| 33 2.75 | 2.00 | 0.432 | 0.124 | ( 0.389) | 0.308 |
| 34 2.83 | 1.80 | 0.389 | 0.124 | ( 0.350) | 0.265 |
| 35 2.92 | 1.80 | 0.389 | 0.124 | ( 0.350) | 0.265 |
| 36 3.00 | 0.60 | 0.130 | ( 0.124) | 0.117 | 0.013 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 17.1 |

Flood volume = Effective rainfall 1.43(In)
times area 29.2(Ac.)/[(In)/(Ft.)] = 3.5(Ac.Ft)
Total soil loss = 0.37(In)
Total soil loss = 0.903(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 151421.0 Cubic Feet
Total soil loss = 39347.4 Cubic Feet

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Peak flow rate of this hydrograph = 43.507(CFS)

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3 - H O U R S T O R M

R u n o f f  H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 12.5 | 25.0 | 37.5 | 50.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0068 | 0.99 | Q | | | | |
| 0+10 | 0.0314 | 3.58 | V Q | | | | |
| 0+15 | 0.0591 | 4.02 | V Q | | | | |
| 0+20 | 0.0872 | 4.08 | V Q | | | | |
| 0+25 | 0.1242 | 5.37 | V Q | | | | |
| 0+30 | 0.1665 | 6.14 | V Q | | | | |
| 0+35 | 0.2142 | 6.92 | V Q | | | | |
| 0+40 | 0.2595 | 6.57 | V Q | | | | |
| 0+45 | 0.3109 | 7.46 | V Q | | | | |
| 0+50 | 0.3610 | 7.28 | VQ | | | | |
| 0+55 | 0.4053 | 6.43 | VQ | | | | |
| 1+ 0 | 0.4519 | 6.77 | Q | | | | |
| 1+ 5 | 0.5073 | 8.05 | VQ | | | | |
| 1+10 | 0.5740 | 9.68 | VQ | | | | |
| 1+15 | 0.6438 | 10.13 | VQ | | | | |
| 1+20 | 0.7127 | 10.01 | Q | | | | |
| 1+25 | 0.7826 | 10.15 | QV | | | | |
| 1+30 | 0.8670 | 12.25 | Q | | | | |
| 1+35 | 0.9546 | 12.73 | Q | | | | |
| 1+40 | 1.0396 | 12.34 | Q V | | | | |
| 1+45 | 1.1360 | 14.00 | Q V | | | | |
| 1+50 | 1.2469 | 16.10 | Q V | | | | |
| 1+55 | 1.3556 | 15.79 | Q V | | | | |
| 2+ 0 | 1.4604 | 15.21 | Q V | | | | |
| 2+ 5 | 1.5672 | 15.51 | Q V | | | | |
| 2+10 | 1.6871 | 17.41 | Q V | | | | |
| 2+15 | 1.8422 | 22.52 | Q V | | | | |
| 2+20 | 2.0106 | 24.45 | Q V | | | | |
| 2+25 | 2.1810 | 24.74 | Q V | | | | |
| 2+30 | 2.4293 | 36.06 | VQ | | | | |
| 2+35 | 2.7182 | 41.95 | V Q | | | | |
| 2+40 | 3.0179 | 43.51 | Q | | | | |
| 2+45 | 3.2330 | 31.24 | Q | V | | | |
| 2+50 | 3.3383 | 15.28 | Q | V | | | |
| 2+55 | 3.4077 | 10.08 | Q | V | | | |
| 3+ 0 | 3.4552 | 6.90 | Q | V | | | |
| 3+ 5 | 3.4702 | 2.18 | Q | V | | | |
| 3+10 | 3.4745 | 0.62 | Q | V | | | |
| 3+15 | 3.4757 | 0.17 | Q | V | | | |
| 3+20 | 3.4761 | 0.06 | Q | V | | | |
| 3+25 | 3.4761 | 0.00 | Q | V | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX286100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 28
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 29.20(Ac.) = 0.046 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 29.20(Ac.) = 0.046 Sq. Mi.
Length along longest watercourse = 1699.00(Ft.)
Length along longest watercourse measured to centroid = 946.00(Ft.)
Length along longest watercourse = 0.322 Mi.
Length along longest watercourse measured to centroid = 0.179 Mi.
Difference in elevation = 532.00(Ft.)
Slope along watercourse = 1653.3019 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.069 Hr.
Lag time = 4.17 Min.
25% of lag time = 1.04 Min.
40% of lag time = 1.67 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 29.20 | 1.13 | 33.00 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 29.20 | 2.50 | 73.00 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.130(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 29.200 | 79.11 | 0.000 |

Total Area Entered = 29.20(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 79.1 | 90.5 | 0.124 | 0.000 | 0.124 | 1.000 | 0.124 |
| | | | | | Sum (F) = | 0.124 |

Area averaged mean soil loss (F) (In/Hr) = 0.124

Minimum soil loss rate ((In/Hr)) = 0.062
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 119.927 | 21.378 | 6.291 |
| 2 | 0.167 | 239.853 | 56.067 | 16.499 |
| 3 | 0.250 | 359.780 | 15.526 | 4.569 |
| 4 | 0.333 | 479.707 | 5.040 | 1.483 |
| 5 | 0.417 | 599.634 | 1.242 | 0.365 |
| 6 | 0.500 | 719.560 | 0.748 | 0.220 |
| | | | Sum = 100.000 | Sum= 29.428 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.124 | ( | 0.135) | 0.026 |
| 2 | 0.17 | 0.60 | 0.180 | 0.124 | ( | 0.162) | 0.056 |
| 3 | 0.25 | 0.60 | 0.180 | 0.124 | ( | 0.162) | 0.056 |
| 4 | 0.33 | 0.60 | 0.180 | 0.124 | ( | 0.162) | 0.056 |
| 5 | 0.42 | 0.60 | 0.180 | 0.124 | ( | 0.162) | 0.056 |
| 6 | 0.50 | 0.70 | 0.210 | 0.124 | ( | 0.189) | 0.086 |
| 7 | 0.58 | 0.70 | 0.210 | 0.124 | ( | 0.189) | 0.086 |
| 8 | 0.67 | 0.70 | 0.210 | 0.124 | ( | 0.189) | 0.086 |
| 9 | 0.75 | 0.70 | 0.210 | 0.124 | ( | 0.189) | 0.086 |
| 10 | 0.83 | 0.70 | 0.210 | 0.124 | ( | 0.189) | 0.086 |
| 11 | 0.92 | 0.70 | 0.210 | 0.124 | ( | 0.189) | 0.086 |
| 12 | 1.00 | 0.80 | 0.240 | 0.124 | ( | 0.216) | 0.116 |
| 13 | 1.08 | 0.80 | 0.240 | 0.124 | ( | 0.216) | 0.116 |
| 14 | 1.17 | 0.80 | 0.240 | 0.124 | ( | 0.216) | 0.116 |
| 15 | 1.25 | 0.80 | 0.240 | 0.124 | ( | 0.216) | 0.116 |
| 16 | 1.33 | 0.80 | 0.240 | 0.124 | ( | 0.216) | 0.116 |
| 17 | 1.42 | 0.80 | 0.240 | 0.124 | ( | 0.216) | 0.116 |
| 18 | 1.50 | 0.80 | 0.240 | 0.124 | ( | 0.216) | 0.116 |
| 19 | 1.58 | 0.80 | 0.240 | 0.124 | ( | 0.216) | 0.116 |
| 20 | 1.67 | 0.80 | 0.240 | 0.124 | ( | 0.216) | 0.116 |
| 21 | 1.75 | 0.80 | 0.240 | 0.124 | ( | 0.216) | 0.116 |
| 22 | 1.83 | 0.80 | 0.240 | 0.124 | ( | 0.216) | 0.116 |
| 23 | 1.92 | 0.80 | 0.240 | 0.124 | ( | 0.216) | 0.116 |
| 24 | 2.00 | 0.90 | 0.270 | 0.124 | ( | 0.243) | 0.146 |
| 25 | 2.08 | 0.80 | 0.240 | 0.124 | ( | 0.216) | 0.116 |
| 26 | 2.17 | 0.90 | 0.270 | 0.124 | ( | 0.243) | 0.146 |
| 27 | 2.25 | 0.90 | 0.270 | 0.124 | ( | 0.243) | 0.146 |
| 28 | 2.33 | 0.90 | 0.270 | 0.124 | ( | 0.243) | 0.146 |
| 29 | 2.42 | 0.90 | 0.270 | 0.124 | ( | 0.243) | 0.146 |
| 30 | 2.50 | 0.90 | 0.270 | 0.124 | ( | 0.243) | 0.146 |
| 31 | 2.58 | 0.90 | 0.270 | 0.124 | ( | 0.243) | 0.146 |
| 32 | 2.67 | 0.90 | 0.270 | 0.124 | ( | 0.243) | 0.146 |
| 33 | 2.75 | 1.00 | 0.300 | 0.124 | ( | 0.270) | 0.176 |
| 34 | 2.83 | 1.00 | 0.300 | 0.124 | ( | 0.270) | 0.176 |
| 35 | 2.92 | 1.00 | 0.300 | 0.124 | ( | 0.270) | 0.176 |
| 36 | 3.00 | 1.00 | 0.300 | 0.124 | ( | 0.270) | 0.176 |
| 37 | 3.08 | 1.00 | 0.300 | 0.124 | ( | 0.270) | 0.176 |
| 38 | 3.17 | 1.10 | 0.330 | 0.124 | ( | 0.297) | 0.206 |
| 39 | 3.25 | 1.10 | 0.330 | 0.124 | ( | 0.297) | 0.206 |
| 40 | 3.33 | 1.10 | 0.330 | 0.124 | ( | 0.297) | 0.206 |
| 41 | 3.42 | 1.20 | 0.360 | 0.124 | ( | 0.324) | 0.236 |
| 42 | 3.50 | 1.30 | 0.390 | 0.124 | ( | 0.351) | 0.266 |
| 43 | 3.58 | 1.40 | 0.420 | 0.124 | ( | 0.378) | 0.296 |
| 44 | 3.67 | 1.40 | 0.420 | 0.124 | ( | 0.378) | 0.296 |
| 45 | 3.75 | 1.50 | 0.450 | 0.124 | ( | 0.405) | 0.326 |
| 46 | 3.83 | 1.50 | 0.450 | 0.124 | ( | 0.405) | 0.326 |
| 47 | 3.92 | 1.60 | 0.480 | 0.124 | ( | 0.432) | 0.356 |
| 48 | 4.00 | 1.60 | 0.480 | 0.124 | ( | 0.432) | 0.356 |
| 49 | 4.08 | 1.70 | 0.510 | 0.124 | ( | 0.459) | 0.386 |
| 50 | 4.17 | 1.80 | 0.540 | 0.124 | ( | 0.486) | 0.416 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 51 | 4.25 | 1.90 | 0.570 | 0.124 | ( 0.513) | 0.446 |
| 52 | 4.33 | 2.00 | 0.600 | 0.124 | ( 0.540) | 0.476 |
| 53 | 4.42 | 2.10 | 0.630 | 0.124 | ( 0.567) | 0.506 |
| 54 | 4.50 | 2.10 | 0.630 | 0.124 | ( 0.567) | 0.506 |
| 55 | 4.58 | 2.20 | 0.660 | 0.124 | ( 0.594) | 0.536 |
| 56 | 4.67 | 2.30 | 0.690 | 0.124 | ( 0.621) | 0.566 |
| 57 | 4.75 | 2.40 | 0.720 | 0.124 | ( 0.648) | 0.596 |
| 58 | 4.83 | 2.40 | 0.720 | 0.124 | ( 0.648) | 0.596 |
| 59 | 4.92 | 2.50 | 0.750 | 0.124 | ( 0.675) | 0.626 |
| 60 | 5.00 | 2.60 | 0.780 | 0.124 | ( 0.702) | 0.656 |
| 61 | 5.08 | 3.10 | 0.930 | 0.124 | ( 0.837) | 0.806 |
| 62 | 5.17 | 3.60 | 1.080 | 0.124 | ( 0.972) | 0.956 |
| 63 | 5.25 | 3.90 | 1.170 | 0.124 | ( 1.053) | 1.046 |
| 64 | 5.33 | 4.20 | 1.260 | 0.124 | ( 1.134) | 1.136 |
| 65 | 5.42 | 4.70 | 1.410 | 0.124 | ( 1.269) | 1.286 |
| 66 | 5.50 | 5.60 | 1.680 | 0.124 | ( 1.512) | 1.556 |
| 67 | 5.58 | 1.90 | 0.570 | 0.124 | ( 0.513) | 0.446 |
| 68 | 5.67 | 0.90 | 0.270 | 0.124 | ( 0.243) | 0.146 |
| 69 | 5.75 | 0.60 | 0.180 | 0.124 | ( 0.162) | 0.056 |
| 70 | 5.83 | 0.50 | 0.150 | 0.124 | ( 0.135) | 0.026 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.124) | 0.081 | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.124) | 0.054 | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 21.2

Flood volume = Effective rainfall 1.77(In)
times area 29.2(Ac.)/[(In)/(Ft.)] = 4.3(Ac.Ft)
Total soil loss = 0.73(In)
Total soil loss = 1.787(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 187136.5 Cubic Feet
Total soil loss = 77826.9 Cubic Feet

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Peak flow rate of this hydrograph = 38.293(CFS)

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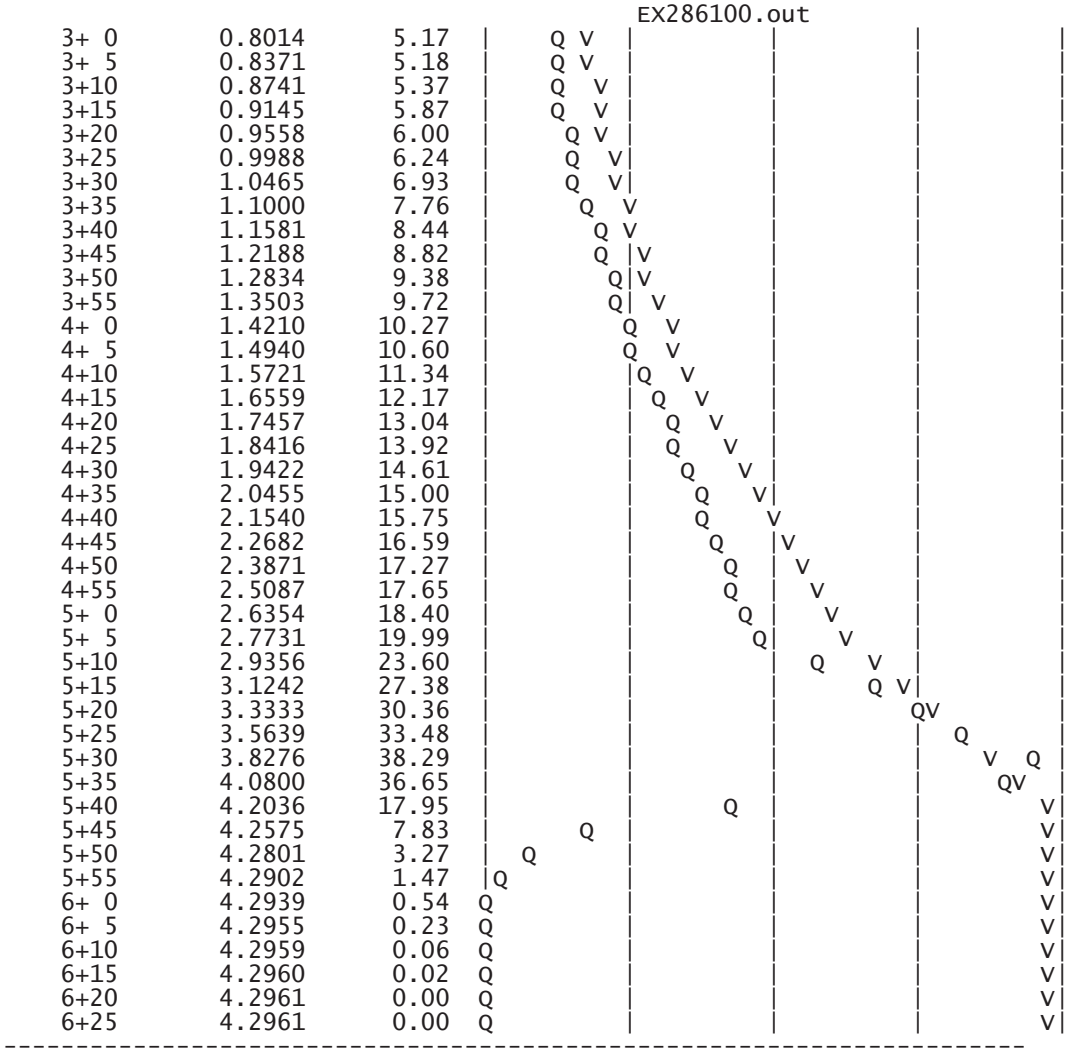
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

---

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 10.0 | 20.0 | 30.0 | 40.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0011 | 0.16 | Q | | | | |
| 0+10 | 0.0065 | 0.78 | Q | | | | |
| 0+15 | 0.0161 | 1.40 | VQ | | | | |
| 0+20 | 0.0270 | 1.57 | VQ | | | | |
| 0+25 | 0.0382 | 1.63 | VQ | | | | |
| 0+30 | 0.0508 | 1.83 | VQ | | | | |
| 0+35 | 0.0669 | 2.33 | V Q | | | | |
| 0+40 | 0.0839 | 2.47 | V Q | | | | |
| 0+45 | 0.1012 | 2.52 | V Q | | | | |
| 0+50 | 0.1186 | 2.53 | \|VQ | | | | |
| 0+55 | 0.1361 | 2.53 | \|VQ | | | | |
| 1+ 0 | 0.1548 | 2.72 | \|VQ | | | | |
| 1+ 5 | 0.1770 | 3.22 | \|V Q | | | | |
| 1+10 | 0.2001 | 3.35 | \|V Q | | | | |
| 1+15 | 0.2235 | 3.40 | \| VQ | | | | |
| 1+20 | 0.2470 | 3.41 | \| VQ | | | | |
| 1+25 | 0.2705 | 3.42 | \| VQ | | | | |
| 1+30 | 0.2940 | 3.42 | \| VQ | | | | |
| 1+35 | 0.3175 | 3.42 | \| VQ | | | | |
| 1+40 | 0.3411 | 3.42 | \| Q | | | | |
| 1+45 | 0.3646 | 3.42 | \| Q | | | | |
| 1+50 | 0.3881 | 3.42 | \| Q | | | | |
| 1+55 | 0.4117 | 3.42 | \| Q | | | | |
| 2+ 0 | 0.4365 | 3.61 | \| QV | | | | |
| 2+ 5 | 0.4634 | 3.91 | \| QV | | | | |
| 2+10 | 0.4892 | 3.74 | \| QV | | | | |
| 2+15 | 0.5177 | 4.14 | \| Q | | | | |
| 2+20 | 0.5470 | 4.25 | \| QV | | | | |
| 2+25 | 0.5765 | 4.29 | \| QV | | | | |
| 2+30 | 0.6061 | 4.29 | \| QV | | | | |
| 2+35 | 0.6357 | 4.30 | \| QV | | | | |
| 2+40 | 0.6653 | 4.30 | \| Q V | | | | |
| 2+45 | 0.6962 | 4.49 | \| Q V | | | | |
| 2+50 | 0.7306 | 4.98 | \| Q V | | | | |
| 2+55 | 0.7658 | 5.12 | \| Q V | | | | |



| | | | |
|---|---|---|---|
| 3+ 0 | 0.8014 | 5.17 | Q V |
| 3+ 5 | 0.8371 | 5.18 | Q V |
| 3+10 | 0.8741 | 5.37 | Q V |
| 3+15 | 0.9145 | 5.87 | Q V |
| 3+20 | 0.9558 | 6.00 | Q V |
| 3+25 | 0.9988 | 6.24 | Q V |
| 3+30 | 1.0465 | 6.93 | Q V |
| 3+35 | 1.1000 | 7.76 | Q V |
| 3+40 | 1.1581 | 8.44 | Q V |
| 3+45 | 1.2188 | 8.82 | Q V |
| 3+50 | 1.2834 | 9.38 | Q V |
| 3+55 | 1.3503 | 9.72 | Q V |
| 4+ 0 | 1.4210 | 10.27 | Q V |
| 4+ 5 | 1.4940 | 10.60 | Q V |
| 4+10 | 1.5721 | 11.34 | Q V |
| 4+15 | 1.6559 | 12.17 | Q V |
| 4+20 | 1.7457 | 13.04 | Q V |
| 4+25 | 1.8416 | 13.92 | Q V |
| 4+30 | 1.9422 | 14.61 | Q V |
| 4+35 | 2.0455 | 15.00 | Q V |
| 4+40 | 2.1540 | 15.75 | Q V |
| 4+45 | 2.2682 | 16.59 | Q V |
| 4+50 | 2.3871 | 17.27 | Q V |
| 4+55 | 2.5087 | 17.65 | Q V |
| 5+ 0 | 2.6354 | 18.40 | Q V |
| 5+ 5 | 2.7731 | 19.99 | Q V |
| 5+10 | 2.9356 | 23.60 | Q V |
| 5+15 | 3.1242 | 27.38 | Q V |
| 5+20 | 3.3333 | 30.36 | QV |
| 5+25 | 3.5639 | 33.48 | Q |
| 5+30 | 3.8276 | 38.29 | V Q |
| 5+35 | 4.0800 | 36.65 | QV |
| 5+40 | 4.2036 | 17.95 | Q V |
| 5+45 | 4.2575 | 7.83 | Q V |
| 5+50 | 4.2801 | 3.27 | Q V |
| 5+55 | 4.2902 | 1.47 | Q V |
| 6+ 0 | 4.2939 | 0.54 | Q V |
| 6+ 5 | 4.2955 | 0.23 | Q V |
| 6+10 | 4.2959 | 0.06 | Q V |
| 6+15 | 4.2960 | 0.02 | Q V |
| 6+20 | 4.2961 | 0.00 | Q V |
| 6+25 | 4.2961 | 0.00 | Q V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX2824100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 28
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 29.20(Ac.) = 0.046 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 29.20(Ac.) = 0.046 Sq. Mi.
Length along longest watercourse = 1699.00(Ft.)
Length along longest watercourse measured to centroid = 946.00(Ft.)
Length along longest watercourse = 0.322 Mi.
Length along longest watercourse measured to centroid = 0.179 Mi.
Difference in elevation = 532.00(Ft.)
Slope along watercourse = 1653.3019 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.069 Hr.
Lag time = 4.17 Min.
25% of lag time = 1.04 Min.
40% of lag time = 1.67 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 29.20 | 1.80 | 52.56 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 29.20 | 4.59 | 134.03 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.590(In)

Point rain (area averaged) = 4.590(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 4.590(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 29.200 | 79.11 | 0.000 |

Total Area Entered = 29.20(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 79.1 | 90.5 | 0.124 | 0.000 | 0.124 | 1.000 | 0.124 |
| | | | | | Sum (F) = | 0.124 |

Area averaged mean soil loss (F) (In/Hr) = 0.124

Minimum soil loss rate ((In/Hr)) = 0.062
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 119.927 | 21.378 | 6.291 |
| 2 | 0.167 | 239.853 | 56.067 | 16.499 |
| 3 | 0.250 | 359.780 | 15.526 | 4.569 |
| 4 | 0.333 | 479.707 | 5.040 | 1.483 |
| 5 | 0.417 | 599.634 | 1.242 | 0.365 |
| 6 | 0.500 | 719.560 | 0.748 | 0.220 |
| | | | Sum = 100.000 | Sum= 29.428 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.037 | ( 0.220) | 0.033 | 0.004 |
| 2 | 0.17 | 0.07 | 0.037 | ( 0.219) | 0.033 | 0.004 |
| 3 | 0.25 | 0.07 | 0.037 | ( 0.218) | 0.033 | 0.004 |
| 4 | 0.33 | 0.10 | 0.055 | ( 0.217) | 0.050 | 0.006 |
| 5 | 0.42 | 0.10 | 0.055 | ( 0.216) | 0.050 | 0.006 |
| 6 | 0.50 | 0.10 | 0.055 | ( 0.215) | 0.050 | 0.006 |
| 7 | 0.58 | 0.10 | 0.055 | ( 0.215) | 0.050 | 0.006 |
| 8 | 0.67 | 0.10 | 0.055 | ( 0.214) | 0.050 | 0.006 |
| 9 | 0.75 | 0.10 | 0.055 | ( 0.213) | 0.050 | 0.006 |
| 10 | 0.83 | 0.13 | 0.073 | ( 0.212) | 0.066 | 0.007 |
| 11 | 0.92 | 0.13 | 0.073 | ( 0.211) | 0.066 | 0.007 |
| 12 | 1.00 | 0.13 | 0.073 | ( 0.210) | 0.066 | 0.007 |
| 13 | 1.08 | 0.10 | 0.055 | ( 0.210) | 0.050 | 0.006 |
| 14 | 1.17 | 0.10 | 0.055 | ( 0.209) | 0.050 | 0.006 |
| 15 | 1.25 | 0.10 | 0.055 | ( 0.208) | 0.050 | 0.006 |
| 16 | 1.33 | 0.10 | 0.055 | ( 0.207) | 0.050 | 0.006 |
| 17 | 1.42 | 0.10 | 0.055 | ( 0.206) | 0.050 | 0.006 |
| 18 | 1.50 | 0.10 | 0.055 | ( 0.205) | 0.050 | 0.006 |
| 19 | 1.58 | 0.10 | 0.055 | ( 0.205) | 0.050 | 0.006 |
| 20 | 1.67 | 0.10 | 0.055 | ( 0.204) | 0.050 | 0.006 |
| 21 | 1.75 | 0.10 | 0.055 | ( 0.203) | 0.050 | 0.006 |
| 22 | 1.83 | 0.13 | 0.073 | ( 0.202) | 0.066 | 0.007 |
| 23 | 1.92 | 0.13 | 0.073 | ( 0.201) | 0.066 | 0.007 |
| 24 | 2.00 | 0.13 | 0.073 | ( 0.201) | 0.066 | 0.007 |
| 25 | 2.08 | 0.13 | 0.073 | ( 0.200) | 0.066 | 0.007 |
| 26 | 2.17 | 0.13 | 0.073 | ( 0.199) | 0.066 | 0.007 |
| 27 | 2.25 | 0.13 | 0.073 | ( 0.198) | 0.066 | 0.007 |
| 28 | 2.33 | 0.13 | 0.073 | ( 0.197) | 0.066 | 0.007 |
| 29 | 2.42 | 0.13 | 0.073 | ( 0.197) | 0.066 | 0.007 |
| 30 | 2.50 | 0.13 | 0.073 | ( 0.196) | 0.066 | 0.007 |
| 31 | 2.58 | 0.17 | 0.092 | ( 0.195) | 0.083 | 0.009 |
| 32 | 2.67 | 0.17 | 0.092 | ( 0.194) | 0.083 | 0.009 |
| 33 | 2.75 | 0.17 | 0.092 | ( 0.193) | 0.083 | 0.009 |
| 34 | 2.83 | 0.17 | 0.092 | ( 0.193) | 0.083 | 0.009 |
| 35 | 2.92 | 0.17 | 0.092 | ( 0.192) | 0.083 | 0.009 |
| 36 | 3.00 | 0.17 | 0.092 | ( 0.191) | 0.083 | 0.009 |
| 37 | 3.08 | 0.17 | 0.092 | ( 0.190) | 0.083 | 0.009 |
| 38 | 3.17 | 0.17 | 0.092 | ( 0.189) | 0.083 | 0.009 |
| 39 | 3.25 | 0.17 | 0.092 | ( 0.189) | 0.083 | 0.009 |
| 40 | 3.33 | 0.17 | 0.092 | ( 0.188) | 0.083 | 0.009 |
| 41 | 3.42 | 0.17 | 0.092 | ( 0.187) | 0.083 | 0.009 |
| 42 | 3.50 | 0.17 | 0.092 | ( 0.186) | 0.083 | 0.009 |
| 43 | 3.58 | 0.17 | 0.092 | ( 0.185) | 0.083 | 0.009 |
| 44 | 3.67 | 0.17 | 0.092 | ( 0.185) | 0.083 | 0.009 |
| 45 | 3.75 | 0.17 | 0.092 | ( 0.184) | 0.083 | 0.009 |
| 46 | 3.83 | 0.20 | 0.110 | ( 0.183) | 0.099 | 0.011 |
| 47 | 3.92 | 0.20 | 0.110 | ( 0.182) | 0.099 | 0.011 |
| 48 | 4.00 | 0.20 | 0.110 | ( 0.182) | 0.099 | 0.011 |
| 49 | 4.08 | 0.20 | 0.110 | ( 0.181) | 0.099 | 0.011 |
| 50 | 4.17 | 0.20 | 0.110 | ( 0.180) | 0.099 | 0.011 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 51 | 4.25 | 0.20 | 0.110 | ( 0.179) | 0.099 | 0.011 |
| 52 | 4.33 | 0.23 | 0.129 | ( 0.179) | 0.116 | 0.013 |
| 53 | 4.42 | 0.23 | 0.129 | ( 0.178) | 0.116 | 0.013 |
| 54 | 4.50 | 0.23 | 0.129 | ( 0.177) | 0.116 | 0.013 |
| 55 | 4.58 | 0.23 | 0.129 | ( 0.176) | 0.116 | 0.013 |
| 56 | 4.67 | 0.23 | 0.129 | ( 0.175) | 0.116 | 0.013 |
| 57 | 4.75 | 0.23 | 0.129 | ( 0.175) | 0.116 | 0.013 |
| 58 | 4.83 | 0.27 | 0.147 | ( 0.174) | 0.132 | 0.015 |
| 59 | 4.92 | 0.27 | 0.147 | ( 0.173) | 0.132 | 0.015 |
| 60 | 5.00 | 0.27 | 0.147 | ( 0.172) | 0.132 | 0.015 |
| 61 | 5.08 | 0.20 | 0.110 | ( 0.172) | 0.099 | 0.011 |
| 62 | 5.17 | 0.20 | 0.110 | ( 0.171) | 0.099 | 0.011 |
| 63 | 5.25 | 0.20 | 0.110 | ( 0.170) | 0.099 | 0.011 |
| 64 | 5.33 | 0.23 | 0.129 | ( 0.169) | 0.116 | 0.013 |
| 65 | 5.42 | 0.23 | 0.129 | ( 0.169) | 0.116 | 0.013 |
| 66 | 5.50 | 0.23 | 0.129 | ( 0.168) | 0.116 | 0.013 |
| 67 | 5.58 | 0.27 | 0.147 | ( 0.167) | 0.132 | 0.015 |
| 68 | 5.67 | 0.27 | 0.147 | ( 0.167) | 0.132 | 0.015 |
| 69 | 5.75 | 0.27 | 0.147 | ( 0.166) | 0.132 | 0.015 |
| 70 | 5.83 | 0.27 | 0.147 | ( 0.165) | 0.132 | 0.015 |
| 71 | 5.92 | 0.27 | 0.147 | ( 0.164) | 0.132 | 0.015 |
| 72 | 6.00 | 0.27 | 0.147 | ( 0.164) | 0.132 | 0.015 |
| 73 | 6.08 | 0.30 | 0.165 | ( 0.163) | 0.149 | 0.017 |
| 74 | 6.17 | 0.30 | 0.165 | ( 0.162) | 0.149 | 0.017 |
| 75 | 6.25 | 0.30 | 0.165 | ( 0.161) | 0.149 | 0.017 |
| 76 | 6.33 | 0.30 | 0.165 | ( 0.161) | 0.149 | 0.017 |
| 77 | 6.42 | 0.30 | 0.165 | ( 0.160) | 0.149 | 0.017 |
| 78 | 6.50 | 0.30 | 0.165 | ( 0.159) | 0.149 | 0.017 |
| 79 | 6.58 | 0.33 | 0.184 | 0.159 | ( 0.165) | 0.025 |
| 80 | 6.67 | 0.33 | 0.184 | 0.158 | ( 0.165) | 0.026 |
| 81 | 6.75 | 0.33 | 0.184 | 0.157 | ( 0.165) | 0.026 |
| 82 | 6.83 | 0.33 | 0.184 | 0.156 | ( 0.165) | 0.027 |
| 83 | 6.92 | 0.33 | 0.184 | 0.156 | ( 0.165) | 0.028 |
| 84 | 7.00 | 0.33 | 0.184 | 0.155 | ( 0.165) | 0.029 |
| 85 | 7.08 | 0.33 | 0.184 | 0.154 | ( 0.165) | 0.029 |
| 86 | 7.17 | 0.33 | 0.184 | 0.154 | ( 0.165) | 0.030 |
| 87 | 7.25 | 0.33 | 0.184 | 0.153 | ( 0.165) | 0.031 |
| 88 | 7.33 | 0.37 | 0.202 | 0.152 | ( 0.182) | 0.050 |
| 89 | 7.42 | 0.37 | 0.202 | 0.152 | ( 0.182) | 0.050 |
| 90 | 7.50 | 0.37 | 0.202 | 0.151 | ( 0.182) | 0.051 |
| 91 | 7.58 | 0.40 | 0.220 | 0.150 | ( 0.198) | 0.070 |
| 92 | 7.67 | 0.40 | 0.220 | 0.149 | ( 0.198) | 0.071 |
| 93 | 7.75 | 0.40 | 0.220 | 0.149 | ( 0.198) | 0.072 |
| 94 | 7.83 | 0.43 | 0.239 | 0.148 | ( 0.215) | 0.091 |
| 95 | 7.92 | 0.43 | 0.239 | 0.147 | ( 0.215) | 0.091 |
| 96 | 8.00 | 0.43 | 0.239 | 0.147 | ( 0.215) | 0.092 |
| 97 | 8.08 | 0.50 | 0.275 | 0.146 | ( 0.248) | 0.129 |
| 98 | 8.17 | 0.50 | 0.275 | 0.145 | ( 0.248) | 0.130 |
| 99 | 8.25 | 0.50 | 0.275 | 0.145 | ( 0.248) | 0.131 |
| 100 | 8.33 | 0.50 | 0.275 | 0.144 | ( 0.248) | 0.131 |
| 101 | 8.42 | 0.50 | 0.275 | 0.143 | ( 0.248) | 0.132 |
| 102 | 8.50 | 0.50 | 0.275 | 0.143 | ( 0.248) | 0.133 |
| 103 | 8.58 | 0.53 | 0.294 | 0.142 | ( 0.264) | 0.152 |
| 104 | 8.67 | 0.53 | 0.294 | 0.141 | ( 0.264) | 0.152 |
| 105 | 8.75 | 0.53 | 0.294 | 0.141 | ( 0.264) | 0.153 |
| 106 | 8.83 | 0.57 | 0.312 | 0.140 | ( 0.281) | 0.172 |
| 107 | 8.92 | 0.57 | 0.312 | 0.139 | ( 0.281) | 0.173 |
| 108 | 9.00 | 0.57 | 0.312 | 0.139 | ( 0.281) | 0.173 |
| 109 | 9.08 | 0.63 | 0.349 | 0.138 | ( 0.314) | 0.211 |
| 110 | 9.17 | 0.63 | 0.349 | 0.137 | ( 0.314) | 0.211 |
| 111 | 9.25 | 0.63 | 0.349 | 0.137 | ( 0.314) | 0.212 |
| 112 | 9.33 | 0.67 | 0.367 | 0.136 | ( 0.330) | 0.231 |
| 113 | 9.42 | 0.67 | 0.367 | 0.135 | ( 0.330) | 0.232 |
| 114 | 9.50 | 0.67 | 0.367 | 0.135 | ( 0.330) | 0.232 |
| 115 | 9.58 | 0.70 | 0.386 | 0.134 | ( 0.347) | 0.251 |
| 116 | 9.67 | 0.70 | 0.386 | 0.133 | ( 0.347) | 0.252 |
| 117 | 9.75 | 0.70 | 0.386 | 0.133 | ( 0.347) | 0.253 |
| 118 | 9.83 | 0.73 | 0.404 | 0.132 | ( 0.364) | 0.272 |
| 119 | 9.92 | 0.73 | 0.404 | 0.132 | ( 0.364) | 0.272 |
| 120 | 10.00 | 0.73 | 0.404 | 0.131 | ( 0.364) | 0.273 |
| 121 | 10.08 | 0.50 | 0.275 | 0.130 | ( 0.248) | 0.145 |
| 122 | 10.17 | 0.50 | 0.275 | 0.130 | ( 0.248) | 0.146 |
| 123 | 10.25 | 0.50 | 0.275 | 0.129 | ( 0.248) | 0.146 |
| 124 | 10.33 | 0.50 | 0.275 | 0.128 | ( 0.248) | 0.147 |
| 125 | 10.42 | 0.50 | 0.275 | 0.128 | ( 0.248) | 0.148 |
| 126 | 10.50 | 0.50 | 0.275 | 0.127 | ( 0.248) | 0.148 |
| 127 | 10.58 | 0.67 | 0.367 | 0.126 | ( 0.330) | 0.241 |
| 128 | 10.67 | 0.67 | 0.367 | 0.126 | ( 0.330) | 0.241 |

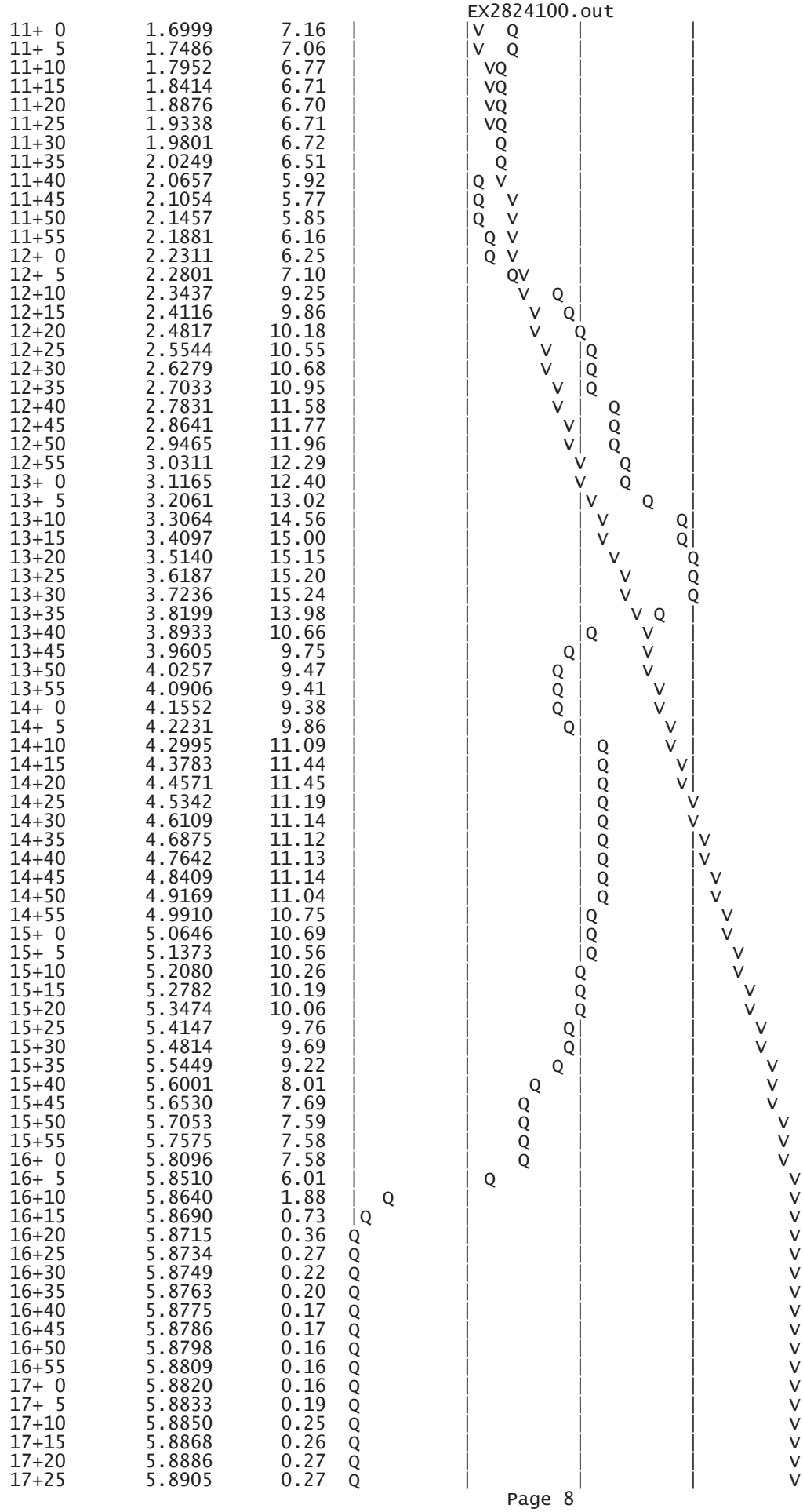
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 129 | 10.75 | 0.67 | 0.367 | | 0.125 | ( 0.330) | 0.242 |
| 130 | 10.83 | 0.67 | 0.367 | | 0.125 | ( 0.330) | 0.243 |
| 131 | 10.92 | 0.67 | 0.367 | | 0.124 | ( 0.330) | 0.243 |
| 132 | 11.00 | 0.67 | 0.367 | | 0.123 | ( 0.330) | 0.244 |
| 133 | 11.08 | 0.63 | 0.349 | | 0.123 | ( 0.314) | 0.226 |
| 134 | 11.17 | 0.63 | 0.349 | | 0.122 | ( 0.314) | 0.227 |
| 135 | 11.25 | 0.63 | 0.349 | | 0.122 | ( 0.314) | 0.227 |
| 136 | 11.33 | 0.63 | 0.349 | | 0.121 | ( 0.314) | 0.228 |
| 137 | 11.42 | 0.63 | 0.349 | | 0.120 | ( 0.314) | 0.228 |
| 138 | 11.50 | 0.63 | 0.349 | | 0.120 | ( 0.314) | 0.229 |
| 139 | 11.58 | 0.57 | 0.312 | | 0.119 | ( 0.281) | 0.193 |
| 140 | 11.67 | 0.57 | 0.312 | | 0.119 | ( 0.281) | 0.193 |
| 141 | 11.75 | 0.57 | 0.312 | | 0.118 | ( 0.281) | 0.194 |
| 142 | 11.83 | 0.60 | 0.330 | | 0.117 | ( 0.297) | 0.213 |
| 143 | 11.92 | 0.60 | 0.330 | | 0.117 | ( 0.297) | 0.214 |
| 144 | 12.00 | 0.60 | 0.330 | | 0.116 | ( 0.297) | 0.214 |
| 145 | 12.08 | 0.83 | 0.459 | | 0.116 | ( 0.413) | 0.343 |
| 146 | 12.17 | 0.83 | 0.459 | | 0.115 | ( 0.413) | 0.344 |
| 147 | 12.25 | 0.83 | 0.459 | | 0.115 | ( 0.413) | 0.344 |
| 148 | 12.33 | 0.87 | 0.477 | | 0.114 | ( 0.430) | 0.363 |
| 149 | 12.42 | 0.87 | 0.477 | | 0.113 | ( 0.430) | 0.364 |
| 150 | 12.50 | 0.87 | 0.477 | | 0.113 | ( 0.430) | 0.365 |
| 151 | 12.58 | 0.93 | 0.514 | | 0.112 | ( 0.463) | 0.402 |
| 152 | 12.67 | 0.93 | 0.514 | | 0.112 | ( 0.463) | 0.402 |
| 153 | 12.75 | 0.93 | 0.514 | | 0.111 | ( 0.463) | 0.403 |
| 154 | 12.83 | 0.97 | 0.532 | | 0.111 | ( 0.479) | 0.422 |
| 155 | 12.92 | 0.97 | 0.532 | | 0.110 | ( 0.479) | 0.422 |
| 156 | 13.00 | 0.97 | 0.532 | | 0.109 | ( 0.479) | 0.423 |
| 157 | 13.08 | 1.13 | 0.624 | | 0.109 | ( 0.562) | 0.515 |
| 158 | 13.17 | 1.13 | 0.624 | | 0.108 | ( 0.562) | 0.516 |
| 159 | 13.25 | 1.13 | 0.624 | | 0.108 | ( 0.562) | 0.516 |
| 160 | 13.33 | 1.13 | 0.624 | | 0.107 | ( 0.562) | 0.517 |
| 161 | 13.42 | 1.13 | 0.624 | | 0.107 | ( 0.562) | 0.518 |
| 162 | 13.50 | 1.13 | 0.624 | | 0.106 | ( 0.562) | 0.518 |
| 163 | 13.58 | 0.77 | 0.422 | | 0.106 | ( 0.380) | 0.317 |
| 164 | 13.67 | 0.77 | 0.422 | | 0.105 | ( 0.380) | 0.317 |
| 165 | 13.75 | 0.77 | 0.422 | | 0.105 | ( 0.380) | 0.318 |
| 166 | 13.83 | 0.77 | 0.422 | | 0.104 | ( 0.380) | 0.318 |
| 167 | 13.92 | 0.77 | 0.422 | | 0.103 | ( 0.380) | 0.319 |
| 168 | 14.00 | 0.77 | 0.422 | | 0.103 | ( 0.380) | 0.319 |
| 169 | 14.08 | 0.90 | 0.496 | | 0.102 | ( 0.446) | 0.393 |
| 170 | 14.17 | 0.90 | 0.496 | | 0.102 | ( 0.446) | 0.394 |
| 171 | 14.25 | 0.90 | 0.496 | | 0.101 | ( 0.446) | 0.394 |
| 172 | 14.33 | 0.87 | 0.477 | | 0.101 | ( 0.430) | 0.376 |
| 173 | 14.42 | 0.87 | 0.477 | | 0.100 | ( 0.430) | 0.377 |
| 174 | 14.50 | 0.87 | 0.477 | | 0.100 | ( 0.430) | 0.377 |
| 175 | 14.58 | 0.87 | 0.477 | | 0.099 | ( 0.430) | 0.378 |
| 176 | 14.67 | 0.87 | 0.477 | | 0.099 | ( 0.430) | 0.379 |
| 177 | 14.75 | 0.87 | 0.477 | | 0.098 | ( 0.430) | 0.379 |
| 178 | 14.83 | 0.83 | 0.459 | | 0.098 | ( 0.413) | 0.361 |
| 179 | 14.92 | 0.83 | 0.459 | | 0.097 | ( 0.413) | 0.362 |
| 180 | 15.00 | 0.83 | 0.459 | | 0.097 | ( 0.413) | 0.362 |
| 181 | 15.08 | 0.80 | 0.441 | | 0.096 | ( 0.397) | 0.344 |
| 182 | 15.17 | 0.80 | 0.441 | | 0.096 | ( 0.397) | 0.345 |
| 183 | 15.25 | 0.80 | 0.441 | | 0.095 | ( 0.397) | 0.345 |
| 184 | 15.33 | 0.77 | 0.422 | | 0.095 | ( 0.380) | 0.327 |
| 185 | 15.42 | 0.77 | 0.422 | | 0.094 | ( 0.380) | 0.328 |
| 186 | 15.50 | 0.77 | 0.422 | | 0.094 | ( 0.380) | 0.328 |
| 187 | 15.58 | 0.63 | 0.349 | | 0.093 | ( 0.314) | 0.255 |
| 188 | 15.67 | 0.63 | 0.349 | | 0.093 | ( 0.314) | 0.256 |
| 189 | 15.75 | 0.63 | 0.349 | | 0.092 | ( 0.314) | 0.256 |
| 190 | 15.83 | 0.63 | 0.349 | | 0.092 | ( 0.314) | 0.257 |
| 191 | 15.92 | 0.63 | 0.349 | | 0.091 | ( 0.314) | 0.257 |
| 192 | 16.00 | 0.63 | 0.349 | | 0.091 | ( 0.314) | 0.258 |
| 193 | 16.08 | 0.13 | 0.073 | ( 0.091) | | 0.066 | 0.007 |
| 194 | 16.17 | 0.13 | 0.073 | ( 0.090) | | 0.066 | 0.007 |
| 195 | 16.25 | 0.13 | 0.073 | ( 0.090) | | 0.066 | 0.007 |
| 196 | 16.33 | 0.13 | 0.073 | ( 0.089) | | 0.066 | 0.007 |
| 197 | 16.42 | 0.13 | 0.073 | ( 0.089) | | 0.066 | 0.007 |
| 198 | 16.50 | 0.13 | 0.073 | ( 0.088) | | 0.066 | 0.007 |
| 199 | 16.58 | 0.10 | 0.055 | ( 0.088) | | 0.050 | 0.006 |
| 200 | 16.67 | 0.10 | 0.055 | ( 0.087) | | 0.050 | 0.006 |
| 201 | 16.75 | 0.10 | 0.055 | ( 0.087) | | 0.050 | 0.006 |
| 202 | 16.83 | 0.10 | 0.055 | ( 0.086) | | 0.050 | 0.006 |
| 203 | 16.92 | 0.10 | 0.055 | ( 0.086) | | 0.050 | 0.006 |
| 204 | 17.00 | 0.10 | 0.055 | ( 0.086) | | 0.050 | 0.006 |
| 205 | 17.08 | 0.17 | 0.092 | ( 0.085) | | 0.083 | 0.009 |
| 206 | 17.17 | 0.17 | 0.092 | ( 0.085) | | 0.083 | 0.009 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 207 | 17.25 | 0.17 | 0.092 | ( | 0.084) | 0.083 | | 0.009 |
| 208 | 17.33 | 0.17 | 0.092 | ( | 0.084) | 0.083 | | 0.009 |
| 209 | 17.42 | 0.17 | 0.092 | ( | 0.083) | 0.083 | | 0.009 |
| 210 | 17.50 | 0.17 | 0.092 | ( | 0.083) | 0.083 | | 0.009 |
| 211 | 17.58 | 0.17 | 0.092 | ( | 0.083) | 0.083 | | 0.009 |
| 212 | 17.67 | 0.17 | 0.092 | | 0.082 | ( | 0.083) | 0.010 |
| 213 | 17.75 | 0.17 | 0.092 | | 0.082 | ( | 0.083) | 0.010 |
| 214 | 17.83 | 0.13 | 0.073 | ( | 0.081) | 0.066 | | 0.007 |
| 215 | 17.92 | 0.13 | 0.073 | ( | 0.081) | 0.066 | | 0.007 |
| 216 | 18.00 | 0.13 | 0.073 | ( | 0.081) | 0.066 | | 0.007 |
| 217 | 18.08 | 0.13 | 0.073 | ( | 0.080) | 0.066 | | 0.007 |
| 218 | 18.17 | 0.13 | 0.073 | ( | 0.080) | 0.066 | | 0.007 |
| 219 | 18.25 | 0.13 | 0.073 | ( | 0.079) | 0.066 | | 0.007 |
| 220 | 18.33 | 0.13 | 0.073 | ( | 0.079) | 0.066 | | 0.007 |
| 221 | 18.42 | 0.13 | 0.073 | ( | 0.079) | 0.066 | | 0.007 |
| 222 | 18.50 | 0.13 | 0.073 | ( | 0.078) | 0.066 | | 0.007 |
| 223 | 18.58 | 0.10 | 0.055 | ( | 0.078) | 0.050 | | 0.006 |
| 224 | 18.67 | 0.10 | 0.055 | ( | 0.078) | 0.050 | | 0.006 |
| 225 | 18.75 | 0.10 | 0.055 | ( | 0.077) | 0.050 | | 0.006 |
| 226 | 18.83 | 0.07 | 0.037 | ( | 0.077) | 0.033 | | 0.004 |
| 227 | 18.92 | 0.07 | 0.037 | ( | 0.076) | 0.033 | | 0.004 |
| 228 | 19.00 | 0.07 | 0.037 | ( | 0.076) | 0.033 | | 0.004 |
| 229 | 19.08 | 0.10 | 0.055 | ( | 0.076) | 0.050 | | 0.006 |
| 230 | 19.17 | 0.10 | 0.055 | ( | 0.075) | 0.050 | | 0.006 |
| 231 | 19.25 | 0.10 | 0.055 | ( | 0.075) | 0.050 | | 0.006 |
| 232 | 19.33 | 0.13 | 0.073 | ( | 0.075) | 0.066 | | 0.007 |
| 233 | 19.42 | 0.13 | 0.073 | ( | 0.074) | 0.066 | | 0.007 |
| 234 | 19.50 | 0.13 | 0.073 | ( | 0.074) | 0.066 | | 0.007 |
| 235 | 19.58 | 0.10 | 0.055 | ( | 0.074) | 0.050 | | 0.006 |
| 236 | 19.67 | 0.10 | 0.055 | ( | 0.073) | 0.050 | | 0.006 |
| 237 | 19.75 | 0.10 | 0.055 | ( | 0.073) | 0.050 | | 0.006 |
| 238 | 19.83 | 0.07 | 0.037 | ( | 0.073) | 0.033 | | 0.004 |
| 239 | 19.92 | 0.07 | 0.037 | ( | 0.072) | 0.033 | | 0.004 |
| 240 | 20.00 | 0.07 | 0.037 | ( | 0.072) | 0.033 | | 0.004 |
| 241 | 20.08 | 0.10 | 0.055 | ( | 0.072) | 0.050 | | 0.006 |
| 242 | 20.17 | 0.10 | 0.055 | ( | 0.071) | 0.050 | | 0.006 |
| 243 | 20.25 | 0.10 | 0.055 | ( | 0.071) | 0.050 | | 0.006 |
| 244 | 20.33 | 0.10 | 0.055 | ( | 0.071) | 0.050 | | 0.006 |
| 245 | 20.42 | 0.10 | 0.055 | ( | 0.070) | 0.050 | | 0.006 |
| 246 | 20.50 | 0.10 | 0.055 | ( | 0.070) | 0.050 | | 0.006 |
| 247 | 20.58 | 0.10 | 0.055 | ( | 0.070) | 0.050 | | 0.006 |
| 248 | 20.67 | 0.10 | 0.055 | ( | 0.070) | 0.050 | | 0.006 |
| 249 | 20.75 | 0.10 | 0.055 | ( | 0.069) | 0.050 | | 0.006 |
| 250 | 20.83 | 0.07 | 0.037 | ( | 0.069) | 0.033 | | 0.004 |
| 251 | 20.92 | 0.07 | 0.037 | ( | 0.069) | 0.033 | | 0.004 |
| 252 | 21.00 | 0.07 | 0.037 | ( | 0.068) | 0.033 | | 0.004 |
| 253 | 21.08 | 0.10 | 0.055 | ( | 0.068) | 0.050 | | 0.006 |
| 254 | 21.17 | 0.10 | 0.055 | ( | 0.068) | 0.050 | | 0.006 |
| 255 | 21.25 | 0.10 | 0.055 | ( | 0.068) | 0.050 | | 0.006 |
| 256 | 21.33 | 0.07 | 0.037 | ( | 0.067) | 0.033 | | 0.004 |
| 257 | 21.42 | 0.07 | 0.037 | ( | 0.067) | 0.033 | | 0.004 |
| 258 | 21.50 | 0.07 | 0.037 | ( | 0.067) | 0.033 | | 0.004 |
| 259 | 21.58 | 0.10 | 0.055 | ( | 0.067) | 0.050 | | 0.006 |
| 260 | 21.67 | 0.10 | 0.055 | ( | 0.066) | 0.050 | | 0.006 |
| 261 | 21.75 | 0.10 | 0.055 | ( | 0.066) | 0.050 | | 0.006 |
| 262 | 21.83 | 0.07 | 0.037 | ( | 0.066) | 0.033 | | 0.004 |
| 263 | 21.92 | 0.07 | 0.037 | ( | 0.066) | 0.033 | | 0.004 |
| 264 | 22.00 | 0.07 | 0.037 | ( | 0.065) | 0.033 | | 0.004 |
| 265 | 22.08 | 0.10 | 0.055 | ( | 0.065) | 0.050 | | 0.006 |
| 266 | 22.17 | 0.10 | 0.055 | ( | 0.065) | 0.050 | | 0.006 |
| 267 | 22.25 | 0.10 | 0.055 | ( | 0.065) | 0.050 | | 0.006 |
| 268 | 22.33 | 0.07 | 0.037 | ( | 0.065) | 0.033 | | 0.004 |
| 269 | 22.42 | 0.07 | 0.037 | ( | 0.064) | 0.033 | | 0.004 |
| 270 | 22.50 | 0.07 | 0.037 | ( | 0.064) | 0.033 | | 0.004 |
| 271 | 22.58 | 0.07 | 0.037 | ( | 0.064) | 0.033 | | 0.004 |
| 272 | 22.67 | 0.07 | 0.037 | ( | 0.064) | 0.033 | | 0.004 |
| 273 | 22.75 | 0.07 | 0.037 | ( | 0.064) | 0.033 | | 0.004 |
| 274 | 22.83 | 0.07 | 0.037 | ( | 0.064) | 0.033 | | 0.004 |
| 275 | 22.92 | 0.07 | 0.037 | ( | 0.063) | 0.033 | | 0.004 |
| 276 | 23.00 | 0.07 | 0.037 | ( | 0.063) | 0.033 | | 0.004 |
| 277 | 23.08 | 0.07 | 0.037 | ( | 0.063) | 0.033 | | 0.004 |
| 278 | 23.17 | 0.07 | 0.037 | ( | 0.063) | 0.033 | | 0.004 |
| 279 | 23.25 | 0.07 | 0.037 | ( | 0.063) | 0.033 | | 0.004 |
| 280 | 23.33 | 0.07 | 0.037 | ( | 0.063) | 0.033 | | 0.004 |
| 281 | 23.42 | 0.07 | 0.037 | ( | 0.063) | 0.033 | | 0.004 |
| 282 | 23.50 | 0.07 | 0.037 | ( | 0.062) | 0.033 | | 0.004 |
| 283 | 23.58 | 0.07 | 0.037 | ( | 0.062) | 0.033 | | 0.004 |
| 284 | 23.67 | 0.07 | 0.037 | ( | 0.062) | 0.033 | | 0.004 |

```
285  23.75     0.07      0.037       (  0.062)       0.033        0.004
286  23.83     0.07      0.037       (  0.062)       0.033        0.004
287  23.92     0.07      0.037       (  0.062)       0.033        0.004
288  24.00     0.07      0.037       (  0.062)       0.033        0.004
              (Loss Rate Not Used)
    Sum =     100.0                                    Sum =    29.5
       Flood volume = Effective rainfall      2.46(In)
        times area      29.2(Ac.)/[(In)/(Ft.)] =       6.0(Ac.Ft)
       Total soil loss =      2.13(In)
       Total soil loss =     5.193(Ac.Ft)
       Total rainfall =      4.59(In)
       Flood volume =      260273.1 Cubic Feet
       Total soil loss =      226220.8 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =     15.235(CFS)
       ---------------------------------------------------------------------
       +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
       ---------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))

       ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        5.0      10.0      15.0      20.0
 ------------------------------------------------------------------------
   0+ 5       0.0002      0.02  Q          |          |          |          |
   0+10       0.0007      0.08  Q          |          |          |          |
   0+15       0.0014      0.10  Q          |          |          |          |
   0+20       0.0022      0.12  Q          |          |          |          |
   0+25       0.0033      0.15  Q          |          |          |          |
   0+30       0.0044      0.16  Q          |          |          |          |
   0+35       0.0055      0.16  Q          |          |          |          |
   0+40       0.0066      0.16  Q          |          |          |          |
   0+45       0.0077      0.16  Q          |          |          |          |
   0+50       0.0089      0.17  Q          |          |          |          |
   0+55       0.0103      0.20  Q          |          |          |          |
   1+ 0       0.0118      0.21  Q          |          |          |          |
   1+ 5       0.0132      0.20  Q          |          |          |          |
   1+10       0.0144      0.17  Q          |          |          |          |
   1+15       0.0155      0.17  Q          |          |          |          |
   1+20       0.0166      0.16  Q          |          |          |          |
   1+25       0.0177      0.16  Q          |          |          |          |
   1+30       0.0189      0.16  Q          |          |          |          |
   1+35       0.0200      0.16  Q          |          |          |          |
   1+40       0.0211      0.16  Q          |          |          |          |
   1+45       0.0222      0.16  Q          |          |          |          |
   1+50       0.0234      0.17  Q          |          |          |          |
   1+55       0.0248      0.20  Q          |          |          |          |
   2+ 0       0.0263      0.21  Q          |          |          |          |
   2+ 5       0.0278      0.22  Q          |          |          |          |
   2+10       0.0292      0.22  Q          |          |          |          |
   2+15       0.0307      0.22  Q          |          |          |          |
   2+20       0.0322      0.22  Q          |          |          |          |
   2+25       0.0337      0.22  Q          |          |          |          |
   2+30       0.0352      0.22  Q          |          |          |          |
   2+35       0.0368      0.23  Q          |          |          |          |
   2+40       0.0385      0.26  Q          |          |          |          |
   2+45       0.0404      0.27  Q          |          |          |          |
   2+50       0.0422      0.27  Q          |          |          |          |
   2+55       0.0441      0.27  Q          |          |          |          |
   3+ 0       0.0460      0.27  Q          |          |          |          |
   3+ 5       0.0478      0.27  Q          |          |          |          |
   3+10       0.0497      0.27  Q          |          |          |          |
   3+15       0.0515      0.27  Q          |          |          |          |
   3+20       0.0534      0.27  Q          |          |          |          |
   3+25       0.0553      0.27  Q          |          |          |          |
   3+30       0.0571      0.27  Q          |          |          |          |
   3+35       0.0590      0.27  Q          |          |          |          |
   3+40       0.0608      0.27  Q          |          |          |          |
   3+45       0.0627      0.27  Q          |          |          |          |
   3+50       0.0647      0.28  Q          |          |          |          |
   3+55       0.0668      0.31  Q          |          |          |          |
   4+ 0       0.0690      0.32  Q          |          |          |          |
   4+ 5       0.0712      0.32  Q          |          |          |          |
   4+10       0.0735      0.32  Q          |          |          |          |
   4+15       0.0757      0.32  Q          |          |          |          |
   4+20       0.0780      0.34  Q          |          |          |          |
   4+25       0.0805      0.37  Q          |          |          |          |
```

```
 4+30       0.0831      0.37  Q          |          |          |          |
 4+35       0.0857      0.38  Q          |          |          |          |
 4+40       0.0883      0.38  Q          |          |          |          |
 4+45       0.0909      0.38  Q          |          |          |          |
 4+50       0.0936      0.39  Q          |          |          |          |
 4+55       0.0965      0.42  Q          |          |          |          |
 5+ 0       0.0995      0.43  Q          |          |          |          |
 5+ 5       0.1023      0.41  Q          |          |          |          |
 5+10       0.1047      0.35  Q          |          |          |          |
 5+15       0.1070      0.33  Q          |          |          |          |
 5+20       0.1093      0.34  Q          |          |          |          |
 5+25       0.1118      0.37  Q          |          |          |          |
 5+30       0.1144      0.37  Q          |          |          |          |
 5+35       0.1171      0.39  Q          |          |          |          |
 5+40       0.1200      0.42  Q          |          |          |          |
 5+45       0.1229      0.43  Q          |          |          |          |
 5+50       0.1259      0.43  Q          |          |          |          |
 5+55       0.1289      0.43  Q          |          |          |          |
 6+ 0       0.1318      0.43  Q          |          |          |          |
 6+ 5       0.1349      0.44  Q          |          |          |          |
 6+10       0.1382      0.47  Q          |          |          |          |
 6+15       0.1415      0.48  Q          |          |          |          |
 6+20       0.1448      0.49  Q          |          |          |          |
 6+25       0.1482      0.49  Q          |          |          |          |
 6+30       0.1515      0.49  QV         |          |          |          |
 6+35       0.1552      0.54  |Q         |          |          |          |
 6+40       0.1600      0.69  |Q         |          |          |          |
 6+45       0.1651      0.74  |Q         |          |          |          |
 6+50       0.1704      0.77  |Q         |          |          |          |
 6+55       0.1759      0.80  |Q         |          |          |          |
 7+ 0       0.1815      0.82  |Q         |          |          |          |
 7+ 5       0.1873      0.84  |Q         |          |          |          |
 7+10       0.1932      0.86  |Q         |          |          |          |
 7+15       0.1993      0.88  |Q         |          |          |          |
 7+20       0.2063      1.02  |VQ        |          |          |          |
 7+25       0.2155      1.34  |VQ        |          |          |          |
 7+30       0.2255      1.45  |VQ        |          |          |          |
 7+35       0.2365      1.61  |V Q       |          |          |          |
 7+40       0.2499      1.94  |V Q       |          |          |          |
 7+45       0.2640      2.05  |V  Q      |          |          |          |
 7+50       0.2792      2.21  |V  Q      |          |          |          |
 7+55       0.2967      2.54  |V   Q     |          |          |          |
 8+ 0       0.3149      2.65  | V  Q     |          |          |          |
 8+ 5       0.3351      2.93  | V  Q     |          |          |          |
 8+10       0.3596      3.56  | V    Q   |          |          |          |
 8+15       0.3854      3.75  | V    Q   |          |          |          |
 8+20       0.4118      3.83  | V    Q   |          |          |          |
 8+25       0.4384      3.86  | V    Q   |          |          |          |
 8+30       0.4651      3.89  |  V   Q   |          |          |          |
 8+35       0.4928      4.02  |  V    Q  |          |          |          |
 8+40       0.5228      4.35  |  V    Q  |          |          |          |
 8+45       0.5534      4.45  |  V    Q  |          |          |          |
 8+50       0.5852      4.61  |  V     Q |          |          |          |
 8+55       0.6192      4.94  |   V    Q |          |          |          |
 9+ 0       0.6539      5.05  |   V     Q          |          |          |
 9+ 5       0.6906      5.33  |   V     Q          |          |          |
 9+10       0.7316      5.96  |   V     |Q         |          |          |
 9+15       0.7740      6.15  |    V    | Q        |          |          |
 9+20       0.8176      6.34  |    V    | Q        |          |          |
 9+25       0.8636      6.67  |    V    |  Q       |          |          |
 9+30       0.9103      6.79  |     V   |  Q       |          |          |
 9+35       0.9582      6.95  |     V   |  Q       |          |          |
 9+40       1.0083      7.28  |     V   |   Q      |          |          |
 9+45       1.0591      7.38  |      V  |   Q      |          |          |
 9+50       1.1111      7.54  |      V  |    Q     |          |          |
 9+55       1.1653      7.87  |      V  |    Q     |          |          |
10+ 0       1.2203      7.98  |       V |    Q     |          |          |
10+ 5       1.2700      7.22  |       V |   Q      |          |          |
10+10       1.3052      5.12  |       V Q          |          |          |
10+15       1.3366      4.56  |       VQ|          |          |          |
10+20       1.3668      4.38  |       QV|          |          |          |
10+25       1.3968      4.36  |       QV|          |          |          |
10+30       1.4267      4.35  |       QV|          |          |          |
10+35       1.4608      4.94  |        Q|          |          |          |
10+40       1.5054      6.47  |         V Q        |          |          |
10+45       1.5530      6.91  |         V  Q       |          |          |
10+50       1.6016      7.07  |         V   Q      |          |          |
10+55       1.6507      7.12  |         |V  Q      |          |          |
```


11+ 0 1.6999 7.16
11+ 5 1.7486 7.06
11+10 1.7952 6.77
11+15 1.8414 6.71
11+20 1.8876 6.70
11+25 1.9338 6.71
11+30 1.9801 6.72
11+35 2.0249 6.51
11+40 2.0657 5.92
11+45 2.1054 5.77
11+50 2.1457 5.85
11+55 2.1881 6.16
12+ 0 2.2311 6.25
12+ 5 2.2801 7.10
12+10 2.3437 9.25
12+15 2.4116 9.86
12+20 2.4817 10.18
12+25 2.5544 10.55
12+30 2.6279 10.68
12+35 2.7033 10.95
12+40 2.7831 11.58
12+45 2.8641 11.77
12+50 2.9465 11.96
12+55 3.0311 12.29
13+ 0 3.1165 12.40
13+ 5 3.2061 13.02
13+10 3.3064 14.56
13+15 3.4097 15.00
13+20 3.5140 15.15
13+25 3.6187 15.20
13+30 3.7236 15.24
13+35 3.8199 13.98
13+40 3.8933 10.66
13+45 3.9605 9.75
13+50 4.0257 9.47
13+55 4.0906 9.41
14+ 0 4.1552 9.38
14+ 5 4.2231 9.86
14+10 4.2995 11.09
14+15 4.3783 11.44
14+20 4.4571 11.45
14+25 4.5342 11.19
14+30 4.6109 11.14
14+35 4.6875 11.12
14+40 4.7642 11.13
14+45 4.8409 11.14
14+50 4.9169 11.04
14+55 4.9910 10.75
15+ 0 5.0646 10.69
15+ 5 5.1373 10.56
15+10 5.2080 10.26
15+15 5.2782 10.19
15+20 5.3474 10.06
15+25 5.4147 9.76
15+30 5.4814 9.69
15+35 5.5449 9.22
15+40 5.6001 8.01
15+45 5.6530 7.69
15+50 5.7053 7.59
15+55 5.7575 7.58
16+ 0 5.8096 7.58
16+ 5 5.8510 6.01
16+10 5.8640 1.88
16+15 5.8690 0.73
16+20 5.8715 0.36
16+25 5.8734 0.27
16+30 5.8749 0.22
16+35 5.8763 0.20
16+40 5.8775 0.17
16+45 5.8786 0.17
16+50 5.8798 0.16
16+55 5.8809 0.16
17+ 0 5.8820 0.16
17+ 5 5.8833 0.19
17+10 5.8850 0.25
17+15 5.8868 0.26
17+20 5.8886 0.27
17+25 5.8905 0.27

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+30 | 5.8923 | 0.27 | Q | \| | \| | \| | V\| |
| 17+35 | 5.8942 | 0.27 | Q | \| | \| | \| | V\| |
| 17+40 | 5.8961 | 0.27 | Q | \| | \| | \| | V\| |
| 17+45 | 5.8980 | 0.28 | Q | \| | \| | \| | V\| |
| 17+50 | 5.8999 | 0.27 | Q | \| | \| | \| | V\| |
| 17+55 | 5.9015 | 0.23 | Q | \| | \| | \| | V\| |
| 18+ 0 | 5.9030 | 0.22 | Q | \| | \| | \| | V\| |
| 18+ 5 | 5.9045 | 0.22 | Q | \| | \| | \| | V\| |
| 18+10 | 5.9060 | 0.22 | Q | \| | \| | \| | V\| |
| 18+15 | 5.9075 | 0.22 | Q | \| | \| | \| | V\| |
| 18+20 | 5.9090 | 0.22 | Q | \| | \| | \| | V\| |
| 18+25 | 5.9105 | 0.22 | Q | \| | \| | \| | V\| |
| 18+30 | 5.9120 | 0.22 | Q | \| | \| | \| | V\| |
| 18+35 | 5.9134 | 0.20 | Q | \| | \| | \| | V\| |
| 18+40 | 5.9146 | 0.17 | Q | \| | \| | \| | V\| |
| 18+45 | 5.9157 | 0.17 | Q | \| | \| | \| | V\| |
| 18+50 | 5.9168 | 0.15 | Q | \| | \| | \| | V\| |
| 18+55 | 5.9176 | 0.12 | Q | \| | \| | \| | V\| |
| 19+ 0 | 5.9184 | 0.11 | Q | \| | \| | \| | V\| |
| 19+ 5 | 5.9192 | 0.12 | Q | \| | \| | \| | V\| |
| 19+10 | 5.9202 | 0.15 | Q | \| | \| | \| | V\| |
| 19+15 | 5.9213 | 0.16 | Q | \| | \| | \| | V\| |
| 19+20 | 5.9225 | 0.17 | Q | \| | \| | \| | V\| |
| 19+25 | 5.9239 | 0.20 | Q | \| | \| | \| | V\| |
| 19+30 | 5.9254 | 0.21 | Q | \| | \| | \| | V\| |
| 19+35 | 5.9268 | 0.20 | Q | \| | \| | \| | V\| |
| 19+40 | 5.9280 | 0.17 | Q | \| | \| | \| | V\| |
| 19+45 | 5.9291 | 0.17 | Q | \| | \| | \| | V\| |
| 19+50 | 5.9302 | 0.15 | Q | \| | \| | \| | V\| |
| 19+55 | 5.9310 | 0.12 | Q | \| | \| | \| | V\| |
| 20+ 0 | 5.9318 | 0.11 | Q | \| | \| | \| | V\| |
| 20+ 5 | 5.9326 | 0.12 | Q | \| | \| | \| | V\| |
| 20+10 | 5.9336 | 0.15 | Q | \| | \| | \| | V\| |
| 20+15 | 5.9347 | 0.16 | Q | \| | \| | \| | V\| |
| 20+20 | 5.9358 | 0.16 | Q | \| | \| | \| | V\| |
| 20+25 | 5.9370 | 0.16 | Q | \| | \| | \| | V\| |
| 20+30 | 5.9381 | 0.16 | Q | \| | \| | \| | V\| |
| 20+35 | 5.9392 | 0.16 | Q | \| | \| | \| | V\| |
| 20+40 | 5.9403 | 0.16 | Q | \| | \| | \| | V\| |
| 20+45 | 5.9414 | 0.16 | Q | \| | \| | \| | V\| |
| 20+50 | 5.9425 | 0.15 | Q | \| | \| | \| | V\| |
| 20+55 | 5.9433 | 0.12 | Q | \| | \| | \| | V\| |
| 21+ 0 | 5.9441 | 0.11 | Q | \| | \| | \| | V\| |
| 21+ 5 | 5.9449 | 0.12 | Q | \| | \| | \| | V\| |
| 21+10 | 5.9459 | 0.15 | Q | \| | \| | \| | V\| |
| 21+15 | 5.9470 | 0.16 | Q | \| | \| | \| | V\| |
| 21+20 | 5.9480 | 0.15 | Q | \| | \| | \| | V\| |
| 21+25 | 5.9489 | 0.12 | Q | \| | \| | \| | V\| |
| 21+30 | 5.9496 | 0.11 | Q | \| | \| | \| | V\| |
| 21+35 | 5.9505 | 0.12 | Q | \| | \| | \| | V\| |
| 21+40 | 5.9515 | 0.15 | Q | \| | \| | \| | V\| |
| 21+45 | 5.9526 | 0.16 | Q | \| | \| | \| | V\| |
| 21+50 | 5.9536 | 0.15 | Q | \| | \| | \| | V\| |
| 21+55 | 5.9545 | 0.12 | Q | \| | \| | \| | V\| |
| 22+ 0 | 5.9552 | 0.11 | Q | \| | \| | \| | V\| |
| 22+ 5 | 5.9561 | 0.12 | Q | \| | \| | \| | V\| |
| 22+10 | 5.9571 | 0.15 | Q | \| | \| | \| | V\| |
| 22+15 | 5.9582 | 0.16 | Q | \| | \| | \| | V\| |
| 22+20 | 5.9592 | 0.15 | Q | \| | \| | \| | V\| |
| 22+25 | 5.9600 | 0.12 | Q | \| | \| | \| | V\| |
| 22+30 | 5.9608 | 0.11 | Q | \| | \| | \| | V\| |
| 22+35 | 5.9616 | 0.11 | Q | \| | \| | \| | V\| |
| 22+40 | 5.9623 | 0.11 | Q | \| | \| | \| | V\| |
| 22+45 | 5.9631 | 0.11 | Q | \| | \| | \| | V\| |
| 22+50 | 5.9638 | 0.11 | Q | \| | \| | \| | V\| |
| 22+55 | 5.9645 | 0.11 | Q | \| | \| | \| | V\| |
| 23+ 0 | 5.9653 | 0.11 | Q | \| | \| | \| | V\| |
| 23+ 5 | 5.9660 | 0.11 | Q | \| | \| | \| | V\| |
| 23+10 | 5.9668 | 0.11 | Q | \| | \| | \| | V\| |
| 23+15 | 5.9675 | 0.11 | Q | \| | \| | \| | V\| |
| 23+20 | 5.9683 | 0.11 | Q | \| | \| | \| | V\| |
| 23+25 | 5.9690 | 0.11 | Q | \| | \| | \| | V\| |
| 23+30 | 5.9698 | 0.11 | Q | \| | \| | \| | V\| |
| 23+35 | 5.9705 | 0.11 | Q | \| | \| | \| | V\| |
| 23+40 | 5.9712 | 0.11 | Q | \| | \| | \| | V\| |
| 23+45 | 5.9720 | 0.11 | Q | \| | \| | \| | V\| |
| 23+50 | 5.9727 | 0.11 | Q | \| | \| | \| | V\| |
| 23+55 | 5.9735 | 0.11 | Q | \| | \| | \| | V\| |

```
   24+ 0       5.9742      0.11  Q         |          |          |         V|
   24+ 5       5.9748      0.08  Q         |          |          |         V|
   24+10       5.9750      0.02  Q         |          |          |         V|
   24+15       5.9750      0.01  Q         |          |          |         V|
   24+20       5.9750      0.00  Q         |          |          |         V|
   24+25       5.9750      0.00  Q         |          |          |         V|
-------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX291100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 29
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 2.00(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.00(Ac.) = 0.003 Sq. Mi.
Length along longest watercourse = 596.00(Ft.)
Length along longest watercourse measured to centroid = 340.00(Ft.)
Length along longest watercourse = 0.113 Mi.
Length along longest watercourse measured to centroid = 0.064 Mi.
Difference in elevation = 182.00(Ft.)
Slope along watercourse = 1612.3490 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.032 Hr.
Lag time = 1.91 Min.
25% of lag time = 0.48 Min.
40% of lag time = 0.76 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.00 | 0.50 | 1.00 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.00 | 1.20 | 2.40 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2.000 | 84.00 | 0.000 |

Total Area Entered = 2.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

---

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 262.182 | 52.786 | 1.064 |
| 2 | 0.167 | 524.364 | 43.850 | 0.884 |
| 3 | 0.250 | 786.546 | 3.364 | 0.068 |
| | | Sum = 100.000 | Sum= | 2.016 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.086 | ( 0.544) | 0.519 |
| 2 | 0.17 | 4.30 | 0.619 | 0.086 | ( 0.557) | 0.533 |
| 3 | 0.25 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 4 | 0.33 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 5 | 0.42 | 5.80 | 0.835 | 0.086 | ( 0.752) | 0.749 |
| 6 | 0.50 | 6.50 | 0.936 | 0.086 | ( 0.842) | 0.850 |
| 7 | 0.58 | 7.40 | 1.066 | 0.086 | ( 0.959) | 0.980 |
| 8 | 0.67 | 8.60 | 1.238 | 0.086 | ( 1.115) | 1.153 |
| 9 | 0.75 | 12.30 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 10 | 0.83 | 29.10 | 4.190 | 0.086 | ( 3.771) | 4.105 |
| 11 | 0.92 | 6.80 | 0.979 | 0.086 | ( 0.881) | 0.893 |
| 12 | 1.00 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 13.4 |

Flood volume = Effective rainfall 1.11(In)
times area 2.0(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.014(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 8088.9 Cubic Feet
Total soil loss = 622.9 Cubic Feet

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Peak flow rate of this hydrograph = 5.938(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0038 | 0.55 | V Q | | | | |
| 0+10 | 0.0109 | 1.03 | \| V Q | | | | |
| 0+15 | 0.0190 | 1.18 | \| Q | | | | |
| 0+20 | 0.0278 | 1.27 | \| Q | | | | |
| 0+25 | 0.0374 | 1.40 | \| Q V | | | | |
| 0+30 | 0.0485 | 1.61 | \| Q V | | | | |
| 0+35 | 0.0612 | 1.85 | \| Q \| V | | | | |
| 0+40 | 0.0760 | 2.15 | \| Q \| V | | | | |
| 0+45 | 0.0959 | 2.88 | \| Q V | | | | |
| 0+50 | 0.1368 | 5.94 | \| \| \| Q V | | | | |
| 0+55 | 0.1691 | 4.70 | \| \| Q \| \| V | | |
| 1+ 0 | 0.1811 | 1.74 | \| Q \| \| V | |
| 1+ 5 | 0.1854 | 0.62 | \| Q \| \| V | |
| 1+10 | 0.1857 | 0.04 | Q \| \| \| V |

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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX293100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 29
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 2.00(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.00(Ac.) = 0.003 Sq. Mi.
Length along longest watercourse = 596.00(Ft.)
Length along longest watercourse measured to centroid = 340.00(Ft.)
Length along longest watercourse = 0.113 Mi.
Length along longest watercourse measured to centroid = 0.064 Mi.
Difference in elevation = 182.00(Ft.)
Slope along watercourse = 1612.3490 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.032 Hr.
Lag time = 1.91 Min.
25% of lag time = 0.48 Min.
40% of lag time = 0.76 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.00 | 0.80 | 1.60 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.00 | 1.80 | 3.60 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2.000 | 84.00 | 0.000 |

Total Area Entered = 2.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 262.182 | 52.786 | 1.064 |
| 2 | 0.167 | 524.364 | 43.850 | 0.884 |
| 3 | 0.250 | 786.546 | 3.364 | 0.068 |
| | | | Sum = 100.000 Sum= | 2.016 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.281 | 0.086 | ( 0.253) | 0.195 |
| 2 | 0.17 | 1.30 | 0.281 | 0.086 | ( 0.253) | 0.195 |
| 3 | 0.25 | 1.10 | 0.238 | 0.086 | ( 0.214) | 0.152 |
| 4 | 0.33 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 5 | 0.42 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 6 | 0.50 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 7 | 0.58 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 8 | 0.67 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 9 | 0.75 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 10 | 0.83 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 11 | 0.92 | 1.60 | 0.346 | 0.086 | ( 0.311) | 0.260 |
| 12 | 1.00 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 13 | 1.08 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 14 | 1.17 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 15 | 1.25 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 16 | 1.33 | 2.00 | 0.432 | 0.086 | ( 0.389) | 0.346 |
| 17 | 1.42 | 2.60 | 0.562 | 0.086 | ( 0.505) | 0.476 |
| 18 | 1.50 | 2.70 | 0.583 | 0.086 | ( 0.525) | 0.497 |
| 19 | 1.58 | 2.40 | 0.518 | 0.086 | ( 0.467) | 0.433 |
| 20 | 1.67 | 2.70 | 0.583 | 0.086 | ( 0.525) | 0.497 |
| 21 | 1.75 | 3.30 | 0.713 | 0.086 | ( 0.642) | 0.627 |
| 22 | 1.83 | 3.10 | 0.670 | 0.086 | ( 0.603) | 0.584 |
| 23 | 1.92 | 2.90 | 0.626 | 0.086 | ( 0.564) | 0.541 |
| 24 | 2.00 | 3.00 | 0.648 | 0.086 | ( 0.583) | 0.562 |
| 25 | 2.08 | 3.10 | 0.670 | 0.086 | ( 0.603) | 0.584 |
| 26 | 2.17 | 4.20 | 0.907 | 0.086 | ( 0.816) | 0.821 |
| 27 | 2.25 | 5.00 | 1.080 | 0.086 | ( 0.972) | 0.994 |
| 28 | 2.33 | 3.50 | 0.756 | 0.086 | ( 0.680) | 0.670 |
| 29 | 2.42 | 6.80 | 1.469 | 0.086 | ( 1.322) | 1.383 |
| 30 | 2.50 | 7.30 | 1.577 | 0.086 | ( 1.419) | 1.491 |
| 31 | 2.58 | 8.20 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 32 | 2.67 | 5.90 | 1.274 | 0.086 | ( 1.147) | 1.189 |
| 33 | 2.75 | 2.00 | 0.432 | 0.086 | ( 0.389) | 0.346 |
| 34 | 2.83 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 35 | 2.92 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 36 | 3.00 | 0.60 | 0.130 | 0.086 | ( 0.117) | 0.044 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 18.5 |

Flood volume = Effective rainfall 1.54(In)
times area 2.0(Ac.)/[(In)/(Ft.)] = 0.3(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.043(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 11199.2 Cubic Feet
Total soil loss = 1868.7 Cubic Feet

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Peak flow rate of this hydrograph = 3.206(CFS)

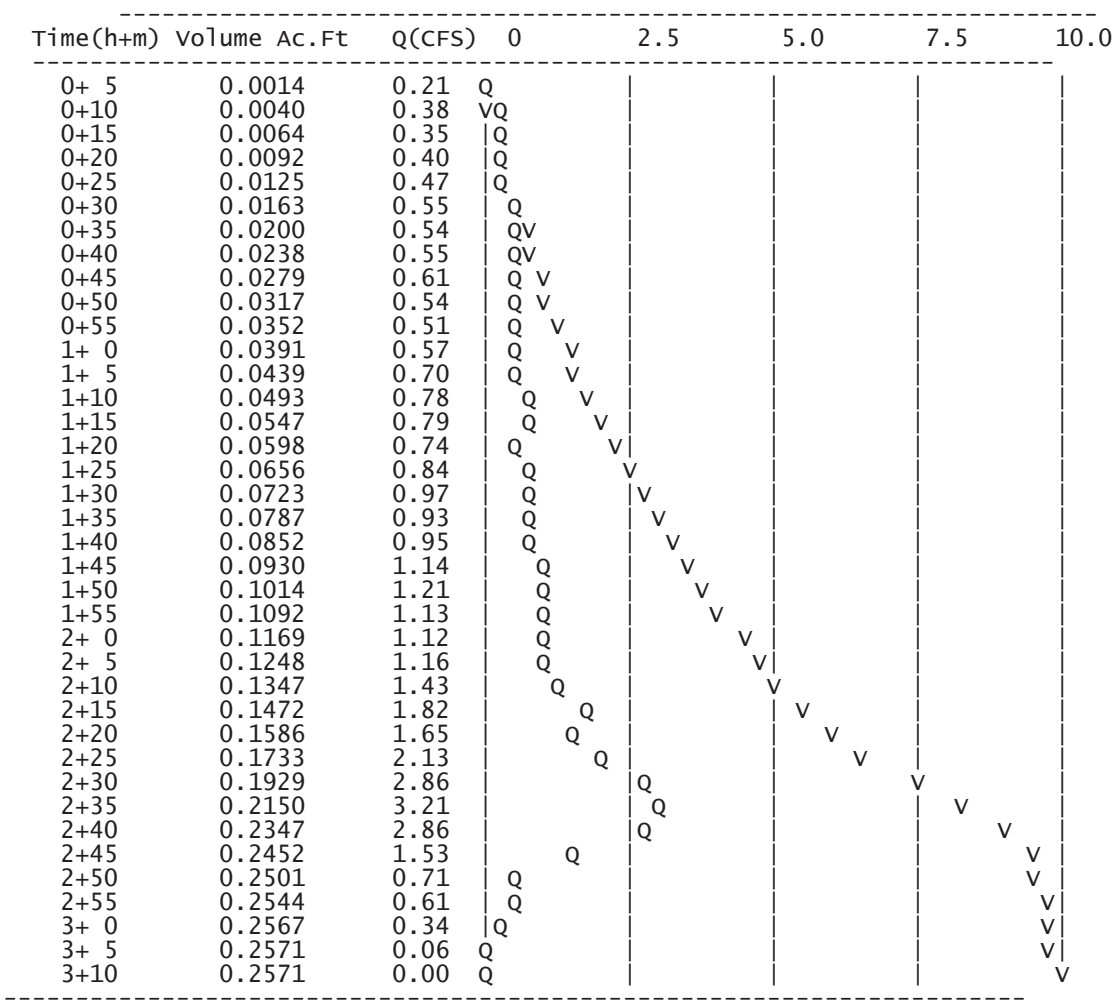
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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))


Time(h+m) Volume Ac.Ft Q(CFS) 0 2.5 5.0 7.5 10.0
0+ 5 0.0014 0.21
0+10 0.0040 0.38
0+15 0.0064 0.35
0+20 0.0092 0.40
0+25 0.0125 0.47
0+30 0.0163 0.55
0+35 0.0200 0.54
0+40 0.0238 0.55
0+45 0.0279 0.61
0+50 0.0317 0.54
0+55 0.0352 0.51
1+ 0 0.0391 0.57
1+ 5 0.0439 0.70
1+10 0.0493 0.78
1+15 0.0547 0.79
1+20 0.0598 0.74
1+25 0.0656 0.84
1+30 0.0723 0.97
1+35 0.0787 0.93
1+40 0.0852 0.95
1+45 0.0930 1.14
1+50 0.1014 1.21
1+55 0.1092 1.13
2+ 0 0.1169 1.12
2+ 5 0.1248 1.16
2+10 0.1347 1.43
2+15 0.1472 1.82
2+20 0.1586 1.65
2+25 0.1733 2.13
2+30 0.1929 2.86
2+35 0.2150 3.21
2+40 0.2347 2.86
2+45 0.2452 1.53
2+50 0.2501 0.71
2+55 0.2544 0.61
3+ 0 0.2567 0.34
3+ 5 0.2571 0.06
3+10 0.2571 0.00

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX296100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 29
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 2.00(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.00(Ac.) = 0.003 Sq. Mi.
Length along longest watercourse = 596.00(Ft.)
Length along longest watercourse measured to centroid = 340.00(Ft.)
Length along longest watercourse = 0.113 Mi.
Length along longest watercourse measured to centroid = 0.064 Mi.
Difference in elevation = 182.00(Ft.)
Slope along watercourse = 1612.3490 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.032 Hr.
Lag time = 1.91 Min.
25% of lag time = 0.48 Min.
40% of lag time = 0.76 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.00 | 1.13 | 2.26 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.00 | 2.50 | 5.00 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.130(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2.000 | 84.00 | 0.000 |

Total Area Entered = 2.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 262.182 | 52.786 | 1.064 |
| 2 | 0.167 | 524.364 | 43.850 | 0.884 |
| 3 | 0.250 | 786.546 | 3.364 | 0.068 |
| | | | Sum = 100.000 Sum= | 2.016 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.086 | ( 0.135) | 0.064 |
| 2 | 0.17 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 3 | 0.25 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 4 | 0.33 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 5 | 0.42 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 6 | 0.50 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 7 | 0.58 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 8 | 0.67 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 9 | 0.75 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 10 | 0.83 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 11 | 0.92 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 12 | 1.00 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 13 | 1.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 14 | 1.17 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 15 | 1.25 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 16 | 1.33 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 17 | 1.42 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 18 | 1.50 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 19 | 1.58 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 20 | 1.67 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 21 | 1.75 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 22 | 1.83 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 23 | 1.92 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 24 | 2.00 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 25 | 2.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 26 | 2.17 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 27 | 2.25 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 28 | 2.33 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 29 | 2.42 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 30 | 2.50 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 31 | 2.58 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 32 | 2.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 33 | 2.75 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 34 | 2.83 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 35 | 2.92 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 36 | 3.00 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 37 | 3.08 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 38 | 3.17 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 39 | 3.25 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 40 | 3.33 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 41 | 3.42 | 1.20 | 0.360 | 0.086 | ( 0.324) | 0.274 |
| 42 | 3.50 | 1.30 | 0.390 | 0.086 | ( 0.351) | 0.304 |
| 43 | 3.58 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 44 | 3.67 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 45 | 3.75 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 46 | 3.83 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 47 | 3.92 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 48 | 4.00 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 49 | 4.08 | 1.70 | 0.510 | 0.086 | ( 0.459) | 0.424 |
| 50 | 4.17 | 1.80 | 0.540 | 0.086 | ( 0.486) | 0.454 |
| 51 | 4.25 | 1.90 | 0.570 | 0.086 | ( 0.513) | 0.484 |
| 52 | 4.33 | 2.00 | 0.600 | 0.086 | ( 0.540) | 0.514 |
| 53 | 4.42 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 54 | 4.50 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 | |
| 55 | 4.58 | 2.20 | 0.660 | 0.086 | ( 0.594) | 0.574 | |
| 56 | 4.67 | 2.30 | 0.690 | 0.086 | ( 0.621) | 0.604 | |
| 57 | 4.75 | 2.40 | 0.720 | 0.086 | ( 0.648) | 0.634 | |
| 58 | 4.83 | 2.40 | 0.720 | 0.086 | ( 0.648) | 0.634 | |
| 59 | 4.92 | 2.50 | 0.750 | 0.086 | ( 0.675) | 0.664 | |
| 60 | 5.00 | 2.60 | 0.780 | 0.086 | ( 0.702) | 0.694 | |
| 61 | 5.08 | 3.10 | 0.930 | 0.086 | ( 0.837) | 0.844 | |
| 62 | 5.17 | 3.60 | 1.080 | 0.086 | ( 0.972) | 0.994 | |
| 63 | 5.25 | 3.90 | 1.170 | 0.086 | ( 1.053) | 1.084 | |
| 64 | 5.33 | 4.20 | 1.260 | 0.086 | ( 1.134) | 1.174 | |
| 65 | 5.42 | 4.70 | 1.410 | 0.086 | ( 1.269) | 1.324 | |
| 66 | 5.50 | 5.60 | 1.680 | 0.086 | ( 1.512) | 1.594 | |
| 67 | 5.58 | 1.90 | 0.570 | 0.086 | ( 0.513) | 0.484 | |
| 68 | 5.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 | |
| 69 | 5.75 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 | |
| 70 | 5.83 | 0.50 | 0.150 | 0.086 | ( 0.135) | 0.064 | |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.086) | 0.081 | 0.009 | |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.086) | 0.054 | 0.006 | |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.9

Flood volume = Effective rainfall 1.99(In)
times area 2.0(Ac.)/[(In)/(Ft.)] = 0.3(Ac.Ft)
Total soil loss = 0.51(In)
Total soil loss = 0.085(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 14434.6 Cubic Feet
Total soil loss = 3715.3 Cubic Feet

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Peak flow rate of this hydrograph = 2.948(CFS)

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6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0005 | 0.07 | Q | \| | \| | \| | \| |
| 0+10 | 0.0016 | 0.16 | Q | \| | \| | \| | \| |
| 0+15 | 0.0028 | 0.19 | Q | \| | \| | \| | \| |
| 0+20 | 0.0042 | 0.19 | Q | \| | \| | \| | \| |
| 0+25 | 0.0055 | 0.19 | Q | \| | \| | \| | \| |
| 0+30 | 0.0070 | 0.22 | Q | \| | \| | \| | \| |
| 0+35 | 0.0087 | 0.25 | QV | \| | \| | \| | \| |
| 0+40 | 0.0104 | 0.25 | \|Q | \| | \| | \| | \| |
| 0+45 | 0.0122 | 0.25 | \|Q | \| | \| | \| | \| |
| 0+50 | 0.0139 | 0.25 | \|Q | \| | \| | \| | \| |
| 0+55 | 0.0156 | 0.25 | \|Q | \| | \| | \| | \| |
| 1+ 0 | 0.0175 | 0.28 | \|QV | \| | \| | \| | \| |
| 1+ 5 | 0.0197 | 0.31 | \|QV | \| | \| | \| | \| |
| 1+10 | 0.0218 | 0.31 | \|QV | \| | \| | \| | \| |
| 1+15 | 0.0240 | 0.31 | \|QV | \| | \| | \| | \| |
| 1+20 | 0.0261 | 0.31 | \|Q V | \| | \| | \| | \| |
| 1+25 | 0.0282 | 0.31 | \|Q V | \| | \| | \| | \| |
| 1+30 | 0.0304 | 0.31 | \|Q V | \| | \| | \| | \| |
| 1+35 | 0.0325 | 0.31 | \|Q V | \| | \| | \| | \| |
| 1+40 | 0.0347 | 0.31 | \|Q V | \| | \| | \| | \| |
| 1+45 | 0.0368 | 0.31 | \|Q V | \| | \| | \| | \| |
| 1+50 | 0.0389 | 0.31 | \|Q V | \| | \| | \| | \| |
| 1+55 | 0.0411 | 0.31 | \|Q V | \| | \| | \| | \| |
| 2+ 0 | 0.0435 | 0.34 | \|Q V | \| | \| | \| | \| |
| 2+ 5 | 0.0458 | 0.34 | \|Q V | \| | \| | \| | \| |
| 2+10 | 0.0482 | 0.34 | \|Q V | \| | \| | \| | \| |
| 2+15 | 0.0507 | 0.37 | \|Q V | \| | \| | \| | \| |
| 2+20 | 0.0533 | 0.37 | \|Q V | \| | \| | \| | \| |
| 2+25 | 0.0558 | 0.37 | \|Q V | \| | \| | \| | \| |
| 2+30 | 0.0584 | 0.37 | \|Q V | \| | \| | \| | \| |
| 2+35 | 0.0609 | 0.37 | \|Q V | \| | \| | \| | \| |
| 2+40 | 0.0635 | 0.37 | \|Q V | \| | \| | \| | \| |
| 2+45 | 0.0663 | 0.40 | \|Q V | \| | \| | \| | \| |
| 2+50 | 0.0692 | 0.43 | \|Q V | \| | \| | \| | \| |
| 2+55 | 0.0722 | 0.43 | \|Q V | \| | \| | \| | \| |
| 3+ 0 | 0.0752 | 0.43 | \|Q V\| | \| | \| | \| | \| |
| 3+ 5 | 0.0782 | 0.43 | \|Q V\| | \| | \| | \| | \| |
| 3+10 | 0.0813 | 0.46 | \|Q V\| | \| | \| | \| | \| |

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    3+15       0.0847      0.49  |Q        V          |          |          |
    3+20       0.0881      0.49  |Q        V          |          |          |
    3+25       0.0917      0.52  | Q       |V         |          |          |
    3+30       0.0957      0.58  | Q       |V         |          |          |
    3+35       0.1002      0.64  | Q       | V        |          |          |
    3+40       0.1048      0.67  | Q       | V        |          |          |
    3+45       0.1097      0.71  | Q       |  V       |          |          |
    3+50       0.1147      0.73  | Q       |  V       |          |          |
    3+55       0.1200      0.77  |  Q      |   V      |          |          |
    4+ 0       0.1254      0.79  |  Q      |    V     |          |          |
    4+ 5       0.1311      0.83  |  Q      |    V     |          |          |
    4+10       0.1372      0.89  |  Q      |     V    |          |          |
    4+15       0.1438      0.95  |  Q      |      V   |          |          |
    4+20       0.1507      1.01  |   Q     |       V  |          |          |
    4+25       0.1580      1.07  |   Q     |        V |          |          |
    4+30       0.1656      1.10  |   Q     |        V |          |          |
    4+35       0.1734      1.13  |   Q     |         V          |          |
    4+40       0.1815      1.19  |   Q     |          |V         |          |
    4+45       0.1901      1.25  |   Q     |          | V        |          |
    4+50       0.1989      1.28  |    Q    |          |   V      |          |
    4+55       0.2080      1.31  |    Q    |          |    V     |          |
    5+ 0       0.2174      1.37  |    Q    |          |     V    |          |
    5+ 5       0.2281      1.56  |     Q   |          |      V   |          |
    5+10       0.2409      1.85  |      Q  |          |       V  |          |
    5+15       0.2553      2.09  |       Q |          |        V |          |
    5+20       0.2709      2.28  |        Q|          |          | V        |
    5+25       0.2883      2.52  |         Q          |          |   V      |
    5+30       0.3086      2.95  |          |Q        |          |     V    |
    5+35       0.3225      2.02  |        Q |         |          |      V   |
    5+40       0.3275      0.73  | Q       |         |          |       V  |
    5+45       0.3296      0.30  |Q        |         |          |       V  |
    5+50       0.3307      0.16  Q         |         |          |       V  |
    5+55       0.3312      0.07  Q         |         |          |       V  |
    6+ 0       0.3313      0.02  Q         |         |          |       V  |
    6+ 5       0.3314      0.01  Q         |         |          |       V  |
    6+10       0.3314      0.00  Q         |         |          |       V  |
-------------------------------------------------------------------------
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX2924100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 29
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 2.00(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.00(Ac.) = 0.003 Sq. Mi.
Length along longest watercourse = 596.00(Ft.)
Length along longest watercourse measured to centroid = 340.00(Ft.)
Length along longest watercourse = 0.113 Mi.
Length along longest watercourse measured to centroid = 0.064 Mi.
Difference in elevation = 182.00(Ft.)
Slope along watercourse = 1612.3490 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.032 Hr.
Lag time = 1.91 Min.
25% of lag time = 0.48 Min.
40% of lag time = 0.76 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.00 | 1.80 | 3.60 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.00 | 4.59 | 9.18 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.590(In)

Point rain (area averaged) = 4.590(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.590(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2.000 | 84.00 | 0.000 |

Total Area Entered = 2.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 262.182 | 52.786 | 1.064 |
| 2 | 0.167 | 524.364 | 43.850 | 0.884 |
| 3 | 0.250 | 786.546 | 3.364 | 0.068 |
| | | | Sum = 100.000 Sum= | 2.016 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.037 | ( 0.152) | 0.033 | 0.004 |
| 2 | 0.17 | 0.07 | 0.037 | ( 0.152) | 0.033 | 0.004 |
| 3 | 0.25 | 0.07 | 0.037 | ( 0.151) | 0.033 | 0.004 |
| 4 | 0.33 | 0.10 | 0.055 | ( 0.150) | 0.050 | 0.006 |
| 5 | 0.42 | 0.10 | 0.055 | ( 0.150) | 0.050 | 0.006 |
| 6 | 0.50 | 0.10 | 0.055 | ( 0.149) | 0.050 | 0.006 |
| 7 | 0.58 | 0.10 | 0.055 | ( 0.149) | 0.050 | 0.006 |
| 8 | 0.67 | 0.10 | 0.055 | ( 0.148) | 0.050 | 0.006 |
| 9 | 0.75 | 0.10 | 0.055 | ( 0.147) | 0.050 | 0.006 |
| 10 | 0.83 | 0.13 | 0.073 | ( 0.147) | 0.066 | 0.007 |
| 11 | 0.92 | 0.13 | 0.073 | ( 0.146) | 0.066 | 0.007 |
| 12 | 1.00 | 0.13 | 0.073 | ( 0.146) | 0.066 | 0.007 |
| 13 | 1.08 | 0.10 | 0.055 | ( 0.145) | 0.050 | 0.006 |
| 14 | 1.17 | 0.10 | 0.055 | ( 0.145) | 0.050 | 0.006 |
| 15 | 1.25 | 0.10 | 0.055 | ( 0.144) | 0.050 | 0.006 |
| 16 | 1.33 | 0.10 | 0.055 | ( 0.143) | 0.050 | 0.006 |
| 17 | 1.42 | 0.10 | 0.055 | ( 0.143) | 0.050 | 0.006 |
| 18 | 1.50 | 0.10 | 0.055 | ( 0.142) | 0.050 | 0.006 |
| 19 | 1.58 | 0.10 | 0.055 | ( 0.142) | 0.050 | 0.006 |
| 20 | 1.67 | 0.10 | 0.055 | ( 0.141) | 0.050 | 0.006 |
| 21 | 1.75 | 0.10 | 0.055 | ( 0.141) | 0.050 | 0.006 |
| 22 | 1.83 | 0.13 | 0.073 | ( 0.140) | 0.066 | 0.007 |
| 23 | 1.92 | 0.13 | 0.073 | ( 0.139) | 0.066 | 0.007 |
| 24 | 2.00 | 0.13 | 0.073 | ( 0.139) | 0.066 | 0.007 |
| 25 | 2.08 | 0.13 | 0.073 | ( 0.138) | 0.066 | 0.007 |
| 26 | 2.17 | 0.13 | 0.073 | ( 0.138) | 0.066 | 0.007 |
| 27 | 2.25 | 0.13 | 0.073 | ( 0.137) | 0.066 | 0.007 |
| 28 | 2.33 | 0.13 | 0.073 | ( 0.137) | 0.066 | 0.007 |
| 29 | 2.42 | 0.13 | 0.073 | ( 0.136) | 0.066 | 0.007 |
| 30 | 2.50 | 0.13 | 0.073 | ( 0.136) | 0.066 | 0.007 |
| 31 | 2.58 | 0.17 | 0.092 | ( 0.135) | 0.083 | 0.009 |
| 32 | 2.67 | 0.17 | 0.092 | ( 0.134) | 0.083 | 0.009 |
| 33 | 2.75 | 0.17 | 0.092 | ( 0.134) | 0.083 | 0.009 |
| 34 | 2.83 | 0.17 | 0.092 | ( 0.133) | 0.083 | 0.009 |
| 35 | 2.92 | 0.17 | 0.092 | ( 0.133) | 0.083 | 0.009 |
| 36 | 3.00 | 0.17 | 0.092 | ( 0.132) | 0.083 | 0.009 |
| 37 | 3.08 | 0.17 | 0.092 | ( 0.132) | 0.083 | 0.009 |
| 38 | 3.17 | 0.17 | 0.092 | ( 0.131) | 0.083 | 0.009 |
| 39 | 3.25 | 0.17 | 0.092 | ( 0.131) | 0.083 | 0.009 |
| 40 | 3.33 | 0.17 | 0.092 | ( 0.130) | 0.083 | 0.009 |
| 41 | 3.42 | 0.17 | 0.092 | ( 0.129) | 0.083 | 0.009 |
| 42 | 3.50 | 0.17 | 0.092 | ( 0.129) | 0.083 | 0.009 |
| 43 | 3.58 | 0.17 | 0.092 | ( 0.128) | 0.083 | 0.009 |
| 44 | 3.67 | 0.17 | 0.092 | ( 0.128) | 0.083 | 0.009 |
| 45 | 3.75 | 0.17 | 0.092 | ( 0.127) | 0.083 | 0.009 |
| 46 | 3.83 | 0.20 | 0.110 | ( 0.127) | 0.099 | 0.011 |
| 47 | 3.92 | 0.20 | 0.110 | ( 0.126) | 0.099 | 0.011 |
| 48 | 4.00 | 0.20 | 0.110 | ( 0.126) | 0.099 | 0.011 |
| 49 | 4.08 | 0.20 | 0.110 | ( 0.125) | 0.099 | 0.011 |
| 50 | 4.17 | 0.20 | 0.110 | ( 0.125) | 0.099 | 0.011 |
| 51 | 4.25 | 0.20 | 0.110 | ( 0.124) | 0.099 | 0.011 |
| 52 | 4.33 | 0.23 | 0.129 | ( 0.124) | 0.116 | 0.013 |
| 53 | 4.42 | 0.23 | 0.129 | ( 0.123) | 0.116 | 0.013 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 54 | 4.50 | 0.23 | 0.129 | ( | 0.123) | 0.116 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.129 | ( | 0.122) | 0.116 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.129 | ( | 0.121) | 0.116 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.129 | ( | 0.121) | 0.116 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.147 | | 0.120 | ( 0.132) | | 0.026 |
| 59 | 4.92 | 0.27 | 0.147 | | 0.120 | ( 0.132) | | 0.027 |
| 60 | 5.00 | 0.27 | 0.147 | | 0.119 | ( 0.132) | | 0.027 |
| 61 | 5.08 | 0.20 | 0.110 | ( | 0.119) | 0.099 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.110 | ( | 0.118) | 0.099 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.110 | ( | 0.118) | 0.099 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.129 | ( | 0.117) | 0.116 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.129 | ( | 0.117) | 0.116 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.129 | ( | 0.116) | 0.116 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.147 | | 0.116 | ( 0.132) | | 0.031 |
| 68 | 5.67 | 0.27 | 0.147 | | 0.115 | ( 0.132) | | 0.032 |
| 69 | 5.75 | 0.27 | 0.147 | | 0.115 | ( 0.132) | | 0.032 |
| 70 | 5.83 | 0.27 | 0.147 | | 0.114 | ( 0.132) | | 0.033 |
| 71 | 5.92 | 0.27 | 0.147 | | 0.114 | ( 0.132) | | 0.033 |
| 72 | 6.00 | 0.27 | 0.147 | | 0.113 | ( 0.132) | | 0.034 |
| 73 | 6.08 | 0.30 | 0.165 | | 0.113 | ( 0.149) | | 0.052 |
| 74 | 6.17 | 0.30 | 0.165 | | 0.112 | ( 0.149) | | 0.053 |
| 75 | 6.25 | 0.30 | 0.165 | | 0.112 | ( 0.149) | | 0.053 |
| 76 | 6.33 | 0.30 | 0.165 | | 0.111 | ( 0.149) | | 0.054 |
| 77 | 6.42 | 0.30 | 0.165 | | 0.111 | ( 0.149) | | 0.054 |
| 78 | 6.50 | 0.30 | 0.165 | | 0.110 | ( 0.149) | | 0.055 |
| 79 | 6.58 | 0.33 | 0.184 | | 0.110 | ( 0.165) | | 0.074 |
| 80 | 6.67 | 0.33 | 0.184 | | 0.109 | ( 0.165) | | 0.074 |
| 81 | 6.75 | 0.33 | 0.184 | | 0.109 | ( 0.165) | | 0.075 |
| 82 | 6.83 | 0.33 | 0.184 | | 0.108 | ( 0.165) | | 0.075 |
| 83 | 6.92 | 0.33 | 0.184 | | 0.108 | ( 0.165) | | 0.076 |
| 84 | 7.00 | 0.33 | 0.184 | | 0.107 | ( 0.165) | | 0.076 |
| 85 | 7.08 | 0.33 | 0.184 | | 0.107 | ( 0.165) | | 0.077 |
| 86 | 7.17 | 0.33 | 0.184 | | 0.106 | ( 0.165) | | 0.077 |
| 87 | 7.25 | 0.33 | 0.184 | | 0.106 | ( 0.165) | | 0.078 |
| 88 | 7.33 | 0.37 | 0.202 | | 0.105 | ( 0.182) | | 0.097 |
| 89 | 7.42 | 0.37 | 0.202 | | 0.105 | ( 0.182) | | 0.097 |
| 90 | 7.50 | 0.37 | 0.202 | | 0.104 | ( 0.182) | | 0.098 |
| 91 | 7.58 | 0.40 | 0.220 | | 0.104 | ( 0.198) | | 0.116 |
| 92 | 7.67 | 0.40 | 0.220 | | 0.103 | ( 0.198) | | 0.117 |
| 93 | 7.75 | 0.40 | 0.220 | | 0.103 | ( 0.198) | | 0.117 |
| 94 | 7.83 | 0.43 | 0.239 | | 0.102 | ( 0.215) | | 0.136 |
| 95 | 7.92 | 0.43 | 0.239 | | 0.102 | ( 0.215) | | 0.137 |
| 96 | 8.00 | 0.43 | 0.239 | | 0.102 | ( 0.215) | | 0.137 |
| 97 | 8.08 | 0.50 | 0.275 | | 0.101 | ( 0.248) | | 0.174 |
| 98 | 8.17 | 0.50 | 0.275 | | 0.101 | ( 0.248) | | 0.175 |
| 99 | 8.25 | 0.50 | 0.275 | | 0.100 | ( 0.248) | | 0.175 |
| 100 | 8.33 | 0.50 | 0.275 | | 0.100 | ( 0.248) | | 0.176 |
| 101 | 8.42 | 0.50 | 0.275 | | 0.099 | ( 0.248) | | 0.176 |
| 102 | 8.50 | 0.50 | 0.275 | | 0.099 | ( 0.248) | | 0.177 |
| 103 | 8.58 | 0.53 | 0.294 | | 0.098 | ( 0.264) | | 0.195 |
| 104 | 8.67 | 0.53 | 0.294 | | 0.098 | ( 0.264) | | 0.196 |
| 105 | 8.75 | 0.53 | 0.294 | | 0.097 | ( 0.264) | | 0.196 |
| 106 | 8.83 | 0.57 | 0.312 | | 0.097 | ( 0.281) | | 0.215 |
| 107 | 8.92 | 0.57 | 0.312 | | 0.096 | ( 0.281) | | 0.216 |
| 108 | 9.00 | 0.57 | 0.312 | | 0.096 | ( 0.281) | | 0.216 |
| 109 | 9.08 | 0.63 | 0.349 | | 0.096 | ( 0.314) | | 0.253 |
| 110 | 9.17 | 0.63 | 0.349 | | 0.095 | ( 0.314) | | 0.254 |
| 111 | 9.25 | 0.63 | 0.349 | | 0.095 | ( 0.314) | | 0.254 |
| 112 | 9.33 | 0.67 | 0.367 | | 0.094 | ( 0.330) | | 0.273 |
| 113 | 9.42 | 0.67 | 0.367 | | 0.094 | ( 0.330) | | 0.273 |
| 114 | 9.50 | 0.67 | 0.367 | | 0.093 | ( 0.330) | | 0.274 |
| 115 | 9.58 | 0.70 | 0.386 | | 0.093 | ( 0.347) | | 0.293 |
| 116 | 9.67 | 0.70 | 0.386 | | 0.092 | ( 0.347) | | 0.293 |
| 117 | 9.75 | 0.70 | 0.386 | | 0.092 | ( 0.347) | | 0.294 |
| 118 | 9.83 | 0.73 | 0.404 | | 0.091 | ( 0.364) | | 0.312 |
| 119 | 9.92 | 0.73 | 0.404 | | 0.091 | ( 0.364) | | 0.313 |
| 120 | 10.00 | 0.73 | 0.404 | | 0.091 | ( 0.364) | | 0.313 |
| 121 | 10.08 | 0.50 | 0.275 | | 0.090 | ( 0.248) | | 0.185 |
| 122 | 10.17 | 0.50 | 0.275 | | 0.090 | ( 0.248) | | 0.186 |
| 123 | 10.25 | 0.50 | 0.275 | | 0.089 | ( 0.248) | | 0.186 |
| 124 | 10.33 | 0.50 | 0.275 | | 0.089 | ( 0.248) | | 0.187 |
| 125 | 10.42 | 0.50 | 0.275 | | 0.088 | ( 0.248) | | 0.187 |
| 126 | 10.50 | 0.50 | 0.275 | | 0.088 | ( 0.248) | | 0.187 |
| 127 | 10.58 | 0.67 | 0.367 | | 0.088 | ( 0.330) | | 0.280 |
| 128 | 10.67 | 0.67 | 0.367 | | 0.087 | ( 0.330) | | 0.280 |
| 129 | 10.75 | 0.67 | 0.367 | | 0.087 | ( 0.330) | | 0.280 |
| 130 | 10.83 | 0.67 | 0.367 | | 0.086 | ( 0.330) | | 0.281 |
| 131 | 10.92 | 0.67 | 0.367 | | 0.086 | ( 0.330) | | 0.281 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 132 | 11.00 | 0.67 | 0.367 | 0.085 | ( 0.330) | 0.282 |
| 133 | 11.08 | 0.63 | 0.349 | 0.085 | ( 0.314) | 0.264 |
| 134 | 11.17 | 0.63 | 0.349 | 0.085 | ( 0.314) | 0.264 |
| 135 | 11.25 | 0.63 | 0.349 | 0.084 | ( 0.314) | 0.265 |
| 136 | 11.33 | 0.63 | 0.349 | 0.084 | ( 0.314) | 0.265 |
| 137 | 11.42 | 0.63 | 0.349 | 0.083 | ( 0.314) | 0.265 |
| 138 | 11.50 | 0.63 | 0.349 | 0.083 | ( 0.314) | 0.266 |
| 139 | 11.58 | 0.57 | 0.312 | 0.083 | ( 0.281) | 0.230 |
| 140 | 11.67 | 0.57 | 0.312 | 0.082 | ( 0.281) | 0.230 |
| 141 | 11.75 | 0.57 | 0.312 | 0.082 | ( 0.281) | 0.230 |
| 142 | 11.83 | 0.60 | 0.330 | 0.081 | ( 0.297) | 0.249 |
| 143 | 11.92 | 0.60 | 0.330 | 0.081 | ( 0.297) | 0.250 |
| 144 | 12.00 | 0.60 | 0.330 | 0.080 | ( 0.297) | 0.250 |
| 145 | 12.08 | 0.83 | 0.459 | 0.080 | ( 0.413) | 0.379 |
| 146 | 12.17 | 0.83 | 0.459 | 0.080 | ( 0.413) | 0.379 |
| 147 | 12.25 | 0.83 | 0.459 | 0.079 | ( 0.413) | 0.380 |
| 148 | 12.33 | 0.87 | 0.477 | 0.079 | ( 0.430) | 0.398 |
| 149 | 12.42 | 0.87 | 0.477 | 0.078 | ( 0.430) | 0.399 |
| 150 | 12.50 | 0.87 | 0.477 | 0.078 | ( 0.430) | 0.399 |
| 151 | 12.58 | 0.93 | 0.514 | 0.078 | ( 0.463) | 0.436 |
| 152 | 12.67 | 0.93 | 0.514 | 0.077 | ( 0.463) | 0.437 |
| 153 | 12.75 | 0.93 | 0.514 | 0.077 | ( 0.463) | 0.437 |
| 154 | 12.83 | 0.97 | 0.532 | 0.077 | ( 0.479) | 0.456 |
| 155 | 12.92 | 0.97 | 0.532 | 0.076 | ( 0.479) | 0.456 |
| 156 | 13.00 | 0.97 | 0.532 | 0.076 | ( 0.479) | 0.457 |
| 157 | 13.08 | 1.13 | 0.624 | 0.075 | ( 0.562) | 0.549 |
| 158 | 13.17 | 1.13 | 0.624 | 0.075 | ( 0.562) | 0.549 |
| 159 | 13.25 | 1.13 | 0.624 | 0.075 | ( 0.562) | 0.550 |
| 160 | 13.33 | 1.13 | 0.624 | 0.074 | ( 0.562) | 0.550 |
| 161 | 13.42 | 1.13 | 0.624 | 0.074 | ( 0.562) | 0.550 |
| 162 | 13.50 | 1.13 | 0.624 | 0.073 | ( 0.562) | 0.551 |
| 163 | 13.58 | 0.77 | 0.422 | 0.073 | ( 0.380) | 0.349 |
| 164 | 13.67 | 0.77 | 0.422 | 0.073 | ( 0.380) | 0.350 |
| 165 | 13.75 | 0.77 | 0.422 | 0.072 | ( 0.380) | 0.350 |
| 166 | 13.83 | 0.77 | 0.422 | 0.072 | ( 0.380) | 0.350 |
| 167 | 13.92 | 0.77 | 0.422 | 0.072 | ( 0.380) | 0.351 |
| 168 | 14.00 | 0.77 | 0.422 | 0.071 | ( 0.380) | 0.351 |
| 169 | 14.08 | 0.90 | 0.496 | 0.071 | ( 0.446) | 0.425 |
| 170 | 14.17 | 0.90 | 0.496 | 0.071 | ( 0.446) | 0.425 |
| 171 | 14.25 | 0.90 | 0.496 | 0.070 | ( 0.446) | 0.426 |
| 172 | 14.33 | 0.87 | 0.477 | 0.070 | ( 0.430) | 0.408 |
| 173 | 14.42 | 0.87 | 0.477 | 0.069 | ( 0.430) | 0.408 |
| 174 | 14.50 | 0.87 | 0.477 | 0.069 | ( 0.430) | 0.408 |
| 175 | 14.58 | 0.87 | 0.477 | 0.069 | ( 0.430) | 0.409 |
| 176 | 14.67 | 0.87 | 0.477 | 0.068 | ( 0.430) | 0.409 |
| 177 | 14.75 | 0.87 | 0.477 | 0.068 | ( 0.430) | 0.409 |
| 178 | 14.83 | 0.83 | 0.459 | 0.068 | ( 0.413) | 0.391 |
| 179 | 14.92 | 0.83 | 0.459 | 0.067 | ( 0.413) | 0.392 |
| 180 | 15.00 | 0.83 | 0.459 | 0.067 | ( 0.413) | 0.392 |
| 181 | 15.08 | 0.80 | 0.441 | 0.067 | ( 0.397) | 0.374 |
| 182 | 15.17 | 0.80 | 0.441 | 0.066 | ( 0.397) | 0.374 |
| 183 | 15.25 | 0.80 | 0.441 | 0.066 | ( 0.397) | 0.375 |
| 184 | 15.33 | 0.77 | 0.422 | 0.066 | ( 0.380) | 0.357 |
| 185 | 15.42 | 0.77 | 0.422 | 0.065 | ( 0.380) | 0.357 |
| 186 | 15.50 | 0.77 | 0.422 | 0.065 | ( 0.380) | 0.357 |
| 187 | 15.58 | 0.63 | 0.349 | 0.065 | ( 0.314) | 0.284 |
| 188 | 15.67 | 0.63 | 0.349 | 0.064 | ( 0.314) | 0.285 |
| 189 | 15.75 | 0.63 | 0.349 | 0.064 | ( 0.314) | 0.285 |
| 190 | 15.83 | 0.63 | 0.349 | 0.064 | ( 0.314) | 0.285 |
| 191 | 15.92 | 0.63 | 0.349 | 0.063 | ( 0.314) | 0.286 |
| 192 | 16.00 | 0.63 | 0.349 | 0.063 | ( 0.314) | 0.286 |
| 193 | 16.08 | 0.13 | 0.073 | 0.063 | ( 0.066) | 0.011 |
| 194 | 16.17 | 0.13 | 0.073 | 0.062 | ( 0.066) | 0.011 |
| 195 | 16.25 | 0.13 | 0.073 | 0.062 | ( 0.066) | 0.011 |
| 196 | 16.33 | 0.13 | 0.073 | 0.062 | ( 0.066) | 0.012 |
| 197 | 16.42 | 0.13 | 0.073 | 0.061 | ( 0.066) | 0.012 |
| 198 | 16.50 | 0.13 | 0.073 | 0.061 | ( 0.066) | 0.012 |
| 199 | 16.58 | 0.10 | 0.055 | ( 0.061) | 0.050 | 0.006 |
| 200 | 16.67 | 0.10 | 0.055 | ( 0.060) | 0.050 | 0.006 |
| 201 | 16.75 | 0.10 | 0.055 | ( 0.060) | 0.050 | 0.006 |
| 202 | 16.83 | 0.10 | 0.055 | ( 0.060) | 0.050 | 0.006 |
| 203 | 16.92 | 0.10 | 0.055 | ( 0.060) | 0.050 | 0.006 |
| 204 | 17.00 | 0.10 | 0.055 | ( 0.059) | 0.050 | 0.006 |
| 205 | 17.08 | 0.17 | 0.092 | 0.059 | ( 0.083) | 0.033 |
| 206 | 17.17 | 0.17 | 0.092 | 0.059 | ( 0.083) | 0.033 |
| 207 | 17.25 | 0.17 | 0.092 | 0.058 | ( 0.083) | 0.033 |
| 208 | 17.33 | 0.17 | 0.092 | 0.058 | ( 0.083) | 0.034 |
| 209 | 17.42 | 0.17 | 0.092 | 0.058 | ( 0.083) | 0.034 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 210 | 17.50 | 0.17 | 0.092 | | 0.058 | ( | 0.083) | 0.034 |
| 211 | 17.58 | 0.17 | 0.092 | | 0.057 | ( | 0.083) | 0.035 |
| 212 | 17.67 | 0.17 | 0.092 | | 0.057 | ( | 0.083) | 0.035 |
| 213 | 17.75 | 0.17 | 0.092 | | 0.057 | ( | 0.083) | 0.035 |
| 214 | 17.83 | 0.13 | 0.073 | | 0.056 | ( | 0.066) | 0.017 |
| 215 | 17.92 | 0.13 | 0.073 | | 0.056 | ( | 0.066) | 0.017 |
| 216 | 18.00 | 0.13 | 0.073 | | 0.056 | ( | 0.066) | 0.018 |
| 217 | 18.08 | 0.13 | 0.073 | | 0.056 | ( | 0.066) | 0.018 |
| 218 | 18.17 | 0.13 | 0.073 | | 0.055 | ( | 0.066) | 0.018 |
| 219 | 18.25 | 0.13 | 0.073 | | 0.055 | ( | 0.066) | 0.018 |
| 220 | 18.33 | 0.13 | 0.073 | | 0.055 | ( | 0.066) | 0.019 |
| 221 | 18.42 | 0.13 | 0.073 | | 0.054 | ( | 0.066) | 0.019 |
| 222 | 18.50 | 0.13 | 0.073 | | 0.054 | ( | 0.066) | 0.019 |
| 223 | 18.58 | 0.10 | 0.055 | ( | 0.054) | | 0.050 | 0.006 |
| 224 | 18.67 | 0.10 | 0.055 | ( | 0.054) | | 0.050 | 0.006 |
| 225 | 18.75 | 0.10 | 0.055 | ( | 0.053) | | 0.050 | 0.006 |
| 226 | 18.83 | 0.07 | 0.037 | ( | 0.053) | | 0.033 | 0.004 |
| 227 | 18.92 | 0.07 | 0.037 | ( | 0.053) | | 0.033 | 0.004 |
| 228 | 19.00 | 0.07 | 0.037 | ( | 0.053) | | 0.033 | 0.004 |
| 229 | 19.08 | 0.10 | 0.055 | ( | 0.052) | | 0.050 | 0.006 |
| 230 | 19.17 | 0.10 | 0.055 | ( | 0.052) | | 0.050 | 0.006 |
| 231 | 19.25 | 0.10 | 0.055 | ( | 0.052) | | 0.050 | 0.006 |
| 232 | 19.33 | 0.13 | 0.073 | | 0.052 | ( | 0.066) | 0.022 |
| 233 | 19.42 | 0.13 | 0.073 | | 0.051 | ( | 0.066) | 0.022 |
| 234 | 19.50 | 0.13 | 0.073 | | 0.051 | ( | 0.066) | 0.022 |
| 235 | 19.58 | 0.10 | 0.055 | ( | 0.051) | | 0.050 | 0.006 |
| 236 | 19.67 | 0.10 | 0.055 | ( | 0.051) | | 0.050 | 0.006 |
| 237 | 19.75 | 0.10 | 0.055 | ( | 0.050) | | 0.050 | 0.006 |
| 238 | 19.83 | 0.07 | 0.037 | ( | 0.050) | | 0.033 | 0.004 |
| 239 | 19.92 | 0.07 | 0.037 | ( | 0.050) | | 0.033 | 0.004 |
| 240 | 20.00 | 0.07 | 0.037 | ( | 0.050) | | 0.033 | 0.004 |
| 241 | 20.08 | 0.10 | 0.055 | ( | 0.050) | | 0.050 | 0.006 |
| 242 | 20.17 | 0.10 | 0.055 | | 0.049 | ( | 0.050) | 0.006 |
| 243 | 20.25 | 0.10 | 0.055 | | 0.049 | ( | 0.050) | 0.006 |
| 244 | 20.33 | 0.10 | 0.055 | | 0.049 | ( | 0.050) | 0.006 |
| 245 | 20.42 | 0.10 | 0.055 | | 0.049 | ( | 0.050) | 0.006 |
| 246 | 20.50 | 0.10 | 0.055 | | 0.049 | ( | 0.050) | 0.007 |
| 247 | 20.58 | 0.10 | 0.055 | | 0.048 | ( | 0.050) | 0.007 |
| 248 | 20.67 | 0.10 | 0.055 | | 0.048 | ( | 0.050) | 0.007 |
| 249 | 20.75 | 0.10 | 0.055 | | 0.048 | ( | 0.050) | 0.007 |
| 250 | 20.83 | 0.07 | 0.037 | ( | 0.048) | | 0.033 | 0.004 |
| 251 | 20.92 | 0.07 | 0.037 | ( | 0.048) | | 0.033 | 0.004 |
| 252 | 21.00 | 0.07 | 0.037 | ( | 0.047) | | 0.033 | 0.004 |
| 253 | 21.08 | 0.10 | 0.055 | | 0.047 | ( | 0.050) | 0.008 |
| 254 | 21.17 | 0.10 | 0.055 | | 0.047 | ( | 0.050) | 0.008 |
| 255 | 21.25 | 0.10 | 0.055 | | 0.047 | ( | 0.050) | 0.008 |
| 256 | 21.33 | 0.07 | 0.037 | ( | 0.047) | | 0.033 | 0.004 |
| 257 | 21.42 | 0.07 | 0.037 | ( | 0.046) | | 0.033 | 0.004 |
| 258 | 21.50 | 0.07 | 0.037 | ( | 0.046) | | 0.033 | 0.004 |
| 259 | 21.58 | 0.10 | 0.055 | | 0.046 | ( | 0.050) | 0.009 |
| 260 | 21.67 | 0.10 | 0.055 | | 0.046 | ( | 0.050) | 0.009 |
| 261 | 21.75 | 0.10 | 0.055 | | 0.046 | ( | 0.050) | 0.009 |
| 262 | 21.83 | 0.07 | 0.037 | ( | 0.046) | | 0.033 | 0.004 |
| 263 | 21.92 | 0.07 | 0.037 | ( | 0.045) | | 0.033 | 0.004 |
| 264 | 22.00 | 0.07 | 0.037 | ( | 0.045) | | 0.033 | 0.004 |
| 265 | 22.08 | 0.10 | 0.055 | | 0.045 | ( | 0.050) | 0.010 |
| 266 | 22.17 | 0.10 | 0.055 | | 0.045 | ( | 0.050) | 0.010 |
| 267 | 22.25 | 0.10 | 0.055 | | 0.045 | ( | 0.050) | 0.010 |
| 268 | 22.33 | 0.07 | 0.037 | ( | 0.045) | | 0.033 | 0.004 |
| 269 | 22.42 | 0.07 | 0.037 | ( | 0.045) | | 0.033 | 0.004 |
| 270 | 22.50 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 271 | 22.58 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 272 | 22.67 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 273 | 22.75 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 274 | 22.83 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 275 | 22.92 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 276 | 23.00 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 277 | 23.08 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 278 | 23.17 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 279 | 23.25 | 0.07 | 0.037 | ( | 0.043) | | 0.033 | 0.004 |
| 280 | 23.33 | 0.07 | 0.037 | ( | 0.043) | | 0.033 | 0.004 |
| 281 | 23.42 | 0.07 | 0.037 | ( | 0.043) | | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.037 | ( | 0.043) | | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.037 | ( | 0.043) | | 0.033 | 0.004 |
| 284 | 23.67 | 0.07 | 0.037 | ( | 0.043) | | 0.033 | 0.004 |
| 285 | 23.75 | 0.07 | 0.037 | ( | 0.043) | | 0.033 | 0.004 |
| 286 | 23.83 | 0.07 | 0.037 | ( | 0.043) | | 0.033 | 0.004 |
| 287 | 23.92 | 0.07 | 0.037 | ( | 0.043) | | 0.033 | 0.004 |

288 24.00 0.07 0.037 ( 0.043) 0.033 0.004
(Loss Rate Not Used)
Sum = 100.0 Sum = 34.6
Flood volume = Effective rainfall 2.88(In)
times area 2.0(Ac.)/[(In)/(Ft.)] = 0.5(Ac.Ft)
Total soil loss = 1.71(In)
Total soil loss = 0.285(Ac.Ft)
Total rainfall = 4.59(In)
Flood volume = 20908.9 Cubic Feet
Total soil loss = 12414.4 Cubic Feet

Peak flow rate of this hydrograph = 1.110(CFS)

24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0000 | 0.00 | Q | | | | |
| 0+10 | 0.0001 | 0.01 | Q | | | | |
| 0+15 | 0.0001 | 0.01 | Q | | | | |
| 0+20 | 0.0002 | 0.01 | Q | | | | |
| 0+25 | 0.0003 | 0.01 | Q | | | | |
| 0+30 | 0.0003 | 0.01 | Q | | | | |
| 0+35 | 0.0004 | 0.01 | Q | | | | |
| 0+40 | 0.0005 | 0.01 | Q | | | | |
| 0+45 | 0.0006 | 0.01 | Q | | | | |
| 0+50 | 0.0007 | 0.01 | Q | | | | |
| 0+55 | 0.0008 | 0.01 | Q | | | | |
| 1+ 0 | 0.0009 | 0.01 | Q | | | | |
| 1+ 5 | 0.0010 | 0.01 | Q | | | | |
| 1+10 | 0.0010 | 0.01 | Q | | | | |
| 1+15 | 0.0011 | 0.01 | Q | | | | |
| 1+20 | 0.0012 | 0.01 | Q | | | | |
| 1+25 | 0.0013 | 0.01 | Q | | | | |
| 1+30 | 0.0013 | 0.01 | Q | | | | |
| 1+35 | 0.0014 | 0.01 | Q | | | | |
| 1+40 | 0.0015 | 0.01 | Q | | | | |
| 1+45 | 0.0016 | 0.01 | Q | | | | |
| 1+50 | 0.0017 | 0.01 | Q | | | | |
| 1+55 | 0.0018 | 0.01 | Q | | | | |
| 2+ 0 | 0.0019 | 0.01 | Q | | | | |
| 2+ 5 | 0.0020 | 0.01 | Q | | | | |
| 2+10 | 0.0021 | 0.01 | Q | | | | |
| 2+15 | 0.0022 | 0.01 | Q | | | | |
| 2+20 | 0.0023 | 0.01 | Q | | | | |
| 2+25 | 0.0024 | 0.01 | Q | | | | |
| 2+30 | 0.0025 | 0.01 | Q | | | | |
| 2+35 | 0.0026 | 0.02 | Q | | | | |
| 2+40 | 0.0027 | 0.02 | Q | | | | |
| 2+45 | 0.0028 | 0.02 | Q | | | | |
| 2+50 | 0.0030 | 0.02 | Q | | | | |
| 2+55 | 0.0031 | 0.02 | Q | | | | |
| 3+ 0 | 0.0032 | 0.02 | Q | | | | |
| 3+ 5 | 0.0034 | 0.02 | Q | | | | |
| 3+10 | 0.0035 | 0.02 | Q | | | | |
| 3+15 | 0.0036 | 0.02 | Q | | | | |
| 3+20 | 0.0037 | 0.02 | Q | | | | |
| 3+25 | 0.0039 | 0.02 | Q | | | | |
| 3+30 | 0.0040 | 0.02 | Q | | | | |
| 3+35 | 0.0041 | 0.02 | Q | | | | |
| 3+40 | 0.0042 | 0.02 | Q | | | | |
| 3+45 | 0.0044 | 0.02 | Q | | | | |
| 3+50 | 0.0045 | 0.02 | Q | | | | |
| 3+55 | 0.0047 | 0.02 | Q | | | | |
| 4+ 0 | 0.0048 | 0.02 | Q | | | | |
| 4+ 5 | 0.0050 | 0.02 | Q | | | | |
| 4+10 | 0.0051 | 0.02 | Q | | | | |
| 4+15 | 0.0053 | 0.02 | Q | | | | |
| 4+20 | 0.0054 | 0.02 | Q | | | | |
| 4+25 | 0.0056 | 0.03 | Q | | | | |
| 4+30 | 0.0058 | 0.03 | Q | | | | |
| 4+35 | 0.0060 | 0.03 | Q | | | | |
| 4+40 | 0.0062 | 0.03 | Q | | | | |

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 4+45       0.0063      0.03  Q          |          |          |          |
 4+50       0.0066      0.04  Q          |          |          |          |
 4+55       0.0070      0.05  Q          |          |          |          |
 5+ 0       0.0074      0.05  Q          |          |          |          |
 5+ 5       0.0076      0.04  Q          |          |          |          |
 5+10       0.0078      0.02  Q          |          |          |          |
 5+15       0.0079      0.02  Q          |          |          |          |
 5+20       0.0081      0.02  Q          |          |          |          |
 5+25       0.0083      0.03  Q          |          |          |          |
 5+30       0.0085      0.03  Q          |          |          |          |
 5+35       0.0088      0.05  Q          |          |          |          |
 5+40       0.0092      0.06  Q          |          |          |          |
 5+45       0.0096      0.06  Q          |          |          |          |
 5+50       0.0101      0.07  Q          |          |          |          |
 5+55       0.0105      0.07  Q          |          |          |          |
 6+ 0       0.0110      0.07  Q          |          |          |          |
 6+ 5       0.0116      0.09  Q          |          |          |          |
 6+10       0.0123      0.11  QV         |          |          |          |
 6+15       0.0131      0.11  QV         |          |          |          |
 6+20       0.0138      0.11  QV         |          |          |          |
 6+25       0.0146      0.11  QV         |          |          |          |
 6+30       0.0153      0.11  QV         |          |          |          |
 6+35       0.0162      0.13  QV         |          |          |          |
 6+40       0.0173      0.15  QV         |          |          |          |
 6+45       0.0183      0.15  QV         |          |          |          |
 6+50       0.0193      0.15  QV         |          |          |          |
 6+55       0.0204      0.15  QV         |          |          |          |
 7+ 0       0.0214      0.15  QV         |          |          |          |
 7+ 5       0.0225      0.15  QV         |          |          |          |
 7+10       0.0236      0.16  QV         |          |          |          |
 7+15       0.0246      0.16  Q V        |          |          |          |
 7+20       0.0259      0.18  Q V        |          |          |          |
 7+25       0.0272      0.19  Q V        |          |          |          |
 7+30       0.0286      0.20  Q V        |          |          |          |
 7+35       0.0300      0.22  Q V        |          |          |          |
 7+40       0.0317      0.23  Q V        |          |          |          |
 7+45       0.0333      0.24  Q V        |          |          |          |
 7+50       0.0351      0.26  |QV        |          |          |          |
 7+55       0.0369      0.27  |Q V       |          |          |          |
 8+ 0       0.0388      0.28  |Q V       |          |          |          |
 8+ 5       0.0410      0.32  |Q V       |          |          |          |
 8+10       0.0434      0.35  |Q V       |          |          |          |
 8+15       0.0459      0.35  |Q V       |          |          |          |
 8+20       0.0483      0.35  |Q  V      |          |          |          |
 8+25       0.0507      0.35  |Q  V      |          |          |          |
 8+30       0.0532      0.36  |Q  V      |          |          |          |
 8+35       0.0558      0.38  |Q  V      |          |          |          |
 8+40       0.0585      0.39  |Q  V      |          |          |          |
 8+45       0.0612      0.40  |Q   V     |          |          |          |
 8+50       0.0641      0.42  |Q   V     |          |          |          |
 8+55       0.0671      0.43  |Q   V     |          |          |          |
 9+ 0       0.0701      0.44  |Q   V     |          |          |          |
 9+ 5       0.0733      0.48  |Q    V    |          |          |          |
 9+10       0.0768      0.51  | Q   V    |          |          |          |
 9+15       0.0804      0.51  | Q   V    |          |          |          |
 9+20       0.0840      0.53  | Q    V   |          |          |          |
 9+25       0.0878      0.55  | Q    V   |          |          |          |
 9+30       0.0916      0.55  | Q    V   |          |          |          |
 9+35       0.0956      0.57  | Q    V   |          |          |          |
 9+40       0.0996      0.59  | Q     V  |          |          |          |
 9+45       0.1037      0.59  | Q     V  |          |          |          |
 9+50       0.1079      0.61  | Q     V  |          |          |          |
 9+55       0.1123      0.63  | Q      V |          |          |          |
10+ 0       0.1166      0.63  | Q      V |          |          |          |
10+ 5       0.1200      0.50  |Q        V|          |          |          |
10+10       0.1226      0.38  |Q        V|          |          |          |
10+15       0.1252      0.37  |Q        V|          |          |          |
10+20       0.1278      0.38  |Q        V|          |          |          |
10+25       0.1304      0.38  |Q        V|          |          |          |
10+30       0.1330      0.38  |Q        |V          |          |          |
10+35       0.1363      0.48  |Q        |V          |          |          |
10+40       0.1401      0.56  | Q       |V          |          |          |
10+45       0.1440      0.57  | Q       | V         |          |          |
10+50       0.1479      0.57  | Q       | V         |          |          |
10+55       0.1518      0.57  | Q       | V         |          |          |
11+ 0       0.1557      0.57  | Q       | V         |          |          |
11+ 5       0.1595      0.55  | Q       |  V        |          |          |
11+10       0.1632      0.53  | Q       |  V        |          |          |
```

```
11+15       0.1669      0.53  | Q       |  V      |         |         |
11+20       0.1705      0.53  | Q       |   V     |         |         |
11+25       0.1742      0.53  | Q       |   V     |         |         |
11+30       0.1779      0.54  | Q       |   V     |         |         |
11+35       0.1814      0.50  |Q        |    V    |         |         |
11+40       0.1846      0.47  |Q        |    V    |         |         |
11+45       0.1878      0.46  |Q        |    V    |         |         |
11+50       0.1911      0.48  |Q        |    V    |         |         |
11+55       0.1945      0.50  | Q       |     V   |         |         |
12+ 0       0.1980      0.50  | Q       |     V   |         |         |
12+ 5       0.2024      0.64  | Q       |     V   |         |         |
12+10       0.2076      0.76  |  Q      |      V  |         |         |
12+15       0.2129      0.77  |  Q      |      V  |         |         |
12+20       0.2183      0.79  |  Q      |       V |         |         |
12+25       0.2239      0.80  |  Q      |       V |         |         |
12+30       0.2294      0.80  |  Q      |        V|         |         |
12+35       0.2352      0.84  |  Q      |        V|         |         |
12+40       0.2413      0.88  |  Q      |         V         |         |
12+45       0.2473      0.88  |  Q      |         V         |         |
12+50       0.2535      0.90  |  Q      |          V        |         |
12+55       0.2599      0.92  |  Q      |          V        |         |
13+ 0       0.2662      0.92  |  Q      |          | V      |         |
13+ 5       0.2732      1.02  |   Q     |          | V      |         |
13+10       0.2808      1.10  |   Q     |          |  V     |         |
13+15       0.2884      1.11  |   Q     |          |   V    |         |
13+20       0.2961      1.11  |   Q     |          |   V    |         |
13+25       0.3037      1.11  |   Q     |          |    V   |         |
13+30       0.3114      1.11  |   Q     |          |    V   |         |
13+35       0.3175      0.90  |  Q      |          |     V  |         |
13+40       0.3225      0.72  | Q       |          |     V  |         |
13+45       0.3273      0.71  | Q       |          |      V |         |
13+50       0.3322      0.71  | Q       |          |      V |         |
13+55       0.3371      0.71  | Q       |          |       V|         |
14+ 0       0.3419      0.71  | Q       |          |       V|         |
14+ 5       0.3473      0.79  |  Q      |          |       V|         |
14+10       0.3532      0.85  |  Q      |          |        V|        |
14+15       0.3591      0.86  |  Q      |          |        V|        |
14+20       0.3649      0.84  |  Q      |          |         V        |
14+25       0.3706      0.82  |  Q      |          |         V        |
14+30       0.3762      0.82  |  Q      |          |          V       |
14+35       0.3819      0.82  |  Q      |          |          V       |
14+40       0.3876      0.82  |  Q      |          |           V      |
14+45       0.3933      0.83  |  Q      |          |           V      |
14+50       0.3988      0.81  |  Q      |          |            V     |
14+55       0.4043      0.79  |  Q      |          |            V     |
15+ 0       0.4097      0.79  |  Q      |          |             V    |
15+ 5       0.4150      0.77  |  Q      |          |             V    |
15+10       0.4202      0.76  |  Q      |          |              V   |
15+15       0.4254      0.76  |  Q      |          |              V   |
15+20       0.4305      0.74  | Q       |          |              V   |
15+25       0.4355      0.72  | Q       |          |               V  |
15+30       0.4404      0.72  | Q       |          |               V  |
15+35       0.4449      0.64  | Q       |          |                V |
15+40       0.4488      0.58  | Q       |          |                V |
15+45       0.4528      0.57  | Q       |          |                V |
15+50       0.4568      0.57  | Q       |          |                 V|
15+55       0.4607      0.58  | Q       |          |                 V|
16+ 0       0.4647      0.58  | Q       |          |                 V|
16+ 5       0.4666      0.28  |Q        |          |                 V|
16+10       0.4669      0.04  Q         |          |                 V|
16+15       0.4671      0.02  Q         |          |                 V|
16+20       0.4672      0.02  Q         |          |                 V|
16+25       0.4674      0.02  Q         |          |                 V|
16+30       0.4676      0.02  Q         |          |                 V|
16+35       0.4677      0.02  Q         |          |                 V|
16+40       0.4678      0.01  Q         |          |                 V|
16+45       0.4678      0.01  Q         |          |                 V|
16+50       0.4679      0.01  Q         |          |                 V|
16+55       0.4680      0.01  Q         |          |                 V|
17+ 0       0.4681      0.01  Q         |          |                  V|
17+ 5       0.4683      0.04  Q         |          |                  V|
17+10       0.4688      0.06  Q         |          |                  V|
17+15       0.4693      0.07  Q         |          |                  V|
17+20       0.4697      0.07  Q         |          |                  V|
17+25       0.4702      0.07  Q         |          |                  V|
17+30       0.4707      0.07  Q         |          |                  V|
17+35       0.4711      0.07  Q         |          |                  V|
17+40       0.4716      0.07  Q         |          |                  V|
```

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+45 | 0.4721 | 0.07 | Q | \| | \| | \| | V\| |
| 17+50 | 0.4725 | 0.05 | Q | \| | \| | \| | V\| |
| 17+55 | 0.4727 | 0.04 | Q | \| | \| | \| | V\| |
| 18+ 0 | 0.4730 | 0.04 | Q | \| | \| | \| | V\| |
| 18+ 5 | 0.4732 | 0.04 | Q | \| | \| | \| | V\| |
| 18+10 | 0.4735 | 0.04 | Q | \| | \| | \| | V\| |
| 18+15 | 0.4737 | 0.04 | Q | \| | \| | \| | V\| |
| 18+20 | 0.4740 | 0.04 | Q | \| | \| | \| | V\| |
| 18+25 | 0.4742 | 0.04 | Q | \| | \| | \| | V\| |
| 18+30 | 0.4745 | 0.04 | Q | \| | \| | \| | V\| |
| 18+35 | 0.4747 | 0.02 | Q | \| | \| | \| | V\| |
| 18+40 | 0.4747 | 0.01 | Q | \| | \| | \| | V\| |
| 18+45 | 0.4748 | 0.01 | Q | \| | \| | \| | V\| |
| 18+50 | 0.4749 | 0.01 | Q | \| | \| | \| | V\| |
| 18+55 | 0.4749 | 0.01 | Q | \| | \| | \| | V\| |
| 19+ 0 | 0.4750 | 0.01 | Q | \| | \| | \| | V\| |
| 19+ 5 | 0.4751 | 0.01 | Q | \| | \| | \| | V\| |
| 19+10 | 0.4751 | 0.01 | Q | \| | \| | \| | V\| |
| 19+15 | 0.4752 | 0.01 | Q | \| | \| | \| | V\| |
| 19+20 | 0.4754 | 0.03 | Q | \| | \| | \| | V\| |
| 19+25 | 0.4757 | 0.04 | Q | \| | \| | \| | V\| |
| 19+30 | 0.4760 | 0.04 | Q | \| | \| | \| | V\| |
| 19+35 | 0.4762 | 0.03 | Q | \| | \| | \| | V\| |
| 19+40 | 0.4763 | 0.01 | Q | \| | \| | \| | V\| |
| 19+45 | 0.4764 | 0.01 | Q | \| | \| | \| | V\| |
| 19+50 | 0.4764 | 0.01 | Q | \| | \| | \| | V\| |
| 19+55 | 0.4765 | 0.01 | Q | \| | \| | \| | V\| |
| 20+ 0 | 0.4765 | 0.01 | Q | \| | \| | \| | V\| |
| 20+ 5 | 0.4766 | 0.01 | Q | \| | \| | \| | V\| |
| 20+10 | 0.4767 | 0.01 | Q | \| | \| | \| | V\| |
| 20+15 | 0.4767 | 0.01 | Q | \| | \| | \| | V\| |
| 20+20 | 0.4768 | 0.01 | Q | \| | \| | \| | V\| |
| 20+25 | 0.4769 | 0.01 | Q | \| | \| | \| | V\| |
| 20+30 | 0.4770 | 0.01 | Q | \| | \| | \| | V\| |
| 20+35 | 0.4771 | 0.01 | Q | \| | \| | \| | V\| |
| 20+40 | 0.4772 | 0.01 | Q | \| | \| | \| | V\| |
| 20+45 | 0.4773 | 0.01 | Q | \| | \| | \| | V\| |
| 20+50 | 0.4774 | 0.01 | Q | \| | \| | \| | V\| |
| 20+55 | 0.4774 | 0.01 | Q | \| | \| | \| | V\| |
| 21+ 0 | 0.4775 | 0.01 | Q | \| | \| | \| | V\| |
| 21+ 5 | 0.4775 | 0.01 | Q | \| | \| | \| | V\| |
| 21+10 | 0.4777 | 0.02 | Q | \| | \| | \| | V\| |
| 21+15 | 0.4778 | 0.02 | Q | \| | \| | \| | V\| |
| 21+20 | 0.4778 | 0.01 | Q | \| | \| | \| | V\| |
| 21+25 | 0.4779 | 0.01 | Q | \| | \| | \| | V\| |
| 21+30 | 0.4780 | 0.01 | Q | \| | \| | \| | V\| |
| 21+35 | 0.4780 | 0.01 | Q | \| | \| | \| | V\| |
| 21+40 | 0.4782 | 0.02 | Q | \| | \| | \| | V\| |
| 21+45 | 0.4783 | 0.02 | Q | \| | \| | \| | V\| |
| 21+50 | 0.4784 | 0.01 | Q | \| | \| | \| | V\| |
| 21+55 | 0.4784 | 0.01 | Q | \| | \| | \| | V\| |
| 22+ 0 | 0.4785 | 0.01 | Q | \| | \| | \| | V\| |
| 22+ 5 | 0.4786 | 0.01 | Q | \| | \| | \| | V\| |
| 22+10 | 0.4787 | 0.02 | Q | \| | \| | \| | V\| |
| 22+15 | 0.4789 | 0.02 | Q | \| | \| | \| | V\| |
| 22+20 | 0.4790 | 0.01 | Q | \| | \| | \| | V\| |
| 22+25 | 0.4790 | 0.01 | Q | \| | \| | \| | V\| |
| 22+30 | 0.4791 | 0.01 | Q | \| | \| | \| | V\| |
| 22+35 | 0.4791 | 0.01 | Q | \| | \| | \| | V\| |
| 22+40 | 0.4792 | 0.01 | Q | \| | \| | \| | V\| |
| 22+45 | 0.4792 | 0.01 | Q | \| | \| | \| | V\| |
| 22+50 | 0.4793 | 0.01 | Q | \| | \| | \| | V\| |
| 22+55 | 0.4793 | 0.01 | Q | \| | \| | \| | V\| |
| 23+ 0 | 0.4794 | 0.01 | Q | \| | \| | \| | V\| |
| 23+ 5 | 0.4794 | 0.01 | Q | \| | \| | \| | V\| |
| 23+10 | 0.4795 | 0.01 | Q | \| | \| | \| | V\| |
| 23+15 | 0.4795 | 0.01 | Q | \| | \| | \| | V\| |
| 23+20 | 0.4796 | 0.01 | Q | \| | \| | \| | V\| |
| 23+25 | 0.4796 | 0.01 | Q | \| | \| | \| | V\| |
| 23+30 | 0.4797 | 0.01 | Q | \| | \| | \| | V\| |
| 23+35 | 0.4797 | 0.01 | Q | \| | \| | \| | V\| |
| 23+40 | 0.4798 | 0.01 | Q | \| | \| | \| | V\| |
| 23+45 | 0.4798 | 0.01 | Q | \| | \| | \| | V\| |
| 23+50 | 0.4799 | 0.01 | Q | \| | \| | \| | V\| |
| 23+55 | 0.4799 | 0.01 | Q | \| | \| | \| | V\| |
| 24+ 0 | 0.4800 | 0.01 | Q | \| | \| | \| | V\| |
| 24+ 5 | 0.4800 | 0.00 | Q | \| | \| | \| | V\| |
| 24+10 | 0.4800 | 0.00 | Q | \| | \| | \| | V\| |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX301100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 30
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.60(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.60(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 233.00(Ft.)
Length along longest watercourse measured to centroid = 135.00(Ft.)
Length along longest watercourse = 0.044 Mi.
Length along longest watercourse measured to centroid = 0.026 Mi.
Difference in elevation = 88.00(Ft.)
Slope along watercourse = 1994.1631 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.015 Hr.
Lag time = 0.90 Min.
25% of lag time = 0.23 Min.
40% of lag time = 0.36 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 0.50 | 0.30 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 1.20 | 0.72 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.600 | 84.00 | 0.000 |

Total Area Entered = 0.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

---

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 554.082 | 76.026 | 0.460 |
| 2 0.167 | 1108.163 | 23.974 | 0.145 |
| | | Sum = 100.000 Sum= | 0.605 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 4.20 | 0.605 | 0.086 | ( 0.544) | 0.519 |
| 2 0.17 | 4.30 | 0.619 | 0.086 | ( 0.557) | 0.533 |
| 3 0.25 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 4 0.33 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 5 0.42 | 5.80 | 0.835 | 0.086 | ( 0.752) | 0.749 |
| 6 0.50 | 6.50 | 0.936 | 0.086 | ( 0.842) | 0.850 |
| 7 0.58 | 7.40 | 1.066 | 0.086 | ( 0.959) | 0.980 |
| 8 0.67 | 8.60 | 1.238 | 0.086 | ( 1.115) | 1.153 |
| 9 0.75 | 12.30 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 10 0.83 | 29.10 | 4.190 | 0.086 | ( 3.771) | 4.105 |
| 11 0.92 | 6.80 | 0.979 | 0.086 | ( 0.881) | 0.893 |
| 12 1.00 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 13.4 |

Flood volume = Effective rainfall 1.11(In)
times area 0.6(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.004(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 2426.7 Cubic Feet
Total soil loss = 186.9 Cubic Feet

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Peak flow rate of this hydrograph = 2.132(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0016 | 0.24 | QV | | | | |
| 0+10 | 0.0039 | 0.32 | \|QV | | | | |
| 0+15 | 0.0064 | 0.37 | \|Q V | | | | |
| 0+20 | 0.0090 | 0.38 | \|Q V | | | | |
| 0+25 | 0.0120 | 0.44 | \|Q V | | | | |
| 0+30 | 0.0155 | 0.50 | \|Q \|V | | | | |
| 0+35 | 0.0194 | 0.57 | \| Q \| V | | | | |
| 0+40 | 0.0241 | 0.67 | \| Q \| V | | | | |
| 0+45 | 0.0306 | 0.94 | \| Q \|V | | | | |
| 0+50 | 0.0452 | 2.13 | \| Q \| \| V | | |
| 0+55 | 0.0522 | 1.01 | \| Q \| \| V | |
| 1+ 0 | 0.0551 | 0.42 | \|Q \| \| V| |
| 1+ 5 | 0.0557 | 0.09 | Q \| \| V |

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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX303100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 30
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.60(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.60(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 233.00(Ft.)
Length along longest watercourse measured to centroid = 135.00(Ft.)
Length along longest watercourse = 0.044 Mi.
Length along longest watercourse measured to centroid = 0.026 Mi.
Difference in elevation = 88.00(Ft.)
Slope along watercourse = 1994.1631 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.015 Hr.
Lag time = 0.90 Min.
25% of lag time = 0.23 Min.
40% of lag time = 0.36 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 0.80 | 0.48 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 1.80 | 1.08 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.600 | 84.00 | 0.000 |

Total Area Entered = 0.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 554.082 | 76.026 | 0.460 |
| 2 0.167 | 1108.163 | 23.974 | 0.145 |
| | | Sum = 100.000 Sum= | 0.605 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 1.30 | 0.281 | 0.086 | ( 0.253) | 0.195 |
| 2 0.17 | 1.30 | 0.281 | 0.086 | ( 0.253) | 0.195 |
| 3 0.25 | 1.10 | 0.238 | 0.086 | ( 0.214) | 0.152 |
| 4 0.33 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 5 0.42 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 6 0.50 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 7 0.58 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 8 0.67 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 9 0.75 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 10 0.83 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 11 0.92 | 1.60 | 0.346 | 0.086 | ( 0.311) | 0.260 |
| 12 1.00 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 13 1.08 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 14 1.17 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 15 1.25 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 16 1.33 | 2.00 | 0.432 | 0.086 | ( 0.389) | 0.346 |
| 17 1.42 | 2.60 | 0.562 | 0.086 | ( 0.505) | 0.476 |
| 18 1.50 | 2.70 | 0.583 | 0.086 | ( 0.525) | 0.497 |
| 19 1.58 | 2.40 | 0.518 | 0.086 | ( 0.467) | 0.433 |
| 20 1.67 | 2.70 | 0.583 | 0.086 | ( 0.525) | 0.497 |
| 21 1.75 | 3.30 | 0.713 | 0.086 | ( 0.642) | 0.627 |
| 22 1.83 | 3.10 | 0.670 | 0.086 | ( 0.603) | 0.584 |
| 23 1.92 | 2.90 | 0.626 | 0.086 | ( 0.564) | 0.541 |
| 24 2.00 | 3.00 | 0.648 | 0.086 | ( 0.583) | 0.562 |
| 25 2.08 | 3.10 | 0.670 | 0.086 | ( 0.603) | 0.584 |
| 26 2.17 | 4.20 | 0.907 | 0.086 | ( 0.816) | 0.821 |
| 27 2.25 | 5.00 | 1.080 | 0.086 | ( 0.972) | 0.994 |
| 28 2.33 | 3.50 | 0.756 | 0.086 | ( 0.680) | 0.670 |
| 29 2.42 | 6.80 | 1.469 | 0.086 | ( 1.322) | 1.383 |
| 30 2.50 | 7.30 | 1.577 | 0.086 | ( 1.419) | 1.491 |
| 31 2.58 | 8.20 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 32 2.67 | 5.90 | 1.274 | 0.086 | ( 1.147) | 1.189 |
| 33 2.75 | 2.00 | 0.432 | 0.086 | ( 0.389) | 0.346 |
| 34 2.83 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 35 2.92 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 36 3.00 | 0.60 | 0.130 | 0.086 | ( 0.117) | 0.044 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 18.5 |

Flood volume = Effective rainfall 1.54(In)
times area 0.6(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.013(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 3359.8 Cubic Feet
Total soil loss = 560.6 Cubic Feet

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Peak flow rate of this hydrograph = 0.991(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0006 | 0.09 | Q | | | | |
| 0+10 | 0.0014 | 0.12 | Q | | | | |
| 0+15 | 0.0021 | 0.10 | QV | | | | |
| 0+20 | 0.0030 | 0.13 | QV | | | | |
| 0+25 | 0.0040 | 0.14 | Q V | | | | |
| 0+30 | 0.0052 | 0.17 | Q V | | | | |
| 0+35 | 0.0063 | 0.15 | Q V | | | | |
| 0+40 | 0.0075 | 0.17 | Q V | | | | |
| 0+45 | 0.0087 | 0.18 | Q V | | | | |
| 0+50 | 0.0098 | 0.15 | Q V | | | | |
| 0+55 | 0.0108 | 0.15 | Q V | | | | |
| 1+ 0 | 0.0121 | 0.18 | Q V | | | | |
| 1+ 5 | 0.0136 | 0.22 | Q V | | | | |
| 1+10 | 0.0152 | 0.24 | Q V | | | | |
| 1+15 | 0.0168 | 0.24 | Q V | | | | |
| 1+20 | 0.0183 | 0.22 | Q V | | | | |
| 1+25 | 0.0202 | 0.27 | Q V | | | | |
| 1+30 | 0.0222 | 0.30 | Q V | | | | |
| 1+35 | 0.0241 | 0.27 | Q V | | | | |
| 1+40 | 0.0261 | 0.29 | Q V | | | | |
| 1+45 | 0.0286 | 0.36 | Q V | | | | |
| 1+50 | 0.0311 | 0.36 | Q V | | | | |
| 1+55 | 0.0334 | 0.33 | Q V | | | | |
| 2+ 0 | 0.0357 | 0.34 | Q V | | | | |
| 2+ 5 | 0.0381 | 0.35 | Q V | | | | |
| 2+10 | 0.0413 | 0.46 | Q V | | | | |
| 2+15 | 0.0452 | 0.58 | Q V | | | | |
| 2+20 | 0.0484 | 0.45 | Q V | | | | |
| 2+25 | 0.0534 | 0.73 | Q V | | | | |
| 2+30 | 0.0595 | 0.89 | Q V | | | | |
| 2+35 | 0.0663 | 0.99 | Q V | | | | |
| 2+40 | 0.0718 | 0.79 | Q V | | | | |
| 2+45 | 0.0741 | 0.33 | Q V | | | | |
| 2+50 | 0.0754 | 0.19 | Q V | | | | |
| 2+55 | 0.0766 | 0.18 | Q V | | | | |
| 3+ 0 | 0.0771 | 0.06 | Q V | | | | |
| 3+ 5 | 0.0771 | 0.01 | Q V | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX306100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 30
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.60(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.60(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 233.00(Ft.)
Length along longest watercourse measured to centroid = 135.00(Ft.)
Length along longest watercourse = 0.044 Mi.
Length along longest watercourse measured to centroid = 0.026 Mi.
Difference in elevation = 88.00(Ft.)
Slope along watercourse = 1994.1631 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.015 Hr.
Lag time = 0.90 Min.
25% of lag time = 0.23 Min.
40% of lag time = 0.36 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 1.13 | 0.68 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 2.50 | 1.50 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.130(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.600 | 84.00 | 0.000 |

Total Area Entered = 0.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 554.082 | 76.026 | 0.460 |
| 2 0.167 | 1108.163 | 23.974 | 0.145 |
| | | Sum = 100.000 Sum= | 0.605 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 0.50 | 0.150 | 0.086 | ( 0.135) | 0.064 |
| 2 0.17 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 3 0.25 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 4 0.33 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 5 0.42 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 6 0.50 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 7 0.58 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 8 0.67 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 9 0.75 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 10 0.83 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 11 0.92 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 12 1.00 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 13 1.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 14 1.17 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 15 1.25 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 16 1.33 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 17 1.42 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 18 1.50 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 19 1.58 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 20 1.67 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 21 1.75 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 22 1.83 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 23 1.92 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 24 2.00 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 25 2.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 26 2.17 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 27 2.25 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 28 2.33 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 29 2.42 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 30 2.50 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 31 2.58 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 32 2.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 33 2.75 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 34 2.83 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 35 2.92 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 36 3.00 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 37 3.08 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 38 3.17 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 39 3.25 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 40 3.33 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 41 3.42 | 1.20 | 0.360 | 0.086 | ( 0.324) | 0.274 |
| 42 3.50 | 1.30 | 0.390 | 0.086 | ( 0.351) | 0.304 |
| 43 3.58 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 44 3.67 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 45 3.75 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 46 3.83 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 47 3.92 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 48 4.00 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 49 4.08 | 1.70 | 0.510 | 0.086 | ( 0.459) | 0.424 |
| 50 4.17 | 1.80 | 0.540 | 0.086 | ( 0.486) | 0.454 |
| 51 4.25 | 1.90 | 0.570 | 0.086 | ( 0.513) | 0.484 |
| 52 4.33 | 2.00 | 0.600 | 0.086 | ( 0.540) | 0.514 |
| 53 4.42 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 |
| 54 4.50 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 55 | 4.58 | 2.20 | 0.660 | 0.086 | ( 0.594) | | 0.574 |
| 56 | 4.67 | 2.30 | 0.690 | 0.086 | ( 0.621) | | 0.604 |
| 57 | 4.75 | 2.40 | 0.720 | 0.086 | ( 0.648) | | 0.634 |
| 58 | 4.83 | 2.40 | 0.720 | 0.086 | ( 0.648) | | 0.634 |
| 59 | 4.92 | 2.50 | 0.750 | 0.086 | ( 0.675) | | 0.664 |
| 60 | 5.00 | 2.60 | 0.780 | 0.086 | ( 0.702) | | 0.694 |
| 61 | 5.08 | 3.10 | 0.930 | 0.086 | ( 0.837) | | 0.844 |
| 62 | 5.17 | 3.60 | 1.080 | 0.086 | ( 0.972) | | 0.994 |
| 63 | 5.25 | 3.90 | 1.170 | 0.086 | ( 1.053) | | 1.084 |
| 64 | 5.33 | 4.20 | 1.260 | 0.086 | ( 1.134) | | 1.174 |
| 65 | 5.42 | 4.70 | 1.410 | 0.086 | ( 1.269) | | 1.324 |
| 66 | 5.50 | 5.60 | 1.680 | 0.086 | ( 1.512) | | 1.594 |
| 67 | 5.58 | 1.90 | 0.570 | 0.086 | ( 0.513) | | 0.484 |
| 68 | 5.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | | 0.184 |
| 69 | 5.75 | 0.60 | 0.180 | 0.086 | ( 0.162) | | 0.094 |
| 70 | 5.83 | 0.50 | 0.150 | 0.086 | ( 0.135) | | 0.064 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.086) | 0.081 | | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.086) | 0.054 | | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.9

Flood volume = Effective rainfall 1.99(In)
times area 0.6(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.51(In)
Total soil loss = 0.026(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 4330.4 Cubic Feet
Total soil loss = 1114.6 Cubic Feet

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Peak flow rate of this hydrograph = 0.925(CFS)

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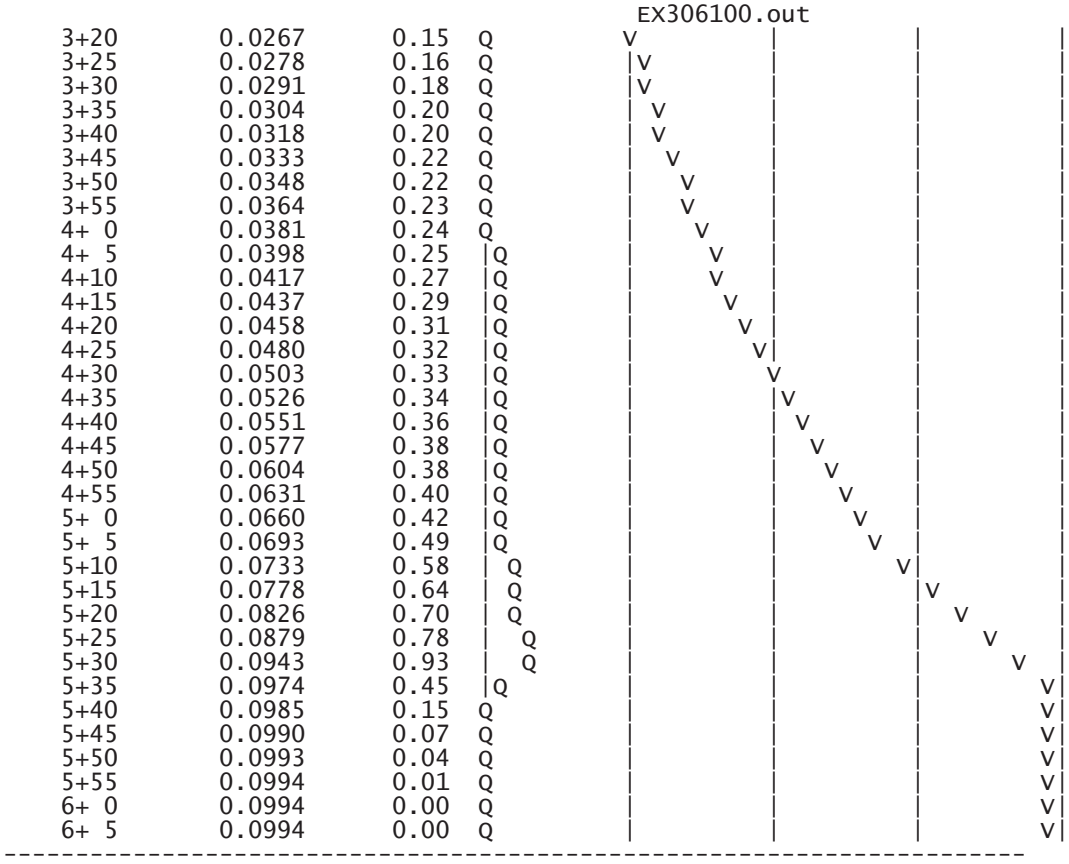
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

---

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0002 | 0.03 | Q | | | | |
| 0+10 | 0.0006 | 0.05 | Q | | | | |
| 0+15 | 0.0010 | 0.06 | Q | | | | |
| 0+20 | 0.0014 | 0.06 | Q | | | | |
| 0+25 | 0.0017 | 0.06 | Q | | | | |
| 0+30 | 0.0022 | 0.07 | Q | | | | |
| 0+35 | 0.0027 | 0.08 | QV | | | | |
| 0+40 | 0.0033 | 0.08 | QV | | | | |
| 0+45 | 0.0038 | 0.08 | QV | | | | |
| 0+50 | 0.0043 | 0.08 | QV | | | | |
| 0+55 | 0.0048 | 0.08 | QV | | | | |
| 1+ 0 | 0.0054 | 0.09 | Q V | | | | |
| 1+ 5 | 0.0061 | 0.09 | Q V | | | | |
| 1+10 | 0.0067 | 0.09 | Q V | | | | |
| 1+15 | 0.0074 | 0.09 | Q V | | | | |
| 1+20 | 0.0080 | 0.09 | Q V | | | | |
| 1+25 | 0.0086 | 0.09 | Q V | | | | |
| 1+30 | 0.0093 | 0.09 | Q V | | | | |
| 1+35 | 0.0099 | 0.09 | Q V | | | | |
| 1+40 | 0.0106 | 0.09 | Q V | | | | |
| 1+45 | 0.0112 | 0.09 | Q V | | | | |
| 1+50 | 0.0119 | 0.09 | Q V | | | | |
| 1+55 | 0.0125 | 0.09 | Q V | | | | |
| 2+ 0 | 0.0132 | 0.11 | Q V | | | | |
| 2+ 5 | 0.0139 | 0.10 | Q V | | | | |
| 2+10 | 0.0146 | 0.11 | Q V | | | | |
| 2+15 | 0.0154 | 0.11 | Q V | | | | |
| 2+20 | 0.0162 | 0.11 | Q V | | | | |
| 2+25 | 0.0169 | 0.11 | Q V | | | | |
| 2+30 | 0.0177 | 0.11 | Q V | | | | |
| 2+35 | 0.0185 | 0.11 | Q V | | | | |
| 2+40 | 0.0193 | 0.11 | Q V | | | | |
| 2+45 | 0.0201 | 0.13 | Q V | | | | |
| 2+50 | 0.0210 | 0.13 | Q V | | | | |
| 2+55 | 0.0219 | 0.13 | Q V | | | | |
| 3+ 0 | 0.0228 | 0.13 | Q V | | | | |
| 3+ 5 | 0.0237 | 0.13 | Q V | | | | |
| 3+10 | 0.0247 | 0.14 | Q V | | | | |
| 3+15 | 0.0257 | 0.15 | Q V | | | | |



| | | | |
|---|---|---|---|
| 3+20 | 0.0267 | 0.15 | Q |
| 3+25 | 0.0278 | 0.16 | Q |
| 3+30 | 0.0291 | 0.18 | Q |
| 3+35 | 0.0304 | 0.20 | Q |
| 3+40 | 0.0318 | 0.20 | Q |
| 3+45 | 0.0333 | 0.22 | Q |
| 3+50 | 0.0348 | 0.22 | Q |
| 3+55 | 0.0364 | 0.23 | Q |
| 4+ 0 | 0.0381 | 0.24 | Q |
| 4+ 5 | 0.0398 | 0.25 | Q |
| 4+10 | 0.0417 | 0.27 | Q |
| 4+15 | 0.0437 | 0.29 | Q |
| 4+20 | 0.0458 | 0.31 | Q |
| 4+25 | 0.0480 | 0.32 | Q |
| 4+30 | 0.0503 | 0.33 | Q |
| 4+35 | 0.0526 | 0.34 | Q |
| 4+40 | 0.0551 | 0.36 | Q |
| 4+45 | 0.0577 | 0.38 | Q |
| 4+50 | 0.0604 | 0.38 | Q |
| 4+55 | 0.0631 | 0.40 | Q |
| 5+ 0 | 0.0660 | 0.42 | Q |
| 5+ 5 | 0.0693 | 0.49 | Q |
| 5+10 | 0.0733 | 0.58 | Q |
| 5+15 | 0.0778 | 0.64 | Q |
| 5+20 | 0.0826 | 0.70 | Q |
| 5+25 | 0.0879 | 0.78 | Q |
| 5+30 | 0.0943 | 0.93 | Q |
| 5+35 | 0.0974 | 0.45 | Q |
| 5+40 | 0.0985 | 0.15 | Q |
| 5+45 | 0.0990 | 0.07 | Q |
| 5+50 | 0.0993 | 0.04 | Q |
| 5+55 | 0.0994 | 0.01 | Q |
| 6+ 0 | 0.0994 | 0.00 | Q |
| 6+ 5 | 0.0994 | 0.00 | Q |

U n i t  H y d r o g r a p h  A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 30
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.60(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.60(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 233.00(Ft.)
Length along longest watercourse measured to centroid = 135.00(Ft.)
Length along longest watercourse = 0.044 Mi.
Length along longest watercourse measured to centroid = 0.026 Mi.
Difference in elevation = 88.00(Ft.)
Slope along watercourse = 1994.1631 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.015 Hr.
Lag time = 0.90 Min.
25% of lag time = 0.23 Min.
40% of lag time = 0.36 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 1.80 | 1.08 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 4.59 | 2.75 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.590(In)

Point rain (area averaged) = 4.590(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.590(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.600 | 84.00 | 0.000 |

Total Area Entered = 0.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | | Unit Hydrograph (CFS) |
|---|---|---|---|---|---|
| 1 | 0.083 | 554.082 | 76.026 | | 0.460 |
| 2 | 0.167 | 1108.163 | 23.974 | | 0.145 |
| | | | Sum = 100.000 | Sum= | 0.605 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.037 | ( 0.152) | | 0.033 | 0.004 |
| 2 | 0.17 | 0.07 | 0.037 | ( 0.152) | | 0.033 | 0.004 |
| 3 | 0.25 | 0.07 | 0.037 | ( 0.151) | | 0.033 | 0.004 |
| 4 | 0.33 | 0.10 | 0.055 | ( 0.150) | | 0.050 | 0.006 |
| 5 | 0.42 | 0.10 | 0.055 | ( 0.150) | | 0.050 | 0.006 |
| 6 | 0.50 | 0.10 | 0.055 | ( 0.149) | | 0.050 | 0.006 |
| 7 | 0.58 | 0.10 | 0.055 | ( 0.149) | | 0.050 | 0.006 |
| 8 | 0.67 | 0.10 | 0.055 | ( 0.148) | | 0.050 | 0.006 |
| 9 | 0.75 | 0.10 | 0.055 | ( 0.147) | | 0.050 | 0.006 |
| 10 | 0.83 | 0.13 | 0.073 | ( 0.147) | | 0.066 | 0.007 |
| 11 | 0.92 | 0.13 | 0.073 | ( 0.146) | | 0.066 | 0.007 |
| 12 | 1.00 | 0.13 | 0.073 | ( 0.146) | | 0.066 | 0.007 |
| 13 | 1.08 | 0.10 | 0.055 | ( 0.145) | | 0.050 | 0.006 |
| 14 | 1.17 | 0.10 | 0.055 | ( 0.145) | | 0.050 | 0.006 |
| 15 | 1.25 | 0.10 | 0.055 | ( 0.144) | | 0.050 | 0.006 |
| 16 | 1.33 | 0.10 | 0.055 | ( 0.143) | | 0.050 | 0.006 |
| 17 | 1.42 | 0.10 | 0.055 | ( 0.143) | | 0.050 | 0.006 |
| 18 | 1.50 | 0.10 | 0.055 | ( 0.142) | | 0.050 | 0.006 |
| 19 | 1.58 | 0.10 | 0.055 | ( 0.142) | | 0.050 | 0.006 |
| 20 | 1.67 | 0.10 | 0.055 | ( 0.141) | | 0.050 | 0.006 |
| 21 | 1.75 | 0.10 | 0.055 | ( 0.141) | | 0.050 | 0.006 |
| 22 | 1.83 | 0.13 | 0.073 | ( 0.140) | | 0.066 | 0.007 |
| 23 | 1.92 | 0.13 | 0.073 | ( 0.139) | | 0.066 | 0.007 |
| 24 | 2.00 | 0.13 | 0.073 | ( 0.139) | | 0.066 | 0.007 |
| 25 | 2.08 | 0.13 | 0.073 | ( 0.138) | | 0.066 | 0.007 |
| 26 | 2.17 | 0.13 | 0.073 | ( 0.138) | | 0.066 | 0.007 |
| 27 | 2.25 | 0.13 | 0.073 | ( 0.137) | | 0.066 | 0.007 |
| 28 | 2.33 | 0.13 | 0.073 | ( 0.137) | | 0.066 | 0.007 |
| 29 | 2.42 | 0.13 | 0.073 | ( 0.136) | | 0.066 | 0.007 |
| 30 | 2.50 | 0.13 | 0.073 | ( 0.136) | | 0.066 | 0.007 |
| 31 | 2.58 | 0.17 | 0.092 | ( 0.135) | | 0.083 | 0.009 |
| 32 | 2.67 | 0.17 | 0.092 | ( 0.134) | | 0.083 | 0.009 |
| 33 | 2.75 | 0.17 | 0.092 | ( 0.134) | | 0.083 | 0.009 |
| 34 | 2.83 | 0.17 | 0.092 | ( 0.133) | | 0.083 | 0.009 |
| 35 | 2.92 | 0.17 | 0.092 | ( 0.133) | | 0.083 | 0.009 |
| 36 | 3.00 | 0.17 | 0.092 | ( 0.132) | | 0.083 | 0.009 |
| 37 | 3.08 | 0.17 | 0.092 | ( 0.132) | | 0.083 | 0.009 |
| 38 | 3.17 | 0.17 | 0.092 | ( 0.131) | | 0.083 | 0.009 |
| 39 | 3.25 | 0.17 | 0.092 | ( 0.131) | | 0.083 | 0.009 |
| 40 | 3.33 | 0.17 | 0.092 | ( 0.130) | | 0.083 | 0.009 |
| 41 | 3.42 | 0.17 | 0.092 | ( 0.129) | | 0.083 | 0.009 |
| 42 | 3.50 | 0.17 | 0.092 | ( 0.129) | | 0.083 | 0.009 |
| 43 | 3.58 | 0.17 | 0.092 | ( 0.128) | | 0.083 | 0.009 |
| 44 | 3.67 | 0.17 | 0.092 | ( 0.128) | | 0.083 | 0.009 |
| 45 | 3.75 | 0.17 | 0.092 | ( 0.127) | | 0.083 | 0.009 |
| 46 | 3.83 | 0.20 | 0.110 | ( 0.127) | | 0.099 | 0.011 |
| 47 | 3.92 | 0.20 | 0.110 | ( 0.126) | | 0.099 | 0.011 |
| 48 | 4.00 | 0.20 | 0.110 | ( 0.126) | | 0.099 | 0.011 |
| 49 | 4.08 | 0.20 | 0.110 | ( 0.125) | | 0.099 | 0.011 |
| 50 | 4.17 | 0.20 | 0.110 | ( 0.125) | | 0.099 | 0.011 |
| 51 | 4.25 | 0.20 | 0.110 | ( 0.124) | | 0.099 | 0.011 |
| 52 | 4.33 | 0.23 | 0.129 | ( 0.124) | | 0.116 | 0.013 |
| 53 | 4.42 | 0.23 | 0.129 | ( 0.123) | | 0.116 | 0.013 |
| 54 | 4.50 | 0.23 | 0.129 | ( 0.123) | | 0.116 | 0.013 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 55 | 4.58 | 0.23 | 0.129 | ( | 0.122) | 0.116 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.129 | ( | 0.121) | 0.116 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.129 | ( | 0.121) | 0.116 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.147 | | 0.120 | ( 0.132) | | 0.026 |
| 59 | 4.92 | 0.27 | 0.147 | | 0.120 | ( 0.132) | | 0.027 |
| 60 | 5.00 | 0.27 | 0.147 | | 0.119 | ( 0.132) | | 0.027 |
| 61 | 5.08 | 0.20 | 0.110 | ( | 0.119) | 0.099 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.110 | ( | 0.118) | 0.099 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.110 | ( | 0.118) | 0.099 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.129 | ( | 0.117) | 0.116 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.129 | ( | 0.117) | 0.116 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.129 | ( | 0.116) | 0.116 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.147 | | 0.116 | ( 0.132) | | 0.031 |
| 68 | 5.67 | 0.27 | 0.147 | | 0.115 | ( 0.132) | | 0.032 |
| 69 | 5.75 | 0.27 | 0.147 | | 0.115 | ( 0.132) | | 0.032 |
| 70 | 5.83 | 0.27 | 0.147 | | 0.114 | ( 0.132) | | 0.033 |
| 71 | 5.92 | 0.27 | 0.147 | | 0.114 | ( 0.132) | | 0.033 |
| 72 | 6.00 | 0.27 | 0.147 | | 0.113 | ( 0.132) | | 0.034 |
| 73 | 6.08 | 0.30 | 0.165 | | 0.113 | ( 0.149) | | 0.052 |
| 74 | 6.17 | 0.30 | 0.165 | | 0.112 | ( 0.149) | | 0.053 |
| 75 | 6.25 | 0.30 | 0.165 | | 0.112 | ( 0.149) | | 0.053 |
| 76 | 6.33 | 0.30 | 0.165 | | 0.111 | ( 0.149) | | 0.054 |
| 77 | 6.42 | 0.30 | 0.165 | | 0.111 | ( 0.149) | | 0.054 |
| 78 | 6.50 | 0.30 | 0.165 | | 0.110 | ( 0.149) | | 0.055 |
| 79 | 6.58 | 0.33 | 0.184 | | 0.110 | ( 0.165) | | 0.074 |
| 80 | 6.67 | 0.33 | 0.184 | | 0.109 | ( 0.165) | | 0.074 |
| 81 | 6.75 | 0.33 | 0.184 | | 0.109 | ( 0.165) | | 0.075 |
| 82 | 6.83 | 0.33 | 0.184 | | 0.108 | ( 0.165) | | 0.075 |
| 83 | 6.92 | 0.33 | 0.184 | | 0.108 | ( 0.165) | | 0.076 |
| 84 | 7.00 | 0.33 | 0.184 | | 0.107 | ( 0.165) | | 0.076 |
| 85 | 7.08 | 0.33 | 0.184 | | 0.107 | ( 0.165) | | 0.077 |
| 86 | 7.17 | 0.33 | 0.184 | | 0.106 | ( 0.165) | | 0.077 |
| 87 | 7.25 | 0.33 | 0.184 | | 0.106 | ( 0.165) | | 0.078 |
| 88 | 7.33 | 0.37 | 0.202 | | 0.105 | ( 0.182) | | 0.097 |
| 89 | 7.42 | 0.37 | 0.202 | | 0.105 | ( 0.182) | | 0.097 |
| 90 | 7.50 | 0.37 | 0.202 | | 0.104 | ( 0.182) | | 0.098 |
| 91 | 7.58 | 0.40 | 0.220 | | 0.104 | ( 0.198) | | 0.116 |
| 92 | 7.67 | 0.40 | 0.220 | | 0.103 | ( 0.198) | | 0.117 |
| 93 | 7.75 | 0.40 | 0.220 | | 0.103 | ( 0.198) | | 0.117 |
| 94 | 7.83 | 0.43 | 0.239 | | 0.102 | ( 0.215) | | 0.136 |
| 95 | 7.92 | 0.43 | 0.239 | | 0.102 | ( 0.215) | | 0.137 |
| 96 | 8.00 | 0.43 | 0.239 | | 0.102 | ( 0.215) | | 0.137 |
| 97 | 8.08 | 0.50 | 0.275 | | 0.101 | ( 0.248) | | 0.174 |
| 98 | 8.17 | 0.50 | 0.275 | | 0.101 | ( 0.248) | | 0.175 |
| 99 | 8.25 | 0.50 | 0.275 | | 0.100 | ( 0.248) | | 0.175 |
| 100 | 8.33 | 0.50 | 0.275 | | 0.100 | ( 0.248) | | 0.176 |
| 101 | 8.42 | 0.50 | 0.275 | | 0.099 | ( 0.248) | | 0.176 |
| 102 | 8.50 | 0.50 | 0.275 | | 0.099 | ( 0.248) | | 0.177 |
| 103 | 8.58 | 0.53 | 0.294 | | 0.098 | ( 0.264) | | 0.195 |
| 104 | 8.67 | 0.53 | 0.294 | | 0.098 | ( 0.264) | | 0.196 |
| 105 | 8.75 | 0.53 | 0.294 | | 0.097 | ( 0.264) | | 0.196 |
| 106 | 8.83 | 0.57 | 0.312 | | 0.097 | ( 0.281) | | 0.215 |
| 107 | 8.92 | 0.57 | 0.312 | | 0.096 | ( 0.281) | | 0.216 |
| 108 | 9.00 | 0.57 | 0.312 | | 0.096 | ( 0.281) | | 0.216 |
| 109 | 9.08 | 0.63 | 0.349 | | 0.096 | ( 0.314) | | 0.253 |
| 110 | 9.17 | 0.63 | 0.349 | | 0.095 | ( 0.314) | | 0.254 |
| 111 | 9.25 | 0.63 | 0.349 | | 0.095 | ( 0.314) | | 0.254 |
| 112 | 9.33 | 0.67 | 0.367 | | 0.094 | ( 0.330) | | 0.273 |
| 113 | 9.42 | 0.67 | 0.367 | | 0.094 | ( 0.330) | | 0.273 |
| 114 | 9.50 | 0.67 | 0.367 | | 0.093 | ( 0.330) | | 0.274 |
| 115 | 9.58 | 0.70 | 0.386 | | 0.093 | ( 0.347) | | 0.293 |
| 116 | 9.67 | 0.70 | 0.386 | | 0.092 | ( 0.347) | | 0.293 |
| 117 | 9.75 | 0.70 | 0.386 | | 0.092 | ( 0.347) | | 0.294 |
| 118 | 9.83 | 0.73 | 0.404 | | 0.091 | ( 0.364) | | 0.312 |
| 119 | 9.92 | 0.73 | 0.404 | | 0.091 | ( 0.364) | | 0.313 |
| 120 | 10.00 | 0.73 | 0.404 | | 0.091 | ( 0.364) | | 0.313 |
| 121 | 10.08 | 0.50 | 0.275 | | 0.090 | ( 0.248) | | 0.185 |
| 122 | 10.17 | 0.50 | 0.275 | | 0.090 | ( 0.248) | | 0.186 |
| 123 | 10.25 | 0.50 | 0.275 | | 0.089 | ( 0.248) | | 0.186 |
| 124 | 10.33 | 0.50 | 0.275 | | 0.089 | ( 0.248) | | 0.187 |
| 125 | 10.42 | 0.50 | 0.275 | | 0.088 | ( 0.248) | | 0.187 |
| 126 | 10.50 | 0.50 | 0.275 | | 0.088 | ( 0.248) | | 0.187 |
| 127 | 10.58 | 0.67 | 0.367 | | 0.088 | ( 0.330) | | 0.280 |
| 128 | 10.67 | 0.67 | 0.367 | | 0.087 | ( 0.330) | | 0.280 |
| 129 | 10.75 | 0.67 | 0.367 | | 0.087 | ( 0.330) | | 0.280 |
| 130 | 10.83 | 0.67 | 0.367 | | 0.086 | ( 0.330) | | 0.281 |
| 131 | 10.92 | 0.67 | 0.367 | | 0.086 | ( 0.330) | | 0.281 |
| 132 | 11.00 | 0.67 | 0.367 | | 0.085 | ( 0.330) | | 0.282 |

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|---|---|---|---|---|---|---|
| 133 | 11.08 | 0.63 | 0.349 | 0.085 | ( 0.314) | 0.264 |
| 134 | 11.17 | 0.63 | 0.349 | 0.085 | ( 0.314) | 0.264 |
| 135 | 11.25 | 0.63 | 0.349 | 0.084 | ( 0.314) | 0.265 |
| 136 | 11.33 | 0.63 | 0.349 | 0.084 | ( 0.314) | 0.265 |
| 137 | 11.42 | 0.63 | 0.349 | 0.083 | ( 0.314) | 0.265 |
| 138 | 11.50 | 0.63 | 0.349 | 0.083 | ( 0.314) | 0.266 |
| 139 | 11.58 | 0.57 | 0.312 | 0.083 | ( 0.281) | 0.230 |
| 140 | 11.67 | 0.57 | 0.312 | 0.082 | ( 0.281) | 0.230 |
| 141 | 11.75 | 0.57 | 0.312 | 0.082 | ( 0.281) | 0.230 |
| 142 | 11.83 | 0.60 | 0.330 | 0.081 | ( 0.297) | 0.249 |
| 143 | 11.92 | 0.60 | 0.330 | 0.081 | ( 0.297) | 0.250 |
| 144 | 12.00 | 0.60 | 0.330 | 0.080 | ( 0.297) | 0.250 |
| 145 | 12.08 | 0.83 | 0.459 | 0.080 | ( 0.413) | 0.379 |
| 146 | 12.17 | 0.83 | 0.459 | 0.080 | ( 0.413) | 0.379 |
| 147 | 12.25 | 0.83 | 0.459 | 0.079 | ( 0.413) | 0.380 |
| 148 | 12.33 | 0.87 | 0.477 | 0.079 | ( 0.430) | 0.398 |
| 149 | 12.42 | 0.87 | 0.477 | 0.078 | ( 0.430) | 0.399 |
| 150 | 12.50 | 0.87 | 0.477 | 0.078 | ( 0.430) | 0.399 |
| 151 | 12.58 | 0.93 | 0.514 | 0.078 | ( 0.463) | 0.436 |
| 152 | 12.67 | 0.93 | 0.514 | 0.077 | ( 0.463) | 0.437 |
| 153 | 12.75 | 0.93 | 0.514 | 0.077 | ( 0.463) | 0.437 |
| 154 | 12.83 | 0.97 | 0.532 | 0.077 | ( 0.479) | 0.456 |
| 155 | 12.92 | 0.97 | 0.532 | 0.076 | ( 0.479) | 0.456 |
| 156 | 13.00 | 0.97 | 0.532 | 0.076 | ( 0.479) | 0.457 |
| 157 | 13.08 | 1.13 | 0.624 | 0.075 | ( 0.562) | 0.549 |
| 158 | 13.17 | 1.13 | 0.624 | 0.075 | ( 0.562) | 0.549 |
| 159 | 13.25 | 1.13 | 0.624 | 0.075 | ( 0.562) | 0.550 |
| 160 | 13.33 | 1.13 | 0.624 | 0.074 | ( 0.562) | 0.550 |
| 161 | 13.42 | 1.13 | 0.624 | 0.074 | ( 0.562) | 0.550 |
| 162 | 13.50 | 1.13 | 0.624 | 0.073 | ( 0.562) | 0.551 |
| 163 | 13.58 | 0.77 | 0.422 | 0.073 | ( 0.380) | 0.349 |
| 164 | 13.67 | 0.77 | 0.422 | 0.073 | ( 0.380) | 0.350 |
| 165 | 13.75 | 0.77 | 0.422 | 0.072 | ( 0.380) | 0.350 |
| 166 | 13.83 | 0.77 | 0.422 | 0.072 | ( 0.380) | 0.350 |
| 167 | 13.92 | 0.77 | 0.422 | 0.072 | ( 0.380) | 0.351 |
| 168 | 14.00 | 0.77 | 0.422 | 0.071 | ( 0.380) | 0.351 |
| 169 | 14.08 | 0.90 | 0.496 | 0.071 | ( 0.446) | 0.425 |
| 170 | 14.17 | 0.90 | 0.496 | 0.071 | ( 0.446) | 0.425 |
| 171 | 14.25 | 0.90 | 0.496 | 0.070 | ( 0.446) | 0.426 |
| 172 | 14.33 | 0.87 | 0.477 | 0.070 | ( 0.430) | 0.408 |
| 173 | 14.42 | 0.87 | 0.477 | 0.069 | ( 0.430) | 0.408 |
| 174 | 14.50 | 0.87 | 0.477 | 0.069 | ( 0.430) | 0.408 |
| 175 | 14.58 | 0.87 | 0.477 | 0.069 | ( 0.430) | 0.409 |
| 176 | 14.67 | 0.87 | 0.477 | 0.068 | ( 0.430) | 0.409 |
| 177 | 14.75 | 0.87 | 0.477 | 0.068 | ( 0.430) | 0.409 |
| 178 | 14.83 | 0.83 | 0.459 | 0.068 | ( 0.413) | 0.391 |
| 179 | 14.92 | 0.83 | 0.459 | 0.067 | ( 0.413) | 0.392 |
| 180 | 15.00 | 0.83 | 0.459 | 0.067 | ( 0.413) | 0.392 |
| 181 | 15.08 | 0.80 | 0.441 | 0.067 | ( 0.397) | 0.374 |
| 182 | 15.17 | 0.80 | 0.441 | 0.066 | ( 0.397) | 0.374 |
| 183 | 15.25 | 0.80 | 0.441 | 0.066 | ( 0.397) | 0.375 |
| 184 | 15.33 | 0.77 | 0.422 | 0.066 | ( 0.380) | 0.357 |
| 185 | 15.42 | 0.77 | 0.422 | 0.065 | ( 0.380) | 0.357 |
| 186 | 15.50 | 0.77 | 0.422 | 0.065 | ( 0.380) | 0.357 |
| 187 | 15.58 | 0.63 | 0.349 | 0.065 | ( 0.314) | 0.284 |
| 188 | 15.67 | 0.63 | 0.349 | 0.064 | ( 0.314) | 0.285 |
| 189 | 15.75 | 0.63 | 0.349 | 0.064 | ( 0.314) | 0.285 |
| 190 | 15.83 | 0.63 | 0.349 | 0.064 | ( 0.314) | 0.285 |
| 191 | 15.92 | 0.63 | 0.349 | 0.063 | ( 0.314) | 0.286 |
| 192 | 16.00 | 0.63 | 0.349 | 0.063 | ( 0.314) | 0.286 |
| 193 | 16.08 | 0.13 | 0.073 | 0.063 | ( 0.066) | 0.011 |
| 194 | 16.17 | 0.13 | 0.073 | 0.062 | ( 0.066) | 0.011 |
| 195 | 16.25 | 0.13 | 0.073 | 0.062 | ( 0.066) | 0.011 |
| 196 | 16.33 | 0.13 | 0.073 | 0.062 | ( 0.066) | 0.012 |
| 197 | 16.42 | 0.13 | 0.073 | 0.061 | ( 0.066) | 0.012 |
| 198 | 16.50 | 0.13 | 0.073 | 0.061 | ( 0.066) | 0.012 |
| 199 | 16.58 | 0.10 | 0.055 | ( 0.061) | 0.050 | 0.006 |
| 200 | 16.67 | 0.10 | 0.055 | ( 0.060) | 0.050 | 0.006 |
| 201 | 16.75 | 0.10 | 0.055 | ( 0.060) | 0.050 | 0.006 |
| 202 | 16.83 | 0.10 | 0.055 | ( 0.060) | 0.050 | 0.006 |
| 203 | 16.92 | 0.10 | 0.055 | ( 0.060) | 0.050 | 0.006 |
| 204 | 17.00 | 0.10 | 0.055 | ( 0.059) | 0.050 | 0.006 |
| 205 | 17.08 | 0.17 | 0.092 | 0.059 | ( 0.083) | 0.033 |
| 206 | 17.17 | 0.17 | 0.092 | 0.059 | ( 0.083) | 0.033 |
| 207 | 17.25 | 0.17 | 0.092 | 0.058 | ( 0.083) | 0.033 |
| 208 | 17.33 | 0.17 | 0.092 | 0.058 | ( 0.083) | 0.034 |
| 209 | 17.42 | 0.17 | 0.092 | 0.058 | ( 0.083) | 0.034 |
| 210 | 17.50 | 0.17 | 0.092 | 0.058 | ( 0.083) | 0.034 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 211 | 17.58 | 0.17 | 0.092 | | 0.057 | ( | 0.083) | 0.035 |
| 212 | 17.67 | 0.17 | 0.092 | | 0.057 | ( | 0.083) | 0.035 |
| 213 | 17.75 | 0.17 | 0.092 | | 0.057 | ( | 0.083) | 0.035 |
| 214 | 17.83 | 0.13 | 0.073 | | 0.056 | ( | 0.066) | 0.017 |
| 215 | 17.92 | 0.13 | 0.073 | | 0.056 | ( | 0.066) | 0.017 |
| 216 | 18.00 | 0.13 | 0.073 | | 0.056 | ( | 0.066) | 0.018 |
| 217 | 18.08 | 0.13 | 0.073 | | 0.056 | ( | 0.066) | 0.018 |
| 218 | 18.17 | 0.13 | 0.073 | | 0.055 | ( | 0.066) | 0.018 |
| 219 | 18.25 | 0.13 | 0.073 | | 0.055 | ( | 0.066) | 0.018 |
| 220 | 18.33 | 0.13 | 0.073 | | 0.055 | ( | 0.066) | 0.019 |
| 221 | 18.42 | 0.13 | 0.073 | | 0.054 | ( | 0.066) | 0.019 |
| 222 | 18.50 | 0.13 | 0.073 | | 0.054 | ( | 0.066) | 0.019 |
| 223 | 18.58 | 0.10 | 0.055 | ( | 0.054) | | 0.050 | 0.006 |
| 224 | 18.67 | 0.10 | 0.055 | ( | 0.054) | | 0.050 | 0.006 |
| 225 | 18.75 | 0.10 | 0.055 | ( | 0.053) | | 0.050 | 0.006 |
| 226 | 18.83 | 0.07 | 0.037 | ( | 0.053) | | 0.033 | 0.004 |
| 227 | 18.92 | 0.07 | 0.037 | ( | 0.053) | | 0.033 | 0.004 |
| 228 | 19.00 | 0.07 | 0.037 | ( | 0.053) | | 0.033 | 0.004 |
| 229 | 19.08 | 0.10 | 0.055 | ( | 0.052) | | 0.050 | 0.006 |
| 230 | 19.17 | 0.10 | 0.055 | ( | 0.052) | | 0.050 | 0.006 |
| 231 | 19.25 | 0.10 | 0.055 | ( | 0.052) | | 0.050 | 0.006 |
| 232 | 19.33 | 0.13 | 0.073 | | 0.052 | ( | 0.066) | 0.022 |
| 233 | 19.42 | 0.13 | 0.073 | | 0.051 | ( | 0.066) | 0.022 |
| 234 | 19.50 | 0.13 | 0.073 | | 0.051 | ( | 0.066) | 0.022 |
| 235 | 19.58 | 0.10 | 0.055 | ( | 0.051) | | 0.050 | 0.006 |
| 236 | 19.67 | 0.10 | 0.055 | ( | 0.051) | | 0.050 | 0.006 |
| 237 | 19.75 | 0.10 | 0.055 | ( | 0.050) | | 0.050 | 0.006 |
| 238 | 19.83 | 0.07 | 0.037 | ( | 0.050) | | 0.033 | 0.004 |
| 239 | 19.92 | 0.07 | 0.037 | ( | 0.050) | | 0.033 | 0.004 |
| 240 | 20.00 | 0.07 | 0.037 | ( | 0.050) | | 0.033 | 0.004 |
| 241 | 20.08 | 0.10 | 0.055 | ( | 0.050) | | 0.050 | 0.006 |
| 242 | 20.17 | 0.10 | 0.055 | | 0.049 | ( | 0.050) | 0.006 |
| 243 | 20.25 | 0.10 | 0.055 | | 0.049 | ( | 0.050) | 0.006 |
| 244 | 20.33 | 0.10 | 0.055 | | 0.049 | ( | 0.050) | 0.006 |
| 245 | 20.42 | 0.10 | 0.055 | | 0.049 | ( | 0.050) | 0.006 |
| 246 | 20.50 | 0.10 | 0.055 | | 0.049 | ( | 0.050) | 0.007 |
| 247 | 20.58 | 0.10 | 0.055 | | 0.048 | ( | 0.050) | 0.007 |
| 248 | 20.67 | 0.10 | 0.055 | | 0.048 | ( | 0.050) | 0.007 |
| 249 | 20.75 | 0.10 | 0.055 | | 0.048 | ( | 0.050) | 0.007 |
| 250 | 20.83 | 0.07 | 0.037 | ( | 0.048) | | 0.033 | 0.004 |
| 251 | 20.92 | 0.07 | 0.037 | ( | 0.048) | | 0.033 | 0.004 |
| 252 | 21.00 | 0.07 | 0.037 | ( | 0.047) | | 0.033 | 0.004 |
| 253 | 21.08 | 0.10 | 0.055 | | 0.047 | ( | 0.050) | 0.008 |
| 254 | 21.17 | 0.10 | 0.055 | | 0.047 | ( | 0.050) | 0.008 |
| 255 | 21.25 | 0.10 | 0.055 | | 0.047 | ( | 0.050) | 0.008 |
| 256 | 21.33 | 0.07 | 0.037 | ( | 0.047) | | 0.033 | 0.004 |
| 257 | 21.42 | 0.07 | 0.037 | ( | 0.046) | | 0.033 | 0.004 |
| 258 | 21.50 | 0.07 | 0.037 | ( | 0.046) | | 0.033 | 0.004 |
| 259 | 21.58 | 0.10 | 0.055 | | 0.046 | ( | 0.050) | 0.009 |
| 260 | 21.67 | 0.10 | 0.055 | | 0.046 | ( | 0.050) | 0.009 |
| 261 | 21.75 | 0.10 | 0.055 | | 0.046 | ( | 0.050) | 0.009 |
| 262 | 21.83 | 0.07 | 0.037 | ( | 0.046) | | 0.033 | 0.004 |
| 263 | 21.92 | 0.07 | 0.037 | ( | 0.045) | | 0.033 | 0.004 |
| 264 | 22.00 | 0.07 | 0.037 | ( | 0.045) | | 0.033 | 0.004 |
| 265 | 22.08 | 0.10 | 0.055 | | 0.045 | ( | 0.050) | 0.010 |
| 266 | 22.17 | 0.10 | 0.055 | | 0.045 | ( | 0.050) | 0.010 |
| 267 | 22.25 | 0.10 | 0.055 | | 0.045 | ( | 0.050) | 0.010 |
| 268 | 22.33 | 0.07 | 0.037 | ( | 0.045) | | 0.033 | 0.004 |
| 269 | 22.42 | 0.07 | 0.037 | ( | 0.045) | | 0.033 | 0.004 |
| 270 | 22.50 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 271 | 22.58 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 272 | 22.67 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 273 | 22.75 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 274 | 22.83 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 275 | 22.92 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 276 | 23.00 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 277 | 23.08 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 278 | 23.17 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 279 | 23.25 | 0.07 | 0.037 | ( | 0.043) | | 0.033 | 0.004 |
| 280 | 23.33 | 0.07 | 0.037 | ( | 0.043) | | 0.033 | 0.004 |
| 281 | 23.42 | 0.07 | 0.037 | ( | 0.043) | | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.037 | ( | 0.043) | | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.037 | ( | 0.043) | | 0.033 | 0.004 |
| 284 | 23.67 | 0.07 | 0.037 | ( | 0.043) | | 0.033 | 0.004 |
| 285 | 23.75 | 0.07 | 0.037 | ( | 0.043) | | 0.033 | 0.004 |
| 286 | 23.83 | 0.07 | 0.037 | ( | 0.043) | | 0.033 | 0.004 |
| 287 | 23.92 | 0.07 | 0.037 | ( | 0.043) | | 0.033 | 0.004 |
| 288 | 24.00 | 0.07 | 0.037 | ( | 0.043) | | 0.033 | 0.004 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 34.6

Flood volume = Effective rainfall 2.88(In)
times area 0.6(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 1.71(In)
Total soil loss = 0.085(Ac.Ft)
Total rainfall = 4.59(In)
Flood volume = 6272.7 Cubic Feet
Total soil loss = 3724.3 Cubic Feet

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Peak flow rate of this hydrograph = 0.333(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0000 | 0.00 | Q | | | | |
| 0+10 | 0.0000 | 0.00 | Q | | | | |
| 0+15 | 0.0000 | 0.00 | Q | | | | |
| 0+20 | 0.0001 | 0.00 | Q | | | | |
| 0+25 | 0.0001 | 0.00 | Q | | | | |
| 0+30 | 0.0001 | 0.00 | Q | | | | |
| 0+35 | 0.0001 | 0.00 | Q | | | | |
| 0+40 | 0.0002 | 0.00 | Q | | | | |
| 0+45 | 0.0002 | 0.00 | Q | | | | |
| 0+50 | 0.0002 | 0.00 | Q | | | | |
| 0+55 | 0.0002 | 0.00 | Q | | | | |
| 1+ 0 | 0.0003 | 0.00 | Q | | | | |
| 1+ 5 | 0.0003 | 0.00 | Q | | | | |
| 1+10 | 0.0003 | 0.00 | Q | | | | |
| 1+15 | 0.0003 | 0.00 | Q | | | | |
| 1+20 | 0.0004 | 0.00 | Q | | | | |
| 1+25 | 0.0004 | 0.00 | Q | | | | |
| 1+30 | 0.0004 | 0.00 | Q | | | | |
| 1+35 | 0.0004 | 0.00 | Q | | | | |
| 1+40 | 0.0005 | 0.00 | Q | | | | |
| 1+45 | 0.0005 | 0.00 | Q | | | | |
| 1+50 | 0.0005 | 0.00 | Q | | | | |
| 1+55 | 0.0005 | 0.00 | Q | | | | |
| 2+ 0 | 0.0006 | 0.00 | Q | | | | |
| 2+ 5 | 0.0006 | 0.00 | Q | | | | |
| 2+10 | 0.0006 | 0.00 | Q | | | | |
| 2+15 | 0.0007 | 0.00 | Q | | | | |
| 2+20 | 0.0007 | 0.00 | Q | | | | |
| 2+25 | 0.0007 | 0.00 | Q | | | | |
| 2+30 | 0.0008 | 0.00 | Q | | | | |
| 2+35 | 0.0008 | 0.01 | Q | | | | |
| 2+40 | 0.0008 | 0.01 | Q | | | | |
| 2+45 | 0.0009 | 0.01 | Q | | | | |
| 2+50 | 0.0009 | 0.01 | Q | | | | |
| 2+55 | 0.0009 | 0.01 | Q | | | | |
| 3+ 0 | 0.0010 | 0.01 | Q | | | | |
| 3+ 5 | 0.0010 | 0.01 | Q | | | | |
| 3+10 | 0.0011 | 0.01 | Q | | | | |
| 3+15 | 0.0011 | 0.01 | Q | | | | |
| 3+20 | 0.0011 | 0.01 | Q | | | | |
| 3+25 | 0.0012 | 0.01 | Q | | | | |
| 3+30 | 0.0012 | 0.01 | Q | | | | |
| 3+35 | 0.0012 | 0.01 | Q | | | | |
| 3+40 | 0.0013 | 0.01 | Q | | | | |
| 3+45 | 0.0013 | 0.01 | Q | | | | |
| 3+50 | 0.0014 | 0.01 | Q | | | | |
| 3+55 | 0.0014 | 0.01 | Q | | | | |
| 4+ 0 | 0.0015 | 0.01 | Q | | | | |
| 4+ 5 | 0.0015 | 0.01 | Q | | | | |
| 4+10 | 0.0015 | 0.01 | Q | | | | |
| 4+15 | 0.0016 | 0.01 | Q | | | | |
| 4+20 | 0.0016 | 0.01 | Q | | | | |
| 4+25 | 0.0017 | 0.01 | Q | | | | |
| 4+30 | 0.0018 | 0.01 | Q | | | | |
| 4+35 | 0.0018 | 0.01 | Q | | | | |
| 4+40 | 0.0019 | 0.01 | Q | | | | |
| 4+45 | 0.0019 | 0.01 | Q | | | | |

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 4+50       0.0020      0.01  Q          |          |          |          |
 4+55       0.0021      0.02  Q          |          |          |          |
 5+ 0       0.0022      0.02  Q          |          |          |          |
 5+ 5       0.0023      0.01  Q          |          |          |          |
 5+10       0.0023      0.01  Q          |          |          |          |
 5+15       0.0024      0.01  Q          |          |          |          |
 5+20       0.0024      0.01  Q          |          |          |          |
 5+25       0.0025      0.01  Q          |          |          |          |
 5+30       0.0026      0.01  Q          |          |          |          |
 5+35       0.0027      0.02  Q          |          |          |          |
 5+40       0.0028      0.02  Q          |          |          |          |
 5+45       0.0029      0.02  Q          |          |          |          |
 5+50       0.0031      0.02  Q          |          |          |          |
 5+55       0.0032      0.02  Q          |          |          |          |
 6+ 0       0.0033      0.02  Q          |          |          |          |
 6+ 5       0.0035      0.03  Q          |          |          |          |
 6+10       0.0038      0.03  QV         |          |          |          |
 6+15       0.0040      0.03  QV         |          |          |          |
 6+20       0.0042      0.03  QV         |          |          |          |
 6+25       0.0044      0.03  QV         |          |          |          |
 6+30       0.0047      0.03  QV         |          |          |          |
 6+35       0.0049      0.04  QV         |          |          |          |
 6+40       0.0053      0.04  QV         |          |          |          |
 6+45       0.0056      0.05  QV         |          |          |          |
 6+50       0.0059      0.05  QV         |          |          |          |
 6+55       0.0062      0.05  QV         |          |          |          |
 7+ 0       0.0065      0.05  QV         |          |          |          |
 7+ 5       0.0068      0.05  QV         |          |          |          |
 7+10       0.0072      0.05  QV         |          |          |          |
 7+15       0.0075      0.05  Q V        |          |          |          |
 7+20       0.0079      0.06  Q V        |          |          |          |
 7+25       0.0083      0.06  Q V        |          |          |          |
 7+30       0.0087      0.06  Q V        |          |          |          |
 7+35       0.0091      0.07  Q V        |          |          |          |
 7+40       0.0096      0.07  Q V        |          |          |          |
 7+45       0.0101      0.07  Q V        |          |          |          |
 7+50       0.0107      0.08  Q V        |          |          |          |
 7+55       0.0112      0.08  Q  V       |          |          |          |
 8+ 0       0.0118      0.08  Q  V       |          |          |          |
 8+ 5       0.0125      0.10  Q  V       |          |          |          |
 8+10       0.0132      0.11  Q  V       |          |          |          |
 8+15       0.0140      0.11  Q  V       |          |          |          |
 8+20       0.0147      0.11  Q   V      |          |          |          |
 8+25       0.0154      0.11  Q   V      |          |          |          |
 8+30       0.0162      0.11  Q   V      |          |          |          |
 8+35       0.0169      0.12  Q   V      |          |          |          |
 8+40       0.0178      0.12  Q   V      |          |          |          |
 8+45       0.0186      0.12  Q    V     |          |          |          |
 8+50       0.0195      0.13  Q    V     |          |          |          |
 8+55       0.0204      0.13  Q    V     |          |          |          |
 9+ 0       0.0213      0.13  Q    V     |          |          |          |
 9+ 5       0.0223      0.15  Q     V    |          |          |          |
 9+10       0.0233      0.15  Q     V    |          |          |          |
 9+15       0.0244      0.15  Q     V    |          |          |          |
 9+20       0.0255      0.16  Q      V   |          |          |          |
 9+25       0.0267      0.17  Q      V   |          |          |          |
 9+30       0.0278      0.17  Q      V   |          |          |          |
 9+35       0.0290      0.17  Q       V  |          |          |          |
 9+40       0.0302      0.18  Q       V  |          |          |          |
 9+45       0.0314      0.18  Q       V  |          |          |          |
 9+50       0.0327      0.19  Q        V |          |          |          |
 9+55       0.0340      0.19  Q        V |          |          |          |
10+ 0       0.0353      0.19  Q        V |          |          |          |
10+ 5       0.0362      0.13  Q         V          |          |          |
10+10       0.0370      0.11  Q         V          |          |          |
10+15       0.0378      0.11  Q         V          |          |          |
10+20       0.0386      0.11  Q         V          |          |          |
10+25       0.0393      0.11  Q         V          |          |          |
10+30       0.0401      0.11  Q         |V         |          |          |
10+35       0.0412      0.16  Q         |V         |          |          |
10+40       0.0424      0.17  Q         |V         |          |          |
10+45       0.0435      0.17  Q         | V        |          |          |
10+50       0.0447      0.17  Q         | V        |          |          |
10+55       0.0459      0.17  Q         | V        |          |          |
11+ 0       0.0470      0.17  Q         |  V       |          |          |
11+ 5       0.0482      0.16  Q         |  V       |          |          |
11+10       0.0493      0.16  Q         |  V       |          |          |
11+15       0.0504      0.16  Q         |  V       |          |          |
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11+20       0.0515      0.16  Q          |    V      |           |           |
11+25       0.0526      0.16  Q          |    V      |           |           |
11+30       0.0537      0.16  Q          |    V      |           |           |
11+35       0.0547      0.14  Q          |     V     |           |           |
11+40       0.0556      0.14  Q          |     V     |           |           |
11+45       0.0566      0.14  Q          |     V     |           |           |
11+50       0.0576      0.15  Q          |      V    |           |           |
11+55       0.0586      0.15  Q          |      V    |           |           |
12+ 0       0.0597      0.15  Q          |      V    |           |           |
12+ 5       0.0611      0.21  Q          |      V    |           |           |
12+10       0.0627      0.23  Q          |       V   |           |           |
12+15       0.0643      0.23  Q          |       V   |           |           |
12+20       0.0659      0.24  Q          |        V  |           |           |
12+25       0.0676      0.24  Q          |        V  |           |           |
12+30       0.0693      0.24  Q          |         V |           |           |
12+35       0.0710      0.26  |Q         |         V |           |           |
12+40       0.0729      0.26  |Q         |          V|           |           |
12+45       0.0747      0.26  |Q         |          V|           |           |
12+50       0.0766      0.27  |Q         |           |V          |           |
12+55       0.0785      0.28  |Q         |           |V          |           |
13+ 0       0.0804      0.28  |Q         |           | V         |           |
13+ 5       0.0826      0.32  |Q         |           | V         |           |
13+10       0.0848      0.33  |Q         |           |  V        |           |
13+15       0.0871      0.33  |Q         |           |   V       |           |
13+20       0.0894      0.33  |Q         |           |   V       |           |
13+25       0.0917      0.33  |Q         |           |    V      |           |
13+30       0.0940      0.33  |Q         |           |     V     |           |
13+35       0.0957      0.24  Q          |           |     V     |           |
13+40       0.0971      0.21  Q          |           |     V     |           |
13+45       0.0986      0.21  Q          |           |      V    |           |
13+50       0.1000      0.21  Q          |           |      V    |           |
13+55       0.1015      0.21  Q          |           |       V   |           |
14+ 0       0.1030      0.21  Q          |           |       V   |           |
14+ 5       0.1047      0.25  Q          |           |        V  |           |
14+10       0.1064      0.26  |Q         |           |        V  |           |
14+15       0.1082      0.26  |Q         |           |         V |           |
14+20       0.1099      0.25  Q          |           |         V |           |
14+25       0.1116      0.25  Q          |           |          |V          |
14+30       0.1133      0.25  Q          |           |          |V          |
14+35       0.1150      0.25  Q          |           |          |V          |
14+40       0.1167      0.25  Q          |           |          | V         |
14+45       0.1184      0.25  Q          |           |          | V         |
14+50       0.1201      0.24  Q          |           |          |  V        |
14+55       0.1217      0.24  Q          |           |          |  V        |
15+ 0       0.1233      0.24  Q          |           |          |   V       |
15+ 5       0.1249      0.23  Q          |           |          |   V       |
15+10       0.1265      0.23  Q          |           |          |    V      |
15+15       0.1280      0.23  Q          |           |          |    V      |
15+20       0.1295      0.22  Q          |           |          |    V      |
15+25       0.1310      0.22  Q          |           |          |     V     |
15+30       0.1325      0.22  Q          |           |          |     V     |
15+35       0.1338      0.18  Q          |           |          |      V    |
15+40       0.1350      0.17  Q          |           |          |      V    |
15+45       0.1362      0.17  Q          |           |          |      V    |
15+50       0.1373      0.17  Q          |           |          |       V   |
15+55       0.1385      0.17  Q          |           |          |       V   |
16+ 0       0.1397      0.17  Q          |           |          |       V   |
16+ 5       0.1400      0.05  Q          |           |          |       V   |
16+10       0.1401      0.01  Q          |           |          |       V   |
16+15       0.1401      0.01  Q          |           |          |       V   |
16+20       0.1402      0.01  Q          |           |          |       V   |
16+25       0.1402      0.01  Q          |           |          |       V   |
16+30       0.1403      0.01  Q          |           |          |       V   |
16+35       0.1403      0.00  Q          |           |          |       V   |
16+40       0.1403      0.00  Q          |           |          |       V   |
16+45       0.1404      0.00  Q          |           |          |       V   |
16+50       0.1404      0.00  Q          |           |          |       V   |
16+55       0.1404      0.00  Q          |           |          |        V  |
17+ 0       0.1404      0.00  Q          |           |          |        V  |
17+ 5       0.1405      0.02  Q          |           |          |        V  |
17+10       0.1407      0.02  Q          |           |          |        V  |
17+15       0.1408      0.02  Q          |           |          |        V  |
17+20       0.1410      0.02  Q          |           |          |        V  |
17+25       0.1411      0.02  Q          |           |          |        V  |
17+30       0.1412      0.02  Q          |           |          |        V  |
17+35       0.1414      0.02  Q          |           |          |        V  |
17+40       0.1415      0.02  Q          |           |          |        V  |
17+45       0.1417      0.02  Q          |           |          |        V  |
```

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+50 | 0.1418 | 0.01 | Q | \| | \| | \| | V\| |
| 17+55 | 0.1418 | 0.01 | Q | \| | \| | \| | V\| |
| 18+ 0 | 0.1419 | 0.01 | Q | \| | \| | \| | V\| |
| 18+ 5 | 0.1420 | 0.01 | Q | \| | \| | \| | V\| |
| 18+10 | 0.1421 | 0.01 | Q | \| | \| | \| | V\| |
| 18+15 | 0.1421 | 0.01 | Q | \| | \| | \| | V\| |
| 18+20 | 0.1422 | 0.01 | Q | \| | \| | \| | V\| |
| 18+25 | 0.1423 | 0.01 | Q | \| | \| | \| | V\| |
| 18+30 | 0.1424 | 0.01 | Q | \| | \| | \| | V\| |
| 18+35 | 0.1424 | 0.01 | Q | \| | \| | \| | V\| |
| 18+40 | 0.1424 | 0.00 | Q | \| | \| | \| | V\| |
| 18+45 | 0.1425 | 0.00 | Q | \| | \| | \| | V\| |
| 18+50 | 0.1425 | 0.00 | Q | \| | \| | \| | V\| |
| 18+55 | 0.1425 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 0 | 0.1425 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 5 | 0.1425 | 0.00 | Q | \| | \| | \| | V\| |
| 19+10 | 0.1425 | 0.00 | Q | \| | \| | \| | V\| |
| 19+15 | 0.1426 | 0.00 | Q | \| | \| | \| | V\| |
| 19+20 | 0.1426 | 0.01 | Q | \| | \| | \| | V\| |
| 19+25 | 0.1427 | 0.01 | Q | \| | \| | \| | V\| |
| 19+30 | 0.1428 | 0.01 | Q | \| | \| | \| | V\| |
| 19+35 | 0.1429 | 0.01 | Q | \| | \| | \| | V\| |
| 19+40 | 0.1429 | 0.00 | Q | \| | \| | \| | V\| |
| 19+45 | 0.1429 | 0.00 | Q | \| | \| | \| | V\| |
| 19+50 | 0.1429 | 0.00 | Q | \| | \| | \| | V\| |
| 19+55 | 0.1429 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 0 | 0.1430 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 5 | 0.1430 | 0.00 | Q | \| | \| | \| | V\| |
| 20+10 | 0.1430 | 0.00 | Q | \| | \| | \| | V\| |
| 20+15 | 0.1430 | 0.00 | Q | \| | \| | \| | V\| |
| 20+20 | 0.1431 | 0.00 | Q | \| | \| | \| | V\| |
| 20+25 | 0.1431 | 0.00 | Q | \| | \| | \| | V\| |
| 20+30 | 0.1431 | 0.00 | Q | \| | \| | \| | V\| |
| 20+35 | 0.1431 | 0.00 | Q | \| | \| | \| | V\| |
| 20+40 | 0.1432 | 0.00 | Q | \| | \| | \| | V\| |
| 20+45 | 0.1432 | 0.00 | Q | \| | \| | \| | V\| |
| 20+50 | 0.1432 | 0.00 | Q | \| | \| | \| | V\| |
| 20+55 | 0.1432 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 0 | 0.1432 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 5 | 0.1433 | 0.00 | Q | \| | \| | \| | V\| |
| 21+10 | 0.1433 | 0.00 | Q | \| | \| | \| | V\| |
| 21+15 | 0.1433 | 0.00 | Q | \| | \| | \| | V\| |
| 21+20 | 0.1434 | 0.00 | Q | \| | \| | \| | V\| |
| 21+25 | 0.1434 | 0.00 | Q | \| | \| | \| | V\| |
| 21+30 | 0.1434 | 0.00 | Q | \| | \| | \| | V\| |
| 21+35 | 0.1434 | 0.00 | Q | \| | \| | \| | V\| |
| 21+40 | 0.1435 | 0.01 | Q | \| | \| | \| | V\| |
| 21+45 | 0.1435 | 0.01 | Q | \| | \| | \| | V\| |
| 21+50 | 0.1435 | 0.00 | Q | \| | \| | \| | V\| |
| 21+55 | 0.1435 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 0 | 0.1436 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 5 | 0.1436 | 0.01 | Q | \| | \| | \| | V\| |
| 22+10 | 0.1436 | 0.01 | Q | \| | \| | \| | V\| |
| 22+15 | 0.1437 | 0.01 | Q | \| | \| | \| | V\| |
| 22+20 | 0.1437 | 0.00 | Q | \| | \| | \| | V\| |
| 22+25 | 0.1437 | 0.00 | Q | \| | \| | \| | V\| |
| 22+30 | 0.1437 | 0.00 | Q | \| | \| | \| | V\| |
| 22+35 | 0.1437 | 0.00 | Q | \| | \| | \| | V\| |
| 22+40 | 0.1438 | 0.00 | Q | \| | \| | \| | V\| |
| 22+45 | 0.1438 | 0.00 | Q | \| | \| | \| | V\| |
| 22+50 | 0.1438 | 0.00 | Q | \| | \| | \| | V\| |
| 22+55 | 0.1438 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 0 | 0.1438 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 5 | 0.1438 | 0.00 | Q | \| | \| | \| | V\| |
| 23+10 | 0.1438 | 0.00 | Q | \| | \| | \| | V\| |
| 23+15 | 0.1439 | 0.00 | Q | \| | \| | \| | V\| |
| 23+20 | 0.1439 | 0.00 | Q | \| | \| | \| | V\| |
| 23+25 | 0.1439 | 0.00 | Q | \| | \| | \| | V\| |
| 23+30 | 0.1439 | 0.00 | Q | \| | \| | \| | V\| |
| 23+35 | 0.1439 | 0.00 | Q | \| | \| | \| | V\| |
| 23+40 | 0.1439 | 0.00 | Q | \| | \| | \| | V\| |
| 23+45 | 0.1440 | 0.00 | Q | \| | \| | \| | V\| |
| 23+50 | 0.1440 | 0.00 | Q | \| | \| | \| | V\| |
| 23+55 | 0.1440 | 0.00 | Q | \| | \| | \| | V\| |
| 24+ 0 | 0.1440 | 0.00 | Q | \| | \| | \| | V\| |
| 24+ 5 | 0.1440 | 0.00 | Q | \| | \| | \| | V\| |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX311100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRING - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 31
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 295.20(Ac.) = 0.461 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 295.20(Ac.) = 0.461 Sq. Mi.
Length along longest watercourse = 7190.00(Ft.)
Length along longest watercourse measured to centroid = 3962.00(Ft.)
Length along longest watercourse = 1.362 Mi.
Length along longest watercourse measured to centroid = 0.750 Mi.
Difference in elevation = 592.00(Ft.)
Slope along watercourse = 434.7371 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.267 Hr.
Lag time = 16.02 Min.
25% of lag time = 4.01 Min.
40% of lag time = 6.41 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 295.20 | 0.50 | 147.60 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 295.20 | 1.20 | 354.24 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.73 %
Adjusted average point rain = 1.197(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 295.200 | 85.57 | 0.010 |

Total Area Entered = 295.20(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 85.6 | 94.2 | 0.075 | 0.010 | 0.074 | 1.000 | 0.074 |
| | | | | | Sum (F) = | 0.074 |

Area averaged mean soil loss (F) (In/Hr) = 0.074

Minimum soil loss rate ((In/Hr)) = 0.037
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.892

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

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| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 31.206 | 2.261 | 6.728 |
| 2 | 0.167 | 62.412 | 7.358 | 21.891 |
| 3 | 0.250 | 93.618 | 15.364 | 45.709 |
| 4 | 0.333 | 124.825 | 30.130 | 89.640 |
| 5 | 0.417 | 156.031 | 13.769 | 40.964 |
| 6 | 0.500 | 187.237 | 7.997 | 23.793 |
| 7 | 0.583 | 218.443 | 5.824 | 17.326 |
| 8 | 0.667 | 249.649 | 4.364 | 12.985 |
| 9 | 0.750 | 280.855 | 3.386 | 10.075 |
| 10 | 0.833 | 312.061 | 2.624 | 7.807 |
| 11 | 0.917 | 343.267 | 2.006 | 5.967 |
| 12 | 1.000 | 374.474 | 1.464 | 4.356 |
| 13 | 1.083 | 405.680 | 1.065 | 3.168 |
| 14 | 1.167 | 436.886 | 0.542 | 1.611 |
| 15 | 1.250 | 468.092 | 0.364 | 1.083 |
| 16 | 1.333 | 499.298 | 0.318 | 0.945 |
| 17 | 1.417 | 530.504 | 0.252 | 0.751 |
| 18 | 1.500 | 561.710 | 0.192 | 0.570 |
| 19 | 1.583 | 592.916 | 0.237 | 0.706 |
| 20 | 1.667 | 624.123 | 0.212 | 0.632 |
| 21 | 1.750 | 655.329 | 0.127 | 0.378 |
| 22 | 1.833 | 686.535 | 0.084 | 0.250 |
| 23 | 1.917 | 717.741 | 0.058 | 0.173 |
| | | | Sum = 100.000 | Sum= 297.506 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.603 | 0.074 | ( | 0.538) | 0.529 |
| 2 | 0.17 | 4.30 | 0.618 | 0.074 | ( | 0.551) | 0.543 |
| 3 | 0.25 | 5.00 | 0.718 | 0.074 | ( | 0.641) | 0.644 |
| 4 | 0.33 | 5.00 | 0.718 | 0.074 | ( | 0.641) | 0.644 |
| 5 | 0.42 | 5.80 | 0.833 | 0.074 | ( | 0.743) | 0.759 |
| 6 | 0.50 | 6.50 | 0.933 | 0.074 | ( | 0.833) | 0.859 |
| 7 | 0.58 | 7.40 | 1.063 | 0.074 | ( | 0.948) | 0.988 |
| 8 | 0.67 | 8.60 | 1.235 | 0.074 | ( | 1.102) | 1.161 |
| 9 | 0.75 | 12.30 | 1.766 | 0.074 | ( | 1.576) | 1.692 |
| 10 | 0.83 | 29.10 | 4.179 | 0.074 | ( | 3.728) | 4.105 |
| 11 | 0.92 | 6.80 | 0.977 | 0.074 | ( | 0.871) | 0.902 |
| 12 | 1.00 | 5.00 | 0.718 | 0.074 | ( | 0.641) | 0.644 |
| | | (Loss Rate Not Used) | | | | | |
| Sum = | | 100.0 | | | | Sum = | 13.5 |

Flood volume = Effective rainfall 1.12(In)
times area 295.2(Ac.)/[(In)/(Ft.)] = 27.6(Ac.Ft)
Total soil loss = 0.07(In)
Total soil loss = 1.829(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 1202768.0 Cubic Feet
Total soil loss = 79683.1 Cubic Feet

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Peak flow rate of this hydrograph = 569.344(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 150.0 300.0 450.0 600.0 |
|---|---|---|---|
| 0+ 5 | 0.0245 | 3.56 | Q |
| 0+10 | 0.1295 | 15.24 | VQ |
| 0+15 | 0.4078 | 40.41 | V Q |
| 0+20 | 1.0325 | 90.70 | V Q |
| 0+25 | 1.8523 | 119.03 | V Q |
| 0+30 | 2.8469 | 144.42 | V Q |
| 0+35 | 3.9927 | 166.38 | V Q |
| 0+40 | 5.3342 | 194.78 | V Q |
| 0+45 | 6.9115 | 229.03 | V Q |
| 0+50 | 8.9006 | 288.82 | V Q |
| 0+55 | 11.4752 | 373.83 | V Q |
| 1+ 0 | 14.7568 | 476.49 | V Q |
| 1+ 5 | 18.6779 | 569.34 | V Q |
| 1+10 | 21.2650 | 375.64 | Q V |
| 1+15 | 23.0855 | 264.33 | Q V |
| 1+20 | 24.2771 | 173.02 | Q V |
| 1+25 | 25.1387 | 125.11 | Q V |
| 1+30 | 25.7907 | 94.67 | Q V |
| 1+35 | 26.2852 | 71.79 | Q V |
| 1+40 | 26.6564 | 53.90 | Q V |
| 1+45 | 26.9274 | 39.36 | Q V |
| 1+50 | 27.1202 | 27.98 | Q V |
| 1+55 | 27.2431 | 17.86 | Q V |
| 2+ 0 | 27.3297 | 12.56 | Q V |
| 2+ 5 | 27.3960 | 9.63 | Q V |
| 2+10 | 27.4488 | 7.67 | Q V |
| 2+15 | 27.4921 | 6.28 | Q V |
| 2+20 | 27.5320 | 5.80 | Q V |
| 2+25 | 27.5644 | 4.70 | Q V |
| 2+30 | 27.5865 | 3.20 | Q V |
| 2+35 | 27.6007 | 2.07 | Q V |
| 2+40 | 27.6088 | 1.18 | Q V |
| 2+45 | 27.6110 | 0.32 | Q V |
| 2+50 | 27.6118 | 0.11 | Q V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX313100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRING - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 31
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-16

---

Drainage Area = 295.20(Ac.) = 0.461 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 295.20(Ac.) = 0.461 Sq. Mi.
Length along longest watercourse = 7190.00(Ft.)
Length along longest watercourse measured to centroid = 3962.00(Ft.)
Length along longest watercourse = 1.362 Mi.
Length along longest watercourse measured to centroid = 0.750 Mi.
Difference in elevation = 592.00(Ft.)
Slope along watercourse = 434.7371 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.267 Hr.
Lag time = 16.02 Min.
25% of lag time = 4.01 Min.
40% of lag time = 6.41 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 295.20 | 0.81 | 239.11 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 295.20 | 1.81 | 534.31 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.810(In)
Area Averaged 100-Year Rainfall = 1.810(In)

Point rain (area averaged) = 1.810(In)
Areal adjustment factor = 99.87 %
Adjusted average point rain = 1.808(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 295.200 | 85.57 | 0.010 |

Total Area Entered = 295.20(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 85.6 | 94.2 | 0.075 | 0.010 | 0.074 | 1.000 | 0.074 |
| | | | | | Sum (F) = | 0.074 |

Area averaged mean soil loss (F) (In/Hr) = 0.074

Minimum soil loss rate ((In/Hr)) = 0.037
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.892

---

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 31.206 | 2.261 | 6.728 |
| 2 | 0.167 | 62.412 | 7.358 | 21.891 |
| 3 | 0.250 | 93.618 | 15.364 | 45.709 |
| 4 | 0.333 | 124.825 | 30.130 | 89.640 |
| 5 | 0.417 | 156.031 | 13.769 | 40.964 |
| 6 | 0.500 | 187.237 | 7.997 | 23.793 |
| 7 | 0.583 | 218.443 | 5.824 | 17.326 |
| 8 | 0.667 | 249.649 | 4.364 | 12.985 |
| 9 | 0.750 | 280.855 | 3.386 | 10.075 |
| 10 | 0.833 | 312.061 | 2.624 | 7.807 |
| 11 | 0.917 | 343.267 | 2.006 | 5.967 |
| 12 | 1.000 | 374.474 | 1.464 | 4.356 |
| 13 | 1.083 | 405.680 | 1.065 | 3.168 |
| 14 | 1.167 | 436.886 | 0.542 | 1.611 |
| 15 | 1.250 | 468.092 | 0.364 | 1.083 |
| 16 | 1.333 | 499.298 | 0.318 | 0.945 |
| 17 | 1.417 | 530.504 | 0.252 | 0.751 |
| 18 | 1.500 | 561.710 | 0.192 | 0.570 |
| 19 | 1.583 | 592.916 | 0.237 | 0.706 |
| 20 | 1.667 | 624.123 | 0.212 | 0.632 |
| 21 | 1.750 | 655.329 | 0.127 | 0.378 |
| 22 | 1.833 | 686.535 | 0.084 | 0.250 |
| 23 | 1.917 | 717.741 | 0.058 | 0.173 |
| | | Sum = 100.000 | Sum= | 297.506 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.282 | 0.074 | ( | 0.252) | 0.208 |
| 2 | 0.17 | 1.30 | 0.282 | 0.074 | ( | 0.252) | 0.208 |
| 3 | 0.25 | 1.10 | 0.239 | 0.074 | ( | 0.213) | 0.164 |
| 4 | 0.33 | 1.50 | 0.325 | 0.074 | ( | 0.290) | 0.251 |
| 5 | 0.42 | 1.50 | 0.325 | 0.074 | ( | 0.290) | 0.251 |
| 6 | 0.50 | 1.80 | 0.390 | 0.074 | ( | 0.348) | 0.316 |
| 7 | 0.58 | 1.50 | 0.325 | 0.074 | ( | 0.290) | 0.251 |
| 8 | 0.67 | 1.80 | 0.390 | 0.074 | ( | 0.348) | 0.316 |
| 9 | 0.75 | 1.80 | 0.390 | 0.074 | ( | 0.348) | 0.316 |
| 10 | 0.83 | 1.50 | 0.325 | 0.074 | ( | 0.290) | 0.251 |
| 11 | 0.92 | 1.60 | 0.347 | 0.074 | ( | 0.310) | 0.273 |
| 12 | 1.00 | 1.80 | 0.390 | 0.074 | ( | 0.348) | 0.316 |
| 13 | 1.08 | 2.20 | 0.477 | 0.074 | ( | 0.426) | 0.403 |
| 14 | 1.17 | 2.20 | 0.477 | 0.074 | ( | 0.426) | 0.403 |
| 15 | 1.25 | 2.20 | 0.477 | 0.074 | ( | 0.426) | 0.403 |
| 16 | 1.33 | 2.00 | 0.434 | 0.074 | ( | 0.387) | 0.359 |
| 17 | 1.42 | 2.60 | 0.564 | 0.074 | ( | 0.503) | 0.490 |
| 18 | 1.50 | 2.70 | 0.586 | 0.074 | ( | 0.522) | 0.511 |
| 19 | 1.58 | 2.40 | 0.521 | 0.074 | ( | 0.464) | 0.446 |
| 20 | 1.67 | 2.70 | 0.586 | 0.074 | ( | 0.522) | 0.511 |
| 21 | 1.75 | 3.30 | 0.716 | 0.074 | ( | 0.639) | 0.641 |
| 22 | 1.83 | 3.10 | 0.672 | 0.074 | ( | 0.600) | 0.598 |
| 23 | 1.92 | 2.90 | 0.629 | 0.074 | ( | 0.561) | 0.555 |
| 24 | 2.00 | 3.00 | 0.651 | 0.074 | ( | 0.580) | 0.576 |
| 25 | 2.08 | 3.10 | 0.672 | 0.074 | ( | 0.600) | 0.598 |
| 26 | 2.17 | 4.20 | 0.911 | 0.074 | ( | 0.813) | 0.837 |
| 27 | 2.25 | 5.00 | 1.085 | 0.074 | ( | 0.967) | 1.010 |
| 28 | 2.33 | 3.50 | 0.759 | 0.074 | ( | 0.677) | 0.685 |
| 29 | 2.42 | 6.80 | 1.475 | 0.074 | ( | 1.316) | 1.401 |
| 30 | 2.50 | 7.30 | 1.584 | 0.074 | ( | 1.412) | 1.509 |
| 31 | 2.58 | 8.20 | 1.779 | 0.074 | ( | 1.587) | 1.704 |
| 32 | 2.67 | 5.90 | 1.280 | 0.074 | ( | 1.142) | 1.205 |
| 33 | 2.75 | 2.00 | 0.434 | 0.074 | ( | 0.387) | 0.359 |

```
34   2.83     1.80      0.390          0.074    (  0.348)        0.316
35   2.92     1.80      0.390          0.074    (  0.348)        0.316
36   3.00     0.60      0.130          0.074    (  0.116)        0.056
              (Loss Rate Not Used)
   Sum =     100.0                                    Sum =    19.0
      Flood volume = Effective rainfall      1.58(In)
       times area     295.2(Ac.)/[(In)/(Ft.)] =      39.0(Ac.Ft)
      Total soil loss =      0.22(In)
      Total soil loss =     5.488(Ac.Ft)
      Total rainfall =      1.81(In)
      Flood volume =     1697998.3 Cubic Feet
      Total soil loss =      239049.3 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =    365.875(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          3 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0      100.0     200.0     300.0     400.0
-------------------------------------------------------------------------
  0+ 5       0.0096      1.40  Q          |         |         |         |
  0+10       0.0506      5.95  Q          |         |         |         |
  0+15       0.1549     15.15  VQ         |         |         |         |
  0+20       0.3850     33.40  V  Q       |         |         |         |
  0+25       0.6731     41.83  V   Q      |         |         |         |
  0+30       0.9987     47.29  |V  Q      |         |         |         |
  0+35       1.3974     57.88  |V   Q     |         |         |         |
  0+40       1.8456     65.09  |V    Q    |         |         |         |
  0+45       2.3469     72.78  | V    Q   |         |         |         |
  0+50       2.8614     74.71  | V    Q   |         |         |         |
  0+55       3.4130     80.08  |  V    Q  |         |         |         |
  1+ 0       3.9747     81.56  |   V   Q  |         |         |         |
  1+ 5       4.5297     80.59  |   V   Q  |         |         |         |
  1+10       5.1176     85.36  |    V  Q  |         |         |         |
  1+15       5.7630     93.72  |    V   Q|         |         |         |
  1+20       6.4745    103.31  |     V   Q         |         |         |
  1+25       7.2184    108.01  |      V  Q         |         |         |
  1+30       7.9894    111.95  |       V |Q        |         |         |
  1+35       8.7897    116.20  |        V|Q        |         |         |
  1+40       9.6698    127.79  |        V| Q       |         |         |
  1+45      10.5969    134.62  |         V  Q      |         |         |
  1+50      11.5509    138.52  |          |V Q     |         |         |
  1+55      12.5799    149.40  |          | V Q    |         |         |
  2+ 0      13.6928    161.60  |          |   V Q  |         |         |
  2+ 5      14.8202    163.70  |          |    VQ  |         |         |
  2+10      15.9612    165.67  |          |     Q  |         |         |
  2+15      17.1702    175.54  |          |      Q |         |         |
  2+20      18.4898    191.61  |          |       VQ|         |         |
  2+25      20.0095    220.67  |          |         V Q       |         |
  2+30      21.7235    248.86  |          |         | V Q     |         |
  2+35      23.5820    269.85  |          |         |   V Q   |         |
  2+40      25.8934    335.61  |          |         |     V   |  Q      |
  2+45      28.4132    365.88  |          |         |         V|     Q  |
  2+50      30.9099    362.53  |          |         |          |V    Q  |
  2+55      32.9815    300.79  |          |         |          Q  V     |
  3+ 0      34.4713    216.32  |          |         |Q         |    V    |
  3+ 5      35.6524    171.50  |          |       Q |          |     V   |
  3+10      36.5939    136.70  |          |  Q      |          |      V  |
  3+15      37.2505     95.35  |        Q |         |          |       V |
  3+20      37.7173     67.78  |      Q   |         |          |       V |
  3+25      38.0626     50.13  |     Q    |         |          |        V|
  3+30      38.3149     36.63  |  Q       |         |          |        V|
  3+35      38.4958     26.27  | Q        |         |          |        V|
  3+40      38.6234     18.53  |Q         |         |          |        V|
  3+45      38.7144     13.21  |Q         |         |          |        V|
  3+50      38.7821      9.83  Q          |         |          |        V|
  3+55      38.8341      7.54  Q          |         |          |        V|
  4+ 0      38.8744      5.86  Q          |         |          |        V|
  4+ 5      38.9069      4.72  Q          |         |          |        V|
  4+10      38.9329      3.77  Q          |         |          |        V|
  4+15      38.9518      2.75  Q          |         |          |        V|
  4+20      38.9643      1.82  Q          |         |          |        V|
  4+25      38.9725      1.19  Q          |         |          |        V|
  4+30      38.9770      0.66  Q          |         |          |        V|
```

```
    4+35      38.9791      0.30  Q         |          |          |         V|
    4+40      38.9801      0.15  Q         |          |          |         V|
    4+45      38.9806      0.07  Q         |          |          |         V|
    4+50      38.9807      0.01  Q         |          |          |          V
-------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX316100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRING - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 31
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-16

---

Drainage Area = 295.20(Ac.) = 0.461 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 295.20(Ac.) = 0.461 Sq. Mi.
Length along longest watercourse = 7190.00(Ft.)
Length along longest watercourse measured to centroid = 3962.00(Ft.)
Length along longest watercourse = 1.362 Mi.
Length along longest watercourse measured to centroid = 0.750 Mi.
Difference in elevation = 592.00(Ft.)
Slope along watercourse = 434.7371 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.267 Hr.
Lag time = 16.02 Min.
25% of lag time = 4.01 Min.
40% of lag time = 6.41 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 295.20 | 1.14 | 336.53 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 295.20 | 2.50 | 738.00 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.140(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 99.90 %
Adjusted average point rain = 2.497(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 295.200 | 85.57 | 0.010 |

Total Area Entered = 295.20(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 85.6 | 94.2 | 0.075 | 0.010 | 0.074 | 1.000 | 0.074 |
| | | | | | Sum (F) = | 0.074 |

Area averaged mean soil loss (F) (In/Hr) = 0.074

Minimum soil loss rate ((In/Hr)) = 0.037
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.892

---

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 31.206 | 2.261 | 6.728 |
| 2 | 0.167 | 62.412 | 7.358 | 21.891 |
| 3 | 0.250 | 93.618 | 15.364 | 45.709 |
| 4 | 0.333 | 124.825 | 30.130 | 89.640 |
| 5 | 0.417 | 156.031 | 13.769 | 40.964 |
| 6 | 0.500 | 187.237 | 7.997 | 23.793 |
| 7 | 0.583 | 218.443 | 5.824 | 17.326 |
| 8 | 0.667 | 249.649 | 4.364 | 12.985 |
| 9 | 0.750 | 280.855 | 3.386 | 10.075 |
| 10 | 0.833 | 312.061 | 2.624 | 7.807 |
| 11 | 0.917 | 343.267 | 2.006 | 5.967 |
| 12 | 1.000 | 374.474 | 1.464 | 4.356 |
| 13 | 1.083 | 405.680 | 1.065 | 3.168 |
| 14 | 1.167 | 436.886 | 0.542 | 1.611 |
| 15 | 1.250 | 468.092 | 0.364 | 1.083 |
| 16 | 1.333 | 499.298 | 0.318 | 0.945 |
| 17 | 1.417 | 530.504 | 0.252 | 0.751 |
| 18 | 1.500 | 561.710 | 0.192 | 0.570 |
| 19 | 1.583 | 592.916 | 0.237 | 0.706 |
| 20 | 1.667 | 624.123 | 0.212 | 0.632 |
| 21 | 1.750 | 655.329 | 0.127 | 0.378 |
| 22 | 1.833 | 686.535 | 0.084 | 0.250 |
| 23 | 1.917 | 717.741 | 0.058 | 0.173 |
| | | Sum = 100.000 | Sum= | 297.506 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.074 | ( 0.134) | 0.075 |
| 2 | 0.17 | 0.60 | 0.180 | 0.074 | ( 0.160) | 0.105 |
| 3 | 0.25 | 0.60 | 0.180 | 0.074 | ( 0.160) | 0.105 |
| 4 | 0.33 | 0.60 | 0.180 | 0.074 | ( 0.160) | 0.105 |
| 5 | 0.42 | 0.60 | 0.180 | 0.074 | ( 0.160) | 0.105 |
| 6 | 0.50 | 0.70 | 0.210 | 0.074 | ( 0.187) | 0.135 |
| 7 | 0.58 | 0.70 | 0.210 | 0.074 | ( 0.187) | 0.135 |
| 8 | 0.67 | 0.70 | 0.210 | 0.074 | ( 0.187) | 0.135 |
| 9 | 0.75 | 0.70 | 0.210 | 0.074 | ( 0.187) | 0.135 |
| 10 | 0.83 | 0.70 | 0.210 | 0.074 | ( 0.187) | 0.135 |
| 11 | 0.92 | 0.70 | 0.210 | 0.074 | ( 0.187) | 0.135 |
| 12 | 1.00 | 0.80 | 0.240 | 0.074 | ( 0.214) | 0.165 |
| 13 | 1.08 | 0.80 | 0.240 | 0.074 | ( 0.214) | 0.165 |
| 14 | 1.17 | 0.80 | 0.240 | 0.074 | ( 0.214) | 0.165 |
| 15 | 1.25 | 0.80 | 0.240 | 0.074 | ( 0.214) | 0.165 |
| 16 | 1.33 | 0.80 | 0.240 | 0.074 | ( 0.214) | 0.165 |
| 17 | 1.42 | 0.80 | 0.240 | 0.074 | ( 0.214) | 0.165 |
| 18 | 1.50 | 0.80 | 0.240 | 0.074 | ( 0.214) | 0.165 |
| 19 | 1.58 | 0.80 | 0.240 | 0.074 | ( 0.214) | 0.165 |
| 20 | 1.67 | 0.80 | 0.240 | 0.074 | ( 0.214) | 0.165 |
| 21 | 1.75 | 0.80 | 0.240 | 0.074 | ( 0.214) | 0.165 |
| 22 | 1.83 | 0.80 | 0.240 | 0.074 | ( 0.214) | 0.165 |
| 23 | 1.92 | 0.80 | 0.240 | 0.074 | ( 0.214) | 0.165 |
| 24 | 2.00 | 0.90 | 0.270 | 0.074 | ( 0.241) | 0.195 |
| 25 | 2.08 | 0.80 | 0.240 | 0.074 | ( 0.214) | 0.165 |
| 26 | 2.17 | 0.90 | 0.270 | 0.074 | ( 0.241) | 0.195 |
| 27 | 2.25 | 0.90 | 0.270 | 0.074 | ( 0.241) | 0.195 |
| 28 | 2.33 | 0.90 | 0.270 | 0.074 | ( 0.241) | 0.195 |
| 29 | 2.42 | 0.90 | 0.270 | 0.074 | ( 0.241) | 0.195 |
| 30 | 2.50 | 0.90 | 0.270 | 0.074 | ( 0.241) | 0.195 |
| 31 | 2.58 | 0.90 | 0.270 | 0.074 | ( 0.241) | 0.195 |
| 32 | 2.67 | 0.90 | 0.270 | 0.074 | ( 0.241) | 0.195 |
| 33 | 2.75 | 1.00 | 0.300 | 0.074 | ( 0.267) | 0.225 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 34 | 2.83 | 1.00 | 0.300 | 0.074 | ( 0.267) | | 0.225 |
| 35 | 2.92 | 1.00 | 0.300 | 0.074 | ( 0.267) | | 0.225 |
| 36 | 3.00 | 1.00 | 0.300 | 0.074 | ( 0.267) | | 0.225 |
| 37 | 3.08 | 1.00 | 0.300 | 0.074 | ( 0.267) | | 0.225 |
| 38 | 3.17 | 1.10 | 0.330 | 0.074 | ( 0.294) | | 0.255 |
| 39 | 3.25 | 1.10 | 0.330 | 0.074 | ( 0.294) | | 0.255 |
| 40 | 3.33 | 1.10 | 0.330 | 0.074 | ( 0.294) | | 0.255 |
| 41 | 3.42 | 1.20 | 0.360 | 0.074 | ( 0.321) | | 0.285 |
| 42 | 3.50 | 1.30 | 0.390 | 0.074 | ( 0.348) | | 0.315 |
| 43 | 3.58 | 1.40 | 0.420 | 0.074 | ( 0.374) | | 0.345 |
| 44 | 3.67 | 1.40 | 0.420 | 0.074 | ( 0.374) | | 0.345 |
| 45 | 3.75 | 1.50 | 0.450 | 0.074 | ( 0.401) | | 0.375 |
| 46 | 3.83 | 1.50 | 0.450 | 0.074 | ( 0.401) | | 0.375 |
| 47 | 3.92 | 1.60 | 0.480 | 0.074 | ( 0.428) | | 0.405 |
| 48 | 4.00 | 1.60 | 0.480 | 0.074 | ( 0.428) | | 0.405 |
| 49 | 4.08 | 1.70 | 0.509 | 0.074 | ( 0.454) | | 0.435 |
| 50 | 4.17 | 1.80 | 0.539 | 0.074 | ( 0.481) | | 0.465 |
| 51 | 4.25 | 1.90 | 0.569 | 0.074 | ( 0.508) | | 0.495 |
| 52 | 4.33 | 2.00 | 0.599 | 0.074 | ( 0.535) | | 0.525 |
| 53 | 4.42 | 2.10 | 0.629 | 0.074 | ( 0.561) | | 0.555 |
| 54 | 4.50 | 2.10 | 0.629 | 0.074 | ( 0.561) | | 0.555 |
| 55 | 4.58 | 2.20 | 0.659 | 0.074 | ( 0.588) | | 0.585 |
| 56 | 4.67 | 2.30 | 0.689 | 0.074 | ( 0.615) | | 0.615 |
| 57 | 4.75 | 2.40 | 0.719 | 0.074 | ( 0.642) | | 0.645 |
| 58 | 4.83 | 2.40 | 0.719 | 0.074 | ( 0.642) | | 0.645 |
| 59 | 4.92 | 2.50 | 0.749 | 0.074 | ( 0.668) | | 0.675 |
| 60 | 5.00 | 2.60 | 0.779 | 0.074 | ( 0.695) | | 0.705 |
| 61 | 5.08 | 3.10 | 0.929 | 0.074 | ( 0.829) | | 0.855 |
| 62 | 5.17 | 3.60 | 1.079 | 0.074 | ( 0.962) | | 1.005 |
| 63 | 5.25 | 3.90 | 1.169 | 0.074 | ( 1.043) | | 1.094 |
| 64 | 5.33 | 4.20 | 1.259 | 0.074 | ( 1.123) | | 1.184 |
| 65 | 5.42 | 4.70 | 1.409 | 0.074 | ( 1.256) | | 1.334 |
| 66 | 5.50 | 5.60 | 1.678 | 0.074 | ( 1.497) | | 1.604 |
| 67 | 5.58 | 1.90 | 0.569 | 0.074 | ( 0.508) | | 0.495 |
| 68 | 5.67 | 0.90 | 0.270 | 0.074 | ( 0.241) | | 0.195 |
| 69 | 5.75 | 0.60 | 0.180 | 0.074 | ( 0.160) | | 0.105 |
| 70 | 5.83 | 0.50 | 0.150 | 0.074 | ( 0.134) | | 0.075 |
| 71 | 5.92 | 0.30 | 0.090 | 0.074 | ( 0.080) | | 0.016 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.074) | 0.053 | | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 24.6

Flood volume = Effective rainfall 2.05(In)
times area 295.2(Ac.)/[(In)/(Ft.)] = 50.5(Ac.Ft)
Total soil loss = 0.44(In)
Total soil loss = 10.933(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 2199988.7 Cubic Feet
Total soil loss = 476232.8 Cubic Feet

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Peak flow rate of this hydrograph = 332.937(CFS)

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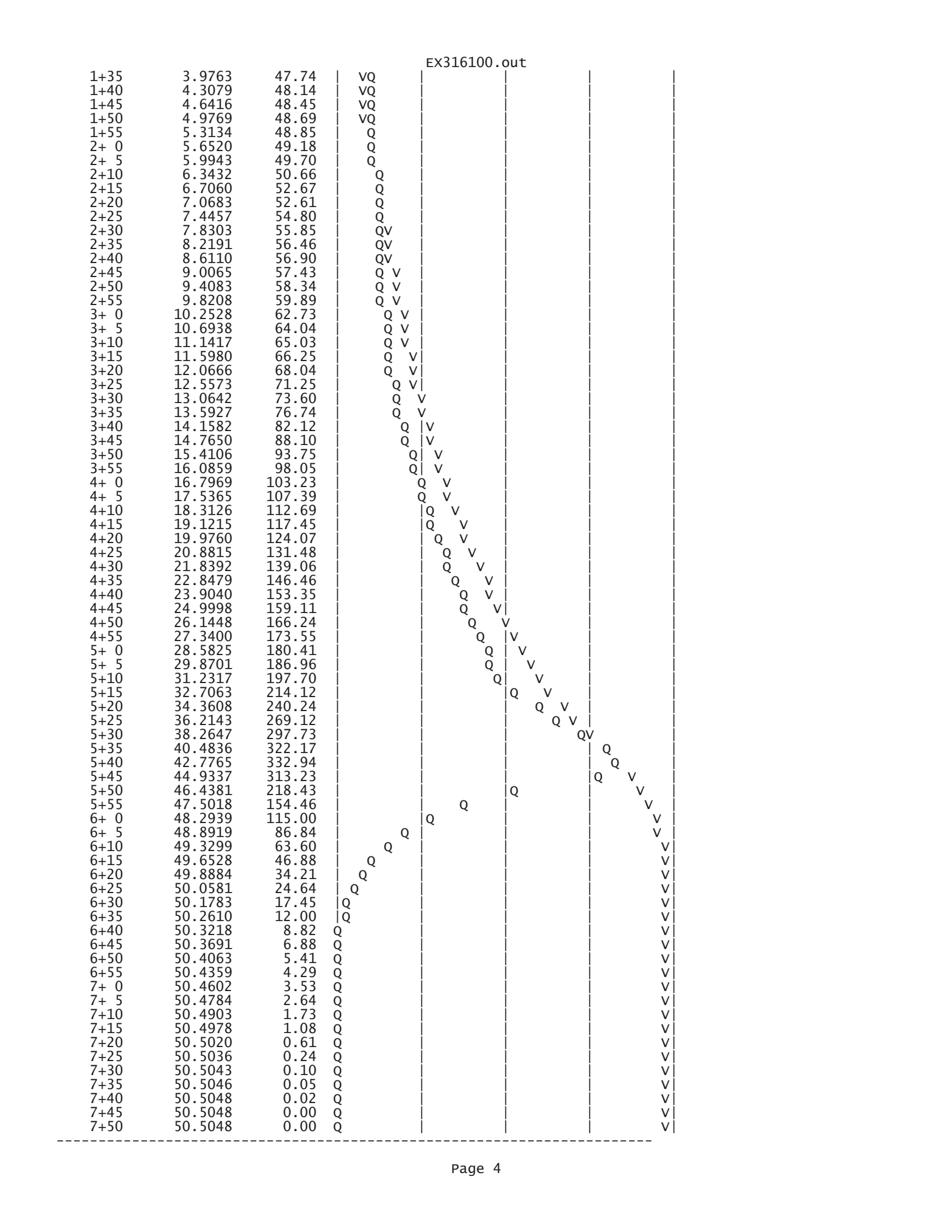
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 100.0 | 200.0 | 300.0 | 400.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0035 | 0.51 | Q | | | | |
| 0+10 | 0.0198 | 2.36 | Q | | | | |
| 0+15 | 0.0643 | 6.47 | Q | | | | |
| 0+20 | 0.1650 | 14.61 | VQ | | | | |
| 0+25 | 0.3054 | 20.39 | V Q | | | | |
| 0+30 | 0.4681 | 23.62 | V Q | | | | |
| 0+35 | 0.6493 | 26.30 | V Q | | | | |
| 0+40 | 0.8502 | 29.17 | V Q | | | | |
| 0+45 | 1.0775 | 33.01 | V Q | | | | |
| 0+50 | 1.3194 | 35.13 | \|V Q | | | | |
| 0+55 | 1.5710 | 36.53 | \|V Q | | | | |
| 1+ 0 | 1.8310 | 37.76 | \|V Q | | | | |
| 1+ 5 | 2.1008 | 39.17 | \|V Q | | | | |
| 1+10 | 2.3836 | 41.06 | \|V Q | | | | |
| 1+15 | 2.6874 | 44.11 | \| V Q | | | | |
| 1+20 | 3.0016 | 45.62 | \| V Q | | | | |
| 1+25 | 3.3222 | 46.55 | \| V Q | | | | |
| 1+30 | 3.6475 | 47.23 | \| V Q | | | | |



| | | | |
|---|---|---|---|
| 1+35 | 3.9763 | 47.74 | VQ |
| 1+40 | 4.3079 | 48.14 | VQ |
| 1+45 | 4.6416 | 48.45 | VQ |
| 1+50 | 4.9769 | 48.69 | VQ |
| 1+55 | 5.3134 | 48.85 | Q |
| 2+ 0 | 5.6520 | 49.18 | Q |
| 2+ 5 | 5.9943 | 49.70 | Q |
| 2+10 | 6.3432 | 50.66 | Q |
| 2+15 | 6.7060 | 52.67 | Q |
| 2+20 | 7.0683 | 52.61 | Q |
| 2+25 | 7.4457 | 54.80 | Q |
| 2+30 | 7.8303 | 55.85 | QV |
| 2+35 | 8.2191 | 56.46 | QV |
| 2+40 | 8.6110 | 56.90 | QV |
| 2+45 | 9.0065 | 57.43 | Q V |
| 2+50 | 9.4083 | 58.34 | Q V |
| 2+55 | 9.8208 | 59.89 | Q V |
| 3+ 0 | 10.2528 | 62.73 | Q V |
| 3+ 5 | 10.6938 | 64.04 | Q V |
| 3+10 | 11.1417 | 65.03 | Q V |
| 3+15 | 11.5980 | 66.25 | Q V |
| 3+20 | 12.0666 | 68.04 | Q V |
| 3+25 | 12.5573 | 71.25 | Q V |
| 3+30 | 13.0642 | 73.60 | Q V |
| 3+35 | 13.5927 | 76.74 | Q V |
| 3+40 | 14.1582 | 82.12 | Q V |
| 3+45 | 14.7650 | 88.10 | Q V |
| 3+50 | 15.4106 | 93.75 | Q V |
| 3+55 | 16.0859 | 98.05 | Q V |
| 4+ 0 | 16.7969 | 103.23 | Q V |
| 4+ 5 | 17.5365 | 107.39 | Q V |
| 4+10 | 18.3126 | 112.69 | Q V |
| 4+15 | 19.1215 | 117.45 | Q V |
| 4+20 | 19.9760 | 124.07 | Q V |
| 4+25 | 20.8815 | 131.48 | Q V |
| 4+30 | 21.8392 | 139.06 | Q V |
| 4+35 | 22.8479 | 146.46 | Q V |
| 4+40 | 23.9040 | 153.35 | Q V |
| 4+45 | 24.9998 | 159.11 | Q V |
| 4+50 | 26.1448 | 166.24 | Q V |
| 4+55 | 27.3400 | 173.55 | Q V |
| 5+ 0 | 28.5825 | 180.41 | Q V |
| 5+ 5 | 29.8701 | 186.96 | Q V |
| 5+10 | 31.2317 | 197.70 | Q V |
| 5+15 | 32.7063 | 214.12 | Q V |
| 5+20 | 34.3608 | 240.24 | Q V |
| 5+25 | 36.2143 | 269.12 | Q V |
| 5+30 | 38.2647 | 297.73 | QV |
| 5+35 | 40.4836 | 322.17 | Q |
| 5+40 | 42.7765 | 332.94 | Q |
| 5+45 | 44.9337 | 313.23 | Q V |
| 5+50 | 46.4381 | 218.43 | Q V |
| 5+55 | 47.5018 | 154.46 | Q V |
| 6+ 0 | 48.2939 | 115.00 | Q V |
| 6+ 5 | 48.8919 | 86.84 | Q V |
| 6+10 | 49.3299 | 63.60 | Q V |
| 6+15 | 49.6528 | 46.88 | Q V |
| 6+20 | 49.8884 | 34.21 | Q V |
| 6+25 | 50.0581 | 24.64 | Q V |
| 6+30 | 50.1783 | 17.45 | Q V |
| 6+35 | 50.2610 | 12.00 | Q V |
| 6+40 | 50.3218 | 8.82 | Q V |
| 6+45 | 50.3691 | 6.88 | Q V |
| 6+50 | 50.4063 | 5.41 | Q V |
| 6+55 | 50.4359 | 4.29 | Q V |
| 7+ 0 | 50.4602 | 3.53 | Q V |
| 7+ 5 | 50.4784 | 2.64 | Q V |
| 7+10 | 50.4903 | 1.73 | Q V |
| 7+15 | 50.4978 | 1.08 | Q V |
| 7+20 | 50.5020 | 0.61 | Q V |
| 7+25 | 50.5036 | 0.24 | Q V |
| 7+30 | 50.5043 | 0.10 | Q V |
| 7+35 | 50.5046 | 0.05 | Q V |
| 7+40 | 50.5048 | 0.02 | Q V |
| 7+45 | 50.5048 | 0.00 | Q V |
| 7+50 | 50.5048 | 0.00 | Q V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX3124100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRING - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 31
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-16

---

Drainage Area = 295.20(Ac.) = 0.461 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 295.20(Ac.) = 0.461 Sq. Mi.
Length along longest watercourse = 7190.00(Ft.)
Length along longest watercourse measured to centroid = 3962.00(Ft.)
Length along longest watercourse = 1.362 Mi.
Length along longest watercourse measured to centroid = 0.750 Mi.
Difference in elevation = 592.00(Ft.)
Slope along watercourse = 434.7371 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.267 Hr.
Lag time = 16.02 Min.
25% of lag time = 4.01 Min.
40% of lag time = 6.41 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 295.20 | 1.80 | 531.36 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 295.20 | 4.69 | 1384.49 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.690(In)

Point rain (area averaged) = 4.690(In)
Areal adjustment factor = 99.94 %
Adjusted average point rain = 4.687(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 295.200 | 85.57 | 0.010 |

Total Area Entered = 295.20(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 85.6 | 94.2 | 0.075 | 0.010 | 0.074 | 1.000 | 0.074 |
| | | | | | Sum (F) = | 0.074 |

Area averaged mean soil loss (F) (In/Hr) = 0.074

Minimum soil loss rate ((In/Hr)) = 0.037
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.892

---

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 31.206 | 2.261 | 6.728 |
| 2 | 0.167 | 62.412 | 7.358 | 21.891 |
| 3 | 0.250 | 93.618 | 15.364 | 45.709 |
| 4 | 0.333 | 124.825 | 30.130 | 89.640 |
| 5 | 0.417 | 156.031 | 13.769 | 40.964 |
| 6 | 0.500 | 187.237 | 7.997 | 23.793 |
| 7 | 0.583 | 218.443 | 5.824 | 17.326 |
| 8 | 0.667 | 249.649 | 4.364 | 12.985 |
| 9 | 0.750 | 280.855 | 3.386 | 10.075 |
| 10 | 0.833 | 312.061 | 2.624 | 7.807 |
| 11 | 0.917 | 343.267 | 2.006 | 5.967 |
| 12 | 1.000 | 374.474 | 1.464 | 4.356 |
| 13 | 1.083 | 405.680 | 1.065 | 3.168 |
| 14 | 1.167 | 436.886 | 0.542 | 1.611 |
| 15 | 1.250 | 468.092 | 0.364 | 1.083 |
| 16 | 1.333 | 499.298 | 0.318 | 0.945 |
| 17 | 1.417 | 530.504 | 0.252 | 0.751 |
| 18 | 1.500 | 561.710 | 0.192 | 0.570 |
| 19 | 1.583 | 592.916 | 0.237 | 0.706 |
| 20 | 1.667 | 624.123 | 0.212 | 0.632 |
| 21 | 1.750 | 655.329 | 0.127 | 0.378 |
| 22 | 1.833 | 686.535 | 0.084 | 0.250 |
| 23 | 1.917 | 717.741 | 0.058 | 0.173 |
| | | Sum = | 100.000 Sum= | 297.506 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.037 | ( 0.132) | 0.033 | 0.004 |
| 2 | 0.17 | 0.07 | 0.037 | ( 0.131) | 0.033 | 0.004 |
| 3 | 0.25 | 0.07 | 0.037 | ( 0.131) | 0.033 | 0.004 |
| 4 | 0.33 | 0.10 | 0.056 | ( 0.130) | 0.050 | 0.006 |
| 5 | 0.42 | 0.10 | 0.056 | ( 0.130) | 0.050 | 0.006 |
| 6 | 0.50 | 0.10 | 0.056 | ( 0.129) | 0.050 | 0.006 |
| 7 | 0.58 | 0.10 | 0.056 | ( 0.129) | 0.050 | 0.006 |
| 8 | 0.67 | 0.10 | 0.056 | ( 0.128) | 0.050 | 0.006 |
| 9 | 0.75 | 0.10 | 0.056 | ( 0.128) | 0.050 | 0.006 |
| 10 | 0.83 | 0.13 | 0.075 | ( 0.127) | 0.067 | 0.008 |
| 11 | 0.92 | 0.13 | 0.075 | ( 0.127) | 0.067 | 0.008 |
| 12 | 1.00 | 0.13 | 0.075 | ( 0.126) | 0.067 | 0.008 |
| 13 | 1.08 | 0.10 | 0.056 | ( 0.126) | 0.050 | 0.006 |
| 14 | 1.17 | 0.10 | 0.056 | ( 0.125) | 0.050 | 0.006 |
| 15 | 1.25 | 0.10 | 0.056 | ( 0.125) | 0.050 | 0.006 |
| 16 | 1.33 | 0.10 | 0.056 | ( 0.124) | 0.050 | 0.006 |
| 17 | 1.42 | 0.10 | 0.056 | ( 0.124) | 0.050 | 0.006 |
| 18 | 1.50 | 0.10 | 0.056 | ( 0.123) | 0.050 | 0.006 |
| 19 | 1.58 | 0.10 | 0.056 | ( 0.123) | 0.050 | 0.006 |
| 20 | 1.67 | 0.10 | 0.056 | ( 0.122) | 0.050 | 0.006 |
| 21 | 1.75 | 0.10 | 0.056 | ( 0.122) | 0.050 | 0.006 |
| 22 | 1.83 | 0.13 | 0.075 | ( 0.121) | 0.067 | 0.008 |
| 23 | 1.92 | 0.13 | 0.075 | ( 0.121) | 0.067 | 0.008 |
| 24 | 2.00 | 0.13 | 0.075 | ( 0.120) | 0.067 | 0.008 |
| 25 | 2.08 | 0.13 | 0.075 | ( 0.120) | 0.067 | 0.008 |
| 26 | 2.17 | 0.13 | 0.075 | ( 0.119) | 0.067 | 0.008 |
| 27 | 2.25 | 0.13 | 0.075 | ( 0.119) | 0.067 | 0.008 |
| 28 | 2.33 | 0.13 | 0.075 | ( 0.118) | 0.067 | 0.008 |
| 29 | 2.42 | 0.13 | 0.075 | ( 0.118) | 0.067 | 0.008 |
| 30 | 2.50 | 0.13 | 0.075 | ( 0.117) | 0.067 | 0.008 |
| 31 | 2.58 | 0.17 | 0.094 | ( 0.117) | 0.084 | 0.010 |
| 32 | 2.67 | 0.17 | 0.094 | ( 0.116) | 0.084 | 0.010 |
| 33 | 2.75 | 0.17 | 0.094 | ( 0.116) | 0.084 | 0.010 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 34 | 2.83 | 0.17 | 0.094 | ( | 0.116) | 0.084 | | 0.010 |
| 35 | 2.92 | 0.17 | 0.094 | ( | 0.115) | 0.084 | | 0.010 |
| 36 | 3.00 | 0.17 | 0.094 | ( | 0.115) | 0.084 | | 0.010 |
| 37 | 3.08 | 0.17 | 0.094 | ( | 0.114) | 0.084 | | 0.010 |
| 38 | 3.17 | 0.17 | 0.094 | ( | 0.114) | 0.084 | | 0.010 |
| 39 | 3.25 | 0.17 | 0.094 | ( | 0.113) | 0.084 | | 0.010 |
| 40 | 3.33 | 0.17 | 0.094 | ( | 0.113) | 0.084 | | 0.010 |
| 41 | 3.42 | 0.17 | 0.094 | ( | 0.112) | 0.084 | | 0.010 |
| 42 | 3.50 | 0.17 | 0.094 | ( | 0.112) | 0.084 | | 0.010 |
| 43 | 3.58 | 0.17 | 0.094 | ( | 0.111) | 0.084 | | 0.010 |
| 44 | 3.67 | 0.17 | 0.094 | ( | 0.111) | 0.084 | | 0.010 |
| 45 | 3.75 | 0.17 | 0.094 | ( | 0.110) | 0.084 | | 0.010 |
| 46 | 3.83 | 0.20 | 0.112 | ( | 0.110) | 0.100 | | 0.012 |
| 47 | 3.92 | 0.20 | 0.112 | ( | 0.109) | 0.100 | | 0.012 |
| 48 | 4.00 | 0.20 | 0.112 | ( | 0.109) | 0.100 | | 0.012 |
| 49 | 4.08 | 0.20 | 0.112 | ( | 0.108) | 0.100 | | 0.012 |
| 50 | 4.17 | 0.20 | 0.112 | ( | 0.108) | 0.100 | | 0.012 |
| 51 | 4.25 | 0.20 | 0.112 | ( | 0.108) | 0.100 | | 0.012 |
| 52 | 4.33 | 0.23 | 0.131 | | 0.107 | ( | 0.117) | 0.024 |
| 53 | 4.42 | 0.23 | 0.131 | | 0.107 | ( | 0.117) | 0.025 |
| 54 | 4.50 | 0.23 | 0.131 | | 0.106 | ( | 0.117) | 0.025 |
| 55 | 4.58 | 0.23 | 0.131 | | 0.106 | ( | 0.117) | 0.026 |
| 56 | 4.67 | 0.23 | 0.131 | | 0.105 | ( | 0.117) | 0.026 |
| 57 | 4.75 | 0.23 | 0.131 | | 0.105 | ( | 0.117) | 0.026 |
| 58 | 4.83 | 0.27 | 0.150 | | 0.104 | ( | 0.134) | 0.046 |
| 59 | 4.92 | 0.27 | 0.150 | | 0.104 | ( | 0.134) | 0.046 |
| 60 | 5.00 | 0.27 | 0.150 | | 0.103 | ( | 0.134) | 0.047 |
| 61 | 5.08 | 0.20 | 0.112 | ( | 0.103) | 0.100 | | 0.012 |
| 62 | 5.17 | 0.20 | 0.112 | ( | 0.103) | 0.100 | | 0.012 |
| 63 | 5.25 | 0.20 | 0.112 | ( | 0.102) | 0.100 | | 0.012 |
| 64 | 5.33 | 0.23 | 0.131 | | 0.102 | ( | 0.117) | 0.030 |
| 65 | 5.42 | 0.23 | 0.131 | | 0.101 | ( | 0.117) | 0.030 |
| 66 | 5.50 | 0.23 | 0.131 | | 0.101 | ( | 0.117) | 0.030 |
| 67 | 5.58 | 0.27 | 0.150 | | 0.100 | ( | 0.134) | 0.050 |
| 68 | 5.67 | 0.27 | 0.150 | | 0.100 | ( | 0.134) | 0.050 |
| 69 | 5.75 | 0.27 | 0.150 | | 0.099 | ( | 0.134) | 0.051 |
| 70 | 5.83 | 0.27 | 0.150 | | 0.099 | ( | 0.134) | 0.051 |
| 71 | 5.92 | 0.27 | 0.150 | | 0.099 | ( | 0.134) | 0.051 |
| 72 | 6.00 | 0.27 | 0.150 | | 0.098 | ( | 0.134) | 0.052 |
| 73 | 6.08 | 0.30 | 0.169 | | 0.098 | ( | 0.151) | 0.071 |
| 74 | 6.17 | 0.30 | 0.169 | | 0.097 | ( | 0.151) | 0.071 |
| 75 | 6.25 | 0.30 | 0.169 | | 0.097 | ( | 0.151) | 0.072 |
| 76 | 6.33 | 0.30 | 0.169 | | 0.096 | ( | 0.151) | 0.072 |
| 77 | 6.42 | 0.30 | 0.169 | | 0.096 | ( | 0.151) | 0.073 |
| 78 | 6.50 | 0.30 | 0.169 | | 0.096 | ( | 0.151) | 0.073 |
| 79 | 6.58 | 0.33 | 0.187 | | 0.095 | ( | 0.167) | 0.092 |
| 80 | 6.67 | 0.33 | 0.187 | | 0.095 | ( | 0.167) | 0.093 |
| 81 | 6.75 | 0.33 | 0.187 | | 0.094 | ( | 0.167) | 0.093 |
| 82 | 6.83 | 0.33 | 0.187 | | 0.094 | ( | 0.167) | 0.094 |
| 83 | 6.92 | 0.33 | 0.187 | | 0.093 | ( | 0.167) | 0.094 |
| 84 | 7.00 | 0.33 | 0.187 | | 0.093 | ( | 0.167) | 0.094 |
| 85 | 7.08 | 0.33 | 0.187 | | 0.093 | ( | 0.167) | 0.095 |
| 86 | 7.17 | 0.33 | 0.187 | | 0.092 | ( | 0.167) | 0.095 |
| 87 | 7.25 | 0.33 | 0.187 | | 0.092 | ( | 0.167) | 0.096 |
| 88 | 7.33 | 0.37 | 0.206 | | 0.091 | ( | 0.184) | 0.115 |
| 89 | 7.42 | 0.37 | 0.206 | | 0.091 | ( | 0.184) | 0.115 |
| 90 | 7.50 | 0.37 | 0.206 | | 0.090 | ( | 0.184) | 0.116 |
| 91 | 7.58 | 0.40 | 0.225 | | 0.090 | ( | 0.201) | 0.135 |
| 92 | 7.67 | 0.40 | 0.225 | | 0.090 | ( | 0.201) | 0.135 |
| 93 | 7.75 | 0.40 | 0.225 | | 0.089 | ( | 0.201) | 0.136 |
| 94 | 7.83 | 0.43 | 0.244 | | 0.089 | ( | 0.217) | 0.155 |
| 95 | 7.92 | 0.43 | 0.244 | | 0.088 | ( | 0.217) | 0.155 |
| 96 | 8.00 | 0.43 | 0.244 | | 0.088 | ( | 0.217) | 0.156 |
| 97 | 8.08 | 0.50 | 0.281 | | 0.088 | ( | 0.251) | 0.194 |
| 98 | 8.17 | 0.50 | 0.281 | | 0.087 | ( | 0.251) | 0.194 |
| 99 | 8.25 | 0.50 | 0.281 | | 0.087 | ( | 0.251) | 0.194 |
| 100 | 8.33 | 0.50 | 0.281 | | 0.086 | ( | 0.251) | 0.195 |
| 101 | 8.42 | 0.50 | 0.281 | | 0.086 | ( | 0.251) | 0.195 |
| 102 | 8.50 | 0.50 | 0.281 | | 0.086 | ( | 0.251) | 0.196 |
| 103 | 8.58 | 0.53 | 0.300 | | 0.085 | ( | 0.268) | 0.215 |
| 104 | 8.67 | 0.53 | 0.300 | | 0.085 | ( | 0.268) | 0.215 |
| 105 | 8.75 | 0.53 | 0.300 | | 0.084 | ( | 0.268) | 0.216 |
| 106 | 8.83 | 0.57 | 0.319 | | 0.084 | ( | 0.284) | 0.235 |
| 107 | 8.92 | 0.57 | 0.319 | | 0.084 | ( | 0.284) | 0.235 |
| 108 | 9.00 | 0.57 | 0.319 | | 0.083 | ( | 0.284) | 0.236 |
| 109 | 9.08 | 0.63 | 0.356 | | 0.083 | ( | 0.318) | 0.273 |
| 110 | 9.17 | 0.63 | 0.356 | | 0.082 | ( | 0.318) | 0.274 |
| 111 | 9.25 | 0.63 | 0.356 | | 0.082 | ( | 0.318) | 0.274 |

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|---|---|---|---|---|---|---|
| 112 | 9.33 | 0.67 | 0.375 | 0.082 | ( 0.334) | 0.293 |
| 113 | 9.42 | 0.67 | 0.375 | 0.081 | ( 0.334) | 0.294 |
| 114 | 9.50 | 0.67 | 0.375 | 0.081 | ( 0.334) | 0.294 |
| 115 | 9.58 | 0.70 | 0.394 | 0.080 | ( 0.351) | 0.313 |
| 116 | 9.67 | 0.70 | 0.394 | 0.080 | ( 0.351) | 0.314 |
| 117 | 9.75 | 0.70 | 0.394 | 0.080 | ( 0.351) | 0.314 |
| 118 | 9.83 | 0.73 | 0.412 | 0.079 | ( 0.368) | 0.333 |
| 119 | 9.92 | 0.73 | 0.412 | 0.079 | ( 0.368) | 0.334 |
| 120 | 10.00 | 0.73 | 0.412 | 0.079 | ( 0.368) | 0.334 |
| 121 | 10.08 | 0.50 | 0.281 | 0.078 | ( 0.251) | 0.203 |
| 122 | 10.17 | 0.50 | 0.281 | 0.078 | ( 0.251) | 0.203 |
| 123 | 10.25 | 0.50 | 0.281 | 0.077 | ( 0.251) | 0.204 |
| 124 | 10.33 | 0.50 | 0.281 | 0.077 | ( 0.251) | 0.204 |
| 125 | 10.42 | 0.50 | 0.281 | 0.077 | ( 0.251) | 0.205 |
| 126 | 10.50 | 0.50 | 0.281 | 0.076 | ( 0.251) | 0.205 |
| 127 | 10.58 | 0.67 | 0.375 | 0.076 | ( 0.334) | 0.299 |
| 128 | 10.67 | 0.67 | 0.375 | 0.076 | ( 0.334) | 0.299 |
| 129 | 10.75 | 0.67 | 0.375 | 0.075 | ( 0.334) | 0.300 |
| 130 | 10.83 | 0.67 | 0.375 | 0.075 | ( 0.334) | 0.300 |
| 131 | 10.92 | 0.67 | 0.375 | 0.074 | ( 0.334) | 0.301 |
| 132 | 11.00 | 0.67 | 0.375 | 0.074 | ( 0.334) | 0.301 |
| 133 | 11.08 | 0.63 | 0.356 | 0.074 | ( 0.318) | 0.283 |
| 134 | 11.17 | 0.63 | 0.356 | 0.073 | ( 0.318) | 0.283 |
| 135 | 11.25 | 0.63 | 0.356 | 0.073 | ( 0.318) | 0.283 |
| 136 | 11.33 | 0.63 | 0.356 | 0.073 | ( 0.318) | 0.284 |
| 137 | 11.42 | 0.63 | 0.356 | 0.072 | ( 0.318) | 0.284 |
| 138 | 11.50 | 0.63 | 0.356 | 0.072 | ( 0.318) | 0.284 |
| 139 | 11.58 | 0.57 | 0.319 | 0.072 | ( 0.284) | 0.247 |
| 140 | 11.67 | 0.57 | 0.319 | 0.071 | ( 0.284) | 0.248 |
| 141 | 11.75 | 0.57 | 0.319 | 0.071 | ( 0.284) | 0.248 |
| 142 | 11.83 | 0.60 | 0.337 | 0.070 | ( 0.301) | 0.267 |
| 143 | 11.92 | 0.60 | 0.337 | 0.070 | ( 0.301) | 0.267 |
| 144 | 12.00 | 0.60 | 0.337 | 0.070 | ( 0.301) | 0.268 |
| 145 | 12.08 | 0.83 | 0.469 | 0.069 | ( 0.418) | 0.399 |
| 146 | 12.17 | 0.83 | 0.469 | 0.069 | ( 0.418) | 0.400 |
| 147 | 12.25 | 0.83 | 0.469 | 0.069 | ( 0.418) | 0.400 |
| 148 | 12.33 | 0.87 | 0.487 | 0.068 | ( 0.435) | 0.419 |
| 149 | 12.42 | 0.87 | 0.487 | 0.068 | ( 0.435) | 0.419 |
| 150 | 12.50 | 0.87 | 0.487 | 0.068 | ( 0.435) | 0.420 |
| 151 | 12.58 | 0.93 | 0.525 | 0.067 | ( 0.468) | 0.458 |
| 152 | 12.67 | 0.93 | 0.525 | 0.067 | ( 0.468) | 0.458 |
| 153 | 12.75 | 0.93 | 0.525 | 0.067 | ( 0.468) | 0.458 |
| 154 | 12.83 | 0.97 | 0.544 | 0.066 | ( 0.485) | 0.477 |
| 155 | 12.92 | 0.97 | 0.544 | 0.066 | ( 0.485) | 0.478 |
| 156 | 13.00 | 0.97 | 0.544 | 0.066 | ( 0.485) | 0.478 |
| 157 | 13.08 | 1.13 | 0.637 | 0.065 | ( 0.569) | 0.572 |
| 158 | 13.17 | 1.13 | 0.637 | 0.065 | ( 0.569) | 0.572 |
| 159 | 13.25 | 1.13 | 0.637 | 0.065 | ( 0.569) | 0.573 |
| 160 | 13.33 | 1.13 | 0.637 | 0.064 | ( 0.569) | 0.573 |
| 161 | 13.42 | 1.13 | 0.637 | 0.064 | ( 0.569) | 0.573 |
| 162 | 13.50 | 1.13 | 0.637 | 0.064 | ( 0.569) | 0.574 |
| 163 | 13.58 | 0.77 | 0.431 | 0.063 | ( 0.385) | 0.368 |
| 164 | 13.67 | 0.77 | 0.431 | 0.063 | ( 0.385) | 0.368 |
| 165 | 13.75 | 0.77 | 0.431 | 0.063 | ( 0.385) | 0.369 |
| 166 | 13.83 | 0.77 | 0.431 | 0.062 | ( 0.385) | 0.369 |
| 167 | 13.92 | 0.77 | 0.431 | 0.062 | ( 0.385) | 0.369 |
| 168 | 14.00 | 0.77 | 0.431 | 0.062 | ( 0.385) | 0.369 |
| 169 | 14.08 | 0.90 | 0.506 | 0.061 | ( 0.452) | 0.445 |
| 170 | 14.17 | 0.90 | 0.506 | 0.061 | ( 0.452) | 0.445 |
| 171 | 14.25 | 0.90 | 0.506 | 0.061 | ( 0.452) | 0.445 |
| 172 | 14.33 | 0.87 | 0.487 | 0.061 | ( 0.435) | 0.427 |
| 173 | 14.42 | 0.87 | 0.487 | 0.060 | ( 0.435) | 0.427 |
| 174 | 14.50 | 0.87 | 0.487 | 0.060 | ( 0.435) | 0.428 |
| 175 | 14.58 | 0.87 | 0.487 | 0.060 | ( 0.435) | 0.428 |
| 176 | 14.67 | 0.87 | 0.487 | 0.059 | ( 0.435) | 0.428 |
| 177 | 14.75 | 0.87 | 0.487 | 0.059 | ( 0.435) | 0.428 |
| 178 | 14.83 | 0.83 | 0.469 | 0.059 | ( 0.418) | 0.410 |
| 179 | 14.92 | 0.83 | 0.469 | 0.058 | ( 0.418) | 0.410 |
| 180 | 15.00 | 0.83 | 0.469 | 0.058 | ( 0.418) | 0.411 |
| 181 | 15.08 | 0.80 | 0.450 | 0.058 | ( 0.401) | 0.392 |
| 182 | 15.17 | 0.80 | 0.450 | 0.057 | ( 0.401) | 0.392 |
| 183 | 15.25 | 0.80 | 0.450 | 0.057 | ( 0.401) | 0.393 |
| 184 | 15.33 | 0.77 | 0.431 | 0.057 | ( 0.385) | 0.374 |
| 185 | 15.42 | 0.77 | 0.431 | 0.057 | ( 0.385) | 0.375 |
| 186 | 15.50 | 0.77 | 0.431 | 0.056 | ( 0.385) | 0.375 |
| 187 | 15.58 | 0.63 | 0.356 | 0.056 | ( 0.318) | 0.300 |
| 188 | 15.67 | 0.63 | 0.356 | 0.056 | ( 0.318) | 0.300 |
| 189 | 15.75 | 0.63 | 0.356 | 0.055 | ( 0.318) | 0.301 |

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| 190 | 15.83 | 0.63 | 0.356 | 0.055 | ( 0.318) | 0.301 |
| 191 | 15.92 | 0.63 | 0.356 | 0.055 | ( 0.318) | 0.301 |
| 192 | 16.00 | 0.63 | 0.356 | 0.055 | ( 0.318) | 0.302 |
| 193 | 16.08 | 0.13 | 0.075 | 0.054 | ( 0.067) | 0.021 |
| 194 | 16.17 | 0.13 | 0.075 | 0.054 | ( 0.067) | 0.021 |
| 195 | 16.25 | 0.13 | 0.075 | 0.054 | ( 0.067) | 0.021 |
| 196 | 16.33 | 0.13 | 0.075 | 0.053 | ( 0.067) | 0.021 |
| 197 | 16.42 | 0.13 | 0.075 | 0.053 | ( 0.067) | 0.022 |
| 198 | 16.50 | 0.13 | 0.075 | 0.053 | ( 0.067) | 0.022 |
| 199 | 16.58 | 0.10 | 0.056 | ( 0.053) | 0.050 | 0.006 |
| 200 | 16.67 | 0.10 | 0.056 | ( 0.052) | 0.050 | 0.006 |
| 201 | 16.75 | 0.10 | 0.056 | ( 0.052) | 0.050 | 0.006 |
| 202 | 16.83 | 0.10 | 0.056 | ( 0.052) | 0.050 | 0.006 |
| 203 | 16.92 | 0.10 | 0.056 | ( 0.052) | 0.050 | 0.006 |
| 204 | 17.00 | 0.10 | 0.056 | ( 0.051) | 0.050 | 0.006 |
| 205 | 17.08 | 0.17 | 0.094 | 0.051 | ( 0.084) | 0.043 |
| 206 | 17.17 | 0.17 | 0.094 | 0.051 | ( 0.084) | 0.043 |
| 207 | 17.25 | 0.17 | 0.094 | 0.051 | ( 0.084) | 0.043 |
| 208 | 17.33 | 0.17 | 0.094 | 0.050 | ( 0.084) | 0.043 |
| 209 | 17.42 | 0.17 | 0.094 | 0.050 | ( 0.084) | 0.044 |
| 210 | 17.50 | 0.17 | 0.094 | 0.050 | ( 0.084) | 0.044 |
| 211 | 17.58 | 0.17 | 0.094 | 0.050 | ( 0.084) | 0.044 |
| 212 | 17.67 | 0.17 | 0.094 | 0.049 | ( 0.084) | 0.044 |
| 213 | 17.75 | 0.17 | 0.094 | 0.049 | ( 0.084) | 0.045 |
| 214 | 17.83 | 0.13 | 0.075 | 0.049 | ( 0.067) | 0.026 |
| 215 | 17.92 | 0.13 | 0.075 | 0.049 | ( 0.067) | 0.026 |
| 216 | 18.00 | 0.13 | 0.075 | 0.048 | ( 0.067) | 0.027 |
| 217 | 18.08 | 0.13 | 0.075 | 0.048 | ( 0.067) | 0.027 |
| 218 | 18.17 | 0.13 | 0.075 | 0.048 | ( 0.067) | 0.027 |
| 219 | 18.25 | 0.13 | 0.075 | 0.048 | ( 0.067) | 0.027 |
| 220 | 18.33 | 0.13 | 0.075 | 0.047 | ( 0.067) | 0.028 |
| 221 | 18.42 | 0.13 | 0.075 | 0.047 | ( 0.067) | 0.028 |
| 222 | 18.50 | 0.13 | 0.075 | 0.047 | ( 0.067) | 0.028 |
| 223 | 18.58 | 0.10 | 0.056 | 0.047 | ( 0.050) | 0.010 |
| 224 | 18.67 | 0.10 | 0.056 | 0.047 | ( 0.050) | 0.010 |
| 225 | 18.75 | 0.10 | 0.056 | 0.046 | ( 0.050) | 0.010 |
| 226 | 18.83 | 0.07 | 0.037 | ( 0.046) | 0.033 | 0.004 |
| 227 | 18.92 | 0.07 | 0.037 | ( 0.046) | 0.033 | 0.004 |
| 228 | 19.00 | 0.07 | 0.037 | ( 0.046) | 0.033 | 0.004 |
| 229 | 19.08 | 0.10 | 0.056 | 0.045 | ( 0.050) | 0.011 |
| 230 | 19.17 | 0.10 | 0.056 | 0.045 | ( 0.050) | 0.011 |
| 231 | 19.25 | 0.10 | 0.056 | 0.045 | ( 0.050) | 0.011 |
| 232 | 19.33 | 0.13 | 0.075 | 0.045 | ( 0.067) | 0.030 |
| 233 | 19.42 | 0.13 | 0.075 | 0.045 | ( 0.067) | 0.030 |
| 234 | 19.50 | 0.13 | 0.075 | 0.044 | ( 0.067) | 0.031 |
| 235 | 19.58 | 0.10 | 0.056 | 0.044 | ( 0.050) | 0.012 |
| 236 | 19.67 | 0.10 | 0.056 | 0.044 | ( 0.050) | 0.012 |
| 237 | 19.75 | 0.10 | 0.056 | 0.044 | ( 0.050) | 0.012 |
| 238 | 19.83 | 0.07 | 0.037 | ( 0.044) | 0.033 | 0.004 |
| 239 | 19.92 | 0.07 | 0.037 | ( 0.043) | 0.033 | 0.004 |
| 240 | 20.00 | 0.07 | 0.037 | ( 0.043) | 0.033 | 0.004 |
| 241 | 20.08 | 0.10 | 0.056 | 0.043 | ( 0.050) | 0.013 |
| 242 | 20.17 | 0.10 | 0.056 | 0.043 | ( 0.050) | 0.013 |
| 243 | 20.25 | 0.10 | 0.056 | 0.043 | ( 0.050) | 0.014 |
| 244 | 20.33 | 0.10 | 0.056 | 0.042 | ( 0.050) | 0.014 |
| 245 | 20.42 | 0.10 | 0.056 | 0.042 | ( 0.050) | 0.014 |
| 246 | 20.50 | 0.10 | 0.056 | 0.042 | ( 0.050) | 0.014 |
| 247 | 20.58 | 0.10 | 0.056 | 0.042 | ( 0.050) | 0.014 |
| 248 | 20.67 | 0.10 | 0.056 | 0.042 | ( 0.050) | 0.015 |
| 249 | 20.75 | 0.10 | 0.056 | 0.042 | ( 0.050) | 0.015 |
| 250 | 20.83 | 0.07 | 0.037 | ( 0.041) | 0.033 | 0.004 |
| 251 | 20.92 | 0.07 | 0.037 | ( 0.041) | 0.033 | 0.004 |
| 252 | 21.00 | 0.07 | 0.037 | ( 0.041) | 0.033 | 0.004 |
| 253 | 21.08 | 0.10 | 0.056 | 0.041 | ( 0.050) | 0.015 |
| 254 | 21.17 | 0.10 | 0.056 | 0.041 | ( 0.050) | 0.016 |
| 255 | 21.25 | 0.10 | 0.056 | 0.041 | ( 0.050) | 0.016 |
| 256 | 21.33 | 0.07 | 0.037 | ( 0.040) | 0.033 | 0.004 |
| 257 | 21.42 | 0.07 | 0.037 | ( 0.040) | 0.033 | 0.004 |
| 258 | 21.50 | 0.07 | 0.037 | ( 0.040) | 0.033 | 0.004 |
| 259 | 21.58 | 0.10 | 0.056 | 0.040 | ( 0.050) | 0.016 |
| 260 | 21.67 | 0.10 | 0.056 | 0.040 | ( 0.050) | 0.016 |
| 261 | 21.75 | 0.10 | 0.056 | 0.040 | ( 0.050) | 0.017 |
| 262 | 21.83 | 0.07 | 0.037 | ( 0.040) | 0.033 | 0.004 |
| 263 | 21.92 | 0.07 | 0.037 | ( 0.039) | 0.033 | 0.004 |
| 264 | 22.00 | 0.07 | 0.037 | ( 0.039) | 0.033 | 0.004 |
| 265 | 22.08 | 0.10 | 0.056 | 0.039 | ( 0.050) | 0.017 |
| 266 | 22.17 | 0.10 | 0.056 | 0.039 | ( 0.050) | 0.017 |
| 267 | 22.25 | 0.10 | 0.056 | 0.039 | ( 0.050) | 0.017 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 268 | 22.33 | 0.07 | 0.037 | ( 0.039) | 0.033 | 0.004 |
| 269 | 22.42 | 0.07 | 0.037 | ( 0.039) | 0.033 | 0.004 |
| 270 | 22.50 | 0.07 | 0.037 | ( 0.039) | 0.033 | 0.004 |
| 271 | 22.58 | 0.07 | 0.037 | ( 0.038) | 0.033 | 0.004 |
| 272 | 22.67 | 0.07 | 0.037 | ( 0.038) | 0.033 | 0.004 |
| 273 | 22.75 | 0.07 | 0.037 | ( 0.038) | 0.033 | 0.004 |
| 274 | 22.83 | 0.07 | 0.037 | ( 0.038) | 0.033 | 0.004 |
| 275 | 22.92 | 0.07 | 0.037 | ( 0.038) | 0.033 | 0.004 |
| 276 | 23.00 | 0.07 | 0.037 | ( 0.038) | 0.033 | 0.004 |
| 277 | 23.08 | 0.07 | 0.037 | ( 0.038) | 0.033 | 0.004 |
| 278 | 23.17 | 0.07 | 0.037 | ( 0.038) | 0.033 | 0.004 |
| 279 | 23.25 | 0.07 | 0.037 | ( 0.038) | 0.033 | 0.004 |
| 280 | 23.33 | 0.07 | 0.037 | ( 0.038) | 0.033 | 0.004 |
| 281 | 23.42 | 0.07 | 0.037 | ( 0.038) | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.037 | ( 0.037) | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.037 | ( 0.037) | 0.033 | 0.004 |
| 284 | 23.67 | 0.07 | 0.037 | ( 0.037) | 0.033 | 0.004 |
| 285 | 23.75 | 0.07 | 0.037 | ( 0.037) | 0.033 | 0.004 |
| 286 | 23.83 | 0.07 | 0.037 | ( 0.037) | 0.033 | 0.004 |
| 287 | 23.92 | 0.07 | 0.037 | ( 0.037) | 0.033 | 0.004 |
| 288 | 24.00 | 0.07 | 0.037 | ( 0.037) | 0.033 | 0.004 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 37.6

Flood volume = Effective rainfall 3.14(In)
times area 295.2(Ac.)/[(In)/(Ft.)] = 77.2(Ac.Ft)
Total soil loss = 1.55(In)
Total soil loss = 38.142(Ac.Ft)
Total rainfall = 4.69(In)
Flood volume = 3361334.1 Cubic Feet
Total soil loss = 1661459.7 Cubic Feet

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Peak flow rate of this hydrograph = 163.348(CFS)

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++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++

24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

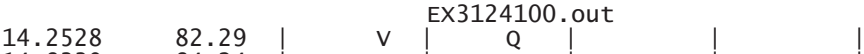
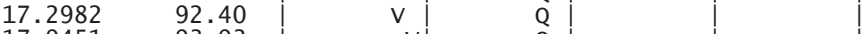
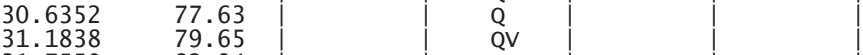
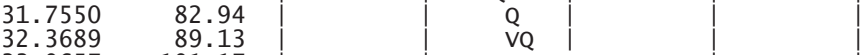
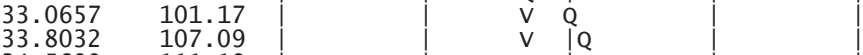
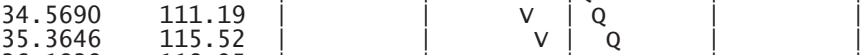
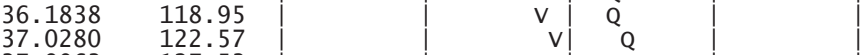
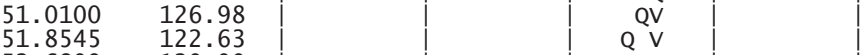
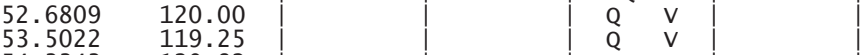
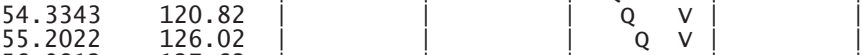
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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 50.0 | 100.0 | 150.0 | 200.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0002 | 0.03 | Q | | | | |
| 0+10 | 0.0010 | 0.12 | Q | | | | |
| 0+15 | 0.0031 | 0.30 | Q | | | | |
| 0+20 | 0.0077 | 0.68 | Q | | | | |
| 0+25 | 0.0138 | 0.89 | Q | | | | |
| 0+30 | 0.0213 | 1.08 | Q | | | | |
| 0+35 | 0.0304 | 1.33 | Q | | | | |
| 0+40 | 0.0405 | 1.46 | Q | | | | |
| 0+45 | 0.0512 | 1.55 | Q | | | | |
| 0+50 | 0.0625 | 1.63 | Q | | | | |
| 0+55 | 0.0744 | 1.73 | Q | | | | |
| 1+ 0 | 0.0872 | 1.86 | Q | | | | |
| 1+ 5 | 0.1013 | 2.06 | Q | | | | |
| 1+10 | 0.1159 | 2.11 | Q | | | | |
| 1+15 | 0.1302 | 2.08 | Q | | | | |
| 1+20 | 0.1436 | 1.95 | Q | | | | |
| 1+25 | 0.1567 | 1.90 | Q | | | | |
| 1+30 | 0.1696 | 1.87 | Q | | | | |
| 1+35 | 0.1824 | 1.86 | Q | | | | |
| 1+40 | 0.1951 | 1.85 | Q | | | | |
| 1+45 | 0.2078 | 1.84 | Q | | | | |
| 1+50 | 0.2205 | 1.85 | Q | | | | |
| 1+55 | 0.2335 | 1.88 | Q | | | | |
| 2+ 0 | 0.2470 | 1.97 | Q | | | | |
| 2+ 5 | 0.2618 | 2.15 | Q | | | | |
| 2+10 | 0.2772 | 2.23 | Q | | | | |
| 2+15 | 0.2928 | 2.28 | Q | | | | |
| 2+20 | 0.3088 | 2.31 | Q | | | | |
| 2+25 | 0.3249 | 2.34 | Q | | | | |
| 2+30 | 0.3411 | 2.36 | Q | | | | |
| 2+35 | 0.3575 | 2.39 | Q | | | | |
| 2+40 | 0.3743 | 2.44 | Q | | | | |
| 2+45 | 0.3918 | 2.54 | Q | | | | |
| 2+50 | 0.4106 | 2.73 | Q | | | | |
| 2+55 | 0.4300 | 2.82 | Q | | | | |
| 3+ 0 | 0.4497 | 2.87 | Q | | | | |

```
3+ 5       0.4697      2.90  Q          |          |          |          |
3+10       0.4899      2.93  Q          |          |          |          |
3+15       0.5102      2.95  Q          |          |          |          |
3+20       0.5307      2.97  Q          |          |          |          |
3+25       0.5512      2.98  Q          |          |          |          |
3+30       0.5718      2.99  Q          |          |          |          |
3+35       0.5925      3.00  Q          |          |          |          |
3+40       0.6132      3.00  Q          |          |          |          |
3+45       0.6339      3.00  Q          |          |          |          |
3+50       0.6547      3.02  Q          |          |          |          |
3+55       0.6758      3.07  Q          |          |          |          |
4+ 0       0.6975      3.16  Q          |          |          |          |
4+ 5       0.7206      3.34  Q          |          |          |          |
4+10       0.7442      3.43  Q          |          |          |          |
4+15       0.7681      3.48  Q          |          |          |          |
4+20       0.7929      3.59  Q          |          |          |          |
4+25       0.8196      3.88  Q          |          |          |          |
4+30       0.8504      4.47  Q          |          |          |          |
4+35       0.8889      5.59  VQ         |          |          |          |
4+40       0.9314      6.17  VQ         |          |          |          |
4+45       0.9765      6.56  VQ         |          |          |          |
4+50       1.0248      7.00  VQ         |          |          |          |
4+55       1.0777      7.68  VQ         |          |          |          |
5+ 0       1.1382      8.78  VQ         |          |          |          |
5+ 5       1.2101     10.45  V Q        |          |          |          |
5+10       1.2835     10.65  V Q        |          |          |          |
5+15       1.3501      9.67  VQ         |          |          |          |
5+20       1.3992      7.13  VQ         |          |          |          |
5+25       1.4433      6.40  VQ         |          |          |          |
5+30       1.4889      6.63  VQ         |          |          |          |
5+35       1.5435      7.93  VQ         |          |          |          |
5+40       1.6042      8.82  VQ         |          |          |          |
5+45       1.6727      9.94  VQ         |          |          |          |
5+50       1.7541     11.83  V Q        |          |          |          |
5+55       1.8421     12.77  V Q        |          |          |          |
6+ 0       1.9343     13.38  |VQ        |          |          |          |
6+ 5       2.0307     14.01  |VQ        |          |          |          |
6+10       2.1330     14.85  |VQ        |          |          |          |
6+15       2.2436     16.07  |V Q       |          |          |          |
6+20       2.3680     18.06  |V Q       |          |          |          |
6+25       2.4995     19.08  |V Q       |          |          |          |
6+30       2.6355     19.75  |V Q       |          |          |          |
6+35       2.7758     20.38  |V  Q      |          |          |          |
6+40       2.9217     21.19  |V  Q      |          |          |          |
6+45       3.0759     22.38  |V  Q      |          |          |          |
6+50       3.2436     24.36  |V  Q      |          |          |          |
6+55       3.4184     25.38  |V   Q     |          |          |          |
7+ 0       3.5979     26.06  |V   Q     |          |          |          |
7+ 5       3.7810     26.58  |V   Q     |          |          |          |
7+10       3.9669     27.00  | V  Q     |          |          |          |
7+15       4.1552     27.34  | V  Q     |          |          |          |
7+20       4.3464     27.76  | V  Q     |          |          |          |
7+25       4.5422     28.43  | V  Q     |          |          |          |
7+30       4.7454     29.50  | V  Q     |          |          |          |
7+35       4.9624     31.51  | V   Q    |          |          |          |
7+40       5.1887     32.86  | V   Q    |          |          |          |
7+45       5.4250     34.31  | V   Q    |          |          |          |
7+50       5.6770     36.59  | V    Q   |          |          |          |
7+55       5.9398     38.16  |  V   Q   |          |          |          |
8+ 0       6.2138     39.78  |  V   Q   |          |          |          |
8+ 5       6.5053     42.32  |  V    Q  |          |          |          |
8+10       6.8111     44.40  |  V    Q  |          |          |          |
8+15       7.1346     46.97  |  V     Q |          |          |          |
8+20       7.4857     50.99  |  V      Q|          |          |          |
8+25       7.8509     53.03  |   V     Q|          |          |          |
8+30       8.2252     54.34  |   V     Q|          |          |          |
8+35       8.6071     55.46  |   V     |Q          |          |          |
8+40       8.9972     56.63  |   V     |Q          |          |          |
8+45       9.3973     58.10  |   V     |Q          |          |          |
8+50       9.8134     60.41  |    V    | Q         |          |          |
8+55      10.2403     61.99  |    V    | Q         |          |          |
9+ 0      10.6785     63.62  |    V    | Q         |          |          |
9+ 5      11.1341     66.15  |    V    |  Q        |          |          |
9+10      11.6037     68.19  |     V   |  Q        |          |          |
9+15      12.0907     70.72  |     V   |   Q       |          |          |
9+20      12.6062     74.85  |     V   |   Q       |          |          |
9+25      13.1387     77.31  |     V   |    Q      |          |          |
9+30      13.6861     79.48  |      V  |    Q      |          |          |
```

| | | | |
|---|---|---|---|
| 9+35 | 14.2528 | 82.29 |  |
| 9+40 | 14.8330 | 84.24 |  |
| 9+45 | 15.4264 | 86.16 |  |
| 9+50 | 16.0378 | 88.79 |  |
| 9+55 | 16.6618 | 90.60 |  |
| 10+ 0 | 17.2982 | 92.40 |  |
| 10+ 5 | 17.9451 | 93.93 |  |
| 10+10 | 18.5813 | 92.38 |  |
| 10+15 | 19.1824 | 87.27 |  |
| 10+20 | 19.7072 | 76.20 |  |
| 10+25 | 20.1986 | 71.36 |  |
| 10+30 | 20.6716 | 68.67 |  |
| 10+35 | 21.1357 | 67.39 |  |
| 10+40 | 21.6043 | 68.04 |  |
| 10+45 | 22.0949 | 71.24 |  |
| 10+50 | 22.6378 | 78.83 |  |
| 10+55 | 23.2030 | 82.06 |  |
| 11+ 0 | 23.7806 | 83.87 |  |
| 11+ 5 | 24.3667 | 85.10 |  |
| 11+10 | 24.9579 | 85.84 |  |
| 11+15 | 25.5495 | 85.91 |  |
| 11+20 | 26.1347 | 84.96 |  |
| 11+25 | 26.7185 | 84.78 |  |
| 11+30 | 27.3024 | 84.78 |  |
| 11+35 | 27.8845 | 84.52 |  |
| 11+40 | 28.4605 | 83.63 |  |
| 11+45 | 29.0245 | 81.89 |  |
| 11+50 | 29.5663 | 78.67 |  |
| 11+55 | 30.1006 | 77.58 |  |
| 12+ 0 | 30.6352 | 77.63 |  |
| 12+ 5 | 31.1838 | 79.65 |  |
| 12+10 | 31.7550 | 82.94 |  |
| 12+15 | 32.3689 | 89.13 |  |
| 12+20 | 33.0657 | 101.17 |  |
| 12+25 | 33.8032 | 107.09 |  |
| 12+30 | 34.5690 | 111.19 |  |
| 12+35 | 35.3646 | 115.52 |  |
| 12+40 | 36.1838 | 118.95 |  |
| 12+45 | 37.0280 | 122.57 |  |
| 12+50 | 37.9063 | 127.53 |  |
| 12+55 | 38.8058 | 130.61 |  |
| 13+ 0 | 39.7233 | 133.22 |  |
| 13+ 5 | 40.6657 | 136.84 |  |
| 13+10 | 41.6338 | 140.56 |  |
| 13+15 | 42.6392 | 145.99 |  |
| 13+20 | 43.7088 | 155.30 |  |
| 13+25 | 44.8097 | 159.85 |  |
| 13+30 | 45.9298 | 162.63 |  |
| 13+35 | 47.0547 | 163.35 |  |
| 13+40 | 48.1596 | 160.42 |  |
| 13+45 | 49.2079 | 152.21 |  |
| 13+50 | 50.1354 | 134.69 |  |
| 13+55 | 51.0100 | 126.98 |  |
| 14+ 0 | 51.8545 | 122.63 |  |
| 14+ 5 | 52.6809 | 120.00 |  |
| 14+10 | 53.5022 | 119.25 |  |
| 14+15 | 54.3343 | 120.82 |  |
| 14+20 | 55.2022 | 126.02 |  |
| 14+25 | 56.0812 | 127.63 |  |
| 14+30 | 56.9614 | 127.81 |  |
| 14+35 | 57.8357 | 126.94 |  |
| 14+40 | 58.7101 | 126.97 |  |
| 14+45 | 59.5860 | 127.18 |  |
| 14+50 | 60.4623 | 127.24 |  |
| 14+55 | 61.3369 | 126.99 |  |
| 15+ 0 | 62.2063 | 126.24 |  |
| 15+ 5 | 63.0635 | 124.47 |  |
| 15+10 | 63.9124 | 123.26 |  |
| 15+15 | 64.7524 | 121.96 |  |
| 15+20 | 65.5780 | 119.88 |  |
| 15+25 | 66.3944 | 118.54 |  |
| 15+30 | 67.2012 | 117.16 |  |
| 15+35 | 67.9906 | 114.62 |  |
| 15+40 | 68.7618 | 111.97 |  |
| 15+45 | 69.5052 | 107.93 |  |
| 15+50 | 70.1992 | 100.77 |  |
| 15+55 | 70.8699 | 97.40 |  |
| 16+ 0 | 71.5269 | 95.40 |  |

```
16+ 5      72.1610     92.06  |          |        Q |          |       V  |
16+10      72.7453     84.85  |          |     Q    |          |       V  |
16+15      73.2357     71.21  |          |   Q      |          |       V  |
16+20      73.5483     45.39  |          Q          |          |        V |
16+25      73.7787     33.44  |       Q  |          |          |        V |
16+30      73.9609     26.47  |     Q    |          |          |        V |
16+35      74.1075     21.29  |   Q      |          |          |        V |
16+40      74.2261     17.21  | Q        |          |          |        V |
16+45      74.3198     13.61  |Q         |          |          |        V |
16+50      74.3882      9.93  |Q         |          |          |        V |
16+55      74.4401      7.55  |Q         |          |          |        V |
17+ 0      74.4809      5.91  |Q         |          |          |        V |
17+ 5      74.5149      4.95  Q          |          |          |        V |
17+10      74.5497      5.05  |Q         |          |          |        V |
17+15      74.5927      6.24  |Q         |          |          |        V |
17+20      74.6556      9.14  |Q         |          |          |        V |
17+25      74.7269     10.36  | Q        |          |          |        V |
17+30      74.8031     11.06  | Q        |          |          |        V |
17+35      74.8823     11.50  | Q        |          |          |        V |
17+40      74.9638     11.84  | Q        |          |          |        V |
17+45      75.0475     12.15  | Q        |          |          |        V |
17+50      75.1321     12.29  | Q        |          |          |        V |
17+55      75.2155     12.11  | Q        |          |          |        V |
18+ 0      75.2945     11.47  | Q        |          |          |         V|
18+ 5      75.3631      9.96  |Q         |          |          |         V|
18+10      75.4273      9.32  |Q         |          |          |         V|
18+15      75.4891      8.97  |Q         |          |          |         V|
18+20      75.5493      8.75  |Q         |          |          |         V|
18+25      75.6086      8.60  |Q         |          |          |         V|
18+30      75.6671      8.50  |Q         |          |          |         V|
18+35      75.7245      8.32  |Q         |          |          |         V|
18+40      75.7788      7.89  |Q         |          |          |         V|
18+45      75.8273      7.04  |Q         |          |          |         V|
18+50      75.8640      5.33  |Q         |          |          |         V|
18+55      75.8948      4.47  Q          |          |          |         V|
19+ 0      75.9209      3.79  Q          |          |          |         V|
19+ 5      75.9415      2.99  Q          |          |          |         V|
19+10      75.9598      2.66  Q          |          |          |         V|
19+15      75.9781      2.65  Q          |          |          |         V|
19+20      75.9998      3.15  Q          |          |          |         V|
19+25      76.0252      3.68  Q          |          |          |         V|
19+30      76.0569      4.60  Q          |          |          |         V|
19+35      76.0997      6.22  |Q         |          |          |         V|
19+40      76.1455      6.65  |Q         |          |          |         V|
19+45      76.1891      6.32  |Q         |          |          |         V|
19+50      76.2233      4.98  Q          |          |          |         V|
19+55      76.2532      4.34  Q          |          |          |         V|
20+ 0      76.2790      3.75  Q          |          |          |         V|
20+ 5      76.2990      2.90  Q          |          |          |         V|
20+10      76.3172      2.64  Q          |          |          |         V|
20+15      76.3363      2.77  Q          |          |          |         V|
20+20      76.3596      3.39  Q          |          |          |         V|
20+25      76.3845      3.61  Q          |          |          |         V|
20+30      76.4101      3.73  Q          |          |          |         V|
20+35      76.4365      3.83  Q          |          |          |         V|
20+40      76.4636      3.93  Q          |          |          |         V|
20+45      76.4913      4.03  Q          |          |          |         V|
20+50      76.5192      4.05  Q          |          |          |         V|
20+55      76.5460      3.90  Q          |          |          |         V|
21+ 0      76.5700      3.48  Q          |          |          |         V|
21+ 5      76.5881      2.63  Q          |          |          |         V|
21+10      76.6051      2.46  Q          |          |          |         V|
21+15      76.6239      2.74  Q          |          |          |         V|
21+20      76.6481      3.51  Q          |          |          |         V|
21+25      76.6729      3.61  Q          |          |          |         V|
21+30      76.6954      3.26  Q          |          |          |         V|
21+35      76.7122      2.43  Q          |          |          |         V|
21+40      76.7282      2.32  Q          |          |          |         V|
21+45      76.7467      2.69  Q          |          |          |         V|
21+50      76.7712      3.57  Q          |          |          |         V|
21+55      76.7969      3.72  Q          |          |          |         V|
22+ 0      76.8202      3.38  Q          |          |          |         V|
22+ 5      76.8374      2.50  Q          |          |          |         V|
22+10      76.8538      2.39  Q          |          |          |         V|
22+15      76.8729      2.77  Q          |          |          |         V|
22+20      76.8985      3.71  Q          |          |          |         V|
22+25      76.9252      3.87  Q          |          |          |         V|
22+30      76.9493      3.51  Q          |          |          |         V|
```

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 22+35 | 76.9664 | 2.48 | Q | \| | \| | \| | V\| |
| 22+40 | 76.9806 | 2.06 | Q | \| | \| | \| | V\| |
| 22+45 | 76.9932 | 1.83 | Q | \| | \| | \| | V\| |
| 22+50 | 77.0047 | 1.67 | Q | \| | \| | \| | V\| |
| 22+55 | 77.0155 | 1.56 | Q | \| | \| | \| | V\| |
| 23+ 0 | 77.0257 | 1.48 | Q | \| | \| | \| | V\| |
| 23+ 5 | 77.0354 | 1.41 | Q | \| | \| | \| | V\| |
| 23+10 | 77.0447 | 1.35 | Q | \| | \| | \| | V\| |
| 23+15 | 77.0537 | 1.30 | Q | \| | \| | \| | V\| |
| 23+20 | 77.0624 | 1.27 | Q | \| | \| | \| | V\| |
| 23+25 | 77.0711 | 1.25 | Q | \| | \| | \| | V\| |
| 23+30 | 77.0796 | 1.24 | Q | \| | \| | \| | V\| |
| 23+35 | 77.0881 | 1.23 | Q | \| | \| | \| | V\| |
| 23+40 | 77.0966 | 1.23 | Q | \| | \| | \| | V\| |
| 23+45 | 77.1050 | 1.23 | Q | \| | \| | \| | V\| |
| 23+50 | 77.1135 | 1.22 | Q | \| | \| | \| | V\| |
| 23+55 | 77.1218 | 1.22 | Q | \| | \| | \| | V\| |
| 24+ 0 | 77.1302 | 1.21 | Q | \| | \| | \| | V\| |
| 24+ 5 | 77.1383 | 1.18 | Q | \| | \| | \| | V\| |
| 24+10 | 77.1458 | 1.09 | Q | \| | \| | \| | V\| |
| 24+15 | 77.1520 | 0.90 | Q | \| | \| | \| | V\| |
| 24+20 | 77.1558 | 0.54 | Q | \| | \| | \| | V\| |
| 24+25 | 77.1583 | 0.38 | Q | \| | \| | \| | V\| |
| 24+30 | 77.1603 | 0.28 | Q | \| | \| | \| | V\| |
| 24+35 | 77.1617 | 0.21 | Q | \| | \| | \| | V\| |
| 24+40 | 77.1628 | 0.16 | Q | \| | \| | \| | V\| |
| 24+45 | 77.1636 | 0.12 | Q | \| | \| | \| | V\| |
| 24+50 | 77.1641 | 0.08 | Q | \| | \| | \| | V\| |
| 24+55 | 77.1645 | 0.06 | Q | \| | \| | \| | V\| |
| 25+ 0 | 77.1648 | 0.04 | Q | \| | \| | \| | V\| |
| 25+ 5 | 77.1650 | 0.03 | Q | \| | \| | \| | V\| |
| 25+10 | 77.1652 | 0.02 | Q | \| | \| | \| | V\| |
| 25+15 | 77.1653 | 0.02 | Q | \| | \| | \| | V\| |
| 25+20 | 77.1654 | 0.01 | Q | \| | \| | \| | V\| |
| 25+25 | 77.1655 | 0.01 | Q | \| | \| | \| | V\| |
| 25+30 | 77.1655 | 0.01 | Q | \| | \| | \| | V\| |
| 25+35 | 77.1656 | 0.01 | Q | \| | \| | \| | V\| |
| 25+40 | 77.1656 | 0.00 | Q | \| | \| | \| | V\| |
| 25+45 | 77.1656 | 0.00 | Q | \| | \| | \| | V\| |
| 25+50 | 77.1656 | 0.00 | Q | \| | \| | \| | V\| |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX321100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 32
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 140.10(Ac.) = 0.219 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 140.10(Ac.) = 0.219 Sq. Mi.
Length along longest watercourse = 5451.00(Ft.)
Length along longest watercourse measured to centroid = 3072.00(Ft.)
Length along longest watercourse = 1.032 Mi.
Length along longest watercourse measured to centroid = 0.582 Mi.
Difference in elevation = 556.00(Ft.)
Slope along watercourse = 538.5581 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.210 Hr.
Lag time = 12.57 Min.
25% of lag time = 3.14 Min.
40% of lag time = 5.03 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 140.10 | 0.50 | 70.05 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 140.10 | 1.20 | 168.12 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.87 %
Adjusted average point rain = 1.198(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 140.100 | 85.91 | 0.050 |

Total Area Entered = 140.10(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 85.9 | 94.4 | 0.073 | 0.050 | 0.070 | 1.000 | 0.070 |
| | | | | | Sum (F) = | 0.070 |

Area averaged mean soil loss (F) (In/Hr) = 0.070

Minimum soil loss rate ((In/Hr)) = 0.035
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.860

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 39.774 | 3.109 | 4.390 |
| 2 0.167 | 79.547 | 11.620 | 16.406 |
| 3 0.250 | 119.321 | 30.958 | 43.711 |
| 4 0.333 | 159.094 | 22.677 | 32.019 |
| 5 0.417 | 198.868 | 10.004 | 14.125 |
| 6 0.500 | 238.641 | 6.677 | 9.427 |
| 7 0.583 | 278.415 | 4.734 | 6.684 |
| 8 0.667 | 318.188 | 3.420 | 4.829 |
| 9 0.750 | 357.962 | 2.414 | 3.409 |
| 10 0.833 | 397.736 | 1.624 | 2.293 |
| 11 0.917 | 437.509 | 0.874 | 1.235 |
| 12 1.000 | 477.283 | 0.460 | 0.649 |
| 13 1.083 | 517.056 | 0.387 | 0.546 |
| 14 1.167 | 556.830 | 0.266 | 0.375 |
| 15 1.250 | 596.603 | 0.291 | 0.411 |
| 16 1.333 | 636.377 | 0.252 | 0.355 |
| 17 1.417 | 676.150 | 0.142 | 0.201 |
| 18 1.500 | 715.924 | 0.092 | 0.130 |
| | Sum = 100.000 | Sum= | 141.195 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.604 | 0.070 | ( 0.519) | 0.534 |
| 2 | 0.17 | 4.30 | 0.618 | 0.070 | ( 0.532) | 0.548 |
| 3 | 0.25 | 5.00 | 0.719 | 0.070 | ( 0.618) | 0.649 |
| 4 | 0.33 | 5.00 | 0.719 | 0.070 | ( 0.618) | 0.649 |
| 5 | 0.42 | 5.80 | 0.834 | 0.070 | ( 0.717) | 0.764 |
| 6 | 0.50 | 6.50 | 0.935 | 0.070 | ( 0.804) | 0.865 |
| 7 | 0.58 | 7.40 | 1.064 | 0.070 | ( 0.915) | 0.994 |
| 8 | 0.67 | 8.60 | 1.237 | 0.070 | ( 1.064) | 1.167 |
| 9 | 0.75 | 12.30 | 1.769 | 0.070 | ( 1.521) | 1.699 |
| 10 | 0.83 | 29.10 | 4.185 | 0.070 | ( 3.599) | 4.115 |
| 11 | 0.92 | 6.80 | 0.978 | 0.070 | ( 0.841) | 0.908 |
| 12 | 1.00 | 5.00 | 0.719 | 0.070 | ( 0.618) | 0.649 |
| | (Loss Rate Not Used) | | | | | |
| Sum = | | 100.0 | | | Sum = | 13.5 |

Flood volume = Effective rainfall 1.13(In)
times area 140.1(Ac.)/[(In)/(Ft.)] = 13.2(Ac.Ft)
Total soil loss = 0.07(In)
Total soil loss = 0.817(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 573916.1 Cubic Feet
Total soil loss = 35584.6 Cubic Feet

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Peak flow rate of this hydrograph = 292.220(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 75.0 | 150.0 | 225.0 | 300.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0162 | 2.35 | Q | | | | |
| 0+10 | 0.0931 | 11.18 | VQ | | | | |
| 0+15 | 0.3356 | 35.21 | \|V Q | | | | |

```
    0+20       0.7116     54.60  | V    Q  |          |          |          |
    0+25       1.1766     67.52  |  V     Q|          |          |          |
    0+30       1.7160     78.31  |    V    Q          |          |          |
    0+35       2.3406     90.69  |      V  | Q        |          |          |
    0+40       3.0657    105.29  |         V|   Q      |          |          |
    0+45       3.9166    123.54  |          |V    Q    |          |          |
    0+50       5.0105    158.85  |          |    V     |Q         |          |
    0+55       6.5106    217.81  |          |         V|          Q|          |
    1+ 0       8.5231    292.22  |          |          |     V    |         Q |
    1+ 5      10.1318    233.58  |          |          |          VQ         |
    1+10      11.1696    150.69  |          |          Q          |  V       |
    1+15      11.8374     96.96  |          | Q        |          |    V     |
    1+20      12.2664     62.30  |        Q |          |          |      V   |
    1+25      12.5665     43.57  |    Q     |          |          |       V  |
    1+30      12.7744     30.18  |   Q      |          |          |       V  |
    1+35      12.9131     20.15  | Q        |          |          |        V |
    1+40      12.9981     12.34  |Q         |          |          |        V |
    1+45      13.0505      7.60  |Q         |          |          |        V |
    1+50      13.0876      5.39  Q          |          |          |        V |
    1+55      13.1143      3.89  Q          |          |          |        V |
    2+ 0      13.1375      3.36  Q          |          |          |        V |
    2+ 5      13.1552      2.57  Q          |          |          |        V |
    2+10      13.1665      1.64  Q          |          |          |        V |
    2+15      13.1730      0.95  Q          |          |          |        V |
    2+20      13.1747      0.25  Q          |          |          |        V |
    2+25      13.1753      0.08  Q          |          |          |         V
-------------------------------------------------------------------------
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX323100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 32
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 140.10(Ac.) = 0.219 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 140.10(Ac.) = 0.219 Sq. Mi.
Length along longest watercourse = 5451.00(Ft.)
Length along longest watercourse measured to centroid = 3072.00(Ft.)
Length along longest watercourse = 1.032 Mi.
Length along longest watercourse measured to centroid = 0.582 Mi.
Difference in elevation = 556.00(Ft.)
Slope along watercourse = 538.5581 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.210 Hr.
Lag time = 12.57 Min.
25% of lag time = 3.14 Min.
40% of lag time = 5.03 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 140.10 | 0.80 | 112.08 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 140.10 | 1.81 | 253.58 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.810(In)

Point rain (area averaged) = 1.810(In)
Areal adjustment factor = 99.94 %
Adjusted average point rain = 1.809(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 140.100 | 85.91 | 0.050 |

Total Area Entered = 140.10(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 85.9 | 94.4 | 0.073 | 0.050 | 0.070 | 1.000 | 0.070 |
| | | | | | Sum (F) = | 0.070 |

Area averaged mean soil loss (F) (In/Hr) = 0.070

Minimum soil loss rate ((In/Hr)) = 0.035
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.860

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 39.774 | 3.109 | 4.390 |
| 2 0.167 | 79.547 | 11.620 | 16.406 |
| 3 0.250 | 119.321 | 30.958 | 43.711 |
| 4 0.333 | 159.094 | 22.677 | 32.019 |
| 5 0.417 | 198.868 | 10.004 | 14.125 |
| 6 0.500 | 238.641 | 6.677 | 9.427 |
| 7 0.583 | 278.415 | 4.734 | 6.684 |
| 8 0.667 | 318.188 | 3.420 | 4.829 |
| 9 0.750 | 357.962 | 2.414 | 3.409 |
| 10 0.833 | 397.736 | 1.624 | 2.293 |
| 11 0.917 | 437.509 | 0.874 | 1.235 |
| 12 1.000 | 477.283 | 0.460 | 0.649 |
| 13 1.083 | 517.056 | 0.387 | 0.546 |
| 14 1.167 | 556.830 | 0.266 | 0.375 |
| 15 1.250 | 596.603 | 0.291 | 0.411 |
| 16 1.333 | 636.377 | 0.252 | 0.355 |
| 17 1.417 | 676.150 | 0.142 | 0.201 |
| 18 1.500 | 715.924 | 0.092 | 0.130 |
| | | Sum = 100.000 | Sum= 141.195 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.282 | 0.070 | ( 0.243) | 0.212 |
| 2 | 0.17 | 1.30 | 0.282 | 0.070 | ( 0.243) | 0.212 |
| 3 | 0.25 | 1.10 | 0.239 | 0.070 | ( 0.205) | 0.169 |
| 4 | 0.33 | 1.50 | 0.326 | 0.070 | ( 0.280) | 0.256 |
| 5 | 0.42 | 1.50 | 0.326 | 0.070 | ( 0.280) | 0.256 |
| 6 | 0.50 | 1.80 | 0.391 | 0.070 | ( 0.336) | 0.321 |
| 7 | 0.58 | 1.50 | 0.326 | 0.070 | ( 0.280) | 0.256 |
| 8 | 0.67 | 1.80 | 0.391 | 0.070 | ( 0.336) | 0.321 |
| 9 | 0.75 | 1.80 | 0.391 | 0.070 | ( 0.336) | 0.321 |
| 10 | 0.83 | 1.50 | 0.326 | 0.070 | ( 0.280) | 0.256 |
| 11 | 0.92 | 1.60 | 0.347 | 0.070 | ( 0.299) | 0.277 |
| 12 | 1.00 | 1.80 | 0.391 | 0.070 | ( 0.336) | 0.321 |
| 13 | 1.08 | 2.20 | 0.478 | 0.070 | ( 0.411) | 0.408 |
| 14 | 1.17 | 2.20 | 0.478 | 0.070 | ( 0.411) | 0.408 |
| 15 | 1.25 | 2.20 | 0.478 | 0.070 | ( 0.411) | 0.408 |
| 16 | 1.33 | 2.00 | 0.434 | 0.070 | ( 0.373) | 0.364 |
| 17 | 1.42 | 2.60 | 0.564 | 0.070 | ( 0.485) | 0.494 |
| 18 | 1.50 | 2.70 | 0.586 | 0.070 | ( 0.504) | 0.516 |
| 19 | 1.58 | 2.40 | 0.521 | 0.070 | ( 0.448) | 0.451 |
| 20 | 1.67 | 2.70 | 0.586 | 0.070 | ( 0.504) | 0.516 |
| 21 | 1.75 | 3.30 | 0.716 | 0.070 | ( 0.616) | 0.646 |
| 22 | 1.83 | 3.10 | 0.673 | 0.070 | ( 0.579) | 0.603 |
| 23 | 1.92 | 2.90 | 0.629 | 0.070 | ( 0.541) | 0.560 |
| 24 | 2.00 | 3.00 | 0.651 | 0.070 | ( 0.560) | 0.581 |
| 25 | 2.08 | 3.10 | 0.673 | 0.070 | ( 0.579) | 0.603 |
| 26 | 2.17 | 4.20 | 0.912 | 0.070 | ( 0.784) | 0.842 |
| 27 | 2.25 | 5.00 | 1.085 | 0.070 | ( 0.933) | 1.015 |
| 28 | 2.33 | 3.50 | 0.760 | 0.070 | ( 0.653) | 0.690 |
| 29 | 2.42 | 6.80 | 1.476 | 0.070 | ( 1.269) | 1.406 |
| 30 | 2.50 | 7.30 | 1.585 | 0.070 | ( 1.363) | 1.515 |
| 31 | 2.58 | 8.20 | 1.780 | 0.070 | ( 1.531) | 1.710 |
| 32 | 2.67 | 5.90 | 1.281 | 0.070 | ( 1.101) | 1.211 |
| 33 | 2.75 | 2.00 | 0.434 | 0.070 | ( 0.373) | 0.364 |
| 34 | 2.83 | 1.80 | 0.391 | 0.070 | ( 0.336) | 0.321 |
| 35 | 2.92 | 1.80 | 0.391 | 0.070 | ( 0.336) | 0.321 |
| 36 | 3.00 | 0.60 | 0.130 | 0.070 | ( 0.112) | 0.060 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 19.2 |

Flood volume = Effective rainfall 1.60(In)
times area 140.1(Ac.)/[(In)/(Ft.)] = 18.7(Ac.Ft)
Total soil loss = 0.21(In)
Total soil loss = 2.451(Ac.Ft)
Total rainfall = 1.81(In)
Flood volume = 813180.9 Cubic Feet
Total soil loss = 106753.9 Cubic Feet

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Peak flow rate of this hydrograph = 187.546(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 50.0 | 100.0 | 150.0 | 200.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0064 | 0.93 | Q | | | | |
| 0+10 | 0.0368 | 4.42 | Q | | | | |
| 0+15 | 0.1298 | 13.51 | V Q | | | | |
| 0+20 | 0.2674 | 19.97 | V Q | | | | |
| 0+25 | 0.4223 | 22.50 | V Q | | | | |
| 0+30 | 0.6096 | 27.19 | V Q | | | | |
| 0+35 | 0.8270 | 31.56 | V Q | | | | |
| 0+40 | 1.0713 | 35.47 | V Q | | | | |
| 0+45 | 1.3263 | 37.03 | V Q | | | | |
| 0+50 | 1.5969 | 39.28 | V Q | | | | |
| 0+55 | 1.8766 | 40.62 | V Q | | | | |
| 1+ 0 | 2.1480 | 39.40 | V Q | | | | |
| 1+ 5 | 2.4242 | 40.11 | V Q | | | | |
| 1+10 | 2.7253 | 43.71 | V Q | | | | |
| 1+15 | 3.0624 | 48.95 | V Q | | | | |
| 1+20 | 3.4218 | 52.19 | V Q | | | | |
| 1+25 | 3.7916 | 53.68 | V Q | | | | |
| 1+30 | 4.1712 | 55.13 | V Q | | | | |
| 1+35 | 4.5864 | 60.27 | V Q | | | | |
| 1+40 | 5.0312 | 64.59 | V Q | | | | |
| 1+45 | 5.4851 | 65.92 | V Q | | | | |
| 1+50 | 5.9681 | 70.12 | V Q | | | | |
| 1+55 | 6.4990 | 77.09 | V Q | | | | |
| 2+ 0 | 7.0481 | 79.74 | Q | | | | |
| 2+ 5 | 7.5952 | 79.43 | QV | | | | |
| 2+10 | 8.1564 | 81.49 | QV | | | | |
| 2+15 | 8.7624 | 87.99 | QV | | | | |
| 2+20 | 9.4579 | 100.99 | Q | | | | |
| 2+25 | 10.2475 | 114.65 | VQ | | | | |
| 2+30 | 11.0875 | 121.96 | VQ | | | | |
| 2+35 | 12.1235 | 150.42 | V Q | | | | |
| 2+40 | 13.3489 | 177.93 | V Q | | | | |
| 2+45 | 14.6405 | 187.55 | V Q | | | | |
| 2+50 | 15.7820 | 165.75 | Q | | | | |
| 2+55 | 16.6101 | 120.23 | Q V | | | | |
| 3+ 0 | 17.2207 | 88.66 | Q V | | | | |
| 3+ 5 | 17.7026 | 69.98 | Q V | | | | |
| 3+10 | 18.0365 | 48.47 | Q V | | | | |
| 3+15 | 18.2485 | 30.78 | Q V | | | | |
| 3+20 | 18.3871 | 20.13 | Q V | | | | |
| 3+25 | 18.4788 | 13.32 | Q V | | | | |
| 3+30 | 18.5390 | 8.74 | Q V | | | | |
| 3+35 | 18.5803 | 6.00 | Q V | | | | |
| 3+40 | 18.6097 | 4.27 | Q V | | | | |
| 3+45 | 18.6304 | 3.01 | Q V | | | | |
| 3+50 | 18.6455 | 2.19 | Q V | | | | |
| 3+55 | 18.6555 | 1.46 | Q V | | | | |
| 4+ 0 | 18.6616 | 0.88 | Q V | | | | |
| 4+ 5 | 18.6650 | 0.50 | Q V | | | | |
| 4+10 | 18.6668 | 0.25 | Q V | | | | |
| 4+15 | 18.6676 | 0.13 | Q V | | | | |
| 4+20 | 18.6680 | 0.05 | Q V | | | | |
| 4+25 | 18.6681 | 0.01 | Q V | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX326100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 32
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 140.10(Ac.) = 0.219 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 140.10(Ac.) = 0.219 Sq. Mi.
Length along longest watercourse = 5451.00(Ft.)
Length along longest watercourse measured to centroid = 3072.00(Ft.)
Length along longest watercourse = 1.032 Mi.
Length along longest watercourse measured to centroid = 0.582 Mi.
Difference in elevation = 556.00(Ft.)
Slope along watercourse = 538.5581 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.210 Hr.
Lag time = 12.57 Min.
25% of lag time = 3.14 Min.
40% of lag time = 5.03 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 140.10 | 1.14 | 159.71 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 140.10 | 2.50 | 350.25 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.140(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 99.95 %
Adjusted average point rain = 2.499(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 140.100 | 85.91 | 0.050 |

Total Area Entered = 140.10(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 85.9 | 94.4 | 0.073 | 0.050 | 0.070 | 1.000 | 0.070 |
| | | | | | Sum (F) = | 0.070 |

Area averaged mean soil loss (F) (In/Hr) = 0.070

Minimum soil loss rate ((In/Hr)) = 0.035
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.860

---

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 39.774 | 3.109 | 4.390 |
| 2 0.167 | 79.547 | 11.620 | 16.406 |
| 3 0.250 | 119.321 | 30.958 | 43.711 |
| 4 0.333 | 159.094 | 22.677 | 32.019 |
| 5 0.417 | 198.868 | 10.004 | 14.125 |
| 6 0.500 | 238.641 | 6.677 | 9.427 |
| 7 0.583 | 278.415 | 4.734 | 6.684 |
| 8 0.667 | 318.188 | 3.420 | 4.829 |
| 9 0.750 | 357.962 | 2.414 | 3.409 |
| 10 0.833 | 397.736 | 1.624 | 2.293 |
| 11 0.917 | 437.509 | 0.874 | 1.235 |
| 12 1.000 | 477.283 | 0.460 | 0.649 |
| 13 1.083 | 517.056 | 0.387 | 0.546 |
| 14 1.167 | 556.830 | 0.266 | 0.375 |
| 15 1.250 | 596.603 | 0.291 | 0.411 |
| 16 1.333 | 636.377 | 0.252 | 0.355 |
| 17 1.417 | 676.150 | 0.142 | 0.201 |
| 18 1.500 | 715.924 | 0.092 | 0.130 |
| | | Sum = 100.000 | Sum= 141.195 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.070 | ( 0.129) | 0.080 |
| 2 | 0.17 | 0.60 | 0.180 | 0.070 | ( 0.155) | 0.110 |
| 3 | 0.25 | 0.60 | 0.180 | 0.070 | ( 0.155) | 0.110 |
| 4 | 0.33 | 0.60 | 0.180 | 0.070 | ( 0.155) | 0.110 |
| 5 | 0.42 | 0.60 | 0.180 | 0.070 | ( 0.155) | 0.110 |
| 6 | 0.50 | 0.70 | 0.210 | 0.070 | ( 0.181) | 0.140 |
| 7 | 0.58 | 0.70 | 0.210 | 0.070 | ( 0.181) | 0.140 |
| 8 | 0.67 | 0.70 | 0.210 | 0.070 | ( 0.181) | 0.140 |
| 9 | 0.75 | 0.70 | 0.210 | 0.070 | ( 0.181) | 0.140 |
| 10 | 0.83 | 0.70 | 0.210 | 0.070 | ( 0.181) | 0.140 |
| 11 | 0.92 | 0.70 | 0.210 | 0.070 | ( 0.181) | 0.140 |
| 12 | 1.00 | 0.80 | 0.240 | 0.070 | ( 0.206) | 0.170 |
| 13 | 1.08 | 0.80 | 0.240 | 0.070 | ( 0.206) | 0.170 |
| 14 | 1.17 | 0.80 | 0.240 | 0.070 | ( 0.206) | 0.170 |
| 15 | 1.25 | 0.80 | 0.240 | 0.070 | ( 0.206) | 0.170 |
| 16 | 1.33 | 0.80 | 0.240 | 0.070 | ( 0.206) | 0.170 |
| 17 | 1.42 | 0.80 | 0.240 | 0.070 | ( 0.206) | 0.170 |
| 18 | 1.50 | 0.80 | 0.240 | 0.070 | ( 0.206) | 0.170 |
| 19 | 1.58 | 0.80 | 0.240 | 0.070 | ( 0.206) | 0.170 |
| 20 | 1.67 | 0.80 | 0.240 | 0.070 | ( 0.206) | 0.170 |
| 21 | 1.75 | 0.80 | 0.240 | 0.070 | ( 0.206) | 0.170 |
| 22 | 1.83 | 0.80 | 0.240 | 0.070 | ( 0.206) | 0.170 |
| 23 | 1.92 | 0.80 | 0.240 | 0.070 | ( 0.206) | 0.170 |
| 24 | 2.00 | 0.90 | 0.270 | 0.070 | ( 0.232) | 0.200 |
| 25 | 2.08 | 0.80 | 0.240 | 0.070 | ( 0.206) | 0.170 |
| 26 | 2.17 | 0.90 | 0.270 | 0.070 | ( 0.232) | 0.200 |
| 27 | 2.25 | 0.90 | 0.270 | 0.070 | ( 0.232) | 0.200 |
| 28 | 2.33 | 0.90 | 0.270 | 0.070 | ( 0.232) | 0.200 |
| 29 | 2.42 | 0.90 | 0.270 | 0.070 | ( 0.232) | 0.200 |
| 30 | 2.50 | 0.90 | 0.270 | 0.070 | ( 0.232) | 0.200 |
| 31 | 2.58 | 0.90 | 0.270 | 0.070 | ( 0.232) | 0.200 |
| 32 | 2.67 | 0.90 | 0.270 | 0.070 | ( 0.232) | 0.200 |
| 33 | 2.75 | 1.00 | 0.300 | 0.070 | ( 0.258) | 0.230 |
| 34 | 2.83 | 1.00 | 0.300 | 0.070 | ( 0.258) | 0.230 |
| 35 | 2.92 | 1.00 | 0.300 | 0.070 | ( 0.258) | 0.230 |
| 36 | 3.00 | 1.00 | 0.300 | 0.070 | ( 0.258) | 0.230 |
| 37 | 3.08 | 1.00 | 0.300 | 0.070 | ( 0.258) | 0.230 |
| 38 | 3.17 | 1.10 | 0.330 | 0.070 | ( 0.284) | 0.260 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 39 | 3.25 | 1.10 | 0.330 | 0.070 | ( | 0.284) | 0.260 |
| 40 | 3.33 | 1.10 | 0.330 | 0.070 | ( | 0.284) | 0.260 |
| 41 | 3.42 | 1.20 | 0.360 | 0.070 | ( | 0.309) | 0.290 |
| 42 | 3.50 | 1.30 | 0.390 | 0.070 | ( | 0.335) | 0.320 |
| 43 | 3.58 | 1.40 | 0.420 | 0.070 | ( | 0.361) | 0.350 |
| 44 | 3.67 | 1.40 | 0.420 | 0.070 | ( | 0.361) | 0.350 |
| 45 | 3.75 | 1.50 | 0.450 | 0.070 | ( | 0.387) | 0.380 |
| 46 | 3.83 | 1.50 | 0.450 | 0.070 | ( | 0.387) | 0.380 |
| 47 | 3.92 | 1.60 | 0.480 | 0.070 | ( | 0.413) | 0.410 |
| 48 | 4.00 | 1.60 | 0.480 | 0.070 | ( | 0.413) | 0.410 |
| 49 | 4.08 | 1.70 | 0.510 | 0.070 | ( | 0.438) | 0.440 |
| 50 | 4.17 | 1.80 | 0.540 | 0.070 | ( | 0.464) | 0.470 |
| 51 | 4.25 | 1.90 | 0.570 | 0.070 | ( | 0.490) | 0.500 |
| 52 | 4.33 | 2.00 | 0.600 | 0.070 | ( | 0.516) | 0.530 |
| 53 | 4.42 | 2.10 | 0.630 | 0.070 | ( | 0.542) | 0.560 |
| 54 | 4.50 | 2.10 | 0.630 | 0.070 | ( | 0.542) | 0.560 |
| 55 | 4.58 | 2.20 | 0.660 | 0.070 | ( | 0.567) | 0.590 |
| 56 | 4.67 | 2.30 | 0.690 | 0.070 | ( | 0.593) | 0.620 |
| 57 | 4.75 | 2.40 | 0.720 | 0.070 | ( | 0.619) | 0.650 |
| 58 | 4.83 | 2.40 | 0.720 | 0.070 | ( | 0.619) | 0.650 |
| 59 | 4.92 | 2.50 | 0.750 | 0.070 | ( | 0.645) | 0.680 |
| 60 | 5.00 | 2.60 | 0.780 | 0.070 | ( | 0.670) | 0.710 |
| 61 | 5.08 | 3.10 | 0.930 | 0.070 | ( | 0.799) | 0.860 |
| 62 | 5.17 | 3.60 | 1.079 | 0.070 | ( | 0.928) | 1.010 |
| 63 | 5.25 | 3.90 | 1.169 | 0.070 | ( | 1.006) | 1.099 |
| 64 | 5.33 | 4.20 | 1.259 | 0.070 | ( | 1.083) | 1.189 |
| 65 | 5.42 | 4.70 | 1.409 | 0.070 | ( | 1.212) | 1.339 |
| 66 | 5.50 | 5.60 | 1.679 | 0.070 | ( | 1.444) | 1.609 |
| 67 | 5.58 | 1.90 | 0.570 | 0.070 | ( | 0.490) | 0.500 |
| 68 | 5.67 | 0.90 | 0.270 | 0.070 | ( | 0.232) | 0.200 |
| 69 | 5.75 | 0.60 | 0.180 | 0.070 | ( | 0.155) | 0.110 |
| 70 | 5.83 | 0.50 | 0.150 | 0.070 | ( | 0.129) | 0.080 |
| 71 | 5.92 | 0.30 | 0.090 | 0.070 | ( | 0.077) | 0.020 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.070) | | 0.052 | 0.008 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 25.0

Flood volume = Effective rainfall 2.08(In)
times area 140.1(Ac.)/[(In)/(Ft.)] = 24.3(Ac.Ft)
Total soil loss = 0.42(In)
Total soil loss = 4.884(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 1058067.0 Cubic Feet
Total soil loss = 212728.2 Cubic Feet

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Peak flow rate of this hydrograph = 166.812(CFS)

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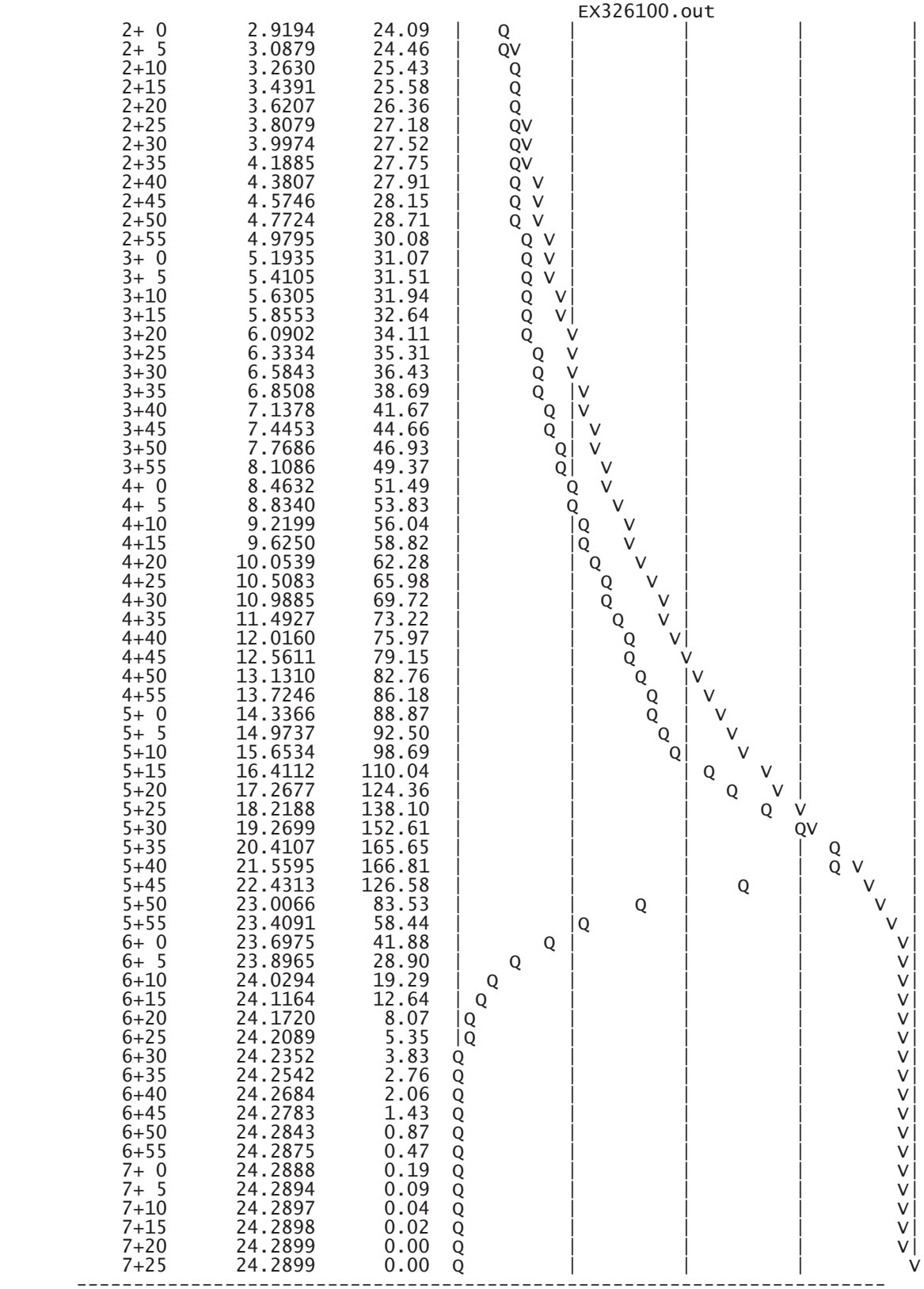
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

---

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 50.0 | 100.0 | 150.0 | 200.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0024 | 0.35 | Q | | | | |
| 0+10 | 0.0148 | 1.80 | Q | | | | |
| 0+15 | 0.0546 | 5.78 | VQ | | | | |
| 0+20 | 0.1211 | 9.66 | VQ | | | | |
| 0+25 | 0.2020 | 11.75 | V Q | | | | |
| 0+30 | 0.2920 | 13.06 | V Q | | | | |
| 0+35 | 0.3909 | 14.37 | V Q | | | | |
| 0+40 | 0.5029 | 16.27 | V Q | | | | |
| 0+45 | 0.6244 | 17.64 | \|V Q | | | | |
| 0+50 | 0.7508 | 18.35 | \|V Q | | | | |
| 0+55 | 0.8803 | 18.80 | \|V Q | | | | |
| 1+ 0 | 1.0127 | 19.22 | \|V Q | | | | |
| 1+ 5 | 1.1500 | 19.92 | \|V Q | | | | |
| 1+10 | 1.2972 | 21.38 | \| V Q | | | | |
| 1+15 | 1.4519 | 22.46 | \| V Q | | | | |
| 1+20 | 1.6100 | 22.96 | \| V Q | | | | |
| 1+25 | 1.7704 | 23.29 | \| V Q | | | | |
| 1+30 | 1.9324 | 23.52 | \| VQ | | | | |
| 1+35 | 2.0955 | 23.68 | \| VQ | | | | |
| 1+40 | 2.2594 | 23.80 | \| VQ | | | | |
| 1+45 | 2.4238 | 23.88 | \| VQ | | | | |
| 1+50 | 2.5886 | 23.92 | \| Q | | | | |
| 1+55 | 2.7535 | 23.94 | \| Q | | | | |



| | | | |
|---|---|---|---|
| 2+ 0 | 2.9194 | 24.09 | |
| 2+ 5 | 3.0879 | 24.46 | |
| 2+10 | 3.2630 | 25.43 | |
| 2+15 | 3.4391 | 25.58 | |
| 2+20 | 3.6207 | 26.36 | |
| 2+25 | 3.8079 | 27.18 | |
| 2+30 | 3.9974 | 27.52 | |
| 2+35 | 4.1885 | 27.75 | |
| 2+40 | 4.3807 | 27.91 | |
| 2+45 | 4.5746 | 28.15 | |
| 2+50 | 4.7724 | 28.71 | |
| 2+55 | 4.9795 | 30.08 | |
| 3+ 0 | 5.1935 | 31.07 | |
| 3+ 5 | 5.4105 | 31.51 | |
| 3+10 | 5.6305 | 31.94 | |
| 3+15 | 5.8553 | 32.64 | |
| 3+20 | 6.0902 | 34.11 | |
| 3+25 | 6.3334 | 35.31 | |
| 3+30 | 6.5843 | 36.43 | |
| 3+35 | 6.8508 | 38.69 | |
| 3+40 | 7.1378 | 41.67 | |
| 3+45 | 7.4453 | 44.66 | |
| 3+50 | 7.7686 | 46.93 | |
| 3+55 | 8.1086 | 49.37 | |
| 4+ 0 | 8.4632 | 51.49 | |
| 4+ 5 | 8.8340 | 53.83 | |
| 4+10 | 9.2199 | 56.04 | |
| 4+15 | 9.6250 | 58.82 | |
| 4+20 | 10.0539 | 62.28 | |
| 4+25 | 10.5083 | 65.98 | |
| 4+30 | 10.9885 | 69.72 | |
| 4+35 | 11.4927 | 73.22 | |
| 4+40 | 12.0160 | 75.97 | |
| 4+45 | 12.5611 | 79.15 | |
| 4+50 | 13.1310 | 82.76 | |
| 4+55 | 13.7246 | 86.18 | |
| 5+ 0 | 14.3366 | 88.87 | |
| 5+ 5 | 14.9737 | 92.50 | |
| 5+10 | 15.6534 | 98.69 | |
| 5+15 | 16.4112 | 110.04 | |
| 5+20 | 17.2677 | 124.36 | |
| 5+25 | 18.2188 | 138.10 | |
| 5+30 | 19.2699 | 152.61 | |
| 5+35 | 20.4107 | 165.65 | |
| 5+40 | 21.5595 | 166.81 | |
| 5+45 | 22.4313 | 126.58 | |
| 5+50 | 23.0066 | 83.53 | |
| 5+55 | 23.4091 | 58.44 | |
| 6+ 0 | 23.6975 | 41.88 | |
| 6+ 5 | 23.8965 | 28.90 | |
| 6+10 | 24.0294 | 19.29 | |
| 6+15 | 24.1164 | 12.64 | |
| 6+20 | 24.1720 | 8.07 | |
| 6+25 | 24.2089 | 5.35 | |
| 6+30 | 24.2352 | 3.83 | |
| 6+35 | 24.2542 | 2.76 | |
| 6+40 | 24.2684 | 2.06 | |
| 6+45 | 24.2783 | 1.43 | |
| 6+50 | 24.2843 | 0.87 | |
| 6+55 | 24.2875 | 0.47 | |
| 7+ 0 | 24.2888 | 0.19 | |
| 7+ 5 | 24.2894 | 0.09 | |
| 7+10 | 24.2897 | 0.04 | |
| 7+15 | 24.2898 | 0.02 | |
| 7+20 | 24.2899 | 0.00 | |
| 7+25 | 24.2899 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX3224100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 32
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 140.10(Ac.) = 0.219 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 140.10(Ac.) = 0.219 Sq. Mi.
Length along longest watercourse = 5451.00(Ft.)
Length along longest watercourse measured to centroid = 3072.00(Ft.)
Length along longest watercourse = 1.032 Mi.
Length along longest watercourse measured to centroid = 0.582 Mi.
Difference in elevation = 556.00(Ft.)
Slope along watercourse = 538.5581 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.210 Hr.
Lag time = 12.57 Min.
25% of lag time = 3.14 Min.
40% of lag time = 5.03 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 140.10 | 1.80 | 252.18 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 140.10 | 4.66 | 652.87 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.660(In)

Point rain (area averaged) = 4.660(In)
Areal adjustment factor = 99.97 %
Adjusted average point rain = 4.659(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 140.100 | 85.91 | 0.050 |

Total Area Entered = 140.10(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 85.9 | 94.4 | 0.073 | 0.050 | 0.070 | 1.000 | 0.070 |
| | | | | | Sum (F) = | 0.070 |

Area averaged mean soil loss (F) (In/Hr) = 0.070

Minimum soil loss rate ((In/Hr)) = 0.035
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.860

---

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 39.774 | 3.109 | 4.390 |
| 2 0.167 | 79.547 | 11.620 | 16.406 |
| 3 0.250 | 119.321 | 30.958 | 43.711 |
| 4 0.333 | 159.094 | 22.677 | 32.019 |
| 5 0.417 | 198.868 | 10.004 | 14.125 |
| 6 0.500 | 238.641 | 6.677 | 9.427 |
| 7 0.583 | 278.415 | 4.734 | 6.684 |
| 8 0.667 | 318.188 | 3.420 | 4.829 |
| 9 0.750 | 357.962 | 2.414 | 3.409 |
| 10 0.833 | 397.736 | 1.624 | 2.293 |
| 11 0.917 | 437.509 | 0.874 | 1.235 |
| 12 1.000 | 477.283 | 0.460 | 0.649 |
| 13 1.083 | 517.056 | 0.387 | 0.546 |
| 14 1.167 | 556.830 | 0.266 | 0.375 |
| 15 1.250 | 596.603 | 0.291 | 0.411 |
| 16 1.333 | 636.377 | 0.252 | 0.355 |
| 17 1.417 | 676.150 | 0.142 | 0.201 |
| 18 1.500 | 715.924 | 0.092 | 0.130 |
| | | Sum = 100.000 | Sum= 141.195 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.037 | ( 0.124) | 0.032 | 0.005 |
| 2 | 0.17 | 0.07 | 0.037 | ( 0.124) | 0.032 | 0.005 |
| 3 | 0.25 | 0.07 | 0.037 | ( 0.123) | 0.032 | 0.005 |
| 4 | 0.33 | 0.10 | 0.056 | ( 0.123) | 0.048 | 0.008 |
| 5 | 0.42 | 0.10 | 0.056 | ( 0.122) | 0.048 | 0.008 |
| 6 | 0.50 | 0.10 | 0.056 | ( 0.122) | 0.048 | 0.008 |
| 7 | 0.58 | 0.10 | 0.056 | ( 0.121) | 0.048 | 0.008 |
| 8 | 0.67 | 0.10 | 0.056 | ( 0.121) | 0.048 | 0.008 |
| 9 | 0.75 | 0.10 | 0.056 | ( 0.120) | 0.048 | 0.008 |
| 10 | 0.83 | 0.13 | 0.075 | ( 0.120) | 0.064 | 0.010 |
| 11 | 0.92 | 0.13 | 0.075 | ( 0.119) | 0.064 | 0.010 |
| 12 | 1.00 | 0.13 | 0.075 | ( 0.119) | 0.064 | 0.010 |
| 13 | 1.08 | 0.10 | 0.056 | ( 0.118) | 0.048 | 0.008 |
| 14 | 1.17 | 0.10 | 0.056 | ( 0.118) | 0.048 | 0.008 |
| 15 | 1.25 | 0.10 | 0.056 | ( 0.117) | 0.048 | 0.008 |
| 16 | 1.33 | 0.10 | 0.056 | ( 0.117) | 0.048 | 0.008 |
| 17 | 1.42 | 0.10 | 0.056 | ( 0.116) | 0.048 | 0.008 |
| 18 | 1.50 | 0.10 | 0.056 | ( 0.116) | 0.048 | 0.008 |
| 19 | 1.58 | 0.10 | 0.056 | ( 0.116) | 0.048 | 0.008 |
| 20 | 1.67 | 0.10 | 0.056 | ( 0.115) | 0.048 | 0.008 |
| 21 | 1.75 | 0.10 | 0.056 | ( 0.115) | 0.048 | 0.008 |
| 22 | 1.83 | 0.13 | 0.075 | ( 0.114) | 0.064 | 0.010 |
| 23 | 1.92 | 0.13 | 0.075 | ( 0.114) | 0.064 | 0.010 |
| 24 | 2.00 | 0.13 | 0.075 | ( 0.113) | 0.064 | 0.010 |
| 25 | 2.08 | 0.13 | 0.075 | ( 0.113) | 0.064 | 0.010 |
| 26 | 2.17 | 0.13 | 0.075 | ( 0.112) | 0.064 | 0.010 |
| 27 | 2.25 | 0.13 | 0.075 | ( 0.112) | 0.064 | 0.010 |
| 28 | 2.33 | 0.13 | 0.075 | ( 0.111) | 0.064 | 0.010 |
| 29 | 2.42 | 0.13 | 0.075 | ( 0.111) | 0.064 | 0.010 |
| 30 | 2.50 | 0.13 | 0.075 | ( 0.111) | 0.064 | 0.010 |
| 31 | 2.58 | 0.17 | 0.093 | ( 0.110) | 0.080 | 0.013 |
| 32 | 2.67 | 0.17 | 0.093 | ( 0.110) | 0.080 | 0.013 |
| 33 | 2.75 | 0.17 | 0.093 | ( 0.109) | 0.080 | 0.013 |
| 34 | 2.83 | 0.17 | 0.093 | ( 0.109) | 0.080 | 0.013 |
| 35 | 2.92 | 0.17 | 0.093 | ( 0.108) | 0.080 | 0.013 |
| 36 | 3.00 | 0.17 | 0.093 | ( 0.108) | 0.080 | 0.013 |
| 37 | 3.08 | 0.17 | 0.093 | ( 0.107) | 0.080 | 0.013 |
| 38 | 3.17 | 0.17 | 0.093 | ( 0.107) | 0.080 | 0.013 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 39 | 3.25 | 0.17 | 0.093 | ( | 0.106) | 0.080 | | 0.013 |
| 40 | 3.33 | 0.17 | 0.093 | ( | 0.106) | 0.080 | | 0.013 |
| 41 | 3.42 | 0.17 | 0.093 | ( | 0.106) | 0.080 | | 0.013 |
| 42 | 3.50 | 0.17 | 0.093 | ( | 0.105) | 0.080 | | 0.013 |
| 43 | 3.58 | 0.17 | 0.093 | ( | 0.105) | 0.080 | | 0.013 |
| 44 | 3.67 | 0.17 | 0.093 | ( | 0.104) | 0.080 | | 0.013 |
| 45 | 3.75 | 0.17 | 0.093 | ( | 0.104) | 0.080 | | 0.013 |
| 46 | 3.83 | 0.20 | 0.112 | ( | 0.103) | 0.096 | | 0.016 |
| 47 | 3.92 | 0.20 | 0.112 | ( | 0.103) | 0.096 | | 0.016 |
| 48 | 4.00 | 0.20 | 0.112 | ( | 0.103) | 0.096 | | 0.016 |
| 49 | 4.08 | 0.20 | 0.112 | ( | 0.102) | 0.096 | | 0.016 |
| 50 | 4.17 | 0.20 | 0.112 | ( | 0.102) | 0.096 | | 0.016 |
| 51 | 4.25 | 0.20 | 0.112 | ( | 0.101) | 0.096 | | 0.016 |
| 52 | 4.33 | 0.23 | 0.130 | | 0.101 | ( | 0.112) | 0.030 |
| 53 | 4.42 | 0.23 | 0.130 | | 0.100 | ( | 0.112) | 0.030 |
| 54 | 4.50 | 0.23 | 0.130 | | 0.100 | ( | 0.112) | 0.031 |
| 55 | 4.58 | 0.23 | 0.130 | | 0.099 | ( | 0.112) | 0.031 |
| 56 | 4.67 | 0.23 | 0.130 | | 0.099 | ( | 0.112) | 0.031 |
| 57 | 4.75 | 0.23 | 0.130 | | 0.099 | ( | 0.112) | 0.032 |
| 58 | 4.83 | 0.27 | 0.149 | | 0.098 | ( | 0.128) | 0.051 |
| 59 | 4.92 | 0.27 | 0.149 | | 0.098 | ( | 0.128) | 0.051 |
| 60 | 5.00 | 0.27 | 0.149 | | 0.097 | ( | 0.128) | 0.052 |
| 61 | 5.08 | 0.20 | 0.112 | ( | 0.097) | 0.096 | | 0.016 |
| 62 | 5.17 | 0.20 | 0.112 | ( | 0.097) | 0.096 | | 0.016 |
| 63 | 5.25 | 0.20 | 0.112 | | 0.096 | ( | 0.096) | 0.016 |
| 64 | 5.33 | 0.23 | 0.130 | | 0.096 | ( | 0.112) | 0.035 |
| 65 | 5.42 | 0.23 | 0.130 | | 0.095 | ( | 0.112) | 0.035 |
| 66 | 5.50 | 0.23 | 0.130 | | 0.095 | ( | 0.112) | 0.036 |
| 67 | 5.58 | 0.27 | 0.149 | | 0.094 | ( | 0.128) | 0.055 |
| 68 | 5.67 | 0.27 | 0.149 | | 0.094 | ( | 0.128) | 0.055 |
| 69 | 5.75 | 0.27 | 0.149 | | 0.094 | ( | 0.128) | 0.055 |
| 70 | 5.83 | 0.27 | 0.149 | | 0.093 | ( | 0.128) | 0.056 |
| 71 | 5.92 | 0.27 | 0.149 | | 0.093 | ( | 0.128) | 0.056 |
| 72 | 6.00 | 0.27 | 0.149 | | 0.092 | ( | 0.128) | 0.057 |
| 73 | 6.08 | 0.30 | 0.168 | | 0.092 | ( | 0.144) | 0.076 |
| 74 | 6.17 | 0.30 | 0.168 | | 0.092 | ( | 0.144) | 0.076 |
| 75 | 6.25 | 0.30 | 0.168 | | 0.091 | ( | 0.144) | 0.077 |
| 76 | 6.33 | 0.30 | 0.168 | | 0.091 | ( | 0.144) | 0.077 |
| 77 | 6.42 | 0.30 | 0.168 | | 0.090 | ( | 0.144) | 0.077 |
| 78 | 6.50 | 0.30 | 0.168 | | 0.090 | ( | 0.144) | 0.078 |
| 79 | 6.58 | 0.33 | 0.186 | | 0.090 | ( | 0.160) | 0.097 |
| 80 | 6.67 | 0.33 | 0.186 | | 0.089 | ( | 0.160) | 0.097 |
| 81 | 6.75 | 0.33 | 0.186 | | 0.089 | ( | 0.160) | 0.098 |
| 82 | 6.83 | 0.33 | 0.186 | | 0.088 | ( | 0.160) | 0.098 |
| 83 | 6.92 | 0.33 | 0.186 | | 0.088 | ( | 0.160) | 0.098 |
| 84 | 7.00 | 0.33 | 0.186 | | 0.088 | ( | 0.160) | 0.099 |
| 85 | 7.08 | 0.33 | 0.186 | | 0.087 | ( | 0.160) | 0.099 |
| 86 | 7.17 | 0.33 | 0.186 | | 0.087 | ( | 0.160) | 0.100 |
| 87 | 7.25 | 0.33 | 0.186 | | 0.086 | ( | 0.160) | 0.100 |
| 88 | 7.33 | 0.37 | 0.205 | | 0.086 | ( | 0.176) | 0.119 |
| 89 | 7.42 | 0.37 | 0.205 | | 0.086 | ( | 0.176) | 0.119 |
| 90 | 7.50 | 0.37 | 0.205 | | 0.085 | ( | 0.176) | 0.120 |
| 91 | 7.58 | 0.40 | 0.224 | | 0.085 | ( | 0.192) | 0.139 |
| 92 | 7.67 | 0.40 | 0.224 | | 0.084 | ( | 0.192) | 0.139 |
| 93 | 7.75 | 0.40 | 0.224 | | 0.084 | ( | 0.192) | 0.140 |
| 94 | 7.83 | 0.43 | 0.242 | | 0.084 | ( | 0.208) | 0.159 |
| 95 | 7.92 | 0.43 | 0.242 | | 0.083 | ( | 0.208) | 0.159 |
| 96 | 8.00 | 0.43 | 0.242 | | 0.083 | ( | 0.208) | 0.159 |
| 97 | 8.08 | 0.50 | 0.280 | | 0.082 | ( | 0.240) | 0.197 |
| 98 | 8.17 | 0.50 | 0.280 | | 0.082 | ( | 0.240) | 0.197 |
| 99 | 8.25 | 0.50 | 0.280 | | 0.082 | ( | 0.240) | 0.198 |
| 100 | 8.33 | 0.50 | 0.280 | | 0.081 | ( | 0.240) | 0.198 |
| 101 | 8.42 | 0.50 | 0.280 | | 0.081 | ( | 0.240) | 0.199 |
| 102 | 8.50 | 0.50 | 0.280 | | 0.081 | ( | 0.240) | 0.199 |
| 103 | 8.58 | 0.53 | 0.298 | | 0.080 | ( | 0.256) | 0.218 |
| 104 | 8.67 | 0.53 | 0.298 | | 0.080 | ( | 0.256) | 0.218 |
| 105 | 8.75 | 0.53 | 0.298 | | 0.079 | ( | 0.256) | 0.219 |
| 106 | 8.83 | 0.57 | 0.317 | | 0.079 | ( | 0.272) | 0.238 |
| 107 | 8.92 | 0.57 | 0.317 | | 0.079 | ( | 0.272) | 0.238 |
| 108 | 9.00 | 0.57 | 0.317 | | 0.078 | ( | 0.272) | 0.239 |
| 109 | 9.08 | 0.63 | 0.354 | | 0.078 | ( | 0.304) | 0.276 |
| 110 | 9.17 | 0.63 | 0.354 | | 0.078 | ( | 0.304) | 0.277 |
| 111 | 9.25 | 0.63 | 0.354 | | 0.077 | ( | 0.304) | 0.277 |
| 112 | 9.33 | 0.67 | 0.373 | | 0.077 | ( | 0.321) | 0.296 |
| 113 | 9.42 | 0.67 | 0.373 | | 0.076 | ( | 0.321) | 0.296 |
| 114 | 9.50 | 0.67 | 0.373 | | 0.076 | ( | 0.321) | 0.297 |
| 115 | 9.58 | 0.70 | 0.391 | | 0.076 | ( | 0.337) | 0.316 |
| 116 | 9.67 | 0.70 | 0.391 | | 0.075 | ( | 0.337) | 0.316 |

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| 117 | 9.75 | 0.70 | 0.391 | 0.075 | ( 0.337) | 0.316 |
| 118 | 9.83 | 0.73 | 0.410 | 0.075 | ( 0.353) | 0.335 |
| 119 | 9.92 | 0.73 | 0.410 | 0.074 | ( 0.353) | 0.336 |
| 120 | 10.00 | 0.73 | 0.410 | 0.074 | ( 0.353) | 0.336 |
| 121 | 10.08 | 0.50 | 0.280 | 0.074 | ( 0.240) | 0.206 |
| 122 | 10.17 | 0.50 | 0.280 | 0.073 | ( 0.240) | 0.206 |
| 123 | 10.25 | 0.50 | 0.280 | 0.073 | ( 0.240) | 0.207 |
| 124 | 10.33 | 0.50 | 0.280 | 0.072 | ( 0.240) | 0.207 |
| 125 | 10.42 | 0.50 | 0.280 | 0.072 | ( 0.240) | 0.207 |
| 126 | 10.50 | 0.50 | 0.280 | 0.072 | ( 0.240) | 0.208 |
| 127 | 10.58 | 0.67 | 0.373 | 0.071 | ( 0.321) | 0.301 |
| 128 | 10.67 | 0.67 | 0.373 | 0.071 | ( 0.321) | 0.302 |
| 129 | 10.75 | 0.67 | 0.373 | 0.071 | ( 0.321) | 0.302 |
| 130 | 10.83 | 0.67 | 0.373 | 0.070 | ( 0.321) | 0.302 |
| 131 | 10.92 | 0.67 | 0.373 | 0.070 | ( 0.321) | 0.303 |
| 132 | 11.00 | 0.67 | 0.373 | 0.070 | ( 0.321) | 0.303 |
| 133 | 11.08 | 0.63 | 0.354 | 0.069 | ( 0.304) | 0.285 |
| 134 | 11.17 | 0.63 | 0.354 | 0.069 | ( 0.304) | 0.285 |
| 135 | 11.25 | 0.63 | 0.354 | 0.069 | ( 0.304) | 0.285 |
| 136 | 11.33 | 0.63 | 0.354 | 0.068 | ( 0.304) | 0.286 |
| 137 | 11.42 | 0.63 | 0.354 | 0.068 | ( 0.304) | 0.286 |
| 138 | 11.50 | 0.63 | 0.354 | 0.068 | ( 0.304) | 0.286 |
| 139 | 11.58 | 0.57 | 0.317 | 0.067 | ( 0.272) | 0.249 |
| 140 | 11.67 | 0.57 | 0.317 | 0.067 | ( 0.272) | 0.250 |
| 141 | 11.75 | 0.57 | 0.317 | 0.067 | ( 0.272) | 0.250 |
| 142 | 11.83 | 0.60 | 0.335 | 0.066 | ( 0.288) | 0.269 |
| 143 | 11.92 | 0.60 | 0.335 | 0.066 | ( 0.288) | 0.269 |
| 144 | 12.00 | 0.60 | 0.335 | 0.066 | ( 0.288) | 0.270 |
| 145 | 12.08 | 0.83 | 0.466 | 0.065 | ( 0.401) | 0.401 |
| 146 | 12.17 | 0.83 | 0.466 | 0.065 | ( 0.401) | 0.401 |
| 147 | 12.25 | 0.83 | 0.466 | 0.065 | ( 0.401) | 0.401 |
| 148 | 12.33 | 0.87 | 0.485 | 0.064 | ( 0.417) | 0.420 |
| 149 | 12.42 | 0.87 | 0.485 | 0.064 | ( 0.417) | 0.420 |
| 150 | 12.50 | 0.87 | 0.485 | 0.064 | ( 0.417) | 0.421 |
| 151 | 12.58 | 0.93 | 0.522 | 0.063 | ( 0.449) | 0.458 |
| 152 | 12.67 | 0.93 | 0.522 | 0.063 | ( 0.449) | 0.459 |
| 153 | 12.75 | 0.93 | 0.522 | 0.063 | ( 0.449) | 0.459 |
| 154 | 12.83 | 0.97 | 0.540 | 0.062 | ( 0.465) | 0.478 |
| 155 | 12.92 | 0.97 | 0.540 | 0.062 | ( 0.465) | 0.478 |
| 156 | 13.00 | 0.97 | 0.540 | 0.062 | ( 0.465) | 0.479 |
| 157 | 13.08 | 1.13 | 0.634 | 0.061 | ( 0.545) | 0.572 |
| 158 | 13.17 | 1.13 | 0.634 | 0.061 | ( 0.545) | 0.572 |
| 159 | 13.25 | 1.13 | 0.634 | 0.061 | ( 0.545) | 0.573 |
| 160 | 13.33 | 1.13 | 0.634 | 0.061 | ( 0.545) | 0.573 |
| 161 | 13.42 | 1.13 | 0.634 | 0.060 | ( 0.545) | 0.573 |
| 162 | 13.50 | 1.13 | 0.634 | 0.060 | ( 0.545) | 0.574 |
| 163 | 13.58 | 0.77 | 0.429 | 0.060 | ( 0.369) | 0.369 |
| 164 | 13.67 | 0.77 | 0.429 | 0.059 | ( 0.369) | 0.369 |
| 165 | 13.75 | 0.77 | 0.429 | 0.059 | ( 0.369) | 0.370 |
| 166 | 13.83 | 0.77 | 0.429 | 0.059 | ( 0.369) | 0.370 |
| 167 | 13.92 | 0.77 | 0.429 | 0.058 | ( 0.369) | 0.370 |
| 168 | 14.00 | 0.77 | 0.429 | 0.058 | ( 0.369) | 0.370 |
| 169 | 14.08 | 0.90 | 0.503 | 0.058 | ( 0.433) | 0.445 |
| 170 | 14.17 | 0.90 | 0.503 | 0.058 | ( 0.433) | 0.446 |
| 171 | 14.25 | 0.90 | 0.503 | 0.057 | ( 0.433) | 0.446 |
| 172 | 14.33 | 0.87 | 0.485 | 0.057 | ( 0.417) | 0.428 |
| 173 | 14.42 | 0.87 | 0.485 | 0.057 | ( 0.417) | 0.428 |
| 174 | 14.50 | 0.87 | 0.485 | 0.056 | ( 0.417) | 0.428 |
| 175 | 14.58 | 0.87 | 0.485 | 0.056 | ( 0.417) | 0.428 |
| 176 | 14.67 | 0.87 | 0.485 | 0.056 | ( 0.417) | 0.429 |
| 177 | 14.75 | 0.87 | 0.485 | 0.055 | ( 0.417) | 0.429 |
| 178 | 14.83 | 0.83 | 0.466 | 0.055 | ( 0.401) | 0.411 |
| 179 | 14.92 | 0.83 | 0.466 | 0.055 | ( 0.401) | 0.411 |
| 180 | 15.00 | 0.83 | 0.466 | 0.055 | ( 0.401) | 0.411 |
| 181 | 15.08 | 0.80 | 0.447 | 0.054 | ( 0.385) | 0.393 |
| 182 | 15.17 | 0.80 | 0.447 | 0.054 | ( 0.385) | 0.393 |
| 183 | 15.25 | 0.80 | 0.447 | 0.054 | ( 0.385) | 0.393 |
| 184 | 15.33 | 0.77 | 0.429 | 0.054 | ( 0.369) | 0.375 |
| 185 | 15.42 | 0.77 | 0.429 | 0.053 | ( 0.369) | 0.375 |
| 186 | 15.50 | 0.77 | 0.429 | 0.053 | ( 0.369) | 0.376 |
| 187 | 15.58 | 0.63 | 0.354 | 0.053 | ( 0.304) | 0.301 |
| 188 | 15.67 | 0.63 | 0.354 | 0.052 | ( 0.304) | 0.302 |
| 189 | 15.75 | 0.63 | 0.354 | 0.052 | ( 0.304) | 0.302 |
| 190 | 15.83 | 0.63 | 0.354 | 0.052 | ( 0.304) | 0.302 |
| 191 | 15.92 | 0.63 | 0.354 | 0.052 | ( 0.304) | 0.302 |
| 192 | 16.00 | 0.63 | 0.354 | 0.051 | ( 0.304) | 0.303 |
| 193 | 16.08 | 0.13 | 0.075 | 0.051 | ( 0.064) | 0.023 |
| 194 | 16.17 | 0.13 | 0.075 | 0.051 | ( 0.064) | 0.024 |

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| 195 | 16.25 | 0.13 | 0.075 | 0.051 | ( 0.064) | 0.024 |
| 196 | 16.33 | 0.13 | 0.075 | 0.050 | ( 0.064) | 0.024 |
| 197 | 16.42 | 0.13 | 0.075 | 0.050 | ( 0.064) | 0.024 |
| 198 | 16.50 | 0.13 | 0.075 | 0.050 | ( 0.064) | 0.025 |
| 199 | 16.58 | 0.10 | 0.056 | ( 0.050) | 0.048 | 0.008 |
| 200 | 16.67 | 0.10 | 0.056 | ( 0.049) | 0.048 | 0.008 |
| 201 | 16.75 | 0.10 | 0.056 | ( 0.049) | 0.048 | 0.008 |
| 202 | 16.83 | 0.10 | 0.056 | ( 0.049) | 0.048 | 0.008 |
| 203 | 16.92 | 0.10 | 0.056 | ( 0.049) | 0.048 | 0.008 |
| 204 | 17.00 | 0.10 | 0.056 | ( 0.048) | 0.048 | 0.008 |
| 205 | 17.08 | 0.17 | 0.093 | 0.048 | ( 0.080) | 0.045 |
| 206 | 17.17 | 0.17 | 0.093 | 0.048 | ( 0.080) | 0.045 |
| 207 | 17.25 | 0.17 | 0.093 | 0.048 | ( 0.080) | 0.046 |
| 208 | 17.33 | 0.17 | 0.093 | 0.047 | ( 0.080) | 0.046 |
| 209 | 17.42 | 0.17 | 0.093 | 0.047 | ( 0.080) | 0.046 |
| 210 | 17.50 | 0.17 | 0.093 | 0.047 | ( 0.080) | 0.046 |
| 211 | 17.58 | 0.17 | 0.093 | 0.047 | ( 0.080) | 0.047 |
| 212 | 17.67 | 0.17 | 0.093 | 0.046 | ( 0.080) | 0.047 |
| 213 | 17.75 | 0.17 | 0.093 | 0.046 | ( 0.080) | 0.047 |
| 214 | 17.83 | 0.13 | 0.075 | 0.046 | ( 0.064) | 0.029 |
| 215 | 17.92 | 0.13 | 0.075 | 0.046 | ( 0.064) | 0.029 |
| 216 | 18.00 | 0.13 | 0.075 | 0.046 | ( 0.064) | 0.029 |
| 217 | 18.08 | 0.13 | 0.075 | 0.045 | ( 0.064) | 0.029 |
| 218 | 18.17 | 0.13 | 0.075 | 0.045 | ( 0.064) | 0.029 |
| 219 | 18.25 | 0.13 | 0.075 | 0.045 | ( 0.064) | 0.030 |
| 220 | 18.33 | 0.13 | 0.075 | 0.045 | ( 0.064) | 0.030 |
| 221 | 18.42 | 0.13 | 0.075 | 0.044 | ( 0.064) | 0.030 |
| 222 | 18.50 | 0.13 | 0.075 | 0.044 | ( 0.064) | 0.030 |
| 223 | 18.58 | 0.10 | 0.056 | 0.044 | ( 0.048) | 0.012 |
| 224 | 18.67 | 0.10 | 0.056 | 0.044 | ( 0.048) | 0.012 |
| 225 | 18.75 | 0.10 | 0.056 | 0.044 | ( 0.048) | 0.012 |
| 226 | 18.83 | 0.07 | 0.037 | ( 0.043) | 0.032 | 0.005 |
| 227 | 18.92 | 0.07 | 0.037 | ( 0.043) | 0.032 | 0.005 |
| 228 | 19.00 | 0.07 | 0.037 | ( 0.043) | 0.032 | 0.005 |
| 229 | 19.08 | 0.10 | 0.056 | 0.043 | ( 0.048) | 0.013 |
| 230 | 19.17 | 0.10 | 0.056 | 0.043 | ( 0.048) | 0.013 |
| 231 | 19.25 | 0.10 | 0.056 | 0.042 | ( 0.048) | 0.014 |
| 232 | 19.33 | 0.13 | 0.075 | 0.042 | ( 0.064) | 0.032 |
| 233 | 19.42 | 0.13 | 0.075 | 0.042 | ( 0.064) | 0.033 |
| 234 | 19.50 | 0.13 | 0.075 | 0.042 | ( 0.064) | 0.033 |
| 235 | 19.58 | 0.10 | 0.056 | 0.042 | ( 0.048) | 0.014 |
| 236 | 19.67 | 0.10 | 0.056 | 0.041 | ( 0.048) | 0.015 |
| 237 | 19.75 | 0.10 | 0.056 | 0.041 | ( 0.048) | 0.015 |
| 238 | 19.83 | 0.07 | 0.037 | ( 0.041) | 0.032 | 0.005 |
| 239 | 19.92 | 0.07 | 0.037 | ( 0.041) | 0.032 | 0.005 |
| 240 | 20.00 | 0.07 | 0.037 | ( 0.041) | 0.032 | 0.005 |
| 241 | 20.08 | 0.10 | 0.056 | 0.040 | ( 0.048) | 0.015 |
| 242 | 20.17 | 0.10 | 0.056 | 0.040 | ( 0.048) | 0.016 |
| 243 | 20.25 | 0.10 | 0.056 | 0.040 | ( 0.048) | 0.016 |
| 244 | 20.33 | 0.10 | 0.056 | 0.040 | ( 0.048) | 0.016 |
| 245 | 20.42 | 0.10 | 0.056 | 0.040 | ( 0.048) | 0.016 |
| 246 | 20.50 | 0.10 | 0.056 | 0.040 | ( 0.048) | 0.016 |
| 247 | 20.58 | 0.10 | 0.056 | 0.039 | ( 0.048) | 0.016 |
| 248 | 20.67 | 0.10 | 0.056 | 0.039 | ( 0.048) | 0.017 |
| 249 | 20.75 | 0.10 | 0.056 | 0.039 | ( 0.048) | 0.017 |
| 250 | 20.83 | 0.07 | 0.037 | ( 0.039) | 0.032 | 0.005 |
| 251 | 20.92 | 0.07 | 0.037 | ( 0.039) | 0.032 | 0.005 |
| 252 | 21.00 | 0.07 | 0.037 | ( 0.039) | 0.032 | 0.005 |
| 253 | 21.08 | 0.10 | 0.056 | 0.038 | ( 0.048) | 0.017 |
| 254 | 21.17 | 0.10 | 0.056 | 0.038 | ( 0.048) | 0.018 |
| 255 | 21.25 | 0.10 | 0.056 | 0.038 | ( 0.048) | 0.018 |
| 256 | 21.33 | 0.07 | 0.037 | ( 0.038) | 0.032 | 0.005 |
| 257 | 21.42 | 0.07 | 0.037 | ( 0.038) | 0.032 | 0.005 |
| 258 | 21.50 | 0.07 | 0.037 | ( 0.038) | 0.032 | 0.005 |
| 259 | 21.58 | 0.10 | 0.056 | 0.038 | ( 0.048) | 0.018 |
| 260 | 21.67 | 0.10 | 0.056 | 0.037 | ( 0.048) | 0.018 |
| 261 | 21.75 | 0.10 | 0.056 | 0.037 | ( 0.048) | 0.019 |
| 262 | 21.83 | 0.07 | 0.037 | ( 0.037) | 0.032 | 0.005 |
| 263 | 21.92 | 0.07 | 0.037 | ( 0.037) | 0.032 | 0.005 |
| 264 | 22.00 | 0.07 | 0.037 | ( 0.037) | 0.032 | 0.005 |
| 265 | 22.08 | 0.10 | 0.056 | 0.037 | ( 0.048) | 0.019 |
| 266 | 22.17 | 0.10 | 0.056 | 0.037 | ( 0.048) | 0.019 |
| 267 | 22.25 | 0.10 | 0.056 | 0.037 | ( 0.048) | 0.019 |
| 268 | 22.33 | 0.07 | 0.037 | ( 0.036) | 0.032 | 0.005 |
| 269 | 22.42 | 0.07 | 0.037 | ( 0.036) | 0.032 | 0.005 |
| 270 | 22.50 | 0.07 | 0.037 | ( 0.036) | 0.032 | 0.005 |
| 271 | 22.58 | 0.07 | 0.037 | ( 0.036) | 0.032 | 0.005 |
| 272 | 22.67 | 0.07 | 0.037 | ( 0.036) | 0.032 | 0.005 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 273 | 22.75 | 0.07 | 0.037 | ( 0.036) | 0.032 | 0.005 |
| 274 | 22.83 | 0.07 | 0.037 | ( 0.036) | 0.032 | 0.005 |
| 275 | 22.92 | 0.07 | 0.037 | ( 0.036) | 0.032 | 0.005 |
| 276 | 23.00 | 0.07 | 0.037 | ( 0.036) | 0.032 | 0.005 |
| 277 | 23.08 | 0.07 | 0.037 | ( 0.036) | 0.032 | 0.005 |
| 278 | 23.17 | 0.07 | 0.037 | ( 0.036) | 0.032 | 0.005 |
| 279 | 23.25 | 0.07 | 0.037 | ( 0.035) | 0.032 | 0.005 |
| 280 | 23.33 | 0.07 | 0.037 | ( 0.035) | 0.032 | 0.005 |
| 281 | 23.42 | 0.07 | 0.037 | ( 0.035) | 0.032 | 0.005 |
| 282 | 23.50 | 0.07 | 0.037 | ( 0.035) | 0.032 | 0.005 |
| 283 | 23.58 | 0.07 | 0.037 | ( 0.035) | 0.032 | 0.005 |
| 284 | 23.67 | 0.07 | 0.037 | ( 0.035) | 0.032 | 0.005 |
| 285 | 23.75 | 0.07 | 0.037 | ( 0.035) | 0.032 | 0.005 |
| 286 | 23.83 | 0.07 | 0.037 | ( 0.035) | 0.032 | 0.005 |
| 287 | 23.92 | 0.07 | 0.037 | ( 0.035) | 0.032 | 0.005 |
| 288 | 24.00 | 0.07 | 0.037 | ( 0.035) | 0.032 | 0.005 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 38.3

Flood volume = Effective rainfall 3.19(In)
times area 140.1(Ac.)/[(In)/(Ft.)] = 37.3(Ac.Ft)
Total soil loss = 1.47(In)
Total soil loss = 17.123(Ac.Ft)
Total rainfall = 4.66(In)
Flood volume = 1623393.0 Cubic Feet
Total soil loss = 745862.1 Cubic Feet

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Peak flow rate of this hydrograph = 78.720(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

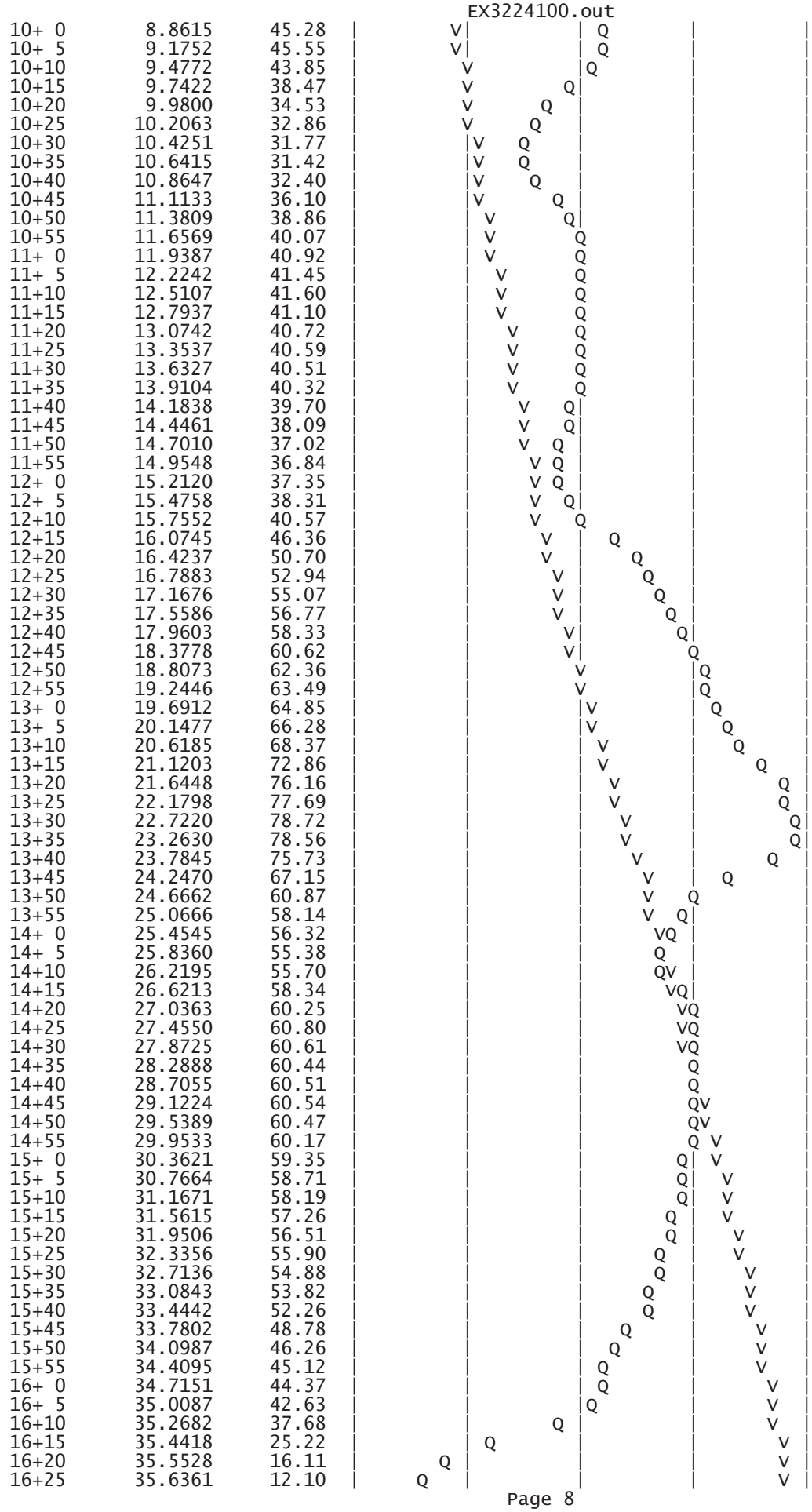
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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 20.0 | 40.0 | 60.0 | 80.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0002 | 0.02 | Q | | | | |
| 0+10 | 0.0009 | 0.11 | Q | | | | |
| 0+15 | 0.0032 | 0.34 | Q | | | | |
| 0+20 | 0.0068 | 0.52 | Q | | | | |
| 0+25 | 0.0111 | 0.63 | Q | | | | |
| 0+30 | 0.0166 | 0.80 | Q | | | | |
| 0+35 | 0.0229 | 0.91 | Q | | | | |
| 0+40 | 0.0296 | 0.98 | Q | | | | |
| 0+45 | 0.0366 | 1.02 | Q | | | | |
| 0+50 | 0.0439 | 1.06 | Q | | | | |
| 0+55 | 0.0516 | 1.12 | Q | | | | |
| 1+ 0 | 0.0602 | 1.25 | Q | | | | |
| 1+ 5 | 0.0694 | 1.33 | Q | | | | |
| 1+10 | 0.0785 | 1.33 | Q | | | | |
| 1+15 | 0.0871 | 1.24 | Q | | | | |
| 1+20 | 0.0952 | 1.18 | Q | | | | |
| 1+25 | 0.1032 | 1.16 | Q | | | | |
| 1+30 | 0.1110 | 1.14 | Q | | | | |
| 1+35 | 0.1188 | 1.13 | Q | | | | |
| 1+40 | 0.1266 | 1.12 | Q | | | | |
| 1+45 | 0.1343 | 1.12 | Q | | | | |
| 1+50 | 0.1420 | 1.12 | Q | | | | |
| 1+55 | 0.1500 | 1.16 | Q | | | | |
| 2+ 0 | 0.1588 | 1.28 | Q | | | | |
| 2+ 5 | 0.1682 | 1.36 | Q | | | | |
| 2+10 | 0.1778 | 1.40 | Q | | | | |
| 2+15 | 0.1876 | 1.42 | Q | | | | |
| 2+20 | 0.1975 | 1.44 | Q | | | | |
| 2+25 | 0.2075 | 1.45 | Q | | | | |
| 2+30 | 0.2175 | 1.46 | Q | | | | |
| 2+35 | 0.2277 | 1.48 | Q | | | | |
| 2+40 | 0.2382 | 1.52 | Q | | | | |
| 2+45 | 0.2494 | 1.64 | Q | | | | |
| 2+50 | 0.2613 | 1.72 | Q | | | | |
| 2+55 | 0.2734 | 1.76 | Q | | | | |
| 3+ 0 | 0.2857 | 1.79 | Q | | | | |
| 3+ 5 | 0.2981 | 1.80 | Q | | | | |
| 3+10 | 0.3107 | 1.82 | Q | | | | |
| 3+15 | 0.3232 | 1.83 | Q | | | | |
| 3+20 | 0.3359 | 1.83 | Q | | | | |
| 3+25 | 0.3485 | 1.84 | Q | | | | |

```
3+30       0.3612      1.84  Q          |          |          |          |
3+35       0.3738      1.84  Q          |          |          |          |
3+40       0.3865      1.84  Q          |          |          |          |
3+45       0.3992      1.84  Q          |          |          |          |
3+50       0.4119      1.85  Q          |          |          |          |
3+55       0.4250      1.90  Q          |          |          |          |
4+ 0       0.4388      2.01  VQ         |          |          |          |
4+ 5       0.4533      2.09  VQ         |          |          |          |
4+10       0.4680      2.13  VQ         |          |          |          |
4+15       0.4828      2.16  VQ         |          |          |          |
4+20       0.4982      2.24  VQ         |          |          |          |
4+25       0.5153      2.48  VQ         |          |          |          |
4+30       0.5367      3.11  VQ         |          |          |          |
4+35       0.5614      3.59  VQ         |          |          |          |
4+40       0.5878      3.84  VQ         |          |          |          |
4+45       0.6155      4.02  V Q        |          |          |          |
4+50       0.6447      4.25  V Q        |          |          |          |
4+55       0.6769      4.67  V Q        |          |          |          |
5+ 0       0.7155      5.59  V Q        |          |          |          |
5+ 5       0.7576      6.12  V  Q       |          |          |          |
5+10       0.7980      5.86  V Q        |          |          |          |
5+15       0.8290      4.50  V Q        |          |          |          |
5+20       0.8536      3.58  VQ         |          |          |          |
5+25       0.8777      3.49  VQ         |          |          |          |
5+30       0.9058      4.08  V Q        |          |          |          |
5+35       0.9375      4.61  |VQ        |          |          |          |
5+40       0.9725      5.08  |VQ        |          |          |          |
5+45       1.0139      6.02  |V Q       |          |          |          |
5+50       1.0602      6.72  |V Q       |          |          |          |
5+55       1.1090      7.09  |V Q       |          |          |          |
6+ 0       1.1598      7.37  |V Q       |          |          |          |
6+ 5       1.2126      7.66  |V Q       |          |          |          |
6+10       1.2686      8.13  |V  Q      |          |          |          |
6+15       1.3310      9.07  |V  Q      |          |          |          |
6+20       1.3983      9.76  |V  Q      |          |          |          |
6+25       1.4679     10.11  |V   Q     |          |          |          |
6+30       1.5392     10.35  |V   Q     |          |          |          |
6+35       1.6124     10.63  |V   Q     |          |          |          |
6+40       1.6888     11.10  |V   Q     |          |          |          |
6+45       1.7718     12.04  |V    Q    |          |          |          |
6+50       1.8596     12.75  |V    Q    |          |          |          |
6+55       1.9498     13.10  | V   Q    |          |          |          |
7+ 0       2.0417     13.34  | V   Q    |          |          |          |
7+ 5       2.1349     13.53  | V   Q    |          |          |          |
7+10       2.2291     13.69  | V   Q    |          |          |          |
7+15       2.3243     13.81  | V   Q    |          |          |          |
7+20       2.4207     14.00  | V    Q   |          |          |          |
7+25       2.5198     14.39  | V    Q   |          |          |          |
7+30       2.6250     15.28  | V    Q   |          |          |          |
7+35       2.7354     16.02  | V     Q  |          |          |          |
7+40       2.8501     16.65  |  V    Q  |          |          |          |
7+45       2.9720     17.71  |  V    Q  |          |          |          |
7+50       3.0999     18.57  |  V     Q |          |          |          |
7+55       3.2328     19.29  |  V     Q|          |          |          |
8+ 0       3.3733     20.40  |  V      Q          |          |          |
8+ 5       3.5206     21.38  |  V      Q          |          |          |
8+10       3.6750     22.43  |  V       |Q        |          |          |
8+15       3.8428     24.36  |   V      | Q       |          |          |
8+20       4.0204     25.79  |   V      | Q       |          |          |
8+25       4.2029     26.49  |   V      |  Q      |          |          |
8+30       4.3887     26.98  |   V      |  Q      |          |          |
8+35       4.5775     27.42  |   V      |  Q      |          |          |
8+40       4.7704     28.00  |    V     |  Q      |          |          |
8+45       4.9702     29.02  |    V     |   Q     |          |          |
8+50       5.1758     29.85  |    V     |   Q     |          |          |
8+55       5.3860     30.53  |    V     |    Q    |          |          |
9+ 0       5.6037     31.61  |     V    |    Q    |          |          |
9+ 5       5.8280     32.57  |     V    |     Q   |          |          |
9+10       6.0595     33.61  |     V    |     Q   |          |          |
9+15       6.3043     35.55  |     V    |      Q  |          |          |
9+20       6.5595     37.06  |      V   |       Q |          |          |
9+25       6.8217     38.06  |      V   |        Q|          |          |
9+30       7.0928     39.36  |      V   |        Q|          |          |
9+35       7.3709     40.39  |      V   |         Q          |          |
9+40       7.6549     41.23  |       V  |         Q          |          |
9+45       7.9470     42.41  |       V  |         |Q         |          |
9+50       8.2457     43.37  |       V  |         |Q         |          |
9+55       8.5497     44.14  |        V |         | Q        |          |
```



| | | | |
|---|---|---|---|
| 10+ 0 | 8.8615 | 45.28 | |
| 10+ 5 | 9.1752 | 45.55 | |
| 10+10 | 9.4772 | 43.85 | |
| 10+15 | 9.7422 | 38.47 | |
| 10+20 | 9.9800 | 34.53 | |
| 10+25 | 10.2063 | 32.86 | |
| 10+30 | 10.4251 | 31.77 | |
| 10+35 | 10.6415 | 31.42 | |
| 10+40 | 10.8647 | 32.40 | |
| 10+45 | 11.1133 | 36.10 | |
| 10+50 | 11.3809 | 38.86 | |
| 10+55 | 11.6569 | 40.07 | |
| 11+ 0 | 11.9387 | 40.92 | |
| 11+ 5 | 12.2242 | 41.45 | |
| 11+10 | 12.5107 | 41.60 | |
| 11+15 | 12.7937 | 41.10 | |
| 11+20 | 13.0742 | 40.72 | |
| 11+25 | 13.3537 | 40.59 | |
| 11+30 | 13.6327 | 40.51 | |
| 11+35 | 13.9104 | 40.32 | |
| 11+40 | 14.1838 | 39.70 | |
| 11+45 | 14.4461 | 38.09 | |
| 11+50 | 14.7010 | 37.02 | |
| 11+55 | 14.9548 | 36.84 | |
| 12+ 0 | 15.2120 | 37.35 | |
| 12+ 5 | 15.4758 | 38.31 | |
| 12+10 | 15.7552 | 40.57 | |
| 12+15 | 16.0745 | 46.36 | |
| 12+20 | 16.4237 | 50.70 | |
| 12+25 | 16.7883 | 52.94 | |
| 12+30 | 17.1676 | 55.07 | |
| 12+35 | 17.5586 | 56.77 | |
| 12+40 | 17.9603 | 58.33 | |
| 12+45 | 18.3778 | 60.62 | |
| 12+50 | 18.8073 | 62.36 | |
| 12+55 | 19.2446 | 63.49 | |
| 13+ 0 | 19.6912 | 64.85 | |
| 13+ 5 | 20.1477 | 66.28 | |
| 13+10 | 20.6185 | 68.37 | |
| 13+15 | 21.1203 | 72.86 | |
| 13+20 | 21.6448 | 76.16 | |
| 13+25 | 22.1798 | 77.69 | |
| 13+30 | 22.7220 | 78.72 | |
| 13+35 | 23.2630 | 78.56 | |
| 13+40 | 23.7845 | 75.73 | |
| 13+45 | 24.2470 | 67.15 | |
| 13+50 | 24.6662 | 60.87 | |
| 13+55 | 25.0666 | 58.14 | |
| 14+ 0 | 25.4545 | 56.32 | |
| 14+ 5 | 25.8360 | 55.38 | |
| 14+10 | 26.2195 | 55.70 | |
| 14+15 | 26.6213 | 58.34 | |
| 14+20 | 27.0363 | 60.25 | |
| 14+25 | 27.4550 | 60.80 | |
| 14+30 | 27.8725 | 60.61 | |
| 14+35 | 28.2888 | 60.44 | |
| 14+40 | 28.7055 | 60.51 | |
| 14+45 | 29.1224 | 60.54 | |
| 14+50 | 29.5389 | 60.47 | |
| 14+55 | 29.9533 | 60.17 | |
| 15+ 0 | 30.3621 | 59.35 | |
| 15+ 5 | 30.7664 | 58.71 | |
| 15+10 | 31.1671 | 58.19 | |
| 15+15 | 31.5615 | 57.26 | |
| 15+20 | 31.9506 | 56.51 | |
| 15+25 | 32.3356 | 55.90 | |
| 15+30 | 32.7136 | 54.88 | |
| 15+35 | 33.0843 | 53.82 | |
| 15+40 | 33.4442 | 52.26 | |
| 15+45 | 33.7802 | 48.78 | |
| 15+50 | 34.0987 | 46.26 | |
| 15+55 | 34.4095 | 45.12 | |
| 16+ 0 | 34.7151 | 44.37 | |
| 16+ 5 | 35.0087 | 42.63 | |
| 16+10 | 35.2682 | 37.68 | |
| 16+15 | 35.4418 | 25.22 | |
| 16+20 | 35.5528 | 16.11 | |
| 16+25 | 35.6361 | 12.10 | |

```
16+30      35.7011      9.44  |    Q      |           |           |         V |
16+35      35.7526      7.48  |   Q       |           |           |         V |
16+40      35.7930      5.85  |  Q        |           |           |         V |
16+45      35.8215      4.15  |  Q        |           |           |         V |
16+50      35.8419      2.95  |Q          |           |           |         V |
16+55      35.8581      2.36  |Q          |           |           |         V |
17+ 0      35.8720      2.02  |Q          |           |           |         V |
17+ 5      35.8852      1.92  Q           |           |           |         V |
17+10      35.9014      2.35  |Q          |           |           |         V |
17+15      35.9276      3.81  |Q          |           |           |         V |
17+20      35.9612      4.88  |  Q        |           |           |         V |
17+25      35.9981      5.36  |  Q        |           |           |         V |
17+30      36.0373      5.69  |  Q        |           |           |         V |
17+35      36.0783      5.96  |  Q        |           |           |         V |
17+40      36.1207      6.16  |   Q       |           |           |         V |
17+45      36.1642      6.31  |   Q       |           |           |         V |
17+50      36.2078      6.34  |   Q       |           |           |         V |
17+55      36.2499      6.11  |   Q       |           |           |         V |
18+ 0      36.2868      5.35  |  Q        |           |           |         V |
18+ 5      36.3198      4.80  |  Q        |           |           |         V |
18+10      36.3514      4.59  |  Q        |           |           |          V|
18+15      36.3821      4.46  |  Q        |           |           |          V|
18+20      36.4123      4.38  |  Q        |           |           |          V|
18+25      36.4421      4.33  |  Q        |           |           |          V|
18+30      36.4717      4.30  |  Q        |           |           |          V|
18+35      36.5006      4.21  |  Q        |           |           |          V|
18+40      36.5275      3.91  |Q          |           |           |          V|
18+45      36.5490      3.11  |Q          |           |           |          V|
18+50      36.5662      2.50  |Q          |           |           |          V|
18+55      36.5809      2.14  |Q          |           |           |          V|
19+ 0      36.5924      1.66  Q           |           |           |          V|
19+ 5      36.6016      1.35  Q           |           |           |          V|
19+10      36.6105      1.29  Q           |           |           |          V|
19+15      36.6209      1.51  Q           |           |           |          V|
19+20      36.6332      1.77  Q           |           |           |          V|
19+25      36.6480      2.16  |Q          |           |           |          V|
19+30      36.6689      3.03  |Q          |           |           |          V|
19+35      36.6937      3.60  |Q          |           |           |          V|
19+40      36.7185      3.60  |Q          |           |           |          V|
19+45      36.7392      3.01  |Q          |           |           |          V|
19+50      36.7566      2.53  |Q          |           |           |          V|
19+55      36.7719      2.22  |Q          |           |           |          V|
20+ 0      36.7837      1.71  Q           |           |           |          V|
20+ 5      36.7932      1.38  Q           |           |           |          V|
20+10      36.8025      1.35  Q           |           |           |          V|
20+15      36.8140      1.67  Q           |           |           |          V|
20+20      36.8271      1.92  Q           |           |           |          V|
20+25      36.8411      2.02  |Q          |           |           |          V|
20+30      36.8555      2.10  |Q          |           |           |          V|
20+35      36.8704      2.16  |Q          |           |           |          V|
20+40      36.8857      2.22  |Q          |           |           |          V|
20+45      36.9013      2.27  |Q          |           |           |          V|
20+50      36.9168      2.25  |Q          |           |           |          V|
20+55      36.9312      2.08  |Q          |           |           |          V|
21+ 0      36.9422      1.59  Q           |           |           |          V|
21+ 5      36.9510      1.28  Q           |           |           |          V|
21+10      36.9601      1.33  Q           |           |           |          V|
21+15      36.9722      1.76  Q           |           |           |          V|
21+20      36.9863      2.03  |Q          |           |           |          V|
21+25      36.9998      1.96  Q           |           |           |          V|
21+30      37.0101      1.50  Q           |           |           |          V|
21+35      37.0184      1.21  Q           |           |           |          V|
21+40      37.0274      1.30  Q           |           |           |          V|
21+45      37.0397      1.79  Q           |           |           |          V|
21+50      37.0542      2.10  |Q          |           |           |          V|
21+55      37.0682      2.03  |Q          |           |           |          V|
22+ 0      37.0788      1.54  Q           |           |           |          V|
22+ 5      37.0872      1.23  Q           |           |           |          V|
22+10      37.0964      1.32  Q           |           |           |          V|
22+15      37.1091      1.85  Q           |           |           |          V|
22+20      37.1241      2.18  |Q          |           |           |          V|
22+25      37.1386      2.10  |Q          |           |           |          V|
22+30      37.1495      1.58  Q           |           |           |          V|
22+35      37.1577      1.20  Q           |           |           |          V|
22+40      37.1650      1.05  Q           |           |           |          V|
22+45      37.1716      0.96  Q           |           |           |          V|
22+50      37.1778      0.90  Q           |           |           |          V|
22+55      37.1836      0.85  Q           |           |           |          V|
```

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 23+ 0 | 37.1892 | 0.80 | Q | \| | \| | \| | V\| |
| 23+ 5 | 37.1945 | 0.78 | Q | \| | \| | \| | V\| |
| 23+10 | 37.1998 | 0.76 | Q | \| | \| | \| | V\| |
| 23+15 | 37.2050 | 0.76 | Q | \| | \| | \| | V\| |
| 23+20 | 37.2102 | 0.75 | Q | \| | \| | \| | V\| |
| 23+25 | 37.2153 | 0.75 | Q | \| | \| | \| | V\| |
| 23+30 | 37.2205 | 0.75 | Q | \| | \| | \| | V\| |
| 23+35 | 37.2256 | 0.74 | Q | \| | \| | \| | V\| |
| 23+40 | 37.2307 | 0.74 | Q | \| | \| | \| | V\| |
| 23+45 | 37.2357 | 0.74 | Q | \| | \| | \| | V\| |
| 23+50 | 37.2408 | 0.74 | Q | \| | \| | \| | V\| |
| 23+55 | 37.2459 | 0.74 | Q | \| | \| | \| | V\| |
| 24+ 0 | 37.2510 | 0.74 | Q | \| | \| | \| | V\| |
| 24+ 5 | 37.2559 | 0.71 | Q | \| | \| | \| | V\| |
| 24+10 | 37.2602 | 0.63 | Q | \| | \| | \| | V\| |
| 24+15 | 37.2630 | 0.40 | Q | \| | \| | \| | V\| |
| 24+20 | 37.2646 | 0.23 | Q | \| | \| | \| | V\| |
| 24+25 | 37.2657 | 0.16 | Q | \| | \| | \| | V\| |
| 24+30 | 37.2664 | 0.11 | Q | \| | \| | \| | V\| |
| 24+35 | 37.2670 | 0.08 | Q | \| | \| | \| | V\| |
| 24+40 | 37.2673 | 0.05 | Q | \| | \| | \| | V\| |
| 24+45 | 37.2675 | 0.03 | Q | \| | \| | \| | V\| |
| 24+50 | 37.2677 | 0.02 | Q | \| | \| | \| | V\| |
| 24+55 | 37.2678 | 0.01 | Q | \| | \| | \| | V\| |
| 25+ 0 | 37.2678 | 0.01 | Q | \| | \| | \| | V\| |
| 25+ 5 | 37.2679 | 0.01 | Q | \| | \| | \| | V\| |
| 25+10 | 37.2679 | 0.01 | Q | \| | \| | \| | V\| |
| 25+15 | 37.2680 | 0.00 | Q | \| | \| | \| | V\| |
| 25+20 | 37.2680 | 0.00 | Q | \| | \| | \| | V\| |
| 25+25 | 37.2680 | 0.00 | Q | \| | \| | \| | V\| |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX331100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 33
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 1.60(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.60(Ac.) = 0.003 Sq. Mi.
Length along longest watercourse = 134.00(Ft.)
Length along longest watercourse measured to centroid = 96.00(Ft.)
Length along longest watercourse = 0.025 Mi.
Length along longest watercourse measured to centroid = 0.018 Mi.
Difference in elevation = 78.00(Ft.)
Slope along watercourse = 3073.4328 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.010 Hr.
Lag time = 0.59 Min.
25% of lag time = 0.15 Min.
40% of lag time = 0.24 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.60 | 0.50 | 0.80 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.60 | 1.20 | 1.92 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 1.600 | 83.28 | 0.000 |

Total Area Entered = 1.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.3 | 93.0 | 0.091 | 0.000 | 0.091 | 1.000 | 0.091 |
| | | | | | Sum (F) = | 0.091 |

Area averaged mean soil loss (F) (In/Hr) = 0.091

Minimum soil loss rate ((In/Hr)) = 0.046
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

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| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 844.942 | 100.000 | 1.613 |
| | | Sum = 100.000 Sum= | 1.613 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 4.20 | 0.605 | 0.091 | ( 0.544) | 0.513 |
| 2 0.17 | 4.30 | 0.619 | 0.091 | ( 0.557) | 0.528 |
| 3 0.25 | 5.00 | 0.720 | 0.091 | ( 0.648) | 0.629 |
| 4 0.33 | 5.00 | 0.720 | 0.091 | ( 0.648) | 0.629 |
| 5 0.42 | 5.80 | 0.835 | 0.091 | ( 0.752) | 0.744 |
| 6 0.50 | 6.50 | 0.936 | 0.091 | ( 0.842) | 0.845 |
| 7 0.58 | 7.40 | 1.066 | 0.091 | ( 0.959) | 0.974 |
| 8 0.67 | 8.60 | 1.238 | 0.091 | ( 1.115) | 1.147 |
| 9 0.75 | 12.30 | 1.771 | 0.091 | ( 1.594) | 1.680 |
| 10 0.83 | 29.10 | 4.190 | 0.091 | ( 3.771) | 4.099 |
| 11 0.92 | 6.80 | 0.979 | 0.091 | ( 0.881) | 0.888 |
| 12 1.00 | 5.00 | 0.720 | 0.091 | ( 0.648) | 0.629 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 13.3 |

Flood volume = Effective rainfall 1.11(In)
times area 1.6(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.012(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 6438.6 Cubic Feet
Total soil loss = 530.9 Cubic Feet

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Peak flow rate of this hydrograph = 6.613(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0057 | 0.83 | V Q | | | | |
| 0+10 | 0.0116 | 0.85 | Q | | | | |
| 0+15 | 0.0186 | 1.01 | QV | | | | |
| 0+20 | 0.0255 | 1.01 | Q V | | | | |
| 0+25 | 0.0338 | 1.20 | Q V | | | | |
| 0+30 | 0.0432 | 1.36 | Q V | | | | |
| 0+35 | 0.0540 | 1.57 | Q V | | | | |
| 0+40 | 0.0668 | 1.85 | Q V | | | | |
| 0+45 | 0.0854 | 2.71 | Q V | | | | |
| 0+50 | 0.1310 | 6.61 | Q | | | | |
| 0+55 | 0.1408 | 1.43 | Q V | | | | |
| 1+ 0 | 0.1478 | 1.01 | Q V | | | | |

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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX333100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 33
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 1.60(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.60(Ac.) = 0.003 Sq. Mi.
Length along longest watercourse = 134.00(Ft.)
Length along longest watercourse measured to centroid = 96.00(Ft.)
Length along longest watercourse = 0.025 Mi.
Length along longest watercourse measured to centroid = 0.018 Mi.
Difference in elevation = 78.00(Ft.)
Slope along watercourse = 3073.4328 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.010 Hr.
Lag time = 0.59 Min.
25% of lag time = 0.15 Min.
40% of lag time = 0.24 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.60 | 0.80 | 1.28 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.60 | 1.80 | 2.88 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 1.600 | 83.28 | 0.000 |

Total Area Entered = 1.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.3 | 93.0 | 0.091 | 0.000 | 0.091 | 1.000 | 0.091 |
| | | | | | Sum (F) = | 0.091 |

Area averaged mean soil loss (F) (In/Hr) = 0.091

Minimum soil loss rate ((In/Hr)) = 0.046
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 844.942 | 100.000 | 1.613 |
| | | Sum = 100.000 | Sum= 1.613 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.281 | 0.091 | ( 0.253) | 0.189 |
| 2 | 0.17 | 1.30 | 0.281 | 0.091 | ( 0.253) | 0.189 |
| 3 | 0.25 | 1.10 | 0.238 | 0.091 | ( 0.214) | 0.146 |
| 4 | 0.33 | 1.50 | 0.324 | 0.091 | ( 0.292) | 0.233 |
| 5 | 0.42 | 1.50 | 0.324 | 0.091 | ( 0.292) | 0.233 |
| 6 | 0.50 | 1.80 | 0.389 | 0.091 | ( 0.350) | 0.297 |
| 7 | 0.58 | 1.50 | 0.324 | 0.091 | ( 0.292) | 0.233 |
| 8 | 0.67 | 1.80 | 0.389 | 0.091 | ( 0.350) | 0.297 |
| 9 | 0.75 | 1.80 | 0.389 | 0.091 | ( 0.350) | 0.297 |
| 10 | 0.83 | 1.50 | 0.324 | 0.091 | ( 0.292) | 0.233 |
| 11 | 0.92 | 1.60 | 0.346 | 0.091 | ( 0.311) | 0.254 |
| 12 | 1.00 | 1.80 | 0.389 | 0.091 | ( 0.350) | 0.297 |
| 13 | 1.08 | 2.20 | 0.475 | 0.091 | ( 0.428) | 0.384 |
| 14 | 1.17 | 2.20 | 0.475 | 0.091 | ( 0.428) | 0.384 |
| 15 | 1.25 | 2.20 | 0.475 | 0.091 | ( 0.428) | 0.384 |
| 16 | 1.33 | 2.00 | 0.432 | 0.091 | ( 0.389) | 0.341 |
| 17 | 1.42 | 2.60 | 0.562 | 0.091 | ( 0.505) | 0.470 |
| 18 | 1.50 | 2.70 | 0.583 | 0.091 | ( 0.525) | 0.492 |
| 19 | 1.58 | 2.40 | 0.518 | 0.091 | ( 0.467) | 0.427 |
| 20 | 1.67 | 2.70 | 0.583 | 0.091 | ( 0.525) | 0.492 |
| 21 | 1.75 | 3.30 | 0.713 | 0.091 | ( 0.642) | 0.621 |
| 22 | 1.83 | 3.10 | 0.670 | 0.091 | ( 0.603) | 0.578 |
| 23 | 1.92 | 2.90 | 0.626 | 0.091 | ( 0.564) | 0.535 |
| 24 | 2.00 | 3.00 | 0.648 | 0.091 | ( 0.583) | 0.557 |
| 25 | 2.08 | 3.10 | 0.670 | 0.091 | ( 0.603) | 0.578 |
| 26 | 2.17 | 4.20 | 0.907 | 0.091 | ( 0.816) | 0.816 |
| 27 | 2.25 | 5.00 | 1.080 | 0.091 | ( 0.972) | 0.989 |
| 28 | 2.33 | 3.50 | 0.756 | 0.091 | ( 0.680) | 0.665 |
| 29 | 2.42 | 6.80 | 1.469 | 0.091 | ( 1.322) | 1.377 |
| 30 | 2.50 | 7.30 | 1.577 | 0.091 | ( 1.419) | 1.485 |
| 31 | 2.58 | 8.20 | 1.771 | 0.091 | ( 1.594) | 1.680 |
| 32 | 2.67 | 5.90 | 1.274 | 0.091 | ( 1.147) | 1.183 |
| 33 | 2.75 | 2.00 | 0.432 | 0.091 | ( 0.389) | 0.341 |
| 34 | 2.83 | 1.80 | 0.389 | 0.091 | ( 0.350) | 0.297 |
| 35 | 2.92 | 1.80 | 0.389 | 0.091 | ( 0.350) | 0.297 |
| 36 | 3.00 | 0.60 | 0.130 | 0.091 | ( 0.117) | 0.038 |
| | | (Loss Rate Not Used) | | | |
| Sum = | | 100.0 | | | Sum = 18.3 |

Flood volume = Effective rainfall 1.53(In)
times area 1.6(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 0.27(In)
Total soil loss = 0.037(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 8861.5 Cubic Feet
Total soil loss = 1592.8 Cubic Feet

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Peak flow rate of this hydrograph = 2.710(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0021 | 0.31 | VQ | | | | |
| 0+10 | 0.0042 | 0.31 | VQ | | | | |
| 0+15 | 0.0058 | 0.24 | QV | | | | |
| 0+20 | 0.0084 | 0.38 | \|Q | | | | |
| 0+25 | 0.0110 | 0.38 | \|QV | | | | |
| 0+30 | 0.0143 | 0.48 | \|QV | | | | |
| 0+35 | 0.0169 | 0.38 | \|Q V | | | | |
| 0+40 | 0.0202 | 0.48 | \|Q V | | | | |
| 0+45 | 0.0235 | 0.48 | \|Q V | | | | |
| 0+50 | 0.0261 | 0.38 | \|Q V | | | | |
| 0+55 | 0.0289 | 0.41 | \|Q V | | | | |
| 1+ 0 | 0.0322 | 0.48 | \|Q V | | | | |
| 1+ 5 | 0.0365 | 0.62 | \| Q V | | | | |
| 1+10 | 0.0407 | 0.62 | \| Q V | | | | |
| 1+15 | 0.0450 | 0.62 | \| Q V | | | | |
| 1+20 | 0.0488 | 0.55 | \| Q V\| | | | |
| 1+25 | 0.0540 | 0.76 | \| Q V | | | | |
| 1+30 | 0.0595 | 0.79 | \| Q \|V | | | | |
| 1+35 | 0.0642 | 0.69 | \| Q \| V | | | | |
| 1+40 | 0.0697 | 0.79 | \| Q \| V | | | | |
| 1+45 | 0.0766 | 1.00 | \| Q \| V | | | | |
| 1+50 | 0.0830 | 0.93 | \| Q \| V | | | | |
| 1+55 | 0.0890 | 0.86 | \| Q \| V | | | | |
| 2+ 0 | 0.0951 | 0.90 | \| Q \| V | | | | |
| 2+ 5 | 0.1016 | 0.93 | \| Q \| V\| | | | |
| 2+10 | 0.1106 | 1.32 | \| Q \| \|V | | | |
| 2+15 | 0.1216 | 1.59 | \| Q \| \| V | | | |
| 2+20 | 0.1290 | 1.07 | \| Q \| \| V | | | |
| 2+25 | 0.1443 | 2.22 | \| Q \| \| V | | | |
| 2+30 | 0.1608 | 2.40 | \| Q\| \| \|V | | | |
| 2+35 | 0.1795 | 2.71 | \| Q \| \| V | | | |
| 2+40 | 0.1926 | 1.91 | \| Q \| \| V | | | |
| 2+45 | 0.1964 | 0.55 | \| Q \| \| V | | | |
| 2+50 | 0.1997 | 0.48 | \|Q \| \| V | | | |
| 2+55 | 0.2030 | 0.48 | \|Q \| \| V | | | |
| 3+ 0 | 0.2034 | 0.06 | Q \| \| V | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX336100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 33
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 1.60(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.60(Ac.) = 0.003 Sq. Mi.
Length along longest watercourse = 134.00(Ft.)
Length along longest watercourse measured to centroid = 96.00(Ft.)
Length along longest watercourse = 0.025 Mi.
Length along longest watercourse measured to centroid = 0.018 Mi.
Difference in elevation = 78.00(Ft.)
Slope along watercourse = 3073.4328 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.010 Hr.
Lag time = 0.59 Min.
25% of lag time = 0.15 Min.
40% of lag time = 0.24 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.60 | 1.13 | 1.81 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.60 | 2.50 | 4.00 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.130(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 1.600 | 83.28 | 0.000 |

Total Area Entered = 1.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.3 | 93.0 | 0.091 | 0.000 | 0.091 | 1.000 | 0.091 |
| | | | | | Sum (F) = | 0.091 |

Area averaged mean soil loss (F) (In/Hr) = 0.091

Minimum soil loss rate ((In/Hr)) = 0.046
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 844.942 | 100.000 | 1.613 |
| | | Sum = 100.000 | Sum= 1.613 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.091 | ( 0.135) | 0.059 |
| 2 | 0.17 | 0.60 | 0.180 | 0.091 | ( 0.162) | 0.089 |
| 3 | 0.25 | 0.60 | 0.180 | 0.091 | ( 0.162) | 0.089 |
| 4 | 0.33 | 0.60 | 0.180 | 0.091 | ( 0.162) | 0.089 |
| 5 | 0.42 | 0.60 | 0.180 | 0.091 | ( 0.162) | 0.089 |
| 6 | 0.50 | 0.70 | 0.210 | 0.091 | ( 0.189) | 0.119 |
| 7 | 0.58 | 0.70 | 0.210 | 0.091 | ( 0.189) | 0.119 |
| 8 | 0.67 | 0.70 | 0.210 | 0.091 | ( 0.189) | 0.119 |
| 9 | 0.75 | 0.70 | 0.210 | 0.091 | ( 0.189) | 0.119 |
| 10 | 0.83 | 0.70 | 0.210 | 0.091 | ( 0.189) | 0.119 |
| 11 | 0.92 | 0.70 | 0.210 | 0.091 | ( 0.189) | 0.119 |
| 12 | 1.00 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 13 | 1.08 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 14 | 1.17 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 15 | 1.25 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 16 | 1.33 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 17 | 1.42 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 18 | 1.50 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 19 | 1.58 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 20 | 1.67 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 21 | 1.75 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 22 | 1.83 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 23 | 1.92 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 24 | 2.00 | 0.90 | 0.270 | 0.091 | ( 0.243) | 0.179 |
| 25 | 2.08 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 26 | 2.17 | 0.90 | 0.270 | 0.091 | ( 0.243) | 0.179 |
| 27 | 2.25 | 0.90 | 0.270 | 0.091 | ( 0.243) | 0.179 |
| 28 | 2.33 | 0.90 | 0.270 | 0.091 | ( 0.243) | 0.179 |
| 29 | 2.42 | 0.90 | 0.270 | 0.091 | ( 0.243) | 0.179 |
| 30 | 2.50 | 0.90 | 0.270 | 0.091 | ( 0.243) | 0.179 |
| 31 | 2.58 | 0.90 | 0.270 | 0.091 | ( 0.243) | 0.179 |
| 32 | 2.67 | 0.90 | 0.270 | 0.091 | ( 0.243) | 0.179 |
| 33 | 2.75 | 1.00 | 0.300 | 0.091 | ( 0.270) | 0.209 |
| 34 | 2.83 | 1.00 | 0.300 | 0.091 | ( 0.270) | 0.209 |
| 35 | 2.92 | 1.00 | 0.300 | 0.091 | ( 0.270) | 0.209 |
| 36 | 3.00 | 1.00 | 0.300 | 0.091 | ( 0.270) | 0.209 |
| 37 | 3.08 | 1.00 | 0.300 | 0.091 | ( 0.270) | 0.209 |
| 38 | 3.17 | 1.10 | 0.330 | 0.091 | ( 0.297) | 0.239 |
| 39 | 3.25 | 1.10 | 0.330 | 0.091 | ( 0.297) | 0.239 |
| 40 | 3.33 | 1.10 | 0.330 | 0.091 | ( 0.297) | 0.239 |
| 41 | 3.42 | 1.20 | 0.360 | 0.091 | ( 0.324) | 0.269 |
| 42 | 3.50 | 1.30 | 0.390 | 0.091 | ( 0.351) | 0.299 |
| 43 | 3.58 | 1.40 | 0.420 | 0.091 | ( 0.378) | 0.329 |
| 44 | 3.67 | 1.40 | 0.420 | 0.091 | ( 0.378) | 0.329 |
| 45 | 3.75 | 1.50 | 0.450 | 0.091 | ( 0.405) | 0.359 |
| 46 | 3.83 | 1.50 | 0.450 | 0.091 | ( 0.405) | 0.359 |
| 47 | 3.92 | 1.60 | 0.480 | 0.091 | ( 0.432) | 0.389 |
| 48 | 4.00 | 1.60 | 0.480 | 0.091 | ( 0.432) | 0.389 |
| 49 | 4.08 | 1.70 | 0.510 | 0.091 | ( 0.459) | 0.419 |
| 50 | 4.17 | 1.80 | 0.540 | 0.091 | ( 0.486) | 0.449 |
| 51 | 4.25 | 1.90 | 0.570 | 0.091 | ( 0.513) | 0.479 |
| 52 | 4.33 | 2.00 | 0.600 | 0.091 | ( 0.540) | 0.509 |
| 53 | 4.42 | 2.10 | 0.630 | 0.091 | ( 0.567) | 0.539 |
| 54 | 4.50 | 2.10 | 0.630 | 0.091 | ( 0.567) | 0.539 |
| 55 | 4.58 | 2.20 | 0.660 | 0.091 | ( 0.594) | 0.569 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 56 | 4.67 | 2.30 | 0.690 | | 0.091 | ( 0.621) | 0.599 |
| 57 | 4.75 | 2.40 | 0.720 | | 0.091 | ( 0.648) | 0.629 |
| 58 | 4.83 | 2.40 | 0.720 | | 0.091 | ( 0.648) | 0.629 |
| 59 | 4.92 | 2.50 | 0.750 | | 0.091 | ( 0.675) | 0.659 |
| 60 | 5.00 | 2.60 | 0.780 | | 0.091 | ( 0.702) | 0.689 |
| 61 | 5.08 | 3.10 | 0.930 | | 0.091 | ( 0.837) | 0.839 |
| 62 | 5.17 | 3.60 | 1.080 | | 0.091 | ( 0.972) | 0.989 |
| 63 | 5.25 | 3.90 | 1.170 | | 0.091 | ( 1.053) | 1.079 |
| 64 | 5.33 | 4.20 | 1.260 | | 0.091 | ( 1.134) | 1.169 |
| 65 | 5.42 | 4.70 | 1.410 | | 0.091 | ( 1.269) | 1.319 |
| 66 | 5.50 | 5.60 | 1.680 | | 0.091 | ( 1.512) | 1.589 |
| 67 | 5.58 | 1.90 | 0.570 | | 0.091 | ( 0.513) | 0.479 |
| 68 | 5.67 | 0.90 | 0.270 | | 0.091 | ( 0.243) | 0.179 |
| 69 | 5.75 | 0.60 | 0.180 | | 0.091 | ( 0.162) | 0.089 |
| 70 | 5.83 | 0.50 | 0.150 | | 0.091 | ( 0.135) | 0.059 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.091) | | 0.081 | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.091) | | 0.054 | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.5

Flood volume = Effective rainfall 1.96(In)
times area 1.6(Ac.)/[(In)/(Ft.)] = 0.3(Ac.Ft)
Total soil loss = 0.54(In)
Total soil loss = 0.073(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 11357.4 Cubic Feet
Total soil loss = 3162.5 Cubic Feet

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Peak flow rate of this hydrograph = 2.563(CFS)

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6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0007 | 0.09 | Q | | | | |
| 0+10 | 0.0016 | 0.14 | Q | | | | |
| 0+15 | 0.0026 | 0.14 | Q | | | | |
| 0+20 | 0.0036 | 0.14 | Q | | | | |
| 0+25 | 0.0046 | 0.14 | Q | | | | |
| 0+30 | 0.0059 | 0.19 | Q | | | | |
| 0+35 | 0.0072 | 0.19 | QV | | | | |
| 0+40 | 0.0085 | 0.19 | QV | | | | |
| 0+45 | 0.0099 | 0.19 | QV | | | | |
| 0+50 | 0.0112 | 0.19 | QV | | | | |
| 0+55 | 0.0125 | 0.19 | QV | | | | |
| 1+ 0 | 0.0141 | 0.24 | Q V | | | | |
| 1+ 5 | 0.0158 | 0.24 | Q V | | | | |
| 1+10 | 0.0174 | 0.24 | Q V | | | | |
| 1+15 | 0.0191 | 0.24 | Q V | | | | |
| 1+20 | 0.0207 | 0.24 | Q V | | | | |
| 1+25 | 0.0224 | 0.24 | Q V | | | | |
| 1+30 | 0.0240 | 0.24 | Q V | | | | |
| 1+35 | 0.0257 | 0.24 | Q V | | | | |
| 1+40 | 0.0274 | 0.24 | Q V | | | | |
| 1+45 | 0.0290 | 0.24 | Q V | | | | |
| 1+50 | 0.0307 | 0.24 | Q V | | | | |
| 1+55 | 0.0323 | 0.24 | Q V | | | | |
| 2+ 0 | 0.0343 | 0.29 | \|Q V | | | | |
| 2+ 5 | 0.0359 | 0.24 | Q V | | | | |
| 2+10 | 0.0379 | 0.29 | \|Q V | | | | |
| 2+15 | 0.0399 | 0.29 | \|Q V | | | | |
| 2+20 | 0.0419 | 0.29 | \|Q V | | | | |
| 2+25 | 0.0439 | 0.29 | \|Q V | | | | |
| 2+30 | 0.0459 | 0.29 | \|Q V | | | | |
| 2+35 | 0.0478 | 0.29 | \|Q V | | | | |
| 2+40 | 0.0498 | 0.29 | \|Q V | | | | |
| 2+45 | 0.0521 | 0.34 | \|Q V | | | | |
| 2+50 | 0.0545 | 0.34 | \|Q V | | | | |
| 2+55 | 0.0568 | 0.34 | \|Q V | | | | |
| 3+ 0 | 0.0591 | 0.34 | \|Q V | | | | |
| 3+ 5 | 0.0614 | 0.34 | \|Q V | | | | |
| 3+10 | 0.0641 | 0.38 | \|Q V | | | | |
| 3+15 | 0.0667 | 0.38 | \|Q V | | | | |
| 3+20 | 0.0694 | 0.38 | \|Q V | | | | |

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    3+25       0.0724      0.43  |Q        |V        |         |         |
    3+30       0.0757      0.48  |Q        |V        |         |         |
    3+35       0.0793      0.53  | Q       | V       |         |         |
    3+40       0.0830      0.53  | Q       | V       |         |         |
    3+45       0.0870      0.58  | Q       |  V      |         |         |
    3+50       0.0909      0.58  | Q       |  V      |         |         |
    3+55       0.0953      0.63  | Q       |   V     |         |         |
    4+ 0       0.0996      0.63  | Q       |    V    |         |         |
    4+ 5       0.1042      0.68  | Q       |    V    |         |         |
    4+10       0.1092      0.72  | Q       |     V   |         |         |
    4+15       0.1145      0.77  |  Q      |      V  |         |         |
    4+20       0.1202      0.82  |  Q      |       V |         |         |
    4+25       0.1262      0.87  |  Q      |        V|         |         |
    4+30       0.1321      0.87  |  Q      |         V         |         |
    4+35       0.1385      0.92  |  Q      |         |V        |         |
    4+40       0.1451      0.97  |  Q      |         | V       |         |
    4+45       0.1521      1.01  |   Q     |         |  V      |         |
    4+50       0.1591      1.01  |   Q     |         |   V     |         |
    4+55       0.1664      1.06  |   Q     |         |    V    |         |
    5+ 0       0.1741      1.11  |   Q     |         |     V   |         |
    5+ 5       0.1834      1.35  |    Q    |         |      V  |         |
    5+10       0.1944      1.59  |     Q   |         |       V |         |
    5+15       0.2063      1.74  |     Q   |         |         |V        |
    5+20       0.2193      1.89  |      Q  |         |         |  V      |
    5+25       0.2340      2.13  |       Q |         |         |    V    |
    5+30       0.2516      2.56  |        Q|         |         |      V  |
    5+35       0.2569      0.77  |  Q      |         |         |       V |
    5+40       0.2589      0.29  |Q        |         |         |       V |
    5+45       0.2599      0.14  Q         |         |         |       V |
    5+50       0.2606      0.09  Q         |         |         |       V |
    5+55       0.2607      0.01  Q         |         |         |       V |
    6+ 0       0.2607      0.01  Q         |         |         |       V |
-------------------------------------------------------------------------
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX3324100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 33
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 1.60(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.60(Ac.) = 0.003 Sq. Mi.
Length along longest watercourse = 134.00(Ft.)
Length along longest watercourse measured to centroid = 96.00(Ft.)
Length along longest watercourse = 0.025 Mi.
Length along longest watercourse measured to centroid = 0.018 Mi.
Difference in elevation = 78.00(Ft.)
Slope along watercourse = 3073.4328 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.010 Hr.
Lag time = 0.59 Min.
25% of lag time = 0.15 Min.
40% of lag time = 0.24 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.60 | 1.80 | 2.88 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.60 | 4.62 | 7.39 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.620(In)

Point rain (area averaged) = 4.620(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.620(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 1.600 | 83.28 | 0.000 |

Total Area Entered = 1.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.3 | 93.0 | 0.091 | 0.000 | 0.091 | 1.000 | 0.091 |
| | | | | | Sum (F) = | 0.091 |

Area averaged mean soil loss (F) (In/Hr) = 0.091

Minimum soil loss rate ((In/Hr)) = 0.046
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 844.942 | 100.000 | 1.613 |
| | | Sum = 100.000 | Sum= 1.613 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.037 | ( 0.162) | 0.033 | 0.004 |
| 2 | 0.17 | 0.07 | 0.037 | ( 0.161) | 0.033 | 0.004 |
| 3 | 0.25 | 0.07 | 0.037 | ( 0.161) | 0.033 | 0.004 |
| 4 | 0.33 | 0.10 | 0.055 | ( 0.160) | 0.050 | 0.006 |
| 5 | 0.42 | 0.10 | 0.055 | ( 0.160) | 0.050 | 0.006 |
| 6 | 0.50 | 0.10 | 0.055 | ( 0.159) | 0.050 | 0.006 |
| 7 | 0.58 | 0.10 | 0.055 | ( 0.158) | 0.050 | 0.006 |
| 8 | 0.67 | 0.10 | 0.055 | ( 0.158) | 0.050 | 0.006 |
| 9 | 0.75 | 0.10 | 0.055 | ( 0.157) | 0.050 | 0.006 |
| 10 | 0.83 | 0.13 | 0.074 | ( 0.156) | 0.067 | 0.007 |
| 11 | 0.92 | 0.13 | 0.074 | ( 0.156) | 0.067 | 0.007 |
| 12 | 1.00 | 0.13 | 0.074 | ( 0.155) | 0.067 | 0.007 |
| 13 | 1.08 | 0.10 | 0.055 | ( 0.155) | 0.050 | 0.006 |
| 14 | 1.17 | 0.10 | 0.055 | ( 0.154) | 0.050 | 0.006 |
| 15 | 1.25 | 0.10 | 0.055 | ( 0.153) | 0.050 | 0.006 |
| 16 | 1.33 | 0.10 | 0.055 | ( 0.153) | 0.050 | 0.006 |
| 17 | 1.42 | 0.10 | 0.055 | ( 0.152) | 0.050 | 0.006 |
| 18 | 1.50 | 0.10 | 0.055 | ( 0.152) | 0.050 | 0.006 |
| 19 | 1.58 | 0.10 | 0.055 | ( 0.151) | 0.050 | 0.006 |
| 20 | 1.67 | 0.10 | 0.055 | ( 0.150) | 0.050 | 0.006 |
| 21 | 1.75 | 0.10 | 0.055 | ( 0.150) | 0.050 | 0.006 |
| 22 | 1.83 | 0.13 | 0.074 | ( 0.149) | 0.067 | 0.007 |
| 23 | 1.92 | 0.13 | 0.074 | ( 0.149) | 0.067 | 0.007 |
| 24 | 2.00 | 0.13 | 0.074 | ( 0.148) | 0.067 | 0.007 |
| 25 | 2.08 | 0.13 | 0.074 | ( 0.147) | 0.067 | 0.007 |
| 26 | 2.17 | 0.13 | 0.074 | ( 0.147) | 0.067 | 0.007 |
| 27 | 2.25 | 0.13 | 0.074 | ( 0.146) | 0.067 | 0.007 |
| 28 | 2.33 | 0.13 | 0.074 | ( 0.146) | 0.067 | 0.007 |
| 29 | 2.42 | 0.13 | 0.074 | ( 0.145) | 0.067 | 0.007 |
| 30 | 2.50 | 0.13 | 0.074 | ( 0.144) | 0.067 | 0.007 |
| 31 | 2.58 | 0.17 | 0.092 | ( 0.144) | 0.083 | 0.009 |
| 32 | 2.67 | 0.17 | 0.092 | ( 0.143) | 0.083 | 0.009 |
| 33 | 2.75 | 0.17 | 0.092 | ( 0.143) | 0.083 | 0.009 |
| 34 | 2.83 | 0.17 | 0.092 | ( 0.142) | 0.083 | 0.009 |
| 35 | 2.92 | 0.17 | 0.092 | ( 0.141) | 0.083 | 0.009 |
| 36 | 3.00 | 0.17 | 0.092 | ( 0.141) | 0.083 | 0.009 |
| 37 | 3.08 | 0.17 | 0.092 | ( 0.140) | 0.083 | 0.009 |
| 38 | 3.17 | 0.17 | 0.092 | ( 0.140) | 0.083 | 0.009 |
| 39 | 3.25 | 0.17 | 0.092 | ( 0.139) | 0.083 | 0.009 |
| 40 | 3.33 | 0.17 | 0.092 | ( 0.139) | 0.083 | 0.009 |
| 41 | 3.42 | 0.17 | 0.092 | ( 0.138) | 0.083 | 0.009 |
| 42 | 3.50 | 0.17 | 0.092 | ( 0.137) | 0.083 | 0.009 |
| 43 | 3.58 | 0.17 | 0.092 | ( 0.137) | 0.083 | 0.009 |
| 44 | 3.67 | 0.17 | 0.092 | ( 0.136) | 0.083 | 0.009 |
| 45 | 3.75 | 0.17 | 0.092 | ( 0.136) | 0.083 | 0.009 |
| 46 | 3.83 | 0.20 | 0.111 | ( 0.135) | 0.100 | 0.011 |
| 47 | 3.92 | 0.20 | 0.111 | ( 0.135) | 0.100 | 0.011 |
| 48 | 4.00 | 0.20 | 0.111 | ( 0.134) | 0.100 | 0.011 |
| 49 | 4.08 | 0.20 | 0.111 | ( 0.133) | 0.100 | 0.011 |
| 50 | 4.17 | 0.20 | 0.111 | ( 0.133) | 0.100 | 0.011 |
| 51 | 4.25 | 0.20 | 0.111 | ( 0.132) | 0.100 | 0.011 |
| 52 | 4.33 | 0.23 | 0.129 | ( 0.132) | 0.116 | 0.013 |
| 53 | 4.42 | 0.23 | 0.129 | ( 0.131) | 0.116 | 0.013 |
| 54 | 4.50 | 0.23 | 0.129 | ( 0.131) | 0.116 | 0.013 |
| 55 | 4.58 | 0.23 | 0.129 | ( 0.130) | 0.116 | 0.013 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 56 | 4.67 | 0.23 | 0.129 | ( | 0.129) | 0.116 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.129 | ( | 0.129) | 0.116 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.148 | | 0.128 | ( 0.133) | | 0.020 |
| 59 | 4.92 | 0.27 | 0.148 | | 0.128 | ( 0.133) | | 0.020 |
| 60 | 5.00 | 0.27 | 0.148 | | 0.127 | ( 0.133) | | 0.021 |
| 61 | 5.08 | 0.20 | 0.111 | ( | 0.127) | 0.100 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.111 | ( | 0.126) | 0.100 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.111 | ( | 0.126) | 0.100 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.129 | ( | 0.125) | 0.116 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.129 | ( | 0.124) | 0.116 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.129 | ( | 0.124) | 0.116 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.148 | | 0.123 | ( 0.133) | | 0.024 |
| 68 | 5.67 | 0.27 | 0.148 | | 0.123 | ( 0.133) | | 0.025 |
| 69 | 5.75 | 0.27 | 0.148 | | 0.122 | ( 0.133) | | 0.026 |
| 70 | 5.83 | 0.27 | 0.148 | | 0.122 | ( 0.133) | | 0.026 |
| 71 | 5.92 | 0.27 | 0.148 | | 0.121 | ( 0.133) | | 0.027 |
| 72 | 6.00 | 0.27 | 0.148 | | 0.121 | ( 0.133) | | 0.027 |
| 73 | 6.08 | 0.30 | 0.166 | | 0.120 | ( 0.150) | | 0.046 |
| 74 | 6.17 | 0.30 | 0.166 | | 0.120 | ( 0.150) | | 0.047 |
| 75 | 6.25 | 0.30 | 0.166 | | 0.119 | ( 0.150) | | 0.047 |
| 76 | 6.33 | 0.30 | 0.166 | | 0.119 | ( 0.150) | | 0.048 |
| 77 | 6.42 | 0.30 | 0.166 | | 0.118 | ( 0.150) | | 0.048 |
| 78 | 6.50 | 0.30 | 0.166 | | 0.117 | ( 0.150) | | 0.049 |
| 79 | 6.58 | 0.33 | 0.185 | | 0.117 | ( 0.166) | | 0.068 |
| 80 | 6.67 | 0.33 | 0.185 | | 0.116 | ( 0.166) | | 0.068 |
| 81 | 6.75 | 0.33 | 0.185 | | 0.116 | ( 0.166) | | 0.069 |
| 82 | 6.83 | 0.33 | 0.185 | | 0.115 | ( 0.166) | | 0.069 |
| 83 | 6.92 | 0.33 | 0.185 | | 0.115 | ( 0.166) | | 0.070 |
| 84 | 7.00 | 0.33 | 0.185 | | 0.114 | ( 0.166) | | 0.070 |
| 85 | 7.08 | 0.33 | 0.185 | | 0.114 | ( 0.166) | | 0.071 |
| 86 | 7.17 | 0.33 | 0.185 | | 0.113 | ( 0.166) | | 0.072 |
| 87 | 7.25 | 0.33 | 0.185 | | 0.113 | ( 0.166) | | 0.072 |
| 88 | 7.33 | 0.37 | 0.203 | | 0.112 | ( 0.183) | | 0.091 |
| 89 | 7.42 | 0.37 | 0.203 | | 0.112 | ( 0.183) | | 0.092 |
| 90 | 7.50 | 0.37 | 0.203 | | 0.111 | ( 0.183) | | 0.092 |
| 91 | 7.58 | 0.40 | 0.222 | | 0.111 | ( 0.200) | | 0.111 |
| 92 | 7.67 | 0.40 | 0.222 | | 0.110 | ( 0.200) | | 0.112 |
| 93 | 7.75 | 0.40 | 0.222 | | 0.110 | ( 0.200) | | 0.112 |
| 94 | 7.83 | 0.43 | 0.240 | | 0.109 | ( 0.216) | | 0.131 |
| 95 | 7.92 | 0.43 | 0.240 | | 0.109 | ( 0.216) | | 0.132 |
| 96 | 8.00 | 0.43 | 0.240 | | 0.108 | ( 0.216) | | 0.132 |
| 97 | 8.08 | 0.50 | 0.277 | | 0.108 | ( 0.249) | | 0.170 |
| 98 | 8.17 | 0.50 | 0.277 | | 0.107 | ( 0.249) | | 0.170 |
| 99 | 8.25 | 0.50 | 0.277 | | 0.107 | ( 0.249) | | 0.171 |
| 100 | 8.33 | 0.50 | 0.277 | | 0.106 | ( 0.249) | | 0.171 |
| 101 | 8.42 | 0.50 | 0.277 | | 0.106 | ( 0.249) | | 0.172 |
| 102 | 8.50 | 0.50 | 0.277 | | 0.105 | ( 0.249) | | 0.172 |
| 103 | 8.58 | 0.53 | 0.296 | | 0.105 | ( 0.266) | | 0.191 |
| 104 | 8.67 | 0.53 | 0.296 | | 0.104 | ( 0.266) | | 0.191 |
| 105 | 8.75 | 0.53 | 0.296 | | 0.104 | ( 0.266) | | 0.192 |
| 106 | 8.83 | 0.57 | 0.314 | | 0.103 | ( 0.283) | | 0.211 |
| 107 | 8.92 | 0.57 | 0.314 | | 0.103 | ( 0.283) | | 0.211 |
| 108 | 9.00 | 0.57 | 0.314 | | 0.102 | ( 0.283) | | 0.212 |
| 109 | 9.08 | 0.63 | 0.351 | | 0.102 | ( 0.316) | | 0.249 |
| 110 | 9.17 | 0.63 | 0.351 | | 0.101 | ( 0.316) | | 0.250 |
| 111 | 9.25 | 0.63 | 0.351 | | 0.101 | ( 0.316) | | 0.250 |
| 112 | 9.33 | 0.67 | 0.370 | | 0.100 | ( 0.333) | | 0.269 |
| 113 | 9.42 | 0.67 | 0.370 | | 0.100 | ( 0.333) | | 0.270 |
| 114 | 9.50 | 0.67 | 0.370 | | 0.099 | ( 0.333) | | 0.270 |
| 115 | 9.58 | 0.70 | 0.388 | | 0.099 | ( 0.349) | | 0.289 |
| 116 | 9.67 | 0.70 | 0.388 | | 0.098 | ( 0.349) | | 0.290 |
| 117 | 9.75 | 0.70 | 0.388 | | 0.098 | ( 0.349) | | 0.290 |
| 118 | 9.83 | 0.73 | 0.407 | | 0.097 | ( 0.366) | | 0.309 |
| 119 | 9.92 | 0.73 | 0.407 | | 0.097 | ( 0.366) | | 0.310 |
| 120 | 10.00 | 0.73 | 0.407 | | 0.097 | ( 0.366) | | 0.310 |
| 121 | 10.08 | 0.50 | 0.277 | | 0.096 | ( 0.249) | | 0.181 |
| 122 | 10.17 | 0.50 | 0.277 | | 0.096 | ( 0.249) | | 0.182 |
| 123 | 10.25 | 0.50 | 0.277 | | 0.095 | ( 0.249) | | 0.182 |
| 124 | 10.33 | 0.50 | 0.277 | | 0.095 | ( 0.249) | | 0.183 |
| 125 | 10.42 | 0.50 | 0.277 | | 0.094 | ( 0.249) | | 0.183 |
| 126 | 10.50 | 0.50 | 0.277 | | 0.094 | ( 0.249) | | 0.183 |
| 127 | 10.58 | 0.67 | 0.370 | | 0.093 | ( 0.333) | | 0.276 |
| 128 | 10.67 | 0.67 | 0.370 | | 0.093 | ( 0.333) | | 0.277 |
| 129 | 10.75 | 0.67 | 0.370 | | 0.092 | ( 0.333) | | 0.277 |
| 130 | 10.83 | 0.67 | 0.370 | | 0.092 | ( 0.333) | | 0.278 |
| 131 | 10.92 | 0.67 | 0.370 | | 0.091 | ( 0.333) | | 0.278 |
| 132 | 11.00 | 0.67 | 0.370 | | 0.091 | ( 0.333) | | 0.279 |
| 133 | 11.08 | 0.63 | 0.351 | | 0.091 | ( 0.316) | | 0.261 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 134 | 11.17 | 0.63 | 0.351 | 0.090 | ( 0.316) | 0.261 |
| 135 | 11.25 | 0.63 | 0.351 | 0.090 | ( 0.316) | 0.261 |
| 136 | 11.33 | 0.63 | 0.351 | 0.089 | ( 0.316) | 0.262 |
| 137 | 11.42 | 0.63 | 0.351 | 0.089 | ( 0.316) | 0.262 |
| 138 | 11.50 | 0.63 | 0.351 | 0.088 | ( 0.316) | 0.263 |
| 139 | 11.58 | 0.57 | 0.314 | 0.088 | ( 0.283) | 0.226 |
| 140 | 11.67 | 0.57 | 0.314 | 0.087 | ( 0.283) | 0.227 |
| 141 | 11.75 | 0.57 | 0.314 | 0.087 | ( 0.283) | 0.227 |
| 142 | 11.83 | 0.60 | 0.333 | 0.087 | ( 0.299) | 0.246 |
| 143 | 11.92 | 0.60 | 0.333 | 0.086 | ( 0.299) | 0.246 |
| 144 | 12.00 | 0.60 | 0.333 | 0.086 | ( 0.299) | 0.247 |
| 145 | 12.08 | 0.83 | 0.462 | 0.085 | ( 0.416) | 0.377 |
| 146 | 12.17 | 0.83 | 0.462 | 0.085 | ( 0.416) | 0.377 |
| 147 | 12.25 | 0.83 | 0.462 | 0.084 | ( 0.416) | 0.378 |
| 148 | 12.33 | 0.87 | 0.480 | 0.084 | ( 0.432) | 0.396 |
| 149 | 12.42 | 0.87 | 0.480 | 0.084 | ( 0.432) | 0.397 |
| 150 | 12.50 | 0.87 | 0.480 | 0.083 | ( 0.432) | 0.397 |
| 151 | 12.58 | 0.93 | 0.517 | 0.083 | ( 0.466) | 0.435 |
| 152 | 12.67 | 0.93 | 0.517 | 0.082 | ( 0.466) | 0.435 |
| 153 | 12.75 | 0.93 | 0.517 | 0.082 | ( 0.466) | 0.435 |
| 154 | 12.83 | 0.97 | 0.536 | 0.082 | ( 0.482) | 0.454 |
| 155 | 12.92 | 0.97 | 0.536 | 0.081 | ( 0.482) | 0.455 |
| 156 | 13.00 | 0.97 | 0.536 | 0.081 | ( 0.482) | 0.455 |
| 157 | 13.08 | 1.13 | 0.628 | 0.080 | ( 0.565) | 0.548 |
| 158 | 13.17 | 1.13 | 0.628 | 0.080 | ( 0.565) | 0.548 |
| 159 | 13.25 | 1.13 | 0.628 | 0.080 | ( 0.565) | 0.549 |
| 160 | 13.33 | 1.13 | 0.628 | 0.079 | ( 0.565) | 0.549 |
| 161 | 13.42 | 1.13 | 0.628 | 0.079 | ( 0.565) | 0.550 |
| 162 | 13.50 | 1.13 | 0.628 | 0.078 | ( 0.565) | 0.550 |
| 163 | 13.58 | 0.77 | 0.425 | 0.078 | ( 0.383) | 0.347 |
| 164 | 13.67 | 0.77 | 0.425 | 0.078 | ( 0.383) | 0.348 |
| 165 | 13.75 | 0.77 | 0.425 | 0.077 | ( 0.383) | 0.348 |
| 166 | 13.83 | 0.77 | 0.425 | 0.077 | ( 0.383) | 0.348 |
| 167 | 13.92 | 0.77 | 0.425 | 0.076 | ( 0.383) | 0.349 |
| 168 | 14.00 | 0.77 | 0.425 | 0.076 | ( 0.383) | 0.349 |
| 169 | 14.08 | 0.90 | 0.499 | 0.076 | ( 0.449) | 0.423 |
| 170 | 14.17 | 0.90 | 0.499 | 0.075 | ( 0.449) | 0.424 |
| 171 | 14.25 | 0.90 | 0.499 | 0.075 | ( 0.449) | 0.424 |
| 172 | 14.33 | 0.87 | 0.480 | 0.074 | ( 0.432) | 0.406 |
| 173 | 14.42 | 0.87 | 0.480 | 0.074 | ( 0.432) | 0.406 |
| 174 | 14.50 | 0.87 | 0.480 | 0.074 | ( 0.432) | 0.407 |
| 175 | 14.58 | 0.87 | 0.480 | 0.073 | ( 0.432) | 0.407 |
| 176 | 14.67 | 0.87 | 0.480 | 0.073 | ( 0.432) | 0.408 |
| 177 | 14.75 | 0.87 | 0.480 | 0.073 | ( 0.432) | 0.408 |
| 178 | 14.83 | 0.83 | 0.462 | 0.072 | ( 0.416) | 0.390 |
| 179 | 14.92 | 0.83 | 0.462 | 0.072 | ( 0.416) | 0.390 |
| 180 | 15.00 | 0.83 | 0.462 | 0.071 | ( 0.416) | 0.391 |
| 181 | 15.08 | 0.80 | 0.444 | 0.071 | ( 0.399) | 0.372 |
| 182 | 15.17 | 0.80 | 0.444 | 0.071 | ( 0.399) | 0.373 |
| 183 | 15.25 | 0.80 | 0.444 | 0.070 | ( 0.399) | 0.373 |
| 184 | 15.33 | 0.77 | 0.425 | 0.070 | ( 0.383) | 0.355 |
| 185 | 15.42 | 0.77 | 0.425 | 0.070 | ( 0.383) | 0.355 |
| 186 | 15.50 | 0.77 | 0.425 | 0.069 | ( 0.383) | 0.356 |
| 187 | 15.58 | 0.63 | 0.351 | 0.069 | ( 0.316) | 0.282 |
| 188 | 15.67 | 0.63 | 0.351 | 0.069 | ( 0.316) | 0.283 |
| 189 | 15.75 | 0.63 | 0.351 | 0.068 | ( 0.316) | 0.283 |
| 190 | 15.83 | 0.63 | 0.351 | 0.068 | ( 0.316) | 0.283 |
| 191 | 15.92 | 0.63 | 0.351 | 0.067 | ( 0.316) | 0.284 |
| 192 | 16.00 | 0.63 | 0.351 | 0.067 | ( 0.316) | 0.284 |
| 193 | 16.08 | 0.13 | 0.074 | ( 0.067) | 0.067 | 0.007 |
| 194 | 16.17 | 0.13 | 0.074 | 0.066 | ( 0.067) | 0.007 |
| 195 | 16.25 | 0.13 | 0.074 | 0.066 | ( 0.067) | 0.008 |
| 196 | 16.33 | 0.13 | 0.074 | 0.066 | ( 0.067) | 0.008 |
| 197 | 16.42 | 0.13 | 0.074 | 0.065 | ( 0.067) | 0.008 |
| 198 | 16.50 | 0.13 | 0.074 | 0.065 | ( 0.067) | 0.009 |
| 199 | 16.58 | 0.10 | 0.055 | ( 0.065) | 0.050 | 0.006 |
| 200 | 16.67 | 0.10 | 0.055 | ( 0.064) | 0.050 | 0.006 |
| 201 | 16.75 | 0.10 | 0.055 | ( 0.064) | 0.050 | 0.006 |
| 202 | 16.83 | 0.10 | 0.055 | ( 0.064) | 0.050 | 0.006 |
| 203 | 16.92 | 0.10 | 0.055 | ( 0.063) | 0.050 | 0.006 |
| 204 | 17.00 | 0.10 | 0.055 | ( 0.063) | 0.050 | 0.006 |
| 205 | 17.08 | 0.17 | 0.092 | 0.063 | ( 0.083) | 0.030 |
| 206 | 17.17 | 0.17 | 0.092 | 0.063 | ( 0.083) | 0.030 |
| 207 | 17.25 | 0.17 | 0.092 | 0.062 | ( 0.083) | 0.030 |
| 208 | 17.33 | 0.17 | 0.092 | 0.062 | ( 0.083) | 0.031 |
| 209 | 17.42 | 0.17 | 0.092 | 0.062 | ( 0.083) | 0.031 |
| 210 | 17.50 | 0.17 | 0.092 | 0.061 | ( 0.083) | 0.031 |
| 211 | 17.58 | 0.17 | 0.092 | 0.061 | ( 0.083) | 0.031 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 212 | 17.67 | 0.17 | 0.092 | 0.061 | ( 0.083) | 0.032 |
| 213 | 17.75 | 0.17 | 0.092 | 0.060 | ( 0.083) | 0.032 |
| 214 | 17.83 | 0.13 | 0.074 | 0.060 | ( 0.067) | 0.014 |
| 215 | 17.92 | 0.13 | 0.074 | 0.060 | ( 0.067) | 0.014 |
| 216 | 18.00 | 0.13 | 0.074 | 0.059 | ( 0.067) | 0.014 |
| 217 | 18.08 | 0.13 | 0.074 | 0.059 | ( 0.067) | 0.015 |
| 218 | 18.17 | 0.13 | 0.074 | 0.059 | ( 0.067) | 0.015 |
| 219 | 18.25 | 0.13 | 0.074 | 0.059 | ( 0.067) | 0.015 |
| 220 | 18.33 | 0.13 | 0.074 | 0.058 | ( 0.067) | 0.016 |
| 221 | 18.42 | 0.13 | 0.074 | 0.058 | ( 0.067) | 0.016 |
| 222 | 18.50 | 0.13 | 0.074 | 0.058 | ( 0.067) | 0.016 |
| 223 | 18.58 | 0.10 | 0.055 | ( 0.057) | 0.050 | 0.006 |
| 224 | 18.67 | 0.10 | 0.055 | ( 0.057) | 0.050 | 0.006 |
| 225 | 18.75 | 0.10 | 0.055 | ( 0.057) | 0.050 | 0.006 |
| 226 | 18.83 | 0.07 | 0.037 | ( 0.057) | 0.033 | 0.004 |
| 227 | 18.92 | 0.07 | 0.037 | ( 0.056) | 0.033 | 0.004 |
| 228 | 19.00 | 0.07 | 0.037 | ( 0.056) | 0.033 | 0.004 |
| 229 | 19.08 | 0.10 | 0.055 | ( 0.056) | 0.050 | 0.006 |
| 230 | 19.17 | 0.10 | 0.055 | ( 0.056) | 0.050 | 0.006 |
| 231 | 19.25 | 0.10 | 0.055 | ( 0.055) | 0.050 | 0.006 |
| 232 | 19.33 | 0.13 | 0.074 | 0.055 | ( 0.067) | 0.019 |
| 233 | 19.42 | 0.13 | 0.074 | 0.055 | ( 0.067) | 0.019 |
| 234 | 19.50 | 0.13 | 0.074 | 0.055 | ( 0.067) | 0.019 |
| 235 | 19.58 | 0.10 | 0.055 | ( 0.054) | 0.050 | 0.006 |
| 236 | 19.67 | 0.10 | 0.055 | ( 0.054) | 0.050 | 0.006 |
| 237 | 19.75 | 0.10 | 0.055 | ( 0.054) | 0.050 | 0.006 |
| 238 | 19.83 | 0.07 | 0.037 | ( 0.054) | 0.033 | 0.004 |
| 239 | 19.92 | 0.07 | 0.037 | ( 0.053) | 0.033 | 0.004 |
| 240 | 20.00 | 0.07 | 0.037 | ( 0.053) | 0.033 | 0.004 |
| 241 | 20.08 | 0.10 | 0.055 | ( 0.053) | 0.050 | 0.006 |
| 242 | 20.17 | 0.10 | 0.055 | ( 0.053) | 0.050 | 0.006 |
| 243 | 20.25 | 0.10 | 0.055 | ( 0.052) | 0.050 | 0.006 |
| 244 | 20.33 | 0.10 | 0.055 | ( 0.052) | 0.050 | 0.006 |
| 245 | 20.42 | 0.10 | 0.055 | ( 0.052) | 0.050 | 0.006 |
| 246 | 20.50 | 0.10 | 0.055 | ( 0.052) | 0.050 | 0.006 |
| 247 | 20.58 | 0.10 | 0.055 | ( 0.052) | 0.050 | 0.006 |
| 248 | 20.67 | 0.10 | 0.055 | ( 0.051) | 0.050 | 0.006 |
| 249 | 20.75 | 0.10 | 0.055 | ( 0.051) | 0.050 | 0.006 |
| 250 | 20.83 | 0.07 | 0.037 | ( 0.051) | 0.033 | 0.004 |
| 251 | 20.92 | 0.07 | 0.037 | ( 0.051) | 0.033 | 0.004 |
| 252 | 21.00 | 0.07 | 0.037 | ( 0.050) | 0.033 | 0.004 |
| 253 | 21.08 | 0.10 | 0.055 | ( 0.050) | 0.050 | 0.006 |
| 254 | 21.17 | 0.10 | 0.055 | ( 0.050) | 0.050 | 0.006 |
| 255 | 21.25 | 0.10 | 0.055 | 0.050 | ( 0.050) | 0.006 |
| 256 | 21.33 | 0.07 | 0.037 | ( 0.050) | 0.033 | 0.004 |
| 257 | 21.42 | 0.07 | 0.037 | ( 0.049) | 0.033 | 0.004 |
| 258 | 21.50 | 0.07 | 0.037 | ( 0.049) | 0.033 | 0.004 |
| 259 | 21.58 | 0.10 | 0.055 | 0.049 | ( 0.050) | 0.006 |
| 260 | 21.67 | 0.10 | 0.055 | 0.049 | ( 0.050) | 0.006 |
| 261 | 21.75 | 0.10 | 0.055 | 0.049 | ( 0.050) | 0.007 |
| 262 | 21.83 | 0.07 | 0.037 | ( 0.049) | 0.033 | 0.004 |
| 263 | 21.92 | 0.07 | 0.037 | ( 0.048) | 0.033 | 0.004 |
| 264 | 22.00 | 0.07 | 0.037 | ( 0.048) | 0.033 | 0.004 |
| 265 | 22.08 | 0.10 | 0.055 | 0.048 | ( 0.050) | 0.007 |
| 266 | 22.17 | 0.10 | 0.055 | 0.048 | ( 0.050) | 0.007 |
| 267 | 22.25 | 0.10 | 0.055 | 0.048 | ( 0.050) | 0.008 |
| 268 | 22.33 | 0.07 | 0.037 | ( 0.048) | 0.033 | 0.004 |
| 269 | 22.42 | 0.07 | 0.037 | ( 0.048) | 0.033 | 0.004 |
| 270 | 22.50 | 0.07 | 0.037 | ( 0.047) | 0.033 | 0.004 |
| 271 | 22.58 | 0.07 | 0.037 | ( 0.047) | 0.033 | 0.004 |
| 272 | 22.67 | 0.07 | 0.037 | ( 0.047) | 0.033 | 0.004 |
| 273 | 22.75 | 0.07 | 0.037 | ( 0.047) | 0.033 | 0.004 |
| 274 | 22.83 | 0.07 | 0.037 | ( 0.047) | 0.033 | 0.004 |
| 275 | 22.92 | 0.07 | 0.037 | ( 0.047) | 0.033 | 0.004 |
| 276 | 23.00 | 0.07 | 0.037 | ( 0.047) | 0.033 | 0.004 |
| 277 | 23.08 | 0.07 | 0.037 | ( 0.047) | 0.033 | 0.004 |
| 278 | 23.17 | 0.07 | 0.037 | ( 0.046) | 0.033 | 0.004 |
| 279 | 23.25 | 0.07 | 0.037 | ( 0.046) | 0.033 | 0.004 |
| 280 | 23.33 | 0.07 | 0.037 | ( 0.046) | 0.033 | 0.004 |
| 281 | 23.42 | 0.07 | 0.037 | ( 0.046) | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.037 | ( 0.046) | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.037 | ( 0.046) | 0.033 | 0.004 |
| 284 | 23.67 | 0.07 | 0.037 | ( 0.046) | 0.033 | 0.004 |
| 285 | 23.75 | 0.07 | 0.037 | ( 0.046) | 0.033 | 0.004 |
| 286 | 23.83 | 0.07 | 0.037 | ( 0.046) | 0.033 | 0.004 |
| 287 | 23.92 | 0.07 | 0.037 | ( 0.046) | 0.033 | 0.004 |
| 288 | 24.00 | 0.07 | 0.037 | ( 0.046) | 0.033 | 0.004 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 34.0

Flood volume = Effective rainfall 2.83(In)
times area 1.6(Ac.)/[(In)/(Ft.)] = 0.4(Ac.Ft)
Total soil loss = 1.79(In)
Total soil loss = 0.238(Ac.Ft)
Total rainfall = 4.62(In)
Flood volume = 16452.9 Cubic Feet
Total soil loss = 10380.0 Cubic Feet

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Peak flow rate of this hydrograph = 0.887(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0000 | 0.01 | Q | | | | |
| 0+10 | 0.0001 | 0.01 | Q | | | | |
| 0+15 | 0.0001 | 0.01 | Q | | | | |
| 0+20 | 0.0002 | 0.01 | Q | | | | |
| 0+25 | 0.0002 | 0.01 | Q | | | | |
| 0+30 | 0.0003 | 0.01 | Q | | | | |
| 0+35 | 0.0004 | 0.01 | Q | | | | |
| 0+40 | 0.0004 | 0.01 | Q | | | | |
| 0+45 | 0.0005 | 0.01 | Q | | | | |
| 0+50 | 0.0006 | 0.01 | Q | | | | |
| 0+55 | 0.0007 | 0.01 | Q | | | | |
| 1+ 0 | 0.0007 | 0.01 | Q | | | | |
| 1+ 5 | 0.0008 | 0.01 | Q | | | | |
| 1+10 | 0.0009 | 0.01 | Q | | | | |
| 1+15 | 0.0009 | 0.01 | Q | | | | |
| 1+20 | 0.0010 | 0.01 | Q | | | | |
| 1+25 | 0.0010 | 0.01 | Q | | | | |
| 1+30 | 0.0011 | 0.01 | Q | | | | |
| 1+35 | 0.0012 | 0.01 | Q | | | | |
| 1+40 | 0.0012 | 0.01 | Q | | | | |
| 1+45 | 0.0013 | 0.01 | Q | | | | |
| 1+50 | 0.0014 | 0.01 | Q | | | | |
| 1+55 | 0.0015 | 0.01 | Q | | | | |
| 2+ 0 | 0.0015 | 0.01 | Q | | | | |
| 2+ 5 | 0.0016 | 0.01 | Q | | | | |
| 2+10 | 0.0017 | 0.01 | Q | | | | |
| 2+15 | 0.0018 | 0.01 | Q | | | | |
| 2+20 | 0.0019 | 0.01 | Q | | | | |
| 2+25 | 0.0020 | 0.01 | Q | | | | |
| 2+30 | 0.0020 | 0.01 | Q | | | | |
| 2+35 | 0.0021 | 0.01 | Q | | | | |
| 2+40 | 0.0022 | 0.01 | Q | | | | |
| 2+45 | 0.0023 | 0.01 | Q | | | | |
| 2+50 | 0.0024 | 0.01 | Q | | | | |
| 2+55 | 0.0025 | 0.01 | Q | | | | |
| 3+ 0 | 0.0026 | 0.01 | Q | | | | |
| 3+ 5 | 0.0028 | 0.01 | Q | | | | |
| 3+10 | 0.0029 | 0.01 | Q | | | | |
| 3+15 | 0.0030 | 0.01 | Q | | | | |
| 3+20 | 0.0031 | 0.01 | Q | | | | |
| 3+25 | 0.0032 | 0.01 | Q | | | | |
| 3+30 | 0.0033 | 0.01 | Q | | | | |
| 3+35 | 0.0034 | 0.01 | Q | | | | |
| 3+40 | 0.0035 | 0.01 | Q | | | | |
| 3+45 | 0.0036 | 0.01 | Q | | | | |
| 3+50 | 0.0037 | 0.02 | Q | | | | |
| 3+55 | 0.0038 | 0.02 | Q | | | | |
| 4+ 0 | 0.0039 | 0.02 | Q | | | | |
| 4+ 5 | 0.0041 | 0.02 | Q | | | | |
| 4+10 | 0.0042 | 0.02 | Q | | | | |
| 4+15 | 0.0043 | 0.02 | Q | | | | |
| 4+20 | 0.0045 | 0.02 | Q | | | | |
| 4+25 | 0.0046 | 0.02 | Q | | | | |
| 4+30 | 0.0047 | 0.02 | Q | | | | |
| 4+35 | 0.0049 | 0.02 | Q | | | | |
| 4+40 | 0.0050 | 0.02 | Q | | | | |
| 4+45 | 0.0052 | 0.02 | Q | | | | |
| 4+50 | 0.0054 | 0.03 | Q | | | | |

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 4+55       0.0056      0.03  Q          |          |          |          |
 5+ 0       0.0058      0.03  Q          |          |          |          |
 5+ 5       0.0060      0.02  Q          |          |          |          |
 5+10       0.0061      0.02  Q          |          |          |          |
 5+15       0.0062      0.02  Q          |          |          |          |
 5+20       0.0064      0.02  Q          |          |          |          |
 5+25       0.0065      0.02  Q          |          |          |          |
 5+30       0.0066      0.02  Q          |          |          |          |
 5+35       0.0069      0.04  Q          |          |          |          |
 5+40       0.0072      0.04  Q          |          |          |          |
 5+45       0.0075      0.04  Q          |          |          |          |
 5+50       0.0078      0.04  Q          |          |          |          |
 5+55       0.0081      0.04  Q          |          |          |          |
 6+ 0       0.0084      0.04  Q          |          |          |          |
 6+ 5       0.0089      0.07  Q          |          |          |          |
 6+10       0.0094      0.08  Q          |          |          |          |
 6+15       0.0099      0.08  QV         |          |          |          |
 6+20       0.0105      0.08  QV         |          |          |          |
 6+25       0.0110      0.08  QV         |          |          |          |
 6+30       0.0115      0.08  QV         |          |          |          |
 6+35       0.0123      0.11  QV         |          |          |          |
 6+40       0.0130      0.11  QV         |          |          |          |
 6+45       0.0138      0.11  QV         |          |          |          |
 6+50       0.0146      0.11  QV         |          |          |          |
 6+55       0.0154      0.11  QV         |          |          |          |
 7+ 0       0.0161      0.11  QV         |          |          |          |
 7+ 5       0.0169      0.11  QV         |          |          |          |
 7+10       0.0177      0.12  QV         |          |          |          |
 7+15       0.0185      0.12  QV         |          |          |          |
 7+20       0.0195      0.15  Q V        |          |          |          |
 7+25       0.0206      0.15  Q V        |          |          |          |
 7+30       0.0216      0.15  Q V        |          |          |          |
 7+35       0.0228      0.18  Q V        |          |          |          |
 7+40       0.0241      0.18  Q V        |          |          |          |
 7+45       0.0253      0.18  Q V        |          |          |          |
 7+50       0.0268      0.21  Q V        |          |          |          |
 7+55       0.0282      0.21  Q V        |          |          |          |
 8+ 0       0.0297      0.21  Q  V       |          |          |          |
 8+ 5       0.0316      0.27  |Q V       |          |          |          |
 8+10       0.0335      0.27  |Q V       |          |          |          |
 8+15       0.0354      0.28  |Q V       |          |          |          |
 8+20       0.0373      0.28  |Q V       |          |          |          |
 8+25       0.0392      0.28  |Q  V      |          |          |          |
 8+30       0.0411      0.28  |Q  V      |          |          |          |
 8+35       0.0432      0.31  |Q  V      |          |          |          |
 8+40       0.0453      0.31  |Q  V      |          |          |          |
 8+45       0.0474      0.31  |Q   V     |          |          |          |
 8+50       0.0498      0.34  |Q   V     |          |          |          |
 8+55       0.0521      0.34  |Q   V     |          |          |          |
 9+ 0       0.0545      0.34  |Q   V     |          |          |          |
 9+ 5       0.0573      0.40  |Q    V    |          |          |          |
 9+10       0.0600      0.40  |Q    V    |          |          |          |
 9+15       0.0628      0.40  |Q    V    |          |          |          |
 9+20       0.0658      0.43  |Q    V    |          |          |          |
 9+25       0.0688      0.44  |Q     V   |          |          |          |
 9+30       0.0718      0.44  |Q     V   |          |          |          |
 9+35       0.0750      0.47  |Q     V   |          |          |          |
 9+40       0.0782      0.47  |Q      V  |          |          |          |
 9+45       0.0815      0.47  |Q      V  |          |          |          |
 9+50       0.0849      0.50  |Q      V  |          |          |          |
 9+55       0.0883      0.50  |Q       V |          |          |          |
10+ 0       0.0918      0.50  | Q      V |          |          |          |
10+ 5       0.0938      0.29  |Q       V |          |          |          |
10+10       0.0958      0.29  |Q        V          |          |          |
10+15       0.0978      0.29  |Q        V          |          |          |
10+20       0.0999      0.29  |Q        V          |          |          |
10+25       0.1019      0.30  |Q        V          |          |          |
10+30       0.1039      0.30  |Q        |V         |          |          |
10+35       0.1070      0.45  |Q        |V         |          |          |
10+40       0.1101      0.45  |Q        |V         |          |          |
10+45       0.1132      0.45  |Q        |V         |          |          |
10+50       0.1163      0.45  |Q        | V        |          |          |
10+55       0.1193      0.45  |Q        | V        |          |          |
11+ 0       0.1224      0.45  |Q        | V        |          |          |
11+ 5       0.1253      0.42  |Q        |  V       |          |          |
11+10       0.1282      0.42  |Q        |  V       |          |          |
11+15       0.1311      0.42  |Q        |  V       |          |          |
11+20       0.1340      0.42  |Q        |   V      |          |          |
```

```
11+25       0.1370      0.42  |Q        |   V     |         |         |
11+30       0.1399      0.42  |Q        |   V     |         |         |
11+35       0.1424      0.36  |Q        |    V    |         |         |
11+40       0.1449      0.37  |Q        |    V    |         |         |
11+45       0.1474      0.37  |Q        |    V    |         |         |
11+50       0.1502      0.40  |Q        |    V    |         |         |
11+55       0.1529      0.40  |Q        |     V   |         |         |
12+ 0       0.1557      0.40  |Q        |     V   |         |         |
12+ 5       0.1598      0.61  | Q       |     V   |         |         |
12+10       0.1640      0.61  | Q       |      V  |         |         |
12+15       0.1682      0.61  | Q       |      V  |         |         |
12+20       0.1726      0.64  | Q       |       V |         |         |
12+25       0.1770      0.64  | Q       |       V |         |         |
12+30       0.1814      0.64  | Q       |        V|         |         |
12+35       0.1863      0.70  | Q       |        V|         |         |
12+40       0.1911      0.70  | Q       |         V         |         |
12+45       0.1960      0.70  | Q       |         V         |         |
12+50       0.2010      0.73  | Q       |          V        |         |
12+55       0.2061      0.73  | Q       |          V        |         |
13+ 0       0.2111      0.73  | Q       |          | V      |         |
13+ 5       0.2172      0.88  |  Q      |          |  V     |         |
13+10       0.2233      0.88  |  Q      |          |  V     |         |
13+15       0.2294      0.89  |  Q      |          |   V    |         |
13+20       0.2355      0.89  |  Q      |          |   V    |         |
13+25       0.2416      0.89  |  Q      |          |    V   |         |
13+30       0.2477      0.89  |  Q      |          |     V  |         |
13+35       0.2516      0.56  | Q       |          |     V  |         |
13+40       0.2554      0.56  | Q       |          |      V |         |
13+45       0.2593      0.56  | Q       |          |      V |         |
13+50       0.2632      0.56  | Q       |          |      V |         |
13+55       0.2670      0.56  | Q       |          |       V|         |
14+ 0       0.2709      0.56  | Q       |          |       V|         |
14+ 5       0.2756      0.68  | Q       |          |        V|        |
14+10       0.2803      0.68  | Q       |          |        V|        |
14+15       0.2850      0.68  | Q       |          |         V        |
14+20       0.2896      0.66  | Q       |          |         V        |
14+25       0.2941      0.66  | Q       |          |          V       |
14+30       0.2986      0.66  | Q       |          |          V       |
14+35       0.3031      0.66  | Q       |          |           V      |
14+40       0.3076      0.66  | Q       |          |           V      |
14+45       0.3122      0.66  | Q       |          |            V     |
14+50       0.3165      0.63  | Q       |          |            V     |
14+55       0.3208      0.63  | Q       |          |            V     |
15+ 0       0.3252      0.63  | Q       |          |             V    |
15+ 5       0.3293      0.60  | Q       |          |             V    |
15+10       0.3335      0.60  | Q       |          |              V   |
15+15       0.3376      0.60  | Q       |          |              V   |
15+20       0.3416      0.57  | Q       |          |               V  |
15+25       0.3455      0.57  | Q       |          |               V  |
15+30       0.3495      0.57  | Q       |          |                V |
15+35       0.3526      0.46  |Q        |          |                V |
15+40       0.3557      0.46  |Q        |          |                V |
15+45       0.3589      0.46  |Q        |          |                 V|
15+50       0.3620      0.46  |Q        |          |                 V|
15+55       0.3652      0.46  |Q        |          |                 V|
16+ 0       0.3683      0.46  |Q        |          |                  V
16+ 5       0.3684      0.01  Q         |          |                  V
16+10       0.3685      0.01  Q         |          |                  V
16+15       0.3686      0.01  Q         |          |                  V
16+20       0.3687      0.01  Q         |          |                  V
16+25       0.3688      0.01  Q         |          |                  V
16+30       0.3689      0.01  Q         |          |                  V
16+35       0.3689      0.01  Q         |          |                  V
16+40       0.3690      0.01  Q         |          |                  V
16+45       0.3691      0.01  Q         |          |                  V
16+50       0.3691      0.01  Q         |          |                  V
16+55       0.3692      0.01  Q         |          |                  V
17+ 0       0.3692      0.01  Q         |          |                  V
17+ 5       0.3696      0.05  Q         |          |                  V
17+10       0.3699      0.05  Q         |          |                  V
17+15       0.3702      0.05  Q         |          |                  V
17+20       0.3706      0.05  Q         |          |                  V
17+25       0.3709      0.05  Q         |          |                  V
17+30       0.3713      0.05  Q         |          |                  V
17+35       0.3716      0.05  Q         |          |                  V
17+40       0.3720      0.05  Q         |          |                  V
17+45       0.3723      0.05  Q         |          |                  V
17+50       0.3725      0.02  Q         |          |                  V
```

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+55 | 0.3726 | 0.02 | Q | \| | \| | \| | V\| |
| 18+ 0 | 0.3728 | 0.02 | Q | \| | \| | \| | V\| |
| 18+ 5 | 0.3730 | 0.02 | Q | \| | \| | \| | V\| |
| 18+10 | 0.3731 | 0.02 | Q | \| | \| | \| | V\| |
| 18+15 | 0.3733 | 0.02 | Q | \| | \| | \| | V\| |
| 18+20 | 0.3735 | 0.03 | Q | \| | \| | \| | V\| |
| 18+25 | 0.3737 | 0.03 | Q | \| | \| | \| | V\| |
| 18+30 | 0.3738 | 0.03 | Q | \| | \| | \| | V\| |
| 18+35 | 0.3739 | 0.01 | Q | \| | \| | \| | V\| |
| 18+40 | 0.3740 | 0.01 | Q | \| | \| | \| | V\| |
| 18+45 | 0.3740 | 0.01 | Q | \| | \| | \| | V\| |
| 18+50 | 0.3741 | 0.01 | Q | \| | \| | \| | V\| |
| 18+55 | 0.3741 | 0.01 | Q | \| | \| | \| | V\| |
| 19+ 0 | 0.3741 | 0.01 | Q | \| | \| | \| | V\| |
| 19+ 5 | 0.3742 | 0.01 | Q | \| | \| | \| | V\| |
| 19+10 | 0.3743 | 0.01 | Q | \| | \| | \| | V\| |
| 19+15 | 0.3743 | 0.01 | Q | \| | \| | \| | V\| |
| 19+20 | 0.3745 | 0.03 | Q | \| | \| | \| | V\| |
| 19+25 | 0.3747 | 0.03 | Q | \| | \| | \| | V\| |
| 19+30 | 0.3750 | 0.03 | Q | \| | \| | \| | V\| |
| 19+35 | 0.3750 | 0.01 | Q | \| | \| | \| | V\| |
| 19+40 | 0.3751 | 0.01 | Q | \| | \| | \| | V\| |
| 19+45 | 0.3751 | 0.01 | Q | \| | \| | \| | V\| |
| 19+50 | 0.3752 | 0.01 | Q | \| | \| | \| | V\| |
| 19+55 | 0.3752 | 0.01 | Q | \| | \| | \| | V\| |
| 20+ 0 | 0.3753 | 0.01 | Q | \| | \| | \| | V\| |
| 20+ 5 | 0.3753 | 0.01 | Q | \| | \| | \| | V\| |
| 20+10 | 0.3754 | 0.01 | Q | \| | \| | \| | V\| |
| 20+15 | 0.3755 | 0.01 | Q | \| | \| | \| | V\| |
| 20+20 | 0.3755 | 0.01 | Q | \| | \| | \| | V\| |
| 20+25 | 0.3756 | 0.01 | Q | \| | \| | \| | V\| |
| 20+30 | 0.3756 | 0.01 | Q | \| | \| | \| | V\| |
| 20+35 | 0.3757 | 0.01 | Q | \| | \| | \| | V\| |
| 20+40 | 0.3758 | 0.01 | Q | \| | \| | \| | V\| |
| 20+45 | 0.3758 | 0.01 | Q | \| | \| | \| | V\| |
| 20+50 | 0.3759 | 0.01 | Q | \| | \| | \| | V\| |
| 20+55 | 0.3759 | 0.01 | Q | \| | \| | \| | V\| |
| 21+ 0 | 0.3759 | 0.01 | Q | \| | \| | \| | V\| |
| 21+ 5 | 0.3760 | 0.01 | Q | \| | \| | \| | V\| |
| 21+10 | 0.3761 | 0.01 | Q | \| | \| | \| | V\| |
| 21+15 | 0.3761 | 0.01 | Q | \| | \| | \| | V\| |
| 21+20 | 0.3762 | 0.01 | Q | \| | \| | \| | V\| |
| 21+25 | 0.3762 | 0.01 | Q | \| | \| | \| | V\| |
| 21+30 | 0.3763 | 0.01 | Q | \| | \| | \| | V\| |
| 21+35 | 0.3763 | 0.01 | Q | \| | \| | \| | V\| |
| 21+40 | 0.3764 | 0.01 | Q | \| | \| | \| | V\| |
| 21+45 | 0.3765 | 0.01 | Q | \| | \| | \| | V\| |
| 21+50 | 0.3765 | 0.01 | Q | \| | \| | \| | V\| |
| 21+55 | 0.3766 | 0.01 | Q | \| | \| | \| | V\| |
| 22+ 0 | 0.3766 | 0.01 | Q | \| | \| | \| | V\| |
| 22+ 5 | 0.3767 | 0.01 | Q | \| | \| | \| | V\| |
| 22+10 | 0.3768 | 0.01 | Q | \| | \| | \| | V\| |
| 22+15 | 0.3768 | 0.01 | Q | \| | \| | \| | V\| |
| 22+20 | 0.3769 | 0.01 | Q | \| | \| | \| | V\| |
| 22+25 | 0.3769 | 0.01 | Q | \| | \| | \| | V\| |
| 22+30 | 0.3770 | 0.01 | Q | \| | \| | \| | V\| |
| 22+35 | 0.3770 | 0.01 | Q | \| | \| | \| | V\| |
| 22+40 | 0.3770 | 0.01 | Q | \| | \| | \| | V\| |
| 22+45 | 0.3771 | 0.01 | Q | \| | \| | \| | V\| |
| 22+50 | 0.3771 | 0.01 | Q | \| | \| | \| | V\| |
| 22+55 | 0.3772 | 0.01 | Q | \| | \| | \| | V\| |
| 23+ 0 | 0.3772 | 0.01 | Q | \| | \| | \| | V\| |
| 23+ 5 | 0.3773 | 0.01 | Q | \| | \| | \| | V\| |
| 23+10 | 0.3773 | 0.01 | Q | \| | \| | \| | V\| |
| 23+15 | 0.3773 | 0.01 | Q | \| | \| | \| | V\| |
| 23+20 | 0.3774 | 0.01 | Q | \| | \| | \| | V\| |
| 23+25 | 0.3774 | 0.01 | Q | \| | \| | \| | V\| |
| 23+30 | 0.3775 | 0.01 | Q | \| | \| | \| | V\| |
| 23+35 | 0.3775 | 0.01 | Q | \| | \| | \| | V\| |
| 23+40 | 0.3775 | 0.01 | Q | \| | \| | \| | V\| |
| 23+45 | 0.3776 | 0.01 | Q | \| | \| | \| | V\| |
| 23+50 | 0.3776 | 0.01 | Q | \| | \| | \| | V\| |
| 23+55 | 0.3777 | 0.01 | Q | \| | \| | \| | V\| |
| 24+ 0 | 0.3777 | 0.01 | Q | \| | \| | \| | V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX341100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 34
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 62.00(Ac.) = 0.097 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 62.00(Ac.) = 0.097 Sq. Mi.
Length along longest watercourse = 2979.00(Ft.)
Length along longest watercourse measured to centroid = 1258.00(Ft.)
Length along longest watercourse = 0.564 Mi.
Length along longest watercourse measured to centroid = 0.238 Mi.
Difference in elevation = 342.00(Ft.)
Slope along watercourse = 606.1631 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.116 Hr.
Lag time = 6.96 Min.
25% of lag time = 1.74 Min.
40% of lag time = 2.78 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 62.00 | 0.50 | 31.00 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 62.00 | 1.20 | 74.40 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.94 %
Adjusted average point rain = 1.199(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 62.000 | 81.57 | 0.000 |

Total Area Entered = 62.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 81.6 | 91.9 | 0.105 | 0.000 | 0.105 | 1.000 | 0.105 |
| | | | | | Sum (F) = | 0.105 |

Area averaged mean soil loss (F) (In/Hr) = 0.105

Minimum soil loss rate ((In/Hr)) = 0.052
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 71.847 | 7.480 | 4.674 |
| 2 | 0.167 | 143.694 | 42.585 | 26.609 |
| 3 | 0.250 | 215.541 | 28.148 | 17.588 |
| 4 | 0.333 | 287.387 | 10.697 | 6.684 |
| 5 | 0.417 | 359.234 | 5.829 | 3.642 |
| 6 | 0.500 | 431.081 | 2.897 | 1.810 |
| 7 | 0.583 | 502.928 | 1.029 | 0.643 |
| 8 | 0.667 | 574.775 | 0.577 | 0.360 |
| 9 | 0.750 | 646.622 | 0.483 | 0.302 |
| 10 | 0.833 | 718.469 | 0.275 | 0.172 |
| | | Sum = 100.000 | Sum= | 62.484 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.604 | 0.105 | ( 0.544) | 0.500 |
| 2 | 0.17 | 4.30 | 0.619 | 0.105 | ( 0.557) | 0.514 |
| 3 | 0.25 | 5.00 | 0.720 | 0.105 | ( 0.648) | 0.615 |
| 4 | 0.33 | 5.00 | 0.720 | 0.105 | ( 0.648) | 0.615 |
| 5 | 0.42 | 5.80 | 0.835 | 0.105 | ( 0.751) | 0.730 |
| 6 | 0.50 | 6.50 | 0.935 | 0.105 | ( 0.842) | 0.831 |
| 7 | 0.58 | 7.40 | 1.065 | 0.105 | ( 0.959) | 0.960 |
| 8 | 0.67 | 8.60 | 1.238 | 0.105 | ( 1.114) | 1.133 |
| 9 | 0.75 | 12.30 | 1.770 | 0.105 | ( 1.593) | 1.665 |
| 10 | 0.83 | 29.10 | 4.188 | 0.105 | ( 3.769) | 4.083 |
| 11 | 0.92 | 6.80 | 0.979 | 0.105 | ( 0.881) | 0.874 |
| 12 | 1.00 | 5.00 | 0.720 | 0.105 | ( 0.648) | 0.615 |
| | | (Loss Rate Not Used) | | | |
| Sum = | | 100.0 | | | Sum = 13.1 |

Flood volume = Effective rainfall 1.09(In)
times area 62.0(Ac.)/[(In)/(Ft.)] = 5.7(Ac.Ft)
Total soil loss = 0.10(In)
Total soil loss = 0.541(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 246344.3 Cubic Feet
Total soil loss = 23575.9 Cubic Feet

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Peak flow rate of this hydrograph = 155.648(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 50.0 | 100.0 | 150.0 | 200.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0161 | 2.34 | Q | | | | |
| 0+10 | 0.1243 | 15.71 | V Q | | | | |
| 0+15 | 0.2989 | 25.36 | \| V Q | | | | |
| 0+20 | 0.5167 | 31.63 | \| V Q | | | | |
| 0+25 | 0.7637 | 35.86 | \| V Q | | | | |
| 0+30 | 1.0463 | 41.03 | \| VQ | | | | |
| 0+35 | 1.3704 | 47.06 | \| Q | | | | |
| 0+40 | 1.7438 | 54.23 | \| Q V | | | | |
| 0+45 | 2.1909 | 64.91 | \| Q V | | | | |
| 0+50 | 2.8451 | 95.00 | \| Q V | | | | |
| 0+55 | 3.9171 | 155.65 | \| V \|Q | | | | |

```
    1+ 0       4.7166    116.09  |          |          |  Q       |  V       |
    1+ 5       5.1878     68.42  |          |  Q       |          |     V    |
    1+10       5.4358     36.01  |        Q |          |          |        V |
    1+15       5.5502     16.60  |   Q      |          |          |         V|
    1+20       5.6022      7.56  |Q         |          |          |         V|
    1+25       5.6287      3.85  Q          |          |          |         V|
    1+30       5.6441      2.23  Q          |          |          |         V|
    1+35       5.6522      1.19  Q          |          |          |         V|
    1+40       5.6546      0.34  Q          |          |          |         V|
    1+45       5.6553      0.11  Q          |          |          |          V
-------------------------------------------------------------------------
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX343100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 34
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 62.00(Ac.) = 0.097 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 62.00(Ac.) = 0.097 Sq. Mi.
Length along longest watercourse = 2979.00(Ft.)
Length along longest watercourse measured to centroid = 1258.00(Ft.)
Length along longest watercourse = 0.564 Mi.
Length along longest watercourse measured to centroid = 0.238 Mi.
Difference in elevation = 342.00(Ft.)
Slope along watercourse = 606.1631 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.116 Hr.
Lag time = 6.96 Min.
25% of lag time = 1.74 Min.
40% of lag time = 2.78 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 62.00 | 0.82 | 50.84 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 62.00 | 1.83 | 113.46 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.820(In)
Area Averaged 100-Year Rainfall = 1.830(In)

Point rain (area averaged) = 1.830(In)
Areal adjustment factor = 99.97 %
Adjusted average point rain = 1.830(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 62.000 | 81.57 | 0.000 |

Total Area Entered = 62.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 81.6 | 91.9 | 0.105 | 0.000 | 0.105 | 1.000 | 0.105 |
| | | | | | Sum (F) = | 0.105 |

Area averaged mean soil loss (F) (In/Hr) = 0.105

Minimum soil loss rate ((In/Hr)) = 0.052
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 71.847 | 7.480 | 4.674 |
| 2 0.167 | 143.694 | 42.585 | 26.609 |
| 3 0.250 | 215.541 | 28.148 | 17.588 |
| 4 0.333 | 287.387 | 10.697 | 6.684 |
| 5 0.417 | 359.234 | 5.829 | 3.642 |
| 6 0.500 | 431.081 | 2.897 | 1.810 |
| 7 0.583 | 502.928 | 1.029 | 0.643 |
| 8 0.667 | 574.775 | 0.577 | 0.360 |
| 9 0.750 | 646.622 | 0.483 | 0.302 |
| 10 0.833 | 718.469 | 0.275 | 0.172 |
| | | Sum = 100.000 | Sum= 62.484 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.285 | 0.105 | ( 0.257) | 0.181 |
| 2 | 0.17 | 1.30 | 0.285 | 0.105 | ( 0.257) | 0.181 |
| 3 | 0.25 | 1.10 | 0.241 | 0.105 | ( 0.217) | 0.137 |
| 4 | 0.33 | 1.50 | 0.329 | 0.105 | ( 0.296) | 0.225 |
| 5 | 0.42 | 1.50 | 0.329 | 0.105 | ( 0.296) | 0.225 |
| 6 | 0.50 | 1.80 | 0.395 | 0.105 | ( 0.356) | 0.290 |
| 7 | 0.58 | 1.50 | 0.329 | 0.105 | ( 0.296) | 0.225 |
| 8 | 0.67 | 1.80 | 0.395 | 0.105 | ( 0.356) | 0.290 |
| 9 | 0.75 | 1.80 | 0.395 | 0.105 | ( 0.356) | 0.290 |
| 10 | 0.83 | 1.50 | 0.329 | 0.105 | ( 0.296) | 0.225 |
| 11 | 0.92 | 1.60 | 0.351 | 0.105 | ( 0.316) | 0.247 |
| 12 | 1.00 | 1.80 | 0.395 | 0.105 | ( 0.356) | 0.290 |
| 13 | 1.08 | 2.20 | 0.483 | 0.105 | ( 0.435) | 0.378 |
| 14 | 1.17 | 2.20 | 0.483 | 0.105 | ( 0.435) | 0.378 |
| 15 | 1.25 | 2.20 | 0.483 | 0.105 | ( 0.435) | 0.378 |
| 16 | 1.33 | 2.00 | 0.439 | 0.105 | ( 0.395) | 0.334 |
| 17 | 1.42 | 2.60 | 0.571 | 0.105 | ( 0.514) | 0.466 |
| 18 | 1.50 | 2.70 | 0.593 | 0.105 | ( 0.533) | 0.488 |
| 19 | 1.58 | 2.40 | 0.527 | 0.105 | ( 0.474) | 0.422 |
| 20 | 1.67 | 2.70 | 0.593 | 0.105 | ( 0.533) | 0.488 |
| 21 | 1.75 | 3.30 | 0.724 | 0.105 | ( 0.652) | 0.620 |
| 22 | 1.83 | 3.10 | 0.681 | 0.105 | ( 0.613) | 0.576 |
| 23 | 1.92 | 2.90 | 0.637 | 0.105 | ( 0.573) | 0.532 |
| 24 | 2.00 | 3.00 | 0.659 | 0.105 | ( 0.593) | 0.554 |
| 25 | 2.08 | 3.10 | 0.681 | 0.105 | ( 0.613) | 0.576 |
| 26 | 2.17 | 4.20 | 0.922 | 0.105 | ( 0.830) | 0.817 |
| 27 | 2.25 | 5.00 | 1.098 | 0.105 | ( 0.988) | 0.993 |
| 28 | 2.33 | 3.50 | 0.768 | 0.105 | ( 0.692) | 0.664 |
| 29 | 2.42 | 6.80 | 1.493 | 0.105 | ( 1.344) | 1.388 |
| 30 | 2.50 | 7.30 | 1.603 | 0.105 | ( 1.442) | 1.498 |
| 31 | 2.58 | 8.20 | 1.800 | 0.105 | ( 1.620) | 1.695 |
| 32 | 2.67 | 5.90 | 1.295 | 0.105 | ( 1.166) | 1.191 |
| 33 | 2.75 | 2.00 | 0.439 | 0.105 | ( 0.395) | 0.334 |
| 34 | 2.83 | 1.80 | 0.395 | 0.105 | ( 0.356) | 0.290 |
| 35 | 2.92 | 1.80 | 0.395 | 0.105 | ( 0.356) | 0.290 |
| 36 | 3.00 | 0.60 | 0.132 | 0.105 | ( 0.119) | 0.027 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 18.2 |

Flood volume = Effective rainfall 1.52(In)
times area 62.0(Ac.)/[(In)/(Ft.)] = 7.8(Ac.Ft)
Total soil loss = 0.31(In)
Total soil loss = 1.624(Ac.Ft)
Total rainfall = 1.83(In)
Flood volume = 341020.3 Cubic Feet
Total soil loss = 70727.8 Cubic Feet

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Peak flow rate of this hydrograph = 91.556(CFS)

3 - H O U R  S T O R M
R u n o f f  H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 25.0 | 50.0 | 75.0 | 100.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0058 | 0.84 | Q | | | | |
| 0+10 | 0.0448 | 5.65 | V Q | | | | |
| 0+15 | 0.1042 | 8.63 | V Q | | | | |
| 0+20 | 0.1667 | 9.08 | V Q | | | | |
| 0+25 | 0.2445 | 11.30 | V Q | | | | |
| 0+30 | 0.3353 | 13.19 | V Q | | | | |
| 0+35 | 0.4399 | 15.18 | V Q | | | | |
| 0+40 | 0.5445 | 15.20 | V Q | | | | |
| 0+45 | 0.6576 | 16.42 | V Q | | | | |
| 0+50 | 0.7756 | 17.14 | V Q | | | | |
| 0+55 | 0.8846 | 15.83 | V Q | | | | |
| 1+ 0 | 0.9923 | 15.64 | VQ | | | | |
| 1+ 5 | 1.1113 | 17.28 | VQ | | | | |
| 1+10 | 1.2514 | 20.34 | V Q | | | | |
| 1+15 | 1.4039 | 22.15 | VQ | | | | |
| 1+20 | 1.5603 | 22.70 | V Q | | | | |
| 1+25 | 1.7155 | 22.55 | VQ | | | | |
| 1+30 | 1.8916 | 25.56 | VQ | | | | |
| 1+35 | 2.0839 | 27.93 | VQ | | | | |
| 1+40 | 2.2742 | 27.64 | Q | | | | |
| 1+45 | 2.4769 | 29.43 | QV | | | | |
| 1+50 | 2.7094 | 33.76 | Q | | | | |
| 1+55 | 2.9505 | 35.01 | QV | | | | |
| 2+ 0 | 3.1862 | 34.22 | Q V | | | | |
| 2+ 5 | 3.4233 | 34.44 | Q V | | | | |
| 2+10 | 3.6738 | 36.37 | Q V | | | | |
| 2+15 | 3.9769 | 44.01 | Q V | | | | |
| 2+20 | 4.3320 | 51.57 | Q V | | | | |
| 2+25 | 4.6834 | 51.02 | Q V | | | | |
| 2+30 | 5.1457 | 67.13 | Q | | | | |
| 2+35 | 5.7146 | 82.60 | V Q | | | | |
| 2+40 | 6.3452 | 91.56 | V Q | | | | |
| 2+45 | 6.9001 | 80.57 | Q V | | | | |
| 2+50 | 7.2558 | 51.65 | Q V | | | | |
| 2+55 | 7.4858 | 33.40 | Q V | | | | |
| 3+ 0 | 7.6542 | 24.45 | Q V | | | | |
| 3+ 5 | 7.7459 | 13.31 | Q V | | | | |
| 3+10 | 7.7882 | 6.15 | Q V | | | | |
| 3+15 | 7.8101 | 3.18 | Q V | | | | |
| 3+20 | 7.8210 | 1.58 | Q V | | | | |
| 3+25 | 7.8255 | 0.65 | Q V | | | | |
| 3+30 | 7.8273 | 0.27 | Q V | | | | |
| 3+35 | 7.8283 | 0.15 | Q V | | | | |
| 3+40 | 7.8287 | 0.06 | Q V | | | | |
| 3+45 | 7.8287 | 0.00 | Q V | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX346100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 34
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 62.00(Ac.) = 0.097 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 62.00(Ac.) = 0.097 Sq. Mi.
Length along longest watercourse = 2979.00(Ft.)
Length along longest watercourse measured to centroid = 1258.00(Ft.)
Length along longest watercourse = 0.564 Mi.
Length along longest watercourse measured to centroid = 0.238 Mi.
Difference in elevation = 342.00(Ft.)
Slope along watercourse = 606.1631 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.116 Hr.
Lag time = 6.96 Min.
25% of lag time = 1.74 Min.
40% of lag time = 2.78 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 62.00 | 1.16 | 71.92 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 62.00 | 2.50 | 155.00 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.160(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 99.98 %
Adjusted average point rain = 2.499(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 62.000 | 81.57 | 0.000 |

Total Area Entered = 62.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 81.6 | 91.9 | 0.105 | 0.000 | 0.105 | 1.000 | 0.105 |
| | | | | | Sum (F) = | 0.105 |

Area averaged mean soil loss (F) (In/Hr) = 0.105

Minimum soil loss rate ((In/Hr)) = 0.052
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 71.847 | 7.480 | 4.674 |
| 2 | 0.167 | 143.694 | 42.585 | 26.609 |
| 3 | 0.250 | 215.541 | 28.148 | 17.588 |
| 4 | 0.333 | 287.387 | 10.697 | 6.684 |
| 5 | 0.417 | 359.234 | 5.829 | 3.642 |
| 6 | 0.500 | 431.081 | 2.897 | 1.810 |
| 7 | 0.583 | 502.928 | 1.029 | 0.643 |
| 8 | 0.667 | 574.775 | 0.577 | 0.360 |
| 9 | 0.750 | 646.622 | 0.483 | 0.302 |
| 10 | 0.833 | 718.469 | 0.275 | 0.172 |
| | | | Sum = 100.000 Sum= | 62.484 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.105 | ( 0.135) | 0.045 |
| 2 | 0.17 | 0.60 | 0.180 | 0.105 | ( 0.162) | 0.075 |
| 3 | 0.25 | 0.60 | 0.180 | 0.105 | ( 0.162) | 0.075 |
| 4 | 0.33 | 0.60 | 0.180 | 0.105 | ( 0.162) | 0.075 |
| 5 | 0.42 | 0.60 | 0.180 | 0.105 | ( 0.162) | 0.075 |
| 6 | 0.50 | 0.70 | 0.210 | 0.105 | ( 0.189) | 0.105 |
| 7 | 0.58 | 0.70 | 0.210 | 0.105 | ( 0.189) | 0.105 |
| 8 | 0.67 | 0.70 | 0.210 | 0.105 | ( 0.189) | 0.105 |
| 9 | 0.75 | 0.70 | 0.210 | 0.105 | ( 0.189) | 0.105 |
| 10 | 0.83 | 0.70 | 0.210 | 0.105 | ( 0.189) | 0.105 |
| 11 | 0.92 | 0.70 | 0.210 | 0.105 | ( 0.189) | 0.105 |
| 12 | 1.00 | 0.80 | 0.240 | 0.105 | ( 0.216) | 0.135 |
| 13 | 1.08 | 0.80 | 0.240 | 0.105 | ( 0.216) | 0.135 |
| 14 | 1.17 | 0.80 | 0.240 | 0.105 | ( 0.216) | 0.135 |
| 15 | 1.25 | 0.80 | 0.240 | 0.105 | ( 0.216) | 0.135 |
| 16 | 1.33 | 0.80 | 0.240 | 0.105 | ( 0.216) | 0.135 |
| 17 | 1.42 | 0.80 | 0.240 | 0.105 | ( 0.216) | 0.135 |
| 18 | 1.50 | 0.80 | 0.240 | 0.105 | ( 0.216) | 0.135 |
| 19 | 1.58 | 0.80 | 0.240 | 0.105 | ( 0.216) | 0.135 |
| 20 | 1.67 | 0.80 | 0.240 | 0.105 | ( 0.216) | 0.135 |
| 21 | 1.75 | 0.80 | 0.240 | 0.105 | ( 0.216) | 0.135 |
| 22 | 1.83 | 0.80 | 0.240 | 0.105 | ( 0.216) | 0.135 |
| 23 | 1.92 | 0.80 | 0.240 | 0.105 | ( 0.216) | 0.135 |
| 24 | 2.00 | 0.90 | 0.270 | 0.105 | ( 0.243) | 0.165 |
| 25 | 2.08 | 0.80 | 0.240 | 0.105 | ( 0.216) | 0.135 |
| 26 | 2.17 | 0.90 | 0.270 | 0.105 | ( 0.243) | 0.165 |
| 27 | 2.25 | 0.90 | 0.270 | 0.105 | ( 0.243) | 0.165 |
| 28 | 2.33 | 0.90 | 0.270 | 0.105 | ( 0.243) | 0.165 |
| 29 | 2.42 | 0.90 | 0.270 | 0.105 | ( 0.243) | 0.165 |
| 30 | 2.50 | 0.90 | 0.270 | 0.105 | ( 0.243) | 0.165 |
| 31 | 2.58 | 0.90 | 0.270 | 0.105 | ( 0.243) | 0.165 |
| 32 | 2.67 | 0.90 | 0.270 | 0.105 | ( 0.243) | 0.165 |
| 33 | 2.75 | 1.00 | 0.300 | 0.105 | ( 0.270) | 0.195 |
| 34 | 2.83 | 1.00 | 0.300 | 0.105 | ( 0.270) | 0.195 |
| 35 | 2.92 | 1.00 | 0.300 | 0.105 | ( 0.270) | 0.195 |
| 36 | 3.00 | 1.00 | 0.300 | 0.105 | ( 0.270) | 0.195 |
| 37 | 3.08 | 1.00 | 0.300 | 0.105 | ( 0.270) | 0.195 |
| 38 | 3.17 | 1.10 | 0.330 | 0.105 | ( 0.297) | 0.225 |
| 39 | 3.25 | 1.10 | 0.330 | 0.105 | ( 0.297) | 0.225 |
| 40 | 3.33 | 1.10 | 0.330 | 0.105 | ( 0.297) | 0.225 |
| 41 | 3.42 | 1.20 | 0.360 | 0.105 | ( 0.324) | 0.255 |
| 42 | 3.50 | 1.30 | 0.390 | 0.105 | ( 0.351) | 0.285 |
| 43 | 3.58 | 1.40 | 0.420 | 0.105 | ( 0.378) | 0.315 |
| 44 | 3.67 | 1.40 | 0.420 | 0.105 | ( 0.378) | 0.315 |
| 45 | 3.75 | 1.50 | 0.450 | 0.105 | ( 0.405) | 0.345 |
| 46 | 3.83 | 1.50 | 0.450 | 0.105 | ( 0.405) | 0.345 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 47 | 3.92 | 1.60 | 0.480 | 0.105 | ( 0.432) | 0.375 |
| 48 | 4.00 | 1.60 | 0.480 | 0.105 | ( 0.432) | 0.375 |
| 49 | 4.08 | 1.70 | 0.510 | 0.105 | ( 0.459) | 0.405 |
| 50 | 4.17 | 1.80 | 0.540 | 0.105 | ( 0.486) | 0.435 |
| 51 | 4.25 | 1.90 | 0.570 | 0.105 | ( 0.513) | 0.465 |
| 52 | 4.33 | 2.00 | 0.600 | 0.105 | ( 0.540) | 0.495 |
| 53 | 4.42 | 2.10 | 0.630 | 0.105 | ( 0.567) | 0.525 |
| 54 | 4.50 | 2.10 | 0.630 | 0.105 | ( 0.567) | 0.525 |
| 55 | 4.58 | 2.20 | 0.660 | 0.105 | ( 0.594) | 0.555 |
| 56 | 4.67 | 2.30 | 0.690 | 0.105 | ( 0.621) | 0.585 |
| 57 | 4.75 | 2.40 | 0.720 | 0.105 | ( 0.648) | 0.615 |
| 58 | 4.83 | 2.40 | 0.720 | 0.105 | ( 0.648) | 0.615 |
| 59 | 4.92 | 2.50 | 0.750 | 0.105 | ( 0.675) | 0.645 |
| 60 | 5.00 | 2.60 | 0.780 | 0.105 | ( 0.702) | 0.675 |
| 61 | 5.08 | 3.10 | 0.930 | 0.105 | ( 0.837) | 0.825 |
| 62 | 5.17 | 3.60 | 1.080 | 0.105 | ( 0.972) | 0.975 |
| 63 | 5.25 | 3.90 | 1.170 | 0.105 | ( 1.053) | 1.065 |
| 64 | 5.33 | 4.20 | 1.260 | 0.105 | ( 1.134) | 1.155 |
| 65 | 5.42 | 4.70 | 1.410 | 0.105 | ( 1.269) | 1.305 |
| 66 | 5.50 | 5.60 | 1.680 | 0.105 | ( 1.512) | 1.575 |
| 67 | 5.58 | 1.90 | 0.570 | 0.105 | ( 0.513) | 0.465 |
| 68 | 5.67 | 0.90 | 0.270 | 0.105 | ( 0.243) | 0.165 |
| 69 | 5.75 | 0.60 | 0.180 | 0.105 | ( 0.162) | 0.075 |
| 70 | 5.83 | 0.50 | 0.150 | 0.105 | ( 0.135) | 0.045 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.105) | 0.081 | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.105) | 0.054 | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 22.5

Flood volume = Effective rainfall 1.88(In)
times area 62.0(Ac.)/[(In)/(Ft.)] = 9.7(Ac.Ft)
Total soil loss = 0.62(In)
Total soil loss = 3.215(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 422472.4 Cubic Feet
Total soil loss = 140057.7 Cubic Feet

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Peak flow rate of this hydrograph = 81.512(CFS)

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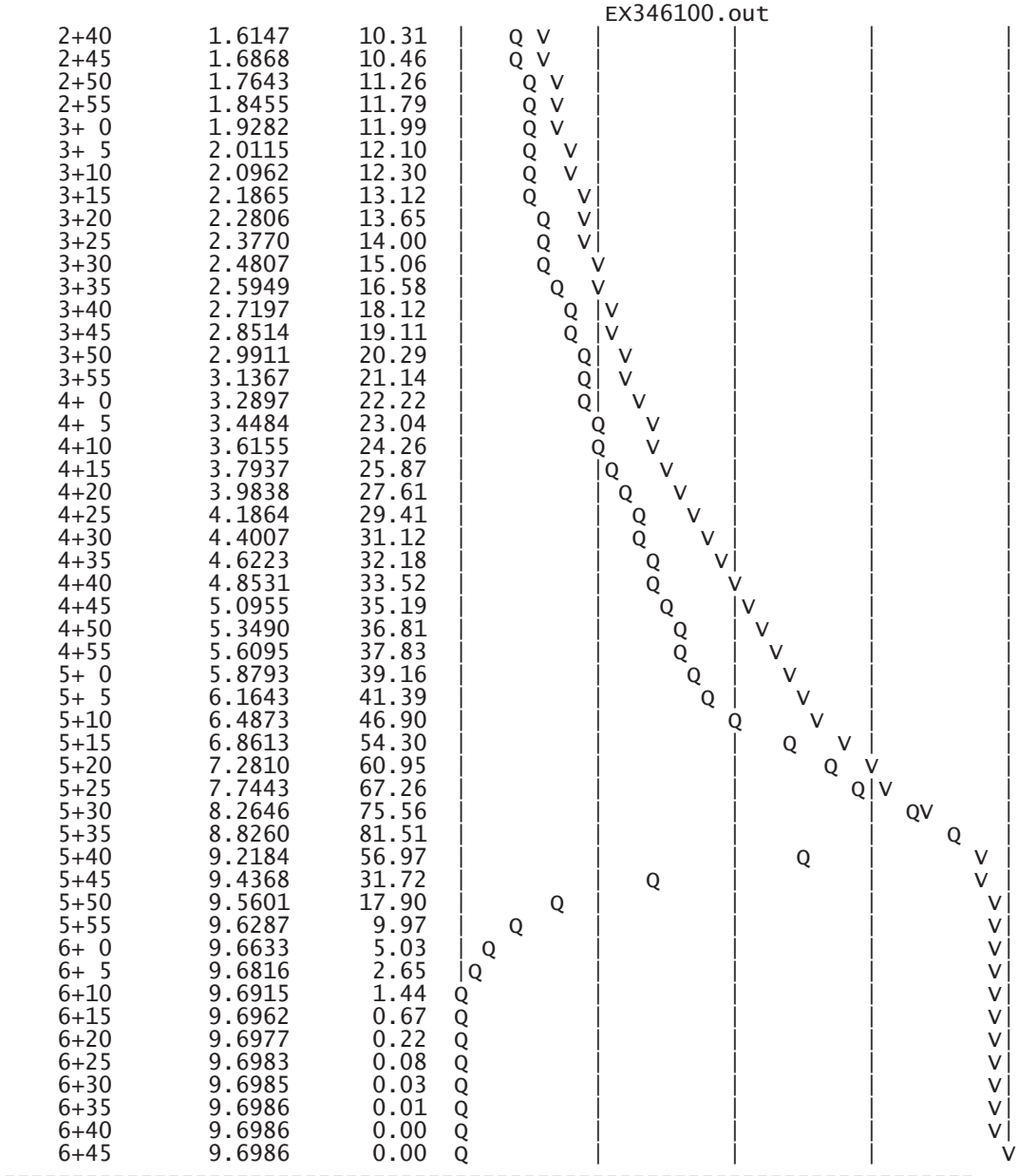
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 22.5 | 45.0 | 67.5 | 90.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0015 | 0.21 | Q | | | | |
| 0+10 | 0.0122 | 1.56 | Q | | | | |
| 0+15 | 0.0339 | 3.15 | VQ | | | | |
| 0+20 | 0.0613 | 3.98 | VQ | | | | |
| 0+25 | 0.0912 | 4.35 | VQ | | | | |
| 0+30 | 0.1234 | 4.68 | V Q | | | | |
| 0+35 | 0.1617 | 5.56 | V Q | | | | |
| 0+40 | 0.2038 | 6.12 | V Q | | | | |
| 0+45 | 0.2476 | 6.35 | \|VQ | | | | |
| 0+50 | 0.2921 | 6.47 | \|VQ | | | | |
| 0+55 | 0.3371 | 6.53 | \|VQ | | | | |
| 1+ 0 | 0.3832 | 6.69 | \|VQ | | | | |
| 1+ 5 | 0.4349 | 7.50 | \|V Q | | | | |
| 1+10 | 0.4902 | 8.04 | \| VQ | | | | |
| 1+15 | 0.5470 | 8.24 | \| VQ | | | | |
| 1+20 | 0.6045 | 8.35 | \| VQ | | | | |
| 1+25 | 0.6624 | 8.41 | \| VQ | | | | |
| 1+30 | 0.7205 | 8.43 | \| VQ | | | | |
| 1+35 | 0.7786 | 8.44 | \| Q | | | | |
| 1+40 | 0.8368 | 8.45 | \| Q | | | | |
| 1+45 | 0.8950 | 8.45 | \| Q | | | | |
| 1+50 | 0.9532 | 8.45 | \| Q | | | | |
| 1+55 | 1.0114 | 8.45 | \| QV | | | | |
| 2+ 0 | 1.0706 | 8.59 | \| QV | | | | |
| 2+ 5 | 1.1343 | 9.25 | \| Q | | | | |
| 2+10 | 1.1971 | 9.12 | \| Q | | | | |
| 2+15 | 1.2631 | 9.59 | \| QV | | | | |
| 2+20 | 1.3322 | 10.03 | \| QV | | | | |
| 2+25 | 1.4023 | 10.17 | \| QV | | | | |
| 2+30 | 1.4728 | 10.25 | \| Q V | | | | |
| 2+35 | 1.5437 | 10.29 | \| Q V | | | | |



| | | | |
|---|---|---|---|
| 2+40 | 1.6147 | 10.31 | |
| 2+45 | 1.6868 | 10.46 | |
| 2+50 | 1.7643 | 11.26 | |
| 2+55 | 1.8455 | 11.79 | |
| 3+ 0 | 1.9282 | 11.99 | |
| 3+ 5 | 2.0115 | 12.10 | |
| 3+10 | 2.0962 | 12.30 | |
| 3+15 | 2.1865 | 13.12 | |
| 3+20 | 2.2806 | 13.65 | |
| 3+25 | 2.3770 | 14.00 | |
| 3+30 | 2.4807 | 15.06 | |
| 3+35 | 2.5949 | 16.58 | |
| 3+40 | 2.7197 | 18.12 | |
| 3+45 | 2.8514 | 19.11 | |
| 3+50 | 2.9911 | 20.29 | |
| 3+55 | 3.1367 | 21.14 | |
| 4+ 0 | 3.2897 | 22.22 | |
| 4+ 5 | 3.4484 | 23.04 | |
| 4+10 | 3.6155 | 24.26 | |
| 4+15 | 3.7937 | 25.87 | |
| 4+20 | 3.9838 | 27.61 | |
| 4+25 | 4.1864 | 29.41 | |
| 4+30 | 4.4007 | 31.12 | |
| 4+35 | 4.6223 | 32.18 | |
| 4+40 | 4.8531 | 33.52 | |
| 4+45 | 5.0955 | 35.19 | |
| 4+50 | 5.3490 | 36.81 | |
| 4+55 | 5.6095 | 37.83 | |
| 5+ 0 | 5.8793 | 39.16 | |
| 5+ 5 | 6.1643 | 41.39 | |
| 5+10 | 6.4873 | 46.90 | |
| 5+15 | 6.8613 | 54.30 | |
| 5+20 | 7.2810 | 60.95 | |
| 5+25 | 7.7443 | 67.26 | |
| 5+30 | 8.2646 | 75.56 | |
| 5+35 | 8.8260 | 81.51 | |
| 5+40 | 9.2184 | 56.97 | |
| 5+45 | 9.4368 | 31.72 | |
| 5+50 | 9.5601 | 17.90 | |
| 5+55 | 9.6287 | 9.97 | |
| 6+ 0 | 9.6633 | 5.03 | |
| 6+ 5 | 9.6816 | 2.65 | |
| 6+10 | 9.6915 | 1.44 | |
| 6+15 | 9.6962 | 0.67 | |
| 6+20 | 9.6977 | 0.22 | |
| 6+25 | 9.6983 | 0.08 | |
| 6+30 | 9.6985 | 0.03 | |
| 6+35 | 9.6986 | 0.01 | |
| 6+40 | 9.6986 | 0.00 | |
| 6+45 | 9.6986 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX3424100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 34
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 62.00(Ac.) = 0.097 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 62.00(Ac.) = 0.097 Sq. Mi.
Length along longest watercourse = 2979.00(Ft.)
Length along longest watercourse measured to centroid = 1258.00(Ft.)
Length along longest watercourse = 0.564 Mi.
Length along longest watercourse measured to centroid = 0.238 Mi.
Difference in elevation = 342.00(Ft.)
Slope along watercourse = 606.1631 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.116 Hr.
Lag time = 6.96 Min.
25% of lag time = 1.74 Min.
40% of lag time = 2.78 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 62.00 | 1.81 | 112.22 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 62.00 | 4.78 | 296.36 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.810(In)
Area Averaged 100-Year Rainfall = 4.780(In)

Point rain (area averaged) = 4.780(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 4.779(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 62.000 | 81.57 | 0.000 |

Total Area Entered = 62.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 81.6 | 91.9 | 0.105 | 0.000 | 0.105 | 1.000 | 0.105 |
| | | | | | Sum (F) = | 0.105 |

Area averaged mean soil loss (F) (In/Hr) = 0.105

Minimum soil loss rate ((In/Hr)) = 0.052
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | | Unit Hydrograph (CFS) |
|---|---|---|---|---|---|
| 1 | 0.083 | 71.847 | 7.480 | | 4.674 |
| 2 | 0.167 | 143.694 | 42.585 | | 26.609 |
| 3 | 0.250 | 215.541 | 28.148 | | 17.588 |
| 4 | 0.333 | 287.387 | 10.697 | | 6.684 |
| 5 | 0.417 | 359.234 | 5.829 | | 3.642 |
| 6 | 0.500 | 431.081 | 2.897 | | 1.810 |
| 7 | 0.583 | 502.928 | 1.029 | | 0.643 |
| 8 | 0.667 | 574.775 | 0.577 | | 0.360 |
| 9 | 0.750 | 646.622 | 0.483 | | 0.302 |
| 10 | 0.833 | 718.469 | 0.275 | | 0.172 |
| | | | Sum = 100.000 | Sum= | 62.484 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.038 | ( 0.186) | | 0.034 | 0.004 |
| 2 | 0.17 | 0.07 | 0.038 | ( 0.185) | | 0.034 | 0.004 |
| 3 | 0.25 | 0.07 | 0.038 | ( 0.184) | | 0.034 | 0.004 |
| 4 | 0.33 | 0.10 | 0.057 | ( 0.184) | | 0.052 | 0.006 |
| 5 | 0.42 | 0.10 | 0.057 | ( 0.183) | | 0.052 | 0.006 |
| 6 | 0.50 | 0.10 | 0.057 | ( 0.182) | | 0.052 | 0.006 |
| 7 | 0.58 | 0.10 | 0.057 | ( 0.181) | | 0.052 | 0.006 |
| 8 | 0.67 | 0.10 | 0.057 | ( 0.181) | | 0.052 | 0.006 |
| 9 | 0.75 | 0.10 | 0.057 | ( 0.180) | | 0.052 | 0.006 |
| 10 | 0.83 | 0.13 | 0.076 | ( 0.179) | | 0.069 | 0.008 |
| 11 | 0.92 | 0.13 | 0.076 | ( 0.179) | | 0.069 | 0.008 |
| 12 | 1.00 | 0.13 | 0.076 | ( 0.178) | | 0.069 | 0.008 |
| 13 | 1.08 | 0.10 | 0.057 | ( 0.177) | | 0.052 | 0.006 |
| 14 | 1.17 | 0.10 | 0.057 | ( 0.176) | | 0.052 | 0.006 |
| 15 | 1.25 | 0.10 | 0.057 | ( 0.176) | | 0.052 | 0.006 |
| 16 | 1.33 | 0.10 | 0.057 | ( 0.175) | | 0.052 | 0.006 |
| 17 | 1.42 | 0.10 | 0.057 | ( 0.174) | | 0.052 | 0.006 |
| 18 | 1.50 | 0.10 | 0.057 | ( 0.174) | | 0.052 | 0.006 |
| 19 | 1.58 | 0.10 | 0.057 | ( 0.173) | | 0.052 | 0.006 |
| 20 | 1.67 | 0.10 | 0.057 | ( 0.172) | | 0.052 | 0.006 |
| 21 | 1.75 | 0.10 | 0.057 | ( 0.172) | | 0.052 | 0.006 |
| 22 | 1.83 | 0.13 | 0.076 | ( 0.171) | | 0.069 | 0.008 |
| 23 | 1.92 | 0.13 | 0.076 | ( 0.170) | | 0.069 | 0.008 |
| 24 | 2.00 | 0.13 | 0.076 | ( 0.170) | | 0.069 | 0.008 |
| 25 | 2.08 | 0.13 | 0.076 | ( 0.169) | | 0.069 | 0.008 |
| 26 | 2.17 | 0.13 | 0.076 | ( 0.168) | | 0.069 | 0.008 |
| 27 | 2.25 | 0.13 | 0.076 | ( 0.167) | | 0.069 | 0.008 |
| 28 | 2.33 | 0.13 | 0.076 | ( 0.167) | | 0.069 | 0.008 |
| 29 | 2.42 | 0.13 | 0.076 | ( 0.166) | | 0.069 | 0.008 |
| 30 | 2.50 | 0.13 | 0.076 | ( 0.165) | | 0.069 | 0.008 |
| 31 | 2.58 | 0.17 | 0.096 | ( 0.165) | | 0.086 | 0.010 |
| 32 | 2.67 | 0.17 | 0.096 | ( 0.164) | | 0.086 | 0.010 |
| 33 | 2.75 | 0.17 | 0.096 | ( 0.163) | | 0.086 | 0.010 |
| 34 | 2.83 | 0.17 | 0.096 | ( 0.163) | | 0.086 | 0.010 |
| 35 | 2.92 | 0.17 | 0.096 | ( 0.162) | | 0.086 | 0.010 |
| 36 | 3.00 | 0.17 | 0.096 | ( 0.161) | | 0.086 | 0.010 |
| 37 | 3.08 | 0.17 | 0.096 | ( 0.161) | | 0.086 | 0.010 |
| 38 | 3.17 | 0.17 | 0.096 | ( 0.160) | | 0.086 | 0.010 |
| 39 | 3.25 | 0.17 | 0.096 | ( 0.159) | | 0.086 | 0.010 |
| 40 | 3.33 | 0.17 | 0.096 | ( 0.159) | | 0.086 | 0.010 |
| 41 | 3.42 | 0.17 | 0.096 | ( 0.158) | | 0.086 | 0.010 |
| 42 | 3.50 | 0.17 | 0.096 | ( 0.157) | | 0.086 | 0.010 |
| 43 | 3.58 | 0.17 | 0.096 | ( 0.157) | | 0.086 | 0.010 |
| 44 | 3.67 | 0.17 | 0.096 | ( 0.156) | | 0.086 | 0.010 |
| 45 | 3.75 | 0.17 | 0.096 | ( 0.155) | | 0.086 | 0.010 |
| 46 | 3.83 | 0.20 | 0.115 | ( 0.155) | | 0.103 | 0.011 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 47 | 3.92 | 0.20 | 0.115 | ( | 0.154) | 0.103 | | 0.011 |
| 48 | 4.00 | 0.20 | 0.115 | ( | 0.153) | 0.103 | | 0.011 |
| 49 | 4.08 | 0.20 | 0.115 | ( | 0.153) | 0.103 | | 0.011 |
| 50 | 4.17 | 0.20 | 0.115 | ( | 0.152) | 0.103 | | 0.011 |
| 51 | 4.25 | 0.20 | 0.115 | ( | 0.152) | 0.103 | | 0.011 |
| 52 | 4.33 | 0.23 | 0.134 | ( | 0.151) | 0.120 | | 0.013 |
| 53 | 4.42 | 0.23 | 0.134 | ( | 0.150) | 0.120 | | 0.013 |
| 54 | 4.50 | 0.23 | 0.134 | ( | 0.150) | 0.120 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.134 | ( | 0.149) | 0.120 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.134 | ( | 0.148) | 0.120 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.134 | ( | 0.148) | 0.120 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.153 | ( | 0.147) | 0.138 | | 0.015 |
| 59 | 4.92 | 0.27 | 0.153 | ( | 0.146) | 0.138 | | 0.015 |
| 60 | 5.00 | 0.27 | 0.153 | ( | 0.146) | 0.138 | | 0.015 |
| 61 | 5.08 | 0.20 | 0.115 | ( | 0.145) | 0.103 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.115 | ( | 0.145) | 0.103 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.115 | ( | 0.144) | 0.103 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.134 | ( | 0.143) | 0.120 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.134 | ( | 0.143) | 0.120 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.134 | ( | 0.142) | 0.120 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.153 | ( | 0.141) | 0.138 | | 0.015 |
| 68 | 5.67 | 0.27 | 0.153 | ( | 0.141) | 0.138 | | 0.015 |
| 69 | 5.75 | 0.27 | 0.153 | ( | 0.140) | 0.138 | | 0.015 |
| 70 | 5.83 | 0.27 | 0.153 | ( | 0.140) | 0.138 | | 0.015 |
| 71 | 5.92 | 0.27 | 0.153 | ( | 0.139) | 0.138 | | 0.015 |
| 72 | 6.00 | 0.27 | 0.153 | ( | 0.138) | 0.138 | | 0.015 |
| 73 | 6.08 | 0.30 | 0.172 | | 0.138 | ( | 0.155) | 0.034 |
| 74 | 6.17 | 0.30 | 0.172 | | 0.137 | ( | 0.155) | 0.035 |
| 75 | 6.25 | 0.30 | 0.172 | | 0.136 | ( | 0.155) | 0.036 |
| 76 | 6.33 | 0.30 | 0.172 | | 0.136 | ( | 0.155) | 0.036 |
| 77 | 6.42 | 0.30 | 0.172 | | 0.135 | ( | 0.155) | 0.037 |
| 78 | 6.50 | 0.30 | 0.172 | | 0.135 | ( | 0.155) | 0.037 |
| 79 | 6.58 | 0.33 | 0.191 | | 0.134 | ( | 0.172) | 0.057 |
| 80 | 6.67 | 0.33 | 0.191 | | 0.133 | ( | 0.172) | 0.058 |
| 81 | 6.75 | 0.33 | 0.191 | | 0.133 | ( | 0.172) | 0.058 |
| 82 | 6.83 | 0.33 | 0.191 | | 0.132 | ( | 0.172) | 0.059 |
| 83 | 6.92 | 0.33 | 0.191 | | 0.132 | ( | 0.172) | 0.060 |
| 84 | 7.00 | 0.33 | 0.191 | | 0.131 | ( | 0.172) | 0.060 |
| 85 | 7.08 | 0.33 | 0.191 | | 0.130 | ( | 0.172) | 0.061 |
| 86 | 7.17 | 0.33 | 0.191 | | 0.130 | ( | 0.172) | 0.061 |
| 87 | 7.25 | 0.33 | 0.191 | | 0.129 | ( | 0.172) | 0.062 |
| 88 | 7.33 | 0.37 | 0.210 | | 0.129 | ( | 0.189) | 0.082 |
| 89 | 7.42 | 0.37 | 0.210 | | 0.128 | ( | 0.189) | 0.082 |
| 90 | 7.50 | 0.37 | 0.210 | | 0.127 | ( | 0.189) | 0.083 |
| 91 | 7.58 | 0.40 | 0.229 | | 0.127 | ( | 0.206) | 0.103 |
| 92 | 7.67 | 0.40 | 0.229 | | 0.126 | ( | 0.206) | 0.103 |
| 93 | 7.75 | 0.40 | 0.229 | | 0.126 | ( | 0.206) | 0.104 |
| 94 | 7.83 | 0.43 | 0.249 | | 0.125 | ( | 0.224) | 0.123 |
| 95 | 7.92 | 0.43 | 0.249 | | 0.125 | ( | 0.224) | 0.124 |
| 96 | 8.00 | 0.43 | 0.249 | | 0.124 | ( | 0.224) | 0.125 |
| 97 | 8.08 | 0.50 | 0.287 | | 0.123 | ( | 0.258) | 0.163 |
| 98 | 8.17 | 0.50 | 0.287 | | 0.123 | ( | 0.258) | 0.164 |
| 99 | 8.25 | 0.50 | 0.287 | | 0.122 | ( | 0.258) | 0.165 |
| 100 | 8.33 | 0.50 | 0.287 | | 0.122 | ( | 0.258) | 0.165 |
| 101 | 8.42 | 0.50 | 0.287 | | 0.121 | ( | 0.258) | 0.166 |
| 102 | 8.50 | 0.50 | 0.287 | | 0.121 | ( | 0.258) | 0.166 |
| 103 | 8.58 | 0.53 | 0.306 | | 0.120 | ( | 0.275) | 0.186 |
| 104 | 8.67 | 0.53 | 0.306 | | 0.119 | ( | 0.275) | 0.186 |
| 105 | 8.75 | 0.53 | 0.306 | | 0.119 | ( | 0.275) | 0.187 |
| 106 | 8.83 | 0.57 | 0.325 | | 0.118 | ( | 0.293) | 0.207 |
| 107 | 8.92 | 0.57 | 0.325 | | 0.118 | ( | 0.293) | 0.207 |
| 108 | 9.00 | 0.57 | 0.325 | | 0.117 | ( | 0.293) | 0.208 |
| 109 | 9.08 | 0.63 | 0.363 | | 0.117 | ( | 0.327) | 0.247 |
| 110 | 9.17 | 0.63 | 0.363 | | 0.116 | ( | 0.327) | 0.247 |
| 111 | 9.25 | 0.63 | 0.363 | | 0.116 | ( | 0.327) | 0.248 |
| 112 | 9.33 | 0.67 | 0.382 | | 0.115 | ( | 0.344) | 0.267 |
| 113 | 9.42 | 0.67 | 0.382 | | 0.114 | ( | 0.344) | 0.268 |
| 114 | 9.50 | 0.67 | 0.382 | | 0.114 | ( | 0.344) | 0.268 |
| 115 | 9.58 | 0.70 | 0.401 | | 0.113 | ( | 0.361) | 0.288 |
| 116 | 9.67 | 0.70 | 0.401 | | 0.113 | ( | 0.361) | 0.289 |
| 117 | 9.75 | 0.70 | 0.401 | | 0.112 | ( | 0.361) | 0.289 |
| 118 | 9.83 | 0.73 | 0.421 | | 0.112 | ( | 0.379) | 0.309 |
| 119 | 9.92 | 0.73 | 0.421 | | 0.111 | ( | 0.379) | 0.309 |
| 120 | 10.00 | 0.73 | 0.421 | | 0.111 | ( | 0.379) | 0.310 |
| 121 | 10.08 | 0.50 | 0.287 | | 0.110 | ( | 0.258) | 0.177 |
| 122 | 10.17 | 0.50 | 0.287 | | 0.110 | ( | 0.258) | 0.177 |
| 123 | 10.25 | 0.50 | 0.287 | | 0.109 | ( | 0.258) | 0.178 |
| 124 | 10.33 | 0.50 | 0.287 | | 0.108 | ( | 0.258) | 0.178 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 125 | 10.42 | 0.50 | 0.287 | 0.108 | ( 0.258) | 0.179 |
| 126 | 10.50 | 0.50 | 0.287 | 0.107 | ( 0.258) | 0.179 |
| 127 | 10.58 | 0.67 | 0.382 | 0.107 | ( 0.344) | 0.275 |
| 128 | 10.67 | 0.67 | 0.382 | 0.106 | ( 0.344) | 0.276 |
| 129 | 10.75 | 0.67 | 0.382 | 0.106 | ( 0.344) | 0.276 |
| 130 | 10.83 | 0.67 | 0.382 | 0.105 | ( 0.344) | 0.277 |
| 131 | 10.92 | 0.67 | 0.382 | 0.105 | ( 0.344) | 0.278 |
| 132 | 11.00 | 0.67 | 0.382 | 0.104 | ( 0.344) | 0.278 |
| 133 | 11.08 | 0.63 | 0.363 | 0.104 | ( 0.327) | 0.259 |
| 134 | 11.17 | 0.63 | 0.363 | 0.103 | ( 0.327) | 0.260 |
| 135 | 11.25 | 0.63 | 0.363 | 0.103 | ( 0.327) | 0.260 |
| 136 | 11.33 | 0.63 | 0.363 | 0.102 | ( 0.327) | 0.261 |
| 137 | 11.42 | 0.63 | 0.363 | 0.102 | ( 0.327) | 0.261 |
| 138 | 11.50 | 0.63 | 0.363 | 0.101 | ( 0.327) | 0.262 |
| 139 | 11.58 | 0.57 | 0.325 | 0.101 | ( 0.293) | 0.224 |
| 140 | 11.67 | 0.57 | 0.325 | 0.100 | ( 0.293) | 0.225 |
| 141 | 11.75 | 0.57 | 0.325 | 0.100 | ( 0.293) | 0.225 |
| 142 | 11.83 | 0.60 | 0.344 | 0.099 | ( 0.310) | 0.245 |
| 143 | 11.92 | 0.60 | 0.344 | 0.099 | ( 0.310) | 0.245 |
| 144 | 12.00 | 0.60 | 0.344 | 0.098 | ( 0.310) | 0.246 |
| 145 | 12.08 | 0.83 | 0.478 | 0.098 | ( 0.430) | 0.380 |
| 146 | 12.17 | 0.83 | 0.478 | 0.097 | ( 0.430) | 0.381 |
| 147 | 12.25 | 0.83 | 0.478 | 0.097 | ( 0.430) | 0.381 |
| 148 | 12.33 | 0.87 | 0.497 | 0.096 | ( 0.447) | 0.401 |
| 149 | 12.42 | 0.87 | 0.497 | 0.096 | ( 0.447) | 0.401 |
| 150 | 12.50 | 0.87 | 0.497 | 0.095 | ( 0.447) | 0.402 |
| 151 | 12.58 | 0.93 | 0.535 | 0.095 | ( 0.482) | 0.440 |
| 152 | 12.67 | 0.93 | 0.535 | 0.094 | ( 0.482) | 0.441 |
| 153 | 12.75 | 0.93 | 0.535 | 0.094 | ( 0.482) | 0.441 |
| 154 | 12.83 | 0.97 | 0.554 | 0.093 | ( 0.499) | 0.461 |
| 155 | 12.92 | 0.97 | 0.554 | 0.093 | ( 0.499) | 0.461 |
| 156 | 13.00 | 0.97 | 0.554 | 0.093 | ( 0.499) | 0.462 |
| 157 | 13.08 | 1.13 | 0.650 | 0.092 | ( 0.585) | 0.558 |
| 158 | 13.17 | 1.13 | 0.650 | 0.092 | ( 0.585) | 0.558 |
| 159 | 13.25 | 1.13 | 0.650 | 0.091 | ( 0.585) | 0.559 |
| 160 | 13.33 | 1.13 | 0.650 | 0.091 | ( 0.585) | 0.559 |
| 161 | 13.42 | 1.13 | 0.650 | 0.090 | ( 0.585) | 0.560 |
| 162 | 13.50 | 1.13 | 0.650 | 0.090 | ( 0.585) | 0.560 |
| 163 | 13.58 | 0.77 | 0.440 | 0.089 | ( 0.396) | 0.350 |
| 164 | 13.67 | 0.77 | 0.440 | 0.089 | ( 0.396) | 0.351 |
| 165 | 13.75 | 0.77 | 0.440 | 0.088 | ( 0.396) | 0.351 |
| 166 | 13.83 | 0.77 | 0.440 | 0.088 | ( 0.396) | 0.352 |
| 167 | 13.92 | 0.77 | 0.440 | 0.087 | ( 0.396) | 0.352 |
| 168 | 14.00 | 0.77 | 0.440 | 0.087 | ( 0.396) | 0.353 |
| 169 | 14.08 | 0.90 | 0.516 | 0.087 | ( 0.465) | 0.430 |
| 170 | 14.17 | 0.90 | 0.516 | 0.086 | ( 0.465) | 0.430 |
| 171 | 14.25 | 0.90 | 0.516 | 0.086 | ( 0.465) | 0.430 |
| 172 | 14.33 | 0.87 | 0.497 | 0.085 | ( 0.447) | 0.412 |
| 173 | 14.42 | 0.87 | 0.497 | 0.085 | ( 0.447) | 0.412 |
| 174 | 14.50 | 0.87 | 0.497 | 0.084 | ( 0.447) | 0.413 |
| 175 | 14.58 | 0.87 | 0.497 | 0.084 | ( 0.447) | 0.413 |
| 176 | 14.67 | 0.87 | 0.497 | 0.084 | ( 0.447) | 0.414 |
| 177 | 14.75 | 0.87 | 0.497 | 0.083 | ( 0.447) | 0.414 |
| 178 | 14.83 | 0.83 | 0.478 | 0.083 | ( 0.430) | 0.395 |
| 179 | 14.92 | 0.83 | 0.478 | 0.082 | ( 0.430) | 0.396 |
| 180 | 15.00 | 0.83 | 0.478 | 0.082 | ( 0.430) | 0.396 |
| 181 | 15.08 | 0.80 | 0.459 | 0.081 | ( 0.413) | 0.377 |
| 182 | 15.17 | 0.80 | 0.459 | 0.081 | ( 0.413) | 0.378 |
| 183 | 15.25 | 0.80 | 0.459 | 0.081 | ( 0.413) | 0.378 |
| 184 | 15.33 | 0.77 | 0.440 | 0.080 | ( 0.396) | 0.360 |
| 185 | 15.42 | 0.77 | 0.440 | 0.080 | ( 0.396) | 0.360 |
| 186 | 15.50 | 0.77 | 0.440 | 0.079 | ( 0.396) | 0.360 |
| 187 | 15.58 | 0.63 | 0.363 | 0.079 | ( 0.327) | 0.284 |
| 188 | 15.67 | 0.63 | 0.363 | 0.079 | ( 0.327) | 0.285 |
| 189 | 15.75 | 0.63 | 0.363 | 0.078 | ( 0.327) | 0.285 |
| 190 | 15.83 | 0.63 | 0.363 | 0.078 | ( 0.327) | 0.286 |
| 191 | 15.92 | 0.63 | 0.363 | 0.077 | ( 0.327) | 0.286 |
| 192 | 16.00 | 0.63 | 0.363 | 0.077 | ( 0.327) | 0.286 |
| 193 | 16.08 | 0.13 | 0.076 | ( 0.077) | 0.069 | 0.008 |
| 194 | 16.17 | 0.13 | 0.076 | ( 0.076) | 0.069 | 0.008 |
| 195 | 16.25 | 0.13 | 0.076 | ( 0.076) | 0.069 | 0.008 |
| 196 | 16.33 | 0.13 | 0.076 | ( 0.075) | 0.069 | 0.008 |
| 197 | 16.42 | 0.13 | 0.076 | ( 0.075) | 0.069 | 0.008 |
| 198 | 16.50 | 0.13 | 0.076 | ( 0.075) | 0.069 | 0.008 |
| 199 | 16.58 | 0.10 | 0.057 | ( 0.074) | 0.052 | 0.006 |
| 200 | 16.67 | 0.10 | 0.057 | ( 0.074) | 0.052 | 0.006 |
| 201 | 16.75 | 0.10 | 0.057 | ( 0.073) | 0.052 | 0.006 |
| 202 | 16.83 | 0.10 | 0.057 | ( 0.073) | 0.052 | 0.006 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 203 | 16.92 | 0.10 | 0.057 | ( | 0.073) | 0.052 | | 0.006 |
| 204 | 17.00 | 0.10 | 0.057 | ( | 0.072) | 0.052 | | 0.006 |
| 205 | 17.08 | 0.17 | 0.096 | | 0.072 | ( 0.086) | | 0.024 |
| 206 | 17.17 | 0.17 | 0.096 | | 0.072 | ( 0.086) | | 0.024 |
| 207 | 17.25 | 0.17 | 0.096 | | 0.071 | ( 0.086) | | 0.024 |
| 208 | 17.33 | 0.17 | 0.096 | | 0.071 | ( 0.086) | | 0.025 |
| 209 | 17.42 | 0.17 | 0.096 | | 0.071 | ( 0.086) | | 0.025 |
| 210 | 17.50 | 0.17 | 0.096 | | 0.070 | ( 0.086) | | 0.025 |
| 211 | 17.58 | 0.17 | 0.096 | | 0.070 | ( 0.086) | | 0.026 |
| 212 | 17.67 | 0.17 | 0.096 | | 0.070 | ( 0.086) | | 0.026 |
| 213 | 17.75 | 0.17 | 0.096 | | 0.069 | ( 0.086) | | 0.026 |
| 214 | 17.83 | 0.13 | 0.076 | | 0.069 | ( 0.069) | | 0.008 |
| 215 | 17.92 | 0.13 | 0.076 | | 0.068 | ( 0.069) | | 0.008 |
| 216 | 18.00 | 0.13 | 0.076 | | 0.068 | ( 0.069) | | 0.008 |
| 217 | 18.08 | 0.13 | 0.076 | | 0.068 | ( 0.069) | | 0.009 |
| 218 | 18.17 | 0.13 | 0.076 | | 0.067 | ( 0.069) | | 0.009 |
| 219 | 18.25 | 0.13 | 0.076 | | 0.067 | ( 0.069) | | 0.009 |
| 220 | 18.33 | 0.13 | 0.076 | | 0.067 | ( 0.069) | | 0.010 |
| 221 | 18.42 | 0.13 | 0.076 | | 0.066 | ( 0.069) | | 0.010 |
| 222 | 18.50 | 0.13 | 0.076 | | 0.066 | ( 0.069) | | 0.010 |
| 223 | 18.58 | 0.10 | 0.057 | ( | 0.066) | 0.052 | | 0.006 |
| 224 | 18.67 | 0.10 | 0.057 | ( | 0.066) | 0.052 | | 0.006 |
| 225 | 18.75 | 0.10 | 0.057 | ( | 0.065) | 0.052 | | 0.006 |
| 226 | 18.83 | 0.07 | 0.038 | ( | 0.065) | 0.034 | | 0.004 |
| 227 | 18.92 | 0.07 | 0.038 | ( | 0.065) | 0.034 | | 0.004 |
| 228 | 19.00 | 0.07 | 0.038 | ( | 0.064) | 0.034 | | 0.004 |
| 229 | 19.08 | 0.10 | 0.057 | ( | 0.064) | 0.052 | | 0.006 |
| 230 | 19.17 | 0.10 | 0.057 | ( | 0.064) | 0.052 | | 0.006 |
| 231 | 19.25 | 0.10 | 0.057 | ( | 0.063) | 0.052 | | 0.006 |
| 232 | 19.33 | 0.13 | 0.076 | | 0.063 | ( 0.069) | | 0.013 |
| 233 | 19.42 | 0.13 | 0.076 | | 0.063 | ( 0.069) | | 0.014 |
| 234 | 19.50 | 0.13 | 0.076 | | 0.063 | ( 0.069) | | 0.014 |
| 235 | 19.58 | 0.10 | 0.057 | ( | 0.062) | 0.052 | | 0.006 |
| 236 | 19.67 | 0.10 | 0.057 | ( | 0.062) | 0.052 | | 0.006 |
| 237 | 19.75 | 0.10 | 0.057 | ( | 0.062) | 0.052 | | 0.006 |
| 238 | 19.83 | 0.07 | 0.038 | ( | 0.061) | 0.034 | | 0.004 |
| 239 | 19.92 | 0.07 | 0.038 | ( | 0.061) | 0.034 | | 0.004 |
| 240 | 20.00 | 0.07 | 0.038 | ( | 0.061) | 0.034 | | 0.004 |
| 241 | 20.08 | 0.10 | 0.057 | ( | 0.061) | 0.052 | | 0.006 |
| 242 | 20.17 | 0.10 | 0.057 | ( | 0.060) | 0.052 | | 0.006 |
| 243 | 20.25 | 0.10 | 0.057 | ( | 0.060) | 0.052 | | 0.006 |
| 244 | 20.33 | 0.10 | 0.057 | ( | 0.060) | 0.052 | | 0.006 |
| 245 | 20.42 | 0.10 | 0.057 | ( | 0.060) | 0.052 | | 0.006 |
| 246 | 20.50 | 0.10 | 0.057 | ( | 0.059) | 0.052 | | 0.006 |
| 247 | 20.58 | 0.10 | 0.057 | ( | 0.059) | 0.052 | | 0.006 |
| 248 | 20.67 | 0.10 | 0.057 | ( | 0.059) | 0.052 | | 0.006 |
| 249 | 20.75 | 0.10 | 0.057 | ( | 0.059) | 0.052 | | 0.006 |
| 250 | 20.83 | 0.07 | 0.038 | ( | 0.058) | 0.034 | | 0.004 |
| 251 | 20.92 | 0.07 | 0.038 | ( | 0.058) | 0.034 | | 0.004 |
| 252 | 21.00 | 0.07 | 0.038 | ( | 0.058) | 0.034 | | 0.004 |
| 253 | 21.08 | 0.10 | 0.057 | ( | 0.058) | 0.052 | | 0.006 |
| 254 | 21.17 | 0.10 | 0.057 | ( | 0.057) | 0.052 | | 0.006 |
| 255 | 21.25 | 0.10 | 0.057 | ( | 0.057) | 0.052 | | 0.006 |
| 256 | 21.33 | 0.07 | 0.038 | ( | 0.057) | 0.034 | | 0.004 |
| 257 | 21.42 | 0.07 | 0.038 | ( | 0.057) | 0.034 | | 0.004 |
| 258 | 21.50 | 0.07 | 0.038 | ( | 0.056) | 0.034 | | 0.004 |
| 259 | 21.58 | 0.10 | 0.057 | ( | 0.056) | 0.052 | | 0.006 |
| 260 | 21.67 | 0.10 | 0.057 | ( | 0.056) | 0.052 | | 0.006 |
| 261 | 21.75 | 0.10 | 0.057 | ( | 0.056) | 0.052 | | 0.006 |
| 262 | 21.83 | 0.07 | 0.038 | ( | 0.056) | 0.034 | | 0.004 |
| 263 | 21.92 | 0.07 | 0.038 | ( | 0.055) | 0.034 | | 0.004 |
| 264 | 22.00 | 0.07 | 0.038 | ( | 0.055) | 0.034 | | 0.004 |
| 265 | 22.08 | 0.10 | 0.057 | ( | 0.055) | 0.052 | | 0.006 |
| 266 | 22.17 | 0.10 | 0.057 | ( | 0.055) | 0.052 | | 0.006 |
| 267 | 22.25 | 0.10 | 0.057 | ( | 0.055) | 0.052 | | 0.006 |
| 268 | 22.33 | 0.07 | 0.038 | ( | 0.055) | 0.034 | | 0.004 |
| 269 | 22.42 | 0.07 | 0.038 | ( | 0.054) | 0.034 | | 0.004 |
| 270 | 22.50 | 0.07 | 0.038 | ( | 0.054) | 0.034 | | 0.004 |
| 271 | 22.58 | 0.07 | 0.038 | ( | 0.054) | 0.034 | | 0.004 |
| 272 | 22.67 | 0.07 | 0.038 | ( | 0.054) | 0.034 | | 0.004 |
| 273 | 22.75 | 0.07 | 0.038 | ( | 0.054) | 0.034 | | 0.004 |
| 274 | 22.83 | 0.07 | 0.038 | ( | 0.054) | 0.034 | | 0.004 |
| 275 | 22.92 | 0.07 | 0.038 | ( | 0.054) | 0.034 | | 0.004 |
| 276 | 23.00 | 0.07 | 0.038 | ( | 0.053) | 0.034 | | 0.004 |
| 277 | 23.08 | 0.07 | 0.038 | ( | 0.053) | 0.034 | | 0.004 |
| 278 | 23.17 | 0.07 | 0.038 | ( | 0.053) | 0.034 | | 0.004 |
| 279 | 23.25 | 0.07 | 0.038 | ( | 0.053) | 0.034 | | 0.004 |
| 280 | 23.33 | 0.07 | 0.038 | ( | 0.053) | 0.034 | | 0.004 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 281 | 23.42 | 0.07 | 0.038 | ( | 0.053) | 0.034 | 0.004 |
| 282 | 23.50 | 0.07 | 0.038 | ( | 0.053) | 0.034 | 0.004 |
| 283 | 23.58 | 0.07 | 0.038 | ( | 0.053) | 0.034 | 0.004 |
| 284 | 23.67 | 0.07 | 0.038 | ( | 0.053) | 0.034 | 0.004 |
| 285 | 23.75 | 0.07 | 0.038 | ( | 0.053) | 0.034 | 0.004 |
| 286 | 23.83 | 0.07 | 0.038 | ( | 0.052) | 0.034 | 0.004 |
| 287 | 23.92 | 0.07 | 0.038 | ( | 0.052) | 0.034 | 0.004 |
| 288 | 24.00 | 0.07 | 0.038 | ( | 0.052) | 0.034 | 0.004 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 33.7

Flood volume = Effective rainfall 2.81(In)
times area 62.0(Ac.)/[(In)/(Ft.)] = 14.5(Ac.Ft)
Total soil loss = 1.97(In)
Total soil loss = 10.183(Ac.Ft)
Total rainfall = 4.78(In)
Flood volume = 632100.6 Cubic Feet
Total soil loss = 443555.9 Cubic Feet

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Peak flow rate of this hydrograph = 34.829(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

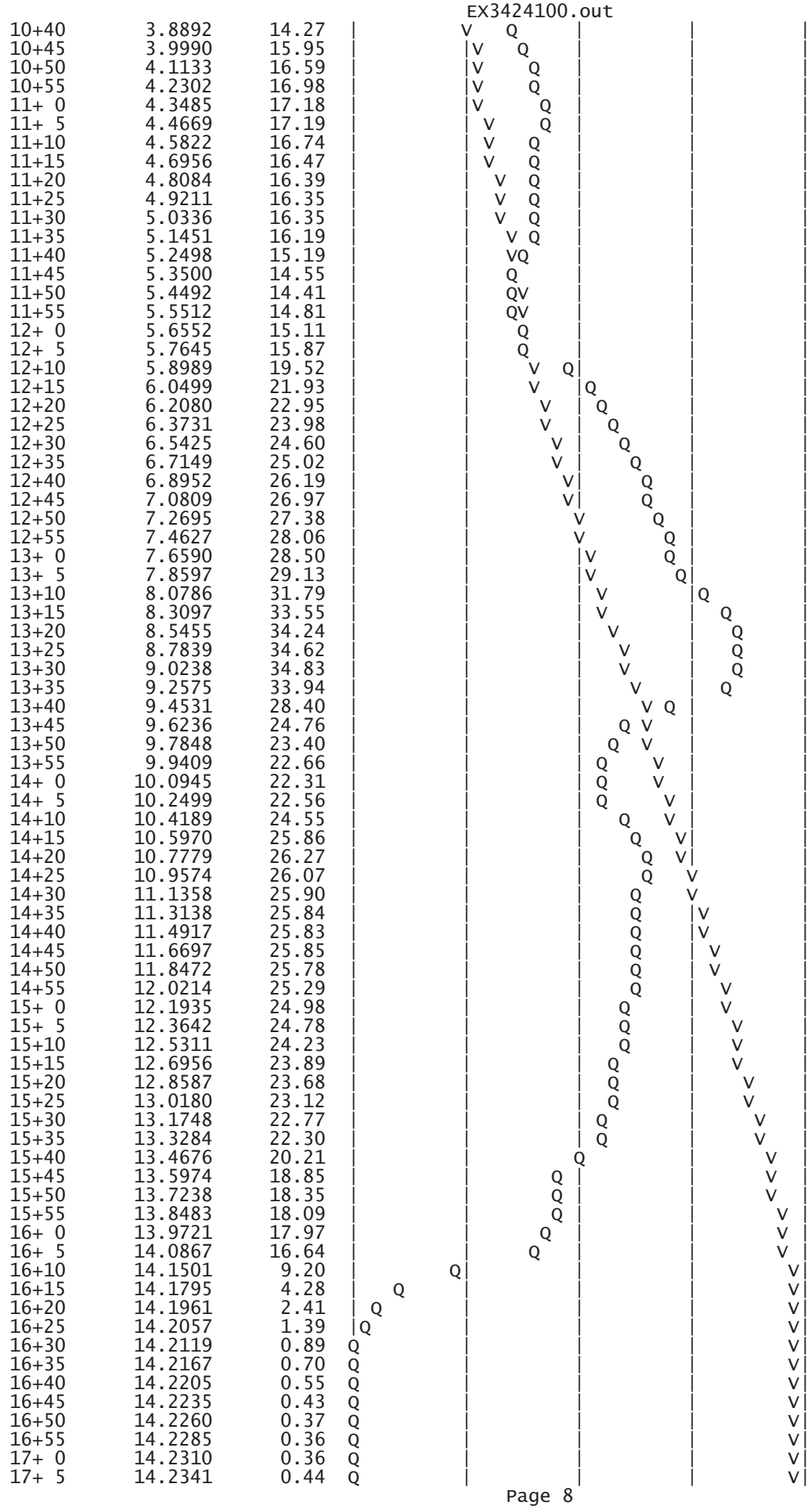
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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 10.0 | 20.0 | 30.0 | 40.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0001 | 0.02 | Q | | | | |
| 0+10 | 0.0009 | 0.12 | Q | | | | |
| 0+15 | 0.0022 | 0.19 | Q | | | | |
| 0+20 | 0.0038 | 0.22 | Q | | | | |
| 0+25 | 0.0057 | 0.29 | Q | | | | |
| 0+30 | 0.0080 | 0.33 | Q | | | | |
| 0+35 | 0.0103 | 0.34 | Q | | | | |
| 0+40 | 0.0128 | 0.35 | Q | | | | |
| 0+45 | 0.0152 | 0.36 | Q | | | | |
| 0+50 | 0.0177 | 0.37 | Q | | | | |
| 0+55 | 0.0206 | 0.42 | Q | | | | |
| 1+ 0 | 0.0237 | 0.45 | Q | | | | |
| 1+ 5 | 0.0268 | 0.46 | Q | | | | |
| 1+10 | 0.0297 | 0.41 | Q | | | | |
| 1+15 | 0.0323 | 0.38 | Q | | | | |
| 1+20 | 0.0349 | 0.37 | Q | | | | |
| 1+25 | 0.0374 | 0.36 | Q | | | | |
| 1+30 | 0.0399 | 0.36 | Q | | | | |
| 1+35 | 0.0423 | 0.36 | Q | | | | |
| 1+40 | 0.0448 | 0.36 | Q | | | | |
| 1+45 | 0.0473 | 0.36 | Q | | | | |
| 1+50 | 0.0498 | 0.37 | Q | | | | |
| 1+55 | 0.0527 | 0.42 | Q | | | | |
| 2+ 0 | 0.0558 | 0.45 | Q | | | | |
| 2+ 5 | 0.0590 | 0.46 | Q | | | | |
| 2+10 | 0.0623 | 0.47 | Q | | | | |
| 2+15 | 0.0655 | 0.48 | Q | | | | |
| 2+20 | 0.0688 | 0.48 | Q | | | | |
| 2+25 | 0.0721 | 0.48 | Q | | | | |
| 2+30 | 0.0754 | 0.48 | Q | | | | |
| 2+35 | 0.0787 | 0.49 | Q | | | | |
| 2+40 | 0.0824 | 0.54 | Q | | | | |
| 2+45 | 0.0864 | 0.57 | Q | | | | |
| 2+50 | 0.0904 | 0.58 | Q | | | | |
| 2+55 | 0.0945 | 0.59 | Q | | | | |
| 3+ 0 | 0.0986 | 0.59 | Q | | | | |
| 3+ 5 | 0.1027 | 0.60 | Q | | | | |
| 3+10 | 0.1068 | 0.60 | Q | | | | |
| 3+15 | 0.1109 | 0.60 | Q | | | | |
| 3+20 | 0.1150 | 0.60 | Q | | | | |
| 3+25 | 0.1191 | 0.60 | Q | | | | |
| 3+30 | 0.1232 | 0.60 | Q | | | | |
| 3+35 | 0.1274 | 0.60 | Q | | | | |
| 3+40 | 0.1315 | 0.60 | Q | | | | |
| 3+45 | 0.1356 | 0.60 | Q | | | | |
| 3+50 | 0.1398 | 0.61 | Q | | | | |
| 3+55 | 0.1443 | 0.66 | Q | | | | |
| 4+ 0 | 0.1491 | 0.69 | Q | | | | |
| 4+ 5 | 0.1539 | 0.70 | Q | | | | |

```
 4+10       0.1588      0.71  Q          |          |          |          |
 4+15       0.1637      0.71  Q          |          |          |          |
 4+20       0.1687      0.72  Q          |          |          |          |
 4+25       0.1741      0.78  Q          |          |          |          |
 4+30       0.1796      0.81  Q          |          |          |          |
 4+35       0.1853      0.82  Q          |          |          |          |
 4+40       0.1910      0.83  Q          |          |          |          |
 4+45       0.1968      0.83  Q          |          |          |          |
 4+50       0.2026      0.84  Q          |          |          |          |
 4+55       0.2087      0.90  Q          |          |          |          |
 5+ 0       0.2152      0.93  Q          |          |          |          |
 5+ 5       0.2215      0.93  Q          |          |          |          |
 5+10       0.2272      0.83  Q          |          |          |          |
 5+15       0.2325      0.77  Q          |          |          |          |
 5+20       0.2377      0.75  Q          |          |          |          |
 5+25       0.2431      0.79  Q          |          |          |          |
 5+30       0.2487      0.82  Q          |          |          |          |
 5+35       0.2545      0.84  Q          |          |          |          |
 5+40       0.2606      0.89  Q          |          |          |          |
 5+45       0.2670      0.93  Q          |          |          |          |
 5+50       0.2735      0.94  Q          |          |          |          |
 5+55       0.2800      0.95  Q          |          |          |          |
 6+ 0       0.2866      0.95  Q          |          |          |          |
 6+ 5       0.2938      1.04  VQ         |          |          |          |
 6+10       0.3045      1.56  VQ         |          |          |          |
 6+15       0.3177      1.91  VQ         |          |          |          |
 6+20       0.3319      2.07  V Q        |          |          |          |
 6+25       0.3469      2.17  V Q        |          |          |          |
 6+30       0.3624      2.24  V Q        |          |          |          |
 6+35       0.3788      2.38  |VQ        |          |          |          |
 6+40       0.3990      2.94  |VQ        |          |          |          |
 6+45       0.4218      3.32  |V Q       |          |          |          |
 6+50       0.4458      3.48  |V Q       |          |          |          |
 6+55       0.4706      3.59  |V Q       |          |          |          |
 7+ 0       0.4958      3.66  |V Q       |          |          |          |
 7+ 5       0.5214      3.71  |V Q       |          |          |          |
 7+10       0.5473      3.76  |V Q       |          |          |          |
 7+15       0.5734      3.80  |V Q       |          |          |          |
 7+20       0.6005      3.93  |V Q       |          |          |          |
 7+25       0.6313      4.48  |V  Q      |          |          |          |
 7+30       0.6647      4.85  |V  Q      |          |          |          |
 7+35       0.6999      5.10  |V   Q     |          |          |          |
 7+40       0.7393      5.72  | V  Q     |          |          |          |
 7+45       0.7815      6.13  | V   Q    |          |          |          |
 7+50       0.8255      6.39  | V   Q    |          |          |          |
 7+55       0.8738      7.01  | V    Q   |          |          |          |
 8+ 0       0.9250      7.43  | V    Q   |          |          |          |
 8+ 5       0.9786      7.79  | V    Q   |          |          |          |
 8+10       1.0400      8.92  | V     Q  |          |          |          |
 8+15       1.1066      9.67  |  V     Q|          |          |          |
 8+20       1.1753      9.97  |  V     Q|          |          |          |
 8+25       1.2452     10.16  |  V      Q          |          |          |
 8+30       1.3159     10.27  |  V      Q          |          |          |
 8+35       1.3877     10.42  |  V      Q          |          |          |
 8+40       1.4633     10.98  |   V     Q          |          |          |
 8+45       1.5415     11.36  |   V     |Q         |          |          |
 8+50       1.6215     11.62  |   V     |Q         |          |          |
 8+55       1.7058     12.23  |   V     | Q        |          |          |
 9+ 0       1.7928     12.64  |   V     | Q        |          |          |
 9+ 5       1.8823     12.99  |    V    | Q        |          |          |
 9+10       1.9796     14.12  |    V    |   Q      |          |          |
 9+15       2.0820     14.87  |    V    |   Q      |          |          |
 9+20       2.1871     15.27  |     V   |    Q     |          |          |
 9+25       2.2970     15.96  |     V   |    Q     |          |          |
 9+30       2.4100     16.40  |     V   |     Q    |          |          |
 9+35       2.5248     16.68  |     V   |     Q    |          |          |
 9+40       2.6440     17.31  |      V  |      Q   |          |          |
 9+45       2.7661     17.72  |      V  |      Q   |          |          |
 9+50       2.8900     17.99  |      V  |      Q   |          |          |
 9+55       3.0182     18.61  |       V |       Q  |          |          |
10+ 0       3.1492     19.02  |       V |        Q|          |          |
10+ 5       3.2772     18.58  |        V|       Q  |          |          |
10+10       3.3813     15.12  |        V|    Q     |          |          |
10+15       3.4698     12.84  |        V| Q        |          |          |
10+20       3.5524     12.00  |        V|Q         |          |          |
10+25       3.6319     11.55  |         VQ         |          |          |
10+30       3.7100     11.34  |         VQ         |          |          |
10+35       3.7909     11.74  |         VQ         |          |          |
```



| | | | |
|---|---|---|---|
| 10+40 | 3.8892 | 14.27 | |
| 10+45 | 3.9990 | 15.95 | |
| 10+50 | 4.1133 | 16.59 | |
| 10+55 | 4.2302 | 16.98 | |
| 11+ 0 | 4.3485 | 17.18 | |
| 11+ 5 | 4.4669 | 17.19 | |
| 11+10 | 4.5822 | 16.74 | |
| 11+15 | 4.6956 | 16.47 | |
| 11+20 | 4.8084 | 16.39 | |
| 11+25 | 4.9211 | 16.35 | |
| 11+30 | 5.0336 | 16.35 | |
| 11+35 | 5.1451 | 16.19 | |
| 11+40 | 5.2498 | 15.19 | |
| 11+45 | 5.3500 | 14.55 | |
| 11+50 | 5.4492 | 14.41 | |
| 11+55 | 5.5512 | 14.81 | |
| 12+ 0 | 5.6552 | 15.11 | |
| 12+ 5 | 5.7645 | 15.87 | |
| 12+10 | 5.8989 | 19.52 | |
| 12+15 | 6.0499 | 21.93 | |
| 12+20 | 6.2080 | 22.95 | |
| 12+25 | 6.3731 | 23.98 | |
| 12+30 | 6.5425 | 24.60 | |
| 12+35 | 6.7149 | 25.02 | |
| 12+40 | 6.8952 | 26.19 | |
| 12+45 | 7.0809 | 26.97 | |
| 12+50 | 7.2695 | 27.38 | |
| 12+55 | 7.4627 | 28.06 | |
| 13+ 0 | 7.6590 | 28.50 | |
| 13+ 5 | 7.8597 | 29.13 | |
| 13+10 | 8.0786 | 31.79 | |
| 13+15 | 8.3097 | 33.55 | |
| 13+20 | 8.5455 | 34.24 | |
| 13+25 | 8.7839 | 34.62 | |
| 13+30 | 9.0238 | 34.83 | |
| 13+35 | 9.2575 | 33.94 | |
| 13+40 | 9.4531 | 28.40 | |
| 13+45 | 9.6236 | 24.76 | |
| 13+50 | 9.7848 | 23.40 | |
| 13+55 | 9.9409 | 22.66 | |
| 14+ 0 | 10.0945 | 22.31 | |
| 14+ 5 | 10.2499 | 22.56 | |
| 14+10 | 10.4189 | 24.55 | |
| 14+15 | 10.5970 | 25.86 | |
| 14+20 | 10.7779 | 26.27 | |
| 14+25 | 10.9574 | 26.07 | |
| 14+30 | 11.1358 | 25.90 | |
| 14+35 | 11.3138 | 25.84 | |
| 14+40 | 11.4917 | 25.83 | |
| 14+45 | 11.6697 | 25.85 | |
| 14+50 | 11.8472 | 25.78 | |
| 14+55 | 12.0214 | 25.29 | |
| 15+ 0 | 12.1935 | 24.98 | |
| 15+ 5 | 12.3642 | 24.78 | |
| 15+10 | 12.5311 | 24.23 | |
| 15+15 | 12.6956 | 23.89 | |
| 15+20 | 12.8587 | 23.68 | |
| 15+25 | 13.0180 | 23.12 | |
| 15+30 | 13.1748 | 22.77 | |
| 15+35 | 13.3284 | 22.30 | |
| 15+40 | 13.4676 | 20.21 | |
| 15+45 | 13.5974 | 18.85 | |
| 15+50 | 13.7238 | 18.35 | |
| 15+55 | 13.8483 | 18.09 | |
| 16+ 0 | 13.9721 | 17.97 | |
| 16+ 5 | 14.0867 | 16.64 | |
| 16+10 | 14.1501 | 9.20 | |
| 16+15 | 14.1795 | 4.28 | |
| 16+20 | 14.1961 | 2.41 | |
| 16+25 | 14.2057 | 1.39 | |
| 16+30 | 14.2119 | 0.89 | |
| 16+35 | 14.2167 | 0.70 | |
| 16+40 | 14.2205 | 0.55 | |
| 16+45 | 14.2235 | 0.43 | |
| 16+50 | 14.2260 | 0.37 | |
| 16+55 | 14.2285 | 0.36 | |
| 17+ 0 | 14.2310 | 0.36 | |
| 17+ 5 | 14.2341 | 0.44 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+10 | 14.2404 | 0.92 | Q | \| | \| | \| | V\| |
| 17+15 | 14.2490 | 1.25 | \|Q | \| | \| | \| | V\| |
| 17+20 | 14.2585 | 1.38 | \|Q | \| | \| | \| | V\| |
| 17+25 | 14.2686 | 1.47 | \|Q | \| | \| | \| | V\| |
| 17+30 | 14.2791 | 1.52 | \|Q | \| | \| | \| | V\| |
| 17+35 | 14.2898 | 1.55 | \|Q | \| | \| | \| | V\| |
| 17+40 | 14.3007 | 1.58 | \|Q | \| | \| | \| | V\| |
| 17+45 | 14.3117 | 1.61 | \|Q | \| | \| | \| | V\| |
| 17+50 | 14.3224 | 1.54 | \|Q | \| | \| | \| | V\| |
| 17+55 | 14.3297 | 1.06 | \|Q | \| | \| | \| | V\| |
| 18+ 0 | 14.3348 | 0.74 | Q | \| | \| | \| | V\| |
| 18+ 5 | 14.3391 | 0.64 | Q | \| | \| | \| | V\| |
| 18+10 | 14.3432 | 0.59 | Q | \| | \| | \| | V\| |
| 18+15 | 14.3471 | 0.57 | Q | \| | \| | \| | V\| |
| 18+20 | 14.3511 | 0.58 | Q | \| | \| | \| | V\| |
| 18+25 | 14.3552 | 0.60 | Q | \| | \| | \| | V\| |
| 18+30 | 14.3594 | 0.61 | Q | \| | \| | \| | V\| |
| 18+35 | 14.3636 | 0.60 | Q | \| | \| | \| | V\| |
| 18+40 | 14.3670 | 0.49 | Q | \| | \| | \| | V\| |
| 18+45 | 14.3699 | 0.42 | Q | \| | \| | \| | V\| |
| 18+50 | 14.3725 | 0.38 | Q | \| | \| | \| | V\| |
| 18+55 | 14.3746 | 0.31 | Q | \| | \| | \| | V\| |
| 19+ 0 | 14.3765 | 0.27 | Q | \| | \| | \| | V\| |
| 19+ 5 | 14.3783 | 0.26 | Q | \| | \| | \| | V\| |
| 19+10 | 14.3804 | 0.31 | Q | \| | \| | \| | V\| |
| 19+15 | 14.3828 | 0.34 | Q | \| | \| | \| | V\| |
| 19+20 | 14.3854 | 0.38 | Q | \| | \| | \| | V\| |
| 19+25 | 14.3895 | 0.59 | Q | \| | \| | \| | V\| |
| 19+30 | 14.3946 | 0.74 | Q | \| | \| | \| | V\| |
| 19+35 | 14.3999 | 0.77 | Q | \| | \| | \| | V\| |
| 19+40 | 14.4039 | 0.58 | Q | \| | \| | \| | V\| |
| 19+45 | 14.4070 | 0.46 | Q | \| | \| | \| | V\| |
| 19+50 | 14.4098 | 0.40 | Q | \| | \| | \| | V\| |
| 19+55 | 14.4120 | 0.32 | Q | \| | \| | \| | V\| |
| 20+ 0 | 14.4139 | 0.28 | Q | \| | \| | \| | V\| |
| 20+ 5 | 14.4157 | 0.27 | Q | \| | \| | \| | V\| |
| 20+10 | 14.4179 | 0.31 | Q | \| | \| | \| | V\| |
| 20+15 | 14.4202 | 0.34 | Q | \| | \| | \| | V\| |
| 20+20 | 14.4226 | 0.35 | Q | \| | \| | \| | V\| |
| 20+25 | 14.4250 | 0.35 | Q | \| | \| | \| | V\| |
| 20+30 | 14.4275 | 0.36 | Q | \| | \| | \| | V\| |
| 20+35 | 14.4299 | 0.36 | Q | \| | \| | \| | V\| |
| 20+40 | 14.4324 | 0.36 | Q | \| | \| | \| | V\| |
| 20+45 | 14.4348 | 0.36 | Q | \| | \| | \| | V\| |
| 20+50 | 14.4373 | 0.35 | Q | \| | \| | \| | V\| |
| 20+55 | 14.4393 | 0.30 | Q | \| | \| | \| | V\| |
| 21+ 0 | 14.4411 | 0.27 | Q | \| | \| | \| | V\| |
| 21+ 5 | 14.4429 | 0.26 | Q | \| | \| | \| | V\| |
| 21+10 | 14.4450 | 0.31 | Q | \| | \| | \| | V\| |
| 21+15 | 14.4473 | 0.34 | Q | \| | \| | \| | V\| |
| 21+20 | 14.4497 | 0.34 | Q | \| | \| | \| | V\| |
| 21+25 | 14.4517 | 0.29 | Q | \| | \| | \| | V\| |
| 21+30 | 14.4535 | 0.26 | Q | \| | \| | \| | V\| |
| 21+35 | 14.4553 | 0.26 | Q | \| | \| | \| | V\| |
| 21+40 | 14.4574 | 0.30 | Q | \| | \| | \| | V\| |
| 21+45 | 14.4597 | 0.34 | Q | \| | \| | \| | V\| |
| 21+50 | 14.4620 | 0.34 | Q | \| | \| | \| | V\| |
| 21+55 | 14.4640 | 0.29 | Q | \| | \| | \| | V\| |
| 22+ 0 | 14.4658 | 0.26 | Q | \| | \| | \| | V\| |
| 22+ 5 | 14.4676 | 0.26 | Q | \| | \| | \| | V\| |
| 22+10 | 14.4697 | 0.30 | Q | \| | \| | \| | V\| |
| 22+15 | 14.4720 | 0.34 | Q | \| | \| | \| | V\| |
| 22+20 | 14.4744 | 0.34 | Q | \| | \| | \| | V\| |
| 22+25 | 14.4764 | 0.29 | Q | \| | \| | \| | V\| |
| 22+30 | 14.4782 | 0.26 | Q | \| | \| | \| | V\| |
| 22+35 | 14.4799 | 0.25 | Q | \| | \| | \| | V\| |
| 22+40 | 14.4816 | 0.24 | Q | \| | \| | \| | V\| |
| 22+45 | 14.4833 | 0.24 | Q | \| | \| | \| | V\| |
| 22+50 | 14.4849 | 0.24 | Q | \| | \| | \| | V\| |
| 22+55 | 14.4866 | 0.24 | Q | \| | \| | \| | V\| |
| 23+ 0 | 14.4882 | 0.24 | Q | \| | \| | \| | V\| |
| 23+ 5 | 14.4899 | 0.24 | Q | \| | \| | \| | V\| |
| 23+10 | 14.4915 | 0.24 | Q | \| | \| | \| | V\| |
| 23+15 | 14.4932 | 0.24 | Q | \| | \| | \| | V\| |
| 23+20 | 14.4948 | 0.24 | Q | \| | \| | \| | V\| |
| 23+25 | 14.4965 | 0.24 | Q | \| | \| | \| | V\| |
| 23+30 | 14.4981 | 0.24 | Q | \| | \| | \| | V\| |
| 23+35 | 14.4998 | 0.24 | Q | \| | \| | \| | V\| |

```
   23+40      14.5014      0.24  Q          |          |          |         V|
   23+45      14.5030      0.24  Q          |          |          |         V|
   23+50      14.5047      0.24  Q          |          |          |         V|
   23+55      14.5063      0.24  Q          |          |          |         V|
   24+ 0      14.5080      0.24  Q          |          |          |         V|
   24+ 5      14.5095      0.22  Q          |          |          |         V|
   24+10      14.5103      0.12  Q          |          |          |         V|
   24+15      14.5107      0.05  Q          |          |          |         V|
   24+20      14.5109      0.03  Q          |          |          |         V|
   24+25      14.5110      0.01  Q          |          |          |         V|
   24+30      14.5110      0.01  Q          |          |          |         V|
   24+35      14.5110      0.00  Q          |          |          |         V|
   24+40      14.5110      0.00  Q          |          |          |         V|
   24+45      14.5110      0.00  Q          |          |          |          V
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```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX351100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 35
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 43.00(Ac.) = 0.067 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 43.00(Ac.) = 0.067 Sq. Mi.
Length along longest watercourse = 2184.00(Ft.)
Length along longest watercourse measured to centroid = 1169.00(Ft.)
Length along longest watercourse = 0.414 Mi.
Length along longest watercourse measured to centroid = 0.221 Mi.
Difference in elevation = 298.00(Ft.)
Slope along watercourse = 720.4396 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.097 Hr.
Lag time = 5.82 Min.
25% of lag time = 1.46 Min.
40% of lag time = 2.33 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 43.00 | 0.50 | 21.50 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 43.00 | 1.20 | 51.60 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.96 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 43.000 | 82.60 | 0.000 |

Total Area Entered = 43.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 82.6 | 92.6 | 0.097 | 0.000 | 0.097 | 1.000 | 0.097 |
| | | | | | Sum (F) = | 0.097 |

Area averaged mean soil loss (F) (In/Hr) = 0.097

Minimum soil loss rate ((In/Hr)) = 0.048
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 85.901 | 10.283 | 4.456 |
| 2 | 0.167 | 171.802 | 51.676 | 22.394 |
| 3 | 0.250 | 257.704 | 22.219 | 9.629 |
| 4 | 0.333 | 343.605 | 9.037 | 3.916 |
| 5 | 0.417 | 429.506 | 4.157 | 1.801 |
| 6 | 0.500 | 515.407 | 1.342 | 0.582 |
| 7 | 0.583 | 601.308 | 0.667 | 0.289 |
| 8 | 0.667 | 687.210 | 0.480 | 0.208 |
| 9 | 0.750 | 773.111 | 0.139 | 0.060 |
| | | Sum = 100.000 | Sum= | 43.336 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.097 | ( 0.544) | 0.508 |
| 2 | 0.17 | 4.30 | 0.619 | 0.097 | ( 0.557) | 0.522 |
| 3 | 0.25 | 5.00 | 0.720 | 0.097 | ( 0.648) | 0.623 |
| 4 | 0.33 | 5.00 | 0.720 | 0.097 | ( 0.648) | 0.623 |
| 5 | 0.42 | 5.80 | 0.835 | 0.097 | ( 0.751) | 0.738 |
| 6 | 0.50 | 6.50 | 0.936 | 0.097 | ( 0.842) | 0.839 |
| 7 | 0.58 | 7.40 | 1.065 | 0.097 | ( 0.959) | 0.968 |
| 8 | 0.67 | 8.60 | 1.238 | 0.097 | ( 1.114) | 1.141 |
| 9 | 0.75 | 12.30 | 1.771 | 0.097 | ( 1.593) | 1.674 |
| 10 | 0.83 | 29.10 | 4.189 | 0.097 | ( 3.770) | 4.092 |
| 11 | 0.92 | 6.80 | 0.979 | 0.097 | ( 0.881) | 0.882 |
| 12 | 1.00 | 5.00 | 0.720 | 0.097 | ( 0.648) | 0.623 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | | Sum = 13.2 |

Flood volume = Effective rainfall 1.10(In)
times area 43.0(Ac.)/[(In)/(Ft.)] = 4.0(Ac.Ft)
Total soil loss = 0.10(In)
Total soil loss = 0.347(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 172138.0 Cubic Feet
Total soil loss = 15097.0 Cubic Feet

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Peak flow rate of this hydrograph = 118.830(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 50.0 | 100.0 | 150.0 | 200.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0156 | 2.26 | Q | | | | |
| 0+10 | 0.1100 | 13.71 | VQ | | | | |
| 0+15 | 0.2434 | 19.37 | VQ | | | | |
| 0+20 | 0.4070 | 23.76 | Q | | | | |
| 0+25 | 0.5876 | 26.21 | Q | | | | |
| 0+30 | 0.7939 | 29.96 | Q V | | | | |
| 0+35 | 1.0297 | 34.24 | Q V | | | | |
| 0+40 | 1.3018 | 39.50 | Q V | | | | |
| 0+45 | 1.6300 | 47.66 | Q V | | | | |
| 0+50 | 2.1315 | 72.82 | Q V | | | | |
| 0+55 | 2.9499 | 118.83 | Q V | | | | |
| 1+ 0 | 3.4429 | 71.58 | Q V | | | | |

```
    1+ 5       3.7367     42.67  |        Q |          |          |       V  |
    1+10       3.8634     18.39  |   Q      |          |          |         V|
    1+15       3.9129      7.19  |Q         |          |          |         V|
    1+20       3.9352      3.24  Q          |          |          |         V|
    1+25       3.9460      1.57  Q          |          |          |         V|
    1+30       3.9502      0.61  Q          |          |          |         V|
    1+35       3.9515      0.18  Q          |          |          |         V|
    1+40       3.9517      0.04  Q          |          |          |          V
-------------------------------------------------------------------------
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX353100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 35
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 43.00(Ac.) = 0.067 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 43.00(Ac.) = 0.067 Sq. Mi.
Length along longest watercourse = 2184.00(Ft.)
Length along longest watercourse measured to centroid = 1169.00(Ft.)
Length along longest watercourse = 0.414 Mi.
Length along longest watercourse measured to centroid = 0.221 Mi.
Difference in elevation = 298.00(Ft.)
Slope along watercourse = 720.4396 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.097 Hr.
Lag time = 5.82 Min.
25% of lag time = 1.46 Min.
40% of lag time = 2.33 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 43.00 | 0.82 | 35.26 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 43.00 | 1.82 | 78.26 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.820(In)
Area Averaged 100-Year Rainfall = 1.820(In)

Point rain (area averaged) = 1.820(In)
Areal adjustment factor = 99.98 %
Adjusted average point rain = 1.820(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 43.000 | 82.60 | 0.000 |

Total Area Entered = 43.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 82.6 | 92.6 | 0.097 | 0.000 | 0.097 | 1.000 | 0.097 |
| | | | | | Sum (F) = | 0.097 |

Area averaged mean soil loss (F) (In/Hr) = 0.097

Minimum soil loss rate ((In/Hr)) = 0.048
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 85.901 | 10.283 | 4.456 |
| 2 | 0.167 | 171.802 | 51.676 | 22.394 |
| 3 | 0.250 | 257.704 | 22.219 | 9.629 |
| 4 | 0.333 | 343.605 | 9.037 | 3.916 |
| 5 | 0.417 | 429.506 | 4.157 | 1.801 |
| 6 | 0.500 | 515.407 | 1.342 | 0.582 |
| 7 | 0.583 | 601.308 | 0.667 | 0.289 |
| 8 | 0.667 | 687.210 | 0.480 | 0.208 |
| 9 | 0.750 | 773.111 | 0.139 | 0.060 |
| | | | Sum = 100.000 | Sum= 43.336 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.284 | 0.097 | ( | 0.255) | 0.187 |
| 2 | 0.17 | 1.30 | 0.284 | 0.097 | ( | 0.255) | 0.187 |
| 3 | 0.25 | 1.10 | 0.240 | 0.097 | ( | 0.216) | 0.143 |
| 4 | 0.33 | 1.50 | 0.328 | 0.097 | ( | 0.295) | 0.231 |
| 5 | 0.42 | 1.50 | 0.328 | 0.097 | ( | 0.295) | 0.231 |
| 6 | 0.50 | 1.80 | 0.393 | 0.097 | ( | 0.354) | 0.296 |
| 7 | 0.58 | 1.50 | 0.328 | 0.097 | ( | 0.295) | 0.231 |
| 8 | 0.67 | 1.80 | 0.393 | 0.097 | ( | 0.354) | 0.296 |
| 9 | 0.75 | 1.80 | 0.393 | 0.097 | ( | 0.354) | 0.296 |
| 10 | 0.83 | 1.50 | 0.328 | 0.097 | ( | 0.295) | 0.231 |
| 11 | 0.92 | 1.60 | 0.349 | 0.097 | ( | 0.314) | 0.253 |
| 12 | 1.00 | 1.80 | 0.393 | 0.097 | ( | 0.354) | 0.296 |
| 13 | 1.08 | 2.20 | 0.480 | 0.097 | ( | 0.432) | 0.384 |
| 14 | 1.17 | 2.20 | 0.480 | 0.097 | ( | 0.432) | 0.384 |
| 15 | 1.25 | 2.20 | 0.480 | 0.097 | ( | 0.432) | 0.384 |
| 16 | 1.33 | 2.00 | 0.437 | 0.097 | ( | 0.393) | 0.340 |
| 17 | 1.42 | 2.60 | 0.568 | 0.097 | ( | 0.511) | 0.471 |
| 18 | 1.50 | 2.70 | 0.590 | 0.097 | ( | 0.531) | 0.493 |
| 19 | 1.58 | 2.40 | 0.524 | 0.097 | ( | 0.472) | 0.427 |
| 20 | 1.67 | 2.70 | 0.590 | 0.097 | ( | 0.531) | 0.493 |
| 21 | 1.75 | 3.30 | 0.721 | 0.097 | ( | 0.649) | 0.624 |
| 22 | 1.83 | 3.10 | 0.677 | 0.097 | ( | 0.609) | 0.580 |
| 23 | 1.92 | 2.90 | 0.633 | 0.097 | ( | 0.570) | 0.537 |
| 24 | 2.00 | 3.00 | 0.655 | 0.097 | ( | 0.590) | 0.558 |
| 25 | 2.08 | 3.10 | 0.677 | 0.097 | ( | 0.609) | 0.580 |
| 26 | 2.17 | 4.20 | 0.917 | 0.097 | ( | 0.825) | 0.820 |
| 27 | 2.25 | 5.00 | 1.092 | 0.097 | ( | 0.983) | 0.995 |
| 28 | 2.33 | 3.50 | 0.764 | 0.097 | ( | 0.688) | 0.668 |
| 29 | 2.42 | 6.80 | 1.485 | 0.097 | ( | 1.336) | 1.388 |
| 30 | 2.50 | 7.30 | 1.594 | 0.097 | ( | 1.435) | 1.497 |
| 31 | 2.58 | 8.20 | 1.791 | 0.097 | ( | 1.611) | 1.694 |
| 32 | 2.67 | 5.90 | 1.288 | 0.097 | ( | 1.159) | 1.192 |
| 33 | 2.75 | 2.00 | 0.437 | 0.097 | ( | 0.393) | 0.340 |
| 34 | 2.83 | 1.80 | 0.393 | 0.097 | ( | 0.354) | 0.296 |
| 35 | 2.92 | 1.80 | 0.393 | 0.097 | ( | 0.354) | 0.296 |
| 36 | 3.00 | 0.60 | 0.131 | 0.097 | ( | 0.118) | 0.034 |
| | | (Loss Rate Not Used) | | | | | |
| Sum = | | 100.0 | | | | Sum = | 18.4 |

Flood volume = Effective rainfall 1.53(In)
times area 43.0(Ac.)/[(In)/(Ft.)] = 5.5(Ac.Ft)
Total soil loss = 0.29(In)
Total soil loss = 1.040(Ac.Ft)
Total rainfall = 1.82(In)
Flood volume = 238739.3 Cubic Feet
Total soil loss = 45291.1 Cubic Feet

---

Peak flow rate of this hydrograph = 65.302(CFS)

3 - H O U R  S T O R M
R u n o f f  H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 17.5 | 35.0 | 52.5 | 70.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0057 | 0.83 | Q | \| | \| | \| | \| |
| 0+10 | 0.0404 | 5.03 | V Q | \| | \| | \| | \| |
| 0+15 | 0.0861 | 6.64 | V Q | \| | \| | \| | \| |
| 0+20 | 0.1328 | 6.78 | V Q | \| | \| | \| | \| |
| 0+25 | 0.1924 | 8.65 | \|V Q | \| | \| | \| | \| |
| 0+30 | 0.2593 | 9.72 | \|V Q | \| | \| | \| | \| |
| 0+35 | 0.3366 | 11.22 | \| V Q | \| | \| | \| | \| |
| 0+40 | 0.4113 | 10.84 | \| V Q | \| | \| | \| | \| |
| 0+45 | 0.4938 | 11.99 | \| V Q | \| | \| | \| | \| |
| 0+50 | 0.5779 | 12.20 | \| V Q | \| | \| | \| | \| |
| 0+55 | 0.6538 | 11.03 | \| V Q | \| | \| | \| | \| |
| 1+ 0 | 0.7308 | 11.18 | \| VQ | \| | \| | \| | \| |
| 1+ 5 | 0.8172 | 12.54 | \| V Q | \| | \| | \| | \| |
| 1+10 | 0.9198 | 14.89 | \| V Q | \| | \| | \| | \| |
| 1+15 | 1.0294 | 15.92 | \| V Q\| | \| | \| | \| | \| |
| 1+20 | 1.1405 | 16.14 | \| VQ\| | \| | \| | \| | \| |
| 1+25 | 1.2502 | 15.92 | \| Q\| | \| | \| | \| | \| |
| 1+30 | 1.3782 | 18.60 | \| Q | \| | \| | \| | \| |
| 1+35 | 1.5154 | 19.92 | \| \|Q | \| | \| | \| | \| |
| 1+40 | 1.6491 | 19.41 | \| \|QV | \| | \| | \| | \| |
| 1+45 | 1.7947 | 21.13 | \| \| QV | \| | \| | \| | \| |
| 1+50 | 1.9624 | 24.35 | \| \| QV | \| | \| | \| | \| |
| 1+55 | 2.1319 | 24.62 | \| \| QV | \| | \| | \| | \| |
| 2+ 0 | 2.2968 | 23.94 | \| \| Q V | \| | \| | \| | \| |
| 2+ 5 | 2.4635 | 24.21 | \| \| Q V | \| | \| | \| | \| |
| 2+10 | 2.6413 | 25.81 | \| \| Q V\| | \| | \| | \| | \| |
| 2+15 | 2.8631 | 32.21 | \| \| Q V | \| | \| | \| | \| |
| 2+20 | 3.1186 | 37.09 | \| \| \|QV | \| | \| | \| | \| |
| 2+25 | 3.3640 | 35.63 | \| \| Q V | \| | \| | \| | \| |
| 2+30 | 3.7099 | 50.23 | \| \| \| VQ | \| | \| | \| | \| |
| 2+35 | 4.1209 | 59.68 | \| \| \| V Q | \| | \| | \| | \| |
| 2+40 | 4.5706 | 65.30 | \| \| \| \| V Q | \| | \| | \| | \| |
| 2+45 | 4.9410 | 53.78 | \| \| \| Q V | \| | \| | \| | \| |
| 2+50 | 5.1546 | 31.01 | \| \| Q \| | \| | \| | \| | \| |
| 2+55 | 5.2953 | 20.43 | \| \|Q \| | \| | \| | \| | \| |
| 3+ 0 | 5.3978 | 14.87 | \| Q \| | \| | \| | \| | \| |
| 3+ 5 | 5.4458 | 6.98 | \| Q \| | \| | \| | \| | \| |
| 3+10 | 5.4665 | 3.01 | \|Q \| | \| | \| | \| | \| |
| 3+15 | 5.4754 | 1.29 | Q \| | \| | \| | \| | \| |
| 3+20 | 5.4786 | 0.46 | Q \| | \| | \| | \| | \| |
| 3+25 | 5.4799 | 0.19 | Q \| | \| | \| | \| | \| |
| 3+30 | 5.4805 | 0.09 | Q \| | \| | \| | \| | \| |
| 3+35 | 5.4807 | 0.03 | Q \| | \| | \| | \| | \| |
| 3+40 | 5.4807 | 0.00 | Q \| | \| | \| | \| | V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX356100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 35
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 43.00(Ac.) = 0.067 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 43.00(Ac.) = 0.067 Sq. Mi.
Length along longest watercourse = 2184.00(Ft.)
Length along longest watercourse measured to centroid = 1169.00(Ft.)
Length along longest watercourse = 0.414 Mi.
Length along longest watercourse measured to centroid = 0.221 Mi.
Difference in elevation = 298.00(Ft.)
Slope along watercourse = 720.4396 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.097 Hr.
Lag time = 5.82 Min.
25% of lag time = 1.46 Min.
40% of lag time = 2.33 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 43.00 | 1.16 | 49.88 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 43.00 | 2.50 | 107.50 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.160(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 43.000 | 82.60 | 0.000 |

Total Area Entered = 43.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 82.6 | 92.6 | 0.097 | 0.000 | 0.097 | 1.000 | 0.097 |
| | | | | | Sum (F) = | 0.097 |

Area averaged mean soil loss (F) (In/Hr) = 0.097

Minimum soil loss rate ((In/Hr)) = 0.048
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 85.901 | 10.283 | 4.456 |
| 2 | 0.167 | 171.802 | 51.676 | 22.394 |
| 3 | 0.250 | 257.704 | 22.219 | 9.629 |
| 4 | 0.333 | 343.605 | 9.037 | 3.916 |
| 5 | 0.417 | 429.506 | 4.157 | 1.801 |
| 6 | 0.500 | 515.407 | 1.342 | 0.582 |
| 7 | 0.583 | 601.308 | 0.667 | 0.289 |
| 8 | 0.667 | 687.210 | 0.480 | 0.208 |
| 9 | 0.750 | 773.111 | 0.139 | 0.060 |
| | | | Sum = 100.000 | Sum= 43.336 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.097 | ( | 0.135) | 0.053 |
| 2 | 0.17 | 0.60 | 0.180 | 0.097 | ( | 0.162) | 0.083 |
| 3 | 0.25 | 0.60 | 0.180 | 0.097 | ( | 0.162) | 0.083 |
| 4 | 0.33 | 0.60 | 0.180 | 0.097 | ( | 0.162) | 0.083 |
| 5 | 0.42 | 0.60 | 0.180 | 0.097 | ( | 0.162) | 0.083 |
| 6 | 0.50 | 0.70 | 0.210 | 0.097 | ( | 0.189) | 0.113 |
| 7 | 0.58 | 0.70 | 0.210 | 0.097 | ( | 0.189) | 0.113 |
| 8 | 0.67 | 0.70 | 0.210 | 0.097 | ( | 0.189) | 0.113 |
| 9 | 0.75 | 0.70 | 0.210 | 0.097 | ( | 0.189) | 0.113 |
| 10 | 0.83 | 0.70 | 0.210 | 0.097 | ( | 0.189) | 0.113 |
| 11 | 0.92 | 0.70 | 0.210 | 0.097 | ( | 0.189) | 0.113 |
| 12 | 1.00 | 0.80 | 0.240 | 0.097 | ( | 0.216) | 0.143 |
| 13 | 1.08 | 0.80 | 0.240 | 0.097 | ( | 0.216) | 0.143 |
| 14 | 1.17 | 0.80 | 0.240 | 0.097 | ( | 0.216) | 0.143 |
| 15 | 1.25 | 0.80 | 0.240 | 0.097 | ( | 0.216) | 0.143 |
| 16 | 1.33 | 0.80 | 0.240 | 0.097 | ( | 0.216) | 0.143 |
| 17 | 1.42 | 0.80 | 0.240 | 0.097 | ( | 0.216) | 0.143 |
| 18 | 1.50 | 0.80 | 0.240 | 0.097 | ( | 0.216) | 0.143 |
| 19 | 1.58 | 0.80 | 0.240 | 0.097 | ( | 0.216) | 0.143 |
| 20 | 1.67 | 0.80 | 0.240 | 0.097 | ( | 0.216) | 0.143 |
| 21 | 1.75 | 0.80 | 0.240 | 0.097 | ( | 0.216) | 0.143 |
| 22 | 1.83 | 0.80 | 0.240 | 0.097 | ( | 0.216) | 0.143 |
| 23 | 1.92 | 0.80 | 0.240 | 0.097 | ( | 0.216) | 0.143 |
| 24 | 2.00 | 0.90 | 0.270 | 0.097 | ( | 0.243) | 0.173 |
| 25 | 2.08 | 0.80 | 0.240 | 0.097 | ( | 0.216) | 0.143 |
| 26 | 2.17 | 0.90 | 0.270 | 0.097 | ( | 0.243) | 0.173 |
| 27 | 2.25 | 0.90 | 0.270 | 0.097 | ( | 0.243) | 0.173 |
| 28 | 2.33 | 0.90 | 0.270 | 0.097 | ( | 0.243) | 0.173 |
| 29 | 2.42 | 0.90 | 0.270 | 0.097 | ( | 0.243) | 0.173 |
| 30 | 2.50 | 0.90 | 0.270 | 0.097 | ( | 0.243) | 0.173 |
| 31 | 2.58 | 0.90 | 0.270 | 0.097 | ( | 0.243) | 0.173 |
| 32 | 2.67 | 0.90 | 0.270 | 0.097 | ( | 0.243) | 0.173 |
| 33 | 2.75 | 1.00 | 0.300 | 0.097 | ( | 0.270) | 0.203 |
| 34 | 2.83 | 1.00 | 0.300 | 0.097 | ( | 0.270) | 0.203 |
| 35 | 2.92 | 1.00 | 0.300 | 0.097 | ( | 0.270) | 0.203 |
| 36 | 3.00 | 1.00 | 0.300 | 0.097 | ( | 0.270) | 0.203 |
| 37 | 3.08 | 1.00 | 0.300 | 0.097 | ( | 0.270) | 0.203 |
| 38 | 3.17 | 1.10 | 0.330 | 0.097 | ( | 0.297) | 0.233 |
| 39 | 3.25 | 1.10 | 0.330 | 0.097 | ( | 0.297) | 0.233 |
| 40 | 3.33 | 1.10 | 0.330 | 0.097 | ( | 0.297) | 0.233 |
| 41 | 3.42 | 1.20 | 0.360 | 0.097 | ( | 0.324) | 0.263 |
| 42 | 3.50 | 1.30 | 0.390 | 0.097 | ( | 0.351) | 0.293 |
| 43 | 3.58 | 1.40 | 0.420 | 0.097 | ( | 0.378) | 0.323 |
| 44 | 3.67 | 1.40 | 0.420 | 0.097 | ( | 0.378) | 0.323 |
| 45 | 3.75 | 1.50 | 0.450 | 0.097 | ( | 0.405) | 0.353 |
| 46 | 3.83 | 1.50 | 0.450 | 0.097 | ( | 0.405) | 0.353 |
| 47 | 3.92 | 1.60 | 0.480 | 0.097 | ( | 0.432) | 0.383 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 48 | 4.00 | 1.60 | 0.480 | 0.097 | ( 0.432) | 0.383 | |
| 49 | 4.08 | 1.70 | 0.510 | 0.097 | ( 0.459) | 0.413 | |
| 50 | 4.17 | 1.80 | 0.540 | 0.097 | ( 0.486) | 0.443 | |
| 51 | 4.25 | 1.90 | 0.570 | 0.097 | ( 0.513) | 0.473 | |
| 52 | 4.33 | 2.00 | 0.600 | 0.097 | ( 0.540) | 0.503 | |
| 53 | 4.42 | 2.10 | 0.630 | 0.097 | ( 0.567) | 0.533 | |
| 54 | 4.50 | 2.10 | 0.630 | 0.097 | ( 0.567) | 0.533 | |
| 55 | 4.58 | 2.20 | 0.660 | 0.097 | ( 0.594) | 0.563 | |
| 56 | 4.67 | 2.30 | 0.690 | 0.097 | ( 0.621) | 0.593 | |
| 57 | 4.75 | 2.40 | 0.720 | 0.097 | ( 0.648) | 0.623 | |
| 58 | 4.83 | 2.40 | 0.720 | 0.097 | ( 0.648) | 0.623 | |
| 59 | 4.92 | 2.50 | 0.750 | 0.097 | ( 0.675) | 0.653 | |
| 60 | 5.00 | 2.60 | 0.780 | 0.097 | ( 0.702) | 0.683 | |
| 61 | 5.08 | 3.10 | 0.930 | 0.097 | ( 0.837) | 0.833 | |
| 62 | 5.17 | 3.60 | 1.080 | 0.097 | ( 0.972) | 0.983 | |
| 63 | 5.25 | 3.90 | 1.170 | 0.097 | ( 1.053) | 1.073 | |
| 64 | 5.33 | 4.20 | 1.260 | 0.097 | ( 1.134) | 1.163 | |
| 65 | 5.42 | 4.70 | 1.410 | 0.097 | ( 1.269) | 1.313 | |
| 66 | 5.50 | 5.60 | 1.680 | 0.097 | ( 1.512) | 1.583 | |
| 67 | 5.58 | 1.90 | 0.570 | 0.097 | ( 0.513) | 0.473 | |
| 68 | 5.67 | 0.90 | 0.270 | 0.097 | ( 0.243) | 0.173 | |
| 69 | 5.75 | 0.60 | 0.180 | 0.097 | ( 0.162) | 0.083 | |
| 70 | 5.83 | 0.50 | 0.150 | 0.097 | ( 0.135) | 0.053 | |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.097) | 0.081 | 0.009 | |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.097) | 0.054 | 0.006 | |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.1

Flood volume = Effective rainfall 1.92(In)
times area 43.0(Ac.)/[(In)/(Ft.)] = 6.9(Ac.Ft)
Total soil loss = 0.58(In)
Total soil loss = 2.062(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 300345.6 Cubic Feet
Total soil loss = 89821.7 Cubic Feet

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Peak flow rate of this hydrograph = 57.715(CFS)

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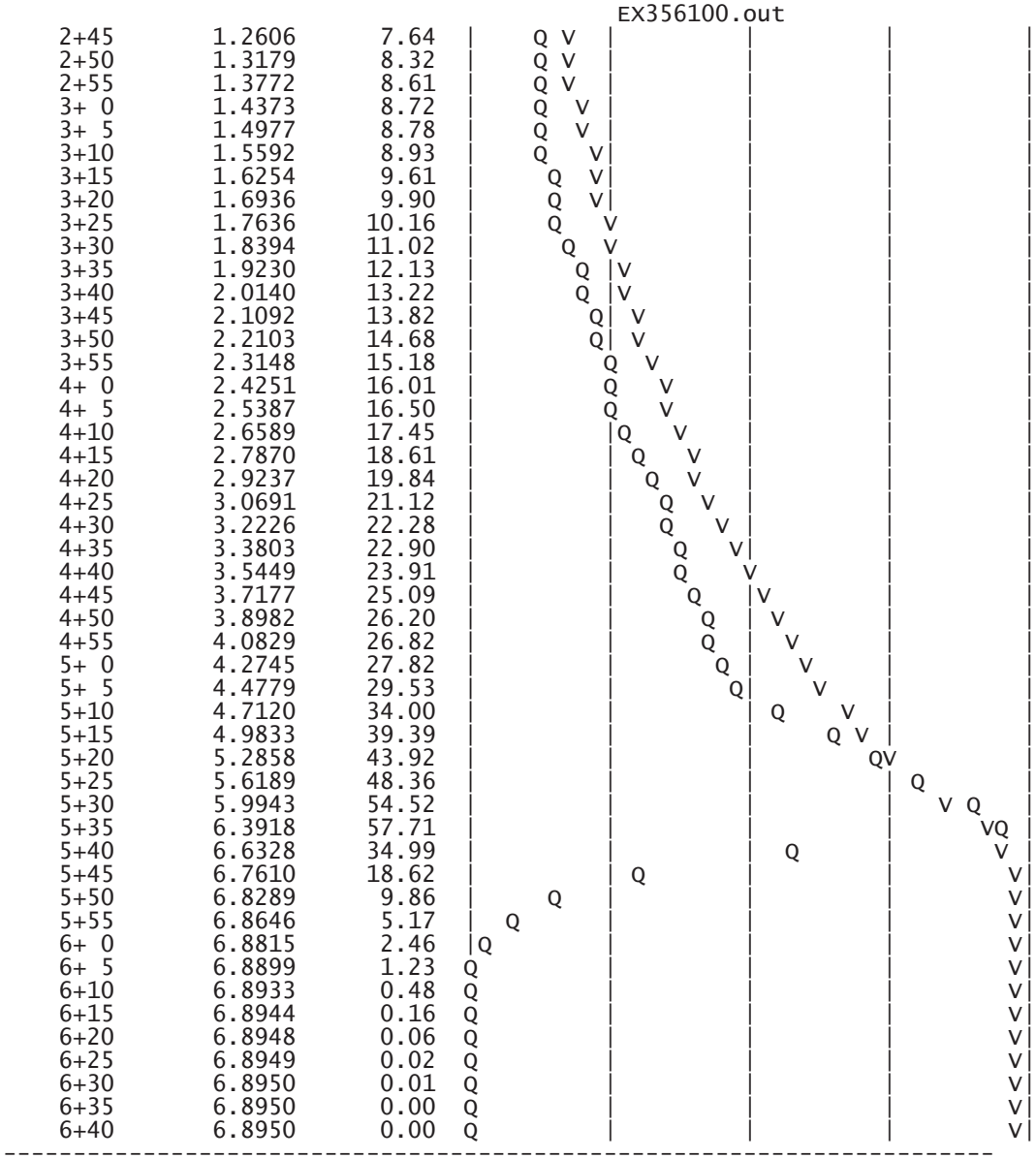
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 15.0 | 30.0 | 45.0 | 60.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0016 | 0.24 | Q | | | | |
| 0+10 | 0.0124 | 1.56 | VQ | | | | |
| 0+15 | 0.0313 | 2.75 | VQ | | | | |
| 0+20 | 0.0537 | 3.25 | V Q | | | | |
| 0+25 | 0.0775 | 3.46 | V Q | | | | |
| 0+30 | 0.1029 | 3.68 | V Q | | | | |
| 0+35 | 0.1331 | 4.38 | V Q | | | | |
| 0+40 | 0.1654 | 4.69 | V Q | | | | |
| 0+45 | 0.1986 | 4.82 | \|V Q | | | | |
| 0+50 | 0.2322 | 4.88 | \|V Q | | | | |
| 0+55 | 0.2659 | 4.89 | \|V Q | | | | |
| 1+ 0 | 0.3006 | 5.04 | \|V Q | | | | |
| 1+ 5 | 0.3399 | 5.71 | \|V Q | | | | |
| 1+10 | 0.3813 | 6.01 | \| V Q | | | | |
| 1+15 | 0.4234 | 6.12 | \| V Q | | | | |
| 1+20 | 0.4660 | 6.18 | \| V Q | | | | |
| 1+25 | 0.5086 | 6.19 | \| V Q | | | | |
| 1+30 | 0.5514 | 6.20 | \| VQ | | | | |
| 1+35 | 0.5941 | 6.21 | \| VQ | | | | |
| 1+40 | 0.6369 | 6.21 | \| VQ | | | | |
| 1+45 | 0.6797 | 6.21 | \| VQ | | | | |
| 1+50 | 0.7225 | 6.21 | \| Q | | | | |
| 1+55 | 0.7652 | 6.21 | \| Q | | | | |
| 2+ 0 | 0.8089 | 6.34 | \| Q | | | | |
| 2+ 5 | 0.8563 | 6.88 | \| Q | | | | |
| 2+10 | 0.9020 | 6.63 | \| QV | | | | |
| 2+15 | 0.9511 | 7.13 | \| QV | | | | |
| 2+20 | 1.0018 | 7.36 | \| QV | | | | |
| 2+25 | 1.0531 | 7.44 | \| Q V | | | | |
| 2+30 | 1.1046 | 7.49 | \| Q V | | | | |
| 2+35 | 1.1563 | 7.50 | \| QV | | | | |
| 2+40 | 1.2080 | 7.51 | \| Q V | | | | |



| | | | |
|---|---|---|---|
| 2+45 | 1.2606 | 7.64 | |
| 2+50 | 1.3179 | 8.32 | |
| 2+55 | 1.3772 | 8.61 | |
| 3+ 0 | 1.4373 | 8.72 | |
| 3+ 5 | 1.4977 | 8.78 | |
| 3+10 | 1.5592 | 8.93 | |
| 3+15 | 1.6254 | 9.61 | |
| 3+20 | 1.6936 | 9.90 | |
| 3+25 | 1.7636 | 10.16 | |
| 3+30 | 1.8394 | 11.02 | |
| 3+35 | 1.9230 | 12.13 | |
| 3+40 | 2.0140 | 13.22 | |
| 3+45 | 2.1092 | 13.82 | |
| 3+50 | 2.2103 | 14.68 | |
| 3+55 | 2.3148 | 15.18 | |
| 4+ 0 | 2.4251 | 16.01 | |
| 4+ 5 | 2.5387 | 16.50 | |
| 4+10 | 2.6589 | 17.45 | |
| 4+15 | 2.7870 | 18.61 | |
| 4+20 | 2.9237 | 19.84 | |
| 4+25 | 3.0691 | 21.12 | |
| 4+30 | 3.2226 | 22.28 | |
| 4+35 | 3.3803 | 22.90 | |
| 4+40 | 3.5449 | 23.91 | |
| 4+45 | 3.7177 | 25.09 | |
| 4+50 | 3.8982 | 26.20 | |
| 4+55 | 4.0829 | 26.82 | |
| 5+ 0 | 4.2745 | 27.82 | |
| 5+ 5 | 4.4779 | 29.53 | |
| 5+10 | 4.7120 | 34.00 | |
| 5+15 | 4.9833 | 39.39 | |
| 5+20 | 5.2858 | 43.92 | |
| 5+25 | 5.6189 | 48.36 | |
| 5+30 | 5.9943 | 54.52 | |
| 5+35 | 6.3918 | 57.71 | |
| 5+40 | 6.6328 | 34.99 | |
| 5+45 | 6.7610 | 18.62 | |
| 5+50 | 6.8289 | 9.86 | |
| 5+55 | 6.8646 | 5.17 | |
| 6+ 0 | 6.8815 | 2.46 | |
| 6+ 5 | 6.8899 | 1.23 | |
| 6+10 | 6.8933 | 0.48 | |
| 6+15 | 6.8944 | 0.16 | |
| 6+20 | 6.8948 | 0.06 | |
| 6+25 | 6.8949 | 0.02 | |
| 6+30 | 6.8950 | 0.01 | |
| 6+35 | 6.8950 | 0.00 | |
| 6+40 | 6.8950 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX3524100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 35
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 43.00(Ac.) = 0.067 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 43.00(Ac.) = 0.067 Sq. Mi.
Length along longest watercourse = 2184.00(Ft.)
Length along longest watercourse measured to centroid = 1169.00(Ft.)
Length along longest watercourse = 0.414 Mi.
Length along longest watercourse measured to centroid = 0.221 Mi.
Difference in elevation = 298.00(Ft.)
Slope along watercourse = 720.4396 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.097 Hr.
Lag time = 5.82 Min.
25% of lag time = 1.46 Min.
40% of lag time = 2.33 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 43.00 | 1.80 | 77.40 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 43.00 | 4.76 | 204.68 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.760(In)

Point rain (area averaged) = 4.760(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 4.760(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 43.000 | 82.60 | 0.000 |

Total Area Entered = 43.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 82.6 | 92.6 | 0.097 | 0.000 | 0.097 | 1.000 | 0.097 |
| | | | | | Sum (F) = | 0.097 |

Area averaged mean soil loss (F) (In/Hr) = 0.097

Minimum soil loss rate ((In/Hr)) = 0.048
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 85.901 | 10.283 | 4.456 |
| 2 | 0.167 | 171.802 | 51.676 | 22.394 |
| 3 | 0.250 | 257.704 | 22.219 | 9.629 |
| 4 | 0.333 | 343.605 | 9.037 | 3.916 |
| 5 | 0.417 | 429.506 | 4.157 | 1.801 |
| 6 | 0.500 | 515.407 | 1.342 | 0.582 |
| 7 | 0.583 | 601.308 | 0.667 | 0.289 |
| 8 | 0.667 | 687.210 | 0.480 | 0.208 |
| 9 | 0.750 | 773.111 | 0.139 | 0.060 |
| | | | Sum = 100.000 | Sum= 43.336 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.038 | ( 0.171) | 0.034 | 0.004 |
| 2 | 0.17 | 0.07 | 0.038 | ( 0.171) | 0.034 | 0.004 |
| 3 | 0.25 | 0.07 | 0.038 | ( 0.170) | 0.034 | 0.004 |
| 4 | 0.33 | 0.10 | 0.057 | ( 0.169) | 0.051 | 0.006 |
| 5 | 0.42 | 0.10 | 0.057 | ( 0.169) | 0.051 | 0.006 |
| 6 | 0.50 | 0.10 | 0.057 | ( 0.168) | 0.051 | 0.006 |
| 7 | 0.58 | 0.10 | 0.057 | ( 0.167) | 0.051 | 0.006 |
| 8 | 0.67 | 0.10 | 0.057 | ( 0.167) | 0.051 | 0.006 |
| 9 | 0.75 | 0.10 | 0.057 | ( 0.166) | 0.051 | 0.006 |
| 10 | 0.83 | 0.13 | 0.076 | ( 0.166) | 0.069 | 0.008 |
| 11 | 0.92 | 0.13 | 0.076 | ( 0.165) | 0.069 | 0.008 |
| 12 | 1.00 | 0.13 | 0.076 | ( 0.164) | 0.069 | 0.008 |
| 13 | 1.08 | 0.10 | 0.057 | ( 0.164) | 0.051 | 0.006 |
| 14 | 1.17 | 0.10 | 0.057 | ( 0.163) | 0.051 | 0.006 |
| 15 | 1.25 | 0.10 | 0.057 | ( 0.162) | 0.051 | 0.006 |
| 16 | 1.33 | 0.10 | 0.057 | ( 0.162) | 0.051 | 0.006 |
| 17 | 1.42 | 0.10 | 0.057 | ( 0.161) | 0.051 | 0.006 |
| 18 | 1.50 | 0.10 | 0.057 | ( 0.160) | 0.051 | 0.006 |
| 19 | 1.58 | 0.10 | 0.057 | ( 0.160) | 0.051 | 0.006 |
| 20 | 1.67 | 0.10 | 0.057 | ( 0.159) | 0.051 | 0.006 |
| 21 | 1.75 | 0.10 | 0.057 | ( 0.158) | 0.051 | 0.006 |
| 22 | 1.83 | 0.13 | 0.076 | ( 0.158) | 0.069 | 0.008 |
| 23 | 1.92 | 0.13 | 0.076 | ( 0.157) | 0.069 | 0.008 |
| 24 | 2.00 | 0.13 | 0.076 | ( 0.157) | 0.069 | 0.008 |
| 25 | 2.08 | 0.13 | 0.076 | ( 0.156) | 0.069 | 0.008 |
| 26 | 2.17 | 0.13 | 0.076 | ( 0.155) | 0.069 | 0.008 |
| 27 | 2.25 | 0.13 | 0.076 | ( 0.155) | 0.069 | 0.008 |
| 28 | 2.33 | 0.13 | 0.076 | ( 0.154) | 0.069 | 0.008 |
| 29 | 2.42 | 0.13 | 0.076 | ( 0.153) | 0.069 | 0.008 |
| 30 | 2.50 | 0.13 | 0.076 | ( 0.153) | 0.069 | 0.008 |
| 31 | 2.58 | 0.17 | 0.095 | ( 0.152) | 0.086 | 0.010 |
| 32 | 2.67 | 0.17 | 0.095 | ( 0.152) | 0.086 | 0.010 |
| 33 | 2.75 | 0.17 | 0.095 | ( 0.151) | 0.086 | 0.010 |
| 34 | 2.83 | 0.17 | 0.095 | ( 0.150) | 0.086 | 0.010 |
| 35 | 2.92 | 0.17 | 0.095 | ( 0.150) | 0.086 | 0.010 |
| 36 | 3.00 | 0.17 | 0.095 | ( 0.149) | 0.086 | 0.010 |
| 37 | 3.08 | 0.17 | 0.095 | ( 0.148) | 0.086 | 0.010 |
| 38 | 3.17 | 0.17 | 0.095 | ( 0.148) | 0.086 | 0.010 |
| 39 | 3.25 | 0.17 | 0.095 | ( 0.147) | 0.086 | 0.010 |
| 40 | 3.33 | 0.17 | 0.095 | ( 0.147) | 0.086 | 0.010 |
| 41 | 3.42 | 0.17 | 0.095 | ( 0.146) | 0.086 | 0.010 |
| 42 | 3.50 | 0.17 | 0.095 | ( 0.145) | 0.086 | 0.010 |
| 43 | 3.58 | 0.17 | 0.095 | ( 0.145) | 0.086 | 0.010 |
| 44 | 3.67 | 0.17 | 0.095 | ( 0.144) | 0.086 | 0.010 |
| 45 | 3.75 | 0.17 | 0.095 | ( 0.144) | 0.086 | 0.010 |
| 46 | 3.83 | 0.20 | 0.114 | ( 0.143) | 0.103 | 0.011 |
| 47 | 3.92 | 0.20 | 0.114 | ( 0.142) | 0.103 | 0.011 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 48 | 4.00 | 0.20 | 0.114 | ( | 0.142) | 0.103 | | 0.011 |
| 49 | 4.08 | 0.20 | 0.114 | ( | 0.141) | 0.103 | | 0.011 |
| 50 | 4.17 | 0.20 | 0.114 | ( | 0.141) | 0.103 | | 0.011 |
| 51 | 4.25 | 0.20 | 0.114 | ( | 0.140) | 0.103 | | 0.011 |
| 52 | 4.33 | 0.23 | 0.133 | ( | 0.139) | 0.120 | | 0.013 |
| 53 | 4.42 | 0.23 | 0.133 | ( | 0.139) | 0.120 | | 0.013 |
| 54 | 4.50 | 0.23 | 0.133 | ( | 0.138) | 0.120 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.133 | ( | 0.138) | 0.120 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.133 | ( | 0.137) | 0.120 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.133 | ( | 0.136) | 0.120 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.152 | | 0.136 | ( | 0.137) | 0.017 |
| 59 | 4.92 | 0.27 | 0.152 | | 0.135 | ( | 0.137) | 0.017 |
| 60 | 5.00 | 0.27 | 0.152 | | 0.135 | ( | 0.137) | 0.018 |
| 61 | 5.08 | 0.20 | 0.114 | ( | 0.134) | 0.103 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.114 | ( | 0.133) | 0.103 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.114 | ( | 0.133) | 0.103 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.133 | ( | 0.132) | 0.120 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.133 | ( | 0.132) | 0.120 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.133 | ( | 0.131) | 0.120 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.152 | | 0.131 | ( | 0.137) | 0.022 |
| 68 | 5.67 | 0.27 | 0.152 | | 0.130 | ( | 0.137) | 0.022 |
| 69 | 5.75 | 0.27 | 0.152 | | 0.129 | ( | 0.137) | 0.023 |
| 70 | 5.83 | 0.27 | 0.152 | | 0.129 | ( | 0.137) | 0.023 |
| 71 | 5.92 | 0.27 | 0.152 | | 0.128 | ( | 0.137) | 0.024 |
| 72 | 6.00 | 0.27 | 0.152 | | 0.128 | ( | 0.137) | 0.025 |
| 73 | 6.08 | 0.30 | 0.171 | | 0.127 | ( | 0.154) | 0.044 |
| 74 | 6.17 | 0.30 | 0.171 | | 0.127 | ( | 0.154) | 0.045 |
| 75 | 6.25 | 0.30 | 0.171 | | 0.126 | ( | 0.154) | 0.045 |
| 76 | 6.33 | 0.30 | 0.171 | | 0.125 | ( | 0.154) | 0.046 |
| 77 | 6.42 | 0.30 | 0.171 | | 0.125 | ( | 0.154) | 0.046 |
| 78 | 6.50 | 0.30 | 0.171 | | 0.124 | ( | 0.154) | 0.047 |
| 79 | 6.58 | 0.33 | 0.190 | | 0.124 | ( | 0.171) | 0.067 |
| 80 | 6.67 | 0.33 | 0.190 | | 0.123 | ( | 0.171) | 0.067 |
| 81 | 6.75 | 0.33 | 0.190 | | 0.123 | ( | 0.171) | 0.068 |
| 82 | 6.83 | 0.33 | 0.190 | | 0.122 | ( | 0.171) | 0.068 |
| 83 | 6.92 | 0.33 | 0.190 | | 0.122 | ( | 0.171) | 0.069 |
| 84 | 7.00 | 0.33 | 0.190 | | 0.121 | ( | 0.171) | 0.069 |
| 85 | 7.08 | 0.33 | 0.190 | | 0.120 | ( | 0.171) | 0.070 |
| 86 | 7.17 | 0.33 | 0.190 | | 0.120 | ( | 0.171) | 0.071 |
| 87 | 7.25 | 0.33 | 0.190 | | 0.119 | ( | 0.171) | 0.071 |
| 88 | 7.33 | 0.37 | 0.209 | | 0.119 | ( | 0.188) | 0.091 |
| 89 | 7.42 | 0.37 | 0.209 | | 0.118 | ( | 0.188) | 0.091 |
| 90 | 7.50 | 0.37 | 0.209 | | 0.118 | ( | 0.188) | 0.092 |
| 91 | 7.58 | 0.40 | 0.228 | | 0.117 | ( | 0.206) | 0.111 |
| 92 | 7.67 | 0.40 | 0.228 | | 0.117 | ( | 0.206) | 0.112 |
| 93 | 7.75 | 0.40 | 0.228 | | 0.116 | ( | 0.206) | 0.112 |
| 94 | 7.83 | 0.43 | 0.247 | | 0.116 | ( | 0.223) | 0.132 |
| 95 | 7.92 | 0.43 | 0.247 | | 0.115 | ( | 0.223) | 0.133 |
| 96 | 8.00 | 0.43 | 0.247 | | 0.114 | ( | 0.223) | 0.133 |
| 97 | 8.08 | 0.50 | 0.286 | | 0.114 | ( | 0.257) | 0.172 |
| 98 | 8.17 | 0.50 | 0.286 | | 0.113 | ( | 0.257) | 0.172 |
| 99 | 8.25 | 0.50 | 0.286 | | 0.113 | ( | 0.257) | 0.173 |
| 100 | 8.33 | 0.50 | 0.286 | | 0.112 | ( | 0.257) | 0.173 |
| 101 | 8.42 | 0.50 | 0.286 | | 0.112 | ( | 0.257) | 0.174 |
| 102 | 8.50 | 0.50 | 0.286 | | 0.111 | ( | 0.257) | 0.174 |
| 103 | 8.58 | 0.53 | 0.305 | | 0.111 | ( | 0.274) | 0.194 |
| 104 | 8.67 | 0.53 | 0.305 | | 0.110 | ( | 0.274) | 0.194 |
| 105 | 8.75 | 0.53 | 0.305 | | 0.110 | ( | 0.274) | 0.195 |
| 106 | 8.83 | 0.57 | 0.324 | | 0.109 | ( | 0.291) | 0.214 |
| 107 | 8.92 | 0.57 | 0.324 | | 0.109 | ( | 0.291) | 0.215 |
| 108 | 9.00 | 0.57 | 0.324 | | 0.108 | ( | 0.291) | 0.215 |
| 109 | 9.08 | 0.63 | 0.362 | | 0.108 | ( | 0.326) | 0.254 |
| 110 | 9.17 | 0.63 | 0.362 | | 0.107 | ( | 0.326) | 0.255 |
| 111 | 9.25 | 0.63 | 0.362 | | 0.107 | ( | 0.326) | 0.255 |
| 112 | 9.33 | 0.67 | 0.381 | | 0.106 | ( | 0.343) | 0.275 |
| 113 | 9.42 | 0.67 | 0.381 | | 0.106 | ( | 0.343) | 0.275 |
| 114 | 9.50 | 0.67 | 0.381 | | 0.105 | ( | 0.343) | 0.276 |
| 115 | 9.58 | 0.70 | 0.400 | | 0.105 | ( | 0.360) | 0.295 |
| 116 | 9.67 | 0.70 | 0.400 | | 0.104 | ( | 0.360) | 0.296 |
| 117 | 9.75 | 0.70 | 0.400 | | 0.104 | ( | 0.360) | 0.296 |
| 118 | 9.83 | 0.73 | 0.419 | | 0.103 | ( | 0.377) | 0.316 |
| 119 | 9.92 | 0.73 | 0.419 | | 0.103 | ( | 0.377) | 0.316 |
| 120 | 10.00 | 0.73 | 0.419 | | 0.102 | ( | 0.377) | 0.317 |
| 121 | 10.08 | 0.50 | 0.286 | | 0.102 | ( | 0.257) | 0.184 |
| 122 | 10.17 | 0.50 | 0.286 | | 0.101 | ( | 0.257) | 0.184 |
| 123 | 10.25 | 0.50 | 0.286 | | 0.101 | ( | 0.257) | 0.185 |
| 124 | 10.33 | 0.50 | 0.286 | | 0.100 | ( | 0.257) | 0.185 |
| 125 | 10.42 | 0.50 | 0.286 | | 0.100 | ( | 0.257) | 0.186 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 126 | 10.50 | 0.50 | 0.286 | 0.099 | ( 0.257) | 0.186 |
| 127 | 10.58 | 0.67 | 0.381 | 0.099 | ( 0.343) | 0.282 |
| 128 | 10.67 | 0.67 | 0.381 | 0.098 | ( 0.343) | 0.283 |
| 129 | 10.75 | 0.67 | 0.381 | 0.098 | ( 0.343) | 0.283 |
| 130 | 10.83 | 0.67 | 0.381 | 0.097 | ( 0.343) | 0.283 |
| 131 | 10.92 | 0.67 | 0.381 | 0.097 | ( 0.343) | 0.284 |
| 132 | 11.00 | 0.67 | 0.381 | 0.096 | ( 0.343) | 0.284 |
| 133 | 11.08 | 0.63 | 0.362 | 0.096 | ( 0.326) | 0.266 |
| 134 | 11.17 | 0.63 | 0.362 | 0.095 | ( 0.326) | 0.266 |
| 135 | 11.25 | 0.63 | 0.362 | 0.095 | ( 0.326) | 0.267 |
| 136 | 11.33 | 0.63 | 0.362 | 0.094 | ( 0.326) | 0.267 |
| 137 | 11.42 | 0.63 | 0.362 | 0.094 | ( 0.326) | 0.268 |
| 138 | 11.50 | 0.63 | 0.362 | 0.093 | ( 0.326) | 0.268 |
| 139 | 11.58 | 0.57 | 0.324 | 0.093 | ( 0.291) | 0.231 |
| 140 | 11.67 | 0.57 | 0.324 | 0.093 | ( 0.291) | 0.231 |
| 141 | 11.75 | 0.57 | 0.324 | 0.092 | ( 0.291) | 0.232 |
| 142 | 11.83 | 0.60 | 0.343 | 0.092 | ( 0.308) | 0.251 |
| 143 | 11.92 | 0.60 | 0.343 | 0.091 | ( 0.308) | 0.251 |
| 144 | 12.00 | 0.60 | 0.343 | 0.091 | ( 0.308) | 0.252 |
| 145 | 12.08 | 0.83 | 0.476 | 0.090 | ( 0.428) | 0.386 |
| 146 | 12.17 | 0.83 | 0.476 | 0.090 | ( 0.428) | 0.386 |
| 147 | 12.25 | 0.83 | 0.476 | 0.089 | ( 0.428) | 0.387 |
| 148 | 12.33 | 0.87 | 0.495 | 0.089 | ( 0.445) | 0.406 |
| 149 | 12.42 | 0.87 | 0.495 | 0.088 | ( 0.445) | 0.407 |
| 150 | 12.50 | 0.87 | 0.495 | 0.088 | ( 0.445) | 0.407 |
| 151 | 12.58 | 0.93 | 0.533 | 0.088 | ( 0.480) | 0.445 |
| 152 | 12.67 | 0.93 | 0.533 | 0.087 | ( 0.480) | 0.446 |
| 153 | 12.75 | 0.93 | 0.533 | 0.087 | ( 0.480) | 0.446 |
| 154 | 12.83 | 0.97 | 0.552 | 0.086 | ( 0.497) | 0.466 |
| 155 | 12.92 | 0.97 | 0.552 | 0.086 | ( 0.497) | 0.466 |
| 156 | 13.00 | 0.97 | 0.552 | 0.085 | ( 0.497) | 0.467 |
| 157 | 13.08 | 1.13 | 0.647 | 0.085 | ( 0.583) | 0.562 |
| 158 | 13.17 | 1.13 | 0.647 | 0.085 | ( 0.583) | 0.563 |
| 159 | 13.25 | 1.13 | 0.647 | 0.084 | ( 0.583) | 0.563 |
| 160 | 13.33 | 1.13 | 0.647 | 0.084 | ( 0.583) | 0.564 |
| 161 | 13.42 | 1.13 | 0.647 | 0.083 | ( 0.583) | 0.564 |
| 162 | 13.50 | 1.13 | 0.647 | 0.083 | ( 0.583) | 0.564 |
| 163 | 13.58 | 0.77 | 0.438 | 0.082 | ( 0.394) | 0.355 |
| 164 | 13.67 | 0.77 | 0.438 | 0.082 | ( 0.394) | 0.356 |
| 165 | 13.75 | 0.77 | 0.438 | 0.082 | ( 0.394) | 0.356 |
| 166 | 13.83 | 0.77 | 0.438 | 0.081 | ( 0.394) | 0.357 |
| 167 | 13.92 | 0.77 | 0.438 | 0.081 | ( 0.394) | 0.357 |
| 168 | 14.00 | 0.77 | 0.438 | 0.080 | ( 0.394) | 0.358 |
| 169 | 14.08 | 0.90 | 0.514 | 0.080 | ( 0.463) | 0.434 |
| 170 | 14.17 | 0.90 | 0.514 | 0.080 | ( 0.463) | 0.435 |
| 171 | 14.25 | 0.90 | 0.514 | 0.079 | ( 0.463) | 0.435 |
| 172 | 14.33 | 0.87 | 0.495 | 0.079 | ( 0.445) | 0.416 |
| 173 | 14.42 | 0.87 | 0.495 | 0.078 | ( 0.445) | 0.417 |
| 174 | 14.50 | 0.87 | 0.495 | 0.078 | ( 0.445) | 0.417 |
| 175 | 14.58 | 0.87 | 0.495 | 0.078 | ( 0.445) | 0.417 |
| 176 | 14.67 | 0.87 | 0.495 | 0.077 | ( 0.445) | 0.418 |
| 177 | 14.75 | 0.87 | 0.495 | 0.077 | ( 0.445) | 0.418 |
| 178 | 14.83 | 0.83 | 0.476 | 0.076 | ( 0.428) | 0.400 |
| 179 | 14.92 | 0.83 | 0.476 | 0.076 | ( 0.428) | 0.400 |
| 180 | 15.00 | 0.83 | 0.476 | 0.076 | ( 0.428) | 0.400 |
| 181 | 15.08 | 0.80 | 0.457 | 0.075 | ( 0.411) | 0.382 |
| 182 | 15.17 | 0.80 | 0.457 | 0.075 | ( 0.411) | 0.382 |
| 183 | 15.25 | 0.80 | 0.457 | 0.074 | ( 0.411) | 0.383 |
| 184 | 15.33 | 0.77 | 0.438 | 0.074 | ( 0.394) | 0.364 |
| 185 | 15.42 | 0.77 | 0.438 | 0.074 | ( 0.394) | 0.364 |
| 186 | 15.50 | 0.77 | 0.438 | 0.073 | ( 0.394) | 0.365 |
| 187 | 15.58 | 0.63 | 0.362 | 0.073 | ( 0.326) | 0.289 |
| 188 | 15.67 | 0.63 | 0.362 | 0.072 | ( 0.326) | 0.289 |
| 189 | 15.75 | 0.63 | 0.362 | 0.072 | ( 0.326) | 0.290 |
| 190 | 15.83 | 0.63 | 0.362 | 0.072 | ( 0.326) | 0.290 |
| 191 | 15.92 | 0.63 | 0.362 | 0.071 | ( 0.326) | 0.290 |
| 192 | 16.00 | 0.63 | 0.362 | 0.071 | ( 0.326) | 0.291 |
| 193 | 16.08 | 0.13 | 0.076 | ( 0.071) | 0.069 | 0.008 |
| 194 | 16.17 | 0.13 | 0.076 | ( 0.070) | 0.069 | 0.008 |
| 195 | 16.25 | 0.13 | 0.076 | ( 0.070) | 0.069 | 0.008 |
| 196 | 16.33 | 0.13 | 0.076 | ( 0.070) | 0.069 | 0.008 |
| 197 | 16.42 | 0.13 | 0.076 | ( 0.069) | 0.069 | 0.008 |
| 198 | 16.50 | 0.13 | 0.076 | ( 0.069) | 0.069 | 0.008 |
| 199 | 16.58 | 0.10 | 0.057 | ( 0.069) | 0.051 | 0.006 |
| 200 | 16.67 | 0.10 | 0.057 | ( 0.068) | 0.051 | 0.006 |
| 201 | 16.75 | 0.10 | 0.057 | ( 0.068) | 0.051 | 0.006 |
| 202 | 16.83 | 0.10 | 0.057 | ( 0.067) | 0.051 | 0.006 |
| 203 | 16.92 | 0.10 | 0.057 | ( 0.067) | 0.051 | 0.006 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 204 | 17.00 | 0.10 | 0.057 | ( | 0.067) | 0.051 | | 0.006 |
| 205 | 17.08 | 0.17 | 0.095 | | 0.066 | ( 0.086) | | 0.029 |
| 206 | 17.17 | 0.17 | 0.095 | | 0.066 | ( 0.086) | | 0.029 |
| 207 | 17.25 | 0.17 | 0.095 | | 0.066 | ( 0.086) | | 0.029 |
| 208 | 17.33 | 0.17 | 0.095 | | 0.065 | ( 0.086) | | 0.030 |
| 209 | 17.42 | 0.17 | 0.095 | | 0.065 | ( 0.086) | | 0.030 |
| 210 | 17.50 | 0.17 | 0.095 | | 0.065 | ( 0.086) | | 0.030 |
| 211 | 17.58 | 0.17 | 0.095 | | 0.064 | ( 0.086) | | 0.031 |
| 212 | 17.67 | 0.17 | 0.095 | | 0.064 | ( 0.086) | | 0.031 |
| 213 | 17.75 | 0.17 | 0.095 | | 0.064 | ( 0.086) | | 0.031 |
| 214 | 17.83 | 0.13 | 0.076 | | 0.064 | ( 0.069) | | 0.013 |
| 215 | 17.92 | 0.13 | 0.076 | | 0.063 | ( 0.069) | | 0.013 |
| 216 | 18.00 | 0.13 | 0.076 | | 0.063 | ( 0.069) | | 0.013 |
| 217 | 18.08 | 0.13 | 0.076 | | 0.063 | ( 0.069) | | 0.014 |
| 218 | 18.17 | 0.13 | 0.076 | | 0.062 | ( 0.069) | | 0.014 |
| 219 | 18.25 | 0.13 | 0.076 | | 0.062 | ( 0.069) | | 0.014 |
| 220 | 18.33 | 0.13 | 0.076 | | 0.062 | ( 0.069) | | 0.014 |
| 221 | 18.42 | 0.13 | 0.076 | | 0.061 | ( 0.069) | | 0.015 |
| 222 | 18.50 | 0.13 | 0.076 | | 0.061 | ( 0.069) | | 0.015 |
| 223 | 18.58 | 0.10 | 0.057 | ( | 0.061) | 0.051 | | 0.006 |
| 224 | 18.67 | 0.10 | 0.057 | ( | 0.060) | 0.051 | | 0.006 |
| 225 | 18.75 | 0.10 | 0.057 | ( | 0.060) | 0.051 | | 0.006 |
| 226 | 18.83 | 0.07 | 0.038 | ( | 0.060) | 0.034 | | 0.004 |
| 227 | 18.92 | 0.07 | 0.038 | ( | 0.060) | 0.034 | | 0.004 |
| 228 | 19.00 | 0.07 | 0.038 | ( | 0.059) | 0.034 | | 0.004 |
| 229 | 19.08 | 0.10 | 0.057 | ( | 0.059) | 0.051 | | 0.006 |
| 230 | 19.17 | 0.10 | 0.057 | ( | 0.059) | 0.051 | | 0.006 |
| 231 | 19.25 | 0.10 | 0.057 | ( | 0.059) | 0.051 | | 0.006 |
| 232 | 19.33 | 0.13 | 0.076 | | 0.058 | ( 0.069) | | 0.018 |
| 233 | 19.42 | 0.13 | 0.076 | | 0.058 | ( 0.069) | | 0.018 |
| 234 | 19.50 | 0.13 | 0.076 | | 0.058 | ( 0.069) | | 0.018 |
| 235 | 19.58 | 0.10 | 0.057 | ( | 0.057) | 0.051 | | 0.006 |
| 236 | 19.67 | 0.10 | 0.057 | ( | 0.057) | 0.051 | | 0.006 |
| 237 | 19.75 | 0.10 | 0.057 | ( | 0.057) | 0.051 | | 0.006 |
| 238 | 19.83 | 0.07 | 0.038 | ( | 0.057) | 0.034 | | 0.004 |
| 239 | 19.92 | 0.07 | 0.038 | ( | 0.056) | 0.034 | | 0.004 |
| 240 | 20.00 | 0.07 | 0.038 | ( | 0.056) | 0.034 | | 0.004 |
| 241 | 20.08 | 0.10 | 0.057 | ( | 0.056) | 0.051 | | 0.006 |
| 242 | 20.17 | 0.10 | 0.057 | ( | 0.056) | 0.051 | | 0.006 |
| 243 | 20.25 | 0.10 | 0.057 | ( | 0.055) | 0.051 | | 0.006 |
| 244 | 20.33 | 0.10 | 0.057 | ( | 0.055) | 0.051 | | 0.006 |
| 245 | 20.42 | 0.10 | 0.057 | ( | 0.055) | 0.051 | | 0.006 |
| 246 | 20.50 | 0.10 | 0.057 | ( | 0.055) | 0.051 | | 0.006 |
| 247 | 20.58 | 0.10 | 0.057 | ( | 0.054) | 0.051 | | 0.006 |
| 248 | 20.67 | 0.10 | 0.057 | ( | 0.054) | 0.051 | | 0.006 |
| 249 | 20.75 | 0.10 | 0.057 | ( | 0.054) | 0.051 | | 0.006 |
| 250 | 20.83 | 0.07 | 0.038 | ( | 0.054) | 0.034 | | 0.004 |
| 251 | 20.92 | 0.07 | 0.038 | ( | 0.054) | 0.034 | | 0.004 |
| 252 | 21.00 | 0.07 | 0.038 | ( | 0.053) | 0.034 | | 0.004 |
| 253 | 21.08 | 0.10 | 0.057 | ( | 0.053) | 0.051 | | 0.006 |
| 254 | 21.17 | 0.10 | 0.057 | ( | 0.053) | 0.051 | | 0.006 |
| 255 | 21.25 | 0.10 | 0.057 | ( | 0.053) | 0.051 | | 0.006 |
| 256 | 21.33 | 0.07 | 0.038 | ( | 0.053) | 0.034 | | 0.004 |
| 257 | 21.42 | 0.07 | 0.038 | ( | 0.052) | 0.034 | | 0.004 |
| 258 | 21.50 | 0.07 | 0.038 | ( | 0.052) | 0.034 | | 0.004 |
| 259 | 21.58 | 0.10 | 0.057 | ( | 0.052) | 0.051 | | 0.006 |
| 260 | 21.67 | 0.10 | 0.057 | ( | 0.052) | 0.051 | | 0.006 |
| 261 | 21.75 | 0.10 | 0.057 | ( | 0.052) | 0.051 | | 0.006 |
| 262 | 21.83 | 0.07 | 0.038 | ( | 0.051) | 0.034 | | 0.004 |
| 263 | 21.92 | 0.07 | 0.038 | ( | 0.051) | 0.034 | | 0.004 |
| 264 | 22.00 | 0.07 | 0.038 | ( | 0.051) | 0.034 | | 0.004 |
| 265 | 22.08 | 0.10 | 0.057 | | 0.051 | ( 0.051) | | 0.006 |
| 266 | 22.17 | 0.10 | 0.057 | | 0.051 | ( 0.051) | | 0.006 |
| 267 | 22.25 | 0.10 | 0.057 | | 0.051 | ( 0.051) | | 0.007 |
| 268 | 22.33 | 0.07 | 0.038 | ( | 0.050) | 0.034 | | 0.004 |
| 269 | 22.42 | 0.07 | 0.038 | ( | 0.050) | 0.034 | | 0.004 |
| 270 | 22.50 | 0.07 | 0.038 | ( | 0.050) | 0.034 | | 0.004 |
| 271 | 22.58 | 0.07 | 0.038 | ( | 0.050) | 0.034 | | 0.004 |
| 272 | 22.67 | 0.07 | 0.038 | ( | 0.050) | 0.034 | | 0.004 |
| 273 | 22.75 | 0.07 | 0.038 | ( | 0.050) | 0.034 | | 0.004 |
| 274 | 22.83 | 0.07 | 0.038 | ( | 0.050) | 0.034 | | 0.004 |
| 275 | 22.92 | 0.07 | 0.038 | ( | 0.049) | 0.034 | | 0.004 |
| 276 | 23.00 | 0.07 | 0.038 | ( | 0.049) | 0.034 | | 0.004 |
| 277 | 23.08 | 0.07 | 0.038 | ( | 0.049) | 0.034 | | 0.004 |
| 278 | 23.17 | 0.07 | 0.038 | ( | 0.049) | 0.034 | | 0.004 |
| 279 | 23.25 | 0.07 | 0.038 | ( | 0.049) | 0.034 | | 0.004 |
| 280 | 23.33 | 0.07 | 0.038 | ( | 0.049) | 0.034 | | 0.004 |
| 281 | 23.42 | 0.07 | 0.038 | ( | 0.049) | 0.034 | | 0.004 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 282 | 23.50 | 0.07 | 0.038 | ( | 0.049) | 0.034 | 0.004 |
| 283 | 23.58 | 0.07 | 0.038 | ( | 0.049) | 0.034 | 0.004 |
| 284 | 23.67 | 0.07 | 0.038 | ( | 0.049) | 0.034 | 0.004 |
| 285 | 23.75 | 0.07 | 0.038 | ( | 0.048) | 0.034 | 0.004 |
| 286 | 23.83 | 0.07 | 0.038 | ( | 0.048) | 0.034 | 0.004 |
| 287 | 23.92 | 0.07 | 0.038 | ( | 0.048) | 0.034 | 0.004 |
| 288 | 24.00 | 0.07 | 0.038 | ( | 0.048) | 0.034 | 0.004 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 34.6

Flood volume = Effective rainfall 2.89(In)
times area 43.0(Ac.)/[(In)/(Ft.)] = 10.3(Ac.Ft)
Total soil loss = 1.87(In)
Total soil loss = 6.712(Ac.Ft)
Total rainfall = 4.76(In)
Flood volume = 450555.1 Cubic Feet
Total soil loss = 292370.9 Cubic Feet

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Peak flow rate of this hydrograph = 24.393(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

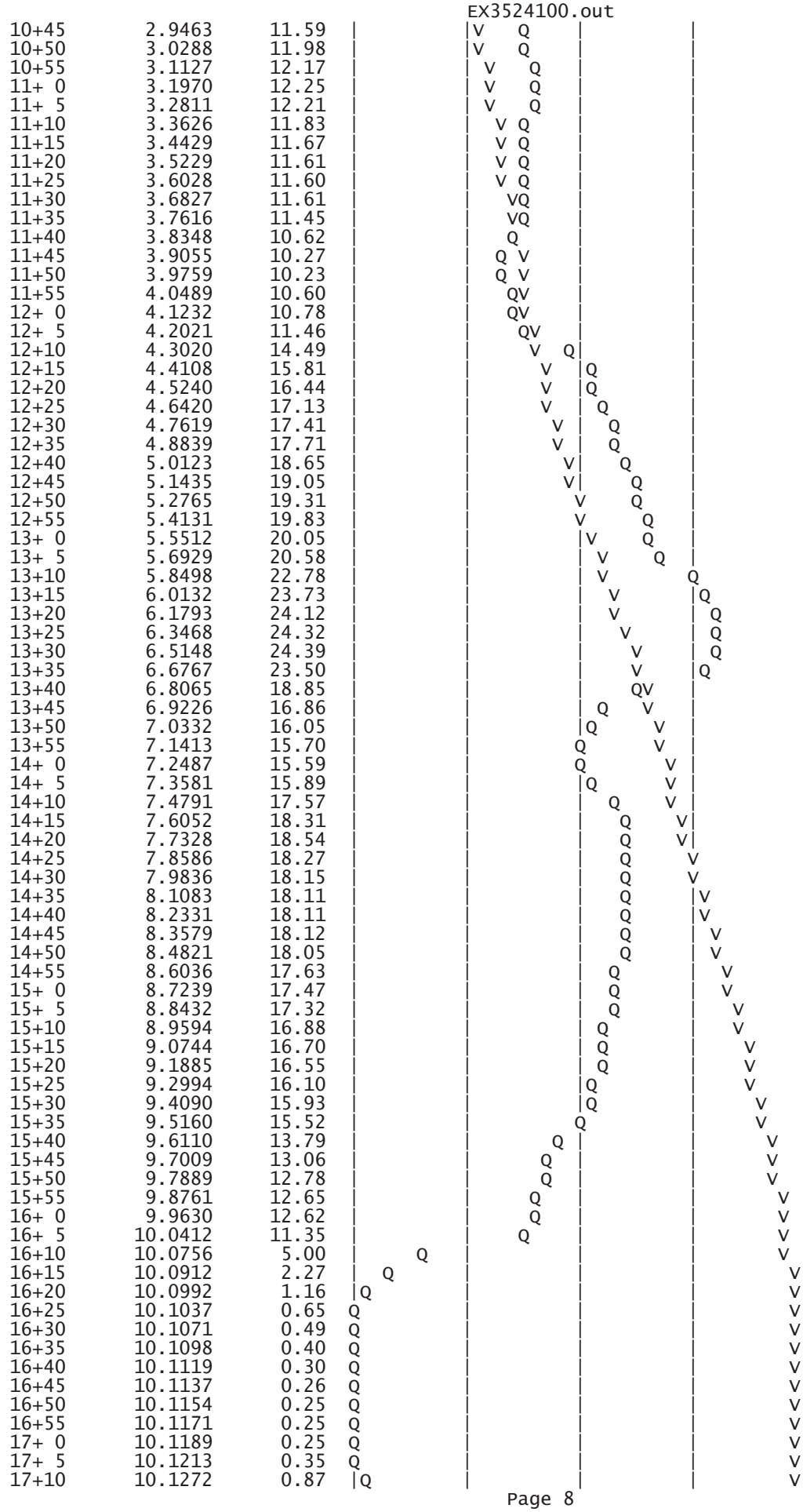
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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 7.5 | 15.0 | 22.5 | 30.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0001 | 0.02 | Q | | | | |
| 0+10 | 0.0008 | 0.10 | Q | | | | |
| 0+15 | 0.0018 | 0.14 | Q | | | | |
| 0+20 | 0.0029 | 0.16 | Q | | | | |
| 0+25 | 0.0044 | 0.21 | Q | | | | |
| 0+30 | 0.0060 | 0.23 | Q | | | | |
| 0+35 | 0.0076 | 0.24 | Q | | | | |
| 0+40 | 0.0093 | 0.25 | Q | | | | |
| 0+45 | 0.0110 | 0.25 | Q | | | | |
| 0+50 | 0.0128 | 0.26 | Q | | | | |
| 0+55 | 0.0148 | 0.30 | Q | | | | |
| 1+ 0 | 0.0170 | 0.32 | Q | | | | |
| 1+ 5 | 0.0192 | 0.32 | Q | | | | |
| 1+10 | 0.0211 | 0.28 | Q | | | | |
| 1+15 | 0.0229 | 0.26 | Q | | | | |
| 1+20 | 0.0246 | 0.25 | Q | | | | |
| 1+25 | 0.0263 | 0.25 | Q | | | | |
| 1+30 | 0.0281 | 0.25 | Q | | | | |
| 1+35 | 0.0298 | 0.25 | Q | | | | |
| 1+40 | 0.0315 | 0.25 | Q | | | | |
| 1+45 | 0.0332 | 0.25 | Q | | | | |
| 1+50 | 0.0349 | 0.26 | Q | | | | |
| 1+55 | 0.0370 | 0.30 | Q | | | | |
| 2+ 0 | 0.0392 | 0.32 | Q | | | | |
| 2+ 5 | 0.0414 | 0.32 | Q | | | | |
| 2+10 | 0.0437 | 0.33 | Q | | | | |
| 2+15 | 0.0459 | 0.33 | Q | | | | |
| 2+20 | 0.0482 | 0.33 | Q | | | | |
| 2+25 | 0.0505 | 0.33 | Q | | | | |
| 2+30 | 0.0528 | 0.33 | Q | | | | |
| 2+35 | 0.0551 | 0.34 | Q | | | | |
| 2+40 | 0.0577 | 0.38 | Q | | | | |
| 2+45 | 0.0605 | 0.40 | Q | | | | |
| 2+50 | 0.0633 | 0.41 | Q | | | | |
| 2+55 | 0.0661 | 0.41 | Q | | | | |
| 3+ 0 | 0.0689 | 0.41 | Q | | | | |
| 3+ 5 | 0.0718 | 0.41 | Q | | | | |
| 3+10 | 0.0746 | 0.41 | Q | | | | |
| 3+15 | 0.0775 | 0.41 | Q | | | | |
| 3+20 | 0.0803 | 0.41 | Q | | | | |
| 3+25 | 0.0831 | 0.41 | Q | | | | |
| 3+30 | 0.0860 | 0.41 | Q | | | | |
| 3+35 | 0.0888 | 0.41 | Q | | | | |
| 3+40 | 0.0917 | 0.41 | Q | | | | |
| 3+45 | 0.0945 | 0.41 | Q | | | | |
| 3+50 | 0.0974 | 0.42 | Q | | | | |
| 3+55 | 0.1006 | 0.46 | Q | | | | |
| 4+ 0 | 0.1039 | 0.48 | Q | | | | |
| 4+ 5 | 0.1073 | 0.49 | Q | | | | |
| 4+10 | 0.1107 | 0.49 | Q | | | | |

```
 4+15       0.1141      0.49  Q          |          |          |          |
 4+20       0.1176      0.50  Q          |          |          |          |
 4+25       0.1213      0.55  Q          |          |          |          |
 4+30       0.1252      0.56  Q          |          |          |          |
 4+35       0.1292      0.57  Q          |          |          |          |
 4+40       0.1331      0.58  Q          |          |          |          |
 4+45       0.1371      0.58  Q          |          |          |          |
 4+50       0.1412      0.59  Q          |          |          |          |
 4+55       0.1458      0.67  Q          |          |          |          |
 5+ 0       0.1507      0.71  Q          |          |          |          |
 5+ 5       0.1556      0.72  Q          |          |          |          |
 5+10       0.1597      0.59  Q          |          |          |          |
 5+15       0.1634      0.53  Q          |          |          |          |
 5+20       0.1669      0.52  Q          |          |          |          |
 5+25       0.1708      0.55  Q          |          |          |          |
 5+30       0.1747      0.57  Q          |          |          |          |
 5+35       0.1789      0.61  Q          |          |          |          |
 5+40       0.1844      0.81  VQ         |          |          |          |
 5+45       0.1907      0.90  VQ         |          |          |          |
 5+50       0.1972      0.96  VQ         |          |          |          |
 5+55       0.2041      1.00  VQ         |          |          |          |
 6+ 0       0.2112      1.03  VQ         |          |          |          |
 6+ 5       0.2190      1.14  VQ         |          |          |          |
 6+10       0.2300      1.59  V Q        |          |          |          |
 6+15       0.2424      1.80  V Q        |          |          |          |
 6+20       0.2554      1.90  V Q        |          |          |          |
 6+25       0.2689      1.96  |VQ        |          |          |          |
 6+30       0.2826      1.99  |VQ        |          |          |          |
 6+35       0.2971      2.11  |VQ        |          |          |          |
 6+40       0.3148      2.56  |V Q       |          |          |          |
 6+45       0.3338      2.77  |V Q       |          |          |          |
 6+50       0.3536      2.87  |V Q       |          |          |          |
 6+55       0.3738      2.93  |V Q       |          |          |          |
 7+ 0       0.3942      2.96  |V Q       |          |          |          |
 7+ 5       0.4148      2.99  |V Q       |          |          |          |
 7+10       0.4356      3.02  |V  Q      |          |          |          |
 7+15       0.4565      3.04  |V  Q      |          |          |          |
 7+20       0.4783      3.15  |V  Q      |          |          |          |
 7+25       0.5031      3.60  |V  Q      |          |          |          |
 7+30       0.5293      3.81  | V  Q     |          |          |          |
 7+35       0.5568      3.99  | V  Q     |          |          |          |
 7+40       0.5877      4.48  | V  Q     |          |          |          |
 7+45       0.6200      4.70  | V   Q    |          |          |          |
 7+50       0.6536      4.88  | V   Q    |          |          |          |
 7+55       0.6906      5.37  | V    Q   |          |          |          |
 8+ 0       0.7291      5.59  | V    Q   |          |          |          |
 8+ 5       0.7695      5.86  | V    Q   |          |          |          |
 8+10       0.8162      6.78  |  V     Q|          |          |          |
 8+15       0.8657      7.18  |  V     Q|          |          |          |
 8+20       0.9163      7.36  |  V     Q|          |          |          |
 8+25       0.9677      7.45  |  V     Q|          |          |          |
 8+30       1.0193      7.50  |  V     Q|          |          |          |
 8+35       1.0718      7.62  |   V     Q          |          |          |
 8+40       1.1274      8.08  |   V     Q          |          |          |
 8+45       1.1845      8.28  |   V     |Q         |          |          |
 8+50       1.2428      8.47  |   V     |Q         |          |          |
 8+55       1.3044      8.95  |    V    |Q         |          |          |
 9+ 0       1.3675      9.17  |    V    | Q        |          |          |
 9+ 5       1.4325      9.44  |    V    | Q        |          |          |
 9+10       1.5038     10.35  |    V    |  Q       |          |          |
 9+15       1.5779     10.75  |     V   |   Q      |          |          |
 9+20       1.6538     11.02  |     V   |   Q      |          |          |
 9+25       1.7332     11.54  |     V   |    Q     |          |          |
 9+30       1.8142     11.77  |      V  |    Q     |          |          |
 9+35       1.8966     11.96  |      V  |    Q     |          |          |
 9+40       1.9823     12.45  |      V  |     Q    |          |          |
 9+45       2.0696     12.67  |       V |     Q    |          |          |
 9+50       2.1581     12.85  |       V |      Q   |          |          |
 9+55       2.2500     13.34  |       V |      Q   |          |          |
10+ 0       2.3433     13.56  |        V|       Q  |          |          |
10+ 5       2.4333     13.06  |        V|      Q   |          |          |
10+10       2.5031     10.14  |        V|  Q       |          |          |
10+15       2.5643      8.89  |        V|Q         |          |          |
10+20       2.6221      8.39  |         VQ         |          |          |
10+25       2.6785      8.18  |         Q          |          |          |
10+30       2.7344      8.12  |         Q          |          |          |
10+35       2.7931      8.53  |         VQ         |          |          |
10+40       2.8665     10.66  |          |V  Q     |          |          |
```



| | | | |
|---|---|---|---|
| 10+45 | 2.9463 | 11.59 | |
| 10+50 | 3.0288 | 11.98 | |
| 10+55 | 3.1127 | 12.17 | |
| 11+ 0 | 3.1970 | 12.25 | |
| 11+ 5 | 3.2811 | 12.21 | |
| 11+10 | 3.3626 | 11.83 | |
| 11+15 | 3.4429 | 11.67 | |
| 11+20 | 3.5229 | 11.61 | |
| 11+25 | 3.6028 | 11.60 | |
| 11+30 | 3.6827 | 11.61 | |
| 11+35 | 3.7616 | 11.45 | |
| 11+40 | 3.8348 | 10.62 | |
| 11+45 | 3.9055 | 10.27 | |
| 11+50 | 3.9759 | 10.23 | |
| 11+55 | 4.0489 | 10.60 | |
| 12+ 0 | 4.1232 | 10.78 | |
| 12+ 5 | 4.2021 | 11.46 | |
| 12+10 | 4.3020 | 14.49 | |
| 12+15 | 4.4108 | 15.81 | |
| 12+20 | 4.5240 | 16.44 | |
| 12+25 | 4.6420 | 17.13 | |
| 12+30 | 4.7619 | 17.41 | |
| 12+35 | 4.8839 | 17.71 | |
| 12+40 | 5.0123 | 18.65 | |
| 12+45 | 5.1435 | 19.05 | |
| 12+50 | 5.2765 | 19.31 | |
| 12+55 | 5.4131 | 19.83 | |
| 13+ 0 | 5.5512 | 20.05 | |
| 13+ 5 | 5.6929 | 20.58 | |
| 13+10 | 5.8498 | 22.78 | |
| 13+15 | 6.0132 | 23.73 | |
| 13+20 | 6.1793 | 24.12 | |
| 13+25 | 6.3468 | 24.32 | |
| 13+30 | 6.5148 | 24.39 | |
| 13+35 | 6.6767 | 23.50 | |
| 13+40 | 6.8065 | 18.85 | |
| 13+45 | 6.9226 | 16.86 | |
| 13+50 | 7.0332 | 16.05 | |
| 13+55 | 7.1413 | 15.70 | |
| 14+ 0 | 7.2487 | 15.59 | |
| 14+ 5 | 7.3581 | 15.89 | |
| 14+10 | 7.4791 | 17.57 | |
| 14+15 | 7.6052 | 18.31 | |
| 14+20 | 7.7328 | 18.54 | |
| 14+25 | 7.8586 | 18.27 | |
| 14+30 | 7.9836 | 18.15 | |
| 14+35 | 8.1083 | 18.11 | |
| 14+40 | 8.2331 | 18.11 | |
| 14+45 | 8.3579 | 18.12 | |
| 14+50 | 8.4821 | 18.05 | |
| 14+55 | 8.6036 | 17.63 | |
| 15+ 0 | 8.7239 | 17.47 | |
| 15+ 5 | 8.8432 | 17.32 | |
| 15+10 | 8.9594 | 16.88 | |
| 15+15 | 9.0744 | 16.70 | |
| 15+20 | 9.1885 | 16.55 | |
| 15+25 | 9.2994 | 16.10 | |
| 15+30 | 9.4090 | 15.93 | |
| 15+35 | 9.5160 | 15.52 | |
| 15+40 | 9.6110 | 13.79 | |
| 15+45 | 9.7009 | 13.06 | |
| 15+50 | 9.7889 | 12.78 | |
| 15+55 | 9.8761 | 12.65 | |
| 16+ 0 | 9.9630 | 12.62 | |
| 16+ 5 | 10.0412 | 11.35 | |
| 16+10 | 10.0756 | 5.00 | |
| 16+15 | 10.0912 | 2.27 | |
| 16+20 | 10.0992 | 1.16 | |
| 16+25 | 10.1037 | 0.65 | |
| 16+30 | 10.1071 | 0.49 | |
| 16+35 | 10.1098 | 0.40 | |
| 16+40 | 10.1119 | 0.30 | |
| 16+45 | 10.1137 | 0.26 | |
| 16+50 | 10.1154 | 0.25 | |
| 16+55 | 10.1171 | 0.25 | |
| 17+ 0 | 10.1189 | 0.25 | |
| 17+ 5 | 10.1213 | 0.35 | |
| 17+10 | 10.1272 | 0.87 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+15 | 10.1348 | 1.10 | \|Q | \| | \| | \| | V\| |
| 17+20 | 10.1431 | 1.20 | \|Q | \| | \| | \| | V\| |
| 17+25 | 10.1517 | 1.26 | \|Q | \| | \| | \| | V\| |
| 17+30 | 10.1605 | 1.28 | \|Q | \| | \| | \| | V\| |
| 17+35 | 10.1695 | 1.30 | \|Q | \| | \| | \| | V\| |
| 17+40 | 10.1786 | 1.32 | \|Q | \| | \| | \| | V\| |
| 17+45 | 10.1878 | 1.34 | \|Q | \| | \| | \| | V\| |
| 17+50 | 10.1965 | 1.27 | \|Q | \| | \| | \| | V\| |
| 17+55 | 10.2024 | 0.85 | \|Q | \| | \| | \| | V\| |
| 18+ 0 | 10.2071 | 0.68 | Q | \| | \| | \| | V\| |
| 18+ 5 | 10.2114 | 0.62 | Q | \| | \| | \| | V\| |
| 18+10 | 10.2156 | 0.60 | Q | \| | \| | \| | V\| |
| 18+15 | 10.2197 | 0.60 | Q | \| | \| | \| | V\| |
| 18+20 | 10.2239 | 0.61 | Q | \| | \| | \| | V\| |
| 18+25 | 10.2282 | 0.62 | Q | \| | \| | \| | V\| |
| 18+30 | 10.2326 | 0.63 | Q | \| | \| | \| | V\| |
| 18+35 | 10.2367 | 0.60 | Q | \| | \| | \| | V\| |
| 18+40 | 10.2395 | 0.40 | Q | \| | \| | \| | V\| |
| 18+45 | 10.2416 | 0.31 | Q | \| | \| | \| | V\| |
| 18+50 | 10.2434 | 0.27 | Q | \| | \| | \| | V\| |
| 18+55 | 10.2449 | 0.21 | Q | \| | \| | \| | V\| |
| 19+ 0 | 10.2461 | 0.18 | Q | \| | \| | \| | V\| |
| 19+ 5 | 10.2474 | 0.18 | Q | \| | \| | \| | V\| |
| 19+10 | 10.2489 | 0.22 | Q | \| | \| | \| | V\| |
| 19+15 | 10.2505 | 0.24 | Q | \| | \| | \| | V\| |
| 19+20 | 10.2526 | 0.30 | Q | \| | \| | \| | V\| |
| 19+25 | 10.2565 | 0.57 | Q | \| | \| | \| | V\| |
| 19+30 | 10.2613 | 0.70 | Q | \| | \| | \| | V\| |
| 19+35 | 10.2662 | 0.70 | Q | \| | \| | \| | V\| |
| 19+40 | 10.2692 | 0.44 | Q | \| | \| | \| | V\| |
| 19+45 | 10.2715 | 0.33 | Q | \| | \| | \| | V\| |
| 19+50 | 10.2733 | 0.27 | Q | \| | \| | \| | V\| |
| 19+55 | 10.2748 | 0.21 | Q | \| | \| | \| | V\| |
| 20+ 0 | 10.2761 | 0.19 | Q | \| | \| | \| | V\| |
| 20+ 5 | 10.2773 | 0.18 | Q | \| | \| | \| | V\| |
| 20+10 | 10.2788 | 0.22 | Q | \| | \| | \| | V\| |
| 20+15 | 10.2804 | 0.24 | Q | \| | \| | \| | V\| |
| 20+20 | 10.2821 | 0.24 | Q | \| | \| | \| | V\| |
| 20+25 | 10.2838 | 0.25 | Q | \| | \| | \| | V\| |
| 20+30 | 10.2855 | 0.25 | Q | \| | \| | \| | V\| |
| 20+35 | 10.2872 | 0.25 | Q | \| | \| | \| | V\| |
| 20+40 | 10.2889 | 0.25 | Q | \| | \| | \| | V\| |
| 20+45 | 10.2906 | 0.25 | Q | \| | \| | \| | V\| |
| 20+50 | 10.2923 | 0.24 | Q | \| | \| | \| | V\| |
| 20+55 | 10.2936 | 0.20 | Q | \| | \| | \| | V\| |
| 21+ 0 | 10.2948 | 0.18 | Q | \| | \| | \| | V\| |
| 21+ 5 | 10.2961 | 0.18 | Q | \| | \| | \| | V\| |
| 21+10 | 10.2976 | 0.22 | Q | \| | \| | \| | V\| |
| 21+15 | 10.2992 | 0.24 | Q | \| | \| | \| | V\| |
| 21+20 | 10.3008 | 0.23 | Q | \| | \| | \| | V\| |
| 21+25 | 10.3022 | 0.19 | Q | \| | \| | \| | V\| |
| 21+30 | 10.3034 | 0.18 | Q | \| | \| | \| | V\| |
| 21+35 | 10.3046 | 0.18 | Q | \| | \| | \| | V\| |
| 21+40 | 10.3061 | 0.22 | Q | \| | \| | \| | V\| |
| 21+45 | 10.3077 | 0.24 | Q | \| | \| | \| | V\| |
| 21+50 | 10.3093 | 0.23 | Q | \| | \| | \| | V\| |
| 21+55 | 10.3107 | 0.19 | Q | \| | \| | \| | V\| |
| 22+ 0 | 10.3119 | 0.18 | Q | \| | \| | \| | V\| |
| 22+ 5 | 10.3132 | 0.18 | Q | \| | \| | \| | V\| |
| 22+10 | 10.3148 | 0.23 | Q | \| | \| | \| | V\| |
| 22+15 | 10.3165 | 0.26 | Q | \| | \| | \| | V\| |
| 22+20 | 10.3183 | 0.26 | Q | \| | \| | \| | V\| |
| 22+25 | 10.3198 | 0.21 | Q | \| | \| | \| | V\| |
| 22+30 | 10.3210 | 0.18 | Q | \| | \| | \| | V\| |
| 22+35 | 10.3222 | 0.17 | Q | \| | \| | \| | V\| |
| 22+40 | 10.3234 | 0.17 | Q | \| | \| | \| | V\| |
| 22+45 | 10.3245 | 0.17 | Q | \| | \| | \| | V\| |
| 22+50 | 10.3256 | 0.17 | Q | \| | \| | \| | V\| |
| 22+55 | 10.3268 | 0.17 | Q | \| | \| | \| | V\| |
| 23+ 0 | 10.3279 | 0.17 | Q | \| | \| | \| | V\| |
| 23+ 5 | 10.3291 | 0.17 | Q | \| | \| | \| | V\| |
| 23+10 | 10.3302 | 0.17 | Q | \| | \| | \| | V\| |
| 23+15 | 10.3313 | 0.17 | Q | \| | \| | \| | V\| |
| 23+20 | 10.3325 | 0.17 | Q | \| | \| | \| | V\| |
| 23+25 | 10.3336 | 0.17 | Q | \| | \| | \| | V\| |
| 23+30 | 10.3347 | 0.17 | Q | \| | \| | \| | V\| |
| 23+35 | 10.3359 | 0.17 | Q | \| | \| | \| | V\| |
| 23+40 | 10.3370 | 0.17 | Q | \| | \| | \| | V\| |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 23+45 | 10.3381 | 0.17 | Q | \| | \| | \| | V\| |
| 23+50 | 10.3393 | 0.17 | Q | \| | \| | \| | V\| |
| 23+55 | 10.3404 | 0.17 | Q | \| | \| | \| | V\| |
| 24+ 0 | 10.3416 | 0.17 | Q | \| | \| | \| | V\| |
| 24+ 5 | 10.3426 | 0.15 | Q | \| | \| | \| | V\| |
| 24+10 | 10.3430 | 0.06 | Q | \| | \| | \| | V\| |
| 24+15 | 10.3432 | 0.03 | Q | \| | \| | \| | V\| |
| 24+20 | 10.3433 | 0.01 | Q | \| | \| | \| | V\| |
| 24+25 | 10.3433 | 0.00 | Q | \| | \| | \| | V\| |
| 24+30 | 10.3433 | 0.00 | Q | \| | \| | \| | V\| |
| 24+35 | 10.3433 | 0.00 | Q | \| | \| | \| | V\| |
| 24+40 | 10.3433 | 0.00 | Q | \| | \| | \| | V\| |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX361100.out

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----------------------------------------------------------------------

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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164469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 36
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 2.90(Ac.) = 0.005 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.90(Ac.) = 0.005 Sq. Mi.
Length along longest watercourse = 679.00(Ft.)
Length along longest watercourse measured to centroid = 282.00(Ft.)
Length along longest watercourse = 0.129 Mi.
Length along longest watercourse measured to centroid = 0.053 Mi.
Difference in elevation = 190.00(Ft.)
Slope along watercourse = 1477.4669 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.032 Hr.
Lag time = 1.90 Min.
25% of lag time = 0.47 Min.
40% of lag time = 0.76 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.90 | 0.50 | 1.45 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.90 | 1.20 | 3.48 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2.900 | 83.20 | 0.000 |

Total Area Entered = 2.90(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.2 | 92.9 | 0.092 | 0.000 | 0.092 | 1.000 | 0.092 |
| | | | | | Sum (F) = | 0.092 |

Area averaged mean soil loss (F) (In/Hr) = 0.092

Minimum soil loss rate ((In/Hr)) = 0.046
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

---

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 263.478 | 52.970 | 1.548 |
| 2 0.167 | 526.956 | 43.722 | 1.278 |
| 3 0.250 | 790.434 | 3.308 | 0.097 |
| | Sum = | 100.000 Sum= | 2.923 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 4.20 | 0.605 | 0.092 | ( 0.544) | 0.513 |
| 2 0.17 | 4.30 | 0.619 | 0.092 | ( 0.557) | 0.527 |
| 3 0.25 | 5.00 | 0.720 | 0.092 | ( 0.648) | 0.628 |
| 4 0.33 | 5.00 | 0.720 | 0.092 | ( 0.648) | 0.628 |
| 5 0.42 | 5.80 | 0.835 | 0.092 | ( 0.752) | 0.743 |
| 6 0.50 | 6.50 | 0.936 | 0.092 | ( 0.842) | 0.844 |
| 7 0.58 | 7.40 | 1.066 | 0.092 | ( 0.959) | 0.974 |
| 8 0.67 | 8.60 | 1.238 | 0.092 | ( 1.115) | 1.146 |
| 9 0.75 | 12.30 | 1.771 | 0.092 | ( 1.594) | 1.679 |
| 10 0.83 | 29.10 | 4.190 | 0.092 | ( 3.771) | 4.098 |
| 11 0.92 | 6.80 | 0.979 | 0.092 | ( 0.881) | 0.887 |
| 12 1.00 | 5.00 | 0.720 | 0.092 | ( 0.648) | 0.628 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 13.3 |

Flood volume = Effective rainfall 1.11(In)
times area 2.9(Ac.)/[(In)/(Ft.)] = 0.3(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.022(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 11663.2 Cubic Feet
Total soil loss = 968.9 Cubic Feet

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Peak flow rate of this hydrograph = 8.606(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0055 | 0.79 | V Q | | | | |
| 0+10 | 0.0156 | 1.47 | V Q | | | | |
| 0+15 | 0.0273 | 1.70 | V Q | | | | |
| 0+20 | 0.0399 | 1.83 | V Q | | | | |
| 0+25 | 0.0537 | 2.01 | Q | | | | |
| 0+30 | 0.0697 | 2.32 | QV | | | | |
| 0+35 | 0.0880 | 2.66 | Q V | | | | |
| 0+40 | 0.1094 | 3.10 | Q V | | | | |
| 0+45 | 0.1380 | 4.16 | Q V | | | | |
| 0+50 | 0.1973 | 8.61 | V Q | | | | |
| 0+55 | 0.2440 | 6.78 | Q V | | | | |
| 1+ 0 | 0.2612 | 2.50 | Q | | | | V |
| 1+ 5 | 0.2673 | 0.89 | Q | | | | V |
| 1+10 | 0.2677 | 0.06 | Q | | | | V |

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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX363100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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164469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 36
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 2.90(Ac.) = 0.005 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.90(Ac.) = 0.005 Sq. Mi.
Length along longest watercourse = 679.00(Ft.)
Length along longest watercourse measured to centroid = 282.00(Ft.)
Length along longest watercourse = 0.129 Mi.
Length along longest watercourse measured to centroid = 0.053 Mi.
Difference in elevation = 190.00(Ft.)
Slope along watercourse = 1477.4669 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.032 Hr.
Lag time = 1.90 Min.
25% of lag time = 0.47 Min.
40% of lag time = 0.76 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.90 | 0.82 | 2.38 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.90 | 1.82 | 5.28 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.820(In)
Area Averaged 100-Year Rainfall = 1.820(In)

Point rain (area averaged) = 1.820(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.820(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2.900 | 83.20 | 0.000 |

Total Area Entered = 2.90(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.2 | 92.9 | 0.092 | 0.000 | 0.092 | 1.000 | 0.092 |
| | | | | | Sum (F) = | 0.092 |

Area averaged mean soil loss (F) (In/Hr) = 0.092

Minimum soil loss rate ((In/Hr)) = 0.046
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 263.478 | 52.970 | 1.548 |
| 2 0.167 | 526.956 | 43.722 | 1.278 |
| 3 0.250 | 790.434 | 3.308 | 0.097 |
| | Sum = 100.000 | Sum= | 2.923 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.284 | 0.092 | ( 0.256) | 0.192 |
| 2 | 0.17 | 1.30 | 0.284 | 0.092 | ( 0.256) | 0.192 |
| 3 | 0.25 | 1.10 | 0.240 | 0.092 | ( 0.216) | 0.148 |
| 4 | 0.33 | 1.50 | 0.328 | 0.092 | ( 0.295) | 0.236 |
| 5 | 0.42 | 1.50 | 0.328 | 0.092 | ( 0.295) | 0.236 |
| 6 | 0.50 | 1.80 | 0.393 | 0.092 | ( 0.354) | 0.301 |
| 7 | 0.58 | 1.50 | 0.328 | 0.092 | ( 0.295) | 0.236 |
| 8 | 0.67 | 1.80 | 0.393 | 0.092 | ( 0.354) | 0.301 |
| 9 | 0.75 | 1.80 | 0.393 | 0.092 | ( 0.354) | 0.301 |
| 10 | 0.83 | 1.50 | 0.328 | 0.092 | ( 0.295) | 0.236 |
| 11 | 0.92 | 1.60 | 0.349 | 0.092 | ( 0.314) | 0.257 |
| 12 | 1.00 | 1.80 | 0.393 | 0.092 | ( 0.354) | 0.301 |
| 13 | 1.08 | 2.20 | 0.480 | 0.092 | ( 0.432) | 0.388 |
| 14 | 1.17 | 2.20 | 0.480 | 0.092 | ( 0.432) | 0.388 |
| 15 | 1.25 | 2.20 | 0.480 | 0.092 | ( 0.432) | 0.388 |
| 16 | 1.33 | 2.00 | 0.437 | 0.092 | ( 0.393) | 0.345 |
| 17 | 1.42 | 2.60 | 0.568 | 0.092 | ( 0.511) | 0.476 |
| 18 | 1.50 | 2.70 | 0.590 | 0.092 | ( 0.531) | 0.498 |
| 19 | 1.58 | 2.40 | 0.524 | 0.092 | ( 0.472) | 0.432 |
| 20 | 1.67 | 2.70 | 0.590 | 0.092 | ( 0.531) | 0.498 |
| 21 | 1.75 | 3.30 | 0.721 | 0.092 | ( 0.649) | 0.629 |
| 22 | 1.83 | 3.10 | 0.677 | 0.092 | ( 0.609) | 0.585 |
| 23 | 1.92 | 2.90 | 0.633 | 0.092 | ( 0.570) | 0.541 |
| 24 | 2.00 | 3.00 | 0.655 | 0.092 | ( 0.590) | 0.563 |
| 25 | 2.08 | 3.10 | 0.677 | 0.092 | ( 0.609) | 0.585 |
| 26 | 2.17 | 4.20 | 0.917 | 0.092 | ( 0.826) | 0.825 |
| 27 | 2.25 | 5.00 | 1.092 | 0.092 | ( 0.983) | 1.000 |
| 28 | 2.33 | 3.50 | 0.764 | 0.092 | ( 0.688) | 0.672 |
| 29 | 2.42 | 6.80 | 1.485 | 0.092 | ( 1.337) | 1.393 |
| 30 | 2.50 | 7.30 | 1.594 | 0.092 | ( 1.435) | 1.502 |
| 31 | 2.58 | 8.20 | 1.791 | 0.092 | ( 1.612) | 1.699 |
| 32 | 2.67 | 5.90 | 1.289 | 0.092 | ( 1.160) | 1.197 |
| 33 | 2.75 | 2.00 | 0.437 | 0.092 | ( 0.393) | 0.345 |
| 34 | 2.83 | 1.80 | 0.393 | 0.092 | ( 0.354) | 0.301 |
| 35 | 2.92 | 1.80 | 0.393 | 0.092 | ( 0.354) | 0.301 |
| 36 | 3.00 | 0.60 | 0.131 | 0.092 | ( 0.118) | 0.039 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 18.5 |

Flood volume = Effective rainfall 1.54(In)
times area 2.9(Ac.)/[(In)/(Ft.)] = 0.4(Ac.Ft)
Total soil loss = 0.28(In)
Total soil loss = 0.067(Ac.Ft)
Total rainfall = 1.82(In)
Flood volume = 16252.2 Cubic Feet
Total soil loss = 2906.7 Cubic Feet

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Peak flow rate of this hydrograph = 4.687(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0020 | 0.30 | VQ | | | | |
| 0+10 | 0.0058 | 0.54 | V Q | | | | |
| 0+15 | 0.0092 | 0.49 | VQ | | | | |
| 0+20 | 0.0131 | 0.57 | VQ | | | | |
| 0+25 | 0.0178 | 0.68 | VQ | | | | |
| 0+30 | 0.0233 | 0.79 | VQ | | | | |
| 0+35 | 0.0286 | 0.77 | Q | | | | |
| 0+40 | 0.0341 | 0.80 | Q | | | | |
| 0+45 | 0.0401 | 0.87 | QV | | | | |
| 0+50 | 0.0454 | 0.78 | QV | | | | |
| 0+55 | 0.0505 | 0.73 | Q V | | | | |
| 1+ 0 | 0.0561 | 0.82 | Q V | | | | |
| 1+ 5 | 0.0631 | 1.01 | Q V | | | | |
| 1+10 | 0.0708 | 1.13 | Q V | | | | |
| 1+15 | 0.0787 | 1.14 | Q V | | | | |
| 1+20 | 0.0860 | 1.07 | Q V | | | | |
| 1+25 | 0.0944 | 1.22 | Q V | | | | |
| 1+30 | 0.1041 | 1.41 | Q V | | | | |
| 1+35 | 0.1134 | 1.35 | Q V | | | | |
| 1+40 | 0.1229 | 1.37 | Q V | | | | |
| 1+45 | 0.1342 | 1.65 | Q V | | | | |
| 1+50 | 0.1463 | 1.76 | Q V | | | | |
| 1+55 | 0.1577 | 1.65 | Q V | | | | |
| 2+ 0 | 0.1689 | 1.62 | Q V | | | | |
| 2+ 5 | 0.1804 | 1.68 | Q V | | | | |
| 2+10 | 0.1947 | 2.08 | Q V | | | | |
| 2+15 | 0.2131 | 2.66 | Q V | | | | |
| 2+20 | 0.2296 | 2.40 | Q V | | | | |
| 2+25 | 0.2510 | 3.11 | Q V | | | | |
| 2+30 | 0.2798 | 4.17 | Q V | | | | |
| 2+35 | 0.3121 | 4.69 | Q V | | | | |
| 2+40 | 0.3408 | 4.17 | Q V | | | | |
| 2+45 | 0.3561 | 2.23 | Q V | | | | |
| 2+50 | 0.3632 | 1.02 | Q V | | | | |
| 2+55 | 0.3693 | 0.88 | Q V | | | | |
| 3+ 0 | 0.3725 | 0.47 | Q V | | | | |
| 3+ 5 | 0.3731 | 0.08 | Q V | | | | |
| 3+10 | 0.3731 | 0.00 | Q V | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX366100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

164469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 36
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 2.90(Ac.) = 0.005 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.90(Ac.) = 0.005 Sq. Mi.
Length along longest watercourse = 679.00(Ft.)
Length along longest watercourse measured to centroid = 282.00(Ft.)
Length along longest watercourse = 0.129 Mi.
Length along longest watercourse measured to centroid = 0.053 Mi.
Difference in elevation = 190.00(Ft.)
Slope along watercourse = 1477.4669 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.032 Hr.
Lag time = 1.90 Min.
25% of lag time = 0.47 Min.
40% of lag time = 0.76 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.90 | 1.16 | 3.36 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.90 | 2.50 | 7.25 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.160(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2.900 | 83.20 | 0.000 |

Total Area Entered = 2.90(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.2 | 92.9 | 0.092 | 0.000 | 0.092 | 1.000 | 0.092 |
| | | | | | Sum (F) = | 0.092 |

Area averaged mean soil loss (F) (In/Hr) = 0.092

Minimum soil loss rate ((In/Hr)) = 0.046
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 263.478 | 52.970 | 1.548 |
| 2 | 0.167 | 526.956 | 43.722 | 1.278 |
| 3 | 0.250 | 790.434 | 3.308 | 0.097 |
| | | | Sum = 100.000 Sum= | 2.923 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.092 | ( 0.135) | 0.058 |
| 2 | 0.17 | 0.60 | 0.180 | 0.092 | ( 0.162) | 0.088 |
| 3 | 0.25 | 0.60 | 0.180 | 0.092 | ( 0.162) | 0.088 |
| 4 | 0.33 | 0.60 | 0.180 | 0.092 | ( 0.162) | 0.088 |
| 5 | 0.42 | 0.60 | 0.180 | 0.092 | ( 0.162) | 0.088 |
| 6 | 0.50 | 0.70 | 0.210 | 0.092 | ( 0.189) | 0.118 |
| 7 | 0.58 | 0.70 | 0.210 | 0.092 | ( 0.189) | 0.118 |
| 8 | 0.67 | 0.70 | 0.210 | 0.092 | ( 0.189) | 0.118 |
| 9 | 0.75 | 0.70 | 0.210 | 0.092 | ( 0.189) | 0.118 |
| 10 | 0.83 | 0.70 | 0.210 | 0.092 | ( 0.189) | 0.118 |
| 11 | 0.92 | 0.70 | 0.210 | 0.092 | ( 0.189) | 0.118 |
| 12 | 1.00 | 0.80 | 0.240 | 0.092 | ( 0.216) | 0.148 |
| 13 | 1.08 | 0.80 | 0.240 | 0.092 | ( 0.216) | 0.148 |
| 14 | 1.17 | 0.80 | 0.240 | 0.092 | ( 0.216) | 0.148 |
| 15 | 1.25 | 0.80 | 0.240 | 0.092 | ( 0.216) | 0.148 |
| 16 | 1.33 | 0.80 | 0.240 | 0.092 | ( 0.216) | 0.148 |
| 17 | 1.42 | 0.80 | 0.240 | 0.092 | ( 0.216) | 0.148 |
| 18 | 1.50 | 0.80 | 0.240 | 0.092 | ( 0.216) | 0.148 |
| 19 | 1.58 | 0.80 | 0.240 | 0.092 | ( 0.216) | 0.148 |
| 20 | 1.67 | 0.80 | 0.240 | 0.092 | ( 0.216) | 0.148 |
| 21 | 1.75 | 0.80 | 0.240 | 0.092 | ( 0.216) | 0.148 |
| 22 | 1.83 | 0.80 | 0.240 | 0.092 | ( 0.216) | 0.148 |
| 23 | 1.92 | 0.80 | 0.240 | 0.092 | ( 0.216) | 0.148 |
| 24 | 2.00 | 0.90 | 0.270 | 0.092 | ( 0.243) | 0.178 |
| 25 | 2.08 | 0.80 | 0.240 | 0.092 | ( 0.216) | 0.148 |
| 26 | 2.17 | 0.90 | 0.270 | 0.092 | ( 0.243) | 0.178 |
| 27 | 2.25 | 0.90 | 0.270 | 0.092 | ( 0.243) | 0.178 |
| 28 | 2.33 | 0.90 | 0.270 | 0.092 | ( 0.243) | 0.178 |
| 29 | 2.42 | 0.90 | 0.270 | 0.092 | ( 0.243) | 0.178 |
| 30 | 2.50 | 0.90 | 0.270 | 0.092 | ( 0.243) | 0.178 |
| 31 | 2.58 | 0.90 | 0.270 | 0.092 | ( 0.243) | 0.178 |
| 32 | 2.67 | 0.90 | 0.270 | 0.092 | ( 0.243) | 0.178 |
| 33 | 2.75 | 1.00 | 0.300 | 0.092 | ( 0.270) | 0.208 |
| 34 | 2.83 | 1.00 | 0.300 | 0.092 | ( 0.270) | 0.208 |
| 35 | 2.92 | 1.00 | 0.300 | 0.092 | ( 0.270) | 0.208 |
| 36 | 3.00 | 1.00 | 0.300 | 0.092 | ( 0.270) | 0.208 |
| 37 | 3.08 | 1.00 | 0.300 | 0.092 | ( 0.270) | 0.208 |
| 38 | 3.17 | 1.10 | 0.330 | 0.092 | ( 0.297) | 0.238 |
| 39 | 3.25 | 1.10 | 0.330 | 0.092 | ( 0.297) | 0.238 |
| 40 | 3.33 | 1.10 | 0.330 | 0.092 | ( 0.297) | 0.238 |
| 41 | 3.42 | 1.20 | 0.360 | 0.092 | ( 0.324) | 0.268 |
| 42 | 3.50 | 1.30 | 0.390 | 0.092 | ( 0.351) | 0.298 |
| 43 | 3.58 | 1.40 | 0.420 | 0.092 | ( 0.378) | 0.328 |
| 44 | 3.67 | 1.40 | 0.420 | 0.092 | ( 0.378) | 0.328 |
| 45 | 3.75 | 1.50 | 0.450 | 0.092 | ( 0.405) | 0.358 |
| 46 | 3.83 | 1.50 | 0.450 | 0.092 | ( 0.405) | 0.358 |
| 47 | 3.92 | 1.60 | 0.480 | 0.092 | ( 0.432) | 0.388 |
| 48 | 4.00 | 1.60 | 0.480 | 0.092 | ( 0.432) | 0.388 |
| 49 | 4.08 | 1.70 | 0.510 | 0.092 | ( 0.459) | 0.418 |
| 50 | 4.17 | 1.80 | 0.540 | 0.092 | ( 0.486) | 0.448 |
| 51 | 4.25 | 1.90 | 0.570 | 0.092 | ( 0.513) | 0.478 |
| 52 | 4.33 | 2.00 | 0.600 | 0.092 | ( 0.540) | 0.508 |
| 53 | 4.42 | 2.10 | 0.630 | 0.092 | ( 0.567) | 0.538 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 54 | 4.50 | 2.10 | 0.630 | 0.092 | ( 0.567) | 0.538 | |
| 55 | 4.58 | 2.20 | 0.660 | 0.092 | ( 0.594) | 0.568 | |
| 56 | 4.67 | 2.30 | 0.690 | 0.092 | ( 0.621) | 0.598 | |
| 57 | 4.75 | 2.40 | 0.720 | 0.092 | ( 0.648) | 0.628 | |
| 58 | 4.83 | 2.40 | 0.720 | 0.092 | ( 0.648) | 0.628 | |
| 59 | 4.92 | 2.50 | 0.750 | 0.092 | ( 0.675) | 0.658 | |
| 60 | 5.00 | 2.60 | 0.780 | 0.092 | ( 0.702) | 0.688 | |
| 61 | 5.08 | 3.10 | 0.930 | 0.092 | ( 0.837) | 0.838 | |
| 62 | 5.17 | 3.60 | 1.080 | 0.092 | ( 0.972) | 0.988 | |
| 63 | 5.25 | 3.90 | 1.170 | 0.092 | ( 1.053) | 1.078 | |
| 64 | 5.33 | 4.20 | 1.260 | 0.092 | ( 1.134) | 1.168 | |
| 65 | 5.42 | 4.70 | 1.410 | 0.092 | ( 1.269) | 1.318 | |
| 66 | 5.50 | 5.60 | 1.680 | 0.092 | ( 1.512) | 1.588 | |
| 67 | 5.58 | 1.90 | 0.570 | 0.092 | ( 0.513) | 0.478 | |
| 68 | 5.67 | 0.90 | 0.270 | 0.092 | ( 0.243) | 0.178 | |
| 69 | 5.75 | 0.60 | 0.180 | 0.092 | ( 0.162) | 0.088 | |
| 70 | 5.83 | 0.50 | 0.150 | 0.092 | ( 0.135) | 0.058 | |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.092) | 0.081 | 0.009 | |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.092) | 0.054 | 0.006 | |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.4

Flood volume = Effective rainfall 1.95(In)
times area 2.9(Ac.)/[(In)/(Ft.)] = 0.5(Ac.Ft)
Total soil loss = 0.55(In)
Total soil loss = 0.132(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 20546.9 Cubic Feet
Total soil loss = 5770.4 Cubic Feet

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Peak flow rate of this hydrograph = 4.258(CFS)

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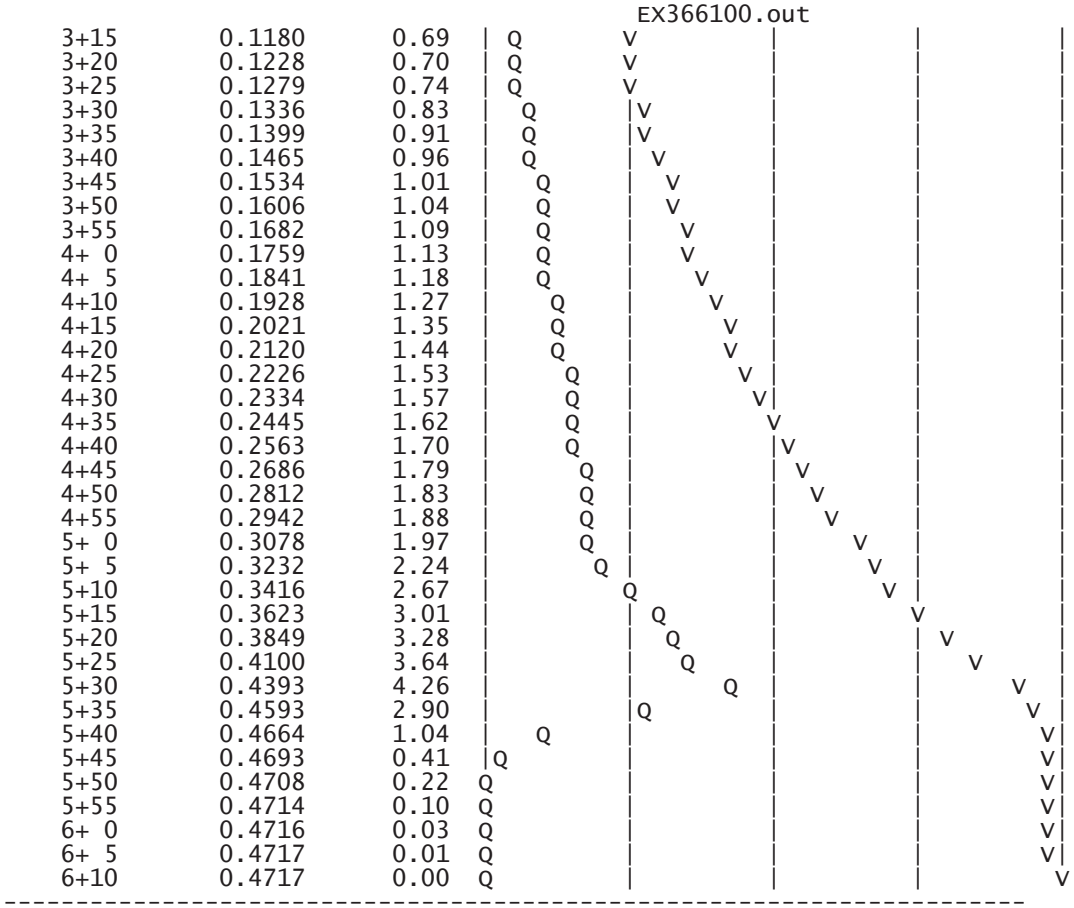
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0006 | 0.09 | Q | \| | \| | \| | \| |
| 0+10 | 0.0021 | 0.21 | Q | \| | \| | \| | \| |
| 0+15 | 0.0038 | 0.25 | VQ | \| | \| | \| | \| |
| 0+20 | 0.0056 | 0.26 | VQ | \| | \| | \| | \| |
| 0+25 | 0.0074 | 0.26 | VQ | \| | \| | \| | \| |
| 0+30 | 0.0095 | 0.30 | VQ | \| | \| | \| | \| |
| 0+35 | 0.0118 | 0.34 | \|Q | \| | \| | \| | \| |
| 0+40 | 0.0142 | 0.34 | \|Q | \| | \| | \| | \| |
| 0+45 | 0.0166 | 0.34 | \|Q | \| | \| | \| | \| |
| 0+50 | 0.0189 | 0.34 | \|Q | \| | \| | \| | \| |
| 0+55 | 0.0213 | 0.34 | \|Q | \| | \| | \| | \| |
| 1+ 0 | 0.0240 | 0.39 | \|QV | \| | \| | \| | \| |
| 1+ 5 | 0.0270 | 0.43 | \|QV | \| | \| | \| | \| |
| 1+10 | 0.0299 | 0.43 | \|QV | \| | \| | \| | \| |
| 1+15 | 0.0329 | 0.43 | \|QV | \| | \| | \| | \| |
| 1+20 | 0.0359 | 0.43 | \|Q V | \| | \| | \| | \| |
| 1+25 | 0.0389 | 0.43 | \|Q V | \| | \| | \| | \| |
| 1+30 | 0.0419 | 0.43 | \|Q V | \| | \| | \| | \| |
| 1+35 | 0.0448 | 0.43 | \|Q V | \| | \| | \| | \| |
| 1+40 | 0.0478 | 0.43 | \|Q V | \| | \| | \| | \| |
| 1+45 | 0.0508 | 0.43 | \|Q V | \| | \| | \| | \| |
| 1+50 | 0.0538 | 0.43 | \|Q V | \| | \| | \| | \| |
| 1+55 | 0.0568 | 0.43 | \|Q V | \| | \| | \| | \| |
| 2+ 0 | 0.0601 | 0.48 | \|Q V | \| | \| | \| | \| |
| 2+ 5 | 0.0633 | 0.47 | \|Q V | \| | \| | \| | \| |
| 2+10 | 0.0666 | 0.48 | \|Q V | \| | \| | \| | \| |
| 2+15 | 0.0702 | 0.52 | \| Q V | \| | \| | \| | \| |
| 2+20 | 0.0738 | 0.52 | \| Q V | \| | \| | \| | \| |
| 2+25 | 0.0774 | 0.52 | \| Q V | \| | \| | \| | \| |
| 2+30 | 0.0809 | 0.52 | \| Q V | \| | \| | \| | \| |
| 2+35 | 0.0845 | 0.52 | \| Q V | \| | \| | \| | \| |
| 2+40 | 0.0881 | 0.52 | \| Q V | \| | \| | \| | \| |
| 2+45 | 0.0920 | 0.57 | \| Q V | \| | \| | \| | \| |
| 2+50 | 0.0962 | 0.61 | \| Q V | \| | \| | \| | \| |
| 2+55 | 0.1004 | 0.61 | \| Q V | \| | \| | \| | \| |
| 3+ 0 | 0.1046 | 0.61 | \| Q V | \| | \| | \| | \| |
| 3+ 5 | 0.1087 | 0.61 | \| Q V\| | \| | \| | \| | \| |
| 3+10 | 0.1133 | 0.65 | \| Q V\| | \| | \| | \| | \| |


3+15 0.1180 0.69
3+20 0.1228 0.70
3+25 0.1279 0.74
3+30 0.1336 0.83
3+35 0.1399 0.91
3+40 0.1465 0.96
3+45 0.1534 1.01
3+50 0.1606 1.04
3+55 0.1682 1.09
4+ 0 0.1759 1.13
4+ 5 0.1841 1.18
4+10 0.1928 1.27
4+15 0.2021 1.35
4+20 0.2120 1.44
4+25 0.2226 1.53
4+30 0.2334 1.57
4+35 0.2445 1.62
4+40 0.2563 1.70
4+45 0.2686 1.79
4+50 0.2812 1.83
4+55 0.2942 1.88
5+ 0 0.3078 1.97
5+ 5 0.3232 2.24
5+10 0.3416 2.67
5+15 0.3623 3.01
5+20 0.3849 3.28
5+25 0.4100 3.64
5+30 0.4393 4.26
5+35 0.4593 2.90
5+40 0.4664 1.04
5+45 0.4693 0.41
5+50 0.4708 0.22
5+55 0.4714 0.10
6+ 0 0.4716 0.03
6+ 5 0.4717 0.01
6+10 0.4717 0.00

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX3624100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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164469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 36
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 2.90(Ac.) = 0.005 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.90(Ac.) = 0.005 Sq. Mi.
Length along longest watercourse = 679.00(Ft.)
Length along longest watercourse measured to centroid = 282.00(Ft.)
Length along longest watercourse = 0.129 Mi.
Length along longest watercourse measured to centroid = 0.053 Mi.
Difference in elevation = 190.00(Ft.)
Slope along watercourse = 1477.4669 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.032 Hr.
Lag time = 1.90 Min.
25% of lag time = 0.47 Min.
40% of lag time = 0.76 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.90 | 1.80 | 5.22 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.90 | 4.77 | 13.83 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.770(In)

Point rain (area averaged) = 4.770(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.770(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2.900 | 83.20 | 0.000 |

Total Area Entered = 2.90(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.2 | 92.9 | 0.092 | 0.000 | 0.092 | 1.000 | 0.092 |
| | | | | | Sum (F) = | 0.092 |

Area averaged mean soil loss (F) (In/Hr) = 0.092

Minimum soil loss rate ((In/Hr)) = 0.046
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 263.478 | 52.970 | 1.548 |
| 2 | 0.167 | 526.956 | 43.722 | 1.278 |
| 3 | 0.250 | 790.434 | 3.308 | 0.097 |
| | | | Sum = 100.000 Sum= | 2.923 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.038 | ( 0.163) | 0.034 | 0.004 |
| 2 | 0.17 | 0.07 | 0.038 | ( 0.163) | 0.034 | 0.004 |
| 3 | 0.25 | 0.07 | 0.038 | ( 0.162) | 0.034 | 0.004 |
| 4 | 0.33 | 0.10 | 0.057 | ( 0.161) | 0.052 | 0.006 |
| 5 | 0.42 | 0.10 | 0.057 | ( 0.161) | 0.052 | 0.006 |
| 6 | 0.50 | 0.10 | 0.057 | ( 0.160) | 0.052 | 0.006 |
| 7 | 0.58 | 0.10 | 0.057 | ( 0.159) | 0.052 | 0.006 |
| 8 | 0.67 | 0.10 | 0.057 | ( 0.159) | 0.052 | 0.006 |
| 9 | 0.75 | 0.10 | 0.057 | ( 0.158) | 0.052 | 0.006 |
| 10 | 0.83 | 0.13 | 0.076 | ( 0.158) | 0.069 | 0.008 |
| 11 | 0.92 | 0.13 | 0.076 | ( 0.157) | 0.069 | 0.008 |
| 12 | 1.00 | 0.13 | 0.076 | ( 0.156) | 0.069 | 0.008 |
| 13 | 1.08 | 0.10 | 0.057 | ( 0.156) | 0.052 | 0.006 |
| 14 | 1.17 | 0.10 | 0.057 | ( 0.155) | 0.052 | 0.006 |
| 15 | 1.25 | 0.10 | 0.057 | ( 0.154) | 0.052 | 0.006 |
| 16 | 1.33 | 0.10 | 0.057 | ( 0.154) | 0.052 | 0.006 |
| 17 | 1.42 | 0.10 | 0.057 | ( 0.153) | 0.052 | 0.006 |
| 18 | 1.50 | 0.10 | 0.057 | ( 0.153) | 0.052 | 0.006 |
| 19 | 1.58 | 0.10 | 0.057 | ( 0.152) | 0.052 | 0.006 |
| 20 | 1.67 | 0.10 | 0.057 | ( 0.151) | 0.052 | 0.006 |
| 21 | 1.75 | 0.10 | 0.057 | ( 0.151) | 0.052 | 0.006 |
| 22 | 1.83 | 0.13 | 0.076 | ( 0.150) | 0.069 | 0.008 |
| 23 | 1.92 | 0.13 | 0.076 | ( 0.150) | 0.069 | 0.008 |
| 24 | 2.00 | 0.13 | 0.076 | ( 0.149) | 0.069 | 0.008 |
| 25 | 2.08 | 0.13 | 0.076 | ( 0.148) | 0.069 | 0.008 |
| 26 | 2.17 | 0.13 | 0.076 | ( 0.148) | 0.069 | 0.008 |
| 27 | 2.25 | 0.13 | 0.076 | ( 0.147) | 0.069 | 0.008 |
| 28 | 2.33 | 0.13 | 0.076 | ( 0.147) | 0.069 | 0.008 |
| 29 | 2.42 | 0.13 | 0.076 | ( 0.146) | 0.069 | 0.008 |
| 30 | 2.50 | 0.13 | 0.076 | ( 0.145) | 0.069 | 0.008 |
| 31 | 2.58 | 0.17 | 0.095 | ( 0.145) | 0.086 | 0.010 |
| 32 | 2.67 | 0.17 | 0.095 | ( 0.144) | 0.086 | 0.010 |
| 33 | 2.75 | 0.17 | 0.095 | ( 0.144) | 0.086 | 0.010 |
| 34 | 2.83 | 0.17 | 0.095 | ( 0.143) | 0.086 | 0.010 |
| 35 | 2.92 | 0.17 | 0.095 | ( 0.142) | 0.086 | 0.010 |
| 36 | 3.00 | 0.17 | 0.095 | ( 0.142) | 0.086 | 0.010 |
| 37 | 3.08 | 0.17 | 0.095 | ( 0.141) | 0.086 | 0.010 |
| 38 | 3.17 | 0.17 | 0.095 | ( 0.141) | 0.086 | 0.010 |
| 39 | 3.25 | 0.17 | 0.095 | ( 0.140) | 0.086 | 0.010 |
| 40 | 3.33 | 0.17 | 0.095 | ( 0.139) | 0.086 | 0.010 |
| 41 | 3.42 | 0.17 | 0.095 | ( 0.139) | 0.086 | 0.010 |
| 42 | 3.50 | 0.17 | 0.095 | ( 0.138) | 0.086 | 0.010 |
| 43 | 3.58 | 0.17 | 0.095 | ( 0.138) | 0.086 | 0.010 |
| 44 | 3.67 | 0.17 | 0.095 | ( 0.137) | 0.086 | 0.010 |
| 45 | 3.75 | 0.17 | 0.095 | ( 0.137) | 0.086 | 0.010 |
| 46 | 3.83 | 0.20 | 0.114 | ( 0.136) | 0.103 | 0.011 |
| 47 | 3.92 | 0.20 | 0.114 | ( 0.135) | 0.103 | 0.011 |
| 48 | 4.00 | 0.20 | 0.114 | ( 0.135) | 0.103 | 0.011 |
| 49 | 4.08 | 0.20 | 0.114 | ( 0.134) | 0.103 | 0.011 |
| 50 | 4.17 | 0.20 | 0.114 | ( 0.134) | 0.103 | 0.011 |
| 51 | 4.25 | 0.20 | 0.114 | ( 0.133) | 0.103 | 0.011 |
| 52 | 4.33 | 0.23 | 0.134 | ( 0.133) | 0.120 | 0.013 |
| 53 | 4.42 | 0.23 | 0.134 | ( 0.132) | 0.120 | 0.013 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 54 | 4.50 | 0.23 | 0.134 | ( | 0.131) | 0.120 | 0.013 |
| 55 | 4.58 | 0.23 | 0.134 | ( | 0.131) | 0.120 | 0.013 |
| 56 | 4.67 | 0.23 | 0.134 | ( | 0.130) | 0.120 | 0.013 |
| 57 | 4.75 | 0.23 | 0.134 | ( | 0.130) | 0.120 | 0.013 |
| 58 | 4.83 | 0.27 | 0.153 | | 0.129 | ( 0.137) | 0.023 |
| 59 | 4.92 | 0.27 | 0.153 | | 0.129 | ( 0.137) | 0.024 |
| 60 | 5.00 | 0.27 | 0.153 | | 0.128 | ( 0.137) | 0.025 |
| 61 | 5.08 | 0.20 | 0.114 | ( | 0.128) | 0.103 | 0.011 |
| 62 | 5.17 | 0.20 | 0.114 | ( | 0.127) | 0.103 | 0.011 |
| 63 | 5.25 | 0.20 | 0.114 | ( | 0.126) | 0.103 | 0.011 |
| 64 | 5.33 | 0.23 | 0.134 | ( | 0.126) | 0.120 | 0.013 |
| 65 | 5.42 | 0.23 | 0.134 | ( | 0.125) | 0.120 | 0.013 |
| 66 | 5.50 | 0.23 | 0.134 | ( | 0.125) | 0.120 | 0.013 |
| 67 | 5.58 | 0.27 | 0.153 | | 0.124 | ( 0.137) | 0.028 |
| 68 | 5.67 | 0.27 | 0.153 | | 0.124 | ( 0.137) | 0.029 |
| 69 | 5.75 | 0.27 | 0.153 | | 0.123 | ( 0.137) | 0.030 |
| 70 | 5.83 | 0.27 | 0.153 | | 0.123 | ( 0.137) | 0.030 |
| 71 | 5.92 | 0.27 | 0.153 | | 0.122 | ( 0.137) | 0.031 |
| 72 | 6.00 | 0.27 | 0.153 | | 0.121 | ( 0.137) | 0.031 |
| 73 | 6.08 | 0.30 | 0.172 | | 0.121 | ( 0.155) | 0.051 |
| 74 | 6.17 | 0.30 | 0.172 | | 0.120 | ( 0.155) | 0.051 |
| 75 | 6.25 | 0.30 | 0.172 | | 0.120 | ( 0.155) | 0.052 |
| 76 | 6.33 | 0.30 | 0.172 | | 0.119 | ( 0.155) | 0.052 |
| 77 | 6.42 | 0.30 | 0.172 | | 0.119 | ( 0.155) | 0.053 |
| 78 | 6.50 | 0.30 | 0.172 | | 0.118 | ( 0.155) | 0.053 |
| 79 | 6.58 | 0.33 | 0.191 | | 0.118 | ( 0.172) | 0.073 |
| 80 | 6.67 | 0.33 | 0.191 | | 0.117 | ( 0.172) | 0.074 |
| 81 | 6.75 | 0.33 | 0.191 | | 0.117 | ( 0.172) | 0.074 |
| 82 | 6.83 | 0.33 | 0.191 | | 0.116 | ( 0.172) | 0.075 |
| 83 | 6.92 | 0.33 | 0.191 | | 0.116 | ( 0.172) | 0.075 |
| 84 | 7.00 | 0.33 | 0.191 | | 0.115 | ( 0.172) | 0.076 |
| 85 | 7.08 | 0.33 | 0.191 | | 0.115 | ( 0.172) | 0.076 |
| 86 | 7.17 | 0.33 | 0.191 | | 0.114 | ( 0.172) | 0.077 |
| 87 | 7.25 | 0.33 | 0.191 | | 0.114 | ( 0.172) | 0.077 |
| 88 | 7.33 | 0.37 | 0.210 | | 0.113 | ( 0.189) | 0.097 |
| 89 | 7.42 | 0.37 | 0.210 | | 0.113 | ( 0.189) | 0.097 |
| 90 | 7.50 | 0.37 | 0.210 | | 0.112 | ( 0.189) | 0.098 |
| 91 | 7.58 | 0.40 | 0.229 | | 0.111 | ( 0.206) | 0.117 |
| 92 | 7.67 | 0.40 | 0.229 | | 0.111 | ( 0.206) | 0.118 |
| 93 | 7.75 | 0.40 | 0.229 | | 0.110 | ( 0.206) | 0.119 |
| 94 | 7.83 | 0.43 | 0.248 | | 0.110 | ( 0.223) | 0.138 |
| 95 | 7.92 | 0.43 | 0.248 | | 0.109 | ( 0.223) | 0.139 |
| 96 | 8.00 | 0.43 | 0.248 | | 0.109 | ( 0.223) | 0.139 |
| 97 | 8.08 | 0.50 | 0.286 | | 0.108 | ( 0.258) | 0.178 |
| 98 | 8.17 | 0.50 | 0.286 | | 0.108 | ( 0.258) | 0.178 |
| 99 | 8.25 | 0.50 | 0.286 | | 0.107 | ( 0.258) | 0.179 |
| 100 | 8.33 | 0.50 | 0.286 | | 0.107 | ( 0.258) | 0.179 |
| 101 | 8.42 | 0.50 | 0.286 | | 0.106 | ( 0.258) | 0.180 |
| 102 | 8.50 | 0.50 | 0.286 | | 0.106 | ( 0.258) | 0.180 |
| 103 | 8.58 | 0.53 | 0.305 | | 0.105 | ( 0.275) | 0.200 |
| 104 | 8.67 | 0.53 | 0.305 | | 0.105 | ( 0.275) | 0.200 |
| 105 | 8.75 | 0.53 | 0.305 | | 0.104 | ( 0.275) | 0.201 |
| 106 | 8.83 | 0.57 | 0.324 | | 0.104 | ( 0.292) | 0.220 |
| 107 | 8.92 | 0.57 | 0.324 | | 0.103 | ( 0.292) | 0.221 |
| 108 | 9.00 | 0.57 | 0.324 | | 0.103 | ( 0.292) | 0.221 |
| 109 | 9.08 | 0.63 | 0.363 | | 0.102 | ( 0.326) | 0.260 |
| 110 | 9.17 | 0.63 | 0.363 | | 0.102 | ( 0.326) | 0.261 |
| 111 | 9.25 | 0.63 | 0.363 | | 0.101 | ( 0.326) | 0.261 |
| 112 | 9.33 | 0.67 | 0.382 | | 0.101 | ( 0.343) | 0.281 |
| 113 | 9.42 | 0.67 | 0.382 | | 0.101 | ( 0.343) | 0.281 |
| 114 | 9.50 | 0.67 | 0.382 | | 0.100 | ( 0.343) | 0.282 |
| 115 | 9.58 | 0.70 | 0.401 | | 0.100 | ( 0.361) | 0.301 |
| 116 | 9.67 | 0.70 | 0.401 | | 0.099 | ( 0.361) | 0.302 |
| 117 | 9.75 | 0.70 | 0.401 | | 0.099 | ( 0.361) | 0.302 |
| 118 | 9.83 | 0.73 | 0.420 | | 0.098 | ( 0.378) | 0.322 |
| 119 | 9.92 | 0.73 | 0.420 | | 0.098 | ( 0.378) | 0.322 |
| 120 | 10.00 | 0.73 | 0.420 | | 0.097 | ( 0.378) | 0.323 |
| 121 | 10.08 | 0.50 | 0.286 | | 0.097 | ( 0.258) | 0.189 |
| 122 | 10.17 | 0.50 | 0.286 | | 0.096 | ( 0.258) | 0.190 |
| 123 | 10.25 | 0.50 | 0.286 | | 0.096 | ( 0.258) | 0.190 |
| 124 | 10.33 | 0.50 | 0.286 | | 0.095 | ( 0.258) | 0.191 |
| 125 | 10.42 | 0.50 | 0.286 | | 0.095 | ( 0.258) | 0.191 |
| 126 | 10.50 | 0.50 | 0.286 | | 0.094 | ( 0.258) | 0.192 |
| 127 | 10.58 | 0.67 | 0.382 | | 0.094 | ( 0.343) | 0.288 |
| 128 | 10.67 | 0.67 | 0.382 | | 0.093 | ( 0.343) | 0.288 |
| 129 | 10.75 | 0.67 | 0.382 | | 0.093 | ( 0.343) | 0.289 |
| 130 | 10.83 | 0.67 | 0.382 | | 0.093 | ( 0.343) | 0.289 |
| 131 | 10.92 | 0.67 | 0.382 | | 0.092 | ( 0.343) | 0.289 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 132 | 11.00 | 0.67 | 0.382 | 0.092 | ( 0.343) | 0.290 |
| 133 | 11.08 | 0.63 | 0.363 | 0.091 | ( 0.326) | 0.271 |
| 134 | 11.17 | 0.63 | 0.363 | 0.091 | ( 0.326) | 0.272 |
| 135 | 11.25 | 0.63 | 0.363 | 0.090 | ( 0.326) | 0.272 |
| 136 | 11.33 | 0.63 | 0.363 | 0.090 | ( 0.326) | 0.273 |
| 137 | 11.42 | 0.63 | 0.363 | 0.089 | ( 0.326) | 0.273 |
| 138 | 11.50 | 0.63 | 0.363 | 0.089 | ( 0.326) | 0.274 |
| 139 | 11.58 | 0.57 | 0.324 | 0.089 | ( 0.292) | 0.236 |
| 140 | 11.67 | 0.57 | 0.324 | 0.088 | ( 0.292) | 0.236 |
| 141 | 11.75 | 0.57 | 0.324 | 0.088 | ( 0.292) | 0.237 |
| 142 | 11.83 | 0.60 | 0.343 | 0.087 | ( 0.309) | 0.256 |
| 143 | 11.92 | 0.60 | 0.343 | 0.087 | ( 0.309) | 0.257 |
| 144 | 12.00 | 0.60 | 0.343 | 0.086 | ( 0.309) | 0.257 |
| 145 | 12.08 | 0.83 | 0.477 | 0.086 | ( 0.429) | 0.391 |
| 146 | 12.17 | 0.83 | 0.477 | 0.085 | ( 0.429) | 0.392 |
| 147 | 12.25 | 0.83 | 0.477 | 0.085 | ( 0.429) | 0.392 |
| 148 | 12.33 | 0.87 | 0.496 | 0.085 | ( 0.446) | 0.411 |
| 149 | 12.42 | 0.87 | 0.496 | 0.084 | ( 0.446) | 0.412 |
| 150 | 12.50 | 0.87 | 0.496 | 0.084 | ( 0.446) | 0.412 |
| 151 | 12.58 | 0.93 | 0.534 | 0.083 | ( 0.481) | 0.451 |
| 152 | 12.67 | 0.93 | 0.534 | 0.083 | ( 0.481) | 0.451 |
| 153 | 12.75 | 0.93 | 0.534 | 0.083 | ( 0.481) | 0.452 |
| 154 | 12.83 | 0.97 | 0.553 | 0.082 | ( 0.498) | 0.471 |
| 155 | 12.92 | 0.97 | 0.553 | 0.082 | ( 0.498) | 0.472 |
| 156 | 13.00 | 0.97 | 0.553 | 0.081 | ( 0.498) | 0.472 |
| 157 | 13.08 | 1.13 | 0.649 | 0.081 | ( 0.584) | 0.568 |
| 158 | 13.17 | 1.13 | 0.649 | 0.080 | ( 0.584) | 0.568 |
| 159 | 13.25 | 1.13 | 0.649 | 0.080 | ( 0.584) | 0.569 |
| 160 | 13.33 | 1.13 | 0.649 | 0.080 | ( 0.584) | 0.569 |
| 161 | 13.42 | 1.13 | 0.649 | 0.079 | ( 0.584) | 0.569 |
| 162 | 13.50 | 1.13 | 0.649 | 0.079 | ( 0.584) | 0.570 |
| 163 | 13.58 | 0.77 | 0.439 | 0.078 | ( 0.395) | 0.360 |
| 164 | 13.67 | 0.77 | 0.439 | 0.078 | ( 0.395) | 0.361 |
| 165 | 13.75 | 0.77 | 0.439 | 0.078 | ( 0.395) | 0.361 |
| 166 | 13.83 | 0.77 | 0.439 | 0.077 | ( 0.395) | 0.362 |
| 167 | 13.92 | 0.77 | 0.439 | 0.077 | ( 0.395) | 0.362 |
| 168 | 14.00 | 0.77 | 0.439 | 0.076 | ( 0.395) | 0.362 |
| 169 | 14.08 | 0.90 | 0.515 | 0.076 | ( 0.464) | 0.439 |
| 170 | 14.17 | 0.90 | 0.515 | 0.076 | ( 0.464) | 0.439 |
| 171 | 14.25 | 0.90 | 0.515 | 0.075 | ( 0.464) | 0.440 |
| 172 | 14.33 | 0.87 | 0.496 | 0.075 | ( 0.446) | 0.421 |
| 173 | 14.42 | 0.87 | 0.496 | 0.075 | ( 0.446) | 0.422 |
| 174 | 14.50 | 0.87 | 0.496 | 0.074 | ( 0.446) | 0.422 |
| 175 | 14.58 | 0.87 | 0.496 | 0.074 | ( 0.446) | 0.422 |
| 176 | 14.67 | 0.87 | 0.496 | 0.073 | ( 0.446) | 0.423 |
| 177 | 14.75 | 0.87 | 0.496 | 0.073 | ( 0.446) | 0.423 |
| 178 | 14.83 | 0.83 | 0.477 | 0.073 | ( 0.429) | 0.404 |
| 179 | 14.92 | 0.83 | 0.477 | 0.072 | ( 0.429) | 0.405 |
| 180 | 15.00 | 0.83 | 0.477 | 0.072 | ( 0.429) | 0.405 |
| 181 | 15.08 | 0.80 | 0.458 | 0.072 | ( 0.412) | 0.386 |
| 182 | 15.17 | 0.80 | 0.458 | 0.071 | ( 0.412) | 0.387 |
| 183 | 15.25 | 0.80 | 0.458 | 0.071 | ( 0.412) | 0.387 |
| 184 | 15.33 | 0.77 | 0.439 | 0.070 | ( 0.395) | 0.368 |
| 185 | 15.42 | 0.77 | 0.439 | 0.070 | ( 0.395) | 0.369 |
| 186 | 15.50 | 0.77 | 0.439 | 0.070 | ( 0.395) | 0.369 |
| 187 | 15.58 | 0.63 | 0.363 | 0.069 | ( 0.326) | 0.293 |
| 188 | 15.67 | 0.63 | 0.363 | 0.069 | ( 0.326) | 0.294 |
| 189 | 15.75 | 0.63 | 0.363 | 0.069 | ( 0.326) | 0.294 |
| 190 | 15.83 | 0.63 | 0.363 | 0.068 | ( 0.326) | 0.294 |
| 191 | 15.92 | 0.63 | 0.363 | 0.068 | ( 0.326) | 0.295 |
| 192 | 16.00 | 0.63 | 0.363 | 0.068 | ( 0.326) | 0.295 |
| 193 | 16.08 | 0.13 | 0.076 | 0.067 | ( 0.069) | 0.009 |
| 194 | 16.17 | 0.13 | 0.076 | 0.067 | ( 0.069) | 0.009 |
| 195 | 16.25 | 0.13 | 0.076 | 0.067 | ( 0.069) | 0.010 |
| 196 | 16.33 | 0.13 | 0.076 | 0.066 | ( 0.069) | 0.010 |
| 197 | 16.42 | 0.13 | 0.076 | 0.066 | ( 0.069) | 0.010 |
| 198 | 16.50 | 0.13 | 0.076 | 0.066 | ( 0.069) | 0.011 |
| 199 | 16.58 | 0.10 | 0.057 | ( 0.065) | 0.052 | 0.006 |
| 200 | 16.67 | 0.10 | 0.057 | ( 0.065) | 0.052 | 0.006 |
| 201 | 16.75 | 0.10 | 0.057 | ( 0.065) | 0.052 | 0.006 |
| 202 | 16.83 | 0.10 | 0.057 | ( 0.064) | 0.052 | 0.006 |
| 203 | 16.92 | 0.10 | 0.057 | ( 0.064) | 0.052 | 0.006 |
| 204 | 17.00 | 0.10 | 0.057 | ( 0.064) | 0.052 | 0.006 |
| 205 | 17.08 | 0.17 | 0.095 | 0.063 | ( 0.086) | 0.032 |
| 206 | 17.17 | 0.17 | 0.095 | 0.063 | ( 0.086) | 0.032 |
| 207 | 17.25 | 0.17 | 0.095 | 0.063 | ( 0.086) | 0.033 |
| 208 | 17.33 | 0.17 | 0.095 | 0.062 | ( 0.086) | 0.033 |
| 209 | 17.42 | 0.17 | 0.095 | 0.062 | ( 0.086) | 0.033 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 210 | 17.50 | 0.17 | 0.095 | 0.062 | ( 0.086) | 0.034 |
| 211 | 17.58 | 0.17 | 0.095 | 0.061 | ( 0.086) | 0.034 |
| 212 | 17.67 | 0.17 | 0.095 | 0.061 | ( 0.086) | 0.034 |
| 213 | 17.75 | 0.17 | 0.095 | 0.061 | ( 0.086) | 0.035 |
| 214 | 17.83 | 0.13 | 0.076 | 0.060 | ( 0.069) | 0.016 |
| 215 | 17.92 | 0.13 | 0.076 | 0.060 | ( 0.069) | 0.016 |
| 216 | 18.00 | 0.13 | 0.076 | 0.060 | ( 0.069) | 0.016 |
| 217 | 18.08 | 0.13 | 0.076 | 0.060 | ( 0.069) | 0.017 |
| 218 | 18.17 | 0.13 | 0.076 | 0.059 | ( 0.069) | 0.017 |
| 219 | 18.25 | 0.13 | 0.076 | 0.059 | ( 0.069) | 0.017 |
| 220 | 18.33 | 0.13 | 0.076 | 0.059 | ( 0.069) | 0.018 |
| 221 | 18.42 | 0.13 | 0.076 | 0.058 | ( 0.069) | 0.018 |
| 222 | 18.50 | 0.13 | 0.076 | 0.058 | ( 0.069) | 0.018 |
| 223 | 18.58 | 0.10 | 0.057 | ( 0.058) | 0.052 | 0.006 |
| 224 | 18.67 | 0.10 | 0.057 | ( 0.058) | 0.052 | 0.006 |
| 225 | 18.75 | 0.10 | 0.057 | ( 0.057) | 0.052 | 0.006 |
| 226 | 18.83 | 0.07 | 0.038 | ( 0.057) | 0.034 | 0.004 |
| 227 | 18.92 | 0.07 | 0.038 | ( 0.057) | 0.034 | 0.004 |
| 228 | 19.00 | 0.07 | 0.038 | ( 0.056) | 0.034 | 0.004 |
| 229 | 19.08 | 0.10 | 0.057 | ( 0.056) | 0.052 | 0.006 |
| 230 | 19.17 | 0.10 | 0.057 | ( 0.056) | 0.052 | 0.006 |
| 231 | 19.25 | 0.10 | 0.057 | ( 0.056) | 0.052 | 0.006 |
| 232 | 19.33 | 0.13 | 0.076 | 0.055 | ( 0.069) | 0.021 |
| 233 | 19.42 | 0.13 | 0.076 | 0.055 | ( 0.069) | 0.021 |
| 234 | 19.50 | 0.13 | 0.076 | 0.055 | ( 0.069) | 0.021 |
| 235 | 19.58 | 0.10 | 0.057 | ( 0.055) | 0.052 | 0.006 |
| 236 | 19.67 | 0.10 | 0.057 | ( 0.054) | 0.052 | 0.006 |
| 237 | 19.75 | 0.10 | 0.057 | ( 0.054) | 0.052 | 0.006 |
| 238 | 19.83 | 0.07 | 0.038 | ( 0.054) | 0.034 | 0.004 |
| 239 | 19.92 | 0.07 | 0.038 | ( 0.054) | 0.034 | 0.004 |
| 240 | 20.00 | 0.07 | 0.038 | ( 0.053) | 0.034 | 0.004 |
| 241 | 20.08 | 0.10 | 0.057 | ( 0.053) | 0.052 | 0.006 |
| 242 | 20.17 | 0.10 | 0.057 | ( 0.053) | 0.052 | 0.006 |
| 243 | 20.25 | 0.10 | 0.057 | ( 0.053) | 0.052 | 0.006 |
| 244 | 20.33 | 0.10 | 0.057 | ( 0.053) | 0.052 | 0.006 |
| 245 | 20.42 | 0.10 | 0.057 | ( 0.052) | 0.052 | 0.006 |
| 246 | 20.50 | 0.10 | 0.057 | ( 0.052) | 0.052 | 0.006 |
| 247 | 20.58 | 0.10 | 0.057 | ( 0.052) | 0.052 | 0.006 |
| 248 | 20.67 | 0.10 | 0.057 | ( 0.052) | 0.052 | 0.006 |
| 249 | 20.75 | 0.10 | 0.057 | 0.051 | ( 0.052) | 0.006 |
| 250 | 20.83 | 0.07 | 0.038 | ( 0.051) | 0.034 | 0.004 |
| 251 | 20.92 | 0.07 | 0.038 | ( 0.051) | 0.034 | 0.004 |
| 252 | 21.00 | 0.07 | 0.038 | ( 0.051) | 0.034 | 0.004 |
| 253 | 21.08 | 0.10 | 0.057 | 0.051 | ( 0.052) | 0.007 |
| 254 | 21.17 | 0.10 | 0.057 | 0.050 | ( 0.052) | 0.007 |
| 255 | 21.25 | 0.10 | 0.057 | 0.050 | ( 0.052) | 0.007 |
| 256 | 21.33 | 0.07 | 0.038 | ( 0.050) | 0.034 | 0.004 |
| 257 | 21.42 | 0.07 | 0.038 | ( 0.050) | 0.034 | 0.004 |
| 258 | 21.50 | 0.07 | 0.038 | ( 0.050) | 0.034 | 0.004 |
| 259 | 21.58 | 0.10 | 0.057 | 0.049 | ( 0.052) | 0.008 |
| 260 | 21.67 | 0.10 | 0.057 | 0.049 | ( 0.052) | 0.008 |
| 261 | 21.75 | 0.10 | 0.057 | 0.049 | ( 0.052) | 0.008 |
| 262 | 21.83 | 0.07 | 0.038 | ( 0.049) | 0.034 | 0.004 |
| 263 | 21.92 | 0.07 | 0.038 | ( 0.049) | 0.034 | 0.004 |
| 264 | 22.00 | 0.07 | 0.038 | ( 0.049) | 0.034 | 0.004 |
| 265 | 22.08 | 0.10 | 0.057 | 0.048 | ( 0.052) | 0.009 |
| 266 | 22.17 | 0.10 | 0.057 | 0.048 | ( 0.052) | 0.009 |
| 267 | 22.25 | 0.10 | 0.057 | 0.048 | ( 0.052) | 0.009 |
| 268 | 22.33 | 0.07 | 0.038 | ( 0.048) | 0.034 | 0.004 |
| 269 | 22.42 | 0.07 | 0.038 | ( 0.048) | 0.034 | 0.004 |
| 270 | 22.50 | 0.07 | 0.038 | ( 0.048) | 0.034 | 0.004 |
| 271 | 22.58 | 0.07 | 0.038 | ( 0.048) | 0.034 | 0.004 |
| 272 | 22.67 | 0.07 | 0.038 | ( 0.047) | 0.034 | 0.004 |
| 273 | 22.75 | 0.07 | 0.038 | ( 0.047) | 0.034 | 0.004 |
| 274 | 22.83 | 0.07 | 0.038 | ( 0.047) | 0.034 | 0.004 |
| 275 | 22.92 | 0.07 | 0.038 | ( 0.047) | 0.034 | 0.004 |
| 276 | 23.00 | 0.07 | 0.038 | ( 0.047) | 0.034 | 0.004 |
| 277 | 23.08 | 0.07 | 0.038 | ( 0.047) | 0.034 | 0.004 |
| 278 | 23.17 | 0.07 | 0.038 | ( 0.047) | 0.034 | 0.004 |
| 279 | 23.25 | 0.07 | 0.038 | ( 0.047) | 0.034 | 0.004 |
| 280 | 23.33 | 0.07 | 0.038 | ( 0.047) | 0.034 | 0.004 |
| 281 | 23.42 | 0.07 | 0.038 | ( 0.046) | 0.034 | 0.004 |
| 282 | 23.50 | 0.07 | 0.038 | ( 0.046) | 0.034 | 0.004 |
| 283 | 23.58 | 0.07 | 0.038 | ( 0.046) | 0.034 | 0.004 |
| 284 | 23.67 | 0.07 | 0.038 | ( 0.046) | 0.034 | 0.004 |
| 285 | 23.75 | 0.07 | 0.038 | ( 0.046) | 0.034 | 0.004 |
| 286 | 23.83 | 0.07 | 0.038 | ( 0.046) | 0.034 | 0.004 |
| 287 | 23.92 | 0.07 | 0.038 | ( 0.046) | 0.034 | 0.004 |

288 24.00 0.07 0.038 ( 0.046) 0.034 0.004
(Loss Rate Not Used)
Sum = 100.0 Sum = 35.5
Flood volume = Effective rainfall 2.96(In)
times area 2.9(Ac.)/[(In)/(Ft.)] = 0.7(Ac.Ft)
Total soil loss = 1.81(In)
Total soil loss = 0.439(Ac.Ft)
Total rainfall = 4.77(In)
Flood volume = 31108.0 Cubic Feet
Total soil loss = 19105.5 Cubic Feet

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Peak flow rate of this hydrograph = 1.666(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

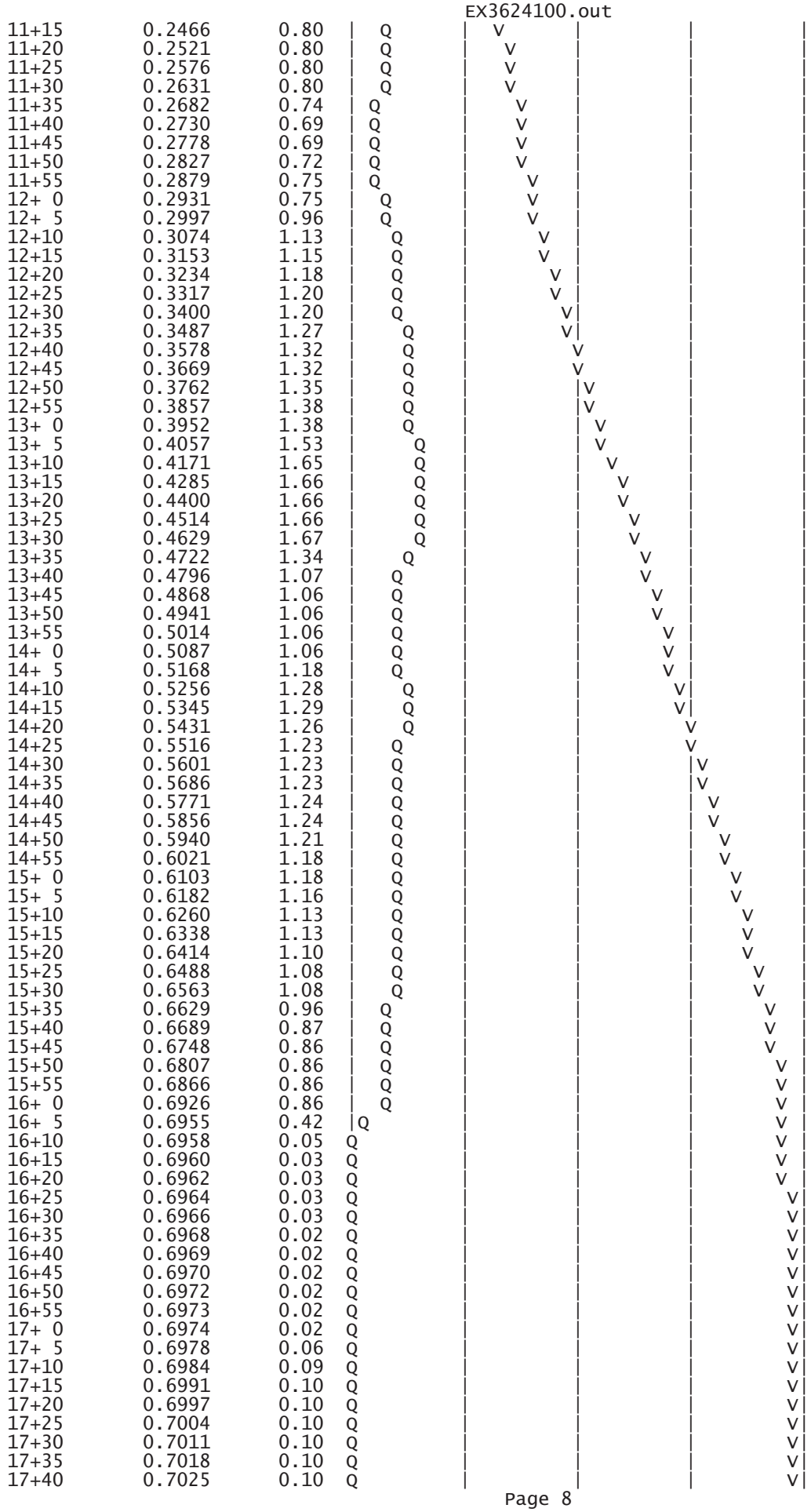
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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0000 | 0.01 | Q | | | | |
| 0+10 | 0.0001 | 0.01 | Q | | | | |
| 0+15 | 0.0002 | 0.01 | Q | | | | |
| 0+20 | 0.0003 | 0.01 | Q | | | | |
| 0+25 | 0.0004 | 0.02 | Q | | | | |
| 0+30 | 0.0005 | 0.02 | Q | | | | |
| 0+35 | 0.0006 | 0.02 | Q | | | | |
| 0+40 | 0.0007 | 0.02 | Q | | | | |
| 0+45 | 0.0009 | 0.02 | Q | | | | |
| 0+50 | 0.0010 | 0.02 | Q | | | | |
| 0+55 | 0.0012 | 0.02 | Q | | | | |
| 1+ 0 | 0.0013 | 0.02 | Q | | | | |
| 1+ 5 | 0.0014 | 0.02 | Q | | | | |
| 1+10 | 0.0016 | 0.02 | Q | | | | |
| 1+15 | 0.0017 | 0.02 | Q | | | | |
| 1+20 | 0.0018 | 0.02 | Q | | | | |
| 1+25 | 0.0019 | 0.02 | Q | | | | |
| 1+30 | 0.0020 | 0.02 | Q | | | | |
| 1+35 | 0.0021 | 0.02 | Q | | | | |
| 1+40 | 0.0022 | 0.02 | Q | | | | |
| 1+45 | 0.0024 | 0.02 | Q | | | | |
| 1+50 | 0.0025 | 0.02 | Q | | | | |
| 1+55 | 0.0027 | 0.02 | Q | | | | |
| 2+ 0 | 0.0028 | 0.02 | Q | | | | |
| 2+ 5 | 0.0030 | 0.02 | Q | | | | |
| 2+10 | 0.0031 | 0.02 | Q | | | | |
| 2+15 | 0.0033 | 0.02 | Q | | | | |
| 2+20 | 0.0034 | 0.02 | Q | | | | |
| 2+25 | 0.0036 | 0.02 | Q | | | | |
| 2+30 | 0.0037 | 0.02 | Q | | | | |
| 2+35 | 0.0039 | 0.03 | Q | | | | |
| 2+40 | 0.0041 | 0.03 | Q | | | | |
| 2+45 | 0.0043 | 0.03 | Q | | | | |
| 2+50 | 0.0045 | 0.03 | Q | | | | |
| 2+55 | 0.0047 | 0.03 | Q | | | | |
| 3+ 0 | 0.0049 | 0.03 | Q | | | | |
| 3+ 5 | 0.0051 | 0.03 | Q | | | | |
| 3+10 | 0.0052 | 0.03 | Q | | | | |
| 3+15 | 0.0054 | 0.03 | Q | | | | |
| 3+20 | 0.0056 | 0.03 | Q | | | | |
| 3+25 | 0.0058 | 0.03 | Q | | | | |
| 3+30 | 0.0060 | 0.03 | Q | | | | |
| 3+35 | 0.0062 | 0.03 | Q | | | | |
| 3+40 | 0.0064 | 0.03 | Q | | | | |
| 3+45 | 0.0066 | 0.03 | Q | | | | |
| 3+50 | 0.0068 | 0.03 | Q | | | | |
| 3+55 | 0.0070 | 0.03 | Q | | | | |
| 4+ 0 | 0.0073 | 0.03 | Q | | | | |
| 4+ 5 | 0.0075 | 0.03 | Q | | | | |
| 4+10 | 0.0077 | 0.03 | Q | | | | |
| 4+15 | 0.0080 | 0.03 | Q | | | | |
| 4+20 | 0.0082 | 0.04 | Q | | | | |
| 4+25 | 0.0085 | 0.04 | Q | | | | |
| 4+30 | 0.0087 | 0.04 | Q | | | | |
| 4+35 | 0.0090 | 0.04 | Q | | | | |
| 4+40 | 0.0093 | 0.04 | Q | | | | |

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 4+45       0.0095      0.04  Q          |          |          |          |
 4+50       0.0099      0.05  Q          |          |          |          |
 4+55       0.0104      0.07  Q          |          |          |          |
 5+ 0       0.0109      0.07  Q          |          |          |          |
 5+ 5       0.0112      0.05  Q          |          |          |          |
 5+10       0.0115      0.03  Q          |          |          |          |
 5+15       0.0117      0.03  Q          |          |          |          |
 5+20       0.0120      0.04  Q          |          |          |          |
 5+25       0.0122      0.04  Q          |          |          |          |
 5+30       0.0125      0.04  Q          |          |          |          |
 5+35       0.0129      0.06  Q          |          |          |          |
 5+40       0.0135      0.08  Q          |          |          |          |
 5+45       0.0141      0.09  Q          |          |          |          |
 5+50       0.0147      0.09  Q          |          |          |          |
 5+55       0.0153      0.09  Q          |          |          |          |
 6+ 0       0.0159      0.09  Q          |          |          |          |
 6+ 5       0.0168      0.12  Q          |          |          |          |
 6+10       0.0178      0.15  Q          |          |          |          |
 6+15       0.0188      0.15  QV         |          |          |          |
 6+20       0.0199      0.15  QV         |          |          |          |
 6+25       0.0209      0.15  QV         |          |          |          |
 6+30       0.0220      0.16  QV         |          |          |          |
 6+35       0.0233      0.19  QV         |          |          |          |
 6+40       0.0247      0.21  QV         |          |          |          |
 6+45       0.0262      0.22  QV         |          |          |          |
 6+50       0.0277      0.22  QV         |          |          |          |
 6+55       0.0292      0.22  QV         |          |          |          |
 7+ 0       0.0307      0.22  QV         |          |          |          |
 7+ 5       0.0323      0.22  QV         |          |          |          |
 7+10       0.0338      0.22  QV         |          |          |          |
 7+15       0.0354      0.23  QV         |          |          |          |
 7+20       0.0371      0.26  |QV         |          |          |          |
 7+25       0.0391      0.28  |QV         |          |          |          |
 7+30       0.0410      0.29  |QV         |          |          |          |
 7+35       0.0432      0.32  |QV         |          |          |          |
 7+40       0.0456      0.34  |QV         |          |          |          |
 7+45       0.0480      0.35  |QV         |          |          |          |
 7+50       0.0506      0.38  |QV         |          |          |          |
 7+55       0.0533      0.40  |QV         |          |          |          |
 8+ 0       0.0561      0.41  |Q V        |          |          |          |
 8+ 5       0.0593      0.47  |Q V        |          |          |          |
 8+10       0.0629      0.52  | QV        |          |          |          |
 8+15       0.0665      0.52  | QV        |          |          |          |
 8+20       0.0701      0.52  | QV        |          |          |          |
 8+25       0.0737      0.52  | Q V       |          |          |          |
 8+30       0.0773      0.53  | Q V       |          |          |          |
 8+35       0.0812      0.56  | Q V       |          |          |          |
 8+40       0.0852      0.58  | Q V       |          |          |          |
 8+45       0.0892      0.59  | Q V       |          |          |          |
 8+50       0.0935      0.62  | Q  V      |          |          |          |
 8+55       0.0979      0.64  | Q  V      |          |          |          |
 9+ 0       0.1024      0.65  | Q  V      |          |          |          |
 9+ 5       0.1072      0.71  | Q   V     |          |          |          |
 9+10       0.1125      0.76  |  Q  V     |          |          |          |
 9+15       0.1177      0.76  |  Q  V     |          |          |          |
 9+20       0.1232      0.79  |  Q  V     |          |          |          |
 9+25       0.1288      0.82  |  Q   V    |          |          |          |
 9+30       0.1345      0.82  |  Q   V    |          |          |          |
 9+35       0.1404      0.85  |  Q   V    |          |          |          |
 9+40       0.1464      0.88  |  Q    V   |          |          |          |
 9+45       0.1525      0.88  |  Q    V   |          |          |          |
 9+50       0.1588      0.91  |  Q    V   |          |          |          |
 9+55       0.1653      0.94  |  Q     V  |          |          |          |
10+ 0       0.1718      0.94  |  Q     V  |          |          |          |
10+ 5       0.1768      0.74  | Q      V  |          |          |          |
10+10       0.1807      0.57  | Q       V |          |          |          |
10+15       0.1846      0.56  | Q       V |          |          |          |
10+20       0.1884      0.56  | Q       V |          |          |          |
10+25       0.1923      0.56  | Q       V |          |          |          |
10+30       0.1961      0.56  | Q       V |          |          |          |
10+35       0.2010      0.71  | Q       |V          |          |          |
10+40       0.2067      0.83  |  Q      |V          |          |          |
10+45       0.2125      0.84  |  Q      |V          |          |          |
10+50       0.2184      0.84  |  Q      | V         |          |          |
10+55       0.2242      0.85  |  Q      | V         |          |          |
11+ 0       0.2300      0.85  |  Q      | V         |          |          |
11+ 5       0.2357      0.82  |  Q      |  V        |          |          |
11+10       0.2411      0.80  |  Q      |  V        |          |          |
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| | | | |
|---|---|---|---|
| 11+15 | 0.2466 | 0.80 | |
| 11+20 | 0.2521 | 0.80 | |
| 11+25 | 0.2576 | 0.80 | |
| 11+30 | 0.2631 | 0.80 | |
| 11+35 | 0.2682 | 0.74 | |
| 11+40 | 0.2730 | 0.69 | |
| 11+45 | 0.2778 | 0.69 | |
| 11+50 | 0.2827 | 0.72 | |
| 11+55 | 0.2879 | 0.75 | |
| 12+ 0 | 0.2931 | 0.75 | |
| 12+ 5 | 0.2997 | 0.96 | |
| 12+10 | 0.3074 | 1.13 | |
| 12+15 | 0.3153 | 1.15 | |
| 12+20 | 0.3234 | 1.18 | |
| 12+25 | 0.3317 | 1.20 | |
| 12+30 | 0.3400 | 1.20 | |
| 12+35 | 0.3487 | 1.27 | |
| 12+40 | 0.3578 | 1.32 | |
| 12+45 | 0.3669 | 1.32 | |
| 12+50 | 0.3762 | 1.35 | |
| 12+55 | 0.3857 | 1.38 | |
| 13+ 0 | 0.3952 | 1.38 | |
| 13+ 5 | 0.4057 | 1.53 | |
| 13+10 | 0.4171 | 1.65 | |
| 13+15 | 0.4285 | 1.66 | |
| 13+20 | 0.4400 | 1.66 | |
| 13+25 | 0.4514 | 1.66 | |
| 13+30 | 0.4629 | 1.67 | |
| 13+35 | 0.4722 | 1.34 | |
| 13+40 | 0.4796 | 1.07 | |
| 13+45 | 0.4868 | 1.06 | |
| 13+50 | 0.4941 | 1.06 | |
| 13+55 | 0.5014 | 1.06 | |
| 14+ 0 | 0.5087 | 1.06 | |
| 14+ 5 | 0.5168 | 1.18 | |
| 14+10 | 0.5256 | 1.28 | |
| 14+15 | 0.5345 | 1.29 | |
| 14+20 | 0.5431 | 1.26 | |
| 14+25 | 0.5516 | 1.23 | |
| 14+30 | 0.5601 | 1.23 | |
| 14+35 | 0.5686 | 1.23 | |
| 14+40 | 0.5771 | 1.24 | |
| 14+45 | 0.5856 | 1.24 | |
| 14+50 | 0.5940 | 1.21 | |
| 14+55 | 0.6021 | 1.18 | |
| 15+ 0 | 0.6103 | 1.18 | |
| 15+ 5 | 0.6182 | 1.16 | |
| 15+10 | 0.6260 | 1.13 | |
| 15+15 | 0.6338 | 1.13 | |
| 15+20 | 0.6414 | 1.10 | |
| 15+25 | 0.6488 | 1.08 | |
| 15+30 | 0.6563 | 1.08 | |
| 15+35 | 0.6629 | 0.96 | |
| 15+40 | 0.6689 | 0.87 | |
| 15+45 | 0.6748 | 0.86 | |
| 15+50 | 0.6807 | 0.86 | |
| 15+55 | 0.6866 | 0.86 | |
| 16+ 0 | 0.6926 | 0.86 | |
| 16+ 5 | 0.6955 | 0.42 | |
| 16+10 | 0.6958 | 0.05 | |
| 16+15 | 0.6960 | 0.03 | |
| 16+20 | 0.6962 | 0.03 | |
| 16+25 | 0.6964 | 0.03 | |
| 16+30 | 0.6966 | 0.03 | |
| 16+35 | 0.6968 | 0.02 | |
| 16+40 | 0.6969 | 0.02 | |
| 16+45 | 0.6970 | 0.02 | |
| 16+50 | 0.6972 | 0.02 | |
| 16+55 | 0.6973 | 0.02 | |
| 17+ 0 | 0.6974 | 0.02 | |
| 17+ 5 | 0.6978 | 0.06 | |
| 17+10 | 0.6984 | 0.09 | |
| 17+15 | 0.6991 | 0.10 | |
| 17+20 | 0.6997 | 0.10 | |
| 17+25 | 0.7004 | 0.10 | |
| 17+30 | 0.7011 | 0.10 | |
| 17+35 | 0.7018 | 0.10 | |
| 17+40 | 0.7025 | 0.10 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+45 | 0.7031 | 0.10 | Q | \| | \| | \| | V\| |
| 17+50 | 0.7036 | 0.07 | Q | \| | \| | \| | V\| |
| 17+55 | 0.7040 | 0.05 | Q | \| | \| | \| | V\| |
| 18+ 0 | 0.7043 | 0.05 | Q | \| | \| | \| | V\| |
| 18+ 5 | 0.7046 | 0.05 | Q | \| | \| | \| | V\| |
| 18+10 | 0.7050 | 0.05 | Q | \| | \| | \| | V\| |
| 18+15 | 0.7053 | 0.05 | Q | \| | \| | \| | V\| |
| 18+20 | 0.7057 | 0.05 | Q | \| | \| | \| | V\| |
| 18+25 | 0.7060 | 0.05 | Q | \| | \| | \| | V\| |
| 18+30 | 0.7064 | 0.05 | Q | \| | \| | \| | V\| |
| 18+35 | 0.7066 | 0.03 | Q | \| | \| | \| | V\| |
| 18+40 | 0.7068 | 0.02 | Q | \| | \| | \| | V\| |
| 18+45 | 0.7069 | 0.02 | Q | \| | \| | \| | V\| |
| 18+50 | 0.7070 | 0.01 | Q | \| | \| | \| | V\| |
| 18+55 | 0.7070 | 0.01 | Q | \| | \| | \| | V\| |
| 19+ 0 | 0.7071 | 0.01 | Q | \| | \| | \| | V\| |
| 19+ 5 | 0.7072 | 0.01 | Q | \| | \| | \| | V\| |
| 19+10 | 0.7073 | 0.02 | Q | \| | \| | \| | V\| |
| 19+15 | 0.7074 | 0.02 | Q | \| | \| | \| | V\| |
| 19+20 | 0.7077 | 0.04 | Q | \| | \| | \| | V\| |
| 19+25 | 0.7081 | 0.06 | Q | \| | \| | \| | V\| |
| 19+30 | 0.7086 | 0.06 | Q | \| | \| | \| | V\| |
| 19+35 | 0.7088 | 0.04 | Q | \| | \| | \| | V\| |
| 19+40 | 0.7090 | 0.02 | Q | \| | \| | \| | V\| |
| 19+45 | 0.7091 | 0.02 | Q | \| | \| | \| | V\| |
| 19+50 | 0.7092 | 0.01 | Q | \| | \| | \| | V\| |
| 19+55 | 0.7092 | 0.01 | Q | \| | \| | \| | V\| |
| 20+ 0 | 0.7093 | 0.01 | Q | \| | \| | \| | V\| |
| 20+ 5 | 0.7094 | 0.01 | Q | \| | \| | \| | V\| |
| 20+10 | 0.7095 | 0.02 | Q | \| | \| | \| | V\| |
| 20+15 | 0.7096 | 0.02 | Q | \| | \| | \| | V\| |
| 20+20 | 0.7098 | 0.02 | Q | \| | \| | \| | V\| |
| 20+25 | 0.7099 | 0.02 | Q | \| | \| | \| | V\| |
| 20+30 | 0.7100 | 0.02 | Q | \| | \| | \| | V\| |
| 20+35 | 0.7101 | 0.02 | Q | \| | \| | \| | V\| |
| 20+40 | 0.7102 | 0.02 | Q | \| | \| | \| | V\| |
| 20+45 | 0.7103 | 0.02 | Q | \| | \| | \| | V\| |
| 20+50 | 0.7104 | 0.01 | Q | \| | \| | \| | V\| |
| 20+55 | 0.7105 | 0.01 | Q | \| | \| | \| | V\| |
| 21+ 0 | 0.7106 | 0.01 | Q | \| | \| | \| | V\| |
| 21+ 5 | 0.7107 | 0.02 | Q | \| | \| | \| | V\| |
| 21+10 | 0.7108 | 0.02 | Q | \| | \| | \| | V\| |
| 21+15 | 0.7110 | 0.02 | Q | \| | \| | \| | V\| |
| 21+20 | 0.7111 | 0.02 | Q | \| | \| | \| | V\| |
| 21+25 | 0.7112 | 0.01 | Q | \| | \| | \| | V\| |
| 21+30 | 0.7112 | 0.01 | Q | \| | \| | \| | V\| |
| 21+35 | 0.7114 | 0.02 | Q | \| | \| | \| | V\| |
| 21+40 | 0.7115 | 0.02 | Q | \| | \| | \| | V\| |
| 21+45 | 0.7117 | 0.02 | Q | \| | \| | \| | V\| |
| 21+50 | 0.7118 | 0.02 | Q | \| | \| | \| | V\| |
| 21+55 | 0.7119 | 0.01 | Q | \| | \| | \| | V\| |
| 22+ 0 | 0.7119 | 0.01 | Q | \| | \| | \| | V\| |
| 22+ 5 | 0.7121 | 0.02 | Q | \| | \| | \| | V\| |
| 22+10 | 0.7123 | 0.03 | Q | \| | \| | \| | V\| |
| 22+15 | 0.7124 | 0.03 | Q | \| | \| | \| | V\| |
| 22+20 | 0.7126 | 0.02 | Q | \| | \| | \| | V\| |
| 22+25 | 0.7126 | 0.01 | Q | \| | \| | \| | V\| |
| 22+30 | 0.7127 | 0.01 | Q | \| | \| | \| | V\| |
| 22+35 | 0.7128 | 0.01 | Q | \| | \| | \| | V\| |
| 22+40 | 0.7129 | 0.01 | Q | \| | \| | \| | V\| |
| 22+45 | 0.7129 | 0.01 | Q | \| | \| | \| | V\| |
| 22+50 | 0.7130 | 0.01 | Q | \| | \| | \| | V\| |
| 22+55 | 0.7131 | 0.01 | Q | \| | \| | \| | V\| |
| 23+ 0 | 0.7132 | 0.01 | Q | \| | \| | \| | V\| |
| 23+ 5 | 0.7133 | 0.01 | Q | \| | \| | \| | V\| |
| 23+10 | 0.7133 | 0.01 | Q | \| | \| | \| | V\| |
| 23+15 | 0.7134 | 0.01 | Q | \| | \| | \| | V\| |
| 23+20 | 0.7135 | 0.01 | Q | \| | \| | \| | V\| |
| 23+25 | 0.7136 | 0.01 | Q | \| | \| | \| | V\| |
| 23+30 | 0.7136 | 0.01 | Q | \| | \| | \| | V\| |
| 23+35 | 0.7137 | 0.01 | Q | \| | \| | \| | V\| |
| 23+40 | 0.7138 | 0.01 | Q | \| | \| | \| | V\| |
| 23+45 | 0.7139 | 0.01 | Q | \| | \| | \| | V\| |
| 23+50 | 0.7139 | 0.01 | Q | \| | \| | \| | V\| |
| 23+55 | 0.7140 | 0.01 | Q | \| | \| | \| | V\| |
| 24+ 0 | 0.7141 | 0.01 | Q | \| | \| | \| | V\| |
| 24+ 5 | 0.7141 | 0.01 | Q | \| | \| | \| | V\| |
| 24+10 | 0.7141 | 0.00 | Q | \| | \| | \| | V\| |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX371100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 37
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 24.30(Ac.) = 0.038 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 24.30(Ac.) = 0.038 Sq. Mi.
Length along longest watercourse = 1783.00(Ft.)
Length along longest watercourse measured to centroid = 754.00(Ft.)
Length along longest watercourse = 0.338 Mi.
Length along longest watercourse measured to centroid = 0.143 Mi.
Difference in elevation = 248.00(Ft.)
Slope along watercourse = 734.4027 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.076 Hr.
Lag time = 4.55 Min.
25% of lag time = 1.14 Min.
40% of lag time = 1.82 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 24.30 | 0.50 | 12.15 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 24.30 | 1.20 | 29.16 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.98 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 24.300 | 82.14 | 0.000 |

Total Area Entered = 24.30(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 82.1 | 92.3 | 0.100 | 0.000 | 0.100 | 1.000 | 0.100 |
| | | | | | Sum (F) = | 0.100 |

Area averaged mean soil loss (F) (In/Hr) = 0.100

Minimum soil loss rate ((In/Hr)) = 0.050
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

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| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 110.009 | 17.969 | 4.401 |
| 2 | 0.167 | 220.019 | 56.182 | 13.759 |
| 3 | 0.250 | 330.028 | 16.862 | 4.130 |
| 4 | 0.333 | 440.038 | 6.226 | 1.525 |
| 5 | 0.417 | 550.047 | 1.664 | 0.408 |
| 6 | 0.500 | 660.057 | 0.770 | 0.189 |
| 7 | 0.583 | 770.066 | 0.326 | 0.080 |
| | | Sum = 100.000 | Sum= | 24.490 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.100 | ( 0.544) | 0.504 |
| 2 | 0.17 | 4.30 | 0.619 | 0.100 | ( 0.557) | 0.519 |
| 3 | 0.25 | 5.00 | 0.720 | 0.100 | ( 0.648) | 0.620 |
| 4 | 0.33 | 5.00 | 0.720 | 0.100 | ( 0.648) | 0.620 |
| 5 | 0.42 | 5.80 | 0.835 | 0.100 | ( 0.752) | 0.735 |
| 6 | 0.50 | 6.50 | 0.936 | 0.100 | ( 0.842) | 0.835 |
| 7 | 0.58 | 7.40 | 1.065 | 0.100 | ( 0.959) | 0.965 |
| 8 | 0.67 | 8.60 | 1.238 | 0.100 | ( 1.114) | 1.138 |
| 9 | 0.75 | 12.30 | 1.771 | 0.100 | ( 1.594) | 1.671 |
| 10 | 0.83 | 29.10 | 4.189 | 0.100 | ( 3.771) | 4.089 |
| 11 | 0.92 | 6.80 | 0.979 | 0.100 | ( 0.881) | 0.879 |
| 12 | 1.00 | 5.00 | 0.720 | 0.100 | ( 0.648) | 0.620 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 13.2 |

Flood volume = Effective rainfall 1.10(In)
times area 24.3(Ac.)/[(In)/(Ft.)] = 2.2(Ac.Ft)
Total soil loss = 0.10(In)
Total soil loss = 0.203(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 96979.4 Cubic Feet
Total soil loss = 8848.1 Cubic Feet

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Peak flow rate of this hydrograph = 69.408(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 17.5 | 35.0 | 52.5 | 70.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0153 | 2.22 | VQ | | | | |
| 0+10 | 0.0788 | 9.23 | \|V Q | | | | |
| 0+15 | 0.1612 | 11.95 | \| V Q | | | | |
| 0+20 | 0.2587 | 14.17 | \| V Q | | | | |
| 0+25 | 0.3643 | 15.32 | \| V Q | | | | |
| 0+30 | 0.4855 | 17.60 | \| V Q | | | | |
| 0+35 | 0.6241 | 20.12 | \|Q | | | | |
| 0+40 | 0.7844 | 23.28 | \| QV | | | | |
| 0+45 | 0.9824 | 28.75 | \| QV | | | | |
| 0+50 | 1.3109 | 47.70 | \| V Q | | | | |
| 0+55 | 1.7889 | 69.41 | \| V Q | | | | |
| 1+ 0 | 2.0298 | 34.98 | \| Q | | | V | |
| 1+ 5 | 2.1632 | 19.37 | \|Q | | | V | |
| 1+10 | 2.2044 | 5.97 | \| Q | | | V | |

```
    1+15       2.2196      2.21  |Q        |          |          |        V|
    1+20       2.2247      0.75  Q         |          |          |        V|
    1+25       2.2260      0.19  Q         |          |          |        V|
    1+30       2.2263      0.05  Q         |          |          |        V|
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX373100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 37
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 24.30(Ac.) = 0.038 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 24.30(Ac.) = 0.038 Sq. Mi.
Length along longest watercourse = 1783.00(Ft.)
Length along longest watercourse measured to centroid = 754.00(Ft.)
Length along longest watercourse = 0.338 Mi.
Length along longest watercourse measured to centroid = 0.143 Mi.
Difference in elevation = 248.00(Ft.)
Slope along watercourse = 734.4027 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.076 Hr.
Lag time = 4.55 Min.
25% of lag time = 1.14 Min.
40% of lag time = 1.82 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 24.30 | 0.81 | 19.68 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 24.30 | 1.82 | 44.23 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.810(In)
Area Averaged 100-Year Rainfall = 1.820(In)

Point rain (area averaged) = 1.820(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.820(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 24.300 | 82.14 | 0.000 |

Total Area Entered = 24.30(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 82.1 | 92.3 | 0.100 | 0.000 | 0.100 | 1.000 | 0.100 |
| | | | | | Sum (F) = | 0.100 |

Area averaged mean soil loss (F) (In/Hr) = 0.100

Minimum soil loss rate ((In/Hr)) = 0.050
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 110.009 | 17.969 | 4.401 |
| 2 | 0.167 | 220.019 | 56.182 | 13.759 |
| 3 | 0.250 | 330.028 | 16.862 | 4.130 |
| 4 | 0.333 | 440.038 | 6.226 | 1.525 |
| 5 | 0.417 | 550.047 | 1.664 | 0.408 |
| 6 | 0.500 | 660.057 | 0.770 | 0.189 |
| 7 | 0.583 | 770.066 | 0.326 | 0.080 |
| | | | Sum = 100.000 | Sum= 24.490 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.284 | 0.100 | ( 0.256) | 0.184 |
| 2 | 0.17 | 1.30 | 0.284 | 0.100 | ( 0.256) | 0.184 |
| 3 | 0.25 | 1.10 | 0.240 | 0.100 | ( 0.216) | 0.140 |
| 4 | 0.33 | 1.50 | 0.328 | 0.100 | ( 0.295) | 0.227 |
| 5 | 0.42 | 1.50 | 0.328 | 0.100 | ( 0.295) | 0.227 |
| 6 | 0.50 | 1.80 | 0.393 | 0.100 | ( 0.354) | 0.293 |
| 7 | 0.58 | 1.50 | 0.328 | 0.100 | ( 0.295) | 0.227 |
| 8 | 0.67 | 1.80 | 0.393 | 0.100 | ( 0.354) | 0.293 |
| 9 | 0.75 | 1.80 | 0.393 | 0.100 | ( 0.354) | 0.293 |
| 10 | 0.83 | 1.50 | 0.328 | 0.100 | ( 0.295) | 0.227 |
| 11 | 0.92 | 1.60 | 0.349 | 0.100 | ( 0.314) | 0.249 |
| 12 | 1.00 | 1.80 | 0.393 | 0.100 | ( 0.354) | 0.293 |
| 13 | 1.08 | 2.20 | 0.480 | 0.100 | ( 0.432) | 0.380 |
| 14 | 1.17 | 2.20 | 0.480 | 0.100 | ( 0.432) | 0.380 |
| 15 | 1.25 | 2.20 | 0.480 | 0.100 | ( 0.432) | 0.380 |
| 16 | 1.33 | 2.00 | 0.437 | 0.100 | ( 0.393) | 0.336 |
| 17 | 1.42 | 2.60 | 0.568 | 0.100 | ( 0.511) | 0.467 |
| 18 | 1.50 | 2.70 | 0.590 | 0.100 | ( 0.531) | 0.489 |
| 19 | 1.58 | 2.40 | 0.524 | 0.100 | ( 0.472) | 0.424 |
| 20 | 1.67 | 2.70 | 0.590 | 0.100 | ( 0.531) | 0.489 |
| 21 | 1.75 | 3.30 | 0.721 | 0.100 | ( 0.649) | 0.620 |
| 22 | 1.83 | 3.10 | 0.677 | 0.100 | ( 0.609) | 0.577 |
| 23 | 1.92 | 2.90 | 0.633 | 0.100 | ( 0.570) | 0.533 |
| 24 | 2.00 | 3.00 | 0.655 | 0.100 | ( 0.590) | 0.555 |
| 25 | 2.08 | 3.10 | 0.677 | 0.100 | ( 0.609) | 0.577 |
| 26 | 2.17 | 4.20 | 0.917 | 0.100 | ( 0.825) | 0.817 |
| 27 | 2.25 | 5.00 | 1.092 | 0.100 | ( 0.983) | 0.992 |
| 28 | 2.33 | 3.50 | 0.764 | 0.100 | ( 0.688) | 0.664 |
| 29 | 2.42 | 6.80 | 1.485 | 0.100 | ( 1.336) | 1.385 |
| 30 | 2.50 | 7.30 | 1.594 | 0.100 | ( 1.435) | 1.494 |
| 31 | 2.58 | 8.20 | 1.791 | 0.100 | ( 1.612) | 1.690 |
| 32 | 2.67 | 5.90 | 1.288 | 0.100 | ( 1.160) | 1.188 |
| 33 | 2.75 | 2.00 | 0.437 | 0.100 | ( 0.393) | 0.336 |
| 34 | 2.83 | 1.80 | 0.393 | 0.100 | ( 0.354) | 0.293 |
| 35 | 2.92 | 1.80 | 0.393 | 0.100 | ( 0.354) | 0.293 |
| 36 | 3.00 | 0.60 | 0.131 | 0.100 | ( 0.118) | 0.031 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 18.2 |

Flood volume = Effective rainfall 1.52(In)
times area 24.3(Ac.)/[(In)/(Ft.)] = 3.1(Ac.Ft)
Total soil loss = 0.30(In)
Total soil loss = 0.609(Ac.Ft)
Total rainfall = 1.82(In)
Flood volume = 133979.1 Cubic Feet
Total soil loss = 26544.2 Cubic Feet

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Peak flow rate of this hydrograph = 37.309(CFS)

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3 - H O U R  S T O R M
R u n o f f  H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 10.0 20.0 30.0 40.0 |
|---|---|---|---|
| 0+ 5 | 0.0056 | 0.81 | Q |
| 0+10 | 0.0285 | 3.34 | V Q |
| 0+15 | 0.0554 | 3.90 | V Q |
| 0+20 | 0.0827 | 3.97 | V Q |
| 0+25 | 0.1176 | 5.06 | V Q |
| 0+30 | 0.1567 | 5.68 | V Q |
| 0+35 | 0.2009 | 6.42 | V Q |
| 0+40 | 0.2430 | 6.11 | V Q |
| 0+45 | 0.2902 | 6.85 | V Q |
| 0+50 | 0.3368 | 6.77 | V Q |
| 0+55 | 0.3784 | 6.05 | V Q |
| 1+ 0 | 0.4218 | 6.29 | VQ |
| 1+ 5 | 0.4718 | 7.27 | VQ |
| 1+10 | 0.5315 | 8.67 | V Q |
| 1+15 | 0.5941 | 9.09 | V Q |
| 1+20 | 0.6565 | 9.05 | VQ |
| 1+25 | 0.7189 | 9.07 | Q |
| 1+30 | 0.7934 | 10.81 | Q |
| 1+35 | 0.8712 | 11.30 | Q |
| 1+40 | 0.9467 | 10.96 | Q V |
| 1+45 | 1.0311 | 12.25 | QV |
| 1+50 | 1.1279 | 14.06 | Q |
| 1+55 | 1.2236 | 13.90 | Q V |
| 2+ 0 | 1.3161 | 13.43 | Q V |
| 2+ 5 | 1.4100 | 13.64 | Q V |
| 2+10 | 1.5136 | 15.03 | Q V |
| 2+15 | 1.6459 | 19.22 | Q V |
| 2+20 | 1.7919 | 21.20 | Q V |
| 2+25 | 1.9363 | 20.96 | Q V |
| 2+30 | 2.1455 | 30.38 | V Q |
| 2+35 | 2.3889 | 35.35 | V Q |
| 2+40 | 2.6459 | 37.31 | V Q |
| 2+45 | 2.8378 | 27.87 | Q V |
| 2+50 | 2.9365 | 14.33 | Q V |
| 2+55 | 3.0027 | 9.60 | Q V |
| 3+ 0 | 3.0496 | 6.81 | Q V |
| 3+ 5 | 3.0673 | 2.58 | Q V |
| 3+10 | 3.0732 | 0.85 | Q V |
| 3+15 | 3.0749 | 0.25 | Q V |
| 3+20 | 3.0755 | 0.09 | Q V |
| 3+25 | 3.0757 | 0.03 | Q V |
| 3+30 | 3.0757 | 0.00 | Q V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX376100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 37
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 24.30(Ac.) = 0.038 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 24.30(Ac.) = 0.038 Sq. Mi.
Length along longest watercourse = 1783.00(Ft.)
Length along longest watercourse measured to centroid = 754.00(Ft.)
Length along longest watercourse = 0.338 Mi.
Length along longest watercourse measured to centroid = 0.143 Mi.
Difference in elevation = 248.00(Ft.)
Slope along watercourse = 734.4027 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.076 Hr.
Lag time = 4.55 Min.
25% of lag time = 1.14 Min.
40% of lag time = 1.82 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 24.30 | 1.16 | 28.19 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 24.30 | 2.50 | 60.75 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.160(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 24.300 | 82.14 | 0.000 |

Total Area Entered = 24.30(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 82.1 | 92.3 | 0.100 | 0.000 | 0.100 | 1.000 | 0.100 |
| | | | | | Sum (F) = | 0.100 |

Area averaged mean soil loss (F) (In/Hr) = 0.100

Minimum soil loss rate ((In/Hr)) = 0.050
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 110.009 | 17.969 | 4.401 |
| 2 | 0.167 | 220.019 | 56.182 | 13.759 |
| 3 | 0.250 | 330.028 | 16.862 | 4.130 |
| 4 | 0.333 | 440.038 | 6.226 | 1.525 |
| 5 | 0.417 | 550.047 | 1.664 | 0.408 |
| 6 | 0.500 | 660.057 | 0.770 | 0.189 |
| 7 | 0.583 | 770.066 | 0.326 | 0.080 |
| | | | Sum = 100.000 | Sum= 24.490 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.100 | ( 0.135) | 0.050 |
| 2 | 0.17 | 0.60 | 0.180 | 0.100 | ( 0.162) | 0.080 |
| 3 | 0.25 | 0.60 | 0.180 | 0.100 | ( 0.162) | 0.080 |
| 4 | 0.33 | 0.60 | 0.180 | 0.100 | ( 0.162) | 0.080 |
| 5 | 0.42 | 0.60 | 0.180 | 0.100 | ( 0.162) | 0.080 |
| 6 | 0.50 | 0.70 | 0.210 | 0.100 | ( 0.189) | 0.110 |
| 7 | 0.58 | 0.70 | 0.210 | 0.100 | ( 0.189) | 0.110 |
| 8 | 0.67 | 0.70 | 0.210 | 0.100 | ( 0.189) | 0.110 |
| 9 | 0.75 | 0.70 | 0.210 | 0.100 | ( 0.189) | 0.110 |
| 10 | 0.83 | 0.70 | 0.210 | 0.100 | ( 0.189) | 0.110 |
| 11 | 0.92 | 0.70 | 0.210 | 0.100 | ( 0.189) | 0.110 |
| 12 | 1.00 | 0.80 | 0.240 | 0.100 | ( 0.216) | 0.140 |
| 13 | 1.08 | 0.80 | 0.240 | 0.100 | ( 0.216) | 0.140 |
| 14 | 1.17 | 0.80 | 0.240 | 0.100 | ( 0.216) | 0.140 |
| 15 | 1.25 | 0.80 | 0.240 | 0.100 | ( 0.216) | 0.140 |
| 16 | 1.33 | 0.80 | 0.240 | 0.100 | ( 0.216) | 0.140 |
| 17 | 1.42 | 0.80 | 0.240 | 0.100 | ( 0.216) | 0.140 |
| 18 | 1.50 | 0.80 | 0.240 | 0.100 | ( 0.216) | 0.140 |
| 19 | 1.58 | 0.80 | 0.240 | 0.100 | ( 0.216) | 0.140 |
| 20 | 1.67 | 0.80 | 0.240 | 0.100 | ( 0.216) | 0.140 |
| 21 | 1.75 | 0.80 | 0.240 | 0.100 | ( 0.216) | 0.140 |
| 22 | 1.83 | 0.80 | 0.240 | 0.100 | ( 0.216) | 0.140 |
| 23 | 1.92 | 0.80 | 0.240 | 0.100 | ( 0.216) | 0.140 |
| 24 | 2.00 | 0.90 | 0.270 | 0.100 | ( 0.243) | 0.170 |
| 25 | 2.08 | 0.80 | 0.240 | 0.100 | ( 0.216) | 0.140 |
| 26 | 2.17 | 0.90 | 0.270 | 0.100 | ( 0.243) | 0.170 |
| 27 | 2.25 | 0.90 | 0.270 | 0.100 | ( 0.243) | 0.170 |
| 28 | 2.33 | 0.90 | 0.270 | 0.100 | ( 0.243) | 0.170 |
| 29 | 2.42 | 0.90 | 0.270 | 0.100 | ( 0.243) | 0.170 |
| 30 | 2.50 | 0.90 | 0.270 | 0.100 | ( 0.243) | 0.170 |
| 31 | 2.58 | 0.90 | 0.270 | 0.100 | ( 0.243) | 0.170 |
| 32 | 2.67 | 0.90 | 0.270 | 0.100 | ( 0.243) | 0.170 |
| 33 | 2.75 | 1.00 | 0.300 | 0.100 | ( 0.270) | 0.200 |
| 34 | 2.83 | 1.00 | 0.300 | 0.100 | ( 0.270) | 0.200 |
| 35 | 2.92 | 1.00 | 0.300 | 0.100 | ( 0.270) | 0.200 |
| 36 | 3.00 | 1.00 | 0.300 | 0.100 | ( 0.270) | 0.200 |
| 37 | 3.08 | 1.00 | 0.300 | 0.100 | ( 0.270) | 0.200 |
| 38 | 3.17 | 1.10 | 0.330 | 0.100 | ( 0.297) | 0.230 |
| 39 | 3.25 | 1.10 | 0.330 | 0.100 | ( 0.297) | 0.230 |
| 40 | 3.33 | 1.10 | 0.330 | 0.100 | ( 0.297) | 0.230 |
| 41 | 3.42 | 1.20 | 0.360 | 0.100 | ( 0.324) | 0.260 |
| 42 | 3.50 | 1.30 | 0.390 | 0.100 | ( 0.351) | 0.290 |
| 43 | 3.58 | 1.40 | 0.420 | 0.100 | ( 0.378) | 0.320 |
| 44 | 3.67 | 1.40 | 0.420 | 0.100 | ( 0.378) | 0.320 |
| 45 | 3.75 | 1.50 | 0.450 | 0.100 | ( 0.405) | 0.350 |
| 46 | 3.83 | 1.50 | 0.450 | 0.100 | ( 0.405) | 0.350 |
| 47 | 3.92 | 1.60 | 0.480 | 0.100 | ( 0.432) | 0.380 |
| 48 | 4.00 | 1.60 | 0.480 | 0.100 | ( 0.432) | 0.380 |
| 49 | 4.08 | 1.70 | 0.510 | 0.100 | ( 0.459) | 0.410 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 50 | 4.17 | 1.80 | 0.540 | 0.100 | ( 0.486) | 0.440 | |
| 51 | 4.25 | 1.90 | 0.570 | 0.100 | ( 0.513) | 0.470 | |
| 52 | 4.33 | 2.00 | 0.600 | 0.100 | ( 0.540) | 0.500 | |
| 53 | 4.42 | 2.10 | 0.630 | 0.100 | ( 0.567) | 0.530 | |
| 54 | 4.50 | 2.10 | 0.630 | 0.100 | ( 0.567) | 0.530 | |
| 55 | 4.58 | 2.20 | 0.660 | 0.100 | ( 0.594) | 0.560 | |
| 56 | 4.67 | 2.30 | 0.690 | 0.100 | ( 0.621) | 0.590 | |
| 57 | 4.75 | 2.40 | 0.720 | 0.100 | ( 0.648) | 0.620 | |
| 58 | 4.83 | 2.40 | 0.720 | 0.100 | ( 0.648) | 0.620 | |
| 59 | 4.92 | 2.50 | 0.750 | 0.100 | ( 0.675) | 0.650 | |
| 60 | 5.00 | 2.60 | 0.780 | 0.100 | ( 0.702) | 0.680 | |
| 61 | 5.08 | 3.10 | 0.930 | 0.100 | ( 0.837) | 0.830 | |
| 62 | 5.17 | 3.60 | 1.080 | 0.100 | ( 0.972) | 0.980 | |
| 63 | 5.25 | 3.90 | 1.170 | 0.100 | ( 1.053) | 1.070 | |
| 64 | 5.33 | 4.20 | 1.260 | 0.100 | ( 1.134) | 1.160 | |
| 65 | 5.42 | 4.70 | 1.410 | 0.100 | ( 1.269) | 1.310 | |
| 66 | 5.50 | 5.60 | 1.680 | 0.100 | ( 1.512) | 1.580 | |
| 67 | 5.58 | 1.90 | 0.570 | 0.100 | ( 0.513) | 0.470 | |
| 68 | 5.67 | 0.90 | 0.270 | 0.100 | ( 0.243) | 0.170 | |
| 69 | 5.75 | 0.60 | 0.180 | 0.100 | ( 0.162) | 0.080 | |
| 70 | 5.83 | 0.50 | 0.150 | 0.100 | ( 0.135) | 0.050 | |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.100) | 0.081 | 0.009 | |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.100) | 0.054 | 0.006 | |

(Loss Rate Not Used)

Sum = 100.0 Sum = 22.8

Flood volume = Effective rainfall 1.90(In)
times area 24.3(Ac.)/[(In)/(Ft.)] = 3.9(Ac.Ft)
Total soil loss = 0.60(In)
Total soil loss = 1.208(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 167898.1 Cubic Feet
Total soil loss = 52606.0 Cubic Feet

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Peak flow rate of this hydrograph = 32.015(CFS)

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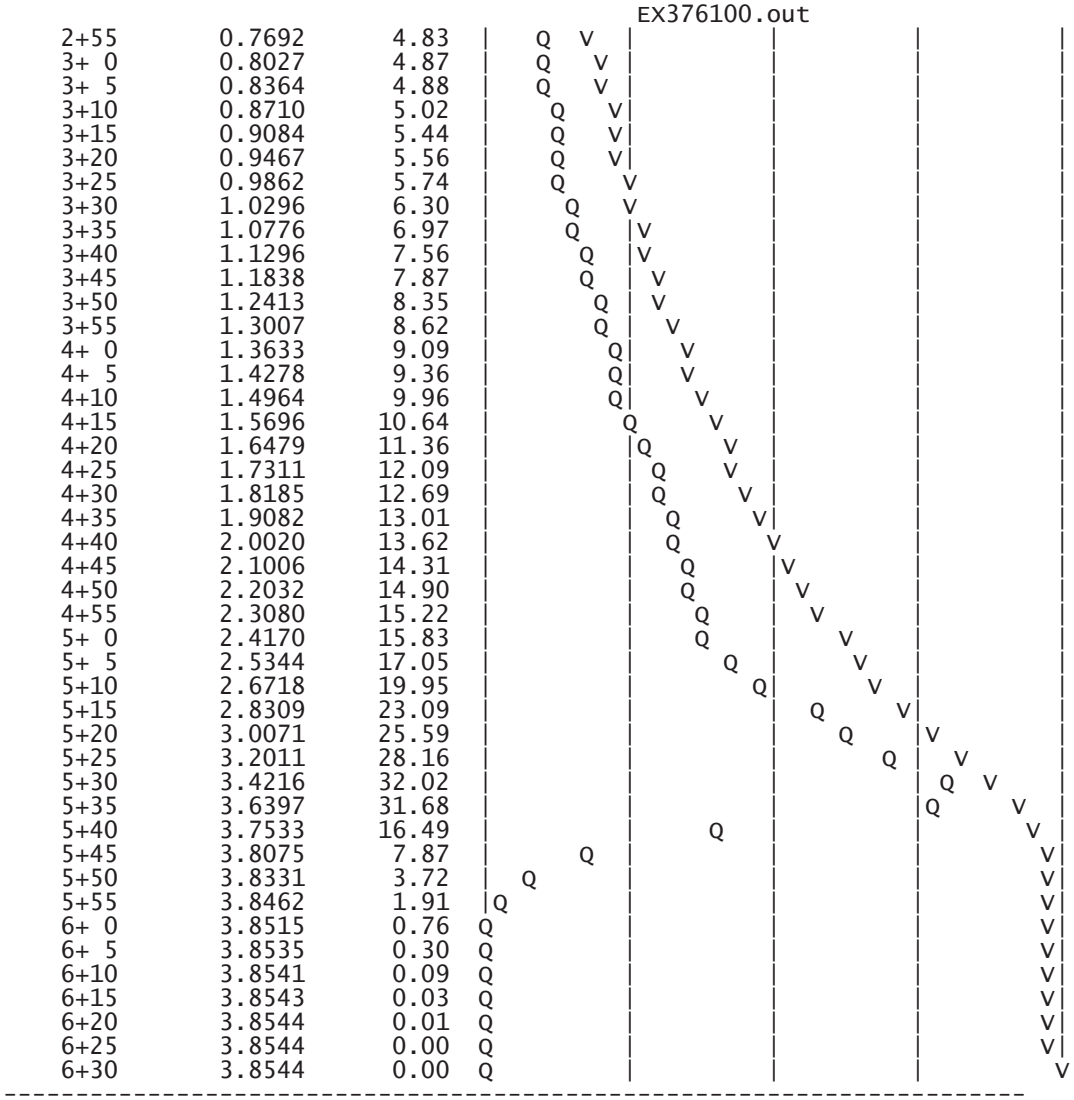
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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```
Time(h+m) Volume Ac.Ft   Q(CFS)  0       10.0      20.0      30.0      40.0
-------------------------------------------------------------------------
  0+ 5       0.0015      0.22  Q         |         |         |         |
  0+10       0.0086      1.03  VQ        |         |         |         |
  0+15       0.0200      1.65  VQ        |         |         |         |
  0+20       0.0328      1.85  VQ        |         |         |         |
  0+25       0.0460      1.92  VQ        |         |         |         |
  0+30       0.0603      2.07  V Q       |         |         |         |
  0+35       0.0774      2.49  V Q       |         |         |         |
  0+40       0.0955      2.62  V Q       |         |         |         |
  0+45       0.1139      2.67  |VQ       |         |         |         |
  0+50       0.1323      2.68  |VQ       |         |         |         |
  0+55       0.1508      2.68  |VQ       |         |         |         |
  1+ 0       0.1702      2.82  |VQ       |         |         |         |
  1+ 5       0.1925      3.23  |V Q      |         |         |         |
  1+10       0.2156      3.36  | VQ      |         |         |         |
  1+15       0.2390      3.40  | VQ      |         |         |         |
  1+20       0.2625      3.41  | VQ      |         |         |         |
  1+25       0.2861      3.42  | VQ      |         |         |         |
  1+30       0.3097      3.42  |  Q      |         |         |         |
  1+35       0.3332      3.42  |  Q      |         |         |         |
  1+40       0.3568      3.42  |  Q      |         |         |         |
  1+45       0.3804      3.42  |  Q      |         |         |         |
  1+50       0.4039      3.42  |  QV     |         |         |         |
  1+55       0.4275      3.42  |  QV     |         |         |         |
  2+ 0       0.4520      3.55  |  QV     |         |         |         |
  2+ 5       0.4784      3.84  |  QV     |         |         |         |
  2+10       0.5037      3.68  |  Q V    |         |         |         |
  2+15       0.5314      4.01  |   QV    |         |         |         |
  2+20       0.5596      4.10  |   QV    |         |         |         |
  2+25       0.5882      4.14  |   Q V   |         |         |         |
  2+30       0.6168      4.15  |   Q V   |         |         |         |
  2+35       0.6454      4.15  |   Q V   |         |         |         |
  2+40       0.6740      4.16  |   Q V   |         |         |         |
  2+45       0.7036      4.29  |   Q  V  |         |         |         |
  2+50       0.7359      4.70  |   Q  V  |         |         |         |
```



| | | | |
|---|---|---|---|
| 2+55 | 0.7692 | 4.83 | |
| 3+ 0 | 0.8027 | 4.87 | |
| 3+ 5 | 0.8364 | 4.88 | |
| 3+10 | 0.8710 | 5.02 | |
| 3+15 | 0.9084 | 5.44 | |
| 3+20 | 0.9467 | 5.56 | |
| 3+25 | 0.9862 | 5.74 | |
| 3+30 | 1.0296 | 6.30 | |
| 3+35 | 1.0776 | 6.97 | |
| 3+40 | 1.1296 | 7.56 | |
| 3+45 | 1.1838 | 7.87 | |
| 3+50 | 1.2413 | 8.35 | |
| 3+55 | 1.3007 | 8.62 | |
| 4+ 0 | 1.3633 | 9.09 | |
| 4+ 5 | 1.4278 | 9.36 | |
| 4+10 | 1.4964 | 9.96 | |
| 4+15 | 1.5696 | 10.64 | |
| 4+20 | 1.6479 | 11.36 | |
| 4+25 | 1.7311 | 12.09 | |
| 4+30 | 1.8185 | 12.69 | |
| 4+35 | 1.9082 | 13.01 | |
| 4+40 | 2.0020 | 13.62 | |
| 4+45 | 2.1006 | 14.31 | |
| 4+50 | 2.2032 | 14.90 | |
| 4+55 | 2.3080 | 15.22 | |
| 5+ 0 | 2.4170 | 15.83 | |
| 5+ 5 | 2.5344 | 17.05 | |
| 5+10 | 2.6718 | 19.95 | |
| 5+15 | 2.8309 | 23.09 | |
| 5+20 | 3.0071 | 25.59 | |
| 5+25 | 3.2011 | 28.16 | |
| 5+30 | 3.4216 | 32.02 | |
| 5+35 | 3.6397 | 31.68 | |
| 5+40 | 3.7533 | 16.49 | |
| 5+45 | 3.8075 | 7.87 | |
| 5+50 | 3.8331 | 3.72 | |
| 5+55 | 3.8462 | 1.91 | |
| 6+ 0 | 3.8515 | 0.76 | |
| 6+ 5 | 3.8535 | 0.30 | |
| 6+10 | 3.8541 | 0.09 | |
| 6+15 | 3.8543 | 0.03 | |
| 6+20 | 3.8544 | 0.01 | |
| 6+25 | 3.8544 | 0.00 | |
| 6+30 | 3.8544 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX3724100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 37
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 24.30(Ac.) = 0.038 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 24.30(Ac.) = 0.038 Sq. Mi.
Length along longest watercourse = 1783.00(Ft.)
Length along longest watercourse measured to centroid = 754.00(Ft.)
Length along longest watercourse = 0.338 Mi.
Length along longest watercourse measured to centroid = 0.143 Mi.
Difference in elevation = 248.00(Ft.)
Slope along watercourse = 734.4027 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.076 Hr.
Lag time = 4.55 Min.
25% of lag time = 1.14 Min.
40% of lag time = 1.82 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 24.30 | 1.80 | 43.74 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 24.30 | 4.74 | 115.18 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.740(In)

Point rain (area averaged) = 4.740(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.740(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 24.300 | 82.14 | 0.000 |

Total Area Entered = 24.30(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 82.1 | 92.3 | 0.100 | 0.000 | 0.100 | 1.000 | 0.100 |
| | | | | | Sum (F) = | 0.100 |

Area averaged mean soil loss (F) (In/Hr) = 0.100

Minimum soil loss rate ((In/Hr)) = 0.050
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 110.009 | 17.969 | 4.401 |
| 2 | 0.167 | 220.019 | 56.182 | 13.759 |
| 3 | 0.250 | 330.028 | 16.862 | 4.130 |
| 4 | 0.333 | 440.038 | 6.226 | 1.525 |
| 5 | 0.417 | 550.047 | 1.664 | 0.408 |
| 6 | 0.500 | 660.057 | 0.770 | 0.189 |
| 7 | 0.583 | 770.066 | 0.326 | 0.080 |
| | | | Sum = 100.000 | Sum= 24.490 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.038 | ( 0.178) | 0.034 | 0.004 |
| 2 | 0.17 | 0.07 | 0.038 | ( 0.177) | 0.034 | 0.004 |
| 3 | 0.25 | 0.07 | 0.038 | ( 0.176) | 0.034 | 0.004 |
| 4 | 0.33 | 0.10 | 0.057 | ( 0.176) | 0.051 | 0.006 |
| 5 | 0.42 | 0.10 | 0.057 | ( 0.175) | 0.051 | 0.006 |
| 6 | 0.50 | 0.10 | 0.057 | ( 0.174) | 0.051 | 0.006 |
| 7 | 0.58 | 0.10 | 0.057 | ( 0.174) | 0.051 | 0.006 |
| 8 | 0.67 | 0.10 | 0.057 | ( 0.173) | 0.051 | 0.006 |
| 9 | 0.75 | 0.10 | 0.057 | ( 0.172) | 0.051 | 0.006 |
| 10 | 0.83 | 0.13 | 0.076 | ( 0.172) | 0.068 | 0.008 |
| 11 | 0.92 | 0.13 | 0.076 | ( 0.171) | 0.068 | 0.008 |
| 12 | 1.00 | 0.13 | 0.076 | ( 0.170) | 0.068 | 0.008 |
| 13 | 1.08 | 0.10 | 0.057 | ( 0.170) | 0.051 | 0.006 |
| 14 | 1.17 | 0.10 | 0.057 | ( 0.169) | 0.051 | 0.006 |
| 15 | 1.25 | 0.10 | 0.057 | ( 0.168) | 0.051 | 0.006 |
| 16 | 1.33 | 0.10 | 0.057 | ( 0.168) | 0.051 | 0.006 |
| 17 | 1.42 | 0.10 | 0.057 | ( 0.167) | 0.051 | 0.006 |
| 18 | 1.50 | 0.10 | 0.057 | ( 0.166) | 0.051 | 0.006 |
| 19 | 1.58 | 0.10 | 0.057 | ( 0.166) | 0.051 | 0.006 |
| 20 | 1.67 | 0.10 | 0.057 | ( 0.165) | 0.051 | 0.006 |
| 21 | 1.75 | 0.10 | 0.057 | ( 0.164) | 0.051 | 0.006 |
| 22 | 1.83 | 0.13 | 0.076 | ( 0.164) | 0.068 | 0.008 |
| 23 | 1.92 | 0.13 | 0.076 | ( 0.163) | 0.068 | 0.008 |
| 24 | 2.00 | 0.13 | 0.076 | ( 0.162) | 0.068 | 0.008 |
| 25 | 2.08 | 0.13 | 0.076 | ( 0.162) | 0.068 | 0.008 |
| 26 | 2.17 | 0.13 | 0.076 | ( 0.161) | 0.068 | 0.008 |
| 27 | 2.25 | 0.13 | 0.076 | ( 0.160) | 0.068 | 0.008 |
| 28 | 2.33 | 0.13 | 0.076 | ( 0.160) | 0.068 | 0.008 |
| 29 | 2.42 | 0.13 | 0.076 | ( 0.159) | 0.068 | 0.008 |
| 30 | 2.50 | 0.13 | 0.076 | ( 0.158) | 0.068 | 0.008 |
| 31 | 2.58 | 0.17 | 0.095 | ( 0.158) | 0.085 | 0.009 |
| 32 | 2.67 | 0.17 | 0.095 | ( 0.157) | 0.085 | 0.009 |
| 33 | 2.75 | 0.17 | 0.095 | ( 0.156) | 0.085 | 0.009 |
| 34 | 2.83 | 0.17 | 0.095 | ( 0.156) | 0.085 | 0.009 |
| 35 | 2.92 | 0.17 | 0.095 | ( 0.155) | 0.085 | 0.009 |
| 36 | 3.00 | 0.17 | 0.095 | ( 0.155) | 0.085 | 0.009 |
| 37 | 3.08 | 0.17 | 0.095 | ( 0.154) | 0.085 | 0.009 |
| 38 | 3.17 | 0.17 | 0.095 | ( 0.153) | 0.085 | 0.009 |
| 39 | 3.25 | 0.17 | 0.095 | ( 0.153) | 0.085 | 0.009 |
| 40 | 3.33 | 0.17 | 0.095 | ( 0.152) | 0.085 | 0.009 |
| 41 | 3.42 | 0.17 | 0.095 | ( 0.151) | 0.085 | 0.009 |
| 42 | 3.50 | 0.17 | 0.095 | ( 0.151) | 0.085 | 0.009 |
| 43 | 3.58 | 0.17 | 0.095 | ( 0.150) | 0.085 | 0.009 |
| 44 | 3.67 | 0.17 | 0.095 | ( 0.149) | 0.085 | 0.009 |
| 45 | 3.75 | 0.17 | 0.095 | ( 0.149) | 0.085 | 0.009 |
| 46 | 3.83 | 0.20 | 0.114 | ( 0.148) | 0.102 | 0.011 |
| 47 | 3.92 | 0.20 | 0.114 | ( 0.148) | 0.102 | 0.011 |
| 48 | 4.00 | 0.20 | 0.114 | ( 0.147) | 0.102 | 0.011 |
| 49 | 4.08 | 0.20 | 0.114 | ( 0.146) | 0.102 | 0.011 |

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|---|---|---|---|---|---|---|---|---|
| 50 | 4.17 | 0.20 | 0.114 | ( | 0.146) | 0.102 | | 0.011 |
| 51 | 4.25 | 0.20 | 0.114 | ( | 0.145) | 0.102 | | 0.011 |
| 52 | 4.33 | 0.23 | 0.133 | ( | 0.144) | 0.119 | | 0.013 |
| 53 | 4.42 | 0.23 | 0.133 | ( | 0.144) | 0.119 | | 0.013 |
| 54 | 4.50 | 0.23 | 0.133 | ( | 0.143) | 0.119 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.133 | ( | 0.143) | 0.119 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.133 | ( | 0.142) | 0.119 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.133 | ( | 0.141) | 0.119 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.152 | ( | 0.141) | 0.137 | | 0.015 |
| 59 | 4.92 | 0.27 | 0.152 | ( | 0.140) | 0.137 | | 0.015 |
| 60 | 5.00 | 0.27 | 0.152 | ( | 0.140) | 0.137 | | 0.015 |
| 61 | 5.08 | 0.20 | 0.114 | ( | 0.139) | 0.102 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.114 | ( | 0.138) | 0.102 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.114 | ( | 0.138) | 0.102 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.133 | ( | 0.137) | 0.119 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.133 | ( | 0.137) | 0.119 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.133 | ( | 0.136) | 0.119 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.152 | | 0.135 | ( | 0.137) | 0.016 |
| 68 | 5.67 | 0.27 | 0.152 | | 0.135 | ( | 0.137) | 0.017 |
| 69 | 5.75 | 0.27 | 0.152 | | 0.134 | ( | 0.137) | 0.017 |
| 70 | 5.83 | 0.27 | 0.152 | | 0.134 | ( | 0.137) | 0.018 |
| 71 | 5.92 | 0.27 | 0.152 | | 0.133 | ( | 0.137) | 0.019 |
| 72 | 6.00 | 0.27 | 0.152 | | 0.132 | ( | 0.137) | 0.019 |
| 73 | 6.08 | 0.30 | 0.171 | | 0.132 | ( | 0.154) | 0.039 |
| 74 | 6.17 | 0.30 | 0.171 | | 0.131 | ( | 0.154) | 0.039 |
| 75 | 6.25 | 0.30 | 0.171 | | 0.131 | ( | 0.154) | 0.040 |
| 76 | 6.33 | 0.30 | 0.171 | | 0.130 | ( | 0.154) | 0.041 |
| 77 | 6.42 | 0.30 | 0.171 | | 0.129 | ( | 0.154) | 0.041 |
| 78 | 6.50 | 0.30 | 0.171 | | 0.129 | ( | 0.154) | 0.042 |
| 79 | 6.58 | 0.33 | 0.190 | | 0.128 | ( | 0.171) | 0.061 |
| 80 | 6.67 | 0.33 | 0.190 | | 0.128 | ( | 0.171) | 0.062 |
| 81 | 6.75 | 0.33 | 0.190 | | 0.127 | ( | 0.171) | 0.062 |
| 82 | 6.83 | 0.33 | 0.190 | | 0.127 | ( | 0.171) | 0.063 |
| 83 | 6.92 | 0.33 | 0.190 | | 0.126 | ( | 0.171) | 0.064 |
| 84 | 7.00 | 0.33 | 0.190 | | 0.125 | ( | 0.171) | 0.064 |
| 85 | 7.08 | 0.33 | 0.190 | | 0.125 | ( | 0.171) | 0.065 |
| 86 | 7.17 | 0.33 | 0.190 | | 0.124 | ( | 0.171) | 0.065 |
| 87 | 7.25 | 0.33 | 0.190 | | 0.124 | ( | 0.171) | 0.066 |
| 88 | 7.33 | 0.37 | 0.209 | | 0.123 | ( | 0.188) | 0.085 |
| 89 | 7.42 | 0.37 | 0.209 | | 0.123 | ( | 0.188) | 0.086 |
| 90 | 7.50 | 0.37 | 0.209 | | 0.122 | ( | 0.188) | 0.086 |
| 91 | 7.58 | 0.40 | 0.228 | | 0.121 | ( | 0.205) | 0.106 |
| 92 | 7.67 | 0.40 | 0.228 | | 0.121 | ( | 0.205) | 0.107 |
| 93 | 7.75 | 0.40 | 0.228 | | 0.120 | ( | 0.205) | 0.107 |
| 94 | 7.83 | 0.43 | 0.246 | | 0.120 | ( | 0.222) | 0.127 |
| 95 | 7.92 | 0.43 | 0.246 | | 0.119 | ( | 0.222) | 0.127 |
| 96 | 8.00 | 0.43 | 0.246 | | 0.119 | ( | 0.222) | 0.128 |
| 97 | 8.08 | 0.50 | 0.284 | | 0.118 | ( | 0.256) | 0.166 |
| 98 | 8.17 | 0.50 | 0.284 | | 0.118 | ( | 0.256) | 0.167 |
| 99 | 8.25 | 0.50 | 0.284 | | 0.117 | ( | 0.256) | 0.167 |
| 100 | 8.33 | 0.50 | 0.284 | | 0.117 | ( | 0.256) | 0.168 |
| 101 | 8.42 | 0.50 | 0.284 | | 0.116 | ( | 0.256) | 0.168 |
| 102 | 8.50 | 0.50 | 0.284 | | 0.115 | ( | 0.256) | 0.169 |
| 103 | 8.58 | 0.53 | 0.303 | | 0.115 | ( | 0.273) | 0.188 |
| 104 | 8.67 | 0.53 | 0.303 | | 0.114 | ( | 0.273) | 0.189 |
| 105 | 8.75 | 0.53 | 0.303 | | 0.114 | ( | 0.273) | 0.190 |
| 106 | 8.83 | 0.57 | 0.322 | | 0.113 | ( | 0.290) | 0.209 |
| 107 | 8.92 | 0.57 | 0.322 | | 0.113 | ( | 0.290) | 0.210 |
| 108 | 9.00 | 0.57 | 0.322 | | 0.112 | ( | 0.290) | 0.210 |
| 109 | 9.08 | 0.63 | 0.360 | | 0.112 | ( | 0.324) | 0.249 |
| 110 | 9.17 | 0.63 | 0.360 | | 0.111 | ( | 0.324) | 0.249 |
| 111 | 9.25 | 0.63 | 0.360 | | 0.111 | ( | 0.324) | 0.250 |
| 112 | 9.33 | 0.67 | 0.379 | | 0.110 | ( | 0.341) | 0.269 |
| 113 | 9.42 | 0.67 | 0.379 | | 0.110 | ( | 0.341) | 0.270 |
| 114 | 9.50 | 0.67 | 0.379 | | 0.109 | ( | 0.341) | 0.270 |
| 115 | 9.58 | 0.70 | 0.398 | | 0.109 | ( | 0.358) | 0.290 |
| 116 | 9.67 | 0.70 | 0.398 | | 0.108 | ( | 0.358) | 0.290 |
| 117 | 9.75 | 0.70 | 0.398 | | 0.107 | ( | 0.358) | 0.291 |
| 118 | 9.83 | 0.73 | 0.417 | | 0.107 | ( | 0.375) | 0.310 |
| 119 | 9.92 | 0.73 | 0.417 | | 0.106 | ( | 0.375) | 0.311 |
| 120 | 10.00 | 0.73 | 0.417 | | 0.106 | ( | 0.375) | 0.311 |
| 121 | 10.08 | 0.50 | 0.284 | | 0.105 | ( | 0.256) | 0.179 |
| 122 | 10.17 | 0.50 | 0.284 | | 0.105 | ( | 0.256) | 0.179 |
| 123 | 10.25 | 0.50 | 0.284 | | 0.104 | ( | 0.256) | 0.180 |
| 124 | 10.33 | 0.50 | 0.284 | | 0.104 | ( | 0.256) | 0.180 |
| 125 | 10.42 | 0.50 | 0.284 | | 0.103 | ( | 0.256) | 0.181 |
| 126 | 10.50 | 0.50 | 0.284 | | 0.103 | ( | 0.256) | 0.182 |
| 127 | 10.58 | 0.67 | 0.379 | | 0.102 | ( | 0.341) | 0.277 |

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|---|---|---|---|---|---|---|
| 128 | 10.67 | 0.67 | 0.379 | 0.102 | ( 0.341) | 0.277 |
| 129 | 10.75 | 0.67 | 0.379 | 0.101 | ( 0.341) | 0.278 |
| 130 | 10.83 | 0.67 | 0.379 | 0.101 | ( 0.341) | 0.278 |
| 131 | 10.92 | 0.67 | 0.379 | 0.100 | ( 0.341) | 0.279 |
| 132 | 11.00 | 0.67 | 0.379 | 0.100 | ( 0.341) | 0.279 |
| 133 | 11.08 | 0.63 | 0.360 | 0.099 | ( 0.324) | 0.261 |
| 134 | 11.17 | 0.63 | 0.360 | 0.099 | ( 0.324) | 0.261 |
| 135 | 11.25 | 0.63 | 0.360 | 0.098 | ( 0.324) | 0.262 |
| 136 | 11.33 | 0.63 | 0.360 | 0.098 | ( 0.324) | 0.262 |
| 137 | 11.42 | 0.63 | 0.360 | 0.097 | ( 0.324) | 0.263 |
| 138 | 11.50 | 0.63 | 0.360 | 0.097 | ( 0.324) | 0.263 |
| 139 | 11.58 | 0.57 | 0.322 | 0.096 | ( 0.290) | 0.226 |
| 140 | 11.67 | 0.57 | 0.322 | 0.096 | ( 0.290) | 0.226 |
| 141 | 11.75 | 0.57 | 0.322 | 0.096 | ( 0.290) | 0.227 |
| 142 | 11.83 | 0.60 | 0.341 | 0.095 | ( 0.307) | 0.246 |
| 143 | 11.92 | 0.60 | 0.341 | 0.095 | ( 0.307) | 0.247 |
| 144 | 12.00 | 0.60 | 0.341 | 0.094 | ( 0.307) | 0.247 |
| 145 | 12.08 | 0.83 | 0.474 | 0.094 | ( 0.427) | 0.380 |
| 146 | 12.17 | 0.83 | 0.474 | 0.093 | ( 0.427) | 0.381 |
| 147 | 12.25 | 0.83 | 0.474 | 0.093 | ( 0.427) | 0.381 |
| 148 | 12.33 | 0.87 | 0.493 | 0.092 | ( 0.444) | 0.401 |
| 149 | 12.42 | 0.87 | 0.493 | 0.092 | ( 0.444) | 0.401 |
| 150 | 12.50 | 0.87 | 0.493 | 0.091 | ( 0.444) | 0.402 |
| 151 | 12.58 | 0.93 | 0.531 | 0.091 | ( 0.478) | 0.440 |
| 152 | 12.67 | 0.93 | 0.531 | 0.090 | ( 0.478) | 0.440 |
| 153 | 12.75 | 0.93 | 0.531 | 0.090 | ( 0.478) | 0.441 |
| 154 | 12.83 | 0.97 | 0.550 | 0.089 | ( 0.495) | 0.460 |
| 155 | 12.92 | 0.97 | 0.550 | 0.089 | ( 0.495) | 0.461 |
| 156 | 13.00 | 0.97 | 0.550 | 0.089 | ( 0.495) | 0.461 |
| 157 | 13.08 | 1.13 | 0.645 | 0.088 | ( 0.580) | 0.556 |
| 158 | 13.17 | 1.13 | 0.645 | 0.088 | ( 0.580) | 0.557 |
| 159 | 13.25 | 1.13 | 0.645 | 0.087 | ( 0.580) | 0.557 |
| 160 | 13.33 | 1.13 | 0.645 | 0.087 | ( 0.580) | 0.558 |
| 161 | 13.42 | 1.13 | 0.645 | 0.086 | ( 0.580) | 0.558 |
| 162 | 13.50 | 1.13 | 0.645 | 0.086 | ( 0.580) | 0.559 |
| 163 | 13.58 | 0.77 | 0.436 | 0.085 | ( 0.392) | 0.351 |
| 164 | 13.67 | 0.77 | 0.436 | 0.085 | ( 0.392) | 0.351 |
| 165 | 13.75 | 0.77 | 0.436 | 0.085 | ( 0.392) | 0.351 |
| 166 | 13.83 | 0.77 | 0.436 | 0.084 | ( 0.392) | 0.352 |
| 167 | 13.92 | 0.77 | 0.436 | 0.084 | ( 0.392) | 0.352 |
| 168 | 14.00 | 0.77 | 0.436 | 0.083 | ( 0.392) | 0.353 |
| 169 | 14.08 | 0.90 | 0.512 | 0.083 | ( 0.461) | 0.429 |
| 170 | 14.17 | 0.90 | 0.512 | 0.082 | ( 0.461) | 0.429 |
| 171 | 14.25 | 0.90 | 0.512 | 0.082 | ( 0.461) | 0.430 |
| 172 | 14.33 | 0.87 | 0.493 | 0.082 | ( 0.444) | 0.411 |
| 173 | 14.42 | 0.87 | 0.493 | 0.081 | ( 0.444) | 0.412 |
| 174 | 14.50 | 0.87 | 0.493 | 0.081 | ( 0.444) | 0.412 |
| 175 | 14.58 | 0.87 | 0.493 | 0.080 | ( 0.444) | 0.413 |
| 176 | 14.67 | 0.87 | 0.493 | 0.080 | ( 0.444) | 0.413 |
| 177 | 14.75 | 0.87 | 0.493 | 0.080 | ( 0.444) | 0.413 |
| 178 | 14.83 | 0.83 | 0.474 | 0.079 | ( 0.427) | 0.395 |
| 179 | 14.92 | 0.83 | 0.474 | 0.079 | ( 0.427) | 0.395 |
| 180 | 15.00 | 0.83 | 0.474 | 0.078 | ( 0.427) | 0.396 |
| 181 | 15.08 | 0.80 | 0.455 | 0.078 | ( 0.410) | 0.377 |
| 182 | 15.17 | 0.80 | 0.455 | 0.078 | ( 0.410) | 0.377 |
| 183 | 15.25 | 0.80 | 0.455 | 0.077 | ( 0.410) | 0.378 |
| 184 | 15.33 | 0.77 | 0.436 | 0.077 | ( 0.392) | 0.359 |
| 185 | 15.42 | 0.77 | 0.436 | 0.076 | ( 0.392) | 0.360 |
| 186 | 15.50 | 0.77 | 0.436 | 0.076 | ( 0.392) | 0.360 |
| 187 | 15.58 | 0.63 | 0.360 | 0.076 | ( 0.324) | 0.285 |
| 188 | 15.67 | 0.63 | 0.360 | 0.075 | ( 0.324) | 0.285 |
| 189 | 15.75 | 0.63 | 0.360 | 0.075 | ( 0.324) | 0.285 |
| 190 | 15.83 | 0.63 | 0.360 | 0.074 | ( 0.324) | 0.286 |
| 191 | 15.92 | 0.63 | 0.360 | 0.074 | ( 0.324) | 0.286 |
| 192 | 16.00 | 0.63 | 0.360 | 0.074 | ( 0.324) | 0.287 |
| 193 | 16.08 | 0.13 | 0.076 | ( 0.073) | 0.068 | 0.008 |
| 194 | 16.17 | 0.13 | 0.076 | ( 0.073) | 0.068 | 0.008 |
| 195 | 16.25 | 0.13 | 0.076 | ( 0.073) | 0.068 | 0.008 |
| 196 | 16.33 | 0.13 | 0.076 | ( 0.072) | 0.068 | 0.008 |
| 197 | 16.42 | 0.13 | 0.076 | ( 0.072) | 0.068 | 0.008 |
| 198 | 16.50 | 0.13 | 0.076 | ( 0.071) | 0.068 | 0.008 |
| 199 | 16.58 | 0.10 | 0.057 | ( 0.071) | 0.051 | 0.006 |
| 200 | 16.67 | 0.10 | 0.057 | ( 0.071) | 0.051 | 0.006 |
| 201 | 16.75 | 0.10 | 0.057 | ( 0.070) | 0.051 | 0.006 |
| 202 | 16.83 | 0.10 | 0.057 | ( 0.070) | 0.051 | 0.006 |
| 203 | 16.92 | 0.10 | 0.057 | ( 0.070) | 0.051 | 0.006 |
| 204 | 17.00 | 0.10 | 0.057 | ( 0.069) | 0.051 | 0.006 |
| 205 | 17.08 | 0.17 | 0.095 | 0.069 | ( 0.085) | 0.026 |

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| 206 | 17.17 | 0.17 | 0.095 | 0.069 | ( 0.085) | 0.026 |
| 207 | 17.25 | 0.17 | 0.095 | 0.068 | ( 0.085) | 0.027 |
| 208 | 17.33 | 0.17 | 0.095 | 0.068 | ( 0.085) | 0.027 |
| 209 | 17.42 | 0.17 | 0.095 | 0.068 | ( 0.085) | 0.027 |
| 210 | 17.50 | 0.17 | 0.095 | 0.067 | ( 0.085) | 0.028 |
| 211 | 17.58 | 0.17 | 0.095 | 0.067 | ( 0.085) | 0.028 |
| 212 | 17.67 | 0.17 | 0.095 | 0.067 | ( 0.085) | 0.028 |
| 213 | 17.75 | 0.17 | 0.095 | 0.066 | ( 0.085) | 0.029 |
| 214 | 17.83 | 0.13 | 0.076 | 0.066 | ( 0.068) | 0.010 |
| 215 | 17.92 | 0.13 | 0.076 | 0.066 | ( 0.068) | 0.010 |
| 216 | 18.00 | 0.13 | 0.076 | 0.065 | ( 0.068) | 0.011 |
| 217 | 18.08 | 0.13 | 0.076 | 0.065 | ( 0.068) | 0.011 |
| 218 | 18.17 | 0.13 | 0.076 | 0.065 | ( 0.068) | 0.011 |
| 219 | 18.25 | 0.13 | 0.076 | 0.064 | ( 0.068) | 0.012 |
| 220 | 18.33 | 0.13 | 0.076 | 0.064 | ( 0.068) | 0.012 |
| 221 | 18.42 | 0.13 | 0.076 | 0.064 | ( 0.068) | 0.012 |
| 222 | 18.50 | 0.13 | 0.076 | 0.063 | ( 0.068) | 0.012 |
| 223 | 18.58 | 0.10 | 0.057 | ( 0.063) | 0.051 | 0.006 |
| 224 | 18.67 | 0.10 | 0.057 | ( 0.063) | 0.051 | 0.006 |
| 225 | 18.75 | 0.10 | 0.057 | ( 0.062) | 0.051 | 0.006 |
| 226 | 18.83 | 0.07 | 0.038 | ( 0.062) | 0.034 | 0.004 |
| 227 | 18.92 | 0.07 | 0.038 | ( 0.062) | 0.034 | 0.004 |
| 228 | 19.00 | 0.07 | 0.038 | ( 0.062) | 0.034 | 0.004 |
| 229 | 19.08 | 0.10 | 0.057 | ( 0.061) | 0.051 | 0.006 |
| 230 | 19.17 | 0.10 | 0.057 | ( 0.061) | 0.051 | 0.006 |
| 231 | 19.25 | 0.10 | 0.057 | ( 0.061) | 0.051 | 0.006 |
| 232 | 19.33 | 0.13 | 0.076 | 0.060 | ( 0.068) | 0.015 |
| 233 | 19.42 | 0.13 | 0.076 | 0.060 | ( 0.068) | 0.016 |
| 234 | 19.50 | 0.13 | 0.076 | 0.060 | ( 0.068) | 0.016 |
| 235 | 19.58 | 0.10 | 0.057 | ( 0.060) | 0.051 | 0.006 |
| 236 | 19.67 | 0.10 | 0.057 | ( 0.059) | 0.051 | 0.006 |
| 237 | 19.75 | 0.10 | 0.057 | ( 0.059) | 0.051 | 0.006 |
| 238 | 19.83 | 0.07 | 0.038 | ( 0.059) | 0.034 | 0.004 |
| 239 | 19.92 | 0.07 | 0.038 | ( 0.059) | 0.034 | 0.004 |
| 240 | 20.00 | 0.07 | 0.038 | ( 0.058) | 0.034 | 0.004 |
| 241 | 20.08 | 0.10 | 0.057 | ( 0.058) | 0.051 | 0.006 |
| 242 | 20.17 | 0.10 | 0.057 | ( 0.058) | 0.051 | 0.006 |
| 243 | 20.25 | 0.10 | 0.057 | ( 0.057) | 0.051 | 0.006 |
| 244 | 20.33 | 0.10 | 0.057 | ( 0.057) | 0.051 | 0.006 |
| 245 | 20.42 | 0.10 | 0.057 | ( 0.057) | 0.051 | 0.006 |
| 246 | 20.50 | 0.10 | 0.057 | ( 0.057) | 0.051 | 0.006 |
| 247 | 20.58 | 0.10 | 0.057 | ( 0.057) | 0.051 | 0.006 |
| 248 | 20.67 | 0.10 | 0.057 | ( 0.056) | 0.051 | 0.006 |
| 249 | 20.75 | 0.10 | 0.057 | ( 0.056) | 0.051 | 0.006 |
| 250 | 20.83 | 0.07 | 0.038 | ( 0.056) | 0.034 | 0.004 |
| 251 | 20.92 | 0.07 | 0.038 | ( 0.056) | 0.034 | 0.004 |
| 252 | 21.00 | 0.07 | 0.038 | ( 0.055) | 0.034 | 0.004 |
| 253 | 21.08 | 0.10 | 0.057 | ( 0.055) | 0.051 | 0.006 |
| 254 | 21.17 | 0.10 | 0.057 | ( 0.055) | 0.051 | 0.006 |
| 255 | 21.25 | 0.10 | 0.057 | ( 0.055) | 0.051 | 0.006 |
| 256 | 21.33 | 0.07 | 0.038 | ( 0.055) | 0.034 | 0.004 |
| 257 | 21.42 | 0.07 | 0.038 | ( 0.054) | 0.034 | 0.004 |
| 258 | 21.50 | 0.07 | 0.038 | ( 0.054) | 0.034 | 0.004 |
| 259 | 21.58 | 0.10 | 0.057 | ( 0.054) | 0.051 | 0.006 |
| 260 | 21.67 | 0.10 | 0.057 | ( 0.054) | 0.051 | 0.006 |
| 261 | 21.75 | 0.10 | 0.057 | ( 0.054) | 0.051 | 0.006 |
| 262 | 21.83 | 0.07 | 0.038 | ( 0.053) | 0.034 | 0.004 |
| 263 | 21.92 | 0.07 | 0.038 | ( 0.053) | 0.034 | 0.004 |
| 264 | 22.00 | 0.07 | 0.038 | ( 0.053) | 0.034 | 0.004 |
| 265 | 22.08 | 0.10 | 0.057 | ( 0.053) | 0.051 | 0.006 |
| 266 | 22.17 | 0.10 | 0.057 | ( 0.053) | 0.051 | 0.006 |
| 267 | 22.25 | 0.10 | 0.057 | ( 0.052) | 0.051 | 0.006 |
| 268 | 22.33 | 0.07 | 0.038 | ( 0.052) | 0.034 | 0.004 |
| 269 | 22.42 | 0.07 | 0.038 | ( 0.052) | 0.034 | 0.004 |
| 270 | 22.50 | 0.07 | 0.038 | ( 0.052) | 0.034 | 0.004 |
| 271 | 22.58 | 0.07 | 0.038 | ( 0.052) | 0.034 | 0.004 |
| 272 | 22.67 | 0.07 | 0.038 | ( 0.052) | 0.034 | 0.004 |
| 273 | 22.75 | 0.07 | 0.038 | ( 0.052) | 0.034 | 0.004 |
| 274 | 22.83 | 0.07 | 0.038 | ( 0.051) | 0.034 | 0.004 |
| 275 | 22.92 | 0.07 | 0.038 | ( 0.051) | 0.034 | 0.004 |
| 276 | 23.00 | 0.07 | 0.038 | ( 0.051) | 0.034 | 0.004 |
| 277 | 23.08 | 0.07 | 0.038 | ( 0.051) | 0.034 | 0.004 |
| 278 | 23.17 | 0.07 | 0.038 | ( 0.051) | 0.034 | 0.004 |
| 279 | 23.25 | 0.07 | 0.038 | ( 0.051) | 0.034 | 0.004 |
| 280 | 23.33 | 0.07 | 0.038 | ( 0.051) | 0.034 | 0.004 |
| 281 | 23.42 | 0.07 | 0.038 | ( 0.051) | 0.034 | 0.004 |
| 282 | 23.50 | 0.07 | 0.038 | ( 0.051) | 0.034 | 0.004 |
| 283 | 23.58 | 0.07 | 0.038 | ( 0.050) | 0.034 | 0.004 |

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|---|---|---|---|---|---|---|---|
| 284 | 23.67 | 0.07 | 0.038 | ( | 0.050) | 0.034 | 0.004 |
| 285 | 23.75 | 0.07 | 0.038 | ( | 0.050) | 0.034 | 0.004 |
| 286 | 23.83 | 0.07 | 0.038 | ( | 0.050) | 0.034 | 0.004 |
| 287 | 23.92 | 0.07 | 0.038 | ( | 0.050) | 0.034 | 0.004 |
| 288 | 24.00 | 0.07 | 0.038 | ( | 0.050) | 0.034 | 0.004 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 33.9

Flood volume = Effective rainfall 2.83(In)
times area 24.3(Ac.)/[(In)/(Ft.)] = 5.7(Ac.Ft)
Total soil loss = 1.91(In)
Total soil loss = 3.874(Ac.Ft)
Total rainfall = 4.74(In)
Flood volume = 249329.6 Cubic Feet
Total soil loss = 168761.2 Cubic Feet

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Peak flow rate of this hydrograph = 13.669(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 5.0 | 10.0 | 15.0 | 20.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0001 | 0.02 | Q | | | | |
| 0+10 | 0.0006 | 0.07 | Q | | | | |
| 0+15 | 0.0012 | 0.08 | Q | | | | |
| 0+20 | 0.0019 | 0.10 | Q | | | | |
| 0+25 | 0.0027 | 0.13 | Q | | | | |
| 0+30 | 0.0037 | 0.13 | Q | | | | |
| 0+35 | 0.0046 | 0.14 | Q | | | | |
| 0+40 | 0.0056 | 0.14 | Q | | | | |
| 0+45 | 0.0065 | 0.14 | Q | | | | |
| 0+50 | 0.0075 | 0.15 | Q | | | | |
| 0+55 | 0.0087 | 0.17 | Q | | | | |
| 1+ 0 | 0.0100 | 0.18 | Q | | | | |
| 1+ 5 | 0.0112 | 0.18 | Q | | | | |
| 1+10 | 0.0122 | 0.15 | Q | | | | |
| 1+15 | 0.0132 | 0.14 | Q | | | | |
| 1+20 | 0.0142 | 0.14 | Q | | | | |
| 1+25 | 0.0152 | 0.14 | Q | | | | |
| 1+30 | 0.0161 | 0.14 | Q | | | | |
| 1+35 | 0.0171 | 0.14 | Q | | | | |
| 1+40 | 0.0180 | 0.14 | Q | | | | |
| 1+45 | 0.0190 | 0.14 | Q | | | | |
| 1+50 | 0.0200 | 0.15 | Q | | | | |
| 1+55 | 0.0212 | 0.17 | Q | | | | |
| 2+ 0 | 0.0225 | 0.18 | Q | | | | |
| 2+ 5 | 0.0237 | 0.18 | Q | | | | |
| 2+10 | 0.0250 | 0.19 | Q | | | | |
| 2+15 | 0.0263 | 0.19 | Q | | | | |
| 2+20 | 0.0276 | 0.19 | Q | | | | |
| 2+25 | 0.0288 | 0.19 | Q | | | | |
| 2+30 | 0.0301 | 0.19 | Q | | | | |
| 2+35 | 0.0315 | 0.19 | Q | | | | |
| 2+40 | 0.0330 | 0.22 | Q | | | | |
| 2+45 | 0.0345 | 0.23 | Q | | | | |
| 2+50 | 0.0361 | 0.23 | Q | | | | |
| 2+55 | 0.0377 | 0.23 | Q | | | | |
| 3+ 0 | 0.0393 | 0.23 | Q | | | | |
| 3+ 5 | 0.0409 | 0.23 | Q | | | | |
| 3+10 | 0.0425 | 0.23 | Q | | | | |
| 3+15 | 0.0441 | 0.23 | Q | | | | |
| 3+20 | 0.0457 | 0.23 | Q | | | | |
| 3+25 | 0.0473 | 0.23 | Q | | | | |
| 3+30 | 0.0489 | 0.23 | Q | | | | |
| 3+35 | 0.0505 | 0.23 | Q | | | | |
| 3+40 | 0.0521 | 0.23 | Q | | | | |
| 3+45 | 0.0537 | 0.23 | Q | | | | |
| 3+50 | 0.0554 | 0.24 | Q | | | | |
| 3+55 | 0.0572 | 0.27 | Q | | | | |
| 4+ 0 | 0.0591 | 0.27 | Q | | | | |
| 4+ 5 | 0.0610 | 0.28 | Q | | | | |
| 4+10 | 0.0629 | 0.28 | Q | | | | |
| 4+15 | 0.0649 | 0.28 | Q | | | | |
| 4+20 | 0.0668 | 0.29 | Q | | | | |

```
 4+25       0.0690      0.31  Q          |          |          |          |
 4+30       0.0712      0.32  Q          |          |          |          |
 4+35       0.0734      0.32  Q          |          |          |          |
 4+40       0.0757      0.32  Q          |          |          |          |
 4+45       0.0779      0.33  Q          |          |          |          |
 4+50       0.0802      0.33  Q          |          |          |          |
 4+55       0.0827      0.36  Q          |          |          |          |
 5+ 0       0.0852      0.37  Q          |          |          |          |
 5+ 5       0.0877      0.35  Q          |          |          |          |
 5+10       0.0897      0.30  Q          |          |          |          |
 5+15       0.0917      0.29  Q          |          |          |          |
 5+20       0.0937      0.29  Q          |          |          |          |
 5+25       0.0959      0.31  Q          |          |          |          |
 5+30       0.0981      0.32  Q          |          |          |          |
 5+35       0.1004      0.34  Q          |          |          |          |
 5+40       0.1030      0.38  Q          |          |          |          |
 5+45       0.1058      0.41  Q          |          |          |          |
 5+50       0.1088      0.42  Q          |          |          |          |
 5+55       0.1118      0.44  Q          |          |          |          |
 6+ 0       0.1149      0.45  Q          |          |          |          |
 6+ 5       0.1187      0.55  VQ         |          |          |          |
 6+10       0.1244      0.83  VQ         |          |          |          |
 6+15       0.1308      0.92  VQ         |          |          |          |
 6+20       0.1374      0.96  VQ         |          |          |          |
 6+25       0.1442      0.99  |Q         |          |          |          |
 6+30       0.1511      1.00  |VQ        |          |          |          |
 6+35       0.1587      1.10  |VQ        |          |          |          |
 6+40       0.1682      1.38  |VQ        |          |          |          |
 6+45       0.1783      1.47  |VQ        |          |          |          |
 6+50       0.1887      1.51  |V Q       |          |          |          |
 6+55       0.1993      1.54  |V Q       |          |          |          |
 7+ 0       0.2100      1.55  |V Q       |          |          |          |
 7+ 5       0.2208      1.57  |V Q       |          |          |          |
 7+10       0.2317      1.58  |V Q       |          |          |          |
 7+15       0.2427      1.60  |V Q       |          |          |          |
 7+20       0.2544      1.69  |V Q       |          |          |          |
 7+25       0.2679      1.97  |V Q       |          |          |          |
 7+30       0.2821      2.06  |V  Q      |          |          |          |
 7+35       0.2972      2.19  | V Q      |          |          |          |
 7+40       0.3142      2.47  | V Q      |          |          |          |
 7+45       0.3319      2.57  | V  Q     |          |          |          |
 7+50       0.3504      2.69  | V  Q     |          |          |          |
 7+55       0.3709      2.98  | V  Q     |          |          |          |
 8+ 0       0.3921      3.07  | V   Q    |          |          |          |
 8+ 5       0.4147      3.28  | V   Q    |          |          |          |
 8+10       0.4410      3.82  |  V   Q   |          |          |          |
 8+15       0.4685      4.00  |  V   Q   |          |          |          |
 8+20       0.4966      4.07  |  V    Q  |          |          |          |
 8+25       0.5248      4.10  |  V    Q  |          |          |          |
 8+30       0.5532      4.12  |  V    Q  |          |          |          |
 8+35       0.5823      4.22  |   V   Q  |          |          |          |
 8+40       0.6132      4.49  |   V   Q  |          |          |          |
 8+45       0.6448      4.59  |   V    Q|          |          |          |
 8+50       0.6773      4.71  |   V    Q|          |          |          |
 8+55       0.7117      4.99  |   V    Q|          |          |          |
 9+ 0       0.7467      5.09  |    V    Q          |          |          |
 9+ 5       0.7832      5.30  |    V    Q          |          |          |
 9+10       0.8234      5.84  |    V    |Q         |          |          |
 9+15       0.8649      6.02  |     V   | Q        |          |          |
 9+20       0.9074      6.17  |     V   | Q        |          |          |
 9+25       0.9519      6.46  |     V   | Q        |          |          |
 9+30       0.9970      6.56  |     V   |  Q       |          |          |
 9+35       1.0431      6.69  |      V  |  Q       |          |          |
 9+40       1.0911      6.97  |      V  |  Q       |          |          |
 9+45       1.1397      7.06  |      V  |   Q      |          |          |
 9+50       1.1893      7.19  |       V |   Q      |          |          |
 9+55       1.2407      7.47  |       V |   Q      |          |          |
10+ 0       1.2928      7.57  |        V|    Q     |          |          |
10+ 5       1.3412      7.02  |        V|   Q      |          |          |
10+10       1.3771      5.22  |        VQ          |          |          |
10+15       1.4094      4.69  |        Q|          |          |          |
10+20       1.4404      4.50  |       Q V          |          |          |
10+25       1.4711      4.46  |       Q V          |          |          |
10+30       1.5017      4.44  |       Q V          |          |          |
10+35       1.5352      4.86  |        QV          |          |          |
10+40       1.5777      6.18  |         |VQ        |          |          |
10+45       1.6230      6.58  |         |V Q       |          |          |
10+50       1.6695      6.74  |         |V Q       |          |          |
```

| | | | |
|---|---|---|---|
| 10+55 | 1.7162 | 6.79 |  |
| 11+ 0 | 1.7632 | 6.82 | |
| 11+ 5 | 1.8098 | 6.76 | |
| 11+10 | 1.8546 | 6.51 | |
| 11+15 | 1.8989 | 6.44 | |
| 11+20 | 1.9432 | 6.43 | |
| 11+25 | 1.9875 | 6.43 | |
| 11+30 | 2.0318 | 6.44 | |
| 11+35 | 2.0751 | 6.28 | |
| 11+40 | 2.1148 | 5.77 | |
| 11+45 | 2.1536 | 5.63 | |
| 11+50 | 2.1926 | 5.66 | |
| 11+55 | 2.2333 | 5.92 | |
| 12+ 0 | 2.2747 | 6.00 | |
| 12+ 5 | 2.3203 | 6.63 | |
| 12+10 | 2.3786 | 8.47 | |
| 12+15 | 2.4409 | 9.03 | |
| 12+20 | 2.5052 | 9.33 | |
| 12+25 | 2.5717 | 9.66 | |
| 12+30 | 2.6390 | 9.77 | |
| 12+35 | 2.7078 | 9.99 | |
| 12+40 | 2.7804 | 10.53 | |
| 12+45 | 2.8541 | 10.71 | |
| 12+50 | 2.9289 | 10.86 | |
| 12+55 | 3.0056 | 11.15 | |
| 13+ 0 | 3.0831 | 11.24 | |
| 13+ 5 | 3.1637 | 11.70 | |
| 13+10 | 3.2534 | 13.03 | |
| 13+15 | 3.3459 | 13.43 | |
| 13+20 | 3.4395 | 13.59 | |
| 13+25 | 3.5335 | 13.64 | |
| 13+30 | 3.6276 | 13.67 | |
| 13+35 | 3.7155 | 12.77 | |
| 13+40 | 3.7838 | 9.91 | |
| 13+45 | 3.8462 | 9.06 | |
| 13+50 | 3.9064 | 8.75 | |
| 13+55 | 3.9662 | 8.68 | |
| 14+ 0 | 4.0257 | 8.65 | |
| 14+ 5 | 4.0875 | 8.97 | |
| 14+10 | 4.1566 | 10.03 | |
| 14+15 | 4.2279 | 10.35 | |
| 14+20 | 4.2995 | 10.40 | |
| 14+25 | 4.3696 | 10.18 | |
| 14+30 | 4.4393 | 10.12 | |
| 14+35 | 4.5089 | 10.11 | |
| 14+40 | 4.5785 | 10.11 | |
| 14+45 | 4.6482 | 10.12 | |
| 14+50 | 4.7174 | 10.04 | |
| 14+55 | 4.7848 | 9.79 | |
| 15+ 0 | 4.8518 | 9.72 | |
| 15+ 5 | 4.9181 | 9.62 | |
| 15+10 | 4.9825 | 9.36 | |
| 15+15 | 5.0465 | 9.29 | |
| 15+20 | 5.1098 | 9.19 | |
| 15+25 | 5.1713 | 8.93 | |
| 15+30 | 5.2323 | 8.85 | |
| 15+35 | 5.2908 | 8.50 | |
| 15+40 | 5.3422 | 7.46 | |
| 15+45 | 5.3914 | 7.15 | |
| 15+50 | 5.4399 | 7.04 | |
| 15+55 | 5.4883 | 7.02 | |
| 16+ 0 | 5.5366 | 7.02 | |
| 16+ 5 | 5.5765 | 5.79 | |
| 16+10 | 5.5899 | 1.95 | |
| 16+15 | 5.5954 | 0.80 | |
| 16+20 | 5.5980 | 0.37 | |
| 16+25 | 5.5998 | 0.26 | |
| 16+30 | 5.6012 | 0.21 | |
| 16+35 | 5.6024 | 0.18 | |
| 16+40 | 5.6035 | 0.15 | |
| 16+45 | 5.6045 | 0.14 | |
| 16+50 | 5.6054 | 0.14 | |
| 16+55 | 5.6064 | 0.14 | |
| 17+ 0 | 5.6074 | 0.14 | |
| 17+ 5 | 5.6089 | 0.23 | |
| 17+10 | 5.6124 | 0.51 | |
| 17+15 | 5.6165 | 0.60 | |
| 17+20 | 5.6209 | 0.64 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+25 | 5.6254 | 0.65 | \|Q | \| | \| | \| | V\| |
| 17+30 | 5.6300 | 0.66 | \|Q | \| | \| | \| | V\| |
| 17+35 | 5.6346 | 0.67 | \|Q | \| | \| | \| | V\| |
| 17+40 | 5.6393 | 0.68 | \|Q | \| | \| | \| | V\| |
| 17+45 | 5.6441 | 0.69 | \|Q | \| | \| | \| | V\| |
| 17+50 | 5.6483 | 0.61 | \|Q | \| | \| | \| | V\| |
| 17+55 | 5.6508 | 0.36 | Q | \| | \| | \| | V\| |
| 18+ 0 | 5.6528 | 0.29 | Q | \| | \| | \| | V\| |
| 18+ 5 | 5.6547 | 0.27 | Q | \| | \| | \| | V\| |
| 18+10 | 5.6565 | 0.27 | Q | \| | \| | \| | V\| |
| 18+15 | 5.6584 | 0.28 | Q | \| | \| | \| | V\| |
| 18+20 | 5.6604 | 0.28 | Q | \| | \| | \| | V\| |
| 18+25 | 5.6624 | 0.29 | Q | \| | \| | \| | V\| |
| 18+30 | 5.6644 | 0.30 | Q | \| | \| | \| | V\| |
| 18+35 | 5.6663 | 0.27 | Q | \| | \| | \| | V\| |
| 18+40 | 5.6675 | 0.18 | Q | \| | \| | \| | V\| |
| 18+45 | 5.6686 | 0.15 | Q | \| | \| | \| | V\| |
| 18+50 | 5.6695 | 0.14 | Q | \| | \| | \| | V\| |
| 18+55 | 5.6703 | 0.11 | Q | \| | \| | \| | V\| |
| 19+ 0 | 5.6709 | 0.10 | Q | \| | \| | \| | V\| |
| 19+ 5 | 5.6716 | 0.10 | Q | \| | \| | \| | V\| |
| 19+10 | 5.6725 | 0.13 | Q | \| | \| | \| | V\| |
| 19+15 | 5.6734 | 0.14 | Q | \| | \| | \| | V\| |
| 19+20 | 5.6747 | 0.18 | Q | \| | \| | \| | V\| |
| 19+25 | 5.6769 | 0.32 | Q | \| | \| | \| | V\| |
| 19+30 | 5.6794 | 0.36 | Q | \| | \| | \| | V\| |
| 19+35 | 5.6817 | 0.34 | Q | \| | \| | \| | V\| |
| 19+40 | 5.6831 | 0.20 | Q | \| | \| | \| | V\| |
| 19+45 | 5.6842 | 0.16 | Q | \| | \| | \| | V\| |
| 19+50 | 5.6851 | 0.14 | Q | \| | \| | \| | V\| |
| 19+55 | 5.6859 | 0.11 | Q | \| | \| | \| | V\| |
| 20+ 0 | 5.6866 | 0.10 | Q | \| | \| | \| | V\| |
| 20+ 5 | 5.6873 | 0.10 | Q | \| | \| | \| | V\| |
| 20+10 | 5.6881 | 0.13 | Q | \| | \| | \| | V\| |
| 20+15 | 5.6891 | 0.14 | Q | \| | \| | \| | V\| |
| 20+20 | 5.6900 | 0.14 | Q | \| | \| | \| | V\| |
| 20+25 | 5.6910 | 0.14 | Q | \| | \| | \| | V\| |
| 20+30 | 5.6919 | 0.14 | Q | \| | \| | \| | V\| |
| 20+35 | 5.6929 | 0.14 | Q | \| | \| | \| | V\| |
| 20+40 | 5.6939 | 0.14 | Q | \| | \| | \| | V\| |
| 20+45 | 5.6948 | 0.14 | Q | \| | \| | \| | V\| |
| 20+50 | 5.6957 | 0.13 | Q | \| | \| | \| | V\| |
| 20+55 | 5.6964 | 0.10 | Q | \| | \| | \| | V\| |
| 21+ 0 | 5.6971 | 0.10 | Q | \| | \| | \| | V\| |
| 21+ 5 | 5.6978 | 0.10 | Q | \| | \| | \| | V\| |
| 21+10 | 5.6987 | 0.13 | Q | \| | \| | \| | V\| |
| 21+15 | 5.6996 | 0.14 | Q | \| | \| | \| | V\| |
| 21+20 | 5.7005 | 0.13 | Q | \| | \| | \| | V\| |
| 21+25 | 5.7012 | 0.10 | Q | \| | \| | \| | V\| |
| 21+30 | 5.7019 | 0.10 | Q | \| | \| | \| | V\| |
| 21+35 | 5.7026 | 0.10 | Q | \| | \| | \| | V\| |
| 21+40 | 5.7035 | 0.13 | Q | \| | \| | \| | V\| |
| 21+45 | 5.7044 | 0.14 | Q | \| | \| | \| | V\| |
| 21+50 | 5.7053 | 0.13 | Q | \| | \| | \| | V\| |
| 21+55 | 5.7060 | 0.10 | Q | \| | \| | \| | V\| |
| 22+ 0 | 5.7067 | 0.10 | Q | \| | \| | \| | V\| |
| 22+ 5 | 5.7074 | 0.10 | Q | \| | \| | \| | V\| |
| 22+10 | 5.7083 | 0.13 | Q | \| | \| | \| | V\| |
| 22+15 | 5.7092 | 0.14 | Q | \| | \| | \| | V\| |
| 22+20 | 5.7101 | 0.13 | Q | \| | \| | \| | V\| |
| 22+25 | 5.7108 | 0.10 | Q | \| | \| | \| | V\| |
| 22+30 | 5.7115 | 0.10 | Q | \| | \| | \| | V\| |
| 22+35 | 5.7122 | 0.09 | Q | \| | \| | \| | V\| |
| 22+40 | 5.7128 | 0.09 | Q | \| | \| | \| | V\| |
| 22+45 | 5.7134 | 0.09 | Q | \| | \| | \| | V\| |
| 22+50 | 5.7141 | 0.09 | Q | \| | \| | \| | V\| |
| 22+55 | 5.7147 | 0.09 | Q | \| | \| | \| | V\| |
| 23+ 0 | 5.7154 | 0.09 | Q | \| | \| | \| | V\| |
| 23+ 5 | 5.7160 | 0.09 | Q | \| | \| | \| | V\| |
| 23+10 | 5.7166 | 0.09 | Q | \| | \| | \| | V\| |
| 23+15 | 5.7173 | 0.09 | Q | \| | \| | \| | V\| |
| 23+20 | 5.7179 | 0.09 | Q | \| | \| | \| | V\| |
| 23+25 | 5.7186 | 0.09 | Q | \| | \| | \| | V\| |
| 23+30 | 5.7192 | 0.09 | Q | \| | \| | \| | V\| |
| 23+35 | 5.7198 | 0.09 | Q | \| | \| | \| | V\| |
| 23+40 | 5.7205 | 0.09 | Q | \| | \| | \| | V\| |
| 23+45 | 5.7211 | 0.09 | Q | \| | \| | \| | V\| |
| 23+50 | 5.7218 | 0.09 | Q | \| | \| | \| | V\| |

```
   23+55       5.7224      0.09  Q          |          |          |         V|
   24+ 0       5.7230      0.09  Q          |          |          |         V|
   24+ 5       5.7236      0.08  Q          |          |          |         V|
   24+10       5.7237      0.02  Q          |          |          |         V|
   24+15       5.7238      0.01  Q          |          |          |         V|
   24+20       5.7238      0.00  Q          |          |          |         V|
   24+25       5.7238      0.00  Q          |          |          |         V|
   24+30       5.7238      0.00  Q          |          |          |          V
-------------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014, Version 9.0
Study date 12/21/17 File: EX381100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 38
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 1.20(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.20(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 368.00(Ft.)
Length along longest watercourse measured to centroid = 143.00(Ft.)
Length along longest watercourse = 0.070 Mi.
Length along longest watercourse measured to centroid = 0.027 Mi.
Difference in elevation = 26.00(Ft.)
Slope along watercourse = 373.0435 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.025 Hr.
Lag time = 1.51 Min.
25% of lag time = 0.38 Min.
40% of lag time = 0.60 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.20 | 0.50 | 0.60 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.20 | 1.20 | 1.44 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 1.200 | 70.21 | 0.000 |

Total Area Entered = 1.20(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 70.2 | 85.1 | 0.186 | 0.000 | 0.186 | 1.000 | 0.186 |
| | | | | | Sum (F) = | 0.186 |

Area averaged mean soil loss (F) (In/Hr) = 0.186

Minimum soil loss rate ((In/Hr)) = 0.093
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

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| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 331.380 | 61.184 | 0.740 |
| 2 0.167 | 662.759 | 37.446 | 0.453 |
| 3 0.250 | 994.139 | 1.370 | 0.017 |
| | Sum = 100.000 | Sum= | 1.209 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 4.20 | 0.605 | 0.186 | ( 0.544) | 0.419 |
| 2 0.17 | 4.30 | 0.619 | 0.186 | ( 0.557) | 0.434 |
| 3 0.25 | 5.00 | 0.720 | 0.186 | ( 0.648) | 0.534 |
| 4 0.33 | 5.00 | 0.720 | 0.186 | ( 0.648) | 0.534 |
| 5 0.42 | 5.80 | 0.835 | 0.186 | ( 0.752) | 0.650 |
| 6 0.50 | 6.50 | 0.936 | 0.186 | ( 0.842) | 0.750 |
| 7 0.58 | 7.40 | 1.066 | 0.186 | ( 0.959) | 0.880 |
| 8 0.67 | 8.60 | 1.238 | 0.186 | ( 1.115) | 1.053 |
| 9 0.75 | 12.30 | 1.771 | 0.186 | ( 1.594) | 1.586 |
| 10 0.83 | 29.10 | 4.190 | 0.186 | ( 3.771) | 4.005 |
| 11 0.92 | 6.80 | 0.979 | 0.186 | ( 0.881) | 0.794 |
| 12 1.00 | 5.00 | 0.720 | 0.186 | ( 0.648) | 0.534 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 12.2 |

Flood volume = Effective rainfall 1.01(In)
times area 1.2(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.19(In)
Total soil loss = 0.019(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 4418.8 Cubic Feet
Total soil loss = 808.3 Cubic Feet

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Peak flow rate of this hydrograph = 3.701(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0021 | 0.31 | VQ | | | | |
| 0+10 | 0.0057 | 0.51 | \| Q | | | | |
| 0+15 | 0.0098 | 0.60 | \| QV | | | | |
| 0+20 | 0.0142 | 0.64 | \| Q V | | | | |
| 0+25 | 0.0193 | 0.73 | \| Q V | | | | |
| 0+30 | 0.0252 | 0.86 | \| Q V | | | | |
| 0+35 | 0.0321 | 1.00 | \| Q \| V | | | | |
| 0+40 | 0.0403 | 1.19 | \| Q \| V | | | | |
| 0+45 | 0.0518 | 1.67 | \| Q \| V | | | | |
| 0+50 | 0.0772 | 3.70 | \| \| Q \| V | | | |
| 0+55 | 0.0940 | 2.43 | \| Q \| \| V \| |
| 1+ 0 | 0.0996 | 0.82 | \| Q \| \| V|
| 1+ 5 | 0.1014 | 0.26 | \|Q \| \| V|
| 1+10 | 0.1014 | 0.01 | Q \| \| V|

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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX383100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 38
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 1.20(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.20(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 368.00(Ft.)
Length along longest watercourse measured to centroid = 143.00(Ft.)
Length along longest watercourse = 0.070 Mi.
Length along longest watercourse measured to centroid = 0.027 Mi.
Difference in elevation = 26.00(Ft.)
Slope along watercourse = 373.0435 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.025 Hr.
Lag time = 1.51 Min.
25% of lag time = 0.38 Min.
40% of lag time = 0.60 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.20 | 0.81 | 0.97 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.20 | 1.82 | 2.18 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.810(In)
Area Averaged 100-Year Rainfall = 1.820(In)

Point rain (area averaged) = 1.820(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.820(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 1.200 | 70.21 | 0.000 |

Total Area Entered = 1.20(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 70.2 | 85.1 | 0.186 | 0.000 | 0.186 | 1.000 | 0.186 |
| | | | | | Sum (F) = | 0.186 |

Area averaged mean soil loss (F) (In/Hr) = 0.186

Minimum soil loss rate ((In/Hr)) = 0.093
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 331.380 | 61.184 | 0.740 |
| 2 | 0.167 | 662.759 | 37.446 | 0.453 |
| 3 | 0.250 | 994.139 | 1.370 | 0.017 |
| | | Sum = | 100.000 Sum= | 1.209 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.284 | 0.186 | ( | 0.256) | 0.098 |
| 2 | 0.17 | 1.30 | 0.284 | 0.186 | ( | 0.256) | 0.098 |
| 3 | 0.25 | 1.10 | 0.240 | 0.186 | ( | 0.216) | 0.055 |
| 4 | 0.33 | 1.50 | 0.328 | 0.186 | ( | 0.295) | 0.142 |
| 5 | 0.42 | 1.50 | 0.328 | 0.186 | ( | 0.295) | 0.142 |
| 6 | 0.50 | 1.80 | 0.393 | 0.186 | ( | 0.354) | 0.208 |
| 7 | 0.58 | 1.50 | 0.328 | 0.186 | ( | 0.295) | 0.142 |
| 8 | 0.67 | 1.80 | 0.393 | 0.186 | ( | 0.354) | 0.208 |
| 9 | 0.75 | 1.80 | 0.393 | 0.186 | ( | 0.354) | 0.208 |
| 10 | 0.83 | 1.50 | 0.328 | 0.186 | ( | 0.295) | 0.142 |
| 11 | 0.92 | 1.60 | 0.349 | 0.186 | ( | 0.314) | 0.164 |
| 12 | 1.00 | 1.80 | 0.393 | 0.186 | ( | 0.354) | 0.208 |
| 13 | 1.08 | 2.20 | 0.480 | 0.186 | ( | 0.432) | 0.295 |
| 14 | 1.17 | 2.20 | 0.480 | 0.186 | ( | 0.432) | 0.295 |
| 15 | 1.25 | 2.20 | 0.480 | 0.186 | ( | 0.432) | 0.295 |
| 16 | 1.33 | 2.00 | 0.437 | 0.186 | ( | 0.393) | 0.251 |
| 17 | 1.42 | 2.60 | 0.568 | 0.186 | ( | 0.511) | 0.382 |
| 18 | 1.50 | 2.70 | 0.590 | 0.186 | ( | 0.531) | 0.404 |
| 19 | 1.58 | 2.40 | 0.524 | 0.186 | ( | 0.472) | 0.339 |
| 20 | 1.67 | 2.70 | 0.590 | 0.186 | ( | 0.531) | 0.404 |
| 21 | 1.75 | 3.30 | 0.721 | 0.186 | ( | 0.649) | 0.535 |
| 22 | 1.83 | 3.10 | 0.677 | 0.186 | ( | 0.609) | 0.491 |
| 23 | 1.92 | 2.90 | 0.633 | 0.186 | ( | 0.570) | 0.448 |
| 24 | 2.00 | 3.00 | 0.655 | 0.186 | ( | 0.590) | 0.470 |
| 25 | 2.08 | 3.10 | 0.677 | 0.186 | ( | 0.609) | 0.491 |
| 26 | 2.17 | 4.20 | 0.917 | 0.186 | ( | 0.826) | 0.732 |
| 27 | 2.25 | 5.00 | 1.092 | 0.186 | ( | 0.983) | 0.906 |
| 28 | 2.33 | 3.50 | 0.764 | 0.186 | ( | 0.688) | 0.579 |
| 29 | 2.42 | 6.80 | 1.485 | 0.186 | ( | 1.337) | 1.300 |
| 30 | 2.50 | 7.30 | 1.594 | 0.186 | ( | 1.435) | 1.409 |
| 31 | 2.58 | 8.20 | 1.791 | 0.186 | ( | 1.612) | 1.605 |
| 32 | 2.67 | 5.90 | 1.289 | 0.186 | ( | 1.160) | 1.103 |
| 33 | 2.75 | 2.00 | 0.437 | 0.186 | ( | 0.393) | 0.251 |
| 34 | 2.83 | 1.80 | 0.393 | 0.186 | ( | 0.354) | 0.208 |
| 35 | 2.92 | 1.80 | 0.393 | 0.186 | ( | 0.354) | 0.208 |
| 36 | 3.00 | 0.60 | 0.131 | ( 0.186) | | 0.118 | 0.013 |
| | | (Loss Rate Not Used) | | | | | |
| Sum = | | 100.0 | | | | Sum = | 15.2 |

Flood volume = Effective rainfall 1.27(In)
times area 1.2(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.55(In)
Total soil loss = 0.055(Ac.Ft)
Total rainfall = 1.82(In)
Flood volume = 5527.5 Cubic Feet
Total soil loss = 2400.4 Cubic Feet

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Peak flow rate of this hydrograph = 1.848(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0005 | 0.07 | Q | | | | |
| 0+10 | 0.0013 | 0.12 | Q | | | | |
| 0+15 | 0.0019 | 0.09 | Q | | | | |
| 0+20 | 0.0028 | 0.13 | Q | | | | |
| 0+25 | 0.0040 | 0.17 | QV | | | | |
| 0+30 | 0.0055 | 0.22 | QV | | | | |
| 0+35 | 0.0069 | 0.20 | Q V | | | | |
| 0+40 | 0.0084 | 0.22 | Q V | | | | |
| 0+45 | 0.0101 | 0.25 | \|Q V | | | | |
| 0+50 | 0.0115 | 0.20 | Q V | | | | |
| 0+55 | 0.0128 | 0.19 | Q V | | | | |
| 1+ 0 | 0.0144 | 0.23 | Q V | | | | |
| 1+ 5 | 0.0166 | 0.32 | \|Q V | | | | |
| 1+10 | 0.0190 | 0.36 | \|Q V | | | | |
| 1+15 | 0.0215 | 0.36 | \|Q V | | | | |
| 1+20 | 0.0237 | 0.32 | \|Q V | | | | |
| 1+25 | 0.0265 | 0.40 | \|Q V | | | | |
| 1+30 | 0.0298 | 0.48 | \|Q V | | | | |
| 1+35 | 0.0328 | 0.44 | \|Q V | | | | |
| 1+40 | 0.0360 | 0.46 | \|Q V | | | | |
| 1+45 | 0.0400 | 0.58 | \| Q V | | | | |
| 1+50 | 0.0442 | 0.61 | \| Q V | | | | |
| 1+55 | 0.0481 | 0.56 | \| Q V | | | | |
| 2+ 0 | 0.0520 | 0.56 | \| Q V | | | | |
| 2+ 5 | 0.0560 | 0.58 | \| Q V | | | | |
| 2+10 | 0.0613 | 0.77 | \| Q V | | | | |
| 2+15 | 0.0683 | 1.01 | \| Q V | | | | |
| 2+20 | 0.0741 | 0.85 | \| Q V | | | | |
| 2+25 | 0.0827 | 1.24 | \| Q V | | | | |
| 2+30 | 0.0940 | 1.64 | \| Q V | | | | |
| 2+35 | 0.1067 | 1.85 | \| Q V | | | | |
| 2+40 | 0.1175 | 1.57 | \| Q V | | | | |
| 2+45 | 0.1224 | 0.71 | \| Q V | | | | |
| 2+50 | 0.1244 | 0.29 | \|Q V | | | | |
| 2+55 | 0.1261 | 0.25 | \|Q V | | | | |
| 3+ 0 | 0.1268 | 0.11 | Q V | | | | |
| 3+ 5 | 0.1269 | 0.01 | Q V | | | | |
| 3+10 | 0.1269 | 0.00 | Q V | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX386100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 38
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 1.20(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.20(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 368.00(Ft.)
Length along longest watercourse measured to centroid = 143.00(Ft.)
Length along longest watercourse = 0.070 Mi.
Length along longest watercourse measured to centroid = 0.027 Mi.
Difference in elevation = 26.00(Ft.)
Slope along watercourse = 373.0435 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.025 Hr.
Lag time = 1.51 Min.
25% of lag time = 0.38 Min.
40% of lag time = 0.60 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.20 | 1.16 | 1.39 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.20 | 2.50 | 3.00 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.160(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 1.200 | 70.21 | 0.000 |

Total Area Entered = 1.20(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 70.2 | 85.1 | 0.186 | 0.000 | 0.186 | 1.000 | 0.186 |
| | | | | | Sum (F) = | 0.186 |

Area averaged mean soil loss (F) (In/Hr) = 0.186

Minimum soil loss rate ((In/Hr)) = 0.093
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 331.380 | 61.184 | 0.740 |
| 2 | 0.167 | 662.759 | 37.446 | 0.453 |
| 3 | 0.250 | 994.139 | 1.370 | 0.017 |
| | | | Sum = 100.000 Sum= | 1.209 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | ( 0.186) | 0.135 | 0.015 |
| 2 | 0.17 | 0.60 | 0.180 | ( 0.186) | 0.162 | 0.018 |
| 3 | 0.25 | 0.60 | 0.180 | ( 0.186) | 0.162 | 0.018 |
| 4 | 0.33 | 0.60 | 0.180 | ( 0.186) | 0.162 | 0.018 |
| 5 | 0.42 | 0.60 | 0.180 | ( 0.186) | 0.162 | 0.018 |
| 6 | 0.50 | 0.70 | 0.210 | 0.186 | ( 0.189) | 0.024 |
| 7 | 0.58 | 0.70 | 0.210 | 0.186 | ( 0.189) | 0.024 |
| 8 | 0.67 | 0.70 | 0.210 | 0.186 | ( 0.189) | 0.024 |
| 9 | 0.75 | 0.70 | 0.210 | 0.186 | ( 0.189) | 0.024 |
| 10 | 0.83 | 0.70 | 0.210 | 0.186 | ( 0.189) | 0.024 |
| 11 | 0.92 | 0.70 | 0.210 | 0.186 | ( 0.189) | 0.024 |
| 12 | 1.00 | 0.80 | 0.240 | 0.186 | ( 0.216) | 0.054 |
| 13 | 1.08 | 0.80 | 0.240 | 0.186 | ( 0.216) | 0.054 |
| 14 | 1.17 | 0.80 | 0.240 | 0.186 | ( 0.216) | 0.054 |
| 15 | 1.25 | 0.80 | 0.240 | 0.186 | ( 0.216) | 0.054 |
| 16 | 1.33 | 0.80 | 0.240 | 0.186 | ( 0.216) | 0.054 |
| 17 | 1.42 | 0.80 | 0.240 | 0.186 | ( 0.216) | 0.054 |
| 18 | 1.50 | 0.80 | 0.240 | 0.186 | ( 0.216) | 0.054 |
| 19 | 1.58 | 0.80 | 0.240 | 0.186 | ( 0.216) | 0.054 |
| 20 | 1.67 | 0.80 | 0.240 | 0.186 | ( 0.216) | 0.054 |
| 21 | 1.75 | 0.80 | 0.240 | 0.186 | ( 0.216) | 0.054 |
| 22 | 1.83 | 0.80 | 0.240 | 0.186 | ( 0.216) | 0.054 |
| 23 | 1.92 | 0.80 | 0.240 | 0.186 | ( 0.216) | 0.054 |
| 24 | 2.00 | 0.90 | 0.270 | 0.186 | ( 0.243) | 0.084 |
| 25 | 2.08 | 0.80 | 0.240 | 0.186 | ( 0.216) | 0.054 |
| 26 | 2.17 | 0.90 | 0.270 | 0.186 | ( 0.243) | 0.084 |
| 27 | 2.25 | 0.90 | 0.270 | 0.186 | ( 0.243) | 0.084 |
| 28 | 2.33 | 0.90 | 0.270 | 0.186 | ( 0.243) | 0.084 |
| 29 | 2.42 | 0.90 | 0.270 | 0.186 | ( 0.243) | 0.084 |
| 30 | 2.50 | 0.90 | 0.270 | 0.186 | ( 0.243) | 0.084 |
| 31 | 2.58 | 0.90 | 0.270 | 0.186 | ( 0.243) | 0.084 |
| 32 | 2.67 | 0.90 | 0.270 | 0.186 | ( 0.243) | 0.084 |
| 33 | 2.75 | 1.00 | 0.300 | 0.186 | ( 0.270) | 0.114 |
| 34 | 2.83 | 1.00 | 0.300 | 0.186 | ( 0.270) | 0.114 |
| 35 | 2.92 | 1.00 | 0.300 | 0.186 | ( 0.270) | 0.114 |
| 36 | 3.00 | 1.00 | 0.300 | 0.186 | ( 0.270) | 0.114 |
| 37 | 3.08 | 1.00 | 0.300 | 0.186 | ( 0.270) | 0.114 |
| 38 | 3.17 | 1.10 | 0.330 | 0.186 | ( 0.297) | 0.144 |
| 39 | 3.25 | 1.10 | 0.330 | 0.186 | ( 0.297) | 0.144 |
| 40 | 3.33 | 1.10 | 0.330 | 0.186 | ( 0.297) | 0.144 |
| 41 | 3.42 | 1.20 | 0.360 | 0.186 | ( 0.324) | 0.174 |
| 42 | 3.50 | 1.30 | 0.390 | 0.186 | ( 0.351) | 0.204 |
| 43 | 3.58 | 1.40 | 0.420 | 0.186 | ( 0.378) | 0.234 |
| 44 | 3.67 | 1.40 | 0.420 | 0.186 | ( 0.378) | 0.234 |
| 45 | 3.75 | 1.50 | 0.450 | 0.186 | ( 0.405) | 0.264 |
| 46 | 3.83 | 1.50 | 0.450 | 0.186 | ( 0.405) | 0.264 |
| 47 | 3.92 | 1.60 | 0.480 | 0.186 | ( 0.432) | 0.294 |
| 48 | 4.00 | 1.60 | 0.480 | 0.186 | ( 0.432) | 0.294 |
| 49 | 4.08 | 1.70 | 0.510 | 0.186 | ( 0.459) | 0.324 |
| 50 | 4.17 | 1.80 | 0.540 | 0.186 | ( 0.486) | 0.354 |
| 51 | 4.25 | 1.90 | 0.570 | 0.186 | ( 0.513) | 0.384 |
| 52 | 4.33 | 2.00 | 0.600 | 0.186 | ( 0.540) | 0.414 |
| 53 | 4.42 | 2.10 | 0.630 | 0.186 | ( 0.567) | 0.444 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 54 | 4.50 | 2.10 | 0.630 | 0.186 | ( 0.567) | 0.444 | |
| 55 | 4.58 | 2.20 | 0.660 | 0.186 | ( 0.594) | 0.474 | |
| 56 | 4.67 | 2.30 | 0.690 | 0.186 | ( 0.621) | 0.504 | |
| 57 | 4.75 | 2.40 | 0.720 | 0.186 | ( 0.648) | 0.534 | |
| 58 | 4.83 | 2.40 | 0.720 | 0.186 | ( 0.648) | 0.534 | |
| 59 | 4.92 | 2.50 | 0.750 | 0.186 | ( 0.675) | 0.564 | |
| 60 | 5.00 | 2.60 | 0.780 | 0.186 | ( 0.702) | 0.594 | |
| 61 | 5.08 | 3.10 | 0.930 | 0.186 | ( 0.837) | 0.744 | |
| 62 | 5.17 | 3.60 | 1.080 | 0.186 | ( 0.972) | 0.894 | |
| 63 | 5.25 | 3.90 | 1.170 | 0.186 | ( 1.053) | 0.984 | |
| 64 | 5.33 | 4.20 | 1.260 | 0.186 | ( 1.134) | 1.074 | |
| 65 | 5.42 | 4.70 | 1.410 | 0.186 | ( 1.269) | 1.224 | |
| 66 | 5.50 | 5.60 | 1.680 | 0.186 | ( 1.512) | 1.494 | |
| 67 | 5.58 | 1.90 | 0.570 | 0.186 | ( 0.513) | 0.384 | |
| 68 | 5.67 | 0.90 | 0.270 | 0.186 | ( 0.243) | 0.084 | |
| 69 | 5.75 | 0.60 | 0.180 | ( 0.186) | 0.162 | 0.018 | |
| 70 | 5.83 | 0.50 | 0.150 | ( 0.186) | 0.135 | 0.015 | |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.186) | 0.081 | 0.009 | |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.186) | 0.054 | 0.006 | |

(Loss Rate Not Used)

Sum = 100.0 Sum = 17.1

Flood volume = Effective rainfall 1.42(In)
times area 1.2(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 1.08(In)
Total soil loss = 0.108(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 6205.3 Cubic Feet
Total soil loss = 4684.7 Cubic Feet

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Peak flow rate of this hydrograph = 1.679(CFS)

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6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0001 | 0.01 | Q | | | | |
| 0+10 | 0.0002 | 0.02 | Q | | | | |
| 0+15 | 0.0004 | 0.02 | Q | | | | |
| 0+20 | 0.0005 | 0.02 | Q | | | | |
| 0+25 | 0.0007 | 0.02 | Q | | | | |
| 0+30 | 0.0008 | 0.03 | Q | | | | |
| 0+35 | 0.0011 | 0.03 | Q | | | | |
| 0+40 | 0.0013 | 0.03 | Q | | | | |
| 0+45 | 0.0015 | 0.03 | Q | | | | |
| 0+50 | 0.0017 | 0.03 | Q | | | | |
| 0+55 | 0.0019 | 0.03 | Q | | | | |
| 1+ 0 | 0.0022 | 0.05 | Q | | | | |
| 1+ 5 | 0.0027 | 0.07 | Q | | | | |
| 1+10 | 0.0031 | 0.07 | Q | | | | |
| 1+15 | 0.0036 | 0.07 | QV | | | | |
| 1+20 | 0.0040 | 0.07 | QV | | | | |
| 1+25 | 0.0045 | 0.07 | QV | | | | |
| 1+30 | 0.0049 | 0.07 | QV | | | | |
| 1+35 | 0.0054 | 0.07 | QV | | | | |
| 1+40 | 0.0058 | 0.07 | QV | | | | |
| 1+45 | 0.0063 | 0.07 | QV | | | | |
| 1+50 | 0.0068 | 0.07 | QV | | | | |
| 1+55 | 0.0072 | 0.07 | Q V | | | | |
| 2+ 0 | 0.0078 | 0.09 | Q V | | | | |
| 2+ 5 | 0.0084 | 0.08 | Q V | | | | |
| 2+10 | 0.0090 | 0.09 | Q V | | | | |
| 2+15 | 0.0097 | 0.10 | Q V | | | | |
| 2+20 | 0.0104 | 0.10 | Q V | | | | |
| 2+25 | 0.0111 | 0.10 | Q V | | | | |
| 2+30 | 0.0118 | 0.10 | Q V | | | | |
| 2+35 | 0.0125 | 0.10 | Q V | | | | |
| 2+40 | 0.0132 | 0.10 | Q V | | | | |
| 2+45 | 0.0140 | 0.12 | Q V | | | | |
| 2+50 | 0.0150 | 0.14 | Q V | | | | |
| 2+55 | 0.0160 | 0.14 | Q V | | | | |
| 3+ 0 | 0.0169 | 0.14 | Q V | | | | |
| 3+ 5 | 0.0179 | 0.14 | Q V | | | | |
| 3+10 | 0.0190 | 0.16 | Q V | | | | |

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    3+15       0.0202      0.17  Q    V    |          |          |          |
    3+20       0.0214      0.17  Q     V   |          |          |          |
    3+25       0.0227      0.20  Q     V   |          |          |          |
    3+30       0.0243      0.23  Q     V   |          |          |          |
    3+35       0.0262      0.27  |Q     V  |          |          |          |
    3+40       0.0281      0.28  |Q     V  |          |          |          |
    3+45       0.0302      0.31  |Q      V |          |          |          |
    3+50       0.0324      0.32  |Q       V|          |          |          |
    3+55       0.0348      0.34  |Q       V|          |          |          |
    4+ 0       0.0372      0.36  |Q        V          |          |          |
    4+ 5       0.0399      0.38  |Q        |V         |          |          |
    4+10       0.0427      0.41  |Q        |V         |          |          |
    4+15       0.0458      0.45  |Q        | V        |          |          |
    4+20       0.0492      0.49  |Q        |  V       |          |          |
    4+25       0.0528      0.52  | Q       |   V      |          |          |
    4+30       0.0565      0.54  | Q       |    V     |          |          |
    4+35       0.0603      0.56  | Q       |     V    |          |          |
    4+40       0.0644      0.60  | Q       |      V   |          |          |
    4+45       0.0688      0.63  | Q       |       V  |          |          |
    4+50       0.0732      0.65  | Q       |        V |          |          |
    4+55       0.0778      0.67  | Q       |         V|          |          |
    5+ 0       0.0827      0.70  | Q       |          |  V       |          |
    5+ 5       0.0884      0.83  |  Q      |          |   V      |          |
    5+10       0.0954      1.01  |   Q     |          |    V     |          |
    5+15       0.1032      1.15  |   Q     |          |     V    |          |
    5+20       0.1119      1.26  |    Q    |          |          V          |
    5+25       0.1216      1.41  |    Q    |          |          |   V      |
    5+30       0.1332      1.68  |     Q   |          |          |     V    |
    5+35       0.1399      0.98  |  Q      |          |          |       V  |
    5+40       0.1417      0.26  |Q        |          |          |       V  |
    5+45       0.1421      0.06  Q         |          |          |       V  |
    5+50       0.1423      0.02  Q         |          |          |       V  |
    5+55       0.1424      0.01  Q         |          |          |       V  |
    6+ 0       0.1424      0.01  Q         |          |          |       V  |
    6+ 5       0.1425      0.00  Q         |          |          |       V  |
    6+10       0.1425      0.00  Q         |          |          |       V  |
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX3824100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 38
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 1.20(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.20(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 368.00(Ft.)
Length along longest watercourse measured to centroid = 143.00(Ft.)
Length along longest watercourse = 0.070 Mi.
Length along longest watercourse measured to centroid = 0.027 Mi.
Difference in elevation = 26.00(Ft.)
Slope along watercourse = 373.0435 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.025 Hr.
Lag time = 1.51 Min.
25% of lag time = 0.38 Min.
40% of lag time = 0.60 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.20 | 1.80 | 2.16 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.20 | 4.76 | 5.71 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.760(In)

Point rain (area averaged) = 4.760(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.760(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 1.200 | 70.21 | 0.000 |

Total Area Entered = 1.20(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 70.2 | 85.1 | 0.186 | 0.000 | 0.186 | 1.000 | 0.186 |
| | | | | | Sum (F) = | 0.186 |

Area averaged mean soil loss (F) (In/Hr) = 0.186

Minimum soil loss rate ((In/Hr)) = 0.093
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 331.380 | 61.184 | 0.740 |
| 2 | 0.167 | 662.759 | 37.446 | 0.453 |
| 3 | 0.250 | 994.139 | 1.370 | 0.017 |
| | | | Sum = 100.000 Sum= | 1.209 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.038 | ( 0.329) | 0.034 | 0.004 |
| 2 | 0.17 | 0.07 | 0.038 | ( 0.328) | 0.034 | 0.004 |
| 3 | 0.25 | 0.07 | 0.038 | ( 0.326) | 0.034 | 0.004 |
| 4 | 0.33 | 0.10 | 0.057 | ( 0.325) | 0.051 | 0.006 |
| 5 | 0.42 | 0.10 | 0.057 | ( 0.324) | 0.051 | 0.006 |
| 6 | 0.50 | 0.10 | 0.057 | ( 0.323) | 0.051 | 0.006 |
| 7 | 0.58 | 0.10 | 0.057 | ( 0.321) | 0.051 | 0.006 |
| 8 | 0.67 | 0.10 | 0.057 | ( 0.320) | 0.051 | 0.006 |
| 9 | 0.75 | 0.10 | 0.057 | ( 0.319) | 0.051 | 0.006 |
| 10 | 0.83 | 0.13 | 0.076 | ( 0.318) | 0.069 | 0.008 |
| 11 | 0.92 | 0.13 | 0.076 | ( 0.316) | 0.069 | 0.008 |
| 12 | 1.00 | 0.13 | 0.076 | ( 0.315) | 0.069 | 0.008 |
| 13 | 1.08 | 0.10 | 0.057 | ( 0.314) | 0.051 | 0.006 |
| 14 | 1.17 | 0.10 | 0.057 | ( 0.313) | 0.051 | 0.006 |
| 15 | 1.25 | 0.10 | 0.057 | ( 0.311) | 0.051 | 0.006 |
| 16 | 1.33 | 0.10 | 0.057 | ( 0.310) | 0.051 | 0.006 |
| 17 | 1.42 | 0.10 | 0.057 | ( 0.309) | 0.051 | 0.006 |
| 18 | 1.50 | 0.10 | 0.057 | ( 0.308) | 0.051 | 0.006 |
| 19 | 1.58 | 0.10 | 0.057 | ( 0.306) | 0.051 | 0.006 |
| 20 | 1.67 | 0.10 | 0.057 | ( 0.305) | 0.051 | 0.006 |
| 21 | 1.75 | 0.10 | 0.057 | ( 0.304) | 0.051 | 0.006 |
| 22 | 1.83 | 0.13 | 0.076 | ( 0.303) | 0.069 | 0.008 |
| 23 | 1.92 | 0.13 | 0.076 | ( 0.302) | 0.069 | 0.008 |
| 24 | 2.00 | 0.13 | 0.076 | ( 0.300) | 0.069 | 0.008 |
| 25 | 2.08 | 0.13 | 0.076 | ( 0.299) | 0.069 | 0.008 |
| 26 | 2.17 | 0.13 | 0.076 | ( 0.298) | 0.069 | 0.008 |
| 27 | 2.25 | 0.13 | 0.076 | ( 0.297) | 0.069 | 0.008 |
| 28 | 2.33 | 0.13 | 0.076 | ( 0.295) | 0.069 | 0.008 |
| 29 | 2.42 | 0.13 | 0.076 | ( 0.294) | 0.069 | 0.008 |
| 30 | 2.50 | 0.13 | 0.076 | ( 0.293) | 0.069 | 0.008 |
| 31 | 2.58 | 0.17 | 0.095 | ( 0.292) | 0.086 | 0.010 |
| 32 | 2.67 | 0.17 | 0.095 | ( 0.291) | 0.086 | 0.010 |
| 33 | 2.75 | 0.17 | 0.095 | ( 0.289) | 0.086 | 0.010 |
| 34 | 2.83 | 0.17 | 0.095 | ( 0.288) | 0.086 | 0.010 |
| 35 | 2.92 | 0.17 | 0.095 | ( 0.287) | 0.086 | 0.010 |
| 36 | 3.00 | 0.17 | 0.095 | ( 0.286) | 0.086 | 0.010 |
| 37 | 3.08 | 0.17 | 0.095 | ( 0.285) | 0.086 | 0.010 |
| 38 | 3.17 | 0.17 | 0.095 | ( 0.284) | 0.086 | 0.010 |
| 39 | 3.25 | 0.17 | 0.095 | ( 0.282) | 0.086 | 0.010 |
| 40 | 3.33 | 0.17 | 0.095 | ( 0.281) | 0.086 | 0.010 |
| 41 | 3.42 | 0.17 | 0.095 | ( 0.280) | 0.086 | 0.010 |
| 42 | 3.50 | 0.17 | 0.095 | ( 0.279) | 0.086 | 0.010 |
| 43 | 3.58 | 0.17 | 0.095 | ( 0.278) | 0.086 | 0.010 |
| 44 | 3.67 | 0.17 | 0.095 | ( 0.277) | 0.086 | 0.010 |
| 45 | 3.75 | 0.17 | 0.095 | ( 0.275) | 0.086 | 0.010 |
| 46 | 3.83 | 0.20 | 0.114 | ( 0.274) | 0.103 | 0.011 |
| 47 | 3.92 | 0.20 | 0.114 | ( 0.273) | 0.103 | 0.011 |
| 48 | 4.00 | 0.20 | 0.114 | ( 0.272) | 0.103 | 0.011 |
| 49 | 4.08 | 0.20 | 0.114 | ( 0.271) | 0.103 | 0.011 |
| 50 | 4.17 | 0.20 | 0.114 | ( 0.270) | 0.103 | 0.011 |
| 51 | 4.25 | 0.20 | 0.114 | ( 0.268) | 0.103 | 0.011 |
| 52 | 4.33 | 0.23 | 0.133 | ( 0.267) | 0.120 | 0.013 |
| 53 | 4.42 | 0.23 | 0.133 | ( 0.266) | 0.120 | 0.013 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 54 | 4.50 | 0.23 | 0.133 | ( 0.265) | 0.120 | 0.013 |
| 55 | 4.58 | 0.23 | 0.133 | ( 0.264) | 0.120 | 0.013 |
| 56 | 4.67 | 0.23 | 0.133 | ( 0.263) | 0.120 | 0.013 |
| 57 | 4.75 | 0.23 | 0.133 | ( 0.262) | 0.120 | 0.013 |
| 58 | 4.83 | 0.27 | 0.152 | ( 0.260) | 0.137 | 0.015 |
| 59 | 4.92 | 0.27 | 0.152 | ( 0.259) | 0.137 | 0.015 |
| 60 | 5.00 | 0.27 | 0.152 | ( 0.258) | 0.137 | 0.015 |
| 61 | 5.08 | 0.20 | 0.114 | ( 0.257) | 0.103 | 0.011 |
| 62 | 5.17 | 0.20 | 0.114 | ( 0.256) | 0.103 | 0.011 |
| 63 | 5.25 | 0.20 | 0.114 | ( 0.255) | 0.103 | 0.011 |
| 64 | 5.33 | 0.23 | 0.133 | ( 0.254) | 0.120 | 0.013 |
| 65 | 5.42 | 0.23 | 0.133 | ( 0.253) | 0.120 | 0.013 |
| 66 | 5.50 | 0.23 | 0.133 | ( 0.252) | 0.120 | 0.013 |
| 67 | 5.58 | 0.27 | 0.152 | ( 0.250) | 0.137 | 0.015 |
| 68 | 5.67 | 0.27 | 0.152 | ( 0.249) | 0.137 | 0.015 |
| 69 | 5.75 | 0.27 | 0.152 | ( 0.248) | 0.137 | 0.015 |
| 70 | 5.83 | 0.27 | 0.152 | ( 0.247) | 0.137 | 0.015 |
| 71 | 5.92 | 0.27 | 0.152 | ( 0.246) | 0.137 | 0.015 |
| 72 | 6.00 | 0.27 | 0.152 | ( 0.245) | 0.137 | 0.015 |
| 73 | 6.08 | 0.30 | 0.171 | ( 0.244) | 0.154 | 0.017 |
| 74 | 6.17 | 0.30 | 0.171 | ( 0.243) | 0.154 | 0.017 |
| 75 | 6.25 | 0.30 | 0.171 | ( 0.242) | 0.154 | 0.017 |
| 76 | 6.33 | 0.30 | 0.171 | ( 0.241) | 0.154 | 0.017 |
| 77 | 6.42 | 0.30 | 0.171 | ( 0.240) | 0.154 | 0.017 |
| 78 | 6.50 | 0.30 | 0.171 | ( 0.238) | 0.154 | 0.017 |
| 79 | 6.58 | 0.33 | 0.190 | ( 0.237) | 0.171 | 0.019 |
| 80 | 6.67 | 0.33 | 0.190 | ( 0.236) | 0.171 | 0.019 |
| 81 | 6.75 | 0.33 | 0.190 | ( 0.235) | 0.171 | 0.019 |
| 82 | 6.83 | 0.33 | 0.190 | ( 0.234) | 0.171 | 0.019 |
| 83 | 6.92 | 0.33 | 0.190 | ( 0.233) | 0.171 | 0.019 |
| 84 | 7.00 | 0.33 | 0.190 | ( 0.232) | 0.171 | 0.019 |
| 85 | 7.08 | 0.33 | 0.190 | ( 0.231) | 0.171 | 0.019 |
| 86 | 7.17 | 0.33 | 0.190 | ( 0.230) | 0.171 | 0.019 |
| 87 | 7.25 | 0.33 | 0.190 | ( 0.229) | 0.171 | 0.019 |
| 88 | 7.33 | 0.37 | 0.209 | ( 0.228) | 0.188 | 0.021 |
| 89 | 7.42 | 0.37 | 0.209 | ( 0.227) | 0.188 | 0.021 |
| 90 | 7.50 | 0.37 | 0.209 | ( 0.226) | 0.188 | 0.021 |
| 91 | 7.58 | 0.40 | 0.228 | ( 0.225) | 0.206 | 0.023 |
| 92 | 7.67 | 0.40 | 0.228 | ( 0.224) | 0.206 | 0.023 |
| 93 | 7.75 | 0.40 | 0.228 | ( 0.223) | 0.206 | 0.023 |
| 94 | 7.83 | 0.43 | 0.248 | 0.222 | ( 0.223) | 0.026 |
| 95 | 7.92 | 0.43 | 0.248 | 0.221 | ( 0.223) | 0.027 |
| 96 | 8.00 | 0.43 | 0.248 | 0.220 | ( 0.223) | 0.028 |
| 97 | 8.08 | 0.50 | 0.286 | 0.219 | ( 0.257) | 0.067 |
| 98 | 8.17 | 0.50 | 0.286 | 0.218 | ( 0.257) | 0.068 |
| 99 | 8.25 | 0.50 | 0.286 | 0.217 | ( 0.257) | 0.069 |
| 100 | 8.33 | 0.50 | 0.286 | 0.216 | ( 0.257) | 0.070 |
| 101 | 8.42 | 0.50 | 0.286 | 0.215 | ( 0.257) | 0.071 |
| 102 | 8.50 | 0.50 | 0.286 | 0.214 | ( 0.257) | 0.072 |
| 103 | 8.58 | 0.53 | 0.305 | 0.213 | ( 0.274) | 0.092 |
| 104 | 8.67 | 0.53 | 0.305 | 0.212 | ( 0.274) | 0.093 |
| 105 | 8.75 | 0.53 | 0.305 | 0.211 | ( 0.274) | 0.094 |
| 106 | 8.83 | 0.57 | 0.324 | 0.210 | ( 0.291) | 0.114 |
| 107 | 8.92 | 0.57 | 0.324 | 0.209 | ( 0.291) | 0.115 |
| 108 | 9.00 | 0.57 | 0.324 | 0.208 | ( 0.291) | 0.116 |
| 109 | 9.08 | 0.63 | 0.362 | 0.207 | ( 0.326) | 0.155 |
| 110 | 9.17 | 0.63 | 0.362 | 0.206 | ( 0.326) | 0.156 |
| 111 | 9.25 | 0.63 | 0.362 | 0.205 | ( 0.326) | 0.157 |
| 112 | 9.33 | 0.67 | 0.381 | 0.204 | ( 0.343) | 0.177 |
| 113 | 9.42 | 0.67 | 0.381 | 0.203 | ( 0.343) | 0.178 |
| 114 | 9.50 | 0.67 | 0.381 | 0.202 | ( 0.343) | 0.179 |
| 115 | 9.58 | 0.70 | 0.400 | 0.201 | ( 0.360) | 0.199 |
| 116 | 9.67 | 0.70 | 0.400 | 0.200 | ( 0.360) | 0.200 |
| 117 | 9.75 | 0.70 | 0.400 | 0.199 | ( 0.360) | 0.201 |
| 118 | 9.83 | 0.73 | 0.419 | 0.198 | ( 0.377) | 0.221 |
| 119 | 9.92 | 0.73 | 0.419 | 0.197 | ( 0.377) | 0.222 |
| 120 | 10.00 | 0.73 | 0.419 | 0.196 | ( 0.377) | 0.223 |
| 121 | 10.08 | 0.50 | 0.286 | 0.195 | ( 0.257) | 0.091 |
| 122 | 10.17 | 0.50 | 0.286 | 0.194 | ( 0.257) | 0.092 |
| 123 | 10.25 | 0.50 | 0.286 | 0.193 | ( 0.257) | 0.092 |
| 124 | 10.33 | 0.50 | 0.286 | 0.192 | ( 0.257) | 0.093 |
| 125 | 10.42 | 0.50 | 0.286 | 0.191 | ( 0.257) | 0.094 |
| 126 | 10.50 | 0.50 | 0.286 | 0.190 | ( 0.257) | 0.095 |
| 127 | 10.58 | 0.67 | 0.381 | 0.189 | ( 0.343) | 0.191 |
| 128 | 10.67 | 0.67 | 0.381 | 0.188 | ( 0.343) | 0.192 |
| 129 | 10.75 | 0.67 | 0.381 | 0.188 | ( 0.343) | 0.193 |
| 130 | 10.83 | 0.67 | 0.381 | 0.187 | ( 0.343) | 0.194 |
| 131 | 10.92 | 0.67 | 0.381 | 0.186 | ( 0.343) | 0.195 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 132 | 11.00 | 0.67 | 0.381 | 0.185 | ( 0.343) | 0.196 |
| 133 | 11.08 | 0.63 | 0.362 | 0.184 | ( 0.326) | 0.178 |
| 134 | 11.17 | 0.63 | 0.362 | 0.183 | ( 0.326) | 0.179 |
| 135 | 11.25 | 0.63 | 0.362 | 0.182 | ( 0.326) | 0.180 |
| 136 | 11.33 | 0.63 | 0.362 | 0.181 | ( 0.326) | 0.181 |
| 137 | 11.42 | 0.63 | 0.362 | 0.180 | ( 0.326) | 0.181 |
| 138 | 11.50 | 0.63 | 0.362 | 0.179 | ( 0.326) | 0.182 |
| 139 | 11.58 | 0.57 | 0.324 | 0.178 | ( 0.291) | 0.145 |
| 140 | 11.67 | 0.57 | 0.324 | 0.178 | ( 0.291) | 0.146 |
| 141 | 11.75 | 0.57 | 0.324 | 0.177 | ( 0.291) | 0.147 |
| 142 | 11.83 | 0.60 | 0.343 | 0.176 | ( 0.308) | 0.167 |
| 143 | 11.92 | 0.60 | 0.343 | 0.175 | ( 0.308) | 0.168 |
| 144 | 12.00 | 0.60 | 0.343 | 0.174 | ( 0.308) | 0.169 |
| 145 | 12.08 | 0.83 | 0.476 | 0.173 | ( 0.428) | 0.303 |
| 146 | 12.17 | 0.83 | 0.476 | 0.172 | ( 0.428) | 0.304 |
| 147 | 12.25 | 0.83 | 0.476 | 0.171 | ( 0.428) | 0.305 |
| 148 | 12.33 | 0.87 | 0.495 | 0.171 | ( 0.446) | 0.324 |
| 149 | 12.42 | 0.87 | 0.495 | 0.170 | ( 0.446) | 0.325 |
| 150 | 12.50 | 0.87 | 0.495 | 0.169 | ( 0.446) | 0.326 |
| 151 | 12.58 | 0.93 | 0.533 | 0.168 | ( 0.480) | 0.365 |
| 152 | 12.67 | 0.93 | 0.533 | 0.167 | ( 0.480) | 0.366 |
| 153 | 12.75 | 0.93 | 0.533 | 0.166 | ( 0.480) | 0.367 |
| 154 | 12.83 | 0.97 | 0.552 | 0.166 | ( 0.497) | 0.387 |
| 155 | 12.92 | 0.97 | 0.552 | 0.165 | ( 0.497) | 0.387 |
| 156 | 13.00 | 0.97 | 0.552 | 0.164 | ( 0.497) | 0.388 |
| 157 | 13.08 | 1.13 | 0.647 | 0.163 | ( 0.583) | 0.484 |
| 158 | 13.17 | 1.13 | 0.647 | 0.162 | ( 0.583) | 0.485 |
| 159 | 13.25 | 1.13 | 0.647 | 0.161 | ( 0.583) | 0.486 |
| 160 | 13.33 | 1.13 | 0.647 | 0.161 | ( 0.583) | 0.487 |
| 161 | 13.42 | 1.13 | 0.647 | 0.160 | ( 0.583) | 0.488 |
| 162 | 13.50 | 1.13 | 0.647 | 0.159 | ( 0.583) | 0.488 |
| 163 | 13.58 | 0.77 | 0.438 | 0.158 | ( 0.394) | 0.280 |
| 164 | 13.67 | 0.77 | 0.438 | 0.157 | ( 0.394) | 0.281 |
| 165 | 13.75 | 0.77 | 0.438 | 0.157 | ( 0.394) | 0.281 |
| 166 | 13.83 | 0.77 | 0.438 | 0.156 | ( 0.394) | 0.282 |
| 167 | 13.92 | 0.77 | 0.438 | 0.155 | ( 0.394) | 0.283 |
| 168 | 14.00 | 0.77 | 0.438 | 0.154 | ( 0.394) | 0.284 |
| 169 | 14.08 | 0.90 | 0.514 | 0.153 | ( 0.463) | 0.361 |
| 170 | 14.17 | 0.90 | 0.514 | 0.153 | ( 0.463) | 0.362 |
| 171 | 14.25 | 0.90 | 0.514 | 0.152 | ( 0.463) | 0.362 |
| 172 | 14.33 | 0.87 | 0.495 | 0.151 | ( 0.446) | 0.344 |
| 173 | 14.42 | 0.87 | 0.495 | 0.150 | ( 0.446) | 0.345 |
| 174 | 14.50 | 0.87 | 0.495 | 0.149 | ( 0.446) | 0.346 |
| 175 | 14.58 | 0.87 | 0.495 | 0.149 | ( 0.446) | 0.346 |
| 176 | 14.67 | 0.87 | 0.495 | 0.148 | ( 0.446) | 0.347 |
| 177 | 14.75 | 0.87 | 0.495 | 0.147 | ( 0.446) | 0.348 |
| 178 | 14.83 | 0.83 | 0.476 | 0.146 | ( 0.428) | 0.330 |
| 179 | 14.92 | 0.83 | 0.476 | 0.146 | ( 0.428) | 0.330 |
| 180 | 15.00 | 0.83 | 0.476 | 0.145 | ( 0.428) | 0.331 |
| 181 | 15.08 | 0.80 | 0.457 | 0.144 | ( 0.411) | 0.313 |
| 182 | 15.17 | 0.80 | 0.457 | 0.143 | ( 0.411) | 0.314 |
| 183 | 15.25 | 0.80 | 0.457 | 0.143 | ( 0.411) | 0.314 |
| 184 | 15.33 | 0.77 | 0.438 | 0.142 | ( 0.394) | 0.296 |
| 185 | 15.42 | 0.77 | 0.438 | 0.141 | ( 0.394) | 0.297 |
| 186 | 15.50 | 0.77 | 0.438 | 0.141 | ( 0.394) | 0.297 |
| 187 | 15.58 | 0.63 | 0.362 | 0.140 | ( 0.326) | 0.222 |
| 188 | 15.67 | 0.63 | 0.362 | 0.139 | ( 0.326) | 0.223 |
| 189 | 15.75 | 0.63 | 0.362 | 0.138 | ( 0.326) | 0.223 |
| 190 | 15.83 | 0.63 | 0.362 | 0.138 | ( 0.326) | 0.224 |
| 191 | 15.92 | 0.63 | 0.362 | 0.137 | ( 0.326) | 0.225 |
| 192 | 16.00 | 0.63 | 0.362 | 0.136 | ( 0.326) | 0.225 |
| 193 | 16.08 | 0.13 | 0.076 | ( 0.136) | 0.069 | 0.008 |
| 194 | 16.17 | 0.13 | 0.076 | ( 0.135) | 0.069 | 0.008 |
| 195 | 16.25 | 0.13 | 0.076 | ( 0.134) | 0.069 | 0.008 |
| 196 | 16.33 | 0.13 | 0.076 | ( 0.134) | 0.069 | 0.008 |
| 197 | 16.42 | 0.13 | 0.076 | ( 0.133) | 0.069 | 0.008 |
| 198 | 16.50 | 0.13 | 0.076 | ( 0.132) | 0.069 | 0.008 |
| 199 | 16.58 | 0.10 | 0.057 | ( 0.131) | 0.051 | 0.006 |
| 200 | 16.67 | 0.10 | 0.057 | ( 0.131) | 0.051 | 0.006 |
| 201 | 16.75 | 0.10 | 0.057 | ( 0.130) | 0.051 | 0.006 |
| 202 | 16.83 | 0.10 | 0.057 | ( 0.129) | 0.051 | 0.006 |
| 203 | 16.92 | 0.10 | 0.057 | ( 0.129) | 0.051 | 0.006 |
| 204 | 17.00 | 0.10 | 0.057 | ( 0.128) | 0.051 | 0.006 |
| 205 | 17.08 | 0.17 | 0.095 | ( 0.128) | 0.086 | 0.010 |
| 206 | 17.17 | 0.17 | 0.095 | ( 0.127) | 0.086 | 0.010 |
| 207 | 17.25 | 0.17 | 0.095 | ( 0.126) | 0.086 | 0.010 |
| 208 | 17.33 | 0.17 | 0.095 | ( 0.126) | 0.086 | 0.010 |
| 209 | 17.42 | 0.17 | 0.095 | ( 0.125) | 0.086 | 0.010 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 210 | 17.50 | 0.17 | 0.095 | ( 0.124) | 0.086 | 0.010 |
| 211 | 17.58 | 0.17 | 0.095 | ( 0.124) | 0.086 | 0.010 |
| 212 | 17.67 | 0.17 | 0.095 | ( 0.123) | 0.086 | 0.010 |
| 213 | 17.75 | 0.17 | 0.095 | ( 0.123) | 0.086 | 0.010 |
| 214 | 17.83 | 0.13 | 0.076 | ( 0.122) | 0.069 | 0.008 |
| 215 | 17.92 | 0.13 | 0.076 | ( 0.121) | 0.069 | 0.008 |
| 216 | 18.00 | 0.13 | 0.076 | ( 0.121) | 0.069 | 0.008 |
| 217 | 18.08 | 0.13 | 0.076 | ( 0.120) | 0.069 | 0.008 |
| 218 | 18.17 | 0.13 | 0.076 | ( 0.120) | 0.069 | 0.008 |
| 219 | 18.25 | 0.13 | 0.076 | ( 0.119) | 0.069 | 0.008 |
| 220 | 18.33 | 0.13 | 0.076 | ( 0.118) | 0.069 | 0.008 |
| 221 | 18.42 | 0.13 | 0.076 | ( 0.118) | 0.069 | 0.008 |
| 222 | 18.50 | 0.13 | 0.076 | ( 0.117) | 0.069 | 0.008 |
| 223 | 18.58 | 0.10 | 0.057 | ( 0.117) | 0.051 | 0.006 |
| 224 | 18.67 | 0.10 | 0.057 | ( 0.116) | 0.051 | 0.006 |
| 225 | 18.75 | 0.10 | 0.057 | ( 0.116) | 0.051 | 0.006 |
| 226 | 18.83 | 0.07 | 0.038 | ( 0.115) | 0.034 | 0.004 |
| 227 | 18.92 | 0.07 | 0.038 | ( 0.114) | 0.034 | 0.004 |
| 228 | 19.00 | 0.07 | 0.038 | ( 0.114) | 0.034 | 0.004 |
| 229 | 19.08 | 0.10 | 0.057 | ( 0.113) | 0.051 | 0.006 |
| 230 | 19.17 | 0.10 | 0.057 | ( 0.113) | 0.051 | 0.006 |
| 231 | 19.25 | 0.10 | 0.057 | ( 0.112) | 0.051 | 0.006 |
| 232 | 19.33 | 0.13 | 0.076 | ( 0.112) | 0.069 | 0.008 |
| 233 | 19.42 | 0.13 | 0.076 | ( 0.111) | 0.069 | 0.008 |
| 234 | 19.50 | 0.13 | 0.076 | ( 0.111) | 0.069 | 0.008 |
| 235 | 19.58 | 0.10 | 0.057 | ( 0.110) | 0.051 | 0.006 |
| 236 | 19.67 | 0.10 | 0.057 | ( 0.110) | 0.051 | 0.006 |
| 237 | 19.75 | 0.10 | 0.057 | ( 0.109) | 0.051 | 0.006 |
| 238 | 19.83 | 0.07 | 0.038 | ( 0.109) | 0.034 | 0.004 |
| 239 | 19.92 | 0.07 | 0.038 | ( 0.108) | 0.034 | 0.004 |
| 240 | 20.00 | 0.07 | 0.038 | ( 0.108) | 0.034 | 0.004 |
| 241 | 20.08 | 0.10 | 0.057 | ( 0.107) | 0.051 | 0.006 |
| 242 | 20.17 | 0.10 | 0.057 | ( 0.107) | 0.051 | 0.006 |
| 243 | 20.25 | 0.10 | 0.057 | ( 0.106) | 0.051 | 0.006 |
| 244 | 20.33 | 0.10 | 0.057 | ( 0.106) | 0.051 | 0.006 |
| 245 | 20.42 | 0.10 | 0.057 | ( 0.105) | 0.051 | 0.006 |
| 246 | 20.50 | 0.10 | 0.057 | ( 0.105) | 0.051 | 0.006 |
| 247 | 20.58 | 0.10 | 0.057 | ( 0.105) | 0.051 | 0.006 |
| 248 | 20.67 | 0.10 | 0.057 | ( 0.104) | 0.051 | 0.006 |
| 249 | 20.75 | 0.10 | 0.057 | ( 0.104) | 0.051 | 0.006 |
| 250 | 20.83 | 0.07 | 0.038 | ( 0.103) | 0.034 | 0.004 |
| 251 | 20.92 | 0.07 | 0.038 | ( 0.103) | 0.034 | 0.004 |
| 252 | 21.00 | 0.07 | 0.038 | ( 0.102) | 0.034 | 0.004 |
| 253 | 21.08 | 0.10 | 0.057 | ( 0.102) | 0.051 | 0.006 |
| 254 | 21.17 | 0.10 | 0.057 | ( 0.102) | 0.051 | 0.006 |
| 255 | 21.25 | 0.10 | 0.057 | ( 0.101) | 0.051 | 0.006 |
| 256 | 21.33 | 0.07 | 0.038 | ( 0.101) | 0.034 | 0.004 |
| 257 | 21.42 | 0.07 | 0.038 | ( 0.100) | 0.034 | 0.004 |
| 258 | 21.50 | 0.07 | 0.038 | ( 0.100) | 0.034 | 0.004 |
| 259 | 21.58 | 0.10 | 0.057 | ( 0.100) | 0.051 | 0.006 |
| 260 | 21.67 | 0.10 | 0.057 | ( 0.099) | 0.051 | 0.006 |
| 261 | 21.75 | 0.10 | 0.057 | ( 0.099) | 0.051 | 0.006 |
| 262 | 21.83 | 0.07 | 0.038 | ( 0.099) | 0.034 | 0.004 |
| 263 | 21.92 | 0.07 | 0.038 | ( 0.098) | 0.034 | 0.004 |
| 264 | 22.00 | 0.07 | 0.038 | ( 0.098) | 0.034 | 0.004 |
| 265 | 22.08 | 0.10 | 0.057 | ( 0.098) | 0.051 | 0.006 |
| 266 | 22.17 | 0.10 | 0.057 | ( 0.097) | 0.051 | 0.006 |
| 267 | 22.25 | 0.10 | 0.057 | ( 0.097) | 0.051 | 0.006 |
| 268 | 22.33 | 0.07 | 0.038 | ( 0.097) | 0.034 | 0.004 |
| 269 | 22.42 | 0.07 | 0.038 | ( 0.096) | 0.034 | 0.004 |
| 270 | 22.50 | 0.07 | 0.038 | ( 0.096) | 0.034 | 0.004 |
| 271 | 22.58 | 0.07 | 0.038 | ( 0.096) | 0.034 | 0.004 |
| 272 | 22.67 | 0.07 | 0.038 | ( 0.096) | 0.034 | 0.004 |
| 273 | 22.75 | 0.07 | 0.038 | ( 0.095) | 0.034 | 0.004 |
| 274 | 22.83 | 0.07 | 0.038 | ( 0.095) | 0.034 | 0.004 |
| 275 | 22.92 | 0.07 | 0.038 | ( 0.095) | 0.034 | 0.004 |
| 276 | 23.00 | 0.07 | 0.038 | ( 0.095) | 0.034 | 0.004 |
| 277 | 23.08 | 0.07 | 0.038 | ( 0.094) | 0.034 | 0.004 |
| 278 | 23.17 | 0.07 | 0.038 | ( 0.094) | 0.034 | 0.004 |
| 279 | 23.25 | 0.07 | 0.038 | ( 0.094) | 0.034 | 0.004 |
| 280 | 23.33 | 0.07 | 0.038 | ( 0.094) | 0.034 | 0.004 |
| 281 | 23.42 | 0.07 | 0.038 | ( 0.094) | 0.034 | 0.004 |
| 282 | 23.50 | 0.07 | 0.038 | ( 0.093) | 0.034 | 0.004 |
| 283 | 23.58 | 0.07 | 0.038 | ( 0.093) | 0.034 | 0.004 |
| 284 | 23.67 | 0.07 | 0.038 | ( 0.093) | 0.034 | 0.004 |
| 285 | 23.75 | 0.07 | 0.038 | ( 0.093) | 0.034 | 0.004 |
| 286 | 23.83 | 0.07 | 0.038 | ( 0.093) | 0.034 | 0.004 |
| 287 | 23.92 | 0.07 | 0.038 | ( 0.093) | 0.034 | 0.004 |

288 24.00 0.07 0.038 ( 0.093) 0.034 0.004
(Loss Rate Not Used)
Sum = 100.0 Sum = 24.9
Flood volume = Effective rainfall 2.07(In)
times area 1.2(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 2.69(In)
Total soil loss = 0.269(Ac.Ft)
Total rainfall = 4.76(In)
Flood volume = 9023.7 Cubic Feet
Total soil loss = 11710.8 Cubic Feet

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Peak flow rate of this hydrograph = 0.591(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0000 | 0.00 | Q | | | | |
| 0+10 | 0.0001 | 0.00 | Q | | | | |
| 0+15 | 0.0001 | 0.00 | Q | | | | |
| 0+20 | 0.0001 | 0.01 | Q | | | | |
| 0+25 | 0.0002 | 0.01 | Q | | | | |
| 0+30 | 0.0002 | 0.01 | Q | | | | |
| 0+35 | 0.0003 | 0.01 | Q | | | | |
| 0+40 | 0.0003 | 0.01 | Q | | | | |
| 0+45 | 0.0004 | 0.01 | Q | | | | |
| 0+50 | 0.0004 | 0.01 | Q | | | | |
| 0+55 | 0.0005 | 0.01 | Q | | | | |
| 1+ 0 | 0.0005 | 0.01 | Q | | | | |
| 1+ 5 | 0.0006 | 0.01 | Q | | | | |
| 1+10 | 0.0006 | 0.01 | Q | | | | |
| 1+15 | 0.0007 | 0.01 | Q | | | | |
| 1+20 | 0.0007 | 0.01 | Q | | | | |
| 1+25 | 0.0008 | 0.01 | Q | | | | |
| 1+30 | 0.0008 | 0.01 | Q | | | | |
| 1+35 | 0.0009 | 0.01 | Q | | | | |
| 1+40 | 0.0009 | 0.01 | Q | | | | |
| 1+45 | 0.0010 | 0.01 | Q | | | | |
| 1+50 | 0.0010 | 0.01 | Q | | | | |
| 1+55 | 0.0011 | 0.01 | Q | | | | |
| 2+ 0 | 0.0012 | 0.01 | Q | | | | |
| 2+ 5 | 0.0012 | 0.01 | Q | | | | |
| 2+10 | 0.0013 | 0.01 | Q | | | | |
| 2+15 | 0.0014 | 0.01 | Q | | | | |
| 2+20 | 0.0014 | 0.01 | Q | | | | |
| 2+25 | 0.0015 | 0.01 | Q | | | | |
| 2+30 | 0.0015 | 0.01 | Q | | | | |
| 2+35 | 0.0016 | 0.01 | Q | | | | |
| 2+40 | 0.0017 | 0.01 | Q | | | | |
| 2+45 | 0.0018 | 0.01 | Q | | | | |
| 2+50 | 0.0019 | 0.01 | Q | | | | |
| 2+55 | 0.0019 | 0.01 | Q | | | | |
| 3+ 0 | 0.0020 | 0.01 | Q | | | | |
| 3+ 5 | 0.0021 | 0.01 | Q | | | | |
| 3+10 | 0.0022 | 0.01 | Q | | | | |
| 3+15 | 0.0023 | 0.01 | Q | | | | |
| 3+20 | 0.0023 | 0.01 | Q | | | | |
| 3+25 | 0.0024 | 0.01 | Q | | | | |
| 3+30 | 0.0025 | 0.01 | Q | | | | |
| 3+35 | 0.0026 | 0.01 | Q | | | | |
| 3+40 | 0.0026 | 0.01 | Q | | | | |
| 3+45 | 0.0027 | 0.01 | Q | | | | |
| 3+50 | 0.0028 | 0.01 | Q | | | | |
| 3+55 | 0.0029 | 0.01 | Q | | | | |
| 4+ 0 | 0.0030 | 0.01 | Q | | | | |
| 4+ 5 | 0.0031 | 0.01 | Q | | | | |
| 4+10 | 0.0032 | 0.01 | Q | | | | |
| 4+15 | 0.0033 | 0.01 | Q | | | | |
| 4+20 | 0.0034 | 0.02 | Q | | | | |
| 4+25 | 0.0035 | 0.02 | Q | | | | |
| 4+30 | 0.0036 | 0.02 | Q | | | | |
| 4+35 | 0.0037 | 0.02 | Q | | | | |
| 4+40 | 0.0038 | 0.02 | Q | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 4+45 | 0.0040 | 0.02 | Q | \| | \| | \| | \| |
| 4+50 | 0.0041 | 0.02 | Q | \| | \| | \| | \| |
| 4+55 | 0.0042 | 0.02 | Q | \| | \| | \| | \| |
| 5+ 0 | 0.0043 | 0.02 | Q | \| | \| | \| | \| |
| 5+ 5 | 0.0044 | 0.02 | Q | \| | \| | \| | \| |
| 5+10 | 0.0045 | 0.01 | Q | \| | \| | \| | \| |
| 5+15 | 0.0046 | 0.01 | Q | \| | \| | \| | \| |
| 5+20 | 0.0047 | 0.02 | Q | \| | \| | \| | \| |
| 5+25 | 0.0048 | 0.02 | Q | \| | \| | \| | \| |
| 5+30 | 0.0050 | 0.02 | Q | \| | \| | \| | \| |
| 5+35 | 0.0051 | 0.02 | Q | \| | \| | \| | \| |
| 5+40 | 0.0052 | 0.02 | QV | \| | \| | \| | \| |
| 5+45 | 0.0053 | 0.02 | QV | \| | \| | \| | \| |
| 5+50 | 0.0055 | 0.02 | QV | \| | \| | \| | \| |
| 5+55 | 0.0056 | 0.02 | QV | \| | \| | \| | \| |
| 6+ 0 | 0.0057 | 0.02 | QV | \| | \| | \| | \| |
| 6+ 5 | 0.0058 | 0.02 | QV | \| | \| | \| | \| |
| 6+10 | 0.0060 | 0.02 | QV | \| | \| | \| | \| |
| 6+15 | 0.0061 | 0.02 | QV | \| | \| | \| | \| |
| 6+20 | 0.0063 | 0.02 | QV | \| | \| | \| | \| |
| 6+25 | 0.0064 | 0.02 | QV | \| | \| | \| | \| |
| 6+30 | 0.0066 | 0.02 | QV | \| | \| | \| | \| |
| 6+35 | 0.0067 | 0.02 | QV | \| | \| | \| | \| |
| 6+40 | 0.0069 | 0.02 | QV | \| | \| | \| | \| |
| 6+45 | 0.0070 | 0.02 | QV | \| | \| | \| | \| |
| 6+50 | 0.0072 | 0.02 | QV | \| | \| | \| | \| |
| 6+55 | 0.0073 | 0.02 | QV | \| | \| | \| | \| |
| 7+ 0 | 0.0075 | 0.02 | QV | \| | \| | \| | \| |
| 7+ 5 | 0.0077 | 0.02 | QV | \| | \| | \| | \| |
| 7+10 | 0.0078 | 0.02 | QV | \| | \| | \| | \| |
| 7+15 | 0.0080 | 0.02 | QV | \| | \| | \| | \| |
| 7+20 | 0.0081 | 0.02 | QV | \| | \| | \| | \| |
| 7+25 | 0.0083 | 0.03 | QV | \| | \| | \| | \| |
| 7+30 | 0.0085 | 0.03 | QV | \| | \| | \| | \| |
| 7+35 | 0.0087 | 0.03 | QV | \| | \| | \| | \| |
| 7+40 | 0.0089 | 0.03 | QV | \| | \| | \| | \| |
| 7+45 | 0.0091 | 0.03 | QV | \| | \| | \| | \| |
| 7+50 | 0.0093 | 0.03 | QV | \| | \| | \| | \| |
| 7+55 | 0.0095 | 0.03 | QV | \| | \| | \| | \| |
| 8+ 0 | 0.0097 | 0.03 | QV | \| | \| | \| | \| |
| 8+ 5 | 0.0101 | 0.06 | QV | \| | \| | \| | \| |
| 8+10 | 0.0107 | 0.08 | Q V | \| | \| | \| | \| |
| 8+15 | 0.0113 | 0.08 | Q V | \| | \| | \| | \| |
| 8+20 | 0.0119 | 0.08 | Q V | \| | \| | \| | \| |
| 8+25 | 0.0125 | 0.09 | Q V | \| | \| | \| | \| |
| 8+30 | 0.0130 | 0.09 | Q V | \| | \| | \| | \| |
| 8+35 | 0.0138 | 0.10 | Q V | \| | \| | \| | \| |
| 8+40 | 0.0145 | 0.11 | Q V | \| | \| | \| | \| |
| 8+45 | 0.0153 | 0.11 | Q V | \| | \| | \| | \| |
| 8+50 | 0.0162 | 0.13 | Q  V | \| | \| | \| | \| |
| 8+55 | 0.0171 | 0.14 | Q  V | \| | \| | \| | \| |
| 9+ 0 | 0.0181 | 0.14 | Q  V | \| | \| | \| | \| |
| 9+ 5 | 0.0193 | 0.17 | Q  V | \| | \| | \| | \| |
| 9+10 | 0.0206 | 0.19 | Q  V | \| | \| | \| | \| |
| 9+15 | 0.0219 | 0.19 | Q   V | \| | \| | \| | \| |
| 9+20 | 0.0233 | 0.20 | Q   V | \| | \| | \| | \| |
| 9+25 | 0.0248 | 0.21 | Q   V | \| | \| | \| | \| |
| 9+30 | 0.0263 | 0.22 | Q    V | \| | \| | \| | \| |
| 9+35 | 0.0278 | 0.23 | Q    V | \| | \| | \| | \| |
| 9+40 | 0.0295 | 0.24 | Q    V | \| | \| | \| | \| |
| 9+45 | 0.0312 | 0.24 | Q     V | \| | \| | \| | \| |
| 9+50 | 0.0330 | 0.26 | \|Q    V | \| | \| | \| | \| |
| 9+55 | 0.0348 | 0.27 | \|Q    V | \| | \| | \| | \| |
| 10+ 0 | 0.0367 | 0.27 | \|Q     V | \| | \| | \| | \| |
| 10+ 5 | 0.0378 | 0.17 | Q      V | \| | \| | \| | \| |
| 10+10 | 0.0386 | 0.11 | Q      V | \| | \| | \| | \| |
| 10+15 | 0.0394 | 0.11 | Q      V | \| | \| | \| | \| |
| 10+20 | 0.0402 | 0.11 | Q      V | \| | \| | \| | \| |
| 10+25 | 0.0409 | 0.11 | Q      V | \| | \| | \| | \| |
| 10+30 | 0.0417 | 0.11 | Q       V | \| | \| | \| | \| |
| 10+35 | 0.0430 | 0.19 | Q       V | \| | \| | \| | \| |
| 10+40 | 0.0446 | 0.23 | Q       V | \| | \| | \| | \| |
| 10+45 | 0.0462 | 0.23 | Q       V | \| | \| | \| | \| |
| 10+50 | 0.0478 | 0.23 | Q        V\| | \| | \| | \| |
| 10+55 | 0.0494 | 0.24 | Q        V\| | \| | \| | \| |
| 11+ 0 | 0.0511 | 0.24 | Q        V\| | \| | \| | \| |
| 11+ 5 | 0.0526 | 0.22 | Q         V | \| | \| | \| |
| 11+10 | 0.0541 | 0.22 | Q         V | \| | \| | \| |

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11+15       0.0556      0.22  Q          V          |          |          |
11+20       0.0571      0.22  Q          |V         |          |          |
11+25       0.0586      0.22  Q          |V         |          |          |
11+30       0.0601      0.22  Q          |V         |          |          |
11+35       0.0615      0.19  Q          |V         |          |          |
11+40       0.0627      0.18  Q          | V        |          |          |
11+45       0.0639      0.18  Q          | V        |          |          |
11+50       0.0652      0.19  Q          | V        |          |          |
11+55       0.0666      0.20  Q          | V        |          |          |
12+ 0       0.0680      0.20  Q          |  V       |          |          |
12+ 5       0.0701      0.30  |Q         |  V       |          |          |
12+10       0.0726      0.36  |Q         |   V      |          |          |
12+15       0.0752      0.37  |Q         |   V      |          |          |
12+20       0.0778      0.38  |Q         |    V     |          |          |
12+25       0.0805      0.39  |Q         |    V     |          |          |
12+30       0.0832      0.39  |Q         |     V    |          |          |
12+35       0.0861      0.42  |Q         |     V    |          |          |
12+40       0.0892      0.44  |Q         |      V   |          |          |
12+45       0.0922      0.44  |Q         |      V   |          |          |
12+50       0.0954      0.46  |Q         |       V  |          |          |
12+55       0.0986      0.47  |Q         |       V| |          |          |
13+ 0       0.1018      0.47  |Q         |        V|          |          |
13+ 5       0.1056      0.54  | Q        |         V          |          |
13+10       0.1096      0.59  | Q        |         |V         |          |
13+15       0.1136      0.59  | Q        |         |V         |          |
13+20       0.1177      0.59  | Q        |         | V        |          |
13+25       0.1218      0.59  | Q        |         |  V       |          |
13+30       0.1258      0.59  | Q        |         |   V      |          |
13+35       0.1288      0.44  |Q         |         |   V      |          |
13+40       0.1312      0.34  |Q         |         |    V     |          |
13+45       0.1335      0.34  |Q         |         |    V     |          |
13+50       0.1359      0.34  |Q         |         |     V    |          |
13+55       0.1382      0.34  |Q         |         |     V    |          |
14+ 0       0.1406      0.34  |Q         |         |      V   |          |
14+ 5       0.1434      0.40  |Q         |         |      V   |          |
14+10       0.1464      0.44  |Q         |         |       V  |          |
14+15       0.1494      0.44  |Q         |         |       V  |          |
14+20       0.1523      0.42  |Q         |         |        V|          |
14+25       0.1552      0.42  |Q         |         |        V|          |
14+30       0.1581      0.42  |Q         |         |         V          |
14+35       0.1609      0.42  |Q         |         |         |V         |
14+40       0.1638      0.42  |Q         |         |         |V         |
14+45       0.1667      0.42  |Q         |         |         | V        |
14+50       0.1695      0.41  |Q         |         |         | V        |
14+55       0.1723      0.40  |Q         |         |         |  V       |
15+ 0       0.1750      0.40  |Q         |         |         |  V       |
15+ 5       0.1777      0.39  |Q         |         |         |   V      |
15+10       0.1803      0.38  |Q         |         |         |   V      |
15+15       0.1829      0.38  |Q         |         |         |    V     |
15+20       0.1855      0.37  |Q         |         |         |    V     |
15+25       0.1879      0.36  |Q         |         |         |     V    |
15+30       0.1904      0.36  |Q         |         |         |     V    |
15+35       0.1925      0.30  |Q         |         |         |      V   |
15+40       0.1944      0.27  |Q         |         |         |      V   |
15+45       0.1962      0.27  |Q         |         |         |      V   |
15+50       0.1981      0.27  |Q         |         |         |       V  |
15+55       0.2000      0.27  |Q         |         |         |       V  |
16+ 0       0.2018      0.27  |Q         |         |         |       V  |
16+ 5       0.2026      0.11  Q          |         |         |        V|
16+10       0.2027      0.01  Q          |         |         |        V|
16+15       0.2028      0.01  Q          |         |         |        V|
16+20       0.2028      0.01  Q          |         |         |        V|
16+25       0.2029      0.01  Q          |         |         |        V|
16+30       0.2029      0.01  Q          |         |         |        V|
16+35       0.2030      0.01  Q          |         |         |        V|
16+40       0.2030      0.01  Q          |         |         |        V|
16+45       0.2031      0.01  Q          |         |         |        V|
16+50       0.2031      0.01  Q          |         |         |        V|
16+55       0.2032      0.01  Q          |         |         |        V|
17+ 0       0.2032      0.01  Q          |         |         |        V|
17+ 5       0.2033      0.01  Q          |         |         |        V|
17+10       0.2034      0.01  Q          |         |         |        V|
17+15       0.2035      0.01  Q          |         |         |        V|
17+20       0.2035      0.01  Q          |         |         |        V|
17+25       0.2036      0.01  Q          |         |         |        V|
17+30       0.2037      0.01  Q          |         |         |        V|
17+35       0.2038      0.01  Q          |         |         |        V|
17+40       0.2039      0.01  Q          |         |         |        V|
```

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+45 | 0.2039 | 0.01 | Q | \| | \| | \| | V\| |
| 17+50 | 0.2040 | 0.01 | Q | \| | \| | \| | V\| |
| 17+55 | 0.2041 | 0.01 | Q | \| | \| | \| | V\| |
| 18+ 0 | 0.2041 | 0.01 | Q | \| | \| | \| | V\| |
| 18+ 5 | 0.2042 | 0.01 | Q | \| | \| | \| | V\| |
| 18+10 | 0.2043 | 0.01 | Q | \| | \| | \| | V\| |
| 18+15 | 0.2043 | 0.01 | Q | \| | \| | \| | V\| |
| 18+20 | 0.2044 | 0.01 | Q | \| | \| | \| | V\| |
| 18+25 | 0.2044 | 0.01 | Q | \| | \| | \| | V\| |
| 18+30 | 0.2045 | 0.01 | Q | \| | \| | \| | V\| |
| 18+35 | 0.2046 | 0.01 | Q | \| | \| | \| | V\| |
| 18+40 | 0.2046 | 0.01 | Q | \| | \| | \| | V\| |
| 18+45 | 0.2047 | 0.01 | Q | \| | \| | \| | V\| |
| 18+50 | 0.2047 | 0.01 | Q | \| | \| | \| | V\| |
| 18+55 | 0.2047 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 0 | 0.2048 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 5 | 0.2048 | 0.01 | Q | \| | \| | \| | V\| |
| 19+10 | 0.2049 | 0.01 | Q | \| | \| | \| | V\| |
| 19+15 | 0.2049 | 0.01 | Q | \| | \| | \| | V\| |
| 19+20 | 0.2050 | 0.01 | Q | \| | \| | \| | V\| |
| 19+25 | 0.2050 | 0.01 | Q | \| | \| | \| | V\| |
| 19+30 | 0.2051 | 0.01 | Q | \| | \| | \| | V\| |
| 19+35 | 0.2051 | 0.01 | Q | \| | \| | \| | V\| |
| 19+40 | 0.2052 | 0.01 | Q | \| | \| | \| | V\| |
| 19+45 | 0.2052 | 0.01 | Q | \| | \| | \| | V\| |
| 19+50 | 0.2053 | 0.01 | Q | \| | \| | \| | V\| |
| 19+55 | 0.2053 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 0 | 0.2053 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 5 | 0.2054 | 0.01 | Q | \| | \| | \| | V\| |
| 20+10 | 0.2054 | 0.01 | Q | \| | \| | \| | V\| |
| 20+15 | 0.2055 | 0.01 | Q | \| | \| | \| | V\| |
| 20+20 | 0.2055 | 0.01 | Q | \| | \| | \| | V\| |
| 20+25 | 0.2056 | 0.01 | Q | \| | \| | \| | V\| |
| 20+30 | 0.2056 | 0.01 | Q | \| | \| | \| | V\| |
| 20+35 | 0.2057 | 0.01 | Q | \| | \| | \| | V\| |
| 20+40 | 0.2057 | 0.01 | Q | \| | \| | \| | V\| |
| 20+45 | 0.2058 | 0.01 | Q | \| | \| | \| | V\| |
| 20+50 | 0.2058 | 0.01 | Q | \| | \| | \| | V\| |
| 20+55 | 0.2058 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 0 | 0.2059 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 5 | 0.2059 | 0.01 | Q | \| | \| | \| | V\| |
| 21+10 | 0.2059 | 0.01 | Q | \| | \| | \| | V\| |
| 21+15 | 0.2060 | 0.01 | Q | \| | \| | \| | V\| |
| 21+20 | 0.2060 | 0.01 | Q | \| | \| | \| | V\| |
| 21+25 | 0.2061 | 0.00 | Q | \| | \| | \| | V\| |
| 21+30 | 0.2061 | 0.00 | Q | \| | \| | \| | V\| |
| 21+35 | 0.2061 | 0.01 | Q | \| | \| | \| | V\| |
| 21+40 | 0.2062 | 0.01 | Q | \| | \| | \| | V\| |
| 21+45 | 0.2062 | 0.01 | Q | \| | \| | \| | V\| |
| 21+50 | 0.2063 | 0.01 | Q | \| | \| | \| | V\| |
| 21+55 | 0.2063 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 0 | 0.2063 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 5 | 0.2064 | 0.01 | Q | \| | \| | \| | V\| |
| 22+10 | 0.2064 | 0.01 | Q | \| | \| | \| | V\| |
| 22+15 | 0.2065 | 0.01 | Q | \| | \| | \| | V\| |
| 22+20 | 0.2065 | 0.01 | Q | \| | \| | \| | V\| |
| 22+25 | 0.2065 | 0.00 | Q | \| | \| | \| | V\| |
| 22+30 | 0.2066 | 0.00 | Q | \| | \| | \| | V\| |
| 22+35 | 0.2066 | 0.00 | Q | \| | \| | \| | V\| |
| 22+40 | 0.2066 | 0.00 | Q | \| | \| | \| | V\| |
| 22+45 | 0.2067 | 0.00 | Q | \| | \| | \| | V\| |
| 22+50 | 0.2067 | 0.00 | Q | \| | \| | \| | V\| |
| 22+55 | 0.2067 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 0 | 0.2068 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 5 | 0.2068 | 0.00 | Q | \| | \| | \| | V\| |
| 23+10 | 0.2068 | 0.00 | Q | \| | \| | \| | V\| |
| 23+15 | 0.2069 | 0.00 | Q | \| | \| | \| | V\| |
| 23+20 | 0.2069 | 0.00 | Q | \| | \| | \| | V\| |
| 23+25 | 0.2069 | 0.00 | Q | \| | \| | \| | V\| |
| 23+30 | 0.2070 | 0.00 | Q | \| | \| | \| | V\| |
| 23+35 | 0.2070 | 0.00 | Q | \| | \| | \| | V\| |
| 23+40 | 0.2070 | 0.00 | Q | \| | \| | \| | V\| |
| 23+45 | 0.2070 | 0.00 | Q | \| | \| | \| | V\| |
| 23+50 | 0.2071 | 0.00 | Q | \| | \| | \| | V\| |
| 23+55 | 0.2071 | 0.00 | Q | \| | \| | \| | V\| |
| 24+ 0 | 0.2071 | 0.00 | Q | \| | \| | \| | V\| |
| 24+ 5 | 0.2072 | 0.00 | Q | \| | \| | \| | V\| |
| 24+10 | 0.2072 | 0.00 | Q | \| | \| | \| | V\| |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX391100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 39
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 0.90(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.90(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 275.00(Ft.)
Length along longest watercourse measured to centroid = 116.00(Ft.)
Length along longest watercourse = 0.052 Mi.
Length along longest watercourse measured to centroid = 0.022 Mi.
Difference in elevation = 38.00(Ft.)
Slope along watercourse = 729.6000 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.018 Hr.
Lag time = 1.10 Min.
25% of lag time = 0.27 Min.
40% of lag time = 0.44 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.90 | 0.50 | 0.45 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.90 | 1.20 | 1.08 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.900 | 78.07 | 0.000 |

Total Area Entered = 0.90(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 78.1 | 89.8 | 0.132 | 0.000 | 0.132 | 1.000 | 0.132 |
| | | | | | Sum (F) = | 0.132 |

Area averaged mean soil loss (F) (In/Hr) = 0.132

Minimum soil loss rate ((In/Hr)) = 0.066
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

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| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 455.289 | 71.044 | 0.644 |
| 2 0.167 | 910.577 | 28.956 | 0.263 |
| | Sum = 100.000 | Sum= | 0.907 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 4.20 | 0.605 | 0.132 | ( 0.544) | 0.473 |
| 2 0.17 | 4.30 | 0.619 | 0.132 | ( 0.557) | 0.487 |
| 3 0.25 | 5.00 | 0.720 | 0.132 | ( 0.648) | 0.588 |
| 4 0.33 | 5.00 | 0.720 | 0.132 | ( 0.648) | 0.588 |
| 5 0.42 | 5.80 | 0.835 | 0.132 | ( 0.752) | 0.703 |
| 6 0.50 | 6.50 | 0.936 | 0.132 | ( 0.842) | 0.804 |
| 7 0.58 | 7.40 | 1.066 | 0.132 | ( 0.959) | 0.934 |
| 8 0.67 | 8.60 | 1.238 | 0.132 | ( 1.115) | 1.107 |
| 9 0.75 | 12.30 | 1.771 | 0.132 | ( 1.594) | 1.639 |
| 10 0.83 | 29.10 | 4.190 | 0.132 | ( 3.771) | 4.059 |
| 11 0.92 | 6.80 | 0.979 | 0.132 | ( 0.881) | 0.847 |
| 12 1.00 | 5.00 | 0.720 | 0.132 | ( 0.648) | 0.588 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 12.8 |

Flood volume = Effective rainfall 1.07(In)
times area 0.9(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.13(In)
Total soil loss = 0.010(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 3489.8 Cubic Feet
Total soil loss = 430.6 Cubic Feet

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Peak flow rate of this hydrograph = 3.047(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0021 | 0.30 | Q | | | | |
| 0+10 | 0.0051 | 0.44 | QV | | | | |
| 0+15 | 0.0086 | 0.51 | Q V | | | | |
| 0+20 | 0.0123 | 0.53 | Q V | | | | |
| 0+25 | 0.0165 | 0.61 | Q V | | | | |
| 0+30 | 0.0213 | 0.70 | Q V | | | | |
| 0+35 | 0.0269 | 0.81 | Q V | | | | |
| 0+40 | 0.0335 | 0.96 | Q V | | | | |
| 0+45 | 0.0428 | 1.35 | Q V | | | | |
| 0+50 | 0.0638 | 3.05 | Q V | | | | |
| 0+55 | 0.0749 | 1.61 | Q V | | | | |
| 1+ 0 | 0.0790 | 0.60 | Q V | | | | |
| 1+ 5 | 0.0801 | 0.15 | Q V | | | | |

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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX393100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 39
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.90(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.90(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 275.00(Ft.)
Length along longest watercourse measured to centroid = 116.00(Ft.)
Length along longest watercourse = 0.052 Mi.
Length along longest watercourse measured to centroid = 0.022 Mi.
Difference in elevation = 38.00(Ft.)
Slope along watercourse = 729.6000 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.018 Hr.
Lag time = 1.10 Min.
25% of lag time = 0.27 Min.
40% of lag time = 0.44 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.90 | 0.81 | 0.73 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.90 | 1.82 | 1.64 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.810(In)
Area Averaged 100-Year Rainfall = 1.820(In)

Point rain (area averaged) = 1.820(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.820(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.900 | 78.07 | 0.000 |

Total Area Entered = 0.90(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 78.1 | 89.8 | 0.132 | 0.000 | 0.132 | 1.000 | 0.132 |
| | | | | | Sum (F) = | 0.132 |

Area averaged mean soil loss (F) (In/Hr) = 0.132

Minimum soil loss rate ((In/Hr)) = 0.066
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 455.289 | 71.044 | 0.644 |
| 2 0.167 | 910.577 | 28.956 | 0.263 |
| | Sum = 100.000 | Sum= | 0.907 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 1.30 | 0.284 | 0.132 | ( 0.256) | 0.152 |
| 2 0.17 | 1.30 | 0.284 | 0.132 | ( 0.256) | 0.152 |
| 3 0.25 | 1.10 | 0.240 | 0.132 | ( 0.216) | 0.108 |
| 4 0.33 | 1.50 | 0.328 | 0.132 | ( 0.295) | 0.196 |
| 5 0.42 | 1.50 | 0.328 | 0.132 | ( 0.295) | 0.196 |
| 6 0.50 | 1.80 | 0.393 | 0.132 | ( 0.354) | 0.261 |
| 7 0.58 | 1.50 | 0.328 | 0.132 | ( 0.295) | 0.196 |
| 8 0.67 | 1.80 | 0.393 | 0.132 | ( 0.354) | 0.261 |
| 9 0.75 | 1.80 | 0.393 | 0.132 | ( 0.354) | 0.261 |
| 10 0.83 | 1.50 | 0.328 | 0.132 | ( 0.295) | 0.196 |
| 11 0.92 | 1.60 | 0.349 | 0.132 | ( 0.314) | 0.218 |
| 12 1.00 | 1.80 | 0.393 | 0.132 | ( 0.354) | 0.261 |
| 13 1.08 | 2.20 | 0.480 | 0.132 | ( 0.432) | 0.349 |
| 14 1.17 | 2.20 | 0.480 | 0.132 | ( 0.432) | 0.349 |
| 15 1.25 | 2.20 | 0.480 | 0.132 | ( 0.432) | 0.349 |
| 16 1.33 | 2.00 | 0.437 | 0.132 | ( 0.393) | 0.305 |
| 17 1.42 | 2.60 | 0.568 | 0.132 | ( 0.511) | 0.436 |
| 18 1.50 | 2.70 | 0.590 | 0.132 | ( 0.531) | 0.458 |
| 19 1.58 | 2.40 | 0.524 | 0.132 | ( 0.472) | 0.392 |
| 20 1.67 | 2.70 | 0.590 | 0.132 | ( 0.531) | 0.458 |
| 21 1.75 | 3.30 | 0.721 | 0.132 | ( 0.649) | 0.589 |
| 22 1.83 | 3.10 | 0.677 | 0.132 | ( 0.609) | 0.545 |
| 23 1.92 | 2.90 | 0.633 | 0.132 | ( 0.570) | 0.502 |
| 24 2.00 | 3.00 | 0.655 | 0.132 | ( 0.590) | 0.523 |
| 25 2.08 | 3.10 | 0.677 | 0.132 | ( 0.609) | 0.545 |
| 26 2.17 | 4.20 | 0.917 | 0.132 | ( 0.826) | 0.785 |
| 27 2.25 | 5.00 | 1.092 | 0.132 | ( 0.983) | 0.960 |
| 28 2.33 | 3.50 | 0.764 | 0.132 | ( 0.688) | 0.633 |
| 29 2.42 | 6.80 | 1.485 | 0.132 | ( 1.337) | 1.353 |
| 30 2.50 | 7.30 | 1.594 | 0.132 | ( 1.435) | 1.463 |
| 31 2.58 | 8.20 | 1.791 | 0.132 | ( 1.612) | 1.659 |
| 32 2.67 | 5.90 | 1.289 | 0.132 | ( 1.160) | 1.157 |
| 33 2.75 | 2.00 | 0.437 | 0.132 | ( 0.393) | 0.305 |
| 34 2.83 | 1.80 | 0.393 | 0.132 | ( 0.354) | 0.261 |
| 35 2.92 | 1.80 | 0.393 | 0.132 | ( 0.354) | 0.261 |
| 36 3.00 | 0.60 | 0.131 | ( 0.132) | 0.118 | 0.013 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 17.1 |

Flood volume = Effective rainfall 1.43(In)
times area 0.9(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.39(In)
Total soil loss = 0.030(Ac.Ft)
Total rainfall = 1.82(In)
Flood volume = 4657.9 Cubic Feet
Total soil loss = 1288.0 Cubic Feet

Peak flow rate of this hydrograph = 1.454(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0007 | 0.10 | Q | | | | |
| 0+10 | 0.0016 | 0.14 | Q | | | | |
| 0+15 | 0.0024 | 0.11 | Q | | | | |
| 0+20 | 0.0034 | 0.15 | QV | | | | |
| 0+25 | 0.0047 | 0.18 | QV | | | | |
| 0+30 | 0.0062 | 0.22 | Q V | | | | |
| 0+35 | 0.0075 | 0.19 | Q V | | | | |
| 0+40 | 0.0090 | 0.22 | Q V | | | | |
| 0+45 | 0.0107 | 0.24 | Q V | | | | |
| 0+50 | 0.0120 | 0.19 | Q V | | | | |
| 0+55 | 0.0133 | 0.19 | Q V | | | | |
| 1+ 0 | 0.0149 | 0.23 | Q V | | | | |
| 1+ 5 | 0.0169 | 0.29 | Q V | | | | |
| 1+10 | 0.0191 | 0.32 | Q V | | | | |
| 1+15 | 0.0213 | 0.32 | Q V | | | | |
| 1+20 | 0.0233 | 0.29 | Q V | | | | |
| 1+25 | 0.0257 | 0.36 | Q V | | | | |
| 1+30 | 0.0286 | 0.41 | Q V | | | | |
| 1+35 | 0.0311 | 0.37 | Q V | | | | |
| 1+40 | 0.0339 | 0.40 | Q V | | | | |
| 1+45 | 0.0373 | 0.50 | Q V | | | | |
| 1+50 | 0.0408 | 0.51 | Q V | | | | |
| 1+55 | 0.0440 | 0.47 | Q V | | | | |
| 2+ 0 | 0.0473 | 0.47 | Q V | | | | |
| 2+ 5 | 0.0506 | 0.49 | Q V | | | | |
| 2+10 | 0.0551 | 0.65 | Q V | | | | |
| 2+15 | 0.0608 | 0.83 | Q V | | | | |
| 2+20 | 0.0653 | 0.66 | Q V | | | | |
| 2+25 | 0.0725 | 1.04 | Q V | | | | |
| 2+30 | 0.0814 | 1.30 | Q V | | | | |
| 2+35 | 0.0914 | 1.45 | Q V | | | | |
| 2+40 | 0.0996 | 1.18 | Q V | | | | |
| 2+45 | 0.1030 | 0.50 | Q V | | | | |
| 2+50 | 0.1047 | 0.25 | Q V | | | | |
| 2+55 | 0.1064 | 0.24 | Q V | | | | |
| 3+ 0 | 0.1069 | 0.08 | Q V | | | | |
| 3+ 5 | 0.1069 | 0.00 | Q V | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX396100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 39
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.90(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.90(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 275.00(Ft.)
Length along longest watercourse measured to centroid = 116.00(Ft.)
Length along longest watercourse = 0.052 Mi.
Length along longest watercourse measured to centroid = 0.022 Mi.
Difference in elevation = 38.00(Ft.)
Slope along watercourse = 729.6000 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.018 Hr.
Lag time = 1.10 Min.
25% of lag time = 0.27 Min.
40% of lag time = 0.44 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.90 | 1.16 | 1.04 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.90 | 2.50 | 2.25 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.160(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.900 | 78.07 | 0.000 |

Total Area Entered = 0.90(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 78.1 | 89.8 | 0.132 | 0.000 | 0.132 | 1.000 | 0.132 |
| | | | | | Sum (F) = | 0.132 |

Area averaged mean soil loss (F) (In/Hr) = 0.132

Minimum soil loss rate ((In/Hr)) = 0.066
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 455.289 | 71.044 | 0.644 |
| 2 0.167 | 910.577 | 28.956 | 0.263 |
| | | Sum = 100.000 Sum= | 0.907 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 0.50 | 0.150 | 0.132 | ( 0.135) | 0.018 |
| 2 0.17 | 0.60 | 0.180 | 0.132 | ( 0.162) | 0.048 |
| 3 0.25 | 0.60 | 0.180 | 0.132 | ( 0.162) | 0.048 |
| 4 0.33 | 0.60 | 0.180 | 0.132 | ( 0.162) | 0.048 |
| 5 0.42 | 0.60 | 0.180 | 0.132 | ( 0.162) | 0.048 |
| 6 0.50 | 0.70 | 0.210 | 0.132 | ( 0.189) | 0.078 |
| 7 0.58 | 0.70 | 0.210 | 0.132 | ( 0.189) | 0.078 |
| 8 0.67 | 0.70 | 0.210 | 0.132 | ( 0.189) | 0.078 |
| 9 0.75 | 0.70 | 0.210 | 0.132 | ( 0.189) | 0.078 |
| 10 0.83 | 0.70 | 0.210 | 0.132 | ( 0.189) | 0.078 |
| 11 0.92 | 0.70 | 0.210 | 0.132 | ( 0.189) | 0.078 |
| 12 1.00 | 0.80 | 0.240 | 0.132 | ( 0.216) | 0.108 |
| 13 1.08 | 0.80 | 0.240 | 0.132 | ( 0.216) | 0.108 |
| 14 1.17 | 0.80 | 0.240 | 0.132 | ( 0.216) | 0.108 |
| 15 1.25 | 0.80 | 0.240 | 0.132 | ( 0.216) | 0.108 |
| 16 1.33 | 0.80 | 0.240 | 0.132 | ( 0.216) | 0.108 |
| 17 1.42 | 0.80 | 0.240 | 0.132 | ( 0.216) | 0.108 |
| 18 1.50 | 0.80 | 0.240 | 0.132 | ( 0.216) | 0.108 |
| 19 1.58 | 0.80 | 0.240 | 0.132 | ( 0.216) | 0.108 |
| 20 1.67 | 0.80 | 0.240 | 0.132 | ( 0.216) | 0.108 |
| 21 1.75 | 0.80 | 0.240 | 0.132 | ( 0.216) | 0.108 |
| 22 1.83 | 0.80 | 0.240 | 0.132 | ( 0.216) | 0.108 |
| 23 1.92 | 0.80 | 0.240 | 0.132 | ( 0.216) | 0.108 |
| 24 2.00 | 0.90 | 0.270 | 0.132 | ( 0.243) | 0.138 |
| 25 2.08 | 0.80 | 0.240 | 0.132 | ( 0.216) | 0.108 |
| 26 2.17 | 0.90 | 0.270 | 0.132 | ( 0.243) | 0.138 |
| 27 2.25 | 0.90 | 0.270 | 0.132 | ( 0.243) | 0.138 |
| 28 2.33 | 0.90 | 0.270 | 0.132 | ( 0.243) | 0.138 |
| 29 2.42 | 0.90 | 0.270 | 0.132 | ( 0.243) | 0.138 |
| 30 2.50 | 0.90 | 0.270 | 0.132 | ( 0.243) | 0.138 |
| 31 2.58 | 0.90 | 0.270 | 0.132 | ( 0.243) | 0.138 |
| 32 2.67 | 0.90 | 0.270 | 0.132 | ( 0.243) | 0.138 |
| 33 2.75 | 1.00 | 0.300 | 0.132 | ( 0.270) | 0.168 |
| 34 2.83 | 1.00 | 0.300 | 0.132 | ( 0.270) | 0.168 |
| 35 2.92 | 1.00 | 0.300 | 0.132 | ( 0.270) | 0.168 |
| 36 3.00 | 1.00 | 0.300 | 0.132 | ( 0.270) | 0.168 |
| 37 3.08 | 1.00 | 0.300 | 0.132 | ( 0.270) | 0.168 |
| 38 3.17 | 1.10 | 0.330 | 0.132 | ( 0.297) | 0.198 |
| 39 3.25 | 1.10 | 0.330 | 0.132 | ( 0.297) | 0.198 |
| 40 3.33 | 1.10 | 0.330 | 0.132 | ( 0.297) | 0.198 |
| 41 3.42 | 1.20 | 0.360 | 0.132 | ( 0.324) | 0.228 |
| 42 3.50 | 1.30 | 0.390 | 0.132 | ( 0.351) | 0.258 |
| 43 3.58 | 1.40 | 0.420 | 0.132 | ( 0.378) | 0.288 |
| 44 3.67 | 1.40 | 0.420 | 0.132 | ( 0.378) | 0.288 |
| 45 3.75 | 1.50 | 0.450 | 0.132 | ( 0.405) | 0.318 |
| 46 3.83 | 1.50 | 0.450 | 0.132 | ( 0.405) | 0.318 |
| 47 3.92 | 1.60 | 0.480 | 0.132 | ( 0.432) | 0.348 |
| 48 4.00 | 1.60 | 0.480 | 0.132 | ( 0.432) | 0.348 |
| 49 4.08 | 1.70 | 0.510 | 0.132 | ( 0.459) | 0.378 |
| 50 4.17 | 1.80 | 0.540 | 0.132 | ( 0.486) | 0.408 |
| 51 4.25 | 1.90 | 0.570 | 0.132 | ( 0.513) | 0.438 |
| 52 4.33 | 2.00 | 0.600 | 0.132 | ( 0.540) | 0.468 |
| 53 4.42 | 2.10 | 0.630 | 0.132 | ( 0.567) | 0.498 |
| 54 4.50 | 2.10 | 0.630 | 0.132 | ( 0.567) | 0.498 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 55 | 4.58 | 2.20 | 0.660 | 0.132 | ( 0.594) | 0.528 |
| 56 | 4.67 | 2.30 | 0.690 | 0.132 | ( 0.621) | 0.558 |
| 57 | 4.75 | 2.40 | 0.720 | 0.132 | ( 0.648) | 0.588 |
| 58 | 4.83 | 2.40 | 0.720 | 0.132 | ( 0.648) | 0.588 |
| 59 | 4.92 | 2.50 | 0.750 | 0.132 | ( 0.675) | 0.618 |
| 60 | 5.00 | 2.60 | 0.780 | 0.132 | ( 0.702) | 0.648 |
| 61 | 5.08 | 3.10 | 0.930 | 0.132 | ( 0.837) | 0.798 |
| 62 | 5.17 | 3.60 | 1.080 | 0.132 | ( 0.972) | 0.948 |
| 63 | 5.25 | 3.90 | 1.170 | 0.132 | ( 1.053) | 1.038 |
| 64 | 5.33 | 4.20 | 1.260 | 0.132 | ( 1.134) | 1.128 |
| 65 | 5.42 | 4.70 | 1.410 | 0.132 | ( 1.269) | 1.278 |
| 66 | 5.50 | 5.60 | 1.680 | 0.132 | ( 1.512) | 1.548 |
| 67 | 5.58 | 1.90 | 0.570 | 0.132 | ( 0.513) | 0.438 |
| 68 | 5.67 | 0.90 | 0.270 | 0.132 | ( 0.243) | 0.138 |
| 69 | 5.75 | 0.60 | 0.180 | 0.132 | ( 0.162) | 0.048 |
| 70 | 5.83 | 0.50 | 0.150 | 0.132 | ( 0.135) | 0.018 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.132) | 0.081 | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.132) | 0.054 | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 20.6

Flood volume = Effective rainfall 1.72(In)
times area 0.9(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.78(In)
Total soil loss = 0.059(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 5618.9 Cubic Feet
Total soil loss = 2548.6 Cubic Feet

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Peak flow rate of this hydrograph = 1.334(CFS)

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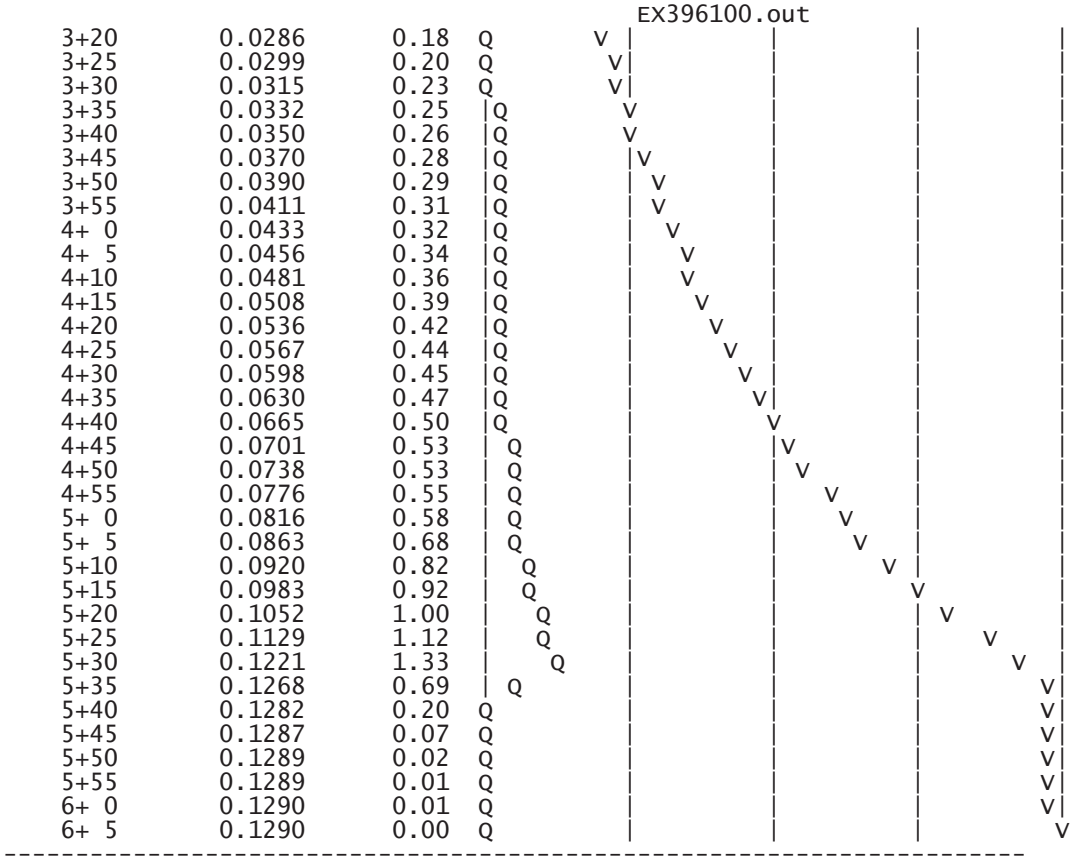
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0001 | 0.01 | Q | | | | |
| 0+10 | 0.0003 | 0.04 | Q | | | | |
| 0+15 | 0.0006 | 0.04 | Q | | | | |
| 0+20 | 0.0009 | 0.04 | Q | | | | |
| 0+25 | 0.0012 | 0.04 | Q | | | | |
| 0+30 | 0.0017 | 0.06 | Q | | | | |
| 0+35 | 0.0022 | 0.07 | Q | | | | |
| 0+40 | 0.0026 | 0.07 | Q | | | | |
| 0+45 | 0.0031 | 0.07 | Q | | | | |
| 0+50 | 0.0036 | 0.07 | QV | | | | |
| 0+55 | 0.0041 | 0.07 | QV | | | | |
| 1+ 0 | 0.0047 | 0.09 | QV | | | | |
| 1+ 5 | 0.0054 | 0.10 | QV | | | | |
| 1+10 | 0.0061 | 0.10 | QV | | | | |
| 1+15 | 0.0068 | 0.10 | Q V | | | | |
| 1+20 | 0.0074 | 0.10 | Q V | | | | |
| 1+25 | 0.0081 | 0.10 | Q V | | | | |
| 1+30 | 0.0088 | 0.10 | Q V | | | | |
| 1+35 | 0.0095 | 0.10 | Q V | | | | |
| 1+40 | 0.0101 | 0.10 | Q V | | | | |
| 1+45 | 0.0108 | 0.10 | Q V | | | | |
| 1+50 | 0.0115 | 0.10 | Q V | | | | |
| 1+55 | 0.0122 | 0.10 | Q V | | | | |
| 2+ 0 | 0.0130 | 0.12 | Q V | | | | |
| 2+ 5 | 0.0137 | 0.11 | Q V | | | | |
| 2+10 | 0.0145 | 0.12 | Q V | | | | |
| 2+15 | 0.0154 | 0.13 | Q V | | | | |
| 2+20 | 0.0162 | 0.13 | Q V | | | | |
| 2+25 | 0.0171 | 0.13 | Q V | | | | |
| 2+30 | 0.0180 | 0.13 | Q V | | | | |
| 2+35 | 0.0188 | 0.13 | Q V | | | | |
| 2+40 | 0.0197 | 0.13 | Q V | | | | |
| 2+45 | 0.0207 | 0.14 | Q V | | | | |
| 2+50 | 0.0218 | 0.15 | Q V | | | | |
| 2+55 | 0.0228 | 0.15 | Q V | | | | |
| 3+ 0 | 0.0239 | 0.15 | Q V | | | | |
| 3+ 5 | 0.0249 | 0.15 | Q V | | | | |
| 3+10 | 0.0261 | 0.17 | Q V | | | | |
| 3+15 | 0.0273 | 0.18 | Q V | | | | |



| | | | |
|---|---|---|---|
| 3+20 | 0.0286 | 0.18 | Q V \| \| \| \| |
| 3+25 | 0.0299 | 0.20 | Q V\| \| \| \| |
| 3+30 | 0.0315 | 0.23 | Q V\| \| \| \| |
| 3+35 | 0.0332 | 0.25 | \|Q V \| \| \| |
| 3+40 | 0.0350 | 0.26 | \|Q V \| \| \| |
| 3+45 | 0.0370 | 0.28 | \|Q \|V \| \| \| |
| 3+50 | 0.0390 | 0.29 | \|Q \| V \| \| \| |
| 3+55 | 0.0411 | 0.31 | \|Q \| V \| \| \| |
| 4+ 0 | 0.0433 | 0.32 | \|Q \| V \| \| \| |
| 4+ 5 | 0.0456 | 0.34 | \|Q \| V \| \| \| |
| 4+10 | 0.0481 | 0.36 | \|Q \| V \| \| \| |
| 4+15 | 0.0508 | 0.39 | \|Q \| V \| \| \| |
| 4+20 | 0.0536 | 0.42 | \|Q \| V \| \| \| |
| 4+25 | 0.0567 | 0.44 | \|Q \| V \| \| \| |
| 4+30 | 0.0598 | 0.45 | \|Q \| V \| \| \| |
| 4+35 | 0.0630 | 0.47 | \|Q \| V\| \| \| |
| 4+40 | 0.0665 | 0.50 | \|Q \| V \| \| |
| 4+45 | 0.0701 | 0.53 | \| Q \| \|V \| \| |
| 4+50 | 0.0738 | 0.53 | \| Q \| \| V \| \| |
| 4+55 | 0.0776 | 0.55 | \| Q \| \| V \| \| |
| 5+ 0 | 0.0816 | 0.58 | \| Q \| \| V \| \| |
| 5+ 5 | 0.0863 | 0.68 | \| Q \| \| V \| \| |
| 5+10 | 0.0920 | 0.82 | \| Q \| \| V \| \| |
| 5+15 | 0.0983 | 0.92 | \| Q \| \| V \| \| |
| 5+20 | 0.1052 | 1.00 | \| Q \| \| \| V \| |
| 5+25 | 0.1129 | 1.12 | \| Q \| \| \| V \| |
| 5+30 | 0.1221 | 1.33 | \| Q \| \| \| V \| |
| 5+35 | 0.1268 | 0.69 | \| Q \| \| \| V\| |
| 5+40 | 0.1282 | 0.20 | Q \| \| \| V\| |
| 5+45 | 0.1287 | 0.07 | Q \| \| \| V\| |
| 5+50 | 0.1289 | 0.02 | Q \| \| \| V\| |
| 5+55 | 0.1289 | 0.01 | Q \| \| \| V\| |
| 6+ 0 | 0.1290 | 0.01 | Q \| \| \| V\| |
| 6+ 5 | 0.1290 | 0.00 | Q \| \| \| V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX3924100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 39
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.90(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.90(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 275.00(Ft.)
Length along longest watercourse measured to centroid = 116.00(Ft.)
Length along longest watercourse = 0.052 Mi.
Length along longest watercourse measured to centroid = 0.022 Mi.
Difference in elevation = 38.00(Ft.)
Slope along watercourse = 729.6000 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.018 Hr.
Lag time = 1.10 Min.
25% of lag time = 0.27 Min.
40% of lag time = 0.44 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.90 | 1.80 | 1.62 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.90 | 4.76 | 4.28 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.760(In)

Point rain (area averaged) = 4.760(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.760(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.900 | 78.07 | 0.000 |

Total Area Entered = 0.90(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 78.1 | 89.8 | 0.132 | 0.000 | 0.132 | 1.000 | 0.132 |
| | | | | | Sum (F) = | 0.132 |

Area averaged mean soil loss (F) (In/Hr) = 0.132

Minimum soil loss rate ((In/Hr)) = 0.066
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 455.289 | 71.044 | 0.644 |
| 2 0.167 | 910.577 | 28.956 | 0.263 |
| | | Sum = 100.000 | Sum= 0.907 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 0.07 | 0.038 | ( 0.234) | 0.034 | 0.004 |
| 2 0.17 | 0.07 | 0.038 | ( 0.233) | 0.034 | 0.004 |
| 3 0.25 | 0.07 | 0.038 | ( 0.232) | 0.034 | 0.004 |
| 4 0.33 | 0.10 | 0.057 | ( 0.231) | 0.051 | 0.006 |
| 5 0.42 | 0.10 | 0.057 | ( 0.230) | 0.051 | 0.006 |
| 6 0.50 | 0.10 | 0.057 | ( 0.229) | 0.051 | 0.006 |
| 7 0.58 | 0.10 | 0.057 | ( 0.228) | 0.051 | 0.006 |
| 8 0.67 | 0.10 | 0.057 | ( 0.227) | 0.051 | 0.006 |
| 9 0.75 | 0.10 | 0.057 | ( 0.226) | 0.051 | 0.006 |
| 10 0.83 | 0.13 | 0.076 | ( 0.226) | 0.069 | 0.008 |
| 11 0.92 | 0.13 | 0.076 | ( 0.225) | 0.069 | 0.008 |
| 12 1.00 | 0.13 | 0.076 | ( 0.224) | 0.069 | 0.008 |
| 13 1.08 | 0.10 | 0.057 | ( 0.223) | 0.051 | 0.006 |
| 14 1.17 | 0.10 | 0.057 | ( 0.222) | 0.051 | 0.006 |
| 15 1.25 | 0.10 | 0.057 | ( 0.221) | 0.051 | 0.006 |
| 16 1.33 | 0.10 | 0.057 | ( 0.220) | 0.051 | 0.006 |
| 17 1.42 | 0.10 | 0.057 | ( 0.219) | 0.051 | 0.006 |
| 18 1.50 | 0.10 | 0.057 | ( 0.219) | 0.051 | 0.006 |
| 19 1.58 | 0.10 | 0.057 | ( 0.218) | 0.051 | 0.006 |
| 20 1.67 | 0.10 | 0.057 | ( 0.217) | 0.051 | 0.006 |
| 21 1.75 | 0.10 | 0.057 | ( 0.216) | 0.051 | 0.006 |
| 22 1.83 | 0.13 | 0.076 | ( 0.215) | 0.069 | 0.008 |
| 23 1.92 | 0.13 | 0.076 | ( 0.214) | 0.069 | 0.008 |
| 24 2.00 | 0.13 | 0.076 | ( 0.213) | 0.069 | 0.008 |
| 25 2.08 | 0.13 | 0.076 | ( 0.212) | 0.069 | 0.008 |
| 26 2.17 | 0.13 | 0.076 | ( 0.212) | 0.069 | 0.008 |
| 27 2.25 | 0.13 | 0.076 | ( 0.211) | 0.069 | 0.008 |
| 28 2.33 | 0.13 | 0.076 | ( 0.210) | 0.069 | 0.008 |
| 29 2.42 | 0.13 | 0.076 | ( 0.209) | 0.069 | 0.008 |
| 30 2.50 | 0.13 | 0.076 | ( 0.208) | 0.069 | 0.008 |
| 31 2.58 | 0.17 | 0.095 | ( 0.207) | 0.086 | 0.010 |
| 32 2.67 | 0.17 | 0.095 | ( 0.206) | 0.086 | 0.010 |
| 33 2.75 | 0.17 | 0.095 | ( 0.206) | 0.086 | 0.010 |
| 34 2.83 | 0.17 | 0.095 | ( 0.205) | 0.086 | 0.010 |
| 35 2.92 | 0.17 | 0.095 | ( 0.204) | 0.086 | 0.010 |
| 36 3.00 | 0.17 | 0.095 | ( 0.203) | 0.086 | 0.010 |
| 37 3.08 | 0.17 | 0.095 | ( 0.202) | 0.086 | 0.010 |
| 38 3.17 | 0.17 | 0.095 | ( 0.201) | 0.086 | 0.010 |
| 39 3.25 | 0.17 | 0.095 | ( 0.201) | 0.086 | 0.010 |
| 40 3.33 | 0.17 | 0.095 | ( 0.200) | 0.086 | 0.010 |
| 41 3.42 | 0.17 | 0.095 | ( 0.199) | 0.086 | 0.010 |
| 42 3.50 | 0.17 | 0.095 | ( 0.198) | 0.086 | 0.010 |
| 43 3.58 | 0.17 | 0.095 | ( 0.197) | 0.086 | 0.010 |
| 44 3.67 | 0.17 | 0.095 | ( 0.196) | 0.086 | 0.010 |
| 45 3.75 | 0.17 | 0.095 | ( 0.196) | 0.086 | 0.010 |
| 46 3.83 | 0.20 | 0.114 | ( 0.195) | 0.103 | 0.011 |
| 47 3.92 | 0.20 | 0.114 | ( 0.194) | 0.103 | 0.011 |
| 48 4.00 | 0.20 | 0.114 | ( 0.193) | 0.103 | 0.011 |
| 49 4.08 | 0.20 | 0.114 | ( 0.192) | 0.103 | 0.011 |
| 50 4.17 | 0.20 | 0.114 | ( 0.191) | 0.103 | 0.011 |
| 51 4.25 | 0.20 | 0.114 | ( 0.191) | 0.103 | 0.011 |
| 52 4.33 | 0.23 | 0.133 | ( 0.190) | 0.120 | 0.013 |
| 53 4.42 | 0.23 | 0.133 | ( 0.189) | 0.120 | 0.013 |
| 54 4.50 | 0.23 | 0.133 | ( 0.188) | 0.120 | 0.013 |

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|---|---|---|---|---|---|---|---|---|
| 55 | 4.58 | 0.23 | 0.133 | ( | 0.187) | 0.120 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.133 | ( | 0.187) | 0.120 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.133 | ( | 0.186) | 0.120 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.152 | ( | 0.185) | 0.137 | | 0.015 |
| 59 | 4.92 | 0.27 | 0.152 | ( | 0.184) | 0.137 | | 0.015 |
| 60 | 5.00 | 0.27 | 0.152 | ( | 0.183) | 0.137 | | 0.015 |
| 61 | 5.08 | 0.20 | 0.114 | ( | 0.183) | 0.103 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.114 | ( | 0.182) | 0.103 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.114 | ( | 0.181) | 0.103 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.133 | ( | 0.180) | 0.120 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.133 | ( | 0.179) | 0.120 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.133 | ( | 0.179) | 0.120 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.152 | ( | 0.178) | 0.137 | | 0.015 |
| 68 | 5.67 | 0.27 | 0.152 | ( | 0.177) | 0.137 | | 0.015 |
| 69 | 5.75 | 0.27 | 0.152 | ( | 0.176) | 0.137 | | 0.015 |
| 70 | 5.83 | 0.27 | 0.152 | ( | 0.176) | 0.137 | | 0.015 |
| 71 | 5.92 | 0.27 | 0.152 | ( | 0.175) | 0.137 | | 0.015 |
| 72 | 6.00 | 0.27 | 0.152 | ( | 0.174) | 0.137 | | 0.015 |
| 73 | 6.08 | 0.30 | 0.171 | ( | 0.173) | 0.154 | | 0.017 |
| 74 | 6.17 | 0.30 | 0.171 | ( | 0.172) | 0.154 | | 0.017 |
| 75 | 6.25 | 0.30 | 0.171 | ( | 0.172) | 0.154 | | 0.017 |
| 76 | 6.33 | 0.30 | 0.171 | ( | 0.171) | 0.154 | | 0.017 |
| 77 | 6.42 | 0.30 | 0.171 | ( | 0.170) | 0.154 | | 0.017 |
| 78 | 6.50 | 0.30 | 0.171 | ( | 0.169) | 0.154 | | 0.017 |
| 79 | 6.58 | 0.33 | 0.190 | | 0.169 | ( | 0.171) | 0.022 |
| 80 | 6.67 | 0.33 | 0.190 | | 0.168 | ( | 0.171) | 0.023 |
| 81 | 6.75 | 0.33 | 0.190 | | 0.167 | ( | 0.171) | 0.023 |
| 82 | 6.83 | 0.33 | 0.190 | | 0.166 | ( | 0.171) | 0.024 |
| 83 | 6.92 | 0.33 | 0.190 | | 0.166 | ( | 0.171) | 0.025 |
| 84 | 7.00 | 0.33 | 0.190 | | 0.165 | ( | 0.171) | 0.026 |
| 85 | 7.08 | 0.33 | 0.190 | | 0.164 | ( | 0.171) | 0.026 |
| 86 | 7.17 | 0.33 | 0.190 | | 0.163 | ( | 0.171) | 0.027 |
| 87 | 7.25 | 0.33 | 0.190 | | 0.163 | ( | 0.171) | 0.028 |
| 88 | 7.33 | 0.37 | 0.209 | | 0.162 | ( | 0.188) | 0.048 |
| 89 | 7.42 | 0.37 | 0.209 | | 0.161 | ( | 0.188) | 0.048 |
| 90 | 7.50 | 0.37 | 0.209 | | 0.160 | ( | 0.188) | 0.049 |
| 91 | 7.58 | 0.40 | 0.228 | | 0.160 | ( | 0.206) | 0.069 |
| 92 | 7.67 | 0.40 | 0.228 | | 0.159 | ( | 0.206) | 0.070 |
| 93 | 7.75 | 0.40 | 0.228 | | 0.158 | ( | 0.206) | 0.070 |
| 94 | 7.83 | 0.43 | 0.248 | | 0.157 | ( | 0.223) | 0.090 |
| 95 | 7.92 | 0.43 | 0.248 | | 0.157 | ( | 0.223) | 0.091 |
| 96 | 8.00 | 0.43 | 0.248 | | 0.156 | ( | 0.223) | 0.092 |
| 97 | 8.08 | 0.50 | 0.286 | | 0.155 | ( | 0.257) | 0.130 |
| 98 | 8.17 | 0.50 | 0.286 | | 0.155 | ( | 0.257) | 0.131 |
| 99 | 8.25 | 0.50 | 0.286 | | 0.154 | ( | 0.257) | 0.132 |
| 100 | 8.33 | 0.50 | 0.286 | | 0.153 | ( | 0.257) | 0.133 |
| 101 | 8.42 | 0.50 | 0.286 | | 0.152 | ( | 0.257) | 0.133 |
| 102 | 8.50 | 0.50 | 0.286 | | 0.152 | ( | 0.257) | 0.134 |
| 103 | 8.58 | 0.53 | 0.305 | | 0.151 | ( | 0.274) | 0.154 |
| 104 | 8.67 | 0.53 | 0.305 | | 0.150 | ( | 0.274) | 0.154 |
| 105 | 8.75 | 0.53 | 0.305 | | 0.150 | ( | 0.274) | 0.155 |
| 106 | 8.83 | 0.57 | 0.324 | | 0.149 | ( | 0.291) | 0.175 |
| 107 | 8.92 | 0.57 | 0.324 | | 0.148 | ( | 0.291) | 0.176 |
| 108 | 9.00 | 0.57 | 0.324 | | 0.147 | ( | 0.291) | 0.176 |
| 109 | 9.08 | 0.63 | 0.362 | | 0.147 | ( | 0.326) | 0.215 |
| 110 | 9.17 | 0.63 | 0.362 | | 0.146 | ( | 0.326) | 0.216 |
| 111 | 9.25 | 0.63 | 0.362 | | 0.145 | ( | 0.326) | 0.216 |
| 112 | 9.33 | 0.67 | 0.381 | | 0.145 | ( | 0.343) | 0.236 |
| 113 | 9.42 | 0.67 | 0.381 | | 0.144 | ( | 0.343) | 0.237 |
| 114 | 9.50 | 0.67 | 0.381 | | 0.143 | ( | 0.343) | 0.238 |
| 115 | 9.58 | 0.70 | 0.400 | | 0.143 | ( | 0.360) | 0.257 |
| 116 | 9.67 | 0.70 | 0.400 | | 0.142 | ( | 0.360) | 0.258 |
| 117 | 9.75 | 0.70 | 0.400 | | 0.141 | ( | 0.360) | 0.259 |
| 118 | 9.83 | 0.73 | 0.419 | | 0.141 | ( | 0.377) | 0.278 |
| 119 | 9.92 | 0.73 | 0.419 | | 0.140 | ( | 0.377) | 0.279 |
| 120 | 10.00 | 0.73 | 0.419 | | 0.139 | ( | 0.377) | 0.280 |
| 121 | 10.08 | 0.50 | 0.286 | | 0.139 | ( | 0.257) | 0.147 |
| 122 | 10.17 | 0.50 | 0.286 | | 0.138 | ( | 0.257) | 0.148 |
| 123 | 10.25 | 0.50 | 0.286 | | 0.137 | ( | 0.257) | 0.148 |
| 124 | 10.33 | 0.50 | 0.286 | | 0.137 | ( | 0.257) | 0.149 |
| 125 | 10.42 | 0.50 | 0.286 | | 0.136 | ( | 0.257) | 0.150 |
| 126 | 10.50 | 0.50 | 0.286 | | 0.135 | ( | 0.257) | 0.150 |
| 127 | 10.58 | 0.67 | 0.381 | | 0.135 | ( | 0.343) | 0.246 |
| 128 | 10.67 | 0.67 | 0.381 | | 0.134 | ( | 0.343) | 0.247 |
| 129 | 10.75 | 0.67 | 0.381 | | 0.133 | ( | 0.343) | 0.248 |
| 130 | 10.83 | 0.67 | 0.381 | | 0.133 | ( | 0.343) | 0.248 |
| 131 | 10.92 | 0.67 | 0.381 | | 0.132 | ( | 0.343) | 0.249 |
| 132 | 11.00 | 0.67 | 0.381 | | 0.131 | ( | 0.343) | 0.250 |

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| 133 | 11.08 | 0.63 | 0.362 | 0.131 | ( 0.326) | 0.231 |
| 134 | 11.17 | 0.63 | 0.362 | 0.130 | ( 0.326) | 0.232 |
| 135 | 11.25 | 0.63 | 0.362 | 0.129 | ( 0.326) | 0.232 |
| 136 | 11.33 | 0.63 | 0.362 | 0.129 | ( 0.326) | 0.233 |
| 137 | 11.42 | 0.63 | 0.362 | 0.128 | ( 0.326) | 0.234 |
| 138 | 11.50 | 0.63 | 0.362 | 0.127 | ( 0.326) | 0.234 |
| 139 | 11.58 | 0.57 | 0.324 | 0.127 | ( 0.291) | 0.197 |
| 140 | 11.67 | 0.57 | 0.324 | 0.126 | ( 0.291) | 0.198 |
| 141 | 11.75 | 0.57 | 0.324 | 0.126 | ( 0.291) | 0.198 |
| 142 | 11.83 | 0.60 | 0.343 | 0.125 | ( 0.308) | 0.218 |
| 143 | 11.92 | 0.60 | 0.343 | 0.124 | ( 0.308) | 0.218 |
| 144 | 12.00 | 0.60 | 0.343 | 0.124 | ( 0.308) | 0.219 |
| 145 | 12.08 | 0.83 | 0.476 | 0.123 | ( 0.428) | 0.353 |
| 146 | 12.17 | 0.83 | 0.476 | 0.122 | ( 0.428) | 0.354 |
| 147 | 12.25 | 0.83 | 0.476 | 0.122 | ( 0.428) | 0.354 |
| 148 | 12.33 | 0.87 | 0.495 | 0.121 | ( 0.446) | 0.374 |
| 149 | 12.42 | 0.87 | 0.495 | 0.121 | ( 0.446) | 0.374 |
| 150 | 12.50 | 0.87 | 0.495 | 0.120 | ( 0.446) | 0.375 |
| 151 | 12.58 | 0.93 | 0.533 | 0.119 | ( 0.480) | 0.414 |
| 152 | 12.67 | 0.93 | 0.533 | 0.119 | ( 0.480) | 0.414 |
| 153 | 12.75 | 0.93 | 0.533 | 0.118 | ( 0.480) | 0.415 |
| 154 | 12.83 | 0.97 | 0.552 | 0.118 | ( 0.497) | 0.435 |
| 155 | 12.92 | 0.97 | 0.552 | 0.117 | ( 0.497) | 0.435 |
| 156 | 13.00 | 0.97 | 0.552 | 0.116 | ( 0.497) | 0.436 |
| 157 | 13.08 | 1.13 | 0.647 | 0.116 | ( 0.583) | 0.532 |
| 158 | 13.17 | 1.13 | 0.647 | 0.115 | ( 0.583) | 0.532 |
| 159 | 13.25 | 1.13 | 0.647 | 0.115 | ( 0.583) | 0.533 |
| 160 | 13.33 | 1.13 | 0.647 | 0.114 | ( 0.583) | 0.533 |
| 161 | 13.42 | 1.13 | 0.647 | 0.113 | ( 0.583) | 0.534 |
| 162 | 13.50 | 1.13 | 0.647 | 0.113 | ( 0.583) | 0.534 |
| 163 | 13.58 | 0.77 | 0.438 | 0.112 | ( 0.394) | 0.326 |
| 164 | 13.67 | 0.77 | 0.438 | 0.112 | ( 0.394) | 0.326 |
| 165 | 13.75 | 0.77 | 0.438 | 0.111 | ( 0.394) | 0.327 |
| 166 | 13.83 | 0.77 | 0.438 | 0.111 | ( 0.394) | 0.327 |
| 167 | 13.92 | 0.77 | 0.438 | 0.110 | ( 0.394) | 0.328 |
| 168 | 14.00 | 0.77 | 0.438 | 0.109 | ( 0.394) | 0.328 |
| 169 | 14.08 | 0.90 | 0.514 | 0.109 | ( 0.463) | 0.405 |
| 170 | 14.17 | 0.90 | 0.514 | 0.108 | ( 0.463) | 0.406 |
| 171 | 14.25 | 0.90 | 0.514 | 0.108 | ( 0.463) | 0.406 |
| 172 | 14.33 | 0.87 | 0.495 | 0.107 | ( 0.446) | 0.388 |
| 173 | 14.42 | 0.87 | 0.495 | 0.107 | ( 0.446) | 0.388 |
| 174 | 14.50 | 0.87 | 0.495 | 0.106 | ( 0.446) | 0.389 |
| 175 | 14.58 | 0.87 | 0.495 | 0.106 | ( 0.446) | 0.389 |
| 176 | 14.67 | 0.87 | 0.495 | 0.105 | ( 0.446) | 0.390 |
| 177 | 14.75 | 0.87 | 0.495 | 0.105 | ( 0.446) | 0.390 |
| 178 | 14.83 | 0.83 | 0.476 | 0.104 | ( 0.428) | 0.372 |
| 179 | 14.92 | 0.83 | 0.476 | 0.103 | ( 0.428) | 0.373 |
| 180 | 15.00 | 0.83 | 0.476 | 0.103 | ( 0.428) | 0.373 |
| 181 | 15.08 | 0.80 | 0.457 | 0.102 | ( 0.411) | 0.355 |
| 182 | 15.17 | 0.80 | 0.457 | 0.102 | ( 0.411) | 0.355 |
| 183 | 15.25 | 0.80 | 0.457 | 0.101 | ( 0.411) | 0.356 |
| 184 | 15.33 | 0.77 | 0.438 | 0.101 | ( 0.394) | 0.337 |
| 185 | 15.42 | 0.77 | 0.438 | 0.100 | ( 0.394) | 0.338 |
| 186 | 15.50 | 0.77 | 0.438 | 0.100 | ( 0.394) | 0.338 |
| 187 | 15.58 | 0.63 | 0.362 | 0.099 | ( 0.326) | 0.262 |
| 188 | 15.67 | 0.63 | 0.362 | 0.099 | ( 0.326) | 0.263 |
| 189 | 15.75 | 0.63 | 0.362 | 0.098 | ( 0.326) | 0.263 |
| 190 | 15.83 | 0.63 | 0.362 | 0.098 | ( 0.326) | 0.264 |
| 191 | 15.92 | 0.63 | 0.362 | 0.097 | ( 0.326) | 0.264 |
| 192 | 16.00 | 0.63 | 0.362 | 0.097 | ( 0.326) | 0.265 |
| 193 | 16.08 | 0.13 | 0.076 | ( 0.096) | 0.069 | 0.008 |
| 194 | 16.17 | 0.13 | 0.076 | ( 0.096) | 0.069 | 0.008 |
| 195 | 16.25 | 0.13 | 0.076 | ( 0.095) | 0.069 | 0.008 |
| 196 | 16.33 | 0.13 | 0.076 | ( 0.095) | 0.069 | 0.008 |
| 197 | 16.42 | 0.13 | 0.076 | ( 0.094) | 0.069 | 0.008 |
| 198 | 16.50 | 0.13 | 0.076 | ( 0.094) | 0.069 | 0.008 |
| 199 | 16.58 | 0.10 | 0.057 | ( 0.093) | 0.051 | 0.006 |
| 200 | 16.67 | 0.10 | 0.057 | ( 0.093) | 0.051 | 0.006 |
| 201 | 16.75 | 0.10 | 0.057 | ( 0.092) | 0.051 | 0.006 |
| 202 | 16.83 | 0.10 | 0.057 | ( 0.092) | 0.051 | 0.006 |
| 203 | 16.92 | 0.10 | 0.057 | ( 0.092) | 0.051 | 0.006 |
| 204 | 17.00 | 0.10 | 0.057 | ( 0.091) | 0.051 | 0.006 |
| 205 | 17.08 | 0.17 | 0.095 | ( 0.091) | 0.086 | 0.010 |
| 206 | 17.17 | 0.17 | 0.095 | ( 0.090) | 0.086 | 0.010 |
| 207 | 17.25 | 0.17 | 0.095 | ( 0.090) | 0.086 | 0.010 |
| 208 | 17.33 | 0.17 | 0.095 | ( 0.089) | 0.086 | 0.010 |
| 209 | 17.42 | 0.17 | 0.095 | ( 0.089) | 0.086 | 0.010 |
| 210 | 17.50 | 0.17 | 0.095 | ( 0.088) | 0.086 | 0.010 |

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|---|---|---|---|---|---|---|
| 211 | 17.58 | 0.17 | 0.095 | ( 0.088) | 0.086 | 0.010 |
| 212 | 17.67 | 0.17 | 0.095 | ( 0.087) | 0.086 | 0.010 |
| 213 | 17.75 | 0.17 | 0.095 | ( 0.087) | 0.086 | 0.010 |
| 214 | 17.83 | 0.13 | 0.076 | ( 0.087) | 0.069 | 0.008 |
| 215 | 17.92 | 0.13 | 0.076 | ( 0.086) | 0.069 | 0.008 |
| 216 | 18.00 | 0.13 | 0.076 | ( 0.086) | 0.069 | 0.008 |
| 217 | 18.08 | 0.13 | 0.076 | ( 0.085) | 0.069 | 0.008 |
| 218 | 18.17 | 0.13 | 0.076 | ( 0.085) | 0.069 | 0.008 |
| 219 | 18.25 | 0.13 | 0.076 | ( 0.084) | 0.069 | 0.008 |
| 220 | 18.33 | 0.13 | 0.076 | ( 0.084) | 0.069 | 0.008 |
| 221 | 18.42 | 0.13 | 0.076 | ( 0.084) | 0.069 | 0.008 |
| 222 | 18.50 | 0.13 | 0.076 | ( 0.083) | 0.069 | 0.008 |
| 223 | 18.58 | 0.10 | 0.057 | ( 0.083) | 0.051 | 0.006 |
| 224 | 18.67 | 0.10 | 0.057 | ( 0.082) | 0.051 | 0.006 |
| 225 | 18.75 | 0.10 | 0.057 | ( 0.082) | 0.051 | 0.006 |
| 226 | 18.83 | 0.07 | 0.038 | ( 0.082) | 0.034 | 0.004 |
| 227 | 18.92 | 0.07 | 0.038 | ( 0.081) | 0.034 | 0.004 |
| 228 | 19.00 | 0.07 | 0.038 | ( 0.081) | 0.034 | 0.004 |
| 229 | 19.08 | 0.10 | 0.057 | ( 0.080) | 0.051 | 0.006 |
| 230 | 19.17 | 0.10 | 0.057 | ( 0.080) | 0.051 | 0.006 |
| 231 | 19.25 | 0.10 | 0.057 | ( 0.080) | 0.051 | 0.006 |
| 232 | 19.33 | 0.13 | 0.076 | ( 0.079) | 0.069 | 0.008 |
| 233 | 19.42 | 0.13 | 0.076 | ( 0.079) | 0.069 | 0.008 |
| 234 | 19.50 | 0.13 | 0.076 | ( 0.079) | 0.069 | 0.008 |
| 235 | 19.58 | 0.10 | 0.057 | ( 0.078) | 0.051 | 0.006 |
| 236 | 19.67 | 0.10 | 0.057 | ( 0.078) | 0.051 | 0.006 |
| 237 | 19.75 | 0.10 | 0.057 | ( 0.078) | 0.051 | 0.006 |
| 238 | 19.83 | 0.07 | 0.038 | ( 0.077) | 0.034 | 0.004 |
| 239 | 19.92 | 0.07 | 0.038 | ( 0.077) | 0.034 | 0.004 |
| 240 | 20.00 | 0.07 | 0.038 | ( 0.077) | 0.034 | 0.004 |
| 241 | 20.08 | 0.10 | 0.057 | ( 0.076) | 0.051 | 0.006 |
| 242 | 20.17 | 0.10 | 0.057 | ( 0.076) | 0.051 | 0.006 |
| 243 | 20.25 | 0.10 | 0.057 | ( 0.076) | 0.051 | 0.006 |
| 244 | 20.33 | 0.10 | 0.057 | ( 0.075) | 0.051 | 0.006 |
| 245 | 20.42 | 0.10 | 0.057 | ( 0.075) | 0.051 | 0.006 |
| 246 | 20.50 | 0.10 | 0.057 | ( 0.075) | 0.051 | 0.006 |
| 247 | 20.58 | 0.10 | 0.057 | ( 0.074) | 0.051 | 0.006 |
| 248 | 20.67 | 0.10 | 0.057 | ( 0.074) | 0.051 | 0.006 |
| 249 | 20.75 | 0.10 | 0.057 | ( 0.074) | 0.051 | 0.006 |
| 250 | 20.83 | 0.07 | 0.038 | ( 0.073) | 0.034 | 0.004 |
| 251 | 20.92 | 0.07 | 0.038 | ( 0.073) | 0.034 | 0.004 |
| 252 | 21.00 | 0.07 | 0.038 | ( 0.073) | 0.034 | 0.004 |
| 253 | 21.08 | 0.10 | 0.057 | ( 0.072) | 0.051 | 0.006 |
| 254 | 21.17 | 0.10 | 0.057 | ( 0.072) | 0.051 | 0.006 |
| 255 | 21.25 | 0.10 | 0.057 | ( 0.072) | 0.051 | 0.006 |
| 256 | 21.33 | 0.07 | 0.038 | ( 0.072) | 0.034 | 0.004 |
| 257 | 21.42 | 0.07 | 0.038 | ( 0.071) | 0.034 | 0.004 |
| 258 | 21.50 | 0.07 | 0.038 | ( 0.071) | 0.034 | 0.004 |
| 259 | 21.58 | 0.10 | 0.057 | ( 0.071) | 0.051 | 0.006 |
| 260 | 21.67 | 0.10 | 0.057 | ( 0.071) | 0.051 | 0.006 |
| 261 | 21.75 | 0.10 | 0.057 | ( 0.070) | 0.051 | 0.006 |
| 262 | 21.83 | 0.07 | 0.038 | ( 0.070) | 0.034 | 0.004 |
| 263 | 21.92 | 0.07 | 0.038 | ( 0.070) | 0.034 | 0.004 |
| 264 | 22.00 | 0.07 | 0.038 | ( 0.070) | 0.034 | 0.004 |
| 265 | 22.08 | 0.10 | 0.057 | ( 0.069) | 0.051 | 0.006 |
| 266 | 22.17 | 0.10 | 0.057 | ( 0.069) | 0.051 | 0.006 |
| 267 | 22.25 | 0.10 | 0.057 | ( 0.069) | 0.051 | 0.006 |
| 268 | 22.33 | 0.07 | 0.038 | ( 0.069) | 0.034 | 0.004 |
| 269 | 22.42 | 0.07 | 0.038 | ( 0.068) | 0.034 | 0.004 |
| 270 | 22.50 | 0.07 | 0.038 | ( 0.068) | 0.034 | 0.004 |
| 271 | 22.58 | 0.07 | 0.038 | ( 0.068) | 0.034 | 0.004 |
| 272 | 22.67 | 0.07 | 0.038 | ( 0.068) | 0.034 | 0.004 |
| 273 | 22.75 | 0.07 | 0.038 | ( 0.068) | 0.034 | 0.004 |
| 274 | 22.83 | 0.07 | 0.038 | ( 0.068) | 0.034 | 0.004 |
| 275 | 22.92 | 0.07 | 0.038 | ( 0.067) | 0.034 | 0.004 |
| 276 | 23.00 | 0.07 | 0.038 | ( 0.067) | 0.034 | 0.004 |
| 277 | 23.08 | 0.07 | 0.038 | ( 0.067) | 0.034 | 0.004 |
| 278 | 23.17 | 0.07 | 0.038 | ( 0.067) | 0.034 | 0.004 |
| 279 | 23.25 | 0.07 | 0.038 | ( 0.067) | 0.034 | 0.004 |
| 280 | 23.33 | 0.07 | 0.038 | ( 0.067) | 0.034 | 0.004 |
| 281 | 23.42 | 0.07 | 0.038 | ( 0.066) | 0.034 | 0.004 |
| 282 | 23.50 | 0.07 | 0.038 | ( 0.066) | 0.034 | 0.004 |
| 283 | 23.58 | 0.07 | 0.038 | ( 0.066) | 0.034 | 0.004 |
| 284 | 23.67 | 0.07 | 0.038 | ( 0.066) | 0.034 | 0.004 |
| 285 | 23.75 | 0.07 | 0.038 | ( 0.066) | 0.034 | 0.004 |
| 286 | 23.83 | 0.07 | 0.038 | ( 0.066) | 0.034 | 0.004 |
| 287 | 23.92 | 0.07 | 0.038 | ( 0.066) | 0.034 | 0.004 |
| 288 | 24.00 | 0.07 | 0.038 | ( 0.066) | 0.034 | 0.004 |

(Loss Rate Not Used)
Sum = 100.0 Sum = 30.2
Flood volume = Effective rainfall 2.52(In)
times area 0.9(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 2.24(In)
Total soil loss = 0.168(Ac.Ft)
Total rainfall = 4.76(In)
Flood volume = 8219.3 Cubic Feet
Total soil loss = 7331.6 Cubic Feet

Peak flow rate of this hydrograph = 0.485(CFS)

24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0000 | 0.00 | Q | | | | |
| 0+10 | 0.0000 | 0.00 | Q | | | | |
| 0+15 | 0.0001 | 0.00 | Q | | | | |
| 0+20 | 0.0001 | 0.00 | Q | | | | |
| 0+25 | 0.0001 | 0.01 | Q | | | | |
| 0+30 | 0.0002 | 0.01 | Q | | | | |
| 0+35 | 0.0002 | 0.01 | Q | | | | |
| 0+40 | 0.0002 | 0.01 | Q | | | | |
| 0+45 | 0.0003 | 0.01 | Q | | | | |
| 0+50 | 0.0003 | 0.01 | Q | | | | |
| 0+55 | 0.0004 | 0.01 | Q | | | | |
| 1+ 0 | 0.0004 | 0.01 | Q | | | | |
| 1+ 5 | 0.0005 | 0.01 | Q | | | | |
| 1+10 | 0.0005 | 0.01 | Q | | | | |
| 1+15 | 0.0005 | 0.01 | Q | | | | |
| 1+20 | 0.0006 | 0.01 | Q | | | | |
| 1+25 | 0.0006 | 0.01 | Q | | | | |
| 1+30 | 0.0006 | 0.01 | Q | | | | |
| 1+35 | 0.0007 | 0.01 | Q | | | | |
| 1+40 | 0.0007 | 0.01 | Q | | | | |
| 1+45 | 0.0007 | 0.01 | Q | | | | |
| 1+50 | 0.0008 | 0.01 | Q | | | | |
| 1+55 | 0.0008 | 0.01 | Q | | | | |
| 2+ 0 | 0.0009 | 0.01 | Q | | | | |
| 2+ 5 | 0.0009 | 0.01 | Q | | | | |
| 2+10 | 0.0010 | 0.01 | Q | | | | |
| 2+15 | 0.0010 | 0.01 | Q | | | | |
| 2+20 | 0.0011 | 0.01 | Q | | | | |
| 2+25 | 0.0011 | 0.01 | Q | | | | |
| 2+30 | 0.0012 | 0.01 | Q | | | | |
| 2+35 | 0.0012 | 0.01 | Q | | | | |
| 2+40 | 0.0013 | 0.01 | Q | | | | |
| 2+45 | 0.0013 | 0.01 | Q | | | | |
| 2+50 | 0.0014 | 0.01 | Q | | | | |
| 2+55 | 0.0015 | 0.01 | Q | | | | |
| 3+ 0 | 0.0015 | 0.01 | Q | | | | |
| 3+ 5 | 0.0016 | 0.01 | Q | | | | |
| 3+10 | 0.0016 | 0.01 | Q | | | | |
| 3+15 | 0.0017 | 0.01 | Q | | | | |
| 3+20 | 0.0018 | 0.01 | Q | | | | |
| 3+25 | 0.0018 | 0.01 | Q | | | | |
| 3+30 | 0.0019 | 0.01 | Q | | | | |
| 3+35 | 0.0019 | 0.01 | Q | | | | |
| 3+40 | 0.0020 | 0.01 | Q | | | | |
| 3+45 | 0.0021 | 0.01 | Q | | | | |
| 3+50 | 0.0021 | 0.01 | Q | | | | |
| 3+55 | 0.0022 | 0.01 | Q | | | | |
| 4+ 0 | 0.0023 | 0.01 | Q | | | | |
| 4+ 5 | 0.0023 | 0.01 | Q | | | | |
| 4+10 | 0.0024 | 0.01 | Q | | | | |
| 4+15 | 0.0025 | 0.01 | Q | | | | |
| 4+20 | 0.0026 | 0.01 | Q | | | | |
| 4+25 | 0.0026 | 0.01 | Q | | | | |
| 4+30 | 0.0027 | 0.01 | Q | | | | |
| 4+35 | 0.0028 | 0.01 | Q | | | | |
| 4+40 | 0.0029 | 0.01 | Q | | | | |
| 4+45 | 0.0030 | 0.01 | Q | | | | |

```
 4+50       0.0031      0.01  Q          |          |          |          |
 4+55       0.0032      0.01  Q          |          |          |          |
 5+ 0       0.0033      0.01  Q          |          |          |          |
 5+ 5       0.0033      0.01  Q          |          |          |          |
 5+10       0.0034      0.01  Q          |          |          |          |
 5+15       0.0035      0.01  Q          |          |          |          |
 5+20       0.0036      0.01  Q          |          |          |          |
 5+25       0.0036      0.01  Q          |          |          |          |
 5+30       0.0037      0.01  Q          |          |          |          |
 5+35       0.0038      0.01  Q          |          |          |          |
 5+40       0.0039      0.01  Q          |          |          |          |
 5+45       0.0040      0.01  Q          |          |          |          |
 5+50       0.0041      0.01  Q          |          |          |          |
 5+55       0.0042      0.01  Q          |          |          |          |
 6+ 0       0.0043      0.01  Q          |          |          |          |
 6+ 5       0.0044      0.02  Q          |          |          |          |
 6+10       0.0045      0.02  Q          |          |          |          |
 6+15       0.0046      0.02  Q          |          |          |          |
 6+20       0.0047      0.02  Q          |          |          |          |
 6+25       0.0048      0.02  QV         |          |          |          |
 6+30       0.0049      0.02  QV         |          |          |          |
 6+35       0.0051      0.02  QV         |          |          |          |
 6+40       0.0052      0.02  QV         |          |          |          |
 6+45       0.0053      0.02  QV         |          |          |          |
 6+50       0.0055      0.02  QV         |          |          |          |
 6+55       0.0056      0.02  QV         |          |          |          |
 7+ 0       0.0058      0.02  QV         |          |          |          |
 7+ 5       0.0060      0.02  QV         |          |          |          |
 7+10       0.0061      0.02  QV         |          |          |          |
 7+15       0.0063      0.03  QV         |          |          |          |
 7+20       0.0066      0.04  QV         |          |          |          |
 7+25       0.0069      0.04  QV         |          |          |          |
 7+30       0.0072      0.04  QV         |          |          |          |
 7+35       0.0076      0.06  QV         |          |          |          |
 7+40       0.0080      0.06  QV         |          |          |          |
 7+45       0.0084      0.06  QV         |          |          |          |
 7+50       0.0090      0.08  QV         |          |          |          |
 7+55       0.0095      0.08  Q V        |          |          |          |
 8+ 0       0.0101      0.08  Q V        |          |          |          |
 8+ 5       0.0109      0.11  Q V        |          |          |          |
 8+10       0.0117      0.12  Q V        |          |          |          |
 8+15       0.0125      0.12  Q V        |          |          |          |
 8+20       0.0133      0.12  Q V        |          |          |          |
 8+25       0.0141      0.12  Q V        |          |          |          |
 8+30       0.0150      0.12  Q  V       |          |          |          |
 8+35       0.0159      0.13  Q  V       |          |          |          |
 8+40       0.0169      0.14  Q  V       |          |          |          |
 8+45       0.0178      0.14  Q  V       |          |          |          |
 8+50       0.0189      0.15  Q   V      |          |          |          |
 8+55       0.0200      0.16  Q   V      |          |          |          |
 9+ 0       0.0211      0.16  Q   V      |          |          |          |
 9+ 5       0.0224      0.18  Q   V      |          |          |          |
 9+10       0.0237      0.20  Q    V     |          |          |          |
 9+15       0.0251      0.20  Q    V     |          |          |          |
 9+20       0.0265      0.21  Q    V     |          |          |          |
 9+25       0.0280      0.21  Q    V     |          |          |          |
 9+30       0.0295      0.22  Q     V    |          |          |          |
 9+35       0.0310      0.23  Q     V    |          |          |          |
 9+40       0.0327      0.23  Q     V    |          |          |          |
 9+45       0.0343      0.23  Q      V   |          |          |          |
 9+50       0.0360      0.25  Q      V   |          |          |          |
 9+55       0.0377      0.25  |Q     V   |          |          |          |
10+ 0       0.0395      0.25  |Q      V  |          |          |          |
10+ 5       0.0406      0.17  Q       V  |          |          |          |
10+10       0.0415      0.13  Q       V  |          |          |          |
10+15       0.0425      0.13  Q        V|          |          |          |
10+20       0.0434      0.14  Q        V|          |          |          |
10+25       0.0443      0.14  Q        V|          |          |          |
10+30       0.0453      0.14  Q        V|          |          |          |
10+35       0.0466      0.20  Q        V|          |          |          |
10+40       0.0482      0.22  Q         V          |          |          |
10+45       0.0497      0.22  Q         V          |          |          |
10+50       0.0513      0.23  Q         V          |          |          |
10+55       0.0528      0.23  Q         |V         |          |          |
11+ 0       0.0544      0.23  Q         |V         |          |          |
11+ 5       0.0559      0.21  Q         |V         |          |          |
11+10       0.0573      0.21  Q         | V        |          |          |
11+15       0.0588      0.21  Q         | V        |          |          |
```

```
11+20       0.0602      0.21  Q          | V       |         |          |
11+25       0.0617      0.21  Q          |  V      |         |          |
11+30       0.0631      0.21  Q          |  V      |         |          |
11+35       0.0644      0.19  Q          |  V      |         |          |
11+40       0.0657      0.18  Q          |  V      |         |          |
11+45       0.0669      0.18  Q          |   V     |         |          |
11+50       0.0682      0.19  Q          |   V     |         |          |
11+55       0.0696      0.20  Q          |   V     |         |          |
12+ 0       0.0710      0.20  Q          |    V    |         |          |
12+ 5       0.0729      0.29  |Q         |    V    |         |          |
12+10       0.0751      0.32  |Q         |    V    |         |          |
12+15       0.0774      0.32  |Q         |     V   |         |          |
12+20       0.0797      0.33  |Q         |     V   |         |          |
12+25       0.0820      0.34  |Q         |      V  |         |          |
12+30       0.0843      0.34  |Q         |      V  |         |          |
12+35       0.0869      0.37  |Q         |       V |         |          |
12+40       0.0894      0.38  |Q         |       V |         |          |
12+45       0.0920      0.38  |Q         |        V|         |          |
12+50       0.0947      0.39  |Q         |         V         |          |
12+55       0.0974      0.39  |Q         |         V         |          |
13+ 0       0.1002      0.40  |Q         |          V        |          |
13+ 5       0.1033      0.46  |Q         |          V        |          |
13+10       0.1066      0.48  |Q         |           V       |          |
13+15       0.1100      0.48  |Q         |            V      |          |
13+20       0.1133      0.48  |Q         |             V     |          |
13+25       0.1166      0.48  |Q         |             V     |          |
13+30       0.1200      0.48  |Q         |              V    |          |
13+35       0.1224      0.35  |Q         |              V    |          |
13+40       0.1244      0.30  |Q         |               V   |          |
13+45       0.1265      0.30  |Q         |               V   |          |
13+50       0.1285      0.30  |Q         |                V  |          |
13+55       0.1306      0.30  |Q         |                V  |          |
14+ 0       0.1326      0.30  |Q         |                 V |          |
14+ 5       0.1350      0.35  |Q         |                 V |          |
14+10       0.1375      0.37  |Q         |                  V|          |
14+15       0.1401      0.37  |Q         |                  V|          |
14+20       0.1425      0.36  |Q         |                   V          |
14+25       0.1450      0.35  |Q         |                   V          |
14+30       0.1474      0.35  |Q         |                    V         |
14+35       0.1498      0.35  |Q         |                    V         |
14+40       0.1523      0.35  |Q         |                     V        |
14+45       0.1547      0.35  |Q         |                     V        |
14+50       0.1571      0.34  |Q         |                      V       |
14+55       0.1594      0.34  |Q         |                      V       |
15+ 0       0.1617      0.34  |Q         |                       V      |
15+ 5       0.1640      0.33  |Q         |                       V      |
15+10       0.1662      0.32  |Q         |                        V     |
15+15       0.1684      0.32  |Q         |                        V     |
15+20       0.1705      0.31  |Q         |                         V    |
15+25       0.1726      0.31  |Q         |                         V    |
15+30       0.1748      0.31  |Q         |                          V   |
15+35       0.1765      0.26  |Q         |                          V   |
15+40       0.1782      0.24  Q          |                          V   |
15+45       0.1798      0.24  Q          |                           V  |
15+50       0.1815      0.24  Q          |                           V  |
15+55       0.1831      0.24  Q          |                           V  |
16+ 0       0.1848      0.24  Q          |                            V|
16+ 5       0.1853      0.07  Q          |                            V|
16+10       0.1853      0.01  Q          |                            V|
16+15       0.1854      0.01  Q          |                            V|
16+20       0.1854      0.01  Q          |                            V|
16+25       0.1855      0.01  Q          |                            V|
16+30       0.1855      0.01  Q          |                            V|
16+35       0.1856      0.01  Q          |                            V|
16+40       0.1856      0.01  Q          |                            V|
16+45       0.1856      0.01  Q          |                            V|
16+50       0.1857      0.01  Q          |                            V|
16+55       0.1857      0.01  Q          |                            V|
17+ 0       0.1858      0.01  Q          |                            V|
17+ 5       0.1858      0.01  Q          |                            V|
17+10       0.1859      0.01  Q          |                            V|
17+15       0.1859      0.01  Q          |                            V|
17+20       0.1860      0.01  Q          |                            V|
17+25       0.1860      0.01  Q          |                            V|
17+30       0.1861      0.01  Q          |                            V|
17+35       0.1862      0.01  Q          |                            V|
17+40       0.1862      0.01  Q          |                            V|
17+45       0.1863      0.01  Q          |                            V|
```

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+50 | 0.1863 | 0.01 | Q | \| | \| | \| | V\| |
| 17+55 | 0.1864 | 0.01 | Q | \| | \| | \| | V\| |
| 18+ 0 | 0.1864 | 0.01 | Q | \| | \| | \| | V\| |
| 18+ 5 | 0.1865 | 0.01 | Q | \| | \| | \| | V\| |
| 18+10 | 0.1865 | 0.01 | Q | \| | \| | \| | V\| |
| 18+15 | 0.1866 | 0.01 | Q | \| | \| | \| | V\| |
| 18+20 | 0.1866 | 0.01 | Q | \| | \| | \| | V\| |
| 18+25 | 0.1867 | 0.01 | Q | \| | \| | \| | V\| |
| 18+30 | 0.1867 | 0.01 | Q | \| | \| | \| | V\| |
| 18+35 | 0.1868 | 0.01 | Q | \| | \| | \| | V\| |
| 18+40 | 0.1868 | 0.01 | Q | \| | \| | \| | V\| |
| 18+45 | 0.1868 | 0.01 | Q | \| | \| | \| | V\| |
| 18+50 | 0.1869 | 0.00 | Q | \| | \| | \| | V\| |
| 18+55 | 0.1869 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 0 | 0.1869 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 5 | 0.1869 | 0.00 | Q | \| | \| | \| | V\| |
| 19+10 | 0.1870 | 0.01 | Q | \| | \| | \| | V\| |
| 19+15 | 0.1870 | 0.01 | Q | \| | \| | \| | V\| |
| 19+20 | 0.1870 | 0.01 | Q | \| | \| | \| | V\| |
| 19+25 | 0.1871 | 0.01 | Q | \| | \| | \| | V\| |
| 19+30 | 0.1871 | 0.01 | Q | \| | \| | \| | V\| |
| 19+35 | 0.1872 | 0.01 | Q | \| | \| | \| | V\| |
| 19+40 | 0.1872 | 0.01 | Q | \| | \| | \| | V\| |
| 19+45 | 0.1873 | 0.01 | Q | \| | \| | \| | V\| |
| 19+50 | 0.1873 | 0.00 | Q | \| | \| | \| | V\| |
| 19+55 | 0.1873 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 0 | 0.1873 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 5 | 0.1874 | 0.00 | Q | \| | \| | \| | V\| |
| 20+10 | 0.1874 | 0.01 | Q | \| | \| | \| | V\| |
| 20+15 | 0.1874 | 0.01 | Q | \| | \| | \| | V\| |
| 20+20 | 0.1875 | 0.01 | Q | \| | \| | \| | V\| |
| 20+25 | 0.1875 | 0.01 | Q | \| | \| | \| | V\| |
| 20+30 | 0.1875 | 0.01 | Q | \| | \| | \| | V\| |
| 20+35 | 0.1876 | 0.01 | Q | \| | \| | \| | V\| |
| 20+40 | 0.1876 | 0.01 | Q | \| | \| | \| | V\| |
| 20+45 | 0.1876 | 0.01 | Q | \| | \| | \| | V\| |
| 20+50 | 0.1877 | 0.00 | Q | \| | \| | \| | V\| |
| 20+55 | 0.1877 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 0 | 0.1877 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 5 | 0.1878 | 0.00 | Q | \| | \| | \| | V\| |
| 21+10 | 0.1878 | 0.01 | Q | \| | \| | \| | V\| |
| 21+15 | 0.1878 | 0.01 | Q | \| | \| | \| | V\| |
| 21+20 | 0.1878 | 0.00 | Q | \| | \| | \| | V\| |
| 21+25 | 0.1879 | 0.00 | Q | \| | \| | \| | V\| |
| 21+30 | 0.1879 | 0.00 | Q | \| | \| | \| | V\| |
| 21+35 | 0.1879 | 0.00 | Q | \| | \| | \| | V\| |
| 21+40 | 0.1880 | 0.01 | Q | \| | \| | \| | V\| |
| 21+45 | 0.1880 | 0.01 | Q | \| | \| | \| | V\| |
| 21+50 | 0.1880 | 0.00 | Q | \| | \| | \| | V\| |
| 21+55 | 0.1881 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 0 | 0.1881 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 5 | 0.1881 | 0.00 | Q | \| | \| | \| | V\| |
| 22+10 | 0.1881 | 0.01 | Q | \| | \| | \| | V\| |
| 22+15 | 0.1882 | 0.01 | Q | \| | \| | \| | V\| |
| 22+20 | 0.1882 | 0.00 | Q | \| | \| | \| | V\| |
| 22+25 | 0.1882 | 0.00 | Q | \| | \| | \| | V\| |
| 22+30 | 0.1883 | 0.00 | Q | \| | \| | \| | V\| |
| 22+35 | 0.1883 | 0.00 | Q | \| | \| | \| | V\| |
| 22+40 | 0.1883 | 0.00 | Q | \| | \| | \| | V\| |
| 22+45 | 0.1883 | 0.00 | Q | \| | \| | \| | V\| |
| 22+50 | 0.1883 | 0.00 | Q | \| | \| | \| | V\| |
| 22+55 | 0.1884 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 0 | 0.1884 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 5 | 0.1884 | 0.00 | Q | \| | \| | \| | V\| |
| 23+10 | 0.1884 | 0.00 | Q | \| | \| | \| | V\| |
| 23+15 | 0.1885 | 0.00 | Q | \| | \| | \| | V\| |
| 23+20 | 0.1885 | 0.00 | Q | \| | \| | \| | V\| |
| 23+25 | 0.1885 | 0.00 | Q | \| | \| | \| | V\| |
| 23+30 | 0.1885 | 0.00 | Q | \| | \| | \| | V\| |
| 23+35 | 0.1886 | 0.00 | Q | \| | \| | \| | V\| |
| 23+40 | 0.1886 | 0.00 | Q | \| | \| | \| | V\| |
| 23+45 | 0.1886 | 0.00 | Q | \| | \| | \| | V\| |
| 23+50 | 0.1886 | 0.00 | Q | \| | \| | \| | V\| |
| 23+55 | 0.1887 | 0.00 | Q | \| | \| | \| | V\| |
| 24+ 0 | 0.1887 | 0.00 | Q | \| | \| | \| | V\| |
| 24+ 5 | 0.1887 | 0.00 | Q | \| | \| | \| | V\| |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX401100.out

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----------------------------------------------------------------------

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 40
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 2.70(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.70(Ac.) = 0.004 Sq. Mi.
Length along longest watercourse = 548.00(Ft.)
Length along longest watercourse measured to centroid = 204.00(Ft.)
Length along longest watercourse = 0.104 Mi.
Length along longest watercourse measured to centroid = 0.039 Mi.
Difference in elevation = 166.00(Ft.)
Slope along watercourse = 1599.4161 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.025 Hr.
Lag time = 1.52 Min.
25% of lag time = 0.38 Min.
40% of lag time = 0.61 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.70 | 0.50 | 1.35 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.70 | 1.20 | 3.24 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2.700 | 80.98 | 0.000 |

Total Area Entered = 2.70(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 81.0 | 91.6 | 0.109 | 0.000 | 0.109 | 1.000 | 0.109 |
| | | | | | Sum (F) = | 0.109 |

Area averaged mean soil loss (F) (In/Hr) = 0.109

Minimum soil loss rate ((In/Hr)) = 0.055
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

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| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 328.169 | 60.851 | 1.656 |
| 2 | 0.167 | 656.338 | 37.720 | 1.026 |
| 3 | 0.250 | 984.508 | 1.428 | 0.039 |
| | | Sum = 100.000 | Sum= | 2.721 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.109 | ( 0.544) | 0.495 |
| 2 | 0.17 | 4.30 | 0.619 | 0.109 | ( 0.557) | 0.510 |
| 3 | 0.25 | 5.00 | 0.720 | 0.109 | ( 0.648) | 0.611 |
| 4 | 0.33 | 5.00 | 0.720 | 0.109 | ( 0.648) | 0.611 |
| 5 | 0.42 | 5.80 | 0.835 | 0.109 | ( 0.752) | 0.726 |
| 6 | 0.50 | 6.50 | 0.936 | 0.109 | ( 0.842) | 0.827 |
| 7 | 0.58 | 7.40 | 1.066 | 0.109 | ( 0.959) | 0.956 |
| 8 | 0.67 | 8.60 | 1.238 | 0.109 | ( 1.115) | 1.129 |
| 9 | 0.75 | 12.30 | 1.771 | 0.109 | ( 1.594) | 1.662 |
| 10 | 0.83 | 29.10 | 4.190 | 0.109 | ( 3.771) | 4.081 |
| 11 | 0.92 | 6.80 | 0.979 | 0.109 | ( 0.881) | 0.870 |
| 12 | 1.00 | 5.00 | 0.720 | 0.109 | ( 0.648) | 0.611 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 13.1 |

Flood volume = Effective rainfall 1.09(In)
times area 2.7(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 0.11(In)
Total soil loss = 0.025(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 10689.1 Cubic Feet
Total soil loss = 1071.8 Cubic Feet

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Peak flow rate of this hydrograph = 8.511(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0057 | 0.82 | V Q | | | | |
| 0+10 | 0.0150 | 1.35 | V Q | | | | |
| 0+15 | 0.0257 | 1.55 | V Q | | | | |
| 0+20 | 0.0371 | 1.66 | Q | | | | |
| 0+25 | 0.0499 | 1.85 | QV | | | | |
| 0+30 | 0.0646 | 2.14 | Q V | | | | |
| 0+35 | 0.0815 | 2.46 | Q V | | | | |
| 0+40 | 0.1014 | 2.88 | Q V | | | | |
| 0+45 | 0.1286 | 3.95 | Q V | | | | |
| 0+50 | 0.1872 | 8.51 | V Q | | | | |
| 0+55 | 0.2265 | 5.70 | Q V | | | | |
| 1+ 0 | 0.2407 | 2.06 | Q V | | | | |
| 1+ 5 | 0.2452 | 0.66 | Q V | | | | |
| 1+10 | 0.2454 | 0.02 | Q V | | | | |

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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX403100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 40
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 2.70(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.70(Ac.) = 0.004 Sq. Mi.
Length along longest watercourse = 548.00(Ft.)
Length along longest watercourse measured to centroid = 204.00(Ft.)
Length along longest watercourse = 0.104 Mi.
Length along longest watercourse measured to centroid = 0.039 Mi.
Difference in elevation = 166.00(Ft.)
Slope along watercourse = 1599.4161 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.025 Hr.
Lag time = 1.52 Min.
25% of lag time = 0.38 Min.
40% of lag time = 0.61 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.70 | 0.81 | 2.19 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.70 | 1.82 | 4.91 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.810(In)
Area Averaged 100-Year Rainfall = 1.820(In)

Point rain (area averaged) = 1.820(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.820(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2.700 | 80.98 | 0.000 |

Total Area Entered = 2.70(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 81.0 | 91.6 | 0.109 | 0.000 | 0.109 | 1.000 | 0.109 |
| | | | | | Sum (F) = | 0.109 |

Area averaged mean soil loss (F) (In/Hr) = 0.109

Minimum soil loss rate ((In/Hr)) = 0.055
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 328.169 | 60.851 | 1.656 |
| 2 0.167 | 656.338 | 37.720 | 1.026 |
| 3 0.250 | 984.508 | 1.428 | 0.039 |
| | | Sum = 100.000 Sum= | 2.721 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.284 | 0.109 | ( 0.256) | 0.175 |
| 2 | 0.17 | 1.30 | 0.284 | 0.109 | ( 0.256) | 0.175 |
| 3 | 0.25 | 1.10 | 0.240 | 0.109 | ( 0.216) | 0.131 |
| 4 | 0.33 | 1.50 | 0.328 | 0.109 | ( 0.295) | 0.218 |
| 5 | 0.42 | 1.50 | 0.328 | 0.109 | ( 0.295) | 0.218 |
| 6 | 0.50 | 1.80 | 0.393 | 0.109 | ( 0.354) | 0.284 |
| 7 | 0.58 | 1.50 | 0.328 | 0.109 | ( 0.295) | 0.218 |
| 8 | 0.67 | 1.80 | 0.393 | 0.109 | ( 0.354) | 0.284 |
| 9 | 0.75 | 1.80 | 0.393 | 0.109 | ( 0.354) | 0.284 |
| 10 | 0.83 | 1.50 | 0.328 | 0.109 | ( 0.295) | 0.218 |
| 11 | 0.92 | 1.60 | 0.349 | 0.109 | ( 0.314) | 0.240 |
| 12 | 1.00 | 1.80 | 0.393 | 0.109 | ( 0.354) | 0.284 |
| 13 | 1.08 | 2.20 | 0.480 | 0.109 | ( 0.432) | 0.371 |
| 14 | 1.17 | 2.20 | 0.480 | 0.109 | ( 0.432) | 0.371 |
| 15 | 1.25 | 2.20 | 0.480 | 0.109 | ( 0.432) | 0.371 |
| 16 | 1.33 | 2.00 | 0.437 | 0.109 | ( 0.393) | 0.327 |
| 17 | 1.42 | 2.60 | 0.568 | 0.109 | ( 0.511) | 0.458 |
| 18 | 1.50 | 2.70 | 0.590 | 0.109 | ( 0.531) | 0.480 |
| 19 | 1.58 | 2.40 | 0.524 | 0.109 | ( 0.472) | 0.415 |
| 20 | 1.67 | 2.70 | 0.590 | 0.109 | ( 0.531) | 0.480 |
| 21 | 1.75 | 3.30 | 0.721 | 0.109 | ( 0.649) | 0.611 |
| 22 | 1.83 | 3.10 | 0.677 | 0.109 | ( 0.609) | 0.568 |
| 23 | 1.92 | 2.90 | 0.633 | 0.109 | ( 0.570) | 0.524 |
| 24 | 2.00 | 3.00 | 0.655 | 0.109 | ( 0.590) | 0.546 |
| 25 | 2.08 | 3.10 | 0.677 | 0.109 | ( 0.609) | 0.568 |
| 26 | 2.17 | 4.20 | 0.917 | 0.109 | ( 0.826) | 0.808 |
| 27 | 2.25 | 5.00 | 1.092 | 0.109 | ( 0.983) | 0.983 |
| 28 | 2.33 | 3.50 | 0.764 | 0.109 | ( 0.688) | 0.655 |
| 29 | 2.42 | 6.80 | 1.485 | 0.109 | ( 1.337) | 1.376 |
| 30 | 2.50 | 7.30 | 1.594 | 0.109 | ( 1.435) | 1.485 |
| 31 | 2.58 | 8.20 | 1.791 | 0.109 | ( 1.612) | 1.682 |
| 32 | 2.67 | 5.90 | 1.289 | 0.109 | ( 1.160) | 1.179 |
| 33 | 2.75 | 2.00 | 0.437 | 0.109 | ( 0.393) | 0.327 |
| 34 | 2.83 | 1.80 | 0.393 | 0.109 | ( 0.354) | 0.284 |
| 35 | 2.92 | 1.80 | 0.393 | 0.109 | ( 0.354) | 0.284 |
| 36 | 3.00 | 0.60 | 0.131 | 0.109 | ( 0.118) | 0.022 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 17.9 |

Flood volume = Effective rainfall 1.49(In)
times area 2.7(Ac.)/[(In)/(Ft.)] = 0.3(Ac.Ft)
Total soil loss = 0.33(In)
Total soil loss = 0.074(Ac.Ft)
Total rainfall = 1.82(In)
Flood volume = 14622.2 Cubic Feet
Total soil loss = 3215.4 Cubic Feet

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Peak flow rate of this hydrograph = 4.364(CFS)

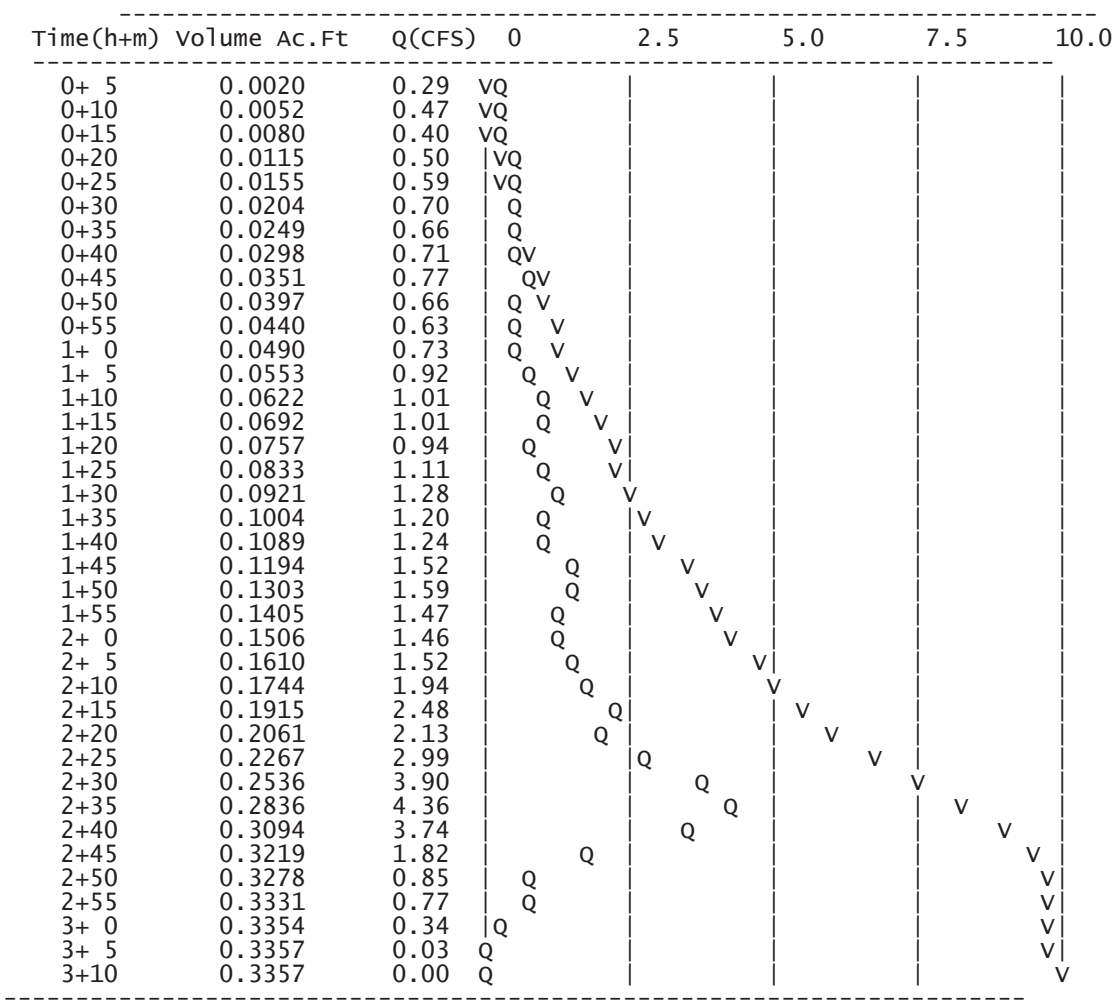
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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))


Time(h+m) Volume Ac.Ft Q(CFS) 0 2.5 5.0 7.5 10.0
0+ 5 0.0020 0.29
0+10 0.0052 0.47
0+15 0.0080 0.40
0+20 0.0115 0.50
0+25 0.0155 0.59
0+30 0.0204 0.70
0+35 0.0249 0.66
0+40 0.0298 0.71
0+45 0.0351 0.77
0+50 0.0397 0.66
0+55 0.0440 0.63
1+ 0 0.0490 0.73
1+ 5 0.0553 0.92
1+10 0.0622 1.01
1+15 0.0692 1.01
1+20 0.0757 0.94
1+25 0.0833 1.11
1+30 0.0921 1.28
1+35 0.1004 1.20
1+40 0.1089 1.24
1+45 0.1194 1.52
1+50 0.1303 1.59
1+55 0.1405 1.47
2+ 0 0.1506 1.46
2+ 5 0.1610 1.52
2+10 0.1744 1.94
2+15 0.1915 2.48
2+20 0.2061 2.13
2+25 0.2267 2.99
2+30 0.2536 3.90
2+35 0.2836 4.36
2+40 0.3094 3.74
2+45 0.3219 1.82
2+50 0.3278 0.85
2+55 0.3331 0.77
3+ 0 0.3354 0.34
3+ 5 0.3357 0.03
3+10 0.3357 0.00

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX406100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 40
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 2.70(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.70(Ac.) = 0.004 Sq. Mi.
Length along longest watercourse = 548.00(Ft.)
Length along longest watercourse measured to centroid = 204.00(Ft.)
Length along longest watercourse = 0.104 Mi.
Length along longest watercourse measured to centroid = 0.039 Mi.
Difference in elevation = 166.00(Ft.)
Slope along watercourse = 1599.4161 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.025 Hr.
Lag time = 1.52 Min.
25% of lag time = 0.38 Min.
40% of lag time = 0.61 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.70 | 1.16 | 3.13 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.70 | 2.50 | 6.75 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.160(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2.700 | 80.98 | 0.000 |

Total Area Entered = 2.70(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 81.0 | 91.6 | 0.109 | 0.000 | 0.109 | 1.000 | 0.109 |
| | | | | | Sum (F) = | 0.109 |

Area averaged mean soil loss (F) (In/Hr) = 0.109

Minimum soil loss rate ((In/Hr)) = 0.055
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 328.169 | 60.851 | 1.656 |
| 2 0.167 | 656.338 | 37.720 | 1.026 |
| 3 0.250 | 984.508 | 1.428 | 0.039 |
| | Sum = 100.000 | Sum= | 2.721 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.109 | ( 0.135) | 0.041 |
| 2 | 0.17 | 0.60 | 0.180 | 0.109 | ( 0.162) | 0.071 |
| 3 | 0.25 | 0.60 | 0.180 | 0.109 | ( 0.162) | 0.071 |
| 4 | 0.33 | 0.60 | 0.180 | 0.109 | ( 0.162) | 0.071 |
| 5 | 0.42 | 0.60 | 0.180 | 0.109 | ( 0.162) | 0.071 |
| 6 | 0.50 | 0.70 | 0.210 | 0.109 | ( 0.189) | 0.101 |
| 7 | 0.58 | 0.70 | 0.210 | 0.109 | ( 0.189) | 0.101 |
| 8 | 0.67 | 0.70 | 0.210 | 0.109 | ( 0.189) | 0.101 |
| 9 | 0.75 | 0.70 | 0.210 | 0.109 | ( 0.189) | 0.101 |
| 10 | 0.83 | 0.70 | 0.210 | 0.109 | ( 0.189) | 0.101 |
| 11 | 0.92 | 0.70 | 0.210 | 0.109 | ( 0.189) | 0.101 |
| 12 | 1.00 | 0.80 | 0.240 | 0.109 | ( 0.216) | 0.131 |
| 13 | 1.08 | 0.80 | 0.240 | 0.109 | ( 0.216) | 0.131 |
| 14 | 1.17 | 0.80 | 0.240 | 0.109 | ( 0.216) | 0.131 |
| 15 | 1.25 | 0.80 | 0.240 | 0.109 | ( 0.216) | 0.131 |
| 16 | 1.33 | 0.80 | 0.240 | 0.109 | ( 0.216) | 0.131 |
| 17 | 1.42 | 0.80 | 0.240 | 0.109 | ( 0.216) | 0.131 |
| 18 | 1.50 | 0.80 | 0.240 | 0.109 | ( 0.216) | 0.131 |
| 19 | 1.58 | 0.80 | 0.240 | 0.109 | ( 0.216) | 0.131 |
| 20 | 1.67 | 0.80 | 0.240 | 0.109 | ( 0.216) | 0.131 |
| 21 | 1.75 | 0.80 | 0.240 | 0.109 | ( 0.216) | 0.131 |
| 22 | 1.83 | 0.80 | 0.240 | 0.109 | ( 0.216) | 0.131 |
| 23 | 1.92 | 0.80 | 0.240 | 0.109 | ( 0.216) | 0.131 |
| 24 | 2.00 | 0.90 | 0.270 | 0.109 | ( 0.243) | 0.161 |
| 25 | 2.08 | 0.80 | 0.240 | 0.109 | ( 0.216) | 0.131 |
| 26 | 2.17 | 0.90 | 0.270 | 0.109 | ( 0.243) | 0.161 |
| 27 | 2.25 | 0.90 | 0.270 | 0.109 | ( 0.243) | 0.161 |
| 28 | 2.33 | 0.90 | 0.270 | 0.109 | ( 0.243) | 0.161 |
| 29 | 2.42 | 0.90 | 0.270 | 0.109 | ( 0.243) | 0.161 |
| 30 | 2.50 | 0.90 | 0.270 | 0.109 | ( 0.243) | 0.161 |
| 31 | 2.58 | 0.90 | 0.270 | 0.109 | ( 0.243) | 0.161 |
| 32 | 2.67 | 0.90 | 0.270 | 0.109 | ( 0.243) | 0.161 |
| 33 | 2.75 | 1.00 | 0.300 | 0.109 | ( 0.270) | 0.191 |
| 34 | 2.83 | 1.00 | 0.300 | 0.109 | ( 0.270) | 0.191 |
| 35 | 2.92 | 1.00 | 0.300 | 0.109 | ( 0.270) | 0.191 |
| 36 | 3.00 | 1.00 | 0.300 | 0.109 | ( 0.270) | 0.191 |
| 37 | 3.08 | 1.00 | 0.300 | 0.109 | ( 0.270) | 0.191 |
| 38 | 3.17 | 1.10 | 0.330 | 0.109 | ( 0.297) | 0.221 |
| 39 | 3.25 | 1.10 | 0.330 | 0.109 | ( 0.297) | 0.221 |
| 40 | 3.33 | 1.10 | 0.330 | 0.109 | ( 0.297) | 0.221 |
| 41 | 3.42 | 1.20 | 0.360 | 0.109 | ( 0.324) | 0.251 |
| 42 | 3.50 | 1.30 | 0.390 | 0.109 | ( 0.351) | 0.281 |
| 43 | 3.58 | 1.40 | 0.420 | 0.109 | ( 0.378) | 0.311 |
| 44 | 3.67 | 1.40 | 0.420 | 0.109 | ( 0.378) | 0.311 |
| 45 | 3.75 | 1.50 | 0.450 | 0.109 | ( 0.405) | 0.341 |
| 46 | 3.83 | 1.50 | 0.450 | 0.109 | ( 0.405) | 0.341 |
| 47 | 3.92 | 1.60 | 0.480 | 0.109 | ( 0.432) | 0.371 |
| 48 | 4.00 | 1.60 | 0.480 | 0.109 | ( 0.432) | 0.371 |
| 49 | 4.08 | 1.70 | 0.510 | 0.109 | ( 0.459) | 0.401 |
| 50 | 4.17 | 1.80 | 0.540 | 0.109 | ( 0.486) | 0.431 |
| 51 | 4.25 | 1.90 | 0.570 | 0.109 | ( 0.513) | 0.461 |
| 52 | 4.33 | 2.00 | 0.600 | 0.109 | ( 0.540) | 0.491 |
| 53 | 4.42 | 2.10 | 0.630 | 0.109 | ( 0.567) | 0.521 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 54 | 4.50 | 2.10 | 0.630 | 0.109 | ( 0.567) | 0.521 |
| 55 | 4.58 | 2.20 | 0.660 | 0.109 | ( 0.594) | 0.551 |
| 56 | 4.67 | 2.30 | 0.690 | 0.109 | ( 0.621) | 0.581 |
| 57 | 4.75 | 2.40 | 0.720 | 0.109 | ( 0.648) | 0.611 |
| 58 | 4.83 | 2.40 | 0.720 | 0.109 | ( 0.648) | 0.611 |
| 59 | 4.92 | 2.50 | 0.750 | 0.109 | ( 0.675) | 0.641 |
| 60 | 5.00 | 2.60 | 0.780 | 0.109 | ( 0.702) | 0.671 |
| 61 | 5.08 | 3.10 | 0.930 | 0.109 | ( 0.837) | 0.821 |
| 62 | 5.17 | 3.60 | 1.080 | 0.109 | ( 0.972) | 0.971 |
| 63 | 5.25 | 3.90 | 1.170 | 0.109 | ( 1.053) | 1.061 |
| 64 | 5.33 | 4.20 | 1.260 | 0.109 | ( 1.134) | 1.151 |
| 65 | 5.42 | 4.70 | 1.410 | 0.109 | ( 1.269) | 1.301 |
| 66 | 5.50 | 5.60 | 1.680 | 0.109 | ( 1.512) | 1.571 |
| 67 | 5.58 | 1.90 | 0.570 | 0.109 | ( 0.513) | 0.461 |
| 68 | 5.67 | 0.90 | 0.270 | 0.109 | ( 0.243) | 0.161 |
| 69 | 5.75 | 0.60 | 0.180 | 0.109 | ( 0.162) | 0.071 |
| 70 | 5.83 | 0.50 | 0.150 | 0.109 | ( 0.135) | 0.041 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.109) | 0.081 | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.109) | 0.054 | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 22.2

Flood volume = Effective rainfall 1.85(In)
times area 2.7(Ac.)/[(In)/(Ft.)] = 0.4(Ac.Ft)
Total soil loss = 0.65(In)
Total soil loss = 0.146(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 18139.9 Cubic Feet
Total soil loss = 6362.4 Cubic Feet

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Peak flow rate of this hydrograph = 3.982(CFS)

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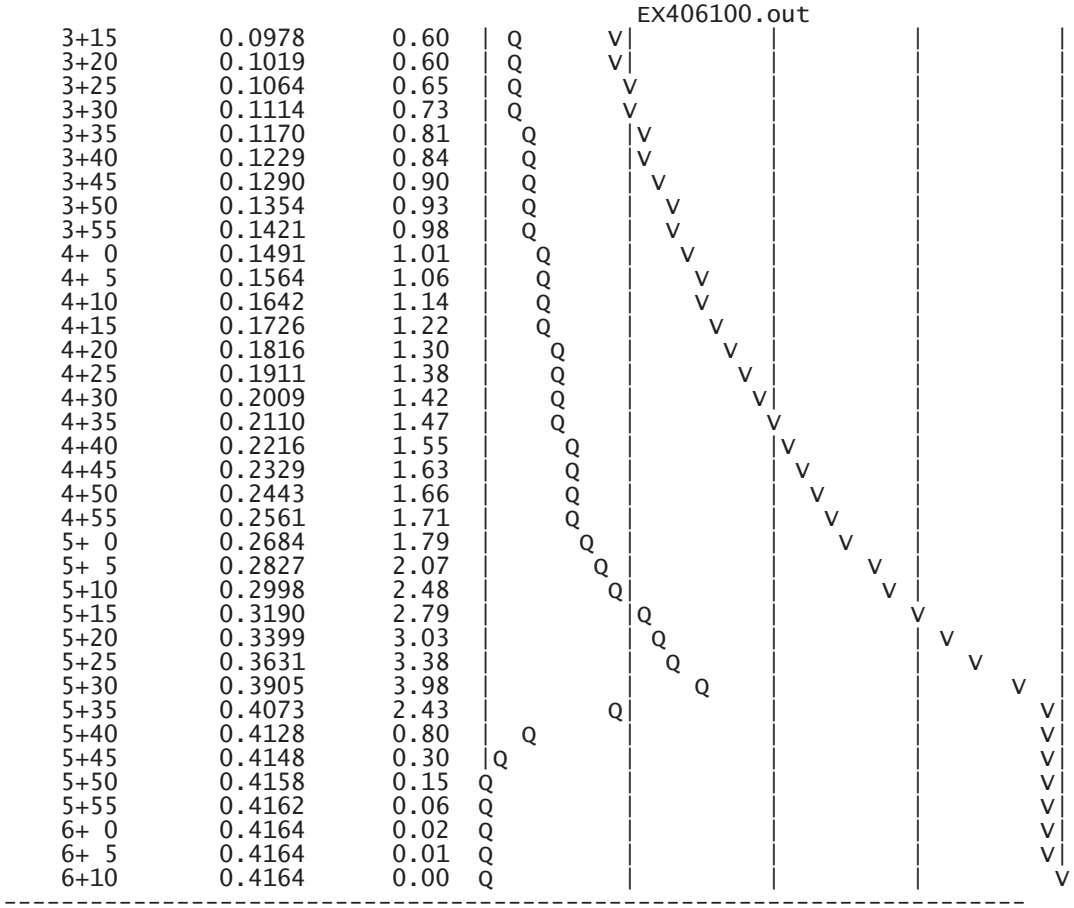
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0005 | 0.07 | Q | | | | |
| 0+10 | 0.0016 | 0.16 | Q | | | | |
| 0+15 | 0.0029 | 0.19 | Q | | | | |
| 0+20 | 0.0042 | 0.19 | Q | | | | |
| 0+25 | 0.0055 | 0.19 | Q | | | | |
| 0+30 | 0.0072 | 0.24 | Q | | | | |
| 0+35 | 0.0091 | 0.27 | VQ | | | | |
| 0+40 | 0.0110 | 0.27 | \|Q | | | | |
| 0+45 | 0.0128 | 0.27 | \|Q | | | | |
| 0+50 | 0.0147 | 0.27 | \|Q | | | | |
| 0+55 | 0.0166 | 0.27 | \|Q | | | | |
| 1+ 0 | 0.0188 | 0.32 | \|Q | | | | |
| 1+ 5 | 0.0213 | 0.35 | \|QV | | | | |
| 1+10 | 0.0237 | 0.36 | \|QV | | | | |
| 1+15 | 0.0262 | 0.36 | \|QV | | | | |
| 1+20 | 0.0286 | 0.36 | \|QV | | | | |
| 1+25 | 0.0311 | 0.36 | \|QV | | | | |
| 1+30 | 0.0335 | 0.36 | \|Q V | | | | |
| 1+35 | 0.0360 | 0.36 | \|Q V | | | | |
| 1+40 | 0.0384 | 0.36 | \|Q V | | | | |
| 1+45 | 0.0409 | 0.36 | \|Q V | | | | |
| 1+50 | 0.0433 | 0.36 | \|Q V | | | | |
| 1+55 | 0.0458 | 0.36 | \|Q V | | | | |
| 2+ 0 | 0.0486 | 0.41 | \|Q V | | | | |
| 2+ 5 | 0.0512 | 0.39 | \|Q V | | | | |
| 2+10 | 0.0540 | 0.41 | \|Q V | | | | |
| 2+15 | 0.0570 | 0.44 | \|Q V | | | | |
| 2+20 | 0.0601 | 0.44 | \|Q V | | | | |
| 2+25 | 0.0631 | 0.44 | \|Q V | | | | |
| 2+30 | 0.0661 | 0.44 | \|Q V | | | | |
| 2+35 | 0.0691 | 0.44 | \|Q V | | | | |
| 2+40 | 0.0721 | 0.44 | \|Q V | | | | |
| 2+45 | 0.0755 | 0.49 | \|Q V | | | | |
| 2+50 | 0.0790 | 0.52 | \| Q V | | | | |
| 2+55 | 0.0826 | 0.52 | \| Q V | | | | |
| 3+ 0 | 0.0862 | 0.52 | \| Q V | | | | |
| 3+ 5 | 0.0897 | 0.52 | \| Q V | | | | |
| 3+10 | 0.0937 | 0.57 | \| Q V | | | | |



| | | | |
|---|---|---|---|
| 3+15 | 0.0978 | 0.60 | |
| 3+20 | 0.1019 | 0.60 | |
| 3+25 | 0.1064 | 0.65 | |
| 3+30 | 0.1114 | 0.73 | |
| 3+35 | 0.1170 | 0.81 | |
| 3+40 | 0.1229 | 0.84 | |
| 3+45 | 0.1290 | 0.90 | |
| 3+50 | 0.1354 | 0.93 | |
| 3+55 | 0.1421 | 0.98 | |
| 4+ 0 | 0.1491 | 1.01 | |
| 4+ 5 | 0.1564 | 1.06 | |
| 4+10 | 0.1642 | 1.14 | |
| 4+15 | 0.1726 | 1.22 | |
| 4+20 | 0.1816 | 1.30 | |
| 4+25 | 0.1911 | 1.38 | |
| 4+30 | 0.2009 | 1.42 | |
| 4+35 | 0.2110 | 1.47 | |
| 4+40 | 0.2216 | 1.55 | |
| 4+45 | 0.2329 | 1.63 | |
| 4+50 | 0.2443 | 1.66 | |
| 4+55 | 0.2561 | 1.71 | |
| 5+ 0 | 0.2684 | 1.79 | |
| 5+ 5 | 0.2827 | 2.07 | |
| 5+10 | 0.2998 | 2.48 | |
| 5+15 | 0.3190 | 2.79 | |
| 5+20 | 0.3399 | 3.03 | |
| 5+25 | 0.3631 | 3.38 | |
| 5+30 | 0.3905 | 3.98 | |
| 5+35 | 0.4073 | 2.43 | |
| 5+40 | 0.4128 | 0.80 | |
| 5+45 | 0.4148 | 0.30 | |
| 5+50 | 0.4158 | 0.15 | |
| 5+55 | 0.4162 | 0.06 | |
| 6+ 0 | 0.4164 | 0.02 | |
| 6+ 5 | 0.4164 | 0.01 | |
| 6+10 | 0.4164 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX4024100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 40
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 2.70(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.70(Ac.) = 0.004 Sq. Mi.
Length along longest watercourse = 548.00(Ft.)
Length along longest watercourse measured to centroid = 204.00(Ft.)
Length along longest watercourse = 0.104 Mi.
Length along longest watercourse measured to centroid = 0.039 Mi.
Difference in elevation = 166.00(Ft.)
Slope along watercourse = 1599.4161 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.025 Hr.
Lag time = 1.52 Min.
25% of lag time = 0.38 Min.
40% of lag time = 0.61 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.70 | 1.80 | 4.86 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.70 | 4.75 | 12.83 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.750(In)

Point rain (area averaged) = 4.750(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.750(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2.700 | 80.98 | 0.000 |

Total Area Entered = 2.70(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 81.0 | 91.6 | 0.109 | 0.000 | 0.109 | 1.000 | 0.109 |
| | | | | | Sum (F) = | 0.109 |

Area averaged mean soil loss (F) (In/Hr) = 0.109

Minimum soil loss rate ((In/Hr)) = 0.055
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 328.169 | 60.851 | 1.656 |
| 2 0.167 | 656.338 | 37.720 | 1.026 |
| 3 0.250 | 984.508 | 1.428 | 0.039 |
| | | Sum = 100.000 Sum= | 2.721 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.038 | ( 0.194) | 0.034 | 0.004 |
| 2 | 0.17 | 0.07 | 0.038 | ( 0.193) | 0.034 | 0.004 |
| 3 | 0.25 | 0.07 | 0.038 | ( 0.192) | 0.034 | 0.004 |
| 4 | 0.33 | 0.10 | 0.057 | ( 0.192) | 0.051 | 0.006 |
| 5 | 0.42 | 0.10 | 0.057 | ( 0.191) | 0.051 | 0.006 |
| 6 | 0.50 | 0.10 | 0.057 | ( 0.190) | 0.051 | 0.006 |
| 7 | 0.58 | 0.10 | 0.057 | ( 0.189) | 0.051 | 0.006 |
| 8 | 0.67 | 0.10 | 0.057 | ( 0.189) | 0.051 | 0.006 |
| 9 | 0.75 | 0.10 | 0.057 | ( 0.188) | 0.051 | 0.006 |
| 10 | 0.83 | 0.13 | 0.076 | ( 0.187) | 0.068 | 0.008 |
| 11 | 0.92 | 0.13 | 0.076 | ( 0.186) | 0.068 | 0.008 |
| 12 | 1.00 | 0.13 | 0.076 | ( 0.186) | 0.068 | 0.008 |
| 13 | 1.08 | 0.10 | 0.057 | ( 0.185) | 0.051 | 0.006 |
| 14 | 1.17 | 0.10 | 0.057 | ( 0.184) | 0.051 | 0.006 |
| 15 | 1.25 | 0.10 | 0.057 | ( 0.183) | 0.051 | 0.006 |
| 16 | 1.33 | 0.10 | 0.057 | ( 0.183) | 0.051 | 0.006 |
| 17 | 1.42 | 0.10 | 0.057 | ( 0.182) | 0.051 | 0.006 |
| 18 | 1.50 | 0.10 | 0.057 | ( 0.181) | 0.051 | 0.006 |
| 19 | 1.58 | 0.10 | 0.057 | ( 0.181) | 0.051 | 0.006 |
| 20 | 1.67 | 0.10 | 0.057 | ( 0.180) | 0.051 | 0.006 |
| 21 | 1.75 | 0.10 | 0.057 | ( 0.179) | 0.051 | 0.006 |
| 22 | 1.83 | 0.13 | 0.076 | ( 0.178) | 0.068 | 0.008 |
| 23 | 1.92 | 0.13 | 0.076 | ( 0.178) | 0.068 | 0.008 |
| 24 | 2.00 | 0.13 | 0.076 | ( 0.177) | 0.068 | 0.008 |
| 25 | 2.08 | 0.13 | 0.076 | ( 0.176) | 0.068 | 0.008 |
| 26 | 2.17 | 0.13 | 0.076 | ( 0.176) | 0.068 | 0.008 |
| 27 | 2.25 | 0.13 | 0.076 | ( 0.175) | 0.068 | 0.008 |
| 28 | 2.33 | 0.13 | 0.076 | ( 0.174) | 0.068 | 0.008 |
| 29 | 2.42 | 0.13 | 0.076 | ( 0.173) | 0.068 | 0.008 |
| 30 | 2.50 | 0.13 | 0.076 | ( 0.173) | 0.068 | 0.008 |
| 31 | 2.58 | 0.17 | 0.095 | ( 0.172) | 0.085 | 0.009 |
| 32 | 2.67 | 0.17 | 0.095 | ( 0.171) | 0.085 | 0.009 |
| 33 | 2.75 | 0.17 | 0.095 | ( 0.171) | 0.085 | 0.009 |
| 34 | 2.83 | 0.17 | 0.095 | ( 0.170) | 0.085 | 0.009 |
| 35 | 2.92 | 0.17 | 0.095 | ( 0.169) | 0.085 | 0.009 |
| 36 | 3.00 | 0.17 | 0.095 | ( 0.168) | 0.085 | 0.009 |
| 37 | 3.08 | 0.17 | 0.095 | ( 0.168) | 0.085 | 0.009 |
| 38 | 3.17 | 0.17 | 0.095 | ( 0.167) | 0.085 | 0.009 |
| 39 | 3.25 | 0.17 | 0.095 | ( 0.166) | 0.085 | 0.009 |
| 40 | 3.33 | 0.17 | 0.095 | ( 0.166) | 0.085 | 0.009 |
| 41 | 3.42 | 0.17 | 0.095 | ( 0.165) | 0.085 | 0.009 |
| 42 | 3.50 | 0.17 | 0.095 | ( 0.164) | 0.085 | 0.009 |
| 43 | 3.58 | 0.17 | 0.095 | ( 0.164) | 0.085 | 0.009 |
| 44 | 3.67 | 0.17 | 0.095 | ( 0.163) | 0.085 | 0.009 |
| 45 | 3.75 | 0.17 | 0.095 | ( 0.162) | 0.085 | 0.009 |
| 46 | 3.83 | 0.20 | 0.114 | ( 0.162) | 0.103 | 0.011 |
| 47 | 3.92 | 0.20 | 0.114 | ( 0.161) | 0.103 | 0.011 |
| 48 | 4.00 | 0.20 | 0.114 | ( 0.160) | 0.103 | 0.011 |
| 49 | 4.08 | 0.20 | 0.114 | ( 0.160) | 0.103 | 0.011 |
| 50 | 4.17 | 0.20 | 0.114 | ( 0.159) | 0.103 | 0.011 |
| 51 | 4.25 | 0.20 | 0.114 | ( 0.158) | 0.103 | 0.011 |
| 52 | 4.33 | 0.23 | 0.133 | ( 0.158) | 0.120 | 0.013 |
| 53 | 4.42 | 0.23 | 0.133 | ( 0.157) | 0.120 | 0.013 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 54 | 4.50 | 0.23 | 0.133 | ( | 0.156) | 0.120 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.133 | ( | 0.155) | 0.120 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.133 | ( | 0.155) | 0.120 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.133 | ( | 0.154) | 0.120 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.152 | ( | 0.153) | 0.137 | | 0.015 |
| 59 | 4.92 | 0.27 | 0.152 | ( | 0.153) | 0.137 | | 0.015 |
| 60 | 5.00 | 0.27 | 0.152 | ( | 0.152) | 0.137 | | 0.015 |
| 61 | 5.08 | 0.20 | 0.114 | ( | 0.152) | 0.103 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.114 | ( | 0.151) | 0.103 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.114 | ( | 0.150) | 0.103 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.133 | ( | 0.150) | 0.120 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.133 | ( | 0.149) | 0.120 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.133 | ( | 0.148) | 0.120 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.152 | ( | 0.148) | 0.137 | | 0.015 |
| 68 | 5.67 | 0.27 | 0.152 | ( | 0.147) | 0.137 | | 0.015 |
| 69 | 5.75 | 0.27 | 0.152 | ( | 0.146) | 0.137 | | 0.015 |
| 70 | 5.83 | 0.27 | 0.152 | ( | 0.146) | 0.137 | | 0.015 |
| 71 | 5.92 | 0.27 | 0.152 | ( | 0.145) | 0.137 | | 0.015 |
| 72 | 6.00 | 0.27 | 0.152 | ( | 0.144) | 0.137 | | 0.015 |
| 73 | 6.08 | 0.30 | 0.171 | | 0.144 | ( | 0.154) | 0.027 |
| 74 | 6.17 | 0.30 | 0.171 | | 0.143 | ( | 0.154) | 0.028 |
| 75 | 6.25 | 0.30 | 0.171 | | 0.142 | ( | 0.154) | 0.029 |
| 76 | 6.33 | 0.30 | 0.171 | | 0.142 | ( | 0.154) | 0.029 |
| 77 | 6.42 | 0.30 | 0.171 | | 0.141 | ( | 0.154) | 0.030 |
| 78 | 6.50 | 0.30 | 0.171 | | 0.141 | ( | 0.154) | 0.030 |
| 79 | 6.58 | 0.33 | 0.190 | | 0.140 | ( | 0.171) | 0.050 |
| 80 | 6.67 | 0.33 | 0.190 | | 0.139 | ( | 0.171) | 0.051 |
| 81 | 6.75 | 0.33 | 0.190 | | 0.139 | ( | 0.171) | 0.051 |
| 82 | 6.83 | 0.33 | 0.190 | | 0.138 | ( | 0.171) | 0.052 |
| 83 | 6.92 | 0.33 | 0.190 | | 0.137 | ( | 0.171) | 0.053 |
| 84 | 7.00 | 0.33 | 0.190 | | 0.137 | ( | 0.171) | 0.053 |
| 85 | 7.08 | 0.33 | 0.190 | | 0.136 | ( | 0.171) | 0.054 |
| 86 | 7.17 | 0.33 | 0.190 | | 0.136 | ( | 0.171) | 0.054 |
| 87 | 7.25 | 0.33 | 0.190 | | 0.135 | ( | 0.171) | 0.055 |
| 88 | 7.33 | 0.37 | 0.209 | | 0.134 | ( | 0.188) | 0.075 |
| 89 | 7.42 | 0.37 | 0.209 | | 0.134 | ( | 0.188) | 0.075 |
| 90 | 7.50 | 0.37 | 0.209 | | 0.133 | ( | 0.188) | 0.076 |
| 91 | 7.58 | 0.40 | 0.228 | | 0.132 | ( | 0.205) | 0.096 |
| 92 | 7.67 | 0.40 | 0.228 | | 0.132 | ( | 0.205) | 0.096 |
| 93 | 7.75 | 0.40 | 0.228 | | 0.131 | ( | 0.205) | 0.097 |
| 94 | 7.83 | 0.43 | 0.247 | | 0.131 | ( | 0.222) | 0.116 |
| 95 | 7.92 | 0.43 | 0.247 | | 0.130 | ( | 0.222) | 0.117 |
| 96 | 8.00 | 0.43 | 0.247 | | 0.129 | ( | 0.222) | 0.118 |
| 97 | 8.08 | 0.50 | 0.285 | | 0.129 | ( | 0.256) | 0.156 |
| 98 | 8.17 | 0.50 | 0.285 | | 0.128 | ( | 0.256) | 0.157 |
| 99 | 8.25 | 0.50 | 0.285 | | 0.128 | ( | 0.256) | 0.157 |
| 100 | 8.33 | 0.50 | 0.285 | | 0.127 | ( | 0.256) | 0.158 |
| 101 | 8.42 | 0.50 | 0.285 | | 0.126 | ( | 0.256) | 0.159 |
| 102 | 8.50 | 0.50 | 0.285 | | 0.126 | ( | 0.256) | 0.159 |
| 103 | 8.58 | 0.53 | 0.304 | | 0.125 | ( | 0.274) | 0.179 |
| 104 | 8.67 | 0.53 | 0.304 | | 0.125 | ( | 0.274) | 0.179 |
| 105 | 8.75 | 0.53 | 0.304 | | 0.124 | ( | 0.274) | 0.180 |
| 106 | 8.83 | 0.57 | 0.323 | | 0.123 | ( | 0.291) | 0.200 |
| 107 | 8.92 | 0.57 | 0.323 | | 0.123 | ( | 0.291) | 0.200 |
| 108 | 9.00 | 0.57 | 0.323 | | 0.122 | ( | 0.291) | 0.201 |
| 109 | 9.08 | 0.63 | 0.361 | | 0.122 | ( | 0.325) | 0.239 |
| 110 | 9.17 | 0.63 | 0.361 | | 0.121 | ( | 0.325) | 0.240 |
| 111 | 9.25 | 0.63 | 0.361 | | 0.121 | ( | 0.325) | 0.240 |
| 112 | 9.33 | 0.67 | 0.380 | | 0.120 | ( | 0.342) | 0.260 |
| 113 | 9.42 | 0.67 | 0.380 | | 0.119 | ( | 0.342) | 0.261 |
| 114 | 9.50 | 0.67 | 0.380 | | 0.119 | ( | 0.342) | 0.261 |
| 115 | 9.58 | 0.70 | 0.399 | | 0.118 | ( | 0.359) | 0.281 |
| 116 | 9.67 | 0.70 | 0.399 | | 0.118 | ( | 0.359) | 0.281 |
| 117 | 9.75 | 0.70 | 0.399 | | 0.117 | ( | 0.359) | 0.282 |
| 118 | 9.83 | 0.73 | 0.418 | | 0.117 | ( | 0.376) | 0.301 |
| 119 | 9.92 | 0.73 | 0.418 | | 0.116 | ( | 0.376) | 0.302 |
| 120 | 10.00 | 0.73 | 0.418 | | 0.115 | ( | 0.376) | 0.303 |
| 121 | 10.08 | 0.50 | 0.285 | | 0.115 | ( | 0.256) | 0.170 |
| 122 | 10.17 | 0.50 | 0.285 | | 0.114 | ( | 0.256) | 0.171 |
| 123 | 10.25 | 0.50 | 0.285 | | 0.114 | ( | 0.256) | 0.171 |
| 124 | 10.33 | 0.50 | 0.285 | | 0.113 | ( | 0.256) | 0.172 |
| 125 | 10.42 | 0.50 | 0.285 | | 0.113 | ( | 0.256) | 0.172 |
| 126 | 10.50 | 0.50 | 0.285 | | 0.112 | ( | 0.256) | 0.173 |
| 127 | 10.58 | 0.67 | 0.380 | | 0.112 | ( | 0.342) | 0.268 |
| 128 | 10.67 | 0.67 | 0.380 | | 0.111 | ( | 0.342) | 0.269 |
| 129 | 10.75 | 0.67 | 0.380 | | 0.111 | ( | 0.342) | 0.269 |
| 130 | 10.83 | 0.67 | 0.380 | | 0.110 | ( | 0.342) | 0.270 |
| 131 | 10.92 | 0.67 | 0.380 | | 0.109 | ( | 0.342) | 0.271 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 132 | 11.00 | 0.67 | 0.380 | 0.109 | ( 0.342) | 0.271 |
| 133 | 11.08 | 0.63 | 0.361 | 0.108 | ( 0.325) | 0.253 |
| 134 | 11.17 | 0.63 | 0.361 | 0.108 | ( 0.325) | 0.253 |
| 135 | 11.25 | 0.63 | 0.361 | 0.107 | ( 0.325) | 0.254 |
| 136 | 11.33 | 0.63 | 0.361 | 0.107 | ( 0.325) | 0.254 |
| 137 | 11.42 | 0.63 | 0.361 | 0.106 | ( 0.325) | 0.255 |
| 138 | 11.50 | 0.63 | 0.361 | 0.106 | ( 0.325) | 0.255 |
| 139 | 11.58 | 0.57 | 0.323 | 0.105 | ( 0.291) | 0.218 |
| 140 | 11.67 | 0.57 | 0.323 | 0.105 | ( 0.291) | 0.218 |
| 141 | 11.75 | 0.57 | 0.323 | 0.104 | ( 0.291) | 0.219 |
| 142 | 11.83 | 0.60 | 0.342 | 0.104 | ( 0.308) | 0.238 |
| 143 | 11.92 | 0.60 | 0.342 | 0.103 | ( 0.308) | 0.239 |
| 144 | 12.00 | 0.60 | 0.342 | 0.103 | ( 0.308) | 0.239 |
| 145 | 12.08 | 0.83 | 0.475 | 0.102 | ( 0.427) | 0.373 |
| 146 | 12.17 | 0.83 | 0.475 | 0.102 | ( 0.427) | 0.373 |
| 147 | 12.25 | 0.83 | 0.475 | 0.101 | ( 0.427) | 0.374 |
| 148 | 12.33 | 0.87 | 0.494 | 0.101 | ( 0.445) | 0.393 |
| 149 | 12.42 | 0.87 | 0.494 | 0.100 | ( 0.445) | 0.394 |
| 150 | 12.50 | 0.87 | 0.494 | 0.100 | ( 0.445) | 0.394 |
| 151 | 12.58 | 0.93 | 0.532 | 0.099 | ( 0.479) | 0.433 |
| 152 | 12.67 | 0.93 | 0.532 | 0.099 | ( 0.479) | 0.433 |
| 153 | 12.75 | 0.93 | 0.532 | 0.098 | ( 0.479) | 0.434 |
| 154 | 12.83 | 0.97 | 0.551 | 0.098 | ( 0.496) | 0.453 |
| 155 | 12.92 | 0.97 | 0.551 | 0.097 | ( 0.496) | 0.454 |
| 156 | 13.00 | 0.97 | 0.551 | 0.097 | ( 0.496) | 0.454 |
| 157 | 13.08 | 1.13 | 0.646 | 0.096 | ( 0.581) | 0.550 |
| 158 | 13.17 | 1.13 | 0.646 | 0.096 | ( 0.581) | 0.550 |
| 159 | 13.25 | 1.13 | 0.646 | 0.095 | ( 0.581) | 0.551 |
| 160 | 13.33 | 1.13 | 0.646 | 0.095 | ( 0.581) | 0.551 |
| 161 | 13.42 | 1.13 | 0.646 | 0.094 | ( 0.581) | 0.552 |
| 162 | 13.50 | 1.13 | 0.646 | 0.094 | ( 0.581) | 0.552 |
| 163 | 13.58 | 0.77 | 0.437 | 0.093 | ( 0.393) | 0.344 |
| 164 | 13.67 | 0.77 | 0.437 | 0.093 | ( 0.393) | 0.344 |
| 165 | 13.75 | 0.77 | 0.437 | 0.092 | ( 0.393) | 0.345 |
| 166 | 13.83 | 0.77 | 0.437 | 0.092 | ( 0.393) | 0.345 |
| 167 | 13.92 | 0.77 | 0.437 | 0.091 | ( 0.393) | 0.346 |
| 168 | 14.00 | 0.77 | 0.437 | 0.091 | ( 0.393) | 0.346 |
| 169 | 14.08 | 0.90 | 0.513 | 0.090 | ( 0.462) | 0.423 |
| 170 | 14.17 | 0.90 | 0.513 | 0.090 | ( 0.462) | 0.423 |
| 171 | 14.25 | 0.90 | 0.513 | 0.089 | ( 0.462) | 0.424 |
| 172 | 14.33 | 0.87 | 0.494 | 0.089 | ( 0.445) | 0.405 |
| 173 | 14.42 | 0.87 | 0.494 | 0.089 | ( 0.445) | 0.405 |
| 174 | 14.50 | 0.87 | 0.494 | 0.088 | ( 0.445) | 0.406 |
| 175 | 14.58 | 0.87 | 0.494 | 0.088 | ( 0.445) | 0.406 |
| 176 | 14.67 | 0.87 | 0.494 | 0.087 | ( 0.445) | 0.407 |
| 177 | 14.75 | 0.87 | 0.494 | 0.087 | ( 0.445) | 0.407 |
| 178 | 14.83 | 0.83 | 0.475 | 0.086 | ( 0.427) | 0.389 |
| 179 | 14.92 | 0.83 | 0.475 | 0.086 | ( 0.427) | 0.389 |
| 180 | 15.00 | 0.83 | 0.475 | 0.085 | ( 0.427) | 0.390 |
| 181 | 15.08 | 0.80 | 0.456 | 0.085 | ( 0.410) | 0.371 |
| 182 | 15.17 | 0.80 | 0.456 | 0.085 | ( 0.410) | 0.371 |
| 183 | 15.25 | 0.80 | 0.456 | 0.084 | ( 0.410) | 0.372 |
| 184 | 15.33 | 0.77 | 0.437 | 0.084 | ( 0.393) | 0.353 |
| 185 | 15.42 | 0.77 | 0.437 | 0.083 | ( 0.393) | 0.354 |
| 186 | 15.50 | 0.77 | 0.437 | 0.083 | ( 0.393) | 0.354 |
| 187 | 15.58 | 0.63 | 0.361 | 0.082 | ( 0.325) | 0.279 |
| 188 | 15.67 | 0.63 | 0.361 | 0.082 | ( 0.325) | 0.279 |
| 189 | 15.75 | 0.63 | 0.361 | 0.082 | ( 0.325) | 0.279 |
| 190 | 15.83 | 0.63 | 0.361 | 0.081 | ( 0.325) | 0.280 |
| 191 | 15.92 | 0.63 | 0.361 | 0.081 | ( 0.325) | 0.280 |
| 192 | 16.00 | 0.63 | 0.361 | 0.080 | ( 0.325) | 0.281 |
| 193 | 16.08 | 0.13 | 0.076 | ( 0.080) | 0.068 | 0.008 |
| 194 | 16.17 | 0.13 | 0.076 | ( 0.079) | 0.068 | 0.008 |
| 195 | 16.25 | 0.13 | 0.076 | ( 0.079) | 0.068 | 0.008 |
| 196 | 16.33 | 0.13 | 0.076 | ( 0.079) | 0.068 | 0.008 |
| 197 | 16.42 | 0.13 | 0.076 | ( 0.078) | 0.068 | 0.008 |
| 198 | 16.50 | 0.13 | 0.076 | ( 0.078) | 0.068 | 0.008 |
| 199 | 16.58 | 0.10 | 0.057 | ( 0.077) | 0.051 | 0.006 |
| 200 | 16.67 | 0.10 | 0.057 | ( 0.077) | 0.051 | 0.006 |
| 201 | 16.75 | 0.10 | 0.057 | ( 0.077) | 0.051 | 0.006 |
| 202 | 16.83 | 0.10 | 0.057 | ( 0.076) | 0.051 | 0.006 |
| 203 | 16.92 | 0.10 | 0.057 | ( 0.076) | 0.051 | 0.006 |
| 204 | 17.00 | 0.10 | 0.057 | ( 0.076) | 0.051 | 0.006 |
| 205 | 17.08 | 0.17 | 0.095 | 0.075 | ( 0.085) | 0.020 |
| 206 | 17.17 | 0.17 | 0.095 | 0.075 | ( 0.085) | 0.020 |
| 207 | 17.25 | 0.17 | 0.095 | 0.074 | ( 0.085) | 0.021 |
| 208 | 17.33 | 0.17 | 0.095 | 0.074 | ( 0.085) | 0.021 |
| 209 | 17.42 | 0.17 | 0.095 | 0.074 | ( 0.085) | 0.021 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 210 | 17.50 | 0.17 | 0.095 | | 0.073 | ( | 0.085) | 0.022 |
| 211 | 17.58 | 0.17 | 0.095 | | 0.073 | ( | 0.085) | 0.022 |
| 212 | 17.67 | 0.17 | 0.095 | | 0.073 | ( | 0.085) | 0.022 |
| 213 | 17.75 | 0.17 | 0.095 | | 0.072 | ( | 0.085) | 0.023 |
| 214 | 17.83 | 0.13 | 0.076 | ( | 0.072) | | 0.068 | 0.008 |
| 215 | 17.92 | 0.13 | 0.076 | ( | 0.071) | | 0.068 | 0.008 |
| 216 | 18.00 | 0.13 | 0.076 | ( | 0.071) | | 0.068 | 0.008 |
| 217 | 18.08 | 0.13 | 0.076 | ( | 0.071) | | 0.068 | 0.008 |
| 218 | 18.17 | 0.13 | 0.076 | ( | 0.070) | | 0.068 | 0.008 |
| 219 | 18.25 | 0.13 | 0.076 | ( | 0.070) | | 0.068 | 0.008 |
| 220 | 18.33 | 0.13 | 0.076 | ( | 0.070) | | 0.068 | 0.008 |
| 221 | 18.42 | 0.13 | 0.076 | ( | 0.069) | | 0.068 | 0.008 |
| 222 | 18.50 | 0.13 | 0.076 | ( | 0.069) | | 0.068 | 0.008 |
| 223 | 18.58 | 0.10 | 0.057 | ( | 0.069) | | 0.051 | 0.006 |
| 224 | 18.67 | 0.10 | 0.057 | ( | 0.068) | | 0.051 | 0.006 |
| 225 | 18.75 | 0.10 | 0.057 | ( | 0.068) | | 0.051 | 0.006 |
| 226 | 18.83 | 0.07 | 0.038 | ( | 0.068) | | 0.034 | 0.004 |
| 227 | 18.92 | 0.07 | 0.038 | ( | 0.067) | | 0.034 | 0.004 |
| 228 | 19.00 | 0.07 | 0.038 | ( | 0.067) | | 0.034 | 0.004 |
| 229 | 19.08 | 0.10 | 0.057 | ( | 0.067) | | 0.051 | 0.006 |
| 230 | 19.17 | 0.10 | 0.057 | ( | 0.066) | | 0.051 | 0.006 |
| 231 | 19.25 | 0.10 | 0.057 | ( | 0.066) | | 0.051 | 0.006 |
| 232 | 19.33 | 0.13 | 0.076 | | 0.066 | ( | 0.068) | 0.010 |
| 233 | 19.42 | 0.13 | 0.076 | | 0.066 | ( | 0.068) | 0.010 |
| 234 | 19.50 | 0.13 | 0.076 | | 0.065 | ( | 0.068) | 0.011 |
| 235 | 19.58 | 0.10 | 0.057 | ( | 0.065) | | 0.051 | 0.006 |
| 236 | 19.67 | 0.10 | 0.057 | ( | 0.065) | | 0.051 | 0.006 |
| 237 | 19.75 | 0.10 | 0.057 | ( | 0.064) | | 0.051 | 0.006 |
| 238 | 19.83 | 0.07 | 0.038 | ( | 0.064) | | 0.034 | 0.004 |
| 239 | 19.92 | 0.07 | 0.038 | ( | 0.064) | | 0.034 | 0.004 |
| 240 | 20.00 | 0.07 | 0.038 | ( | 0.064) | | 0.034 | 0.004 |
| 241 | 20.08 | 0.10 | 0.057 | ( | 0.063) | | 0.051 | 0.006 |
| 242 | 20.17 | 0.10 | 0.057 | ( | 0.063) | | 0.051 | 0.006 |
| 243 | 20.25 | 0.10 | 0.057 | ( | 0.063) | | 0.051 | 0.006 |
| 244 | 20.33 | 0.10 | 0.057 | ( | 0.062) | | 0.051 | 0.006 |
| 245 | 20.42 | 0.10 | 0.057 | ( | 0.062) | | 0.051 | 0.006 |
| 246 | 20.50 | 0.10 | 0.057 | ( | 0.062) | | 0.051 | 0.006 |
| 247 | 20.58 | 0.10 | 0.057 | ( | 0.062) | | 0.051 | 0.006 |
| 248 | 20.67 | 0.10 | 0.057 | ( | 0.061) | | 0.051 | 0.006 |
| 249 | 20.75 | 0.10 | 0.057 | ( | 0.061) | | 0.051 | 0.006 |
| 250 | 20.83 | 0.07 | 0.038 | ( | 0.061) | | 0.034 | 0.004 |
| 251 | 20.92 | 0.07 | 0.038 | ( | 0.061) | | 0.034 | 0.004 |
| 252 | 21.00 | 0.07 | 0.038 | ( | 0.060) | | 0.034 | 0.004 |
| 253 | 21.08 | 0.10 | 0.057 | ( | 0.060) | | 0.051 | 0.006 |
| 254 | 21.17 | 0.10 | 0.057 | ( | 0.060) | | 0.051 | 0.006 |
| 255 | 21.25 | 0.10 | 0.057 | ( | 0.060) | | 0.051 | 0.006 |
| 256 | 21.33 | 0.07 | 0.038 | ( | 0.059) | | 0.034 | 0.004 |
| 257 | 21.42 | 0.07 | 0.038 | ( | 0.059) | | 0.034 | 0.004 |
| 258 | 21.50 | 0.07 | 0.038 | ( | 0.059) | | 0.034 | 0.004 |
| 259 | 21.58 | 0.10 | 0.057 | ( | 0.059) | | 0.051 | 0.006 |
| 260 | 21.67 | 0.10 | 0.057 | ( | 0.059) | | 0.051 | 0.006 |
| 261 | 21.75 | 0.10 | 0.057 | ( | 0.058) | | 0.051 | 0.006 |
| 262 | 21.83 | 0.07 | 0.038 | ( | 0.058) | | 0.034 | 0.004 |
| 263 | 21.92 | 0.07 | 0.038 | ( | 0.058) | | 0.034 | 0.004 |
| 264 | 22.00 | 0.07 | 0.038 | ( | 0.058) | | 0.034 | 0.004 |
| 265 | 22.08 | 0.10 | 0.057 | ( | 0.058) | | 0.051 | 0.006 |
| 266 | 22.17 | 0.10 | 0.057 | ( | 0.057) | | 0.051 | 0.006 |
| 267 | 22.25 | 0.10 | 0.057 | ( | 0.057) | | 0.051 | 0.006 |
| 268 | 22.33 | 0.07 | 0.038 | ( | 0.057) | | 0.034 | 0.004 |
| 269 | 22.42 | 0.07 | 0.038 | ( | 0.057) | | 0.034 | 0.004 |
| 270 | 22.50 | 0.07 | 0.038 | ( | 0.057) | | 0.034 | 0.004 |
| 271 | 22.58 | 0.07 | 0.038 | ( | 0.056) | | 0.034 | 0.004 |
| 272 | 22.67 | 0.07 | 0.038 | ( | 0.056) | | 0.034 | 0.004 |
| 273 | 22.75 | 0.07 | 0.038 | ( | 0.056) | | 0.034 | 0.004 |
| 274 | 22.83 | 0.07 | 0.038 | ( | 0.056) | | 0.034 | 0.004 |
| 275 | 22.92 | 0.07 | 0.038 | ( | 0.056) | | 0.034 | 0.004 |
| 276 | 23.00 | 0.07 | 0.038 | ( | 0.056) | | 0.034 | 0.004 |
| 277 | 23.08 | 0.07 | 0.038 | ( | 0.056) | | 0.034 | 0.004 |
| 278 | 23.17 | 0.07 | 0.038 | ( | 0.056) | | 0.034 | 0.004 |
| 279 | 23.25 | 0.07 | 0.038 | ( | 0.055) | | 0.034 | 0.004 |
| 280 | 23.33 | 0.07 | 0.038 | ( | 0.055) | | 0.034 | 0.004 |
| 281 | 23.42 | 0.07 | 0.038 | ( | 0.055) | | 0.034 | 0.004 |
| 282 | 23.50 | 0.07 | 0.038 | ( | 0.055) | | 0.034 | 0.004 |
| 283 | 23.58 | 0.07 | 0.038 | ( | 0.055) | | 0.034 | 0.004 |
| 284 | 23.67 | 0.07 | 0.038 | ( | 0.055) | | 0.034 | 0.004 |
| 285 | 23.75 | 0.07 | 0.038 | ( | 0.055) | | 0.034 | 0.004 |
| 286 | 23.83 | 0.07 | 0.038 | ( | 0.055) | | 0.034 | 0.004 |
| 287 | 23.92 | 0.07 | 0.038 | ( | 0.055) | | 0.034 | 0.004 |

288 24.00 0.07 0.038 ( 0.055) 0.034 0.004
(Loss Rate Not Used)
Sum = 100.0 Sum = 32.8
Flood volume = Effective rainfall 2.73(In)
times area 2.7(Ac.)/[(In)/(Ft.)] = 0.6(Ac.Ft)
Total soil loss = 2.02(In)
Total soil loss = 0.454(Ac.Ft)
Total rainfall = 4.75(In)
Flood volume = 26797.6 Cubic Feet
Total soil loss = 19756.9 Cubic Feet

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Peak flow rate of this hydrograph = 1.503(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0000 | 0.01 | Q | | | | |
| 0+10 | 0.0001 | 0.01 | Q | | | | |
| 0+15 | 0.0002 | 0.01 | Q | | | | |
| 0+20 | 0.0003 | 0.01 | Q | | | | |
| 0+25 | 0.0004 | 0.02 | Q | | | | |
| 0+30 | 0.0005 | 0.02 | Q | | | | |
| 0+35 | 0.0006 | 0.02 | Q | | | | |
| 0+40 | 0.0007 | 0.02 | Q | | | | |
| 0+45 | 0.0008 | 0.02 | Q | | | | |
| 0+50 | 0.0009 | 0.02 | Q | | | | |
| 0+55 | 0.0011 | 0.02 | Q | | | | |
| 1+ 0 | 0.0012 | 0.02 | Q | | | | |
| 1+ 5 | 0.0013 | 0.02 | Q | | | | |
| 1+10 | 0.0015 | 0.02 | Q | | | | |
| 1+15 | 0.0016 | 0.02 | Q | | | | |
| 1+20 | 0.0017 | 0.02 | Q | | | | |
| 1+25 | 0.0018 | 0.02 | Q | | | | |
| 1+30 | 0.0019 | 0.02 | Q | | | | |
| 1+35 | 0.0020 | 0.02 | Q | | | | |
| 1+40 | 0.0021 | 0.02 | Q | | | | |
| 1+45 | 0.0022 | 0.02 | Q | | | | |
| 1+50 | 0.0023 | 0.02 | Q | | | | |
| 1+55 | 0.0025 | 0.02 | Q | | | | |
| 2+ 0 | 0.0026 | 0.02 | Q | | | | |
| 2+ 5 | 0.0028 | 0.02 | Q | | | | |
| 2+10 | 0.0029 | 0.02 | Q | | | | |
| 2+15 | 0.0030 | 0.02 | Q | | | | |
| 2+20 | 0.0032 | 0.02 | Q | | | | |
| 2+25 | 0.0033 | 0.02 | Q | | | | |
| 2+30 | 0.0035 | 0.02 | Q | | | | |
| 2+35 | 0.0036 | 0.02 | Q | | | | |
| 2+40 | 0.0038 | 0.03 | Q | | | | |
| 2+45 | 0.0040 | 0.03 | Q | | | | |
| 2+50 | 0.0042 | 0.03 | Q | | | | |
| 2+55 | 0.0043 | 0.03 | Q | | | | |
| 3+ 0 | 0.0045 | 0.03 | Q | | | | |
| 3+ 5 | 0.0047 | 0.03 | Q | | | | |
| 3+10 | 0.0049 | 0.03 | Q | | | | |
| 3+15 | 0.0051 | 0.03 | Q | | | | |
| 3+20 | 0.0052 | 0.03 | Q | | | | |
| 3+25 | 0.0054 | 0.03 | Q | | | | |
| 3+30 | 0.0056 | 0.03 | Q | | | | |
| 3+35 | 0.0058 | 0.03 | Q | | | | |
| 3+40 | 0.0059 | 0.03 | Q | | | | |
| 3+45 | 0.0061 | 0.03 | Q | | | | |
| 3+50 | 0.0063 | 0.03 | Q | | | | |
| 3+55 | 0.0065 | 0.03 | Q | | | | |
| 4+ 0 | 0.0068 | 0.03 | Q | | | | |
| 4+ 5 | 0.0070 | 0.03 | Q | | | | |
| 4+10 | 0.0072 | 0.03 | Q | | | | |
| 4+15 | 0.0074 | 0.03 | Q | | | | |
| 4+20 | 0.0076 | 0.03 | Q | | | | |
| 4+25 | 0.0079 | 0.04 | Q | | | | |
| 4+30 | 0.0081 | 0.04 | Q | | | | |
| 4+35 | 0.0084 | 0.04 | Q | | | | |
| 4+40 | 0.0086 | 0.04 | Q | | | | |

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 4+45       0.0089      0.04  Q          |          |          |          |
 4+50       0.0091      0.04  Q          |          |          |          |
 4+55       0.0094      0.04  Q          |          |          |          |
 5+ 0       0.0097      0.04  Q          |          |          |          |
 5+ 5       0.0100      0.04  Q          |          |          |          |
 5+10       0.0102      0.03  Q          |          |          |          |
 5+15       0.0104      0.03  Q          |          |          |          |
 5+20       0.0106      0.03  Q          |          |          |          |
 5+25       0.0109      0.04  Q          |          |          |          |
 5+30       0.0111      0.04  Q          |          |          |          |
 5+35       0.0114      0.04  Q          |          |          |          |
 5+40       0.0117      0.04  Q          |          |          |          |
 5+45       0.0120      0.04  Q          |          |          |          |
 5+50       0.0122      0.04  Q          |          |          |          |
 5+55       0.0125      0.04  Q          |          |          |          |
 6+ 0       0.0128      0.04  Q          |          |          |          |
 6+ 5       0.0132      0.06  Q          |          |          |          |
 6+10       0.0138      0.07  Q          |          |          |          |
 6+15       0.0143      0.08  Q          |          |          |          |
 6+20       0.0148      0.08  Q          |          |          |          |
 6+25       0.0154      0.08  QV         |          |          |          |
 6+30       0.0159      0.08  QV         |          |          |          |
 6+35       0.0167      0.12  QV         |          |          |          |
 6+40       0.0177      0.14  QV         |          |          |          |
 6+45       0.0186      0.14  QV         |          |          |          |
 6+50       0.0196      0.14  QV         |          |          |          |
 6+55       0.0206      0.14  QV         |          |          |          |
 7+ 0       0.0216      0.14  QV         |          |          |          |
 7+ 5       0.0226      0.15  QV         |          |          |          |
 7+10       0.0236      0.15  QV         |          |          |          |
 7+15       0.0246      0.15  QV         |          |          |          |
 7+20       0.0259      0.18  QV         |          |          |          |
 7+25       0.0273      0.20  QV         |          |          |          |
 7+30       0.0287      0.21  QV         |          |          |          |
 7+35       0.0304      0.24  QV         |          |          |          |
 7+40       0.0322      0.26  |QV         |          |          |          |
 7+45       0.0340      0.26  |QV         |          |          |          |
 7+50       0.0360      0.30  |QV         |          |          |          |
 7+55       0.0382      0.32  |QV         |          |          |          |
 8+ 0       0.0404      0.32  |QV         |          |          |          |
 8+ 5       0.0430      0.38  |QV         |          |          |          |
 8+10       0.0460      0.42  |QV         |          |          |          |
 8+15       0.0489      0.43  |Q V        |          |          |          |
 8+20       0.0519      0.43  |Q V        |          |          |          |
 8+25       0.0548      0.43  |Q V        |          |          |          |
 8+30       0.0578      0.43  |Q V        |          |          |          |
 8+35       0.0610      0.47  |Q V        |          |          |          |
 8+40       0.0644      0.49  |Q  V       |          |          |          |
 8+45       0.0677      0.49  |Q  V       |          |          |          |
 8+50       0.0713      0.52  | Q V       |          |          |          |
 8+55       0.0751      0.54  | Q V       |          |          |          |
 9+ 0       0.0788      0.55  | Q  V      |          |          |          |
 9+ 5       0.0830      0.61  | Q  V      |          |          |          |
 9+10       0.0875      0.65  | Q  V      |          |          |          |
 9+15       0.0920      0.65  | Q  V      |          |          |          |
 9+20       0.0968      0.69  | Q   V     |          |          |          |
 9+25       0.1016      0.71  | Q   V     |          |          |          |
 9+30       0.1065      0.71  | Q   V     |          |          |          |
 9+35       0.1116      0.74  | Q    V    |          |          |          |
 9+40       0.1169      0.76  |  Q   V    |          |          |          |
 9+45       0.1222      0.77  |  Q   V    |          |          |          |
 9+50       0.1277      0.80  |  Q    V   |          |          |          |
 9+55       0.1334      0.82  |  Q    V   |          |          |          |
10+ 0       0.1390      0.82  |  Q     V  |          |          |          |
10+ 5       0.1432      0.60  | Q      V  |          |          |          |
10+10       0.1464      0.47  |Q       V  |          |          |          |
10+15       0.1496      0.47  |Q       V  |          |          |          |
10+20       0.1528      0.47  |Q       V  |          |          |          |
10+25       0.1561      0.47  |Q        V |          |          |          |
10+30       0.1593      0.47  |Q        V |          |          |          |
10+35       0.1636      0.63  | Q       V |          |          |          |
10+40       0.1686      0.73  | Q       V |          |          |          |
10+45       0.1737      0.73  | Q       |V |          |          |          |
10+50       0.1787      0.73  | Q       |V |          |          |          |
10+55       0.1838      0.74  | Q       |V |          |          |          |
11+ 0       0.1889      0.74  | Q       | V|          |          |          |
11+ 5       0.1938      0.71  | Q       | V|          |          |          |
11+10       0.1985      0.69  | Q       | V|          |          |          |
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11+15       0.2033      0.69  | Q       |  V      |         |         |
11+20       0.2080      0.69  | Q       |  V      |         |         |
11+25       0.2128      0.69  | Q       |  V      |         |         |
11+30       0.2176      0.69  | Q       |   V     |         |         |
11+35       0.2219      0.63  | Q       |   V     |         |         |
11+40       0.2260      0.60  | Q       |   V     |         |         |
11+45       0.2301      0.60  | Q       |   V     |         |         |
11+50       0.2345      0.63  | Q       |    V    |         |         |
11+55       0.2389      0.65  | Q       |    V    |         |         |
12+ 0       0.2434      0.65  | Q       |    V    |         |         |
12+ 5       0.2494      0.87  |  Q      |     V   |         |         |
12+10       0.2564      1.01  |   Q     |     V   |         |         |
12+15       0.2634      1.02  |   Q     |      V  |         |         |
12+20       0.2706      1.05  |   Q     |      V  |         |         |
12+25       0.2780      1.07  |   Q     |       V |         |         |
12+30       0.2854      1.07  |   Q     |       V |         |         |
12+35       0.2932      1.14  |   Q     |        V|         |         |
12+40       0.3014      1.18  |   Q     |        V|         |         |
12+45       0.3095      1.18  |   Q     |         V         |         |
12+50       0.3178      1.21  |   Q     |         V         |         |
12+55       0.3264      1.23  |   Q     |          V        |         |
13+ 0       0.3349      1.24  |   Q     |          V        |         |
13+ 5       0.3445      1.40  |    Q    |           V       |         |
13+10       0.3548      1.49  |    Q    |            V      |         |
13+15       0.3651      1.50  |    Q    |            V      |         |
13+20       0.3754      1.50  |     Q   |             V     |         |
13+25       0.3858      1.50  |     Q   |              V    |         |
13+30       0.3961      1.50  |     Q   |              V    |         |
13+35       0.4041      1.16  |   Q     |               V   |         |
13+40       0.4106      0.94  |  Q      |               V   |         |
13+45       0.4171      0.94  |  Q      |                V  |         |
13+50       0.4235      0.94  |  Q      |                V  |         |
13+55       0.4300      0.94  |  Q      |                V  |         |
14+ 0       0.4365      0.94  |  Q      |                 V |         |
14+ 5       0.4439      1.07  |   Q     |                 V |         |
14+10       0.4518      1.15  |   Q     |                  V|         |
14+15       0.4597      1.15  |   Q     |                  V|         |
14+20       0.4674      1.12  |   Q     |                   V         |
14+25       0.4750      1.10  |   Q     |                   V         |
14+30       0.4827      1.10  |   Q     |                    V        |
14+35       0.4903      1.11  |   Q     |                    V        |
14+40       0.4979      1.11  |   Q     |                     V       |
14+45       0.5055      1.11  |   Q     |                     V       |
14+50       0.5130      1.08  |   Q     |                      V      |
14+55       0.5203      1.06  |   Q     |                      V      |
15+ 0       0.5276      1.06  |   Q     |                       V     |
15+ 5       0.5346      1.03  |   Q     |                       V     |
15+10       0.5416      1.01  |   Q     |                        V    |
15+15       0.5486      1.01  |   Q     |                        V    |
15+20       0.5553      0.98  |  Q      |                         V   |
15+25       0.5620      0.96  |  Q      |                         V   |
15+30       0.5686      0.96  |  Q      |                         V   |
15+35       0.5744      0.84  |  Q      |                          V  |
15+40       0.5796      0.76  |  Q      |                          V  |
15+45       0.5849      0.76  |  Q      |                           V |
15+50       0.5901      0.76  |  Q      |                           V |
15+55       0.5954      0.76  |  Q      |                           V |
16+ 0       0.6006      0.76  |  Q      |                            V|
16+ 5       0.6028      0.31  |Q        |                            V|
16+10       0.6030      0.03  Q         |                            V|
16+15       0.6031      0.02  Q         |                            V|
16+20       0.6033      0.02  Q         |                            V|
16+25       0.6034      0.02  Q         |                            V|
16+30       0.6036      0.02  Q         |                            V|
16+35       0.6037      0.02  Q         |                            V|
16+40       0.6038      0.02  Q         |                            V|
16+45       0.6039      0.02  Q         |                            V|
16+50       0.6040      0.02  Q         |                            V|
16+55       0.6041      0.02  Q         |                            V|
17+ 0       0.6042      0.02  Q         |                            V|
17+ 5       0.6045      0.04  Q         |                            V|
17+10       0.6049      0.05  Q         |                            V|
17+15       0.6052      0.06  Q         |                            V|
17+20       0.6056      0.06  Q         |                            V|
17+25       0.6060      0.06  Q         |                            V|
17+30       0.6064      0.06  Q         |                            V|
17+35       0.6069      0.06  Q         |                            V|
17+40       0.6073      0.06  Q         |                            V|
```

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+45 | 0.6077 | 0.06 | Q | \| | \| | \| | V\| |
| 17+50 | 0.6079 | 0.04 | Q | \| | \| | \| | V\| |
| 17+55 | 0.6081 | 0.02 | Q | \| | \| | \| | V\| |
| 18+ 0 | 0.6082 | 0.02 | Q | \| | \| | \| | V\| |
| 18+ 5 | 0.6084 | 0.02 | Q | \| | \| | \| | V\| |
| 18+10 | 0.6085 | 0.02 | Q | \| | \| | \| | V\| |
| 18+15 | 0.6087 | 0.02 | Q | \| | \| | \| | V\| |
| 18+20 | 0.6088 | 0.02 | Q | \| | \| | \| | V\| |
| 18+25 | 0.6089 | 0.02 | Q | \| | \| | \| | V\| |
| 18+30 | 0.6091 | 0.02 | Q | \| | \| | \| | V\| |
| 18+35 | 0.6092 | 0.02 | Q | \| | \| | \| | V\| |
| 18+40 | 0.6093 | 0.02 | Q | \| | \| | \| | V\| |
| 18+45 | 0.6094 | 0.02 | Q | \| | \| | \| | V\| |
| 18+50 | 0.6095 | 0.01 | Q | \| | \| | \| | V\| |
| 18+55 | 0.6096 | 0.01 | Q | \| | \| | \| | V\| |
| 19+ 0 | 0.6097 | 0.01 | Q | \| | \| | \| | V\| |
| 19+ 5 | 0.6097 | 0.01 | Q | \| | \| | \| | V\| |
| 19+10 | 0.6099 | 0.02 | Q | \| | \| | \| | V\| |
| 19+15 | 0.6100 | 0.02 | Q | \| | \| | \| | V\| |
| 19+20 | 0.6101 | 0.02 | Q | \| | \| | \| | V\| |
| 19+25 | 0.6103 | 0.03 | Q | \| | \| | \| | V\| |
| 19+30 | 0.6105 | 0.03 | Q | \| | \| | \| | V\| |
| 19+35 | 0.6107 | 0.02 | Q | \| | \| | \| | V\| |
| 19+40 | 0.6108 | 0.02 | Q | \| | \| | \| | V\| |
| 19+45 | 0.6109 | 0.02 | Q | \| | \| | \| | V\| |
| 19+50 | 0.6110 | 0.01 | Q | \| | \| | \| | V\| |
| 19+55 | 0.6110 | 0.01 | Q | \| | \| | \| | V\| |
| 20+ 0 | 0.6111 | 0.01 | Q | \| | \| | \| | V\| |
| 20+ 5 | 0.6112 | 0.01 | Q | \| | \| | \| | V\| |
| 20+10 | 0.6113 | 0.02 | Q | \| | \| | \| | V\| |
| 20+15 | 0.6114 | 0.02 | Q | \| | \| | \| | V\| |
| 20+20 | 0.6115 | 0.02 | Q | \| | \| | \| | V\| |
| 20+25 | 0.6116 | 0.02 | Q | \| | \| | \| | V\| |
| 20+30 | 0.6117 | 0.02 | Q | \| | \| | \| | V\| |
| 20+35 | 0.6118 | 0.02 | Q | \| | \| | \| | V\| |
| 20+40 | 0.6119 | 0.02 | Q | \| | \| | \| | V\| |
| 20+45 | 0.6120 | 0.02 | Q | \| | \| | \| | V\| |
| 20+50 | 0.6121 | 0.01 | Q | \| | \| | \| | V\| |
| 20+55 | 0.6122 | 0.01 | Q | \| | \| | \| | V\| |
| 21+ 0 | 0.6123 | 0.01 | Q | \| | \| | \| | V\| |
| 21+ 5 | 0.6124 | 0.01 | Q | \| | \| | \| | V\| |
| 21+10 | 0.6125 | 0.02 | Q | \| | \| | \| | V\| |
| 21+15 | 0.6126 | 0.02 | Q | \| | \| | \| | V\| |
| 21+20 | 0.6127 | 0.01 | Q | \| | \| | \| | V\| |
| 21+25 | 0.6127 | 0.01 | Q | \| | \| | \| | V\| |
| 21+30 | 0.6128 | 0.01 | Q | \| | \| | \| | V\| |
| 21+35 | 0.6129 | 0.01 | Q | \| | \| | \| | V\| |
| 21+40 | 0.6130 | 0.02 | Q | \| | \| | \| | V\| |
| 21+45 | 0.6131 | 0.02 | Q | \| | \| | \| | V\| |
| 21+50 | 0.6132 | 0.01 | Q | \| | \| | \| | V\| |
| 21+55 | 0.6133 | 0.01 | Q | \| | \| | \| | V\| |
| 22+ 0 | 0.6133 | 0.01 | Q | \| | \| | \| | V\| |
| 22+ 5 | 0.6134 | 0.01 | Q | \| | \| | \| | V\| |
| 22+10 | 0.6135 | 0.02 | Q | \| | \| | \| | V\| |
| 22+15 | 0.6136 | 0.02 | Q | \| | \| | \| | V\| |
| 22+20 | 0.6137 | 0.01 | Q | \| | \| | \| | V\| |
| 22+25 | 0.6138 | 0.01 | Q | \| | \| | \| | V\| |
| 22+30 | 0.6139 | 0.01 | Q | \| | \| | \| | V\| |
| 22+35 | 0.6139 | 0.01 | Q | \| | \| | \| | V\| |
| 22+40 | 0.6140 | 0.01 | Q | \| | \| | \| | V\| |
| 22+45 | 0.6141 | 0.01 | Q | \| | \| | \| | V\| |
| 22+50 | 0.6142 | 0.01 | Q | \| | \| | \| | V\| |
| 22+55 | 0.6142 | 0.01 | Q | \| | \| | \| | V\| |
| 23+ 0 | 0.6143 | 0.01 | Q | \| | \| | \| | V\| |
| 23+ 5 | 0.6144 | 0.01 | Q | \| | \| | \| | V\| |
| 23+10 | 0.6144 | 0.01 | Q | \| | \| | \| | V\| |
| 23+15 | 0.6145 | 0.01 | Q | \| | \| | \| | V\| |
| 23+20 | 0.6146 | 0.01 | Q | \| | \| | \| | V\| |
| 23+25 | 0.6147 | 0.01 | Q | \| | \| | \| | V\| |
| 23+30 | 0.6147 | 0.01 | Q | \| | \| | \| | V\| |
| 23+35 | 0.6148 | 0.01 | Q | \| | \| | \| | V\| |
| 23+40 | 0.6149 | 0.01 | Q | \| | \| | \| | V\| |
| 23+45 | 0.6149 | 0.01 | Q | \| | \| | \| | V\| |
| 23+50 | 0.6150 | 0.01 | Q | \| | \| | \| | V\| |
| 23+55 | 0.6151 | 0.01 | Q | \| | \| | \| | V\| |
| 24+ 0 | 0.6152 | 0.01 | Q | \| | \| | \| | V\| |
| 24+ 5 | 0.6152 | 0.00 | Q | \| | \| | \| | V\| |
| 24+10 | 0.6152 | 0.00 | Q | \| | \| | \| | V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX411100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 41
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.60(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.60(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 340.00(Ft.)
Length along longest watercourse measured to centroid = 159.00(Ft.)
Length along longest watercourse = 0.064 Mi.
Length along longest watercourse measured to centroid = 0.030 Mi.
Difference in elevation = 156.00(Ft.)
Slope along watercourse = 2422.5882 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.018 Hr.
Lag time = 1.07 Min.
25% of lag time = 0.27 Min.
40% of lag time = 0.43 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 0.50 | 0.30 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 1.20 | 0.72 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.600 | 84.00 | 0.000 |

Total Area Entered = 0.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

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| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 468.017 | 71.794 | 0.434 |
| 2 | 0.167 | 936.034 | 28.206 | 0.171 |
| | | Sum = 100.000 | Sum= | 0.605 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.086 | ( 0.544) | 0.519 |
| 2 | 0.17 | 4.30 | 0.619 | 0.086 | ( 0.557) | 0.533 |
| 3 | 0.25 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 4 | 0.33 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 5 | 0.42 | 5.80 | 0.835 | 0.086 | ( 0.752) | 0.749 |
| 6 | 0.50 | 6.50 | 0.936 | 0.086 | ( 0.842) | 0.850 |
| 7 | 0.58 | 7.40 | 1.066 | 0.086 | ( 0.959) | 0.980 |
| 8 | 0.67 | 8.60 | 1.238 | 0.086 | ( 1.115) | 1.153 |
| 9 | 0.75 | 12.30 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 10 | 0.83 | 29.10 | 4.190 | 0.086 | ( 3.771) | 4.105 |
| 11 | 0.92 | 6.80 | 0.979 | 0.086 | ( 0.881) | 0.893 |
| 12 | 1.00 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| | | (Loss Rate Not Used) | | | |
| Sum = | 100.0 | | | | Sum = 13.4 |

Flood volume = Effective rainfall 1.11(In)
times area 0.6(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.004(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 2426.7 Cubic Feet
Total soil loss = 186.9 Cubic Feet

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Peak flow rate of this hydrograph = 2.070(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0016 | 0.23 | QV | | | | |
| 0+10 | 0.0038 | 0.32 | \|QV | | | | |
| 0+15 | 0.0063 | 0.37 | \|Q V | | | | |
| 0+20 | 0.0089 | 0.38 | \|Q V | | | | |
| 0+25 | 0.0119 | 0.43 | \|Q V | | | | |
| 0+30 | 0.0153 | 0.50 | \|Q V | | | | |
| 0+35 | 0.0193 | 0.57 | \| Q V | | | | |
| 0+40 | 0.0239 | 0.67 | \| Q V | | | | |
| 0+45 | 0.0303 | 0.93 | \| Q V | | | | |
| 0+50 | 0.0445 | 2.07 | \| Q V | | | | |
| 0+55 | 0.0520 | 1.09 | \| Q V | | | | |
| 1+ 0 | 0.0550 | 0.43 | \|Q V | | | | |
| 1+ 5 | 0.0557 | 0.11 | Q V | | | | |

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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX413100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 41
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.60(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.60(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 340.00(Ft.)
Length along longest watercourse measured to centroid = 159.00(Ft.)
Length along longest watercourse = 0.064 Mi.
Length along longest watercourse measured to centroid = 0.030 Mi.
Difference in elevation = 156.00(Ft.)
Slope along watercourse = 2422.5882 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.018 Hr.
Lag time = 1.07 Min.
25% of lag time = 0.27 Min.
40% of lag time = 0.43 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 0.81 | 0.49 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 1.82 | 1.09 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.810(In)
Area Averaged 100-Year Rainfall = 1.820(In)

Point rain (area averaged) = 1.820(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.820(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.600 | 84.00 | 0.000 |

Total Area Entered = 0.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 468.017 | 71.794 | 0.434 |
| 2 0.167 | 936.034 | 28.206 | 0.171 |
| | | Sum = 100.000 Sum= | 0.605 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 1.30 | 0.284 | 0.086 | ( 0.256) | 0.198 |
| 2 0.17 | 1.30 | 0.284 | 0.086 | ( 0.256) | 0.198 |
| 3 0.25 | 1.10 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 4 0.33 | 1.50 | 0.328 | 0.086 | ( 0.295) | 0.242 |
| 5 0.42 | 1.50 | 0.328 | 0.086 | ( 0.295) | 0.242 |
| 6 0.50 | 1.80 | 0.393 | 0.086 | ( 0.354) | 0.307 |
| 7 0.58 | 1.50 | 0.328 | 0.086 | ( 0.295) | 0.242 |
| 8 0.67 | 1.80 | 0.393 | 0.086 | ( 0.354) | 0.307 |
| 9 0.75 | 1.80 | 0.393 | 0.086 | ( 0.354) | 0.307 |
| 10 0.83 | 1.50 | 0.328 | 0.086 | ( 0.295) | 0.242 |
| 11 0.92 | 1.60 | 0.349 | 0.086 | ( 0.314) | 0.264 |
| 12 1.00 | 1.80 | 0.393 | 0.086 | ( 0.354) | 0.307 |
| 13 1.08 | 2.20 | 0.480 | 0.086 | ( 0.432) | 0.395 |
| 14 1.17 | 2.20 | 0.480 | 0.086 | ( 0.432) | 0.395 |
| 15 1.25 | 2.20 | 0.480 | 0.086 | ( 0.432) | 0.395 |
| 16 1.33 | 2.00 | 0.437 | 0.086 | ( 0.393) | 0.351 |
| 17 1.42 | 2.60 | 0.568 | 0.086 | ( 0.511) | 0.482 |
| 18 1.50 | 2.70 | 0.590 | 0.086 | ( 0.531) | 0.504 |
| 19 1.58 | 2.40 | 0.524 | 0.086 | ( 0.472) | 0.438 |
| 20 1.67 | 2.70 | 0.590 | 0.086 | ( 0.531) | 0.504 |
| 21 1.75 | 3.30 | 0.721 | 0.086 | ( 0.649) | 0.635 |
| 22 1.83 | 3.10 | 0.677 | 0.086 | ( 0.609) | 0.591 |
| 23 1.92 | 2.90 | 0.633 | 0.086 | ( 0.570) | 0.548 |
| 24 2.00 | 3.00 | 0.655 | 0.086 | ( 0.590) | 0.569 |
| 25 2.08 | 3.10 | 0.677 | 0.086 | ( 0.609) | 0.591 |
| 26 2.17 | 4.20 | 0.917 | 0.086 | ( 0.826) | 0.831 |
| 27 2.25 | 5.00 | 1.092 | 0.086 | ( 0.983) | 1.006 |
| 28 2.33 | 3.50 | 0.764 | 0.086 | ( 0.688) | 0.679 |
| 29 2.42 | 6.80 | 1.485 | 0.086 | ( 1.337) | 1.399 |
| 30 2.50 | 7.30 | 1.594 | 0.086 | ( 1.435) | 1.509 |
| 31 2.58 | 8.20 | 1.791 | 0.086 | ( 1.612) | 1.705 |
| 32 2.67 | 5.90 | 1.289 | 0.086 | ( 1.160) | 1.203 |
| 33 2.75 | 2.00 | 0.437 | 0.086 | ( 0.393) | 0.351 |
| 34 2.83 | 1.80 | 0.393 | 0.086 | ( 0.354) | 0.307 |
| 35 2.92 | 1.80 | 0.393 | 0.086 | ( 0.354) | 0.307 |
| 36 3.00 | 0.60 | 0.131 | 0.086 | ( 0.118) | 0.045 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 18.8 |

Flood volume = Effective rainfall 1.56(In)
times area 0.6(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.013(Ac.Ft)
Total rainfall = 1.82(In)
Flood volume = 3403.3 Cubic Feet
Total soil loss = 560.6 Cubic Feet

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Peak flow rate of this hydrograph = 0.998(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0006 | 0.09 | Q | | | | |
| 0+10 | 0.0014 | 0.12 | Q | | | | |
| 0+15 | 0.0021 | 0.10 | QV | | | | |
| 0+20 | 0.0030 | 0.13 | QV | | | | |
| 0+25 | 0.0040 | 0.15 | Q V | | | | |
| 0+30 | 0.0052 | 0.17 | Q V | | | | |
| 0+35 | 0.0063 | 0.16 | Q V | | | | |
| 0+40 | 0.0075 | 0.17 | Q V | | | | |
| 0+45 | 0.0088 | 0.19 | Q V | | | | |
| 0+50 | 0.0099 | 0.16 | Q V | | | | |
| 0+55 | 0.0110 | 0.16 | Q V | | | | |
| 1+ 0 | 0.0122 | 0.18 | Q V | | | | |
| 1+ 5 | 0.0137 | 0.22 | Q V | | | | |
| 1+10 | 0.0154 | 0.24 | Q V | | | | |
| 1+15 | 0.0170 | 0.24 | Q V | | | | |
| 1+20 | 0.0185 | 0.22 | Q V | | | | |
| 1+25 | 0.0204 | 0.27 | Q V | | | | |
| 1+30 | 0.0225 | 0.30 | Q V | | | | |
| 1+35 | 0.0244 | 0.28 | Q V | | | | |
| 1+40 | 0.0264 | 0.29 | Q V | | | | |
| 1+45 | 0.0289 | 0.36 | Q V | | | | |
| 1+50 | 0.0314 | 0.37 | Q V | | | | |
| 1+55 | 0.0337 | 0.34 | Q V | | | | |
| 2+ 0 | 0.0361 | 0.34 | Q V | | | | |
| 2+ 5 | 0.0385 | 0.35 | Q V | | | | |
| 2+10 | 0.0417 | 0.46 | Q V | | | | |
| 2+15 | 0.0457 | 0.58 | Q V | | | | |
| 2+20 | 0.0489 | 0.47 | Q V | | | | |
| 2+25 | 0.0539 | 0.72 | Q V | | | | |
| 2+30 | 0.0600 | 0.89 | Q V | | | | |
| 2+35 | 0.0669 | 1.00 | Q V | | | | |
| 2+40 | 0.0725 | 0.81 | Q V | | | | |
| 2+45 | 0.0750 | 0.36 | Q V | | | | |
| 2+50 | 0.0763 | 0.19 | Q V | | | | |
| 2+55 | 0.0776 | 0.19 | Q V | | | | |
| 3+ 0 | 0.0781 | 0.07 | Q V | | | | |
| 3+ 5 | 0.0781 | 0.01 | Q V | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX416100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 41
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.60(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.60(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 340.00(Ft.)
Length along longest watercourse measured to centroid = 159.00(Ft.)
Length along longest watercourse = 0.064 Mi.
Length along longest watercourse measured to centroid = 0.030 Mi.
Difference in elevation = 156.00(Ft.)
Slope along watercourse = 2422.5882 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.018 Hr.
Lag time = 1.07 Min.
25% of lag time = 0.27 Min.
40% of lag time = 0.43 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 1.16 | 0.70 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 2.50 | 1.50 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.160(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.600 | 84.00 | 0.000 |

Total Area Entered = 0.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 468.017 | 71.794 | 0.434 |
| 2 0.167 | 936.034 | 28.206 | 0.171 |
| | | Sum = 100.000 Sum= | 0.605 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.086 | ( 0.135) | 0.064 |
| 2 | 0.17 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 3 | 0.25 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 4 | 0.33 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 5 | 0.42 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 6 | 0.50 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 7 | 0.58 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 8 | 0.67 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 9 | 0.75 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 10 | 0.83 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 11 | 0.92 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 12 | 1.00 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 13 | 1.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 14 | 1.17 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 15 | 1.25 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 16 | 1.33 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 17 | 1.42 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 18 | 1.50 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 19 | 1.58 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 20 | 1.67 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 21 | 1.75 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 22 | 1.83 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 23 | 1.92 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 24 | 2.00 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 25 | 2.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 26 | 2.17 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 27 | 2.25 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 28 | 2.33 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 29 | 2.42 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 30 | 2.50 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 31 | 2.58 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 32 | 2.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 33 | 2.75 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 34 | 2.83 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 35 | 2.92 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 36 | 3.00 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 37 | 3.08 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 38 | 3.17 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 39 | 3.25 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 40 | 3.33 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 41 | 3.42 | 1.20 | 0.360 | 0.086 | ( 0.324) | 0.274 |
| 42 | 3.50 | 1.30 | 0.390 | 0.086 | ( 0.351) | 0.304 |
| 43 | 3.58 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 44 | 3.67 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 45 | 3.75 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 46 | 3.83 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 47 | 3.92 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 48 | 4.00 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 49 | 4.08 | 1.70 | 0.510 | 0.086 | ( 0.459) | 0.424 |
| 50 | 4.17 | 1.80 | 0.540 | 0.086 | ( 0.486) | 0.454 |
| 51 | 4.25 | 1.90 | 0.570 | 0.086 | ( 0.513) | 0.484 |
| 52 | 4.33 | 2.00 | 0.600 | 0.086 | ( 0.540) | 0.514 |
| 53 | 4.42 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 |
| 54 | 4.50 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 55 | 4.58 | 2.20 | 0.660 | 0.086 | ( 0.594) | | 0.574 |
| 56 | 4.67 | 2.30 | 0.690 | 0.086 | ( 0.621) | | 0.604 |
| 57 | 4.75 | 2.40 | 0.720 | 0.086 | ( 0.648) | | 0.634 |
| 58 | 4.83 | 2.40 | 0.720 | 0.086 | ( 0.648) | | 0.634 |
| 59 | 4.92 | 2.50 | 0.750 | 0.086 | ( 0.675) | | 0.664 |
| 60 | 5.00 | 2.60 | 0.780 | 0.086 | ( 0.702) | | 0.694 |
| 61 | 5.08 | 3.10 | 0.930 | 0.086 | ( 0.837) | | 0.844 |
| 62 | 5.17 | 3.60 | 1.080 | 0.086 | ( 0.972) | | 0.994 |
| 63 | 5.25 | 3.90 | 1.170 | 0.086 | ( 1.053) | | 1.084 |
| 64 | 5.33 | 4.20 | 1.260 | 0.086 | ( 1.134) | | 1.174 |
| 65 | 5.42 | 4.70 | 1.410 | 0.086 | ( 1.269) | | 1.324 |
| 66 | 5.50 | 5.60 | 1.680 | 0.086 | ( 1.512) | | 1.594 |
| 67 | 5.58 | 1.90 | 0.570 | 0.086 | ( 0.513) | | 0.484 |
| 68 | 5.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | | 0.184 |
| 69 | 5.75 | 0.60 | 0.180 | 0.086 | ( 0.162) | | 0.094 |
| 70 | 5.83 | 0.50 | 0.150 | 0.086 | ( 0.135) | | 0.064 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.086) | 0.081 | | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.086) | 0.054 | | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.9

Flood volume = Effective rainfall 1.99(In)
times area 0.6(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.51(In)
Total soil loss = 0.026(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 4330.4 Cubic Feet
Total soil loss = 1114.6 Cubic Feet

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Peak flow rate of this hydrograph = 0.918(CFS)

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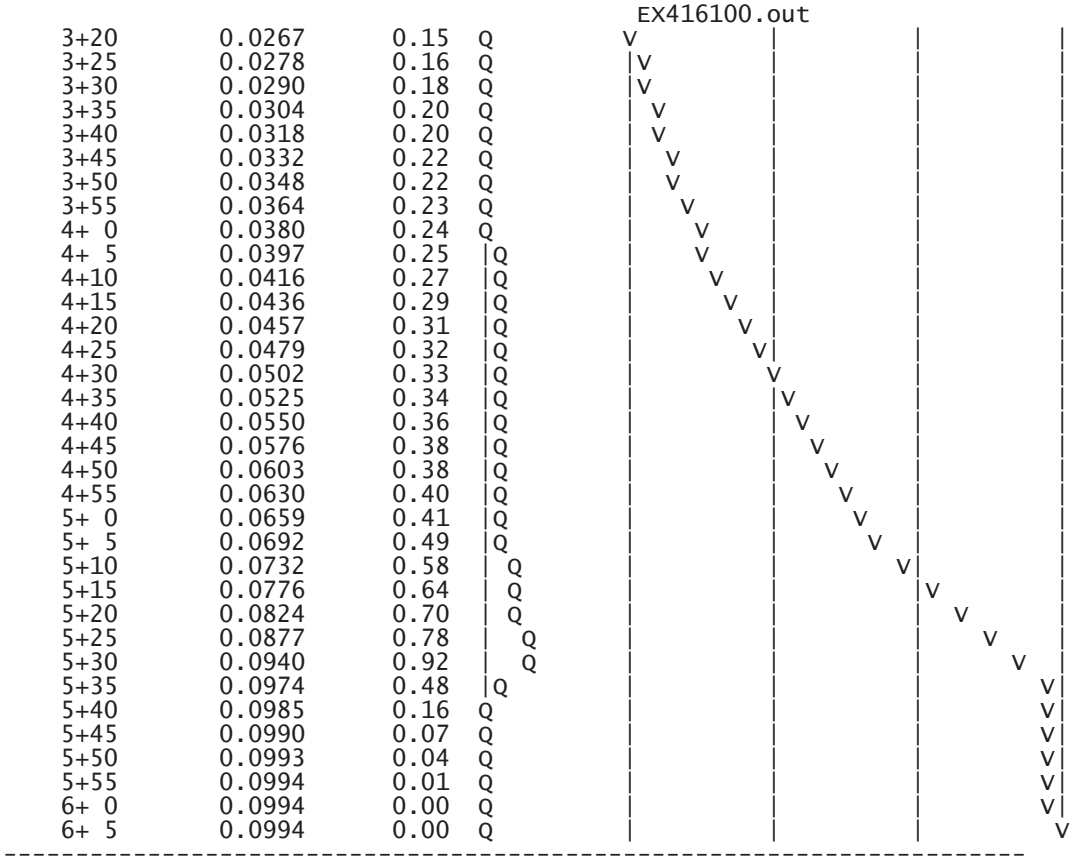
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

---

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0002 | 0.03 | Q | \| | \| | \| | \| |
| 0+10 | 0.0005 | 0.05 | Q | \| | \| | \| | \| |
| 0+15 | 0.0009 | 0.06 | Q | \| | \| | \| | \| |
| 0+20 | 0.0013 | 0.06 | Q | \| | \| | \| | \| |
| 0+25 | 0.0017 | 0.06 | Q | \| | \| | \| | \| |
| 0+30 | 0.0022 | 0.07 | Q | \| | \| | \| | \| |
| 0+35 | 0.0027 | 0.08 | QV | \| | \| | \| | \| |
| 0+40 | 0.0032 | 0.08 | QV | \| | \| | \| | \| |
| 0+45 | 0.0038 | 0.08 | QV | \| | \| | \| | \| |
| 0+50 | 0.0043 | 0.08 | QV | \| | \| | \| | \| |
| 0+55 | 0.0048 | 0.08 | QV | \| | \| | \| | \| |
| 1+ 0 | 0.0054 | 0.09 | Q V | \| | \| | \| | \| |
| 1+ 5 | 0.0060 | 0.09 | Q V | \| | \| | \| | \| |
| 1+10 | 0.0067 | 0.09 | Q V | \| | \| | \| | \| |
| 1+15 | 0.0073 | 0.09 | Q V | \| | \| | \| | \| |
| 1+20 | 0.0080 | 0.09 | Q V | \| | \| | \| | \| |
| 1+25 | 0.0086 | 0.09 | Q V | \| | \| | \| | \| |
| 1+30 | 0.0093 | 0.09 | Q V | \| | \| | \| | \| |
| 1+35 | 0.0099 | 0.09 | Q V | \| | \| | \| | \| |
| 1+40 | 0.0105 | 0.09 | Q V | \| | \| | \| | \| |
| 1+45 | 0.0112 | 0.09 | Q V | \| | \| | \| | \| |
| 1+50 | 0.0118 | 0.09 | Q V | \| | \| | \| | \| |
| 1+55 | 0.0125 | 0.09 | Q V | \| | \| | \| | \| |
| 2+ 0 | 0.0132 | 0.11 | Q V | \| | \| | \| | \| |
| 2+ 5 | 0.0139 | 0.10 | Q V | \| | \| | \| | \| |
| 2+10 | 0.0146 | 0.11 | Q V | \| | \| | \| | \| |
| 2+15 | 0.0154 | 0.11 | Q V | \| | \| | \| | \| |
| 2+20 | 0.0161 | 0.11 | Q V | \| | \| | \| | \| |
| 2+25 | 0.0169 | 0.11 | Q V | \| | \| | \| | \| |
| 2+30 | 0.0177 | 0.11 | Q V | \| | \| | \| | \| |
| 2+35 | 0.0185 | 0.11 | Q V | \| | \| | \| | \| |
| 2+40 | 0.0192 | 0.11 | Q V | \| | \| | \| | \| |
| 2+45 | 0.0201 | 0.12 | Q V | \| | \| | \| | \| |
| 2+50 | 0.0210 | 0.13 | Q V | \| | \| | \| | \| |
| 2+55 | 0.0219 | 0.13 | Q V | \| | \| | \| | \| |
| 3+ 0 | 0.0228 | 0.13 | Q V | \| | \| | \| | \| |
| 3+ 5 | 0.0236 | 0.13 | Q V | \| | \| | \| | \| |
| 3+10 | 0.0246 | 0.14 | Q V | \| | \| | \| | \| |
| 3+15 | 0.0256 | 0.15 | Q V | \| | \| | \| | \| |



| | | | |
|---|---|---|---|
| 3+20 | 0.0267 | 0.15 | Q |
| 3+25 | 0.0278 | 0.16 | Q |
| 3+30 | 0.0290 | 0.18 | Q |
| 3+35 | 0.0304 | 0.20 | Q |
| 3+40 | 0.0318 | 0.20 | Q |
| 3+45 | 0.0332 | 0.22 | Q |
| 3+50 | 0.0348 | 0.22 | Q |
| 3+55 | 0.0364 | 0.23 | Q |
| 4+ 0 | 0.0380 | 0.24 | Q |
| 4+ 5 | 0.0397 | 0.25 | Q |
| 4+10 | 0.0416 | 0.27 | Q |
| 4+15 | 0.0436 | 0.29 | Q |
| 4+20 | 0.0457 | 0.31 | Q |
| 4+25 | 0.0479 | 0.32 | Q |
| 4+30 | 0.0502 | 0.33 | Q |
| 4+35 | 0.0525 | 0.34 | Q |
| 4+40 | 0.0550 | 0.36 | Q |
| 4+45 | 0.0576 | 0.38 | Q |
| 4+50 | 0.0603 | 0.38 | Q |
| 4+55 | 0.0630 | 0.40 | Q |
| 5+ 0 | 0.0659 | 0.41 | Q |
| 5+ 5 | 0.0692 | 0.49 | Q |
| 5+10 | 0.0732 | 0.58 | Q |
| 5+15 | 0.0776 | 0.64 | Q |
| 5+20 | 0.0824 | 0.70 | Q |
| 5+25 | 0.0877 | 0.78 | Q |
| 5+30 | 0.0940 | 0.92 | Q |
| 5+35 | 0.0974 | 0.48 | Q |
| 5+40 | 0.0985 | 0.16 | Q |
| 5+45 | 0.0990 | 0.07 | Q |
| 5+50 | 0.0993 | 0.04 | Q |
| 5+55 | 0.0994 | 0.01 | Q |
| 6+ 0 | 0.0994 | 0.00 | Q |
| 6+ 5 | 0.0994 | 0.00 | Q |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX4124100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 41
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.60(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.60(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 340.00(Ft.)
Length along longest watercourse measured to centroid = 159.00(Ft.)
Length along longest watercourse = 0.064 Mi.
Length along longest watercourse measured to centroid = 0.030 Mi.
Difference in elevation = 156.00(Ft.)
Slope along watercourse = 2422.5882 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.018 Hr.
Lag time = 1.07 Min.
25% of lag time = 0.27 Min.
40% of lag time = 0.43 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 1.80 | 1.08 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 4.75 | 2.85 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.750(In)

Point rain (area averaged) = 4.750(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.750(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.600 | 84.00 | 0.000 |

Total Area Entered = 0.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 468.017 | 71.794 | 0.434 |
| 2 0.167 | 936.034 | 28.206 | 0.171 |
| | | Sum = 100.000 | Sum= 0.605 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.038 | ( 0.152) | 0.034 | 0.004 |
| 2 | 0.17 | 0.07 | 0.038 | ( 0.152) | 0.034 | 0.004 |
| 3 | 0.25 | 0.07 | 0.038 | ( 0.151) | 0.034 | 0.004 |
| 4 | 0.33 | 0.10 | 0.057 | ( 0.150) | 0.051 | 0.006 |
| 5 | 0.42 | 0.10 | 0.057 | ( 0.150) | 0.051 | 0.006 |
| 6 | 0.50 | 0.10 | 0.057 | ( 0.149) | 0.051 | 0.006 |
| 7 | 0.58 | 0.10 | 0.057 | ( 0.149) | 0.051 | 0.006 |
| 8 | 0.67 | 0.10 | 0.057 | ( 0.148) | 0.051 | 0.006 |
| 9 | 0.75 | 0.10 | 0.057 | ( 0.147) | 0.051 | 0.006 |
| 10 | 0.83 | 0.13 | 0.076 | ( 0.147) | 0.068 | 0.008 |
| 11 | 0.92 | 0.13 | 0.076 | ( 0.146) | 0.068 | 0.008 |
| 12 | 1.00 | 0.13 | 0.076 | ( 0.146) | 0.068 | 0.008 |
| 13 | 1.08 | 0.10 | 0.057 | ( 0.145) | 0.051 | 0.006 |
| 14 | 1.17 | 0.10 | 0.057 | ( 0.145) | 0.051 | 0.006 |
| 15 | 1.25 | 0.10 | 0.057 | ( 0.144) | 0.051 | 0.006 |
| 16 | 1.33 | 0.10 | 0.057 | ( 0.143) | 0.051 | 0.006 |
| 17 | 1.42 | 0.10 | 0.057 | ( 0.143) | 0.051 | 0.006 |
| 18 | 1.50 | 0.10 | 0.057 | ( 0.142) | 0.051 | 0.006 |
| 19 | 1.58 | 0.10 | 0.057 | ( 0.142) | 0.051 | 0.006 |
| 20 | 1.67 | 0.10 | 0.057 | ( 0.141) | 0.051 | 0.006 |
| 21 | 1.75 | 0.10 | 0.057 | ( 0.141) | 0.051 | 0.006 |
| 22 | 1.83 | 0.13 | 0.076 | ( 0.140) | 0.068 | 0.008 |
| 23 | 1.92 | 0.13 | 0.076 | ( 0.139) | 0.068 | 0.008 |
| 24 | 2.00 | 0.13 | 0.076 | ( 0.139) | 0.068 | 0.008 |
| 25 | 2.08 | 0.13 | 0.076 | ( 0.138) | 0.068 | 0.008 |
| 26 | 2.17 | 0.13 | 0.076 | ( 0.138) | 0.068 | 0.008 |
| 27 | 2.25 | 0.13 | 0.076 | ( 0.137) | 0.068 | 0.008 |
| 28 | 2.33 | 0.13 | 0.076 | ( 0.137) | 0.068 | 0.008 |
| 29 | 2.42 | 0.13 | 0.076 | ( 0.136) | 0.068 | 0.008 |
| 30 | 2.50 | 0.13 | 0.076 | ( 0.136) | 0.068 | 0.008 |
| 31 | 2.58 | 0.17 | 0.095 | ( 0.135) | 0.085 | 0.009 |
| 32 | 2.67 | 0.17 | 0.095 | ( 0.134) | 0.085 | 0.009 |
| 33 | 2.75 | 0.17 | 0.095 | ( 0.134) | 0.085 | 0.009 |
| 34 | 2.83 | 0.17 | 0.095 | ( 0.133) | 0.085 | 0.009 |
| 35 | 2.92 | 0.17 | 0.095 | ( 0.133) | 0.085 | 0.009 |
| 36 | 3.00 | 0.17 | 0.095 | ( 0.132) | 0.085 | 0.009 |
| 37 | 3.08 | 0.17 | 0.095 | ( 0.132) | 0.085 | 0.009 |
| 38 | 3.17 | 0.17 | 0.095 | ( 0.131) | 0.085 | 0.009 |
| 39 | 3.25 | 0.17 | 0.095 | ( 0.131) | 0.085 | 0.009 |
| 40 | 3.33 | 0.17 | 0.095 | ( 0.130) | 0.085 | 0.009 |
| 41 | 3.42 | 0.17 | 0.095 | ( 0.129) | 0.085 | 0.009 |
| 42 | 3.50 | 0.17 | 0.095 | ( 0.129) | 0.085 | 0.009 |
| 43 | 3.58 | 0.17 | 0.095 | ( 0.128) | 0.085 | 0.009 |
| 44 | 3.67 | 0.17 | 0.095 | ( 0.128) | 0.085 | 0.009 |
| 45 | 3.75 | 0.17 | 0.095 | ( 0.127) | 0.085 | 0.009 |
| 46 | 3.83 | 0.20 | 0.114 | ( 0.127) | 0.103 | 0.011 |
| 47 | 3.92 | 0.20 | 0.114 | ( 0.126) | 0.103 | 0.011 |
| 48 | 4.00 | 0.20 | 0.114 | ( 0.126) | 0.103 | 0.011 |
| 49 | 4.08 | 0.20 | 0.114 | ( 0.125) | 0.103 | 0.011 |
| 50 | 4.17 | 0.20 | 0.114 | ( 0.125) | 0.103 | 0.011 |
| 51 | 4.25 | 0.20 | 0.114 | ( 0.124) | 0.103 | 0.011 |
| 52 | 4.33 | 0.23 | 0.133 | ( 0.124) | 0.120 | 0.013 |
| 53 | 4.42 | 0.23 | 0.133 | ( 0.123) | 0.120 | 0.013 |
| 54 | 4.50 | 0.23 | 0.133 | ( 0.123) | 0.120 | 0.013 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 55 | 4.58 | 0.23 | 0.133 | ( | 0.122) | 0.120 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.133 | ( | 0.121) | 0.120 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.133 | ( | 0.121) | 0.120 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.152 | | 0.120 | ( 0.137) | | 0.032 |
| 59 | 4.92 | 0.27 | 0.152 | | 0.120 | ( 0.137) | | 0.032 |
| 60 | 5.00 | 0.27 | 0.152 | | 0.119 | ( 0.137) | | 0.033 |
| 61 | 5.08 | 0.20 | 0.114 | ( | 0.119) | 0.103 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.114 | ( | 0.118) | 0.103 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.114 | ( | 0.118) | 0.103 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.133 | | 0.117 | ( 0.120) | | 0.016 |
| 65 | 5.42 | 0.23 | 0.133 | | 0.117 | ( 0.120) | | 0.016 |
| 66 | 5.50 | 0.23 | 0.133 | | 0.116 | ( 0.120) | | 0.017 |
| 67 | 5.58 | 0.27 | 0.152 | | 0.116 | ( 0.137) | | 0.036 |
| 68 | 5.67 | 0.27 | 0.152 | | 0.115 | ( 0.137) | | 0.037 |
| 69 | 5.75 | 0.27 | 0.152 | | 0.115 | ( 0.137) | | 0.037 |
| 70 | 5.83 | 0.27 | 0.152 | | 0.114 | ( 0.137) | | 0.038 |
| 71 | 5.92 | 0.27 | 0.152 | | 0.114 | ( 0.137) | | 0.038 |
| 72 | 6.00 | 0.27 | 0.152 | | 0.113 | ( 0.137) | | 0.039 |
| 73 | 6.08 | 0.30 | 0.171 | | 0.113 | ( 0.154) | | 0.058 |
| 74 | 6.17 | 0.30 | 0.171 | | 0.112 | ( 0.154) | | 0.059 |
| 75 | 6.25 | 0.30 | 0.171 | | 0.112 | ( 0.154) | | 0.059 |
| 76 | 6.33 | 0.30 | 0.171 | | 0.111 | ( 0.154) | | 0.060 |
| 77 | 6.42 | 0.30 | 0.171 | | 0.111 | ( 0.154) | | 0.060 |
| 78 | 6.50 | 0.30 | 0.171 | | 0.110 | ( 0.154) | | 0.061 |
| 79 | 6.58 | 0.33 | 0.190 | | 0.110 | ( 0.171) | | 0.080 |
| 80 | 6.67 | 0.33 | 0.190 | | 0.109 | ( 0.171) | | 0.081 |
| 81 | 6.75 | 0.33 | 0.190 | | 0.109 | ( 0.171) | | 0.081 |
| 82 | 6.83 | 0.33 | 0.190 | | 0.108 | ( 0.171) | | 0.082 |
| 83 | 6.92 | 0.33 | 0.190 | | 0.108 | ( 0.171) | | 0.082 |
| 84 | 7.00 | 0.33 | 0.190 | | 0.107 | ( 0.171) | | 0.083 |
| 85 | 7.08 | 0.33 | 0.190 | | 0.107 | ( 0.171) | | 0.083 |
| 86 | 7.17 | 0.33 | 0.190 | | 0.106 | ( 0.171) | | 0.084 |
| 87 | 7.25 | 0.33 | 0.190 | | 0.106 | ( 0.171) | | 0.084 |
| 88 | 7.33 | 0.37 | 0.209 | | 0.105 | ( 0.188) | | 0.104 |
| 89 | 7.42 | 0.37 | 0.209 | | 0.105 | ( 0.188) | | 0.104 |
| 90 | 7.50 | 0.37 | 0.209 | | 0.104 | ( 0.188) | | 0.105 |
| 91 | 7.58 | 0.40 | 0.228 | | 0.104 | ( 0.205) | | 0.124 |
| 92 | 7.67 | 0.40 | 0.228 | | 0.103 | ( 0.205) | | 0.125 |
| 93 | 7.75 | 0.40 | 0.228 | | 0.103 | ( 0.205) | | 0.125 |
| 94 | 7.83 | 0.43 | 0.247 | | 0.102 | ( 0.222) | | 0.145 |
| 95 | 7.92 | 0.43 | 0.247 | | 0.102 | ( 0.222) | | 0.145 |
| 96 | 8.00 | 0.43 | 0.247 | | 0.102 | ( 0.222) | | 0.145 |
| 97 | 8.08 | 0.50 | 0.285 | | 0.101 | ( 0.256) | | 0.184 |
| 98 | 8.17 | 0.50 | 0.285 | | 0.101 | ( 0.256) | | 0.184 |
| 99 | 8.25 | 0.50 | 0.285 | | 0.100 | ( 0.256) | | 0.185 |
| 100 | 8.33 | 0.50 | 0.285 | | 0.100 | ( 0.256) | | 0.185 |
| 101 | 8.42 | 0.50 | 0.285 | | 0.099 | ( 0.256) | | 0.186 |
| 102 | 8.50 | 0.50 | 0.285 | | 0.099 | ( 0.256) | | 0.186 |
| 103 | 8.58 | 0.53 | 0.304 | | 0.098 | ( 0.274) | | 0.206 |
| 104 | 8.67 | 0.53 | 0.304 | | 0.098 | ( 0.274) | | 0.206 |
| 105 | 8.75 | 0.53 | 0.304 | | 0.097 | ( 0.274) | | 0.207 |
| 106 | 8.83 | 0.57 | 0.323 | | 0.097 | ( 0.291) | | 0.226 |
| 107 | 8.92 | 0.57 | 0.323 | | 0.096 | ( 0.291) | | 0.227 |
| 108 | 9.00 | 0.57 | 0.323 | | 0.096 | ( 0.291) | | 0.227 |
| 109 | 9.08 | 0.63 | 0.361 | | 0.096 | ( 0.325) | | 0.265 |
| 110 | 9.17 | 0.63 | 0.361 | | 0.095 | ( 0.325) | | 0.266 |
| 111 | 9.25 | 0.63 | 0.361 | | 0.095 | ( 0.325) | | 0.266 |
| 112 | 9.33 | 0.67 | 0.380 | | 0.094 | ( 0.342) | | 0.286 |
| 113 | 9.42 | 0.67 | 0.380 | | 0.094 | ( 0.342) | | 0.286 |
| 114 | 9.50 | 0.67 | 0.380 | | 0.093 | ( 0.342) | | 0.287 |
| 115 | 9.58 | 0.70 | 0.399 | | 0.093 | ( 0.359) | | 0.306 |
| 116 | 9.67 | 0.70 | 0.399 | | 0.092 | ( 0.359) | | 0.307 |
| 117 | 9.75 | 0.70 | 0.399 | | 0.092 | ( 0.359) | | 0.307 |
| 118 | 9.83 | 0.73 | 0.418 | | 0.091 | ( 0.376) | | 0.327 |
| 119 | 9.92 | 0.73 | 0.418 | | 0.091 | ( 0.376) | | 0.327 |
| 120 | 10.00 | 0.73 | 0.418 | | 0.091 | ( 0.376) | | 0.327 |
| 121 | 10.08 | 0.50 | 0.285 | | 0.090 | ( 0.256) | | 0.195 |
| 122 | 10.17 | 0.50 | 0.285 | | 0.090 | ( 0.256) | | 0.195 |
| 123 | 10.25 | 0.50 | 0.285 | | 0.089 | ( 0.256) | | 0.196 |
| 124 | 10.33 | 0.50 | 0.285 | | 0.089 | ( 0.256) | | 0.196 |
| 125 | 10.42 | 0.50 | 0.285 | | 0.088 | ( 0.256) | | 0.197 |
| 126 | 10.50 | 0.50 | 0.285 | | 0.088 | ( 0.256) | | 0.197 |
| 127 | 10.58 | 0.67 | 0.380 | | 0.088 | ( 0.342) | | 0.292 |
| 128 | 10.67 | 0.67 | 0.380 | | 0.087 | ( 0.342) | | 0.293 |
| 129 | 10.75 | 0.67 | 0.380 | | 0.087 | ( 0.342) | | 0.293 |
| 130 | 10.83 | 0.67 | 0.380 | | 0.086 | ( 0.342) | | 0.294 |
| 131 | 10.92 | 0.67 | 0.380 | | 0.086 | ( 0.342) | | 0.294 |
| 132 | 11.00 | 0.67 | 0.380 | | 0.085 | ( 0.342) | | 0.295 |

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| 133 | 11.08 | 0.63 | 0.361 | 0.085 | ( 0.325) | 0.276 |
| 134 | 11.17 | 0.63 | 0.361 | 0.085 | ( 0.325) | 0.276 |
| 135 | 11.25 | 0.63 | 0.361 | 0.084 | ( 0.325) | 0.277 |
| 136 | 11.33 | 0.63 | 0.361 | 0.084 | ( 0.325) | 0.277 |
| 137 | 11.42 | 0.63 | 0.361 | 0.083 | ( 0.325) | 0.278 |
| 138 | 11.50 | 0.63 | 0.361 | 0.083 | ( 0.325) | 0.278 |
| 139 | 11.58 | 0.57 | 0.323 | 0.083 | ( 0.291) | 0.240 |
| 140 | 11.67 | 0.57 | 0.323 | 0.082 | ( 0.291) | 0.241 |
| 141 | 11.75 | 0.57 | 0.323 | 0.082 | ( 0.291) | 0.241 |
| 142 | 11.83 | 0.60 | 0.342 | 0.081 | ( 0.308) | 0.261 |
| 143 | 11.92 | 0.60 | 0.342 | 0.081 | ( 0.308) | 0.261 |
| 144 | 12.00 | 0.60 | 0.342 | 0.080 | ( 0.308) | 0.262 |
| 145 | 12.08 | 0.83 | 0.475 | 0.080 | ( 0.427) | 0.395 |
| 146 | 12.17 | 0.83 | 0.475 | 0.080 | ( 0.427) | 0.395 |
| 147 | 12.25 | 0.83 | 0.475 | 0.079 | ( 0.427) | 0.396 |
| 148 | 12.33 | 0.87 | 0.494 | 0.079 | ( 0.445) | 0.415 |
| 149 | 12.42 | 0.87 | 0.494 | 0.078 | ( 0.445) | 0.416 |
| 150 | 12.50 | 0.87 | 0.494 | 0.078 | ( 0.445) | 0.416 |
| 151 | 12.58 | 0.93 | 0.532 | 0.078 | ( 0.479) | 0.454 |
| 152 | 12.67 | 0.93 | 0.532 | 0.077 | ( 0.479) | 0.455 |
| 153 | 12.75 | 0.93 | 0.532 | 0.077 | ( 0.479) | 0.455 |
| 154 | 12.83 | 0.97 | 0.551 | 0.077 | ( 0.496) | 0.474 |
| 155 | 12.92 | 0.97 | 0.551 | 0.076 | ( 0.496) | 0.475 |
| 156 | 13.00 | 0.97 | 0.551 | 0.076 | ( 0.496) | 0.475 |
| 157 | 13.08 | 1.13 | 0.646 | 0.075 | ( 0.581) | 0.571 |
| 158 | 13.17 | 1.13 | 0.646 | 0.075 | ( 0.581) | 0.571 |
| 159 | 13.25 | 1.13 | 0.646 | 0.075 | ( 0.581) | 0.571 |
| 160 | 13.33 | 1.13 | 0.646 | 0.074 | ( 0.581) | 0.572 |
| 161 | 13.42 | 1.13 | 0.646 | 0.074 | ( 0.581) | 0.572 |
| 162 | 13.50 | 1.13 | 0.646 | 0.073 | ( 0.581) | 0.573 |
| 163 | 13.58 | 0.77 | 0.437 | 0.073 | ( 0.393) | 0.364 |
| 164 | 13.67 | 0.77 | 0.437 | 0.073 | ( 0.393) | 0.364 |
| 165 | 13.75 | 0.77 | 0.437 | 0.072 | ( 0.393) | 0.365 |
| 166 | 13.83 | 0.77 | 0.437 | 0.072 | ( 0.393) | 0.365 |
| 167 | 13.92 | 0.77 | 0.437 | 0.072 | ( 0.393) | 0.365 |
| 168 | 14.00 | 0.77 | 0.437 | 0.071 | ( 0.393) | 0.366 |
| 169 | 14.08 | 0.90 | 0.513 | 0.071 | ( 0.462) | 0.442 |
| 170 | 14.17 | 0.90 | 0.513 | 0.071 | ( 0.462) | 0.442 |
| 171 | 14.25 | 0.90 | 0.513 | 0.070 | ( 0.462) | 0.443 |
| 172 | 14.33 | 0.87 | 0.494 | 0.070 | ( 0.445) | 0.424 |
| 173 | 14.42 | 0.87 | 0.494 | 0.069 | ( 0.445) | 0.425 |
| 174 | 14.50 | 0.87 | 0.494 | 0.069 | ( 0.445) | 0.425 |
| 175 | 14.58 | 0.87 | 0.494 | 0.069 | ( 0.445) | 0.425 |
| 176 | 14.67 | 0.87 | 0.494 | 0.068 | ( 0.445) | 0.426 |
| 177 | 14.75 | 0.87 | 0.494 | 0.068 | ( 0.445) | 0.426 |
| 178 | 14.83 | 0.83 | 0.475 | 0.068 | ( 0.427) | 0.407 |
| 179 | 14.92 | 0.83 | 0.475 | 0.067 | ( 0.427) | 0.408 |
| 180 | 15.00 | 0.83 | 0.475 | 0.067 | ( 0.427) | 0.408 |
| 181 | 15.08 | 0.80 | 0.456 | 0.067 | ( 0.410) | 0.389 |
| 182 | 15.17 | 0.80 | 0.456 | 0.066 | ( 0.410) | 0.390 |
| 183 | 15.25 | 0.80 | 0.456 | 0.066 | ( 0.410) | 0.390 |
| 184 | 15.33 | 0.77 | 0.437 | 0.066 | ( 0.393) | 0.371 |
| 185 | 15.42 | 0.77 | 0.437 | 0.065 | ( 0.393) | 0.372 |
| 186 | 15.50 | 0.77 | 0.437 | 0.065 | ( 0.393) | 0.372 |
| 187 | 15.58 | 0.63 | 0.361 | 0.065 | ( 0.325) | 0.296 |
| 188 | 15.67 | 0.63 | 0.361 | 0.064 | ( 0.325) | 0.297 |
| 189 | 15.75 | 0.63 | 0.361 | 0.064 | ( 0.325) | 0.297 |
| 190 | 15.83 | 0.63 | 0.361 | 0.064 | ( 0.325) | 0.297 |
| 191 | 15.92 | 0.63 | 0.361 | 0.063 | ( 0.325) | 0.298 |
| 192 | 16.00 | 0.63 | 0.361 | 0.063 | ( 0.325) | 0.298 |
| 193 | 16.08 | 0.13 | 0.076 | 0.063 | ( 0.068) | 0.013 |
| 194 | 16.17 | 0.13 | 0.076 | 0.062 | ( 0.068) | 0.014 |
| 195 | 16.25 | 0.13 | 0.076 | 0.062 | ( 0.068) | 0.014 |
| 196 | 16.33 | 0.13 | 0.076 | 0.062 | ( 0.068) | 0.014 |
| 197 | 16.42 | 0.13 | 0.076 | 0.061 | ( 0.068) | 0.015 |
| 198 | 16.50 | 0.13 | 0.076 | 0.061 | ( 0.068) | 0.015 |
| 199 | 16.58 | 0.10 | 0.057 | ( 0.061) | 0.051 | 0.006 |
| 200 | 16.67 | 0.10 | 0.057 | ( 0.060) | 0.051 | 0.006 |
| 201 | 16.75 | 0.10 | 0.057 | ( 0.060) | 0.051 | 0.006 |
| 202 | 16.83 | 0.10 | 0.057 | ( 0.060) | 0.051 | 0.006 |
| 203 | 16.92 | 0.10 | 0.057 | ( 0.060) | 0.051 | 0.006 |
| 204 | 17.00 | 0.10 | 0.057 | ( 0.059) | 0.051 | 0.006 |
| 205 | 17.08 | 0.17 | 0.095 | 0.059 | ( 0.085) | 0.036 |
| 206 | 17.17 | 0.17 | 0.095 | 0.059 | ( 0.085) | 0.036 |
| 207 | 17.25 | 0.17 | 0.095 | 0.058 | ( 0.085) | 0.037 |
| 208 | 17.33 | 0.17 | 0.095 | 0.058 | ( 0.085) | 0.037 |
| 209 | 17.42 | 0.17 | 0.095 | 0.058 | ( 0.085) | 0.037 |
| 210 | 17.50 | 0.17 | 0.095 | 0.058 | ( 0.085) | 0.037 |

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| 211 | 17.58 | 0.17 | 0.095 | 0.057 | ( 0.085) | 0.038 |
| 212 | 17.67 | 0.17 | 0.095 | 0.057 | ( 0.085) | 0.038 |
| 213 | 17.75 | 0.17 | 0.095 | 0.057 | ( 0.085) | 0.038 |
| 214 | 17.83 | 0.13 | 0.076 | 0.056 | ( 0.068) | 0.020 |
| 215 | 17.92 | 0.13 | 0.076 | 0.056 | ( 0.068) | 0.020 |
| 216 | 18.00 | 0.13 | 0.076 | 0.056 | ( 0.068) | 0.020 |
| 217 | 18.08 | 0.13 | 0.076 | 0.056 | ( 0.068) | 0.020 |
| 218 | 18.17 | 0.13 | 0.076 | 0.055 | ( 0.068) | 0.021 |
| 219 | 18.25 | 0.13 | 0.076 | 0.055 | ( 0.068) | 0.021 |
| 220 | 18.33 | 0.13 | 0.076 | 0.055 | ( 0.068) | 0.021 |
| 221 | 18.42 | 0.13 | 0.076 | 0.054 | ( 0.068) | 0.022 |
| 222 | 18.50 | 0.13 | 0.076 | 0.054 | ( 0.068) | 0.022 |
| 223 | 18.58 | 0.10 | 0.057 | ( 0.054) | 0.051 | 0.006 |
| 224 | 18.67 | 0.10 | 0.057 | ( 0.054) | 0.051 | 0.006 |
| 225 | 18.75 | 0.10 | 0.057 | ( 0.053) | 0.051 | 0.006 |
| 226 | 18.83 | 0.07 | 0.038 | ( 0.053) | 0.034 | 0.004 |
| 227 | 18.92 | 0.07 | 0.038 | ( 0.053) | 0.034 | 0.004 |
| 228 | 19.00 | 0.07 | 0.038 | ( 0.053) | 0.034 | 0.004 |
| 229 | 19.08 | 0.10 | 0.057 | ( 0.052) | 0.051 | 0.006 |
| 230 | 19.17 | 0.10 | 0.057 | ( 0.052) | 0.051 | 0.006 |
| 231 | 19.25 | 0.10 | 0.057 | ( 0.052) | 0.051 | 0.006 |
| 232 | 19.33 | 0.13 | 0.076 | 0.052 | ( 0.068) | 0.024 |
| 233 | 19.42 | 0.13 | 0.076 | 0.051 | ( 0.068) | 0.025 |
| 234 | 19.50 | 0.13 | 0.076 | 0.051 | ( 0.068) | 0.025 |
| 235 | 19.58 | 0.10 | 0.057 | 0.051 | ( 0.051) | 0.006 |
| 236 | 19.67 | 0.10 | 0.057 | 0.051 | ( 0.051) | 0.006 |
| 237 | 19.75 | 0.10 | 0.057 | 0.050 | ( 0.051) | 0.007 |
| 238 | 19.83 | 0.07 | 0.038 | ( 0.050) | 0.034 | 0.004 |
| 239 | 19.92 | 0.07 | 0.038 | ( 0.050) | 0.034 | 0.004 |
| 240 | 20.00 | 0.07 | 0.038 | ( 0.050) | 0.034 | 0.004 |
| 241 | 20.08 | 0.10 | 0.057 | 0.050 | ( 0.051) | 0.007 |
| 242 | 20.17 | 0.10 | 0.057 | 0.049 | ( 0.051) | 0.008 |
| 243 | 20.25 | 0.10 | 0.057 | 0.049 | ( 0.051) | 0.008 |
| 244 | 20.33 | 0.10 | 0.057 | 0.049 | ( 0.051) | 0.008 |
| 245 | 20.42 | 0.10 | 0.057 | 0.049 | ( 0.051) | 0.008 |
| 246 | 20.50 | 0.10 | 0.057 | 0.049 | ( 0.051) | 0.008 |
| 247 | 20.58 | 0.10 | 0.057 | 0.048 | ( 0.051) | 0.009 |
| 248 | 20.67 | 0.10 | 0.057 | 0.048 | ( 0.051) | 0.009 |
| 249 | 20.75 | 0.10 | 0.057 | 0.048 | ( 0.051) | 0.009 |
| 250 | 20.83 | 0.07 | 0.038 | ( 0.048) | 0.034 | 0.004 |
| 251 | 20.92 | 0.07 | 0.038 | ( 0.048) | 0.034 | 0.004 |
| 252 | 21.00 | 0.07 | 0.038 | ( 0.047) | 0.034 | 0.004 |
| 253 | 21.08 | 0.10 | 0.057 | 0.047 | ( 0.051) | 0.010 |
| 254 | 21.17 | 0.10 | 0.057 | 0.047 | ( 0.051) | 0.010 |
| 255 | 21.25 | 0.10 | 0.057 | 0.047 | ( 0.051) | 0.010 |
| 256 | 21.33 | 0.07 | 0.038 | ( 0.047) | 0.034 | 0.004 |
| 257 | 21.42 | 0.07 | 0.038 | ( 0.046) | 0.034 | 0.004 |
| 258 | 21.50 | 0.07 | 0.038 | ( 0.046) | 0.034 | 0.004 |
| 259 | 21.58 | 0.10 | 0.057 | 0.046 | ( 0.051) | 0.011 |
| 260 | 21.67 | 0.10 | 0.057 | 0.046 | ( 0.051) | 0.011 |
| 261 | 21.75 | 0.10 | 0.057 | 0.046 | ( 0.051) | 0.011 |
| 262 | 21.83 | 0.07 | 0.038 | ( 0.046) | 0.034 | 0.004 |
| 263 | 21.92 | 0.07 | 0.038 | ( 0.045) | 0.034 | 0.004 |
| 264 | 22.00 | 0.07 | 0.038 | ( 0.045) | 0.034 | 0.004 |
| 265 | 22.08 | 0.10 | 0.057 | 0.045 | ( 0.051) | 0.012 |
| 266 | 22.17 | 0.10 | 0.057 | 0.045 | ( 0.051) | 0.012 |
| 267 | 22.25 | 0.10 | 0.057 | 0.045 | ( 0.051) | 0.012 |
| 268 | 22.33 | 0.07 | 0.038 | ( 0.045) | 0.034 | 0.004 |
| 269 | 22.42 | 0.07 | 0.038 | ( 0.045) | 0.034 | 0.004 |
| 270 | 22.50 | 0.07 | 0.038 | ( 0.044) | 0.034 | 0.004 |
| 271 | 22.58 | 0.07 | 0.038 | ( 0.044) | 0.034 | 0.004 |
| 272 | 22.67 | 0.07 | 0.038 | ( 0.044) | 0.034 | 0.004 |
| 273 | 22.75 | 0.07 | 0.038 | ( 0.044) | 0.034 | 0.004 |
| 274 | 22.83 | 0.07 | 0.038 | ( 0.044) | 0.034 | 0.004 |
| 275 | 22.92 | 0.07 | 0.038 | ( 0.044) | 0.034 | 0.004 |
| 276 | 23.00 | 0.07 | 0.038 | ( 0.044) | 0.034 | 0.004 |
| 277 | 23.08 | 0.07 | 0.038 | ( 0.044) | 0.034 | 0.004 |
| 278 | 23.17 | 0.07 | 0.038 | ( 0.044) | 0.034 | 0.004 |
| 279 | 23.25 | 0.07 | 0.038 | ( 0.043) | 0.034 | 0.004 |
| 280 | 23.33 | 0.07 | 0.038 | ( 0.043) | 0.034 | 0.004 |
| 281 | 23.42 | 0.07 | 0.038 | ( 0.043) | 0.034 | 0.004 |
| 282 | 23.50 | 0.07 | 0.038 | ( 0.043) | 0.034 | 0.004 |
| 283 | 23.58 | 0.07 | 0.038 | ( 0.043) | 0.034 | 0.004 |
| 284 | 23.67 | 0.07 | 0.038 | ( 0.043) | 0.034 | 0.004 |
| 285 | 23.75 | 0.07 | 0.038 | ( 0.043) | 0.034 | 0.004 |
| 286 | 23.83 | 0.07 | 0.038 | ( 0.043) | 0.034 | 0.004 |
| 287 | 23.92 | 0.07 | 0.038 | ( 0.043) | 0.034 | 0.004 |
| 288 | 24.00 | 0.07 | 0.038 | ( 0.043) | 0.034 | 0.004 |

(Loss Rate Not Used)
Sum = 100.0 Sum = 36.3
Flood volume = Effective rainfall 3.02(In)
times area 0.6(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 1.73(In)
Total soil loss = 0.086(Ac.Ft)
Total rainfall = 4.75(In)
Flood volume = 6580.4 Cubic Feet
Total soil loss = 3765.1 Cubic Feet

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Peak flow rate of this hydrograph = 0.346(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0000 | 0.00 | Q | | | | |
| 0+10 | 0.0000 | 0.00 | Q | | | | |
| 0+15 | 0.0000 | 0.00 | Q | | | | |
| 0+20 | 0.0001 | 0.00 | Q | | | | |
| 0+25 | 0.0001 | 0.00 | Q | | | | |
| 0+30 | 0.0001 | 0.00 | Q | | | | |
| 0+35 | 0.0001 | 0.00 | Q | | | | |
| 0+40 | 0.0002 | 0.00 | Q | | | | |
| 0+45 | 0.0002 | 0.00 | Q | | | | |
| 0+50 | 0.0002 | 0.00 | Q | | | | |
| 0+55 | 0.0002 | 0.00 | Q | | | | |
| 1+ 0 | 0.0003 | 0.00 | Q | | | | |
| 1+ 5 | 0.0003 | 0.00 | Q | | | | |
| 1+10 | 0.0003 | 0.00 | Q | | | | |
| 1+15 | 0.0003 | 0.00 | Q | | | | |
| 1+20 | 0.0004 | 0.00 | Q | | | | |
| 1+25 | 0.0004 | 0.00 | Q | | | | |
| 1+30 | 0.0004 | 0.00 | Q | | | | |
| 1+35 | 0.0004 | 0.00 | Q | | | | |
| 1+40 | 0.0005 | 0.00 | Q | | | | |
| 1+45 | 0.0005 | 0.00 | Q | | | | |
| 1+50 | 0.0005 | 0.00 | Q | | | | |
| 1+55 | 0.0006 | 0.00 | Q | | | | |
| 2+ 0 | 0.0006 | 0.00 | Q | | | | |
| 2+ 5 | 0.0006 | 0.00 | Q | | | | |
| 2+10 | 0.0006 | 0.00 | Q | | | | |
| 2+15 | 0.0007 | 0.00 | Q | | | | |
| 2+20 | 0.0007 | 0.00 | Q | | | | |
| 2+25 | 0.0007 | 0.00 | Q | | | | |
| 2+30 | 0.0008 | 0.00 | Q | | | | |
| 2+35 | 0.0008 | 0.01 | Q | | | | |
| 2+40 | 0.0009 | 0.01 | Q | | | | |
| 2+45 | 0.0009 | 0.01 | Q | | | | |
| 2+50 | 0.0009 | 0.01 | Q | | | | |
| 2+55 | 0.0010 | 0.01 | Q | | | | |
| 3+ 0 | 0.0010 | 0.01 | Q | | | | |
| 3+ 5 | 0.0010 | 0.01 | Q | | | | |
| 3+10 | 0.0011 | 0.01 | Q | | | | |
| 3+15 | 0.0011 | 0.01 | Q | | | | |
| 3+20 | 0.0012 | 0.01 | Q | | | | |
| 3+25 | 0.0012 | 0.01 | Q | | | | |
| 3+30 | 0.0012 | 0.01 | Q | | | | |
| 3+35 | 0.0013 | 0.01 | Q | | | | |
| 3+40 | 0.0013 | 0.01 | Q | | | | |
| 3+45 | 0.0014 | 0.01 | Q | | | | |
| 3+50 | 0.0014 | 0.01 | Q | | | | |
| 3+55 | 0.0015 | 0.01 | Q | | | | |
| 4+ 0 | 0.0015 | 0.01 | Q | | | | |
| 4+ 5 | 0.0016 | 0.01 | Q | | | | |
| 4+10 | 0.0016 | 0.01 | Q | | | | |
| 4+15 | 0.0016 | 0.01 | Q | | | | |
| 4+20 | 0.0017 | 0.01 | Q | | | | |
| 4+25 | 0.0018 | 0.01 | Q | | | | |
| 4+30 | 0.0018 | 0.01 | Q | | | | |
| 4+35 | 0.0019 | 0.01 | Q | | | | |
| 4+40 | 0.0019 | 0.01 | Q | | | | |
| 4+45 | 0.0020 | 0.01 | Q | | | | |

```
 4+50       0.0021      0.02  Q          |          |          |          |
 4+55       0.0022      0.02  Q          |          |          |          |
 5+ 0       0.0024      0.02  Q          |          |          |          |
 5+ 5       0.0024      0.01  Q          |          |          |          |
 5+10       0.0025      0.01  Q          |          |          |          |
 5+15       0.0025      0.01  Q          |          |          |          |
 5+20       0.0026      0.01  Q          |          |          |          |
 5+25       0.0027      0.01  Q          |          |          |          |
 5+30       0.0027      0.01  Q          |          |          |          |
 5+35       0.0028      0.02  Q          |          |          |          |
 5+40       0.0030      0.02  Q          |          |          |          |
 5+45       0.0032      0.02  Q          |          |          |          |
 5+50       0.0033      0.02  Q          |          |          |          |
 5+55       0.0035      0.02  Q          |          |          |          |
 6+ 0       0.0036      0.02  Q          |          |          |          |
 6+ 5       0.0039      0.03  QV         |          |          |          |
 6+10       0.0041      0.04  QV         |          |          |          |
 6+15       0.0043      0.04  QV         |          |          |          |
 6+20       0.0046      0.04  QV         |          |          |          |
 6+25       0.0048      0.04  QV         |          |          |          |
 6+30       0.0051      0.04  QV         |          |          |          |
 6+35       0.0054      0.05  QV         |          |          |          |
 6+40       0.0057      0.05  QV         |          |          |          |
 6+45       0.0061      0.05  QV         |          |          |          |
 6+50       0.0064      0.05  QV         |          |          |          |
 6+55       0.0068      0.05  QV         |          |          |          |
 7+ 0       0.0071      0.05  QV         |          |          |          |
 7+ 5       0.0075      0.05  QV         |          |          |          |
 7+10       0.0078      0.05  Q V        |          |          |          |
 7+15       0.0081      0.05  Q V        |          |          |          |
 7+20       0.0086      0.06  Q V        |          |          |          |
 7+25       0.0090      0.06  Q V        |          |          |          |
 7+30       0.0094      0.06  Q V        |          |          |          |
 7+35       0.0099      0.07  Q V        |          |          |          |
 7+40       0.0104      0.08  Q V        |          |          |          |
 7+45       0.0110      0.08  Q V        |          |          |          |
 7+50       0.0115      0.08  Q  V       |          |          |          |
 7+55       0.0121      0.09  Q  V       |          |          |          |
 8+ 0       0.0127      0.09  Q  V       |          |          |          |
 8+ 5       0.0135      0.10  Q  V       |          |          |          |
 8+10       0.0142      0.11  Q  V       |          |          |          |
 8+15       0.0150      0.11  Q  V       |          |          |          |
 8+20       0.0158      0.11  Q   V      |          |          |          |
 8+25       0.0166      0.11  Q   V      |          |          |          |
 8+30       0.0173      0.11  Q   V      |          |          |          |
 8+35       0.0182      0.12  Q   V      |          |          |          |
 8+40       0.0190      0.12  Q    V     |          |          |          |
 8+45       0.0199      0.12  Q    V     |          |          |          |
 8+50       0.0208      0.13  Q    V     |          |          |          |
 8+55       0.0217      0.14  Q    V     |          |          |          |
 9+ 0       0.0227      0.14  Q     V    |          |          |          |
 9+ 5       0.0238      0.15  Q     V    |          |          |          |
 9+10       0.0249      0.16  Q     V    |          |          |          |
 9+15       0.0260      0.16  Q     V    |          |          |          |
 9+20       0.0271      0.17  Q      V   |          |          |          |
 9+25       0.0283      0.17  Q      V   |          |          |          |
 9+30       0.0295      0.17  Q      V   |          |          |          |
 9+35       0.0308      0.18  Q       V  |          |          |          |
 9+40       0.0321      0.19  Q       V  |          |          |          |
 9+45       0.0333      0.19  Q       V  |          |          |          |
 9+50       0.0347      0.19  Q        V |          |          |          |
 9+55       0.0360      0.20  Q        V |          |          |          |
10+ 0       0.0374      0.20  Q        V |          |          |          |
10+ 5       0.0384      0.14  Q         V          |          |          |
10+10       0.0392      0.12  Q         V          |          |          |
10+15       0.0400      0.12  Q         V          |          |          |
10+20       0.0408      0.12  Q         V          |          |          |
10+25       0.0416      0.12  Q         |V         |          |          |
10+30       0.0424      0.12  Q         |V         |          |          |
10+35       0.0436      0.16  Q         |V         |          |          |
10+40       0.0448      0.18  Q         |V         |          |          |
10+45       0.0460      0.18  Q         | V        |          |          |
10+50       0.0472      0.18  Q         | V        |          |          |
10+55       0.0484      0.18  Q         | V        |          |          |
11+ 0       0.0497      0.18  Q         |  V       |          |          |
11+ 5       0.0508      0.17  Q         |  V       |          |          |
11+10       0.0520      0.17  Q         |  V       |          |          |
11+15       0.0531      0.17  Q         |   V      |          |          |
```

```
11+20       0.0543      0.17  Q          |    V      |           |           |
11+25       0.0555      0.17  Q          |    V      |           |           |
11+30       0.0566      0.17  Q          |    V      |           |           |
11+35       0.0577      0.15  Q          |     V     |           |           |
11+40       0.0587      0.15  Q          |     V     |           |           |
11+45       0.0597      0.15  Q          |     V     |           |           |
11+50       0.0607      0.15  Q          |      V    |           |           |
11+55       0.0618      0.16  Q          |      V    |           |           |
12+ 0       0.0629      0.16  Q          |      V    |           |           |
12+ 5       0.0644      0.22  Q          |       V   |           |           |
12+10       0.0660      0.24  Q          |       V   |           |           |
12+15       0.0677      0.24  Q          |       V   |           |           |
12+20       0.0694      0.25  Q          |        V  |           |           |
12+25       0.0711      0.25  |Q         |        V  |           |           |
12+30       0.0729      0.25  |Q         |         V |           |           |
12+35       0.0747      0.27  |Q         |         V |           |           |
12+40       0.0766      0.28  |Q         |          V|           |           |
12+45       0.0785      0.28  |Q         |          V|           |           |
12+50       0.0805      0.28  |Q         |           V           |           |
12+55       0.0824      0.29  |Q         |           V           |           |
13+ 0       0.0844      0.29  |Q         |            V          |           |
13+ 5       0.0867      0.33  |Q         |            V          |           |
13+10       0.0891      0.35  |Q         |             V         |           |
13+15       0.0914      0.35  |Q         |              V        |           |
13+20       0.0938      0.35  |Q         |              V        |           |
13+25       0.0962      0.35  |Q         |               V       |           |
13+30       0.0986      0.35  |Q         |                V      |           |
13+35       0.1003      0.26  |Q         |                V      |           |
13+40       0.1019      0.22  Q          |                V      |           |
13+45       0.1034      0.22  Q          |                 V     |           |
13+50       0.1049      0.22  Q          |                 V     |           |
13+55       0.1064      0.22  Q          |                  V    |           |
14+ 0       0.1079      0.22  Q          |                  V    |           |
14+ 5       0.1097      0.25  |Q         |                   V   |           |
14+10       0.1115      0.27  |Q         |                   V   |           |
14+15       0.1134      0.27  |Q         |                    V  |           |
14+20       0.1152      0.26  |Q         |                    V  |           |
14+25       0.1169      0.26  |Q         |                    V  |           |
14+30       0.1187      0.26  |Q         |                     V |           |
14+35       0.1205      0.26  |Q         |                     V |           |
14+40       0.1223      0.26  |Q         |                      V|           |
14+45       0.1240      0.26  |Q         |                      V|           |
14+50       0.1258      0.25  Q          |                       V           |
14+55       0.1275      0.25  Q          |                       V           |
15+ 0       0.1292      0.25  Q          |                        V          |
15+ 5       0.1308      0.24  Q          |                        V          |
15+10       0.1324      0.24  Q          |                         V         |
15+15       0.1340      0.24  Q          |                         V         |
15+20       0.1356      0.23  Q          |                         V         |
15+25       0.1372      0.22  Q          |                          V        |
15+30       0.1387      0.23  Q          |                          V        |
15+35       0.1400      0.19  Q          |                           V       |
15+40       0.1413      0.18  Q          |                           V       |
15+45       0.1425      0.18  Q          |                           V       |
15+50       0.1437      0.18  Q          |                            V      |
15+55       0.1450      0.18  Q          |                            V      |
16+ 0       0.1462      0.18  Q          |                            V      |
16+ 5       0.1466      0.06  Q          |                            V      |
16+10       0.1467      0.01  Q          |                            V      |
16+15       0.1467      0.01  Q          |                            V      |
16+20       0.1468      0.01  Q          |                            V      |
16+25       0.1469      0.01  Q          |                            V      |
16+30       0.1469      0.01  Q          |                            V      |
16+35       0.1469      0.01  Q          |                            V      |
16+40       0.1470      0.00  Q          |                            V      |
16+45       0.1470      0.00  Q          |                            V      |
16+50       0.1470      0.00  Q          |                            V      |
16+55       0.1470      0.00  Q          |                            V      |
17+ 0       0.1471      0.00  Q          |                            V      |
17+ 5       0.1472      0.02  Q          |                            V      |
17+10       0.1473      0.02  Q          |                             V|
17+15       0.1475      0.02  Q          |                             V|
17+20       0.1476      0.02  Q          |                             V|
17+25       0.1478      0.02  Q          |                             V|
17+30       0.1479      0.02  Q          |                             V|
17+35       0.1481      0.02  Q          |                             V|
17+40       0.1483      0.02  Q          |                             V|
17+45       0.1484      0.02  Q          |                             V|
```

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+50 | 0.1485 | 0.02 | Q | \| | \| | \| | V\| |
| 17+55 | 0.1486 | 0.01 | Q | \| | \| | \| | V\| |
| 18+ 0 | 0.1487 | 0.01 | Q | \| | \| | \| | V\| |
| 18+ 5 | 0.1488 | 0.01 | Q | \| | \| | \| | V\| |
| 18+10 | 0.1489 | 0.01 | Q | \| | \| | \| | V\| |
| 18+15 | 0.1490 | 0.01 | Q | \| | \| | \| | V\| |
| 18+20 | 0.1490 | 0.01 | Q | \| | \| | \| | V\| |
| 18+25 | 0.1491 | 0.01 | Q | \| | \| | \| | V\| |
| 18+30 | 0.1492 | 0.01 | Q | \| | \| | \| | V\| |
| 18+35 | 0.1493 | 0.01 | Q | \| | \| | \| | V\| |
| 18+40 | 0.1493 | 0.00 | Q | \| | \| | \| | V\| |
| 18+45 | 0.1493 | 0.00 | Q | \| | \| | \| | V\| |
| 18+50 | 0.1493 | 0.00 | Q | \| | \| | \| | V\| |
| 18+55 | 0.1493 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 0 | 0.1494 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 5 | 0.1494 | 0.00 | Q | \| | \| | \| | V\| |
| 19+10 | 0.1494 | 0.00 | Q | \| | \| | \| | V\| |
| 19+15 | 0.1494 | 0.00 | Q | \| | \| | \| | V\| |
| 19+20 | 0.1495 | 0.01 | Q | \| | \| | \| | V\| |
| 19+25 | 0.1496 | 0.01 | Q | \| | \| | \| | V\| |
| 19+30 | 0.1497 | 0.01 | Q | \| | \| | \| | V\| |
| 19+35 | 0.1498 | 0.01 | Q | \| | \| | \| | V\| |
| 19+40 | 0.1498 | 0.00 | Q | \| | \| | \| | V\| |
| 19+45 | 0.1498 | 0.00 | Q | \| | \| | \| | V\| |
| 19+50 | 0.1498 | 0.00 | Q | \| | \| | \| | V\| |
| 19+55 | 0.1498 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 0 | 0.1499 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 5 | 0.1499 | 0.00 | Q | \| | \| | \| | V\| |
| 20+10 | 0.1499 | 0.00 | Q | \| | \| | \| | V\| |
| 20+15 | 0.1500 | 0.00 | Q | \| | \| | \| | V\| |
| 20+20 | 0.1500 | 0.00 | Q | \| | \| | \| | V\| |
| 20+25 | 0.1500 | 0.00 | Q | \| | \| | \| | V\| |
| 20+30 | 0.1501 | 0.01 | Q | \| | \| | \| | V\| |
| 20+35 | 0.1501 | 0.01 | Q | \| | \| | \| | V\| |
| 20+40 | 0.1501 | 0.01 | Q | \| | \| | \| | V\| |
| 20+45 | 0.1502 | 0.01 | Q | \| | \| | \| | V\| |
| 20+50 | 0.1502 | 0.00 | Q | \| | \| | \| | V\| |
| 20+55 | 0.1502 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 0 | 0.1502 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 5 | 0.1503 | 0.00 | Q | \| | \| | \| | V\| |
| 21+10 | 0.1503 | 0.01 | Q | \| | \| | \| | V\| |
| 21+15 | 0.1503 | 0.01 | Q | \| | \| | \| | V\| |
| 21+20 | 0.1504 | 0.00 | Q | \| | \| | \| | V\| |
| 21+25 | 0.1504 | 0.00 | Q | \| | \| | \| | V\| |
| 21+30 | 0.1504 | 0.00 | Q | \| | \| | \| | V\| |
| 21+35 | 0.1504 | 0.01 | Q | \| | \| | \| | V\| |
| 21+40 | 0.1505 | 0.01 | Q | \| | \| | \| | V\| |
| 21+45 | 0.1505 | 0.01 | Q | \| | \| | \| | V\| |
| 21+50 | 0.1505 | 0.00 | Q | \| | \| | \| | V\| |
| 21+55 | 0.1506 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 0 | 0.1506 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 5 | 0.1506 | 0.01 | Q | \| | \| | \| | V\| |
| 22+10 | 0.1507 | 0.01 | Q | \| | \| | \| | V\| |
| 22+15 | 0.1507 | 0.01 | Q | \| | \| | \| | V\| |
| 22+20 | 0.1507 | 0.00 | Q | \| | \| | \| | V\| |
| 22+25 | 0.1508 | 0.00 | Q | \| | \| | \| | V\| |
| 22+30 | 0.1508 | 0.00 | Q | \| | \| | \| | V\| |
| 22+35 | 0.1508 | 0.00 | Q | \| | \| | \| | V\| |
| 22+40 | 0.1508 | 0.00 | Q | \| | \| | \| | V\| |
| 22+45 | 0.1508 | 0.00 | Q | \| | \| | \| | V\| |
| 22+50 | 0.1508 | 0.00 | Q | \| | \| | \| | V\| |
| 22+55 | 0.1509 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 0 | 0.1509 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 5 | 0.1509 | 0.00 | Q | \| | \| | \| | V\| |
| 23+10 | 0.1509 | 0.00 | Q | \| | \| | \| | V\| |
| 23+15 | 0.1509 | 0.00 | Q | \| | \| | \| | V\| |
| 23+20 | 0.1509 | 0.00 | Q | \| | \| | \| | V\| |
| 23+25 | 0.1509 | 0.00 | Q | \| | \| | \| | V\| |
| 23+30 | 0.1510 | 0.00 | Q | \| | \| | \| | V\| |
| 23+35 | 0.1510 | 0.00 | Q | \| | \| | \| | V\| |
| 23+40 | 0.1510 | 0.00 | Q | \| | \| | \| | V\| |
| 23+45 | 0.1510 | 0.00 | Q | \| | \| | \| | V\| |
| 23+50 | 0.1510 | 0.00 | Q | \| | \| | \| | V\| |
| 23+55 | 0.1510 | 0.00 | Q | \| | \| | \| | V\| |
| 24+ 0 | 0.1511 | 0.00 | Q | \| | \| | \| | V\| |
| 24+ 5 | 0.1511 | 0.00 | Q | \| | \| | \| | V\| |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX421100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 42
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.80(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.80(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 337.00(Ft.)
Length along longest watercourse measured to centroid = 100.00(Ft.)
Length along longest watercourse = 0.064 Mi.
Length along longest watercourse measured to centroid = 0.019 Mi.
Difference in elevation = 142.00(Ft.)
Slope along watercourse = 2224.8071 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.015 Hr.
Lag time = 0.91 Min.
25% of lag time = 0.23 Min.
40% of lag time = 0.36 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.80 | 0.50 | 0.40 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.80 | 1.20 | 0.96 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.800 | 83.97 | 0.000 |

Total Area Entered = 0.80(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

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| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 551.096 | 75.900 | 0.612 |
| 2 | 0.167 | 1102.192 | 24.100 | 0.194 |
| | | Sum = 100.000 | Sum= | 0.806 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.086 | ( 0.544) | 0.519 |
| 2 | 0.17 | 4.30 | 0.619 | 0.086 | ( 0.557) | 0.533 |
| 3 | 0.25 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 4 | 0.33 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 5 | 0.42 | 5.80 | 0.835 | 0.086 | ( 0.752) | 0.749 |
| 6 | 0.50 | 6.50 | 0.936 | 0.086 | ( 0.842) | 0.850 |
| 7 | 0.58 | 7.40 | 1.066 | 0.086 | ( 0.959) | 0.980 |
| 8 | 0.67 | 8.60 | 1.238 | 0.086 | ( 1.115) | 1.152 |
| 9 | 0.75 | 12.30 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 10 | 0.83 | 29.10 | 4.190 | 0.086 | ( 3.771) | 4.104 |
| 11 | 0.92 | 6.80 | 0.979 | 0.086 | ( 0.881) | 0.893 |
| 12 | 1.00 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| | | (Loss Rate Not Used) | | | |
| Sum = | | 100.0 | | | Sum = | 13.4 |

Flood volume = Effective rainfall 1.11(In)
times area 0.8(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.006(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 3234.9 Cubic Feet
Total soil loss = 249.8 Cubic Feet

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Peak flow rate of this hydrograph = 2.841(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

---

Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0022 | 0.32 | Q | | | | |
| 0+10 | 0.0051 | 0.43 | QV | | | | |
| 0+15 | 0.0085 | 0.49 | Q V | | | | |
| 0+20 | 0.0120 | 0.51 | Q V | | | | |
| 0+25 | 0.0160 | 0.58 | Q V | | | | |
| 0+30 | 0.0206 | 0.67 | Q V | | | | |
| 0+35 | 0.0259 | 0.76 | Q V | | | | |
| 0+40 | 0.0321 | 0.90 | Q V | | | | |
| 0+45 | 0.0407 | 1.26 | Q V | | | | |
| 0+50 | 0.0603 | 2.84 | Q V | | | | |
| 0+55 | 0.0695 | 1.34 | Q V | | | | |
| 1+ 0 | 0.0734 | 0.56 | Q V | | | | |
| 1+ 5 | 0.0743 | 0.12 | Q V | | | | |

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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX423100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 42
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.80(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.80(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 337.00(Ft.)
Length along longest watercourse measured to centroid = 100.00(Ft.)
Length along longest watercourse = 0.064 Mi.
Length along longest watercourse measured to centroid = 0.019 Mi.
Difference in elevation = 142.00(Ft.)
Slope along watercourse = 2224.8071 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.015 Hr.
Lag time = 0.91 Min.
25% of lag time = 0.23 Min.
40% of lag time = 0.36 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.80 | 0.81 | 0.65 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.80 | 1.82 | 1.46 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.810(In)
Area Averaged 100-Year Rainfall = 1.820(In)

Point rain (area averaged) = 1.820(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.820(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.800 | 83.97 | 0.000 |

Total Area Entered = 0.80(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 551.096 | 75.900 | 0.612 |
| 2 | 0.167 | 1102.192 | 24.100 | 0.194 |
| | | | Sum = 100.000 Sum= | 0.806 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.284 | 0.086 | ( 0.256) | 0.198 |
| 2 | 0.17 | 1.30 | 0.284 | 0.086 | ( 0.256) | 0.198 |
| 3 | 0.25 | 1.10 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 4 | 0.33 | 1.50 | 0.328 | 0.086 | ( 0.295) | 0.242 |
| 5 | 0.42 | 1.50 | 0.328 | 0.086 | ( 0.295) | 0.242 |
| 6 | 0.50 | 1.80 | 0.393 | 0.086 | ( 0.354) | 0.307 |
| 7 | 0.58 | 1.50 | 0.328 | 0.086 | ( 0.295) | 0.242 |
| 8 | 0.67 | 1.80 | 0.393 | 0.086 | ( 0.354) | 0.307 |
| 9 | 0.75 | 1.80 | 0.393 | 0.086 | ( 0.354) | 0.307 |
| 10 | 0.83 | 1.50 | 0.328 | 0.086 | ( 0.295) | 0.242 |
| 11 | 0.92 | 1.60 | 0.349 | 0.086 | ( 0.314) | 0.263 |
| 12 | 1.00 | 1.80 | 0.393 | 0.086 | ( 0.354) | 0.307 |
| 13 | 1.08 | 2.20 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 14 | 1.17 | 2.20 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 15 | 1.25 | 2.20 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 16 | 1.33 | 2.00 | 0.437 | 0.086 | ( 0.393) | 0.351 |
| 17 | 1.42 | 2.60 | 0.568 | 0.086 | ( 0.511) | 0.482 |
| 18 | 1.50 | 2.70 | 0.590 | 0.086 | ( 0.531) | 0.504 |
| 19 | 1.58 | 2.40 | 0.524 | 0.086 | ( 0.472) | 0.438 |
| 20 | 1.67 | 2.70 | 0.590 | 0.086 | ( 0.531) | 0.504 |
| 21 | 1.75 | 3.30 | 0.721 | 0.086 | ( 0.649) | 0.635 |
| 22 | 1.83 | 3.10 | 0.677 | 0.086 | ( 0.609) | 0.591 |
| 23 | 1.92 | 2.90 | 0.633 | 0.086 | ( 0.570) | 0.547 |
| 24 | 2.00 | 3.00 | 0.655 | 0.086 | ( 0.590) | 0.569 |
| 25 | 2.08 | 3.10 | 0.677 | 0.086 | ( 0.609) | 0.591 |
| 26 | 2.17 | 4.20 | 0.917 | 0.086 | ( 0.826) | 0.831 |
| 27 | 2.25 | 5.00 | 1.092 | 0.086 | ( 0.983) | 1.006 |
| 28 | 2.33 | 3.50 | 0.764 | 0.086 | ( 0.688) | 0.678 |
| 29 | 2.42 | 6.80 | 1.485 | 0.086 | ( 1.337) | 1.399 |
| 30 | 2.50 | 7.30 | 1.594 | 0.086 | ( 1.435) | 1.508 |
| 31 | 2.58 | 8.20 | 1.791 | 0.086 | ( 1.612) | 1.705 |
| 32 | 2.67 | 5.90 | 1.289 | 0.086 | ( 1.160) | 1.203 |
| 33 | 2.75 | 2.00 | 0.437 | 0.086 | ( 0.393) | 0.351 |
| 34 | 2.83 | 1.80 | 0.393 | 0.086 | ( 0.354) | 0.307 |
| 35 | 2.92 | 1.80 | 0.393 | 0.086 | ( 0.354) | 0.307 |
| 36 | 3.00 | 0.60 | 0.131 | 0.086 | ( 0.118) | 0.045 |
| | | (Loss Rate Not Used) | | | |
| Sum = | 100.0 | | | | Sum = 18.7 |

Flood volume = Effective rainfall 1.56(In)
times area 0.8(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.017(Ac.Ft)
Total rainfall = 1.82(In)
Flood volume = 4535.7 Cubic Feet
Total soil loss = 749.5 Cubic Feet

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Peak flow rate of this hydrograph = 1.337(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0008 | 0.12 | Q | | | | |
| 0+10 | 0.0019 | 0.16 | Q | | | | |
| 0+15 | 0.0028 | 0.13 | QV | | | | |
| 0+20 | 0.0041 | 0.18 | QV | | | | |
| 0+25 | 0.0054 | 0.19 | Q V | | | | |
| 0+30 | 0.0070 | 0.23 | Q V | | | | |
| 0+35 | 0.0085 | 0.21 | Q V | | | | |
| 0+40 | 0.0101 | 0.23 | Q V | | | | |
| 0+45 | 0.0118 | 0.25 | Q V | | | | |
| 0+50 | 0.0132 | 0.21 | Q V | | | | |
| 0+55 | 0.0147 | 0.21 | Q V | | | | |
| 1+ 0 | 0.0163 | 0.24 | Q V | | | | |
| 1+ 5 | 0.0184 | 0.30 | \|Q V | | | | |
| 1+10 | 0.0206 | 0.32 | \|Q V | | | | |
| 1+15 | 0.0228 | 0.32 | \|Q V | | | | |
| 1+20 | 0.0248 | 0.29 | \|Q V | | | | |
| 1+25 | 0.0273 | 0.36 | \|Q V | | | | |
| 1+30 | 0.0300 | 0.40 | \|Q V | | | | |
| 1+35 | 0.0326 | 0.37 | \|Q V | | | | |
| 1+40 | 0.0353 | 0.39 | \|Q V | | | | |
| 1+45 | 0.0386 | 0.49 | \|Q V | | | | |
| 1+50 | 0.0420 | 0.49 | \|Q V | | | | |
| 1+55 | 0.0451 | 0.45 | \|Q V | | | | |
| 2+ 0 | 0.0482 | 0.45 | \|Q V | | | | |
| 2+ 5 | 0.0514 | 0.47 | \|Q V | | | | |
| 2+10 | 0.0557 | 0.62 | \| Q V | | | | |
| 2+15 | 0.0611 | 0.78 | \| Q V | | | | |
| 2+20 | 0.0653 | 0.61 | \| Q V | | | | |
| 2+25 | 0.0721 | 0.99 | \| Q V | | | | |
| 2+30 | 0.0803 | 1.20 | \| Q V | | | | |
| 2+35 | 0.0896 | 1.34 | \| Q V | | | | |
| 2+40 | 0.0969 | 1.07 | \| Q V | | | | |
| 2+45 | 0.1000 | 0.45 | \|Q V | | | | |
| 2+50 | 0.1018 | 0.26 | \|Q V | | | | |
| 2+55 | 0.1035 | 0.25 | Q V | | | | |
| 3+ 0 | 0.1041 | 0.09 | Q V | | | | |
| 3+ 5 | 0.1041 | 0.01 | Q V | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX426100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 42
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.80(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.80(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 337.00(Ft.)
Length along longest watercourse measured to centroid = 100.00(Ft.)
Length along longest watercourse = 0.064 Mi.
Length along longest watercourse measured to centroid = 0.019 Mi.
Difference in elevation = 142.00(Ft.)
Slope along watercourse = 2224.8071 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.015 Hr.
Lag time = 0.91 Min.
25% of lag time = 0.23 Min.
40% of lag time = 0.36 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.80 | 1.15 | 0.92 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.80 | 2.50 | 2.00 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.150(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.800 | 83.97 | 0.000 |

Total Area Entered = 0.80(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 551.096 | 75.900 | 0.612 |
| 2 0.167 | 1102.192 | 24.100 | 0.194 |
| | | Sum = 100.000 Sum= | 0.806 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 0.50 | 0.150 | 0.086 | ( 0.135) | 0.064 |
| 2 0.17 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 3 0.25 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 4 0.33 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 5 0.42 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 6 0.50 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 7 0.58 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 8 0.67 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 9 0.75 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 10 0.83 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 11 0.92 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 12 1.00 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 13 1.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 14 1.17 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 15 1.25 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 16 1.33 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 17 1.42 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 18 1.50 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 19 1.58 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 20 1.67 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 21 1.75 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 22 1.83 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 23 1.92 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 24 2.00 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 25 2.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 26 2.17 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 27 2.25 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 28 2.33 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 29 2.42 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 30 2.50 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 31 2.58 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 32 2.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 33 2.75 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 34 2.83 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 35 2.92 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 36 3.00 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 37 3.08 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 38 3.17 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 39 3.25 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 40 3.33 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 41 3.42 | 1.20 | 0.360 | 0.086 | ( 0.324) | 0.274 |
| 42 3.50 | 1.30 | 0.390 | 0.086 | ( 0.351) | 0.304 |
| 43 3.58 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 44 3.67 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 45 3.75 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 46 3.83 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 47 3.92 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 48 4.00 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 49 4.08 | 1.70 | 0.510 | 0.086 | ( 0.459) | 0.424 |
| 50 4.17 | 1.80 | 0.540 | 0.086 | ( 0.486) | 0.454 |
| 51 4.25 | 1.90 | 0.570 | 0.086 | ( 0.513) | 0.484 |
| 52 4.33 | 2.00 | 0.600 | 0.086 | ( 0.540) | 0.514 |
| 53 4.42 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 |
| 54 4.50 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 55 | 4.58 | 2.20 | 0.660 | 0.086 | ( 0.594) | 0.574 |
| 56 | 4.67 | 2.30 | 0.690 | 0.086 | ( 0.621) | 0.604 |
| 57 | 4.75 | 2.40 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 58 | 4.83 | 2.40 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 59 | 4.92 | 2.50 | 0.750 | 0.086 | ( 0.675) | 0.664 |
| 60 | 5.00 | 2.60 | 0.780 | 0.086 | ( 0.702) | 0.694 |
| 61 | 5.08 | 3.10 | 0.930 | 0.086 | ( 0.837) | 0.844 |
| 62 | 5.17 | 3.60 | 1.080 | 0.086 | ( 0.972) | 0.994 |
| 63 | 5.25 | 3.90 | 1.170 | 0.086 | ( 1.053) | 1.084 |
| 64 | 5.33 | 4.20 | 1.260 | 0.086 | ( 1.134) | 1.174 |
| 65 | 5.42 | 4.70 | 1.410 | 0.086 | ( 1.269) | 1.324 |
| 66 | 5.50 | 5.60 | 1.680 | 0.086 | ( 1.512) | 1.594 |
| 67 | 5.58 | 1.90 | 0.570 | 0.086 | ( 0.513) | 0.484 |
| 68 | 5.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 69 | 5.75 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 70 | 5.83 | 0.50 | 0.150 | 0.086 | ( 0.135) | 0.064 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.086) | 0.081 | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.086) | 0.054 | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.8

Flood volume = Effective rainfall 1.99(In)
times area 0.8(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.51(In)
Total soil loss = 0.034(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 5769.9 Cubic Feet
Total soil loss = 1490.1 Cubic Feet

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Peak flow rate of this hydrograph = 1.233(CFS)

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6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0003 | 0.04 | Q | | | | |
| 0+10 | 0.0008 | 0.07 | Q | | | | |
| 0+15 | 0.0013 | 0.08 | Q | | | | |
| 0+20 | 0.0018 | 0.08 | Q | | | | |
| 0+25 | 0.0023 | 0.08 | Q | | | | |
| 0+30 | 0.0030 | 0.09 | Q | | | | |
| 0+35 | 0.0037 | 0.10 | QV | | | | |
| 0+40 | 0.0043 | 0.10 | QV | | | | |
| 0+45 | 0.0050 | 0.10 | QV | | | | |
| 0+50 | 0.0057 | 0.10 | QV | | | | |
| 0+55 | 0.0064 | 0.10 | QV | | | | |
| 1+ 0 | 0.0072 | 0.12 | Q V | | | | |
| 1+ 5 | 0.0081 | 0.12 | Q V | | | | |
| 1+10 | 0.0089 | 0.12 | Q V | | | | |
| 1+15 | 0.0098 | 0.12 | Q V | | | | |
| 1+20 | 0.0106 | 0.12 | Q V | | | | |
| 1+25 | 0.0115 | 0.12 | Q V | | | | |
| 1+30 | 0.0124 | 0.12 | Q V | | | | |
| 1+35 | 0.0132 | 0.12 | Q V | | | | |
| 1+40 | 0.0141 | 0.12 | Q V | | | | |
| 1+45 | 0.0149 | 0.12 | Q V | | | | |
| 1+50 | 0.0158 | 0.12 | Q V | | | | |
| 1+55 | 0.0166 | 0.12 | Q V | | | | |
| 2+ 0 | 0.0176 | 0.14 | Q V | | | | |
| 2+ 5 | 0.0185 | 0.13 | Q V | | | | |
| 2+10 | 0.0195 | 0.14 | Q V | | | | |
| 2+15 | 0.0205 | 0.15 | Q V | | | | |
| 2+20 | 0.0215 | 0.15 | Q V | | | | |
| 2+25 | 0.0226 | 0.15 | Q V | | | | |
| 2+30 | 0.0236 | 0.15 | Q V | | | | |
| 2+35 | 0.0246 | 0.15 | Q V | | | | |
| 2+40 | 0.0256 | 0.15 | Q V | | | | |
| 2+45 | 0.0268 | 0.17 | Q V | | | | |
| 2+50 | 0.0280 | 0.17 | Q V | | | | |
| 2+55 | 0.0292 | 0.17 | Q V | | | | |
| 3+ 0 | 0.0303 | 0.17 | Q V | | | | |
| 3+ 5 | 0.0315 | 0.17 | Q V | | | | |
| 3+10 | 0.0328 | 0.19 | Q V | | | | |
| 3+15 | 0.0342 | 0.20 | Q V | | | | |

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    3+20       0.0356      0.20  Q         V          |          |          |
    3+25       0.0370      0.22  Q         |V         |          |          |
    3+30       0.0387      0.24  Q         |V         |          |          |
    3+35       0.0405      0.26  |Q        | V        |          |          |
    3+40       0.0424      0.27  |Q        | V        |          |          |
    3+45       0.0443      0.29  |Q        |  V       |          |          |
    3+50       0.0464      0.29  |Q        |  V       |          |          |
    3+55       0.0485      0.31  |Q        |   V      |          |          |
    4+ 0       0.0507      0.32  |Q        |    V     |          |          |
    4+ 5       0.0530      0.34  |Q        |     V    |          |          |
    4+10       0.0555      0.36  |Q        |     V    |          |          |
    4+15       0.0581      0.38  |Q        |      V   |          |          |
    4+20       0.0610      0.41  |Q        |       V  |          |          |
    4+25       0.0639      0.43  |Q        |        V |          |          |
    4+30       0.0670      0.44  |Q        |         V|          |          |
    4+35       0.0701      0.46  |Q        |          |V         |          |
    4+40       0.0734      0.48  |Q        |          | V        |          |
    4+45       0.0769      0.51  | Q       |          |  V       |          |
    4+50       0.0804      0.51  | Q       |          |   V      |          |
    4+55       0.0841      0.53  | Q       |          |    V     |          |
    5+ 0       0.0879      0.55  | Q       |          |     V    |          |
    5+ 5       0.0924      0.65  | Q       |          |      V   |          |
    5+10       0.0977      0.77  |  Q      |          |       V  |          |
    5+15       0.1036      0.86  |  Q      |          |        V |          |
    5+20       0.1100      0.93  |  Q      |          |          |  V       |
    5+25       0.1172      1.04  |   Q     |          |          |   V      |
    5+30       0.1257      1.23  |   Q     |          |          |    V     |
    5+35       0.1298      0.61  | Q       |          |          |          V|
    5+40       0.1313      0.21  Q         |          |          |          V|
    5+45       0.1319      0.09  Q         |          |          |          V|
    5+50       0.1323      0.06  Q         |          |          |          V|
    5+55       0.1324      0.02  Q         |          |          |          V|
    6+ 0       0.1325      0.01  Q         |          |          |          V|
    6+ 5       0.1325      0.00  Q         |          |          |          V|
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX4224100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 42
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 0.80(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.80(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 337.00(Ft.)
Length along longest watercourse measured to centroid = 100.00(Ft.)
Length along longest watercourse = 0.064 Mi.
Length along longest watercourse measured to centroid = 0.019 Mi.
Difference in elevation = 142.00(Ft.)
Slope along watercourse = 2224.8071 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.015 Hr.
Lag time = 0.91 Min.
25% of lag time = 0.23 Min.
40% of lag time = 0.36 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.80 | 1.80 | 1.44 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.80 | 4.75 | 3.80 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.750(In)

Point rain (area averaged) = 4.750(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.750(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.800 | 83.97 | 0.000 |

Total Area Entered = 0.80(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 551.096 | 75.900 | 0.612 |
| 2 0.167 | 1102.192 | 24.100 | 0.194 |
| | | Sum = 100.000 Sum= | 0.806 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 0.07 | 0.038 | ( 0.153) | 0.034 | 0.004 |
| 2 0.17 | 0.07 | 0.038 | ( 0.152) | 0.034 | 0.004 |
| 3 0.25 | 0.07 | 0.038 | ( 0.151) | 0.034 | 0.004 |
| 4 0.33 | 0.10 | 0.057 | ( 0.151) | 0.051 | 0.006 |
| 5 0.42 | 0.10 | 0.057 | ( 0.150) | 0.051 | 0.006 |
| 6 0.50 | 0.10 | 0.057 | ( 0.150) | 0.051 | 0.006 |
| 7 0.58 | 0.10 | 0.057 | ( 0.149) | 0.051 | 0.006 |
| 8 0.67 | 0.10 | 0.057 | ( 0.148) | 0.051 | 0.006 |
| 9 0.75 | 0.10 | 0.057 | ( 0.148) | 0.051 | 0.006 |
| 10 0.83 | 0.13 | 0.076 | ( 0.147) | 0.068 | 0.008 |
| 11 0.92 | 0.13 | 0.076 | ( 0.147) | 0.068 | 0.008 |
| 12 1.00 | 0.13 | 0.076 | ( 0.146) | 0.068 | 0.008 |
| 13 1.08 | 0.10 | 0.057 | ( 0.146) | 0.051 | 0.006 |
| 14 1.17 | 0.10 | 0.057 | ( 0.145) | 0.051 | 0.006 |
| 15 1.25 | 0.10 | 0.057 | ( 0.144) | 0.051 | 0.006 |
| 16 1.33 | 0.10 | 0.057 | ( 0.144) | 0.051 | 0.006 |
| 17 1.42 | 0.10 | 0.057 | ( 0.143) | 0.051 | 0.006 |
| 18 1.50 | 0.10 | 0.057 | ( 0.143) | 0.051 | 0.006 |
| 19 1.58 | 0.10 | 0.057 | ( 0.142) | 0.051 | 0.006 |
| 20 1.67 | 0.10 | 0.057 | ( 0.142) | 0.051 | 0.006 |
| 21 1.75 | 0.10 | 0.057 | ( 0.141) | 0.051 | 0.006 |
| 22 1.83 | 0.13 | 0.076 | ( 0.140) | 0.068 | 0.008 |
| 23 1.92 | 0.13 | 0.076 | ( 0.140) | 0.068 | 0.008 |
| 24 2.00 | 0.13 | 0.076 | ( 0.139) | 0.068 | 0.008 |
| 25 2.08 | 0.13 | 0.076 | ( 0.139) | 0.068 | 0.008 |
| 26 2.17 | 0.13 | 0.076 | ( 0.138) | 0.068 | 0.008 |
| 27 2.25 | 0.13 | 0.076 | ( 0.138) | 0.068 | 0.008 |
| 28 2.33 | 0.13 | 0.076 | ( 0.137) | 0.068 | 0.008 |
| 29 2.42 | 0.13 | 0.076 | ( 0.136) | 0.068 | 0.008 |
| 30 2.50 | 0.13 | 0.076 | ( 0.136) | 0.068 | 0.008 |
| 31 2.58 | 0.17 | 0.095 | ( 0.135) | 0.085 | 0.009 |
| 32 2.67 | 0.17 | 0.095 | ( 0.135) | 0.085 | 0.009 |
| 33 2.75 | 0.17 | 0.095 | ( 0.134) | 0.085 | 0.009 |
| 34 2.83 | 0.17 | 0.095 | ( 0.134) | 0.085 | 0.009 |
| 35 2.92 | 0.17 | 0.095 | ( 0.133) | 0.085 | 0.009 |
| 36 3.00 | 0.17 | 0.095 | ( 0.133) | 0.085 | 0.009 |
| 37 3.08 | 0.17 | 0.095 | ( 0.132) | 0.085 | 0.009 |
| 38 3.17 | 0.17 | 0.095 | ( 0.131) | 0.085 | 0.009 |
| 39 3.25 | 0.17 | 0.095 | ( 0.131) | 0.085 | 0.009 |
| 40 3.33 | 0.17 | 0.095 | ( 0.130) | 0.085 | 0.009 |
| 41 3.42 | 0.17 | 0.095 | ( 0.130) | 0.085 | 0.009 |
| 42 3.50 | 0.17 | 0.095 | ( 0.129) | 0.085 | 0.009 |
| 43 3.58 | 0.17 | 0.095 | ( 0.129) | 0.085 | 0.009 |
| 44 3.67 | 0.17 | 0.095 | ( 0.128) | 0.085 | 0.009 |
| 45 3.75 | 0.17 | 0.095 | ( 0.128) | 0.085 | 0.009 |
| 46 3.83 | 0.20 | 0.114 | ( 0.127) | 0.103 | 0.011 |
| 47 3.92 | 0.20 | 0.114 | ( 0.127) | 0.103 | 0.011 |
| 48 4.00 | 0.20 | 0.114 | ( 0.126) | 0.103 | 0.011 |
| 49 4.08 | 0.20 | 0.114 | ( 0.126) | 0.103 | 0.011 |
| 50 4.17 | 0.20 | 0.114 | ( 0.125) | 0.103 | 0.011 |
| 51 4.25 | 0.20 | 0.114 | ( 0.124) | 0.103 | 0.011 |
| 52 4.33 | 0.23 | 0.133 | ( 0.124) | 0.120 | 0.013 |
| 53 4.42 | 0.23 | 0.133 | ( 0.123) | 0.120 | 0.013 |
| 54 4.50 | 0.23 | 0.133 | ( 0.123) | 0.120 | 0.013 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 55 | 4.58 | 0.23 | 0.133 | ( | 0.122) | 0.120 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.133 | ( | 0.122) | 0.120 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.133 | ( | 0.121) | 0.120 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.152 | | 0.121 | ( 0.137) | | 0.031 |
| 59 | 4.92 | 0.27 | 0.152 | | 0.120 | ( 0.137) | | 0.032 |
| 60 | 5.00 | 0.27 | 0.152 | | 0.120 | ( 0.137) | | 0.032 |
| 61 | 5.08 | 0.20 | 0.114 | ( | 0.119) | 0.103 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.114 | ( | 0.119) | 0.103 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.114 | ( | 0.118) | 0.103 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.133 | | 0.118 | ( 0.120) | | 0.015 |
| 65 | 5.42 | 0.23 | 0.133 | | 0.117 | ( 0.120) | | 0.016 |
| 66 | 5.50 | 0.23 | 0.133 | | 0.117 | ( 0.120) | | 0.016 |
| 67 | 5.58 | 0.27 | 0.152 | | 0.116 | ( 0.137) | | 0.036 |
| 68 | 5.67 | 0.27 | 0.152 | | 0.116 | ( 0.137) | | 0.036 |
| 69 | 5.75 | 0.27 | 0.152 | | 0.115 | ( 0.137) | | 0.037 |
| 70 | 5.83 | 0.27 | 0.152 | | 0.115 | ( 0.137) | | 0.037 |
| 71 | 5.92 | 0.27 | 0.152 | | 0.114 | ( 0.137) | | 0.038 |
| 72 | 6.00 | 0.27 | 0.152 | | 0.114 | ( 0.137) | | 0.038 |
| 73 | 6.08 | 0.30 | 0.171 | | 0.113 | ( 0.154) | | 0.058 |
| 74 | 6.17 | 0.30 | 0.171 | | 0.113 | ( 0.154) | | 0.058 |
| 75 | 6.25 | 0.30 | 0.171 | | 0.112 | ( 0.154) | | 0.059 |
| 76 | 6.33 | 0.30 | 0.171 | | 0.112 | ( 0.154) | | 0.059 |
| 77 | 6.42 | 0.30 | 0.171 | | 0.111 | ( 0.154) | | 0.060 |
| 78 | 6.50 | 0.30 | 0.171 | | 0.111 | ( 0.154) | | 0.060 |
| 79 | 6.58 | 0.33 | 0.190 | | 0.110 | ( 0.171) | | 0.080 |
| 80 | 6.67 | 0.33 | 0.190 | | 0.110 | ( 0.171) | | 0.080 |
| 81 | 6.75 | 0.33 | 0.190 | | 0.109 | ( 0.171) | | 0.081 |
| 82 | 6.83 | 0.33 | 0.190 | | 0.109 | ( 0.171) | | 0.081 |
| 83 | 6.92 | 0.33 | 0.190 | | 0.108 | ( 0.171) | | 0.082 |
| 84 | 7.00 | 0.33 | 0.190 | | 0.108 | ( 0.171) | | 0.082 |
| 85 | 7.08 | 0.33 | 0.190 | | 0.107 | ( 0.171) | | 0.083 |
| 86 | 7.17 | 0.33 | 0.190 | | 0.107 | ( 0.171) | | 0.083 |
| 87 | 7.25 | 0.33 | 0.190 | | 0.106 | ( 0.171) | | 0.084 |
| 88 | 7.33 | 0.37 | 0.209 | | 0.106 | ( 0.188) | | 0.103 |
| 89 | 7.42 | 0.37 | 0.209 | | 0.105 | ( 0.188) | | 0.104 |
| 90 | 7.50 | 0.37 | 0.209 | | 0.105 | ( 0.188) | | 0.104 |
| 91 | 7.58 | 0.40 | 0.228 | | 0.104 | ( 0.205) | | 0.124 |
| 92 | 7.67 | 0.40 | 0.228 | | 0.104 | ( 0.205) | | 0.124 |
| 93 | 7.75 | 0.40 | 0.228 | | 0.103 | ( 0.205) | | 0.125 |
| 94 | 7.83 | 0.43 | 0.247 | | 0.103 | ( 0.222) | | 0.144 |
| 95 | 7.92 | 0.43 | 0.247 | | 0.102 | ( 0.222) | | 0.145 |
| 96 | 8.00 | 0.43 | 0.247 | | 0.102 | ( 0.222) | | 0.145 |
| 97 | 8.08 | 0.50 | 0.285 | | 0.101 | ( 0.256) | | 0.184 |
| 98 | 8.17 | 0.50 | 0.285 | | 0.101 | ( 0.256) | | 0.184 |
| 99 | 8.25 | 0.50 | 0.285 | | 0.100 | ( 0.256) | | 0.185 |
| 100 | 8.33 | 0.50 | 0.285 | | 0.100 | ( 0.256) | | 0.185 |
| 101 | 8.42 | 0.50 | 0.285 | | 0.099 | ( 0.256) | | 0.186 |
| 102 | 8.50 | 0.50 | 0.285 | | 0.099 | ( 0.256) | | 0.186 |
| 103 | 8.58 | 0.53 | 0.304 | | 0.099 | ( 0.274) | | 0.205 |
| 104 | 8.67 | 0.53 | 0.304 | | 0.098 | ( 0.274) | | 0.206 |
| 105 | 8.75 | 0.53 | 0.304 | | 0.098 | ( 0.274) | | 0.206 |
| 106 | 8.83 | 0.57 | 0.323 | | 0.097 | ( 0.291) | | 0.226 |
| 107 | 8.92 | 0.57 | 0.323 | | 0.097 | ( 0.291) | | 0.226 |
| 108 | 9.00 | 0.57 | 0.323 | | 0.096 | ( 0.291) | | 0.227 |
| 109 | 9.08 | 0.63 | 0.361 | | 0.096 | ( 0.325) | | 0.265 |
| 110 | 9.17 | 0.63 | 0.361 | | 0.095 | ( 0.325) | | 0.266 |
| 111 | 9.25 | 0.63 | 0.361 | | 0.095 | ( 0.325) | | 0.266 |
| 112 | 9.33 | 0.67 | 0.380 | | 0.094 | ( 0.342) | | 0.286 |
| 113 | 9.42 | 0.67 | 0.380 | | 0.094 | ( 0.342) | | 0.286 |
| 114 | 9.50 | 0.67 | 0.380 | | 0.094 | ( 0.342) | | 0.286 |
| 115 | 9.58 | 0.70 | 0.399 | | 0.093 | ( 0.359) | | 0.306 |
| 116 | 9.67 | 0.70 | 0.399 | | 0.093 | ( 0.359) | | 0.306 |
| 117 | 9.75 | 0.70 | 0.399 | | 0.092 | ( 0.359) | | 0.307 |
| 118 | 9.83 | 0.73 | 0.418 | | 0.092 | ( 0.376) | | 0.326 |
| 119 | 9.92 | 0.73 | 0.418 | | 0.091 | ( 0.376) | | 0.327 |
| 120 | 10.00 | 0.73 | 0.418 | | 0.091 | ( 0.376) | | 0.327 |
| 121 | 10.08 | 0.50 | 0.285 | | 0.090 | ( 0.256) | | 0.195 |
| 122 | 10.17 | 0.50 | 0.285 | | 0.090 | ( 0.256) | | 0.195 |
| 123 | 10.25 | 0.50 | 0.285 | | 0.090 | ( 0.256) | | 0.195 |
| 124 | 10.33 | 0.50 | 0.285 | | 0.089 | ( 0.256) | | 0.196 |
| 125 | 10.42 | 0.50 | 0.285 | | 0.089 | ( 0.256) | | 0.196 |
| 126 | 10.50 | 0.50 | 0.285 | | 0.088 | ( 0.256) | | 0.197 |
| 127 | 10.58 | 0.67 | 0.380 | | 0.088 | ( 0.342) | | 0.292 |
| 128 | 10.67 | 0.67 | 0.380 | | 0.087 | ( 0.342) | | 0.293 |
| 129 | 10.75 | 0.67 | 0.380 | | 0.087 | ( 0.342) | | 0.293 |
| 130 | 10.83 | 0.67 | 0.380 | | 0.087 | ( 0.342) | | 0.293 |
| 131 | 10.92 | 0.67 | 0.380 | | 0.086 | ( 0.342) | | 0.294 |
| 132 | 11.00 | 0.67 | 0.380 | | 0.086 | ( 0.342) | | 0.294 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 133 | 11.08 | 0.63 | 0.361 | 0.085 | ( 0.325) | 0.276 |
| 134 | 11.17 | 0.63 | 0.361 | 0.085 | ( 0.325) | 0.276 |
| 135 | 11.25 | 0.63 | 0.361 | 0.084 | ( 0.325) | 0.277 |
| 136 | 11.33 | 0.63 | 0.361 | 0.084 | ( 0.325) | 0.277 |
| 137 | 11.42 | 0.63 | 0.361 | 0.084 | ( 0.325) | 0.277 |
| 138 | 11.50 | 0.63 | 0.361 | 0.083 | ( 0.325) | 0.278 |
| 139 | 11.58 | 0.57 | 0.323 | 0.083 | ( 0.291) | 0.240 |
| 140 | 11.67 | 0.57 | 0.323 | 0.082 | ( 0.291) | 0.241 |
| 141 | 11.75 | 0.57 | 0.323 | 0.082 | ( 0.291) | 0.241 |
| 142 | 11.83 | 0.60 | 0.342 | 0.082 | ( 0.308) | 0.260 |
| 143 | 11.92 | 0.60 | 0.342 | 0.081 | ( 0.308) | 0.261 |
| 144 | 12.00 | 0.60 | 0.342 | 0.081 | ( 0.308) | 0.261 |
| 145 | 12.08 | 0.83 | 0.475 | 0.080 | ( 0.427) | 0.395 |
| 146 | 12.17 | 0.83 | 0.475 | 0.080 | ( 0.427) | 0.395 |
| 147 | 12.25 | 0.83 | 0.475 | 0.080 | ( 0.427) | 0.395 |
| 148 | 12.33 | 0.87 | 0.494 | 0.079 | ( 0.445) | 0.415 |
| 149 | 12.42 | 0.87 | 0.494 | 0.079 | ( 0.445) | 0.415 |
| 150 | 12.50 | 0.87 | 0.494 | 0.078 | ( 0.445) | 0.416 |
| 151 | 12.58 | 0.93 | 0.532 | 0.078 | ( 0.479) | 0.454 |
| 152 | 12.67 | 0.93 | 0.532 | 0.078 | ( 0.479) | 0.454 |
| 153 | 12.75 | 0.93 | 0.532 | 0.077 | ( 0.479) | 0.455 |
| 154 | 12.83 | 0.97 | 0.551 | 0.077 | ( 0.496) | 0.474 |
| 155 | 12.92 | 0.97 | 0.551 | 0.076 | ( 0.496) | 0.475 |
| 156 | 13.00 | 0.97 | 0.551 | 0.076 | ( 0.496) | 0.475 |
| 157 | 13.08 | 1.13 | 0.646 | 0.076 | ( 0.581) | 0.570 |
| 158 | 13.17 | 1.13 | 0.646 | 0.075 | ( 0.581) | 0.571 |
| 159 | 13.25 | 1.13 | 0.646 | 0.075 | ( 0.581) | 0.571 |
| 160 | 13.33 | 1.13 | 0.646 | 0.074 | ( 0.581) | 0.572 |
| 161 | 13.42 | 1.13 | 0.646 | 0.074 | ( 0.581) | 0.572 |
| 162 | 13.50 | 1.13 | 0.646 | 0.074 | ( 0.581) | 0.572 |
| 163 | 13.58 | 0.77 | 0.437 | 0.073 | ( 0.393) | 0.364 |
| 164 | 13.67 | 0.77 | 0.437 | 0.073 | ( 0.393) | 0.364 |
| 165 | 13.75 | 0.77 | 0.437 | 0.073 | ( 0.393) | 0.364 |
| 166 | 13.83 | 0.77 | 0.437 | 0.072 | ( 0.393) | 0.365 |
| 167 | 13.92 | 0.77 | 0.437 | 0.072 | ( 0.393) | 0.365 |
| 168 | 14.00 | 0.77 | 0.437 | 0.071 | ( 0.393) | 0.366 |
| 169 | 14.08 | 0.90 | 0.513 | 0.071 | ( 0.462) | 0.442 |
| 170 | 14.17 | 0.90 | 0.513 | 0.071 | ( 0.462) | 0.442 |
| 171 | 14.25 | 0.90 | 0.513 | 0.070 | ( 0.462) | 0.443 |
| 172 | 14.33 | 0.87 | 0.494 | 0.070 | ( 0.445) | 0.424 |
| 173 | 14.42 | 0.87 | 0.494 | 0.070 | ( 0.445) | 0.424 |
| 174 | 14.50 | 0.87 | 0.494 | 0.069 | ( 0.445) | 0.425 |
| 175 | 14.58 | 0.87 | 0.494 | 0.069 | ( 0.445) | 0.425 |
| 176 | 14.67 | 0.87 | 0.494 | 0.069 | ( 0.445) | 0.425 |
| 177 | 14.75 | 0.87 | 0.494 | 0.068 | ( 0.445) | 0.426 |
| 178 | 14.83 | 0.83 | 0.475 | 0.068 | ( 0.427) | 0.407 |
| 179 | 14.92 | 0.83 | 0.475 | 0.068 | ( 0.427) | 0.407 |
| 180 | 15.00 | 0.83 | 0.475 | 0.067 | ( 0.427) | 0.408 |
| 181 | 15.08 | 0.80 | 0.456 | 0.067 | ( 0.410) | 0.389 |
| 182 | 15.17 | 0.80 | 0.456 | 0.067 | ( 0.410) | 0.389 |
| 183 | 15.25 | 0.80 | 0.456 | 0.066 | ( 0.410) | 0.390 |
| 184 | 15.33 | 0.77 | 0.437 | 0.066 | ( 0.393) | 0.371 |
| 185 | 15.42 | 0.77 | 0.437 | 0.065 | ( 0.393) | 0.372 |
| 186 | 15.50 | 0.77 | 0.437 | 0.065 | ( 0.393) | 0.372 |
| 187 | 15.58 | 0.63 | 0.361 | 0.065 | ( 0.325) | 0.296 |
| 188 | 15.67 | 0.63 | 0.361 | 0.064 | ( 0.325) | 0.297 |
| 189 | 15.75 | 0.63 | 0.361 | 0.064 | ( 0.325) | 0.297 |
| 190 | 15.83 | 0.63 | 0.361 | 0.064 | ( 0.325) | 0.297 |
| 191 | 15.92 | 0.63 | 0.361 | 0.064 | ( 0.325) | 0.297 |
| 192 | 16.00 | 0.63 | 0.361 | 0.063 | ( 0.325) | 0.298 |
| 193 | 16.08 | 0.13 | 0.076 | 0.063 | ( 0.068) | 0.013 |
| 194 | 16.17 | 0.13 | 0.076 | 0.063 | ( 0.068) | 0.013 |
| 195 | 16.25 | 0.13 | 0.076 | 0.062 | ( 0.068) | 0.014 |
| 196 | 16.33 | 0.13 | 0.076 | 0.062 | ( 0.068) | 0.014 |
| 197 | 16.42 | 0.13 | 0.076 | 0.062 | ( 0.068) | 0.014 |
| 198 | 16.50 | 0.13 | 0.076 | 0.061 | ( 0.068) | 0.015 |
| 199 | 16.58 | 0.10 | 0.057 | ( 0.061) | 0.051 | 0.006 |
| 200 | 16.67 | 0.10 | 0.057 | ( 0.061) | 0.051 | 0.006 |
| 201 | 16.75 | 0.10 | 0.057 | ( 0.060) | 0.051 | 0.006 |
| 202 | 16.83 | 0.10 | 0.057 | ( 0.060) | 0.051 | 0.006 |
| 203 | 16.92 | 0.10 | 0.057 | ( 0.060) | 0.051 | 0.006 |
| 204 | 17.00 | 0.10 | 0.057 | ( 0.059) | 0.051 | 0.006 |
| 205 | 17.08 | 0.17 | 0.095 | 0.059 | ( 0.085) | 0.036 |
| 206 | 17.17 | 0.17 | 0.095 | 0.059 | ( 0.085) | 0.036 |
| 207 | 17.25 | 0.17 | 0.095 | 0.059 | ( 0.085) | 0.036 |
| 208 | 17.33 | 0.17 | 0.095 | 0.058 | ( 0.085) | 0.037 |
| 209 | 17.42 | 0.17 | 0.095 | 0.058 | ( 0.085) | 0.037 |
| 210 | 17.50 | 0.17 | 0.095 | 0.058 | ( 0.085) | 0.037 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 211 | 17.58 | 0.17 | 0.095 | | 0.057 | ( | 0.085) | 0.038 |
| 212 | 17.67 | 0.17 | 0.095 | | 0.057 | ( | 0.085) | 0.038 |
| 213 | 17.75 | 0.17 | 0.095 | | 0.057 | ( | 0.085) | 0.038 |
| 214 | 17.83 | 0.13 | 0.076 | | 0.057 | ( | 0.068) | 0.019 |
| 215 | 17.92 | 0.13 | 0.076 | | 0.056 | ( | 0.068) | 0.020 |
| 216 | 18.00 | 0.13 | 0.076 | | 0.056 | ( | 0.068) | 0.020 |
| 217 | 18.08 | 0.13 | 0.076 | | 0.056 | ( | 0.068) | 0.020 |
| 218 | 18.17 | 0.13 | 0.076 | | 0.055 | ( | 0.068) | 0.021 |
| 219 | 18.25 | 0.13 | 0.076 | | 0.055 | ( | 0.068) | 0.021 |
| 220 | 18.33 | 0.13 | 0.076 | | 0.055 | ( | 0.068) | 0.021 |
| 221 | 18.42 | 0.13 | 0.076 | | 0.055 | ( | 0.068) | 0.021 |
| 222 | 18.50 | 0.13 | 0.076 | | 0.054 | ( | 0.068) | 0.022 |
| 223 | 18.58 | 0.10 | 0.057 | ( | 0.054) | | 0.051 | 0.006 |
| 224 | 18.67 | 0.10 | 0.057 | ( | 0.054) | | 0.051 | 0.006 |
| 225 | 18.75 | 0.10 | 0.057 | ( | 0.054) | | 0.051 | 0.006 |
| 226 | 18.83 | 0.07 | 0.038 | ( | 0.053) | | 0.034 | 0.004 |
| 227 | 18.92 | 0.07 | 0.038 | ( | 0.053) | | 0.034 | 0.004 |
| 228 | 19.00 | 0.07 | 0.038 | ( | 0.053) | | 0.034 | 0.004 |
| 229 | 19.08 | 0.10 | 0.057 | ( | 0.053) | | 0.051 | 0.006 |
| 230 | 19.17 | 0.10 | 0.057 | ( | 0.052) | | 0.051 | 0.006 |
| 231 | 19.25 | 0.10 | 0.057 | ( | 0.052) | | 0.051 | 0.006 |
| 232 | 19.33 | 0.13 | 0.076 | | 0.052 | ( | 0.068) | 0.024 |
| 233 | 19.42 | 0.13 | 0.076 | | 0.052 | ( | 0.068) | 0.024 |
| 234 | 19.50 | 0.13 | 0.076 | | 0.051 | ( | 0.068) | 0.025 |
| 235 | 19.58 | 0.10 | 0.057 | | 0.051 | ( | 0.051) | 0.006 |
| 236 | 19.67 | 0.10 | 0.057 | | 0.051 | ( | 0.051) | 0.006 |
| 237 | 19.75 | 0.10 | 0.057 | | 0.051 | ( | 0.051) | 0.006 |
| 238 | 19.83 | 0.07 | 0.038 | ( | 0.050) | | 0.034 | 0.004 |
| 239 | 19.92 | 0.07 | 0.038 | ( | 0.050) | | 0.034 | 0.004 |
| 240 | 20.00 | 0.07 | 0.038 | ( | 0.050) | | 0.034 | 0.004 |
| 241 | 20.08 | 0.10 | 0.057 | | 0.050 | ( | 0.051) | 0.007 |
| 242 | 20.17 | 0.10 | 0.057 | | 0.050 | ( | 0.051) | 0.007 |
| 243 | 20.25 | 0.10 | 0.057 | | 0.049 | ( | 0.051) | 0.008 |
| 244 | 20.33 | 0.10 | 0.057 | | 0.049 | ( | 0.051) | 0.008 |
| 245 | 20.42 | 0.10 | 0.057 | | 0.049 | ( | 0.051) | 0.008 |
| 246 | 20.50 | 0.10 | 0.057 | | 0.049 | ( | 0.051) | 0.008 |
| 247 | 20.58 | 0.10 | 0.057 | | 0.048 | ( | 0.051) | 0.009 |
| 248 | 20.67 | 0.10 | 0.057 | | 0.048 | ( | 0.051) | 0.009 |
| 249 | 20.75 | 0.10 | 0.057 | | 0.048 | ( | 0.051) | 0.009 |
| 250 | 20.83 | 0.07 | 0.038 | ( | 0.048) | | 0.034 | 0.004 |
| 251 | 20.92 | 0.07 | 0.038 | ( | 0.048) | | 0.034 | 0.004 |
| 252 | 21.00 | 0.07 | 0.038 | ( | 0.047) | | 0.034 | 0.004 |
| 253 | 21.08 | 0.10 | 0.057 | | 0.047 | ( | 0.051) | 0.010 |
| 254 | 21.17 | 0.10 | 0.057 | | 0.047 | ( | 0.051) | 0.010 |
| 255 | 21.25 | 0.10 | 0.057 | | 0.047 | ( | 0.051) | 0.010 |
| 256 | 21.33 | 0.07 | 0.038 | ( | 0.047) | | 0.034 | 0.004 |
| 257 | 21.42 | 0.07 | 0.038 | ( | 0.047) | | 0.034 | 0.004 |
| 258 | 21.50 | 0.07 | 0.038 | ( | 0.046) | | 0.034 | 0.004 |
| 259 | 21.58 | 0.10 | 0.057 | | 0.046 | ( | 0.051) | 0.011 |
| 260 | 21.67 | 0.10 | 0.057 | | 0.046 | ( | 0.051) | 0.011 |
| 261 | 21.75 | 0.10 | 0.057 | | 0.046 | ( | 0.051) | 0.011 |
| 262 | 21.83 | 0.07 | 0.038 | ( | 0.046) | | 0.034 | 0.004 |
| 263 | 21.92 | 0.07 | 0.038 | ( | 0.046) | | 0.034 | 0.004 |
| 264 | 22.00 | 0.07 | 0.038 | ( | 0.045) | | 0.034 | 0.004 |
| 265 | 22.08 | 0.10 | 0.057 | | 0.045 | ( | 0.051) | 0.012 |
| 266 | 22.17 | 0.10 | 0.057 | | 0.045 | ( | 0.051) | 0.012 |
| 267 | 22.25 | 0.10 | 0.057 | | 0.045 | ( | 0.051) | 0.012 |
| 268 | 22.33 | 0.07 | 0.038 | ( | 0.045) | | 0.034 | 0.004 |
| 269 | 22.42 | 0.07 | 0.038 | ( | 0.045) | | 0.034 | 0.004 |
| 270 | 22.50 | 0.07 | 0.038 | ( | 0.045) | | 0.034 | 0.004 |
| 271 | 22.58 | 0.07 | 0.038 | ( | 0.044) | | 0.034 | 0.004 |
| 272 | 22.67 | 0.07 | 0.038 | ( | 0.044) | | 0.034 | 0.004 |
| 273 | 22.75 | 0.07 | 0.038 | ( | 0.044) | | 0.034 | 0.004 |
| 274 | 22.83 | 0.07 | 0.038 | ( | 0.044) | | 0.034 | 0.004 |
| 275 | 22.92 | 0.07 | 0.038 | ( | 0.044) | | 0.034 | 0.004 |
| 276 | 23.00 | 0.07 | 0.038 | ( | 0.044) | | 0.034 | 0.004 |
| 277 | 23.08 | 0.07 | 0.038 | ( | 0.044) | | 0.034 | 0.004 |
| 278 | 23.17 | 0.07 | 0.038 | ( | 0.044) | | 0.034 | 0.004 |
| 279 | 23.25 | 0.07 | 0.038 | ( | 0.044) | | 0.034 | 0.004 |
| 280 | 23.33 | 0.07 | 0.038 | ( | 0.043) | | 0.034 | 0.004 |
| 281 | 23.42 | 0.07 | 0.038 | ( | 0.043) | | 0.034 | 0.004 |
| 282 | 23.50 | 0.07 | 0.038 | ( | 0.043) | | 0.034 | 0.004 |
| 283 | 23.58 | 0.07 | 0.038 | ( | 0.043) | | 0.034 | 0.004 |
| 284 | 23.67 | 0.07 | 0.038 | ( | 0.043) | | 0.034 | 0.004 |
| 285 | 23.75 | 0.07 | 0.038 | ( | 0.043) | | 0.034 | 0.004 |
| 286 | 23.83 | 0.07 | 0.038 | ( | 0.043) | | 0.034 | 0.004 |
| 287 | 23.92 | 0.07 | 0.038 | ( | 0.043) | | 0.034 | 0.004 |
| 288 | 24.00 | 0.07 | 0.038 | ( | 0.043) | | 0.034 | 0.004 |

(Loss Rate Not Used)
Sum = 100.0 Sum = 36.2
Flood volume = Effective rainfall 3.02(In)
times area 0.8(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 1.73(In)
Total soil loss = 0.115(Ac.Ft)
Total rainfall = 4.75(In)
Flood volume = 8764.4 Cubic Feet
Total soil loss = 5029.5 Cubic Feet

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Peak flow rate of this hydrograph = 0.462(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0000 | 0.00 | Q | | | | |
| 0+10 | 0.0000 | 0.00 | Q | | | | |
| 0+15 | 0.0001 | 0.00 | Q | | | | |
| 0+20 | 0.0001 | 0.00 | Q | | | | |
| 0+25 | 0.0001 | 0.00 | Q | | | | |
| 0+30 | 0.0002 | 0.00 | Q | | | | |
| 0+35 | 0.0002 | 0.00 | Q | | | | |
| 0+40 | 0.0002 | 0.00 | Q | | | | |
| 0+45 | 0.0002 | 0.00 | Q | | | | |
| 0+50 | 0.0003 | 0.01 | Q | | | | |
| 0+55 | 0.0003 | 0.01 | Q | | | | |
| 1+ 0 | 0.0004 | 0.01 | Q | | | | |
| 1+ 5 | 0.0004 | 0.00 | Q | | | | |
| 1+10 | 0.0004 | 0.00 | Q | | | | |
| 1+15 | 0.0005 | 0.00 | Q | | | | |
| 1+20 | 0.0005 | 0.00 | Q | | | | |
| 1+25 | 0.0005 | 0.00 | Q | | | | |
| 1+30 | 0.0006 | 0.00 | Q | | | | |
| 1+35 | 0.0006 | 0.00 | Q | | | | |
| 1+40 | 0.0006 | 0.00 | Q | | | | |
| 1+45 | 0.0007 | 0.00 | Q | | | | |
| 1+50 | 0.0007 | 0.01 | Q | | | | |
| 1+55 | 0.0007 | 0.01 | Q | | | | |
| 2+ 0 | 0.0008 | 0.01 | Q | | | | |
| 2+ 5 | 0.0008 | 0.01 | Q | | | | |
| 2+10 | 0.0009 | 0.01 | Q | | | | |
| 2+15 | 0.0009 | 0.01 | Q | | | | |
| 2+20 | 0.0010 | 0.01 | Q | | | | |
| 2+25 | 0.0010 | 0.01 | Q | | | | |
| 2+30 | 0.0010 | 0.01 | Q | | | | |
| 2+35 | 0.0011 | 0.01 | Q | | | | |
| 2+40 | 0.0011 | 0.01 | Q | | | | |
| 2+45 | 0.0012 | 0.01 | Q | | | | |
| 2+50 | 0.0012 | 0.01 | Q | | | | |
| 2+55 | 0.0013 | 0.01 | Q | | | | |
| 3+ 0 | 0.0013 | 0.01 | Q | | | | |
| 3+ 5 | 0.0014 | 0.01 | Q | | | | |
| 3+10 | 0.0015 | 0.01 | Q | | | | |
| 3+15 | 0.0015 | 0.01 | Q | | | | |
| 3+20 | 0.0016 | 0.01 | Q | | | | |
| 3+25 | 0.0016 | 0.01 | Q | | | | |
| 3+30 | 0.0017 | 0.01 | Q | | | | |
| 3+35 | 0.0017 | 0.01 | Q | | | | |
| 3+40 | 0.0018 | 0.01 | Q | | | | |
| 3+45 | 0.0018 | 0.01 | Q | | | | |
| 3+50 | 0.0019 | 0.01 | Q | | | | |
| 3+55 | 0.0019 | 0.01 | Q | | | | |
| 4+ 0 | 0.0020 | 0.01 | Q | | | | |
| 4+ 5 | 0.0021 | 0.01 | Q | | | | |
| 4+10 | 0.0021 | 0.01 | Q | | | | |
| 4+15 | 0.0022 | 0.01 | Q | | | | |
| 4+20 | 0.0023 | 0.01 | Q | | | | |
| 4+25 | 0.0023 | 0.01 | Q | | | | |
| 4+30 | 0.0024 | 0.01 | Q | | | | |
| 4+35 | 0.0025 | 0.01 | Q | | | | |
| 4+40 | 0.0026 | 0.01 | Q | | | | |
| 4+45 | 0.0026 | 0.01 | Q | | | | |

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 4+50       0.0028      0.02  Q          |          |          |          |
 4+55       0.0030      0.03  Q          |          |          |          |
 5+ 0       0.0031      0.03  Q          |          |          |          |
 5+ 5       0.0032      0.01  Q          |          |          |          |
 5+10       0.0033      0.01  Q          |          |          |          |
 5+15       0.0034      0.01  Q          |          |          |          |
 5+20       0.0034      0.01  Q          |          |          |          |
 5+25       0.0035      0.01  Q          |          |          |          |
 5+30       0.0036      0.01  Q          |          |          |          |
 5+35       0.0038      0.03  Q          |          |          |          |
 5+40       0.0040      0.03  Q          |          |          |          |
 5+45       0.0042      0.03  Q          |          |          |          |
 5+50       0.0044      0.03  Q          |          |          |          |
 5+55       0.0046      0.03  Q          |          |          |          |
 6+ 0       0.0048      0.03  Q          |          |          |          |
 6+ 5       0.0051      0.04  QV         |          |          |          |
 6+10       0.0055      0.05  QV         |          |          |          |
 6+15       0.0058      0.05  QV         |          |          |          |
 6+20       0.0061      0.05  QV         |          |          |          |
 6+25       0.0064      0.05  QV         |          |          |          |
 6+30       0.0068      0.05  QV         |          |          |          |
 6+35       0.0072      0.06  QV         |          |          |          |
 6+40       0.0076      0.06  QV         |          |          |          |
 6+45       0.0081      0.07  QV         |          |          |          |
 6+50       0.0085      0.07  QV         |          |          |          |
 6+55       0.0090      0.07  QV         |          |          |          |
 7+ 0       0.0095      0.07  QV         |          |          |          |
 7+ 5       0.0099      0.07  QV         |          |          |          |
 7+10       0.0104      0.07  Q V        |          |          |          |
 7+15       0.0108      0.07  Q V        |          |          |          |
 7+20       0.0114      0.08  Q V        |          |          |          |
 7+25       0.0120      0.08  Q V        |          |          |          |
 7+30       0.0125      0.08  Q V        |          |          |          |
 7+35       0.0132      0.10  Q V        |          |          |          |
 7+40       0.0139      0.10  Q V        |          |          |          |
 7+45       0.0146      0.10  Q V        |          |          |          |
 7+50       0.0154      0.11  Q  V       |          |          |          |
 7+55       0.0162      0.12  Q  V       |          |          |          |
 8+ 0       0.0170      0.12  Q  V       |          |          |          |
 8+ 5       0.0179      0.14  Q  V       |          |          |          |
 8+10       0.0190      0.15  Q  V       |          |          |          |
 8+15       0.0200      0.15  Q  V       |          |          |          |
 8+20       0.0210      0.15  Q   V      |          |          |          |
 8+25       0.0220      0.15  Q   V      |          |          |          |
 8+30       0.0231      0.15  Q   V      |          |          |          |
 8+35       0.0242      0.16  Q   V      |          |          |          |
 8+40       0.0253      0.17  Q    V     |          |          |          |
 8+45       0.0265      0.17  Q    V     |          |          |          |
 8+50       0.0277      0.18  Q    V     |          |          |          |
 8+55       0.0290      0.18  Q    V     |          |          |          |
 9+ 0       0.0302      0.18  Q     V    |          |          |          |
 9+ 5       0.0316      0.21  Q     V    |          |          |          |
 9+10       0.0331      0.21  Q     V    |          |          |          |
 9+15       0.0346      0.21  Q     V    |          |          |          |
 9+20       0.0362      0.23  Q      V   |          |          |          |
 9+25       0.0378      0.23  Q      V   |          |          |          |
 9+30       0.0393      0.23  Q      V   |          |          |          |
 9+35       0.0410      0.24  Q       V  |          |          |          |
 9+40       0.0427      0.25  Q       V  |          |          |          |
 9+45       0.0444      0.25  Q       V  |          |          |          |
 9+50       0.0462      0.26  |Q       V|          |          |          |
 9+55       0.0480      0.26  |Q       V|          |          |          |
10+ 0       0.0498      0.26  |Q       V|          |          |          |
10+ 5       0.0511      0.18  Q         V          |          |          |
10+10       0.0522      0.16  Q         V          |          |          |
10+15       0.0533      0.16  Q         V          |          |          |
10+20       0.0544      0.16  Q         V          |          |          |
10+25       0.0554      0.16  Q         |V         |          |          |
10+30       0.0565      0.16  Q         |V         |          |          |
10+35       0.0580      0.22  Q         |V         |          |          |
10+40       0.0597      0.24  Q         |V         |          |          |
10+45       0.0613      0.24  Q         | V        |          |          |
10+50       0.0629      0.24  Q         | V        |          |          |
10+55       0.0645      0.24  Q         | V        |          |          |
11+ 0       0.0662      0.24  Q         |  V       |          |          |
11+ 5       0.0677      0.23  Q         |  V       |          |          |
11+10       0.0693      0.22  Q         |  V       |          |          |
11+15       0.0708      0.22  Q         |   V      |          |          |
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11+20       0.0723      0.22  Q          |    V      |           |           |
11+25       0.0739      0.22  Q          |    V      |           |           |
11+30       0.0754      0.22  Q          |    V      |           |           |
11+35       0.0768      0.20  Q          |     V     |           |           |
11+40       0.0782      0.19  Q          |     V     |           |           |
11+45       0.0795      0.19  Q          |     V     |           |           |
11+50       0.0809      0.21  Q          |      V    |           |           |
11+55       0.0824      0.21  Q          |      V    |           |           |
12+ 0       0.0838      0.21  Q          |      V    |           |           |
12+ 5       0.0858      0.29  |Q         |       V   |           |           |
12+10       0.0880      0.32  |Q         |       V   |           |           |
12+15       0.0902      0.32  |Q         |       V   |           |           |
12+20       0.0925      0.33  |Q         |        V  |           |           |
12+25       0.0948      0.33  |Q         |        V  |           |           |
12+30       0.0971      0.34  |Q         |         V |           |           |
12+35       0.0996      0.36  |Q         |         V |           |           |
12+40       0.1021      0.37  |Q         |          V|           |           |
12+45       0.1046      0.37  |Q         |          V|           |           |
12+50       0.1072      0.38  |Q         |           |V          |           |
12+55       0.1099      0.38  |Q         |           |V          |           |
13+ 0       0.1125      0.38  |Q         |           | V         |           |
13+ 5       0.1156      0.44  |Q         |           | V         |           |
13+10       0.1187      0.46  |Q         |           |  V        |           |
13+15       0.1219      0.46  |Q         |           |   V       |           |
13+20       0.1251      0.46  |Q         |           |   V       |           |
13+25       0.1283      0.46  |Q         |           |    V      |           |
13+30       0.1314      0.46  |Q         |           |     V     |           |
13+35       0.1337      0.33  |Q         |           |     V     |           |
13+40       0.1358      0.29  |Q         |           |     V     |           |
13+45       0.1378      0.29  |Q         |           |      V    |           |
13+50       0.1398      0.29  |Q         |           |      V    |           |
13+55       0.1418      0.29  |Q         |           |       V   |           |
14+ 0       0.1439      0.29  |Q         |           |       V   |           |
14+ 5       0.1462      0.34  |Q         |           |        V|           |
14+10       0.1487      0.36  |Q         |           |        V|           |
14+15       0.1511      0.36  |Q         |           |         V           |
14+20       0.1535      0.35  |Q         |           |         V           |
14+25       0.1559      0.34  |Q         |           |         V           |
14+30       0.1582      0.34  |Q         |           |          |V         |
14+35       0.1606      0.34  |Q         |           |          |V         |
14+40       0.1629      0.34  |Q         |           |          | V        |
14+45       0.1653      0.34  |Q         |           |          | V        |
14+50       0.1676      0.33  |Q         |           |          |  V       |
14+55       0.1699      0.33  |Q         |           |          |  V       |
15+ 0       0.1721      0.33  |Q         |           |          |   V      |
15+ 5       0.1743      0.32  |Q         |           |          |   V      |
15+10       0.1765      0.31  |Q         |           |          |    V     |
15+15       0.1786      0.31  |Q         |           |          |    V     |
15+20       0.1807      0.30  |Q         |           |          |    V     |
15+25       0.1828      0.30  |Q         |           |          |     V    |
15+30       0.1849      0.30  |Q         |           |          |     V    |
15+35       0.1866      0.25  |Q         |           |          |      V   |
15+40       0.1883      0.24  Q          |           |          |      V   |
15+45       0.1899      0.24  Q          |           |          |      V   |
15+50       0.1916      0.24  Q          |           |          |       V  |
15+55       0.1932      0.24  Q          |           |          |       V  |
16+ 0       0.1949      0.24  Q          |           |          |       V  |
16+ 5       0.1953      0.07  Q          |           |          |       V  |
16+10       0.1954      0.01  Q          |           |          |       V  |
16+15       0.1955      0.01  Q          |           |          |       V  |
16+20       0.1955      0.01  Q          |           |          |       V  |
16+25       0.1956      0.01  Q          |           |          |       V  |
16+30       0.1957      0.01  Q          |           |          |       V  |
16+35       0.1957      0.01  Q          |           |          |       V  |
16+40       0.1958      0.00  Q          |           |          |       V  |
16+45       0.1958      0.00  Q          |           |          |       V  |
16+50       0.1958      0.00  Q          |           |          |       V  |
16+55       0.1959      0.00  Q          |           |          |       V  |
17+ 0       0.1959      0.00  Q          |           |          |       V  |
17+ 5       0.1961      0.02  Q          |           |          |       V  |
17+10       0.1963      0.03  Q          |           |          |        V|
17+15       0.1965      0.03  Q          |           |          |        V|
17+20       0.1967      0.03  Q          |           |          |        V|
17+25       0.1969      0.03  Q          |           |          |        V|
17+30       0.1971      0.03  Q          |           |          |        V|
17+35       0.1973      0.03  Q          |           |          |        V|
17+40       0.1975      0.03  Q          |           |          |        V|
17+45       0.1977      0.03  Q          |           |          |        V|
```

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+50 | 0.1978 | 0.02 | Q | \| | \| | \| | V\| |
| 17+55 | 0.1980 | 0.02 | Q | \| | \| | \| | V\| |
| 18+ 0 | 0.1981 | 0.02 | Q | \| | \| | \| | V\| |
| 18+ 5 | 0.1982 | 0.02 | Q | \| | \| | \| | V\| |
| 18+10 | 0.1983 | 0.02 | Q | \| | \| | \| | V\| |
| 18+15 | 0.1984 | 0.02 | Q | \| | \| | \| | V\| |
| 18+20 | 0.1985 | 0.02 | Q | \| | \| | \| | V\| |
| 18+25 | 0.1986 | 0.02 | Q | \| | \| | \| | V\| |
| 18+30 | 0.1988 | 0.02 | Q | \| | \| | \| | V\| |
| 18+35 | 0.1988 | 0.01 | Q | \| | \| | \| | V\| |
| 18+40 | 0.1988 | 0.00 | Q | \| | \| | \| | V\| |
| 18+45 | 0.1989 | 0.00 | Q | \| | \| | \| | V\| |
| 18+50 | 0.1989 | 0.00 | Q | \| | \| | \| | V\| |
| 18+55 | 0.1989 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 0 | 0.1989 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 5 | 0.1990 | 0.00 | Q | \| | \| | \| | V\| |
| 19+10 | 0.1990 | 0.00 | Q | \| | \| | \| | V\| |
| 19+15 | 0.1990 | 0.00 | Q | \| | \| | \| | V\| |
| 19+20 | 0.1991 | 0.02 | Q | \| | \| | \| | V\| |
| 19+25 | 0.1993 | 0.02 | Q | \| | \| | \| | V\| |
| 19+30 | 0.1994 | 0.02 | Q | \| | \| | \| | V\| |
| 19+35 | 0.1995 | 0.01 | Q | \| | \| | \| | V\| |
| 19+40 | 0.1995 | 0.00 | Q | \| | \| | \| | V\| |
| 19+45 | 0.1995 | 0.01 | Q | \| | \| | \| | V\| |
| 19+50 | 0.1996 | 0.00 | Q | \| | \| | \| | V\| |
| 19+55 | 0.1996 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 0 | 0.1996 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 5 | 0.1997 | 0.01 | Q | \| | \| | \| | V\| |
| 20+10 | 0.1997 | 0.01 | Q | \| | \| | \| | V\| |
| 20+15 | 0.1997 | 0.01 | Q | \| | \| | \| | V\| |
| 20+20 | 0.1998 | 0.01 | Q | \| | \| | \| | V\| |
| 20+25 | 0.1998 | 0.01 | Q | \| | \| | \| | V\| |
| 20+30 | 0.1999 | 0.01 | Q | \| | \| | \| | V\| |
| 20+35 | 0.1999 | 0.01 | Q | \| | \| | \| | V\| |
| 20+40 | 0.2000 | 0.01 | Q | \| | \| | \| | V\| |
| 20+45 | 0.2000 | 0.01 | Q | \| | \| | \| | V\| |
| 20+50 | 0.2000 | 0.00 | Q | \| | \| | \| | V\| |
| 20+55 | 0.2001 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 0 | 0.2001 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 5 | 0.2001 | 0.01 | Q | \| | \| | \| | V\| |
| 21+10 | 0.2002 | 0.01 | Q | \| | \| | \| | V\| |
| 21+15 | 0.2002 | 0.01 | Q | \| | \| | \| | V\| |
| 21+20 | 0.2003 | 0.00 | Q | \| | \| | \| | V\| |
| 21+25 | 0.2003 | 0.00 | Q | \| | \| | \| | V\| |
| 21+30 | 0.2003 | 0.00 | Q | \| | \| | \| | V\| |
| 21+35 | 0.2004 | 0.01 | Q | \| | \| | \| | V\| |
| 21+40 | 0.2004 | 0.01 | Q | \| | \| | \| | V\| |
| 21+45 | 0.2005 | 0.01 | Q | \| | \| | \| | V\| |
| 21+50 | 0.2005 | 0.00 | Q | \| | \| | \| | V\| |
| 21+55 | 0.2005 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 0 | 0.2006 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 5 | 0.2006 | 0.01 | Q | \| | \| | \| | V\| |
| 22+10 | 0.2007 | 0.01 | Q | \| | \| | \| | V\| |
| 22+15 | 0.2007 | 0.01 | Q | \| | \| | \| | V\| |
| 22+20 | 0.2008 | 0.00 | Q | \| | \| | \| | V\| |
| 22+25 | 0.2008 | 0.00 | Q | \| | \| | \| | V\| |
| 22+30 | 0.2008 | 0.00 | Q | \| | \| | \| | V\| |
| 22+35 | 0.2008 | 0.00 | Q | \| | \| | \| | V\| |
| 22+40 | 0.2009 | 0.00 | Q | \| | \| | \| | V\| |
| 22+45 | 0.2009 | 0.00 | Q | \| | \| | \| | V\| |
| 22+50 | 0.2009 | 0.00 | Q | \| | \| | \| | V\| |
| 22+55 | 0.2009 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 0 | 0.2009 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 5 | 0.2010 | 0.00 | Q | \| | \| | \| | V\| |
| 23+10 | 0.2010 | 0.00 | Q | \| | \| | \| | V\| |
| 23+15 | 0.2010 | 0.00 | Q | \| | \| | \| | V\| |
| 23+20 | 0.2010 | 0.00 | Q | \| | \| | \| | V\| |
| 23+25 | 0.2011 | 0.00 | Q | \| | \| | \| | V\| |
| 23+30 | 0.2011 | 0.00 | Q | \| | \| | \| | V\| |
| 23+35 | 0.2011 | 0.00 | Q | \| | \| | \| | V\| |
| 23+40 | 0.2011 | 0.00 | Q | \| | \| | \| | V\| |
| 23+45 | 0.2011 | 0.00 | Q | \| | \| | \| | V\| |
| 23+50 | 0.2012 | 0.00 | Q | \| | \| | \| | V\| |
| 23+55 | 0.2012 | 0.00 | Q | \| | \| | \| | V\| |
| 24+ 0 | 0.2012 | 0.00 | Q | \| | \| | \| | V\| |
| 24+ 5 | 0.2012 | 0.00 | Q | \| | \| | \| | V\| |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX431100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 43
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 16.60(Ac.) = 0.026 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 16.60(Ac.) = 0.026 Sq. Mi.
Length along longest watercourse = 1645.00(Ft.)
Length along longest watercourse measured to centroid = 715.00(Ft.)
Length along longest watercourse = 0.312 Mi.
Length along longest watercourse measured to centroid = 0.135 Mi.
Difference in elevation = 364.00(Ft.)
Slope along watercourse = 1168.3404 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.066 Hr.
Lag time = 3.96 Min.
25% of lag time = 0.99 Min.
40% of lag time = 1.58 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 16.60 | 0.50 | 8.30 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 16.60 | 1.20 | 19.92 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.98 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 16.600 | 84.00 | 0.000 |

Total Area Entered = 16.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 126.415 | 23.511 | 3.933 |
| 2 0.167 | 252.831 | 55.818 | 9.338 |
| 3 0.250 | 379.246 | 14.711 | 2.461 |
| 4 0.333 | 505.662 | 4.317 | 0.722 |
| 5 0.417 | 632.077 | 1.093 | 0.183 |
| 6 0.500 | 758.493 | 0.550 | 0.092 |
| | Sum = 100.000 | Sum= | 16.730 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 4.20 | 0.605 | 0.086 | ( 0.544) | 0.519 |
| 2 0.17 | 4.30 | 0.619 | 0.086 | ( 0.557) | 0.533 |
| 3 0.25 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 4 0.33 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 5 0.42 | 5.80 | 0.835 | 0.086 | ( 0.752) | 0.749 |
| 6 0.50 | 6.50 | 0.936 | 0.086 | ( 0.842) | 0.850 |
| 7 0.58 | 7.40 | 1.065 | 0.086 | ( 0.959) | 0.980 |
| 8 0.67 | 8.60 | 1.238 | 0.086 | ( 1.114) | 1.152 |
| 9 0.75 | 12.30 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 10 0.83 | 29.10 | 4.190 | 0.086 | ( 3.771) | 4.104 |
| 11 0.92 | 6.80 | 0.979 | 0.086 | ( 0.881) | 0.893 |
| 12 1.00 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 13.4 |

Flood volume = Effective rainfall 1.11(In)
times area 16.6(Ac.)/[(In)/(Ft.)] = 1.5(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.119(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 67128.6 Cubic Feet
Total soil loss = 5170.1 Cubic Feet

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Peak flow rate of this hydrograph = 47.098(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 12.5 25.0 37.5 50.0 |
|---|---|---|---|
| 0+ 5 | 0.0141 | 2.04 | VQ |
| 0+10 | 0.0619 | 6.95 | V Q |
| 0+15 | 0.1222 | 8.76 | V Q |
| 0+20 | 0.1918 | 10.11 | V Q |
| 0+25 | 0.2670 | 10.91 | V Q |
| 0+30 | 0.3532 | 12.51 | VQ |
| 0+35 | 0.4514 | 14.27 | Q |
| 0+40 | 0.5650 | 16.50 | QV |
| 0+45 | 0.7070 | 20.62 | Q V |
| 0+50 | 0.9527 | 35.66 | V Q |
| 0+55 | 1.2770 | 47.10 | V Q |
| 1+ 0 | 1.4317 | 22.47 | Q V |
| 1+ 5 | 1.5110 | 11.50 | Q V |
| 1+10 | 1.5324 | 3.11 | Q V |
| 1+15 | 1.5393 | 1.00 | Q V |

```
    1+20       1.5407      0.20  Q         |         |         |        V|
    1+25       1.5411      0.06  Q         |         |         |         V
-------------------------------------------------------------------------
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX433100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 43
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 16.60(Ac.) = 0.026 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 16.60(Ac.) = 0.026 Sq. Mi.
Length along longest watercourse = 1645.00(Ft.)
Length along longest watercourse measured to centroid = 715.00(Ft.)
Length along longest watercourse = 0.312 Mi.
Length along longest watercourse measured to centroid = 0.135 Mi.
Difference in elevation = 364.00(Ft.)
Slope along watercourse = 1168.3404 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.066 Hr.
Lag time = 3.96 Min.
25% of lag time = 0.99 Min.
40% of lag time = 1.58 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 16.60 | 0.81 | 13.45 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 16.60 | 1.82 | 30.21 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.810(In)
Area Averaged 100-Year Rainfall = 1.820(In)

Point rain (area averaged) = 1.820(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.820(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 16.600 | 84.00 | 0.000 |

Total Area Entered = 16.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 126.415 | 23.511 | 3.933 |
| 2 0.167 | 252.831 | 55.818 | 9.338 |
| 3 0.250 | 379.246 | 14.711 | 2.461 |
| 4 0.333 | 505.662 | 4.317 | 0.722 |
| 5 0.417 | 632.077 | 1.093 | 0.183 |
| 6 0.500 | 758.493 | 0.550 | 0.092 |
| | Sum = | 100.000 Sum= | 16.730 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.284 | 0.086 | ( | 0.256) | 0.198 |
| 2 | 0.17 | 1.30 | 0.284 | 0.086 | ( | 0.256) | 0.198 |
| 3 | 0.25 | 1.10 | 0.240 | 0.086 | ( | 0.216) | 0.154 |
| 4 | 0.33 | 1.50 | 0.328 | 0.086 | ( | 0.295) | 0.242 |
| 5 | 0.42 | 1.50 | 0.328 | 0.086 | ( | 0.295) | 0.242 |
| 6 | 0.50 | 1.80 | 0.393 | 0.086 | ( | 0.354) | 0.307 |
| 7 | 0.58 | 1.50 | 0.328 | 0.086 | ( | 0.295) | 0.242 |
| 8 | 0.67 | 1.80 | 0.393 | 0.086 | ( | 0.354) | 0.307 |
| 9 | 0.75 | 1.80 | 0.393 | 0.086 | ( | 0.354) | 0.307 |
| 10 | 0.83 | 1.50 | 0.328 | 0.086 | ( | 0.295) | 0.242 |
| 11 | 0.92 | 1.60 | 0.349 | 0.086 | ( | 0.314) | 0.264 |
| 12 | 1.00 | 1.80 | 0.393 | 0.086 | ( | 0.354) | 0.307 |
| 13 | 1.08 | 2.20 | 0.480 | 0.086 | ( | 0.432) | 0.395 |
| 14 | 1.17 | 2.20 | 0.480 | 0.086 | ( | 0.432) | 0.395 |
| 15 | 1.25 | 2.20 | 0.480 | 0.086 | ( | 0.432) | 0.395 |
| 16 | 1.33 | 2.00 | 0.437 | 0.086 | ( | 0.393) | 0.351 |
| 17 | 1.42 | 2.60 | 0.568 | 0.086 | ( | 0.511) | 0.482 |
| 18 | 1.50 | 2.70 | 0.590 | 0.086 | ( | 0.531) | 0.504 |
| 19 | 1.58 | 2.40 | 0.524 | 0.086 | ( | 0.472) | 0.438 |
| 20 | 1.67 | 2.70 | 0.590 | 0.086 | ( | 0.531) | 0.504 |
| 21 | 1.75 | 3.30 | 0.721 | 0.086 | ( | 0.649) | 0.635 |
| 22 | 1.83 | 3.10 | 0.677 | 0.086 | ( | 0.609) | 0.591 |
| 23 | 1.92 | 2.90 | 0.633 | 0.086 | ( | 0.570) | 0.548 |
| 24 | 2.00 | 3.00 | 0.655 | 0.086 | ( | 0.590) | 0.569 |
| 25 | 2.08 | 3.10 | 0.677 | 0.086 | ( | 0.609) | 0.591 |
| 26 | 2.17 | 4.20 | 0.917 | 0.086 | ( | 0.825) | 0.831 |
| 27 | 2.25 | 5.00 | 1.092 | 0.086 | ( | 0.983) | 1.006 |
| 28 | 2.33 | 3.50 | 0.764 | 0.086 | ( | 0.688) | 0.679 |
| 29 | 2.42 | 6.80 | 1.485 | 0.086 | ( | 1.337) | 1.399 |
| 30 | 2.50 | 7.30 | 1.594 | 0.086 | ( | 1.435) | 1.508 |
| 31 | 2.58 | 8.20 | 1.791 | 0.086 | ( | 1.612) | 1.705 |
| 32 | 2.67 | 5.90 | 1.288 | 0.086 | ( | 1.160) | 1.203 |
| 33 | 2.75 | 2.00 | 0.437 | 0.086 | ( | 0.393) | 0.351 |
| 34 | 2.83 | 1.80 | 0.393 | 0.086 | ( | 0.354) | 0.307 |
| 35 | 2.92 | 1.80 | 0.393 | 0.086 | ( | 0.354) | 0.307 |
| 36 | 3.00 | 0.60 | 0.131 | 0.086 | ( | 0.118) | 0.045 |
| | | (Loss Rate Not Used) | | | | | |
| Sum = | | 100.0 | | | | Sum = | 18.7 |

Flood volume = Effective rainfall 1.56(In)
times area 16.6(Ac.)/[(In)/(Ft.)] = 2.2(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.356(Ac.Ft)
Total rainfall = 1.82(In)
Flood volume = 94151.2 Cubic Feet
Total soil loss = 15510.4 Cubic Feet

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Peak flow rate of this hydrograph = 25.604(CFS)

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3 - H O U R S T O R M

R u n o f f  H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 7.5 | 15.0 | 22.5 | 30.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0054 | 0.78 | VQ | | | | |
| 0+10 | 0.0235 | 2.63 | V Q | | | | |
| 0+15 | 0.0438 | 2.95 | V Q | | | | |
| 0+20 | 0.0646 | 3.03 | V Q | | | | |
| 0+25 | 0.0906 | 3.77 | V Q | | | | |
| 0+30 | 0.1197 | 4.23 | V Q | | | | |
| 0+35 | 0.1517 | 4.64 | V Q | | | | |
| 0+40 | 0.1824 | 4.46 | V Q | | | | |
| 0+45 | 0.2165 | 4.96 | V Q | | | | |
| 0+50 | 0.2498 | 4.83 | V Q | | | | |
| 0+55 | 0.2798 | 4.35 | Q | | | | |
| 1+ 0 | 0.3112 | 4.57 | VQ | | | | |
| 1+ 5 | 0.3480 | 5.33 | VQ | | | | |
| 1+10 | 0.3911 | 6.26 | VQ | | | | |
| 1+15 | 0.4359 | 6.50 | Q | | | | |
| 1+20 | 0.4800 | 6.41 | Q | | | | |
| 1+25 | 0.5250 | 6.53 | QV | | | | |
| 1+30 | 0.5783 | 7.74 | Q | | | | |
| 1+35 | 0.6333 | 7.98 | QV | | | | |
| 1+40 | 0.6868 | 7.77 | Q V | | | | |
| 1+45 | 0.7472 | 8.77 | Q V | | | | |
| 1+50 | 0.8157 | 9.95 | Q V | | | | |
| 1+55 | 0.8827 | 9.73 | Q V | | | | |
| 2+ 0 | 0.9475 | 9.40 | Q V | | | | |
| 2+ 5 | 1.0135 | 9.58 | Q V | | | | |
| 2+10 | 1.0876 | 10.76 | Q V | | | | |
| 2+15 | 1.1823 | 13.75 | Q V | | | | |
| 2+20 | 1.2835 | 14.70 | Q V | | | | |
| 2+25 | 1.3874 | 15.08 | Q V | | | | |
| 2+30 | 1.5363 | 21.61 | Q | | | | |
| 2+35 | 1.7084 | 25.00 | V Q | | | | |
| 2+40 | 1.8848 | 25.60 | Q | | | | |
| 2+45 | 2.0103 | 18.22 | Q V | | | | |
| 2+50 | 2.0729 | 9.09 | Q V | | | | |
| 2+55 | 2.1160 | 6.26 | Q V | | | | |
| 3+ 0 | 2.1466 | 4.44 | Q V | | | | |
| 3+ 5 | 2.1574 | 1.58 | Q V | | | | |
| 3+10 | 2.1603 | 0.42 | Q V | | | | |
| 3+15 | 2.1611 | 0.12 | Q V | | | | |
| 3+20 | 2.1614 | 0.04 | Q V | | | | |
| 3+25 | 2.1614 | 0.00 | Q V | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 43
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 16.60(Ac.) = 0.026 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 16.60(Ac.) = 0.026 Sq. Mi.
Length along longest watercourse = 1645.00(Ft.)
Length along longest watercourse measured to centroid = 715.00(Ft.)
Length along longest watercourse = 0.312 Mi.
Length along longest watercourse measured to centroid = 0.135 Mi.
Difference in elevation = 364.00(Ft.)
Slope along watercourse = 1168.3404 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.066 Hr.
Lag time = 3.96 Min.
25% of lag time = 0.99 Min.
40% of lag time = 1.58 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 16.60 | 1.15 | 19.09 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 16.60 | 2.50 | 41.50 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.150(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 16.600 | 84.00 | 0.000 |

Total Area Entered = 16.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 126.415 | 23.511 | 3.933 |
| 2 | 0.167 | 252.831 | 55.818 | 9.338 |
| 3 | 0.250 | 379.246 | 14.711 | 2.461 |
| 4 | 0.333 | 505.662 | 4.317 | 0.722 |
| 5 | 0.417 | 632.077 | 1.093 | 0.183 |
| 6 | 0.500 | 758.493 | 0.550 | 0.092 |
| | | Sum = | 100.000 Sum= | 16.730 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.086 | ( | 0.135) | 0.064 |
| 2 | 0.17 | 0.60 | 0.180 | 0.086 | ( | 0.162) | 0.094 |
| 3 | 0.25 | 0.60 | 0.180 | 0.086 | ( | 0.162) | 0.094 |
| 4 | 0.33 | 0.60 | 0.180 | 0.086 | ( | 0.162) | 0.094 |
| 5 | 0.42 | 0.60 | 0.180 | 0.086 | ( | 0.162) | 0.094 |
| 6 | 0.50 | 0.70 | 0.210 | 0.086 | ( | 0.189) | 0.124 |
| 7 | 0.58 | 0.70 | 0.210 | 0.086 | ( | 0.189) | 0.124 |
| 8 | 0.67 | 0.70 | 0.210 | 0.086 | ( | 0.189) | 0.124 |
| 9 | 0.75 | 0.70 | 0.210 | 0.086 | ( | 0.189) | 0.124 |
| 10 | 0.83 | 0.70 | 0.210 | 0.086 | ( | 0.189) | 0.124 |
| 11 | 0.92 | 0.70 | 0.210 | 0.086 | ( | 0.189) | 0.124 |
| 12 | 1.00 | 0.80 | 0.240 | 0.086 | ( | 0.216) | 0.154 |
| 13 | 1.08 | 0.80 | 0.240 | 0.086 | ( | 0.216) | 0.154 |
| 14 | 1.17 | 0.80 | 0.240 | 0.086 | ( | 0.216) | 0.154 |
| 15 | 1.25 | 0.80 | 0.240 | 0.086 | ( | 0.216) | 0.154 |
| 16 | 1.33 | 0.80 | 0.240 | 0.086 | ( | 0.216) | 0.154 |
| 17 | 1.42 | 0.80 | 0.240 | 0.086 | ( | 0.216) | 0.154 |
| 18 | 1.50 | 0.80 | 0.240 | 0.086 | ( | 0.216) | 0.154 |
| 19 | 1.58 | 0.80 | 0.240 | 0.086 | ( | 0.216) | 0.154 |
| 20 | 1.67 | 0.80 | 0.240 | 0.086 | ( | 0.216) | 0.154 |
| 21 | 1.75 | 0.80 | 0.240 | 0.086 | ( | 0.216) | 0.154 |
| 22 | 1.83 | 0.80 | 0.240 | 0.086 | ( | 0.216) | 0.154 |
| 23 | 1.92 | 0.80 | 0.240 | 0.086 | ( | 0.216) | 0.154 |
| 24 | 2.00 | 0.90 | 0.270 | 0.086 | ( | 0.243) | 0.184 |
| 25 | 2.08 | 0.80 | 0.240 | 0.086 | ( | 0.216) | 0.154 |
| 26 | 2.17 | 0.90 | 0.270 | 0.086 | ( | 0.243) | 0.184 |
| 27 | 2.25 | 0.90 | 0.270 | 0.086 | ( | 0.243) | 0.184 |
| 28 | 2.33 | 0.90 | 0.270 | 0.086 | ( | 0.243) | 0.184 |
| 29 | 2.42 | 0.90 | 0.270 | 0.086 | ( | 0.243) | 0.184 |
| 30 | 2.50 | 0.90 | 0.270 | 0.086 | ( | 0.243) | 0.184 |
| 31 | 2.58 | 0.90 | 0.270 | 0.086 | ( | 0.243) | 0.184 |
| 32 | 2.67 | 0.90 | 0.270 | 0.086 | ( | 0.243) | 0.184 |
| 33 | 2.75 | 1.00 | 0.300 | 0.086 | ( | 0.270) | 0.214 |
| 34 | 2.83 | 1.00 | 0.300 | 0.086 | ( | 0.270) | 0.214 |
| 35 | 2.92 | 1.00 | 0.300 | 0.086 | ( | 0.270) | 0.214 |
| 36 | 3.00 | 1.00 | 0.300 | 0.086 | ( | 0.270) | 0.214 |
| 37 | 3.08 | 1.00 | 0.300 | 0.086 | ( | 0.270) | 0.214 |
| 38 | 3.17 | 1.10 | 0.330 | 0.086 | ( | 0.297) | 0.244 |
| 39 | 3.25 | 1.10 | 0.330 | 0.086 | ( | 0.297) | 0.244 |
| 40 | 3.33 | 1.10 | 0.330 | 0.086 | ( | 0.297) | 0.244 |
| 41 | 3.42 | 1.20 | 0.360 | 0.086 | ( | 0.324) | 0.274 |
| 42 | 3.50 | 1.30 | 0.390 | 0.086 | ( | 0.351) | 0.304 |
| 43 | 3.58 | 1.40 | 0.420 | 0.086 | ( | 0.378) | 0.334 |
| 44 | 3.67 | 1.40 | 0.420 | 0.086 | ( | 0.378) | 0.334 |
| 45 | 3.75 | 1.50 | 0.450 | 0.086 | ( | 0.405) | 0.364 |
| 46 | 3.83 | 1.50 | 0.450 | 0.086 | ( | 0.405) | 0.364 |
| 47 | 3.92 | 1.60 | 0.480 | 0.086 | ( | 0.432) | 0.394 |
| 48 | 4.00 | 1.60 | 0.480 | 0.086 | ( | 0.432) | 0.394 |
| 49 | 4.08 | 1.70 | 0.510 | 0.086 | ( | 0.459) | 0.424 |
| 50 | 4.17 | 1.80 | 0.540 | 0.086 | ( | 0.486) | 0.454 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 51 | 4.25 | 1.90 | 0.570 | 0.086 | ( 0.513) | 0.484 | |
| 52 | 4.33 | 2.00 | 0.600 | 0.086 | ( 0.540) | 0.514 | |
| 53 | 4.42 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 | |
| 54 | 4.50 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 | |
| 55 | 4.58 | 2.20 | 0.660 | 0.086 | ( 0.594) | 0.574 | |
| 56 | 4.67 | 2.30 | 0.690 | 0.086 | ( 0.621) | 0.604 | |
| 57 | 4.75 | 2.40 | 0.720 | 0.086 | ( 0.648) | 0.634 | |
| 58 | 4.83 | 2.40 | 0.720 | 0.086 | ( 0.648) | 0.634 | |
| 59 | 4.92 | 2.50 | 0.750 | 0.086 | ( 0.675) | 0.664 | |
| 60 | 5.00 | 2.60 | 0.780 | 0.086 | ( 0.702) | 0.694 | |
| 61 | 5.08 | 3.10 | 0.930 | 0.086 | ( 0.837) | 0.844 | |
| 62 | 5.17 | 3.60 | 1.080 | 0.086 | ( 0.972) | 0.994 | |
| 63 | 5.25 | 3.90 | 1.170 | 0.086 | ( 1.053) | 1.084 | |
| 64 | 5.33 | 4.20 | 1.260 | 0.086 | ( 1.134) | 1.174 | |
| 65 | 5.42 | 4.70 | 1.410 | 0.086 | ( 1.269) | 1.324 | |
| 66 | 5.50 | 5.60 | 1.680 | 0.086 | ( 1.512) | 1.594 | |
| 67 | 5.58 | 1.90 | 0.570 | 0.086 | ( 0.513) | 0.484 | |
| 68 | 5.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 | |
| 69 | 5.75 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 | |
| 70 | 5.83 | 0.50 | 0.150 | 0.086 | ( 0.135) | 0.064 | |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.086) | 0.081 | 0.009 | |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.086) | 0.054 | 0.006 | |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.9

Flood volume = Effective rainfall 1.99(In)
times area 16.6(Ac.)/[(In)/(Ft.)] = 2.8(Ac.Ft)
Total soil loss = 0.51(In)
Total soil loss = 0.708(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 119799.4 Cubic Feet
Total soil loss = 30837.0 Cubic Feet

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Peak flow rate of this hydrograph = 22.579(CFS)

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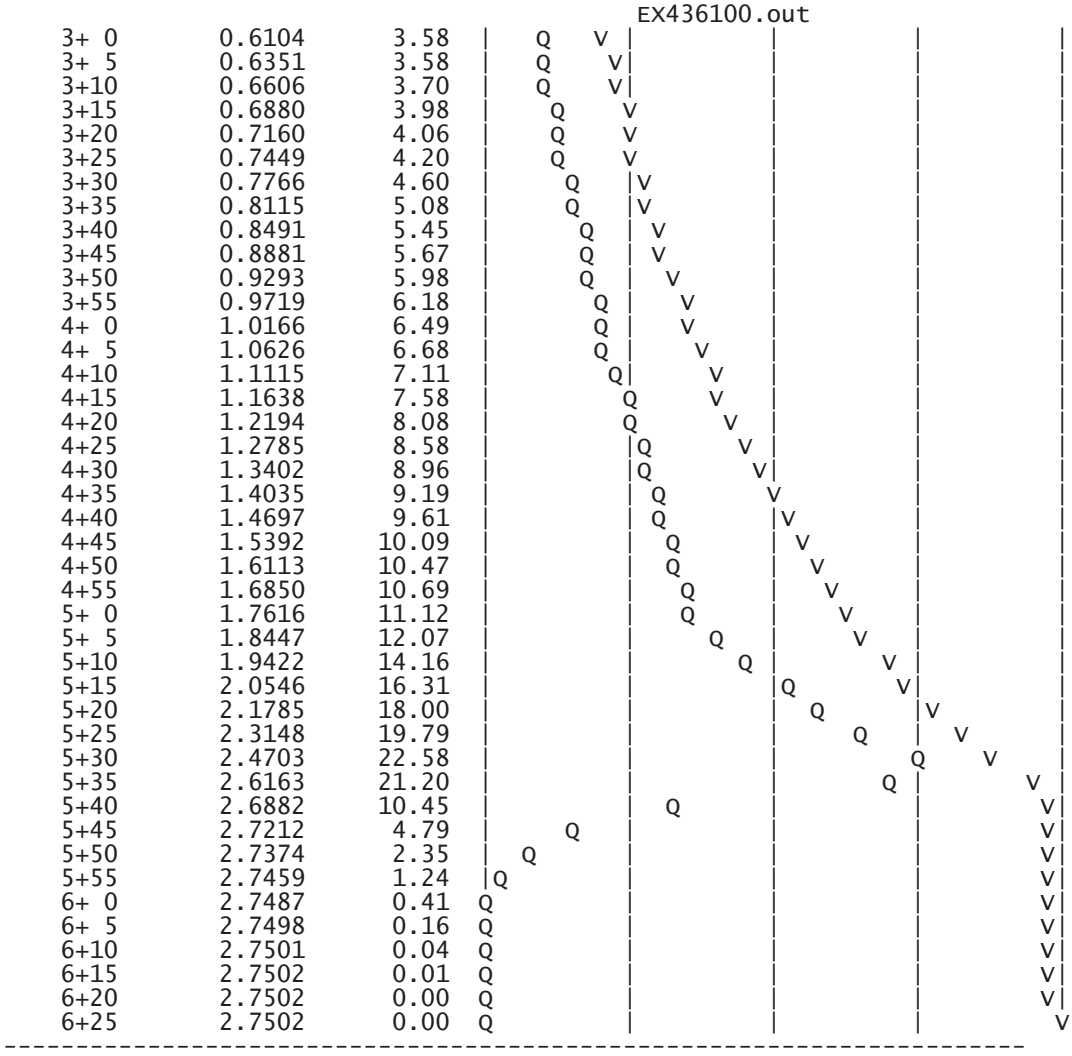
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 7.5 | 15.0 | 22.5 | 30.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0017 | 0.25 | Q | | | | |
| 0+10 | 0.0084 | 0.97 | VQ | | | | |
| 0+15 | 0.0181 | 1.41 | VQ | | | | |
| 0+20 | 0.0287 | 1.53 | V Q | | | | |
| 0+25 | 0.0394 | 1.56 | V Q | | | | |
| 0+30 | 0.0511 | 1.69 | V Q | | | | |
| 0+35 | 0.0647 | 1.97 | V Q | | | | |
| 0+40 | 0.0788 | 2.05 | \|VQ | | | | |
| 0+45 | 0.0930 | 2.07 | \|VQ | | | | |
| 0+50 | 0.1073 | 2.08 | \|VQ | | | | |
| 0+55 | 0.1217 | 2.08 | \|VQ | | | | |
| 1+ 0 | 0.1368 | 2.20 | \|VQ | | | | |
| 1+ 5 | 0.1538 | 2.48 | \| VQ | | | | |
| 1+10 | 0.1714 | 2.55 | \| VQ | | | | |
| 1+15 | 0.1891 | 2.57 | \| VQ | | | | |
| 1+20 | 0.2069 | 2.58 | \| Q | | | | |
| 1+25 | 0.2247 | 2.58 | \| Q | | | | |
| 1+30 | 0.2424 | 2.58 | \| Q | | | | |
| 1+35 | 0.2602 | 2.58 | \| Q | | | | |
| 1+40 | 0.2780 | 2.58 | \| QV | | | | |
| 1+45 | 0.2958 | 2.58 | \| QV | | | | |
| 1+50 | 0.3135 | 2.58 | \| QV | | | | |
| 1+55 | 0.3313 | 2.58 | \| QV | | | | |
| 2+ 0 | 0.3499 | 2.70 | \| Q V | | | | |
| 2+ 5 | 0.3696 | 2.86 | \| Q V | | | | |
| 2+10 | 0.3887 | 2.77 | \| Q V | | | | |
| 2+15 | 0.4094 | 3.00 | \| QV | | | | |
| 2+20 | 0.4304 | 3.06 | \| Q V | | | | |
| 2+25 | 0.4516 | 3.08 | \| Q V | | | | |
| 2+30 | 0.4728 | 3.08 | \| Q V | | | | |
| 2+35 | 0.4941 | 3.08 | \| Q V | | | | |
| 2+40 | 0.5153 | 3.08 | \| Q V | | | | |
| 2+45 | 0.5373 | 3.20 | \| Q V | | | | |
| 2+50 | 0.5613 | 3.48 | \| Q V | | | | |
| 2+55 | 0.5858 | 3.56 | \| Q V | | | | |



| | | | |
|---|---|---|---|
| 3+ 0 | 0.6104 | 3.58 | |
| 3+ 5 | 0.6351 | 3.58 | |
| 3+10 | 0.6606 | 3.70 | |
| 3+15 | 0.6880 | 3.98 | |
| 3+20 | 0.7160 | 4.06 | |
| 3+25 | 0.7449 | 4.20 | |
| 3+30 | 0.7766 | 4.60 | |
| 3+35 | 0.8115 | 5.08 | |
| 3+40 | 0.8491 | 5.45 | |
| 3+45 | 0.8881 | 5.67 | |
| 3+50 | 0.9293 | 5.98 | |
| 3+55 | 0.9719 | 6.18 | |
| 4+ 0 | 1.0166 | 6.49 | |
| 4+ 5 | 1.0626 | 6.68 | |
| 4+10 | 1.1115 | 7.11 | |
| 4+15 | 1.1638 | 7.58 | |
| 4+20 | 1.2194 | 8.08 | |
| 4+25 | 1.2785 | 8.58 | |
| 4+30 | 1.3402 | 8.96 | |
| 4+35 | 1.4035 | 9.19 | |
| 4+40 | 1.4697 | 9.61 | |
| 4+45 | 1.5392 | 10.09 | |
| 4+50 | 1.6113 | 10.47 | |
| 4+55 | 1.6850 | 10.69 | |
| 5+ 0 | 1.7616 | 11.12 | |
| 5+ 5 | 1.8447 | 12.07 | |
| 5+10 | 1.9422 | 14.16 | |
| 5+15 | 2.0546 | 16.31 | |
| 5+20 | 2.1785 | 18.00 | |
| 5+25 | 2.3148 | 19.79 | |
| 5+30 | 2.4703 | 22.58 | |
| 5+35 | 2.6163 | 21.20 | |
| 5+40 | 2.6882 | 10.45 | |
| 5+45 | 2.7212 | 4.79 | |
| 5+50 | 2.7374 | 2.35 | |
| 5+55 | 2.7459 | 1.24 | |
| 6+ 0 | 2.7487 | 0.41 | |
| 6+ 5 | 2.7498 | 0.16 | |
| 6+10 | 2.7501 | 0.04 | |
| 6+15 | 2.7502 | 0.01 | |
| 6+20 | 2.7502 | 0.00 | |
| 6+25 | 2.7502 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX4324100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 43
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 16.60(Ac.) = 0.026 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 16.60(Ac.) = 0.026 Sq. Mi.
Length along longest watercourse = 1645.00(Ft.)
Length along longest watercourse measured to centroid = 715.00(Ft.)
Length along longest watercourse = 0.312 Mi.
Length along longest watercourse measured to centroid = 0.135 Mi.
Difference in elevation = 364.00(Ft.)
Slope along watercourse = 1168.3404 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.066 Hr.
Lag time = 3.96 Min.
25% of lag time = 0.99 Min.
40% of lag time = 1.58 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 16.60 | 1.80 | 29.88 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 16.60 | 4.74 | 78.68 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.740(In)

Point rain (area averaged) = 4.740(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.740(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 16.600 | 84.00 | 0.000 |

Total Area Entered = 16.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 126.415 | 23.511 | 3.933 |
| 2 | 0.167 | 252.831 | 55.818 | 9.338 |
| 3 | 0.250 | 379.246 | 14.711 | 2.461 |
| 4 | 0.333 | 505.662 | 4.317 | 0.722 |
| 5 | 0.417 | 632.077 | 1.093 | 0.183 |
| 6 | 0.500 | 758.493 | 0.550 | 0.092 |
| | | | Sum = 100.000 | Sum= 16.730 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.038 | ( 0.152) | 0.034 | 0.004 |
| 2 | 0.17 | 0.07 | 0.038 | ( 0.152) | 0.034 | 0.004 |
| 3 | 0.25 | 0.07 | 0.038 | ( 0.151) | 0.034 | 0.004 |
| 4 | 0.33 | 0.10 | 0.057 | ( 0.150) | 0.051 | 0.006 |
| 5 | 0.42 | 0.10 | 0.057 | ( 0.150) | 0.051 | 0.006 |
| 6 | 0.50 | 0.10 | 0.057 | ( 0.149) | 0.051 | 0.006 |
| 7 | 0.58 | 0.10 | 0.057 | ( 0.149) | 0.051 | 0.006 |
| 8 | 0.67 | 0.10 | 0.057 | ( 0.148) | 0.051 | 0.006 |
| 9 | 0.75 | 0.10 | 0.057 | ( 0.147) | 0.051 | 0.006 |
| 10 | 0.83 | 0.13 | 0.076 | ( 0.147) | 0.068 | 0.008 |
| 11 | 0.92 | 0.13 | 0.076 | ( 0.146) | 0.068 | 0.008 |
| 12 | 1.00 | 0.13 | 0.076 | ( 0.146) | 0.068 | 0.008 |
| 13 | 1.08 | 0.10 | 0.057 | ( 0.145) | 0.051 | 0.006 |
| 14 | 1.17 | 0.10 | 0.057 | ( 0.145) | 0.051 | 0.006 |
| 15 | 1.25 | 0.10 | 0.057 | ( 0.144) | 0.051 | 0.006 |
| 16 | 1.33 | 0.10 | 0.057 | ( 0.143) | 0.051 | 0.006 |
| 17 | 1.42 | 0.10 | 0.057 | ( 0.143) | 0.051 | 0.006 |
| 18 | 1.50 | 0.10 | 0.057 | ( 0.142) | 0.051 | 0.006 |
| 19 | 1.58 | 0.10 | 0.057 | ( 0.142) | 0.051 | 0.006 |
| 20 | 1.67 | 0.10 | 0.057 | ( 0.141) | 0.051 | 0.006 |
| 21 | 1.75 | 0.10 | 0.057 | ( 0.141) | 0.051 | 0.006 |
| 22 | 1.83 | 0.13 | 0.076 | ( 0.140) | 0.068 | 0.008 |
| 23 | 1.92 | 0.13 | 0.076 | ( 0.139) | 0.068 | 0.008 |
| 24 | 2.00 | 0.13 | 0.076 | ( 0.139) | 0.068 | 0.008 |
| 25 | 2.08 | 0.13 | 0.076 | ( 0.138) | 0.068 | 0.008 |
| 26 | 2.17 | 0.13 | 0.076 | ( 0.138) | 0.068 | 0.008 |
| 27 | 2.25 | 0.13 | 0.076 | ( 0.137) | 0.068 | 0.008 |
| 28 | 2.33 | 0.13 | 0.076 | ( 0.137) | 0.068 | 0.008 |
| 29 | 2.42 | 0.13 | 0.076 | ( 0.136) | 0.068 | 0.008 |
| 30 | 2.50 | 0.13 | 0.076 | ( 0.136) | 0.068 | 0.008 |
| 31 | 2.58 | 0.17 | 0.095 | ( 0.135) | 0.085 | 0.009 |
| 32 | 2.67 | 0.17 | 0.095 | ( 0.134) | 0.085 | 0.009 |
| 33 | 2.75 | 0.17 | 0.095 | ( 0.134) | 0.085 | 0.009 |
| 34 | 2.83 | 0.17 | 0.095 | ( 0.133) | 0.085 | 0.009 |
| 35 | 2.92 | 0.17 | 0.095 | ( 0.133) | 0.085 | 0.009 |
| 36 | 3.00 | 0.17 | 0.095 | ( 0.132) | 0.085 | 0.009 |
| 37 | 3.08 | 0.17 | 0.095 | ( 0.132) | 0.085 | 0.009 |
| 38 | 3.17 | 0.17 | 0.095 | ( 0.131) | 0.085 | 0.009 |
| 39 | 3.25 | 0.17 | 0.095 | ( 0.131) | 0.085 | 0.009 |
| 40 | 3.33 | 0.17 | 0.095 | ( 0.130) | 0.085 | 0.009 |
| 41 | 3.42 | 0.17 | 0.095 | ( 0.129) | 0.085 | 0.009 |
| 42 | 3.50 | 0.17 | 0.095 | ( 0.129) | 0.085 | 0.009 |
| 43 | 3.58 | 0.17 | 0.095 | ( 0.128) | 0.085 | 0.009 |
| 44 | 3.67 | 0.17 | 0.095 | ( 0.128) | 0.085 | 0.009 |
| 45 | 3.75 | 0.17 | 0.095 | ( 0.127) | 0.085 | 0.009 |
| 46 | 3.83 | 0.20 | 0.114 | ( 0.127) | 0.102 | 0.011 |
| 47 | 3.92 | 0.20 | 0.114 | ( 0.126) | 0.102 | 0.011 |
| 48 | 4.00 | 0.20 | 0.114 | ( 0.126) | 0.102 | 0.011 |
| 49 | 4.08 | 0.20 | 0.114 | ( 0.125) | 0.102 | 0.011 |
| 50 | 4.17 | 0.20 | 0.114 | ( 0.125) | 0.102 | 0.011 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 51 | 4.25 | 0.20 | 0.114 | ( | 0.124) | 0.102 | | 0.011 |
| 52 | 4.33 | 0.23 | 0.133 | ( | 0.124) | 0.119 | | 0.013 |
| 53 | 4.42 | 0.23 | 0.133 | ( | 0.123) | 0.119 | | 0.013 |
| 54 | 4.50 | 0.23 | 0.133 | ( | 0.123) | 0.119 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.133 | ( | 0.122) | 0.119 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.133 | ( | 0.121) | 0.119 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.133 | ( | 0.121) | 0.119 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.152 | | 0.120 | ( 0.137) | | 0.031 |
| 59 | 4.92 | 0.27 | 0.152 | | 0.120 | ( 0.137) | | 0.032 |
| 60 | 5.00 | 0.27 | 0.152 | | 0.119 | ( 0.137) | | 0.032 |
| 61 | 5.08 | 0.20 | 0.114 | ( | 0.119) | 0.102 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.114 | ( | 0.118) | 0.102 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.114 | ( | 0.118) | 0.102 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.133 | | 0.117 | ( 0.119) | | 0.015 |
| 65 | 5.42 | 0.23 | 0.133 | | 0.117 | ( 0.119) | | 0.016 |
| 66 | 5.50 | 0.23 | 0.133 | | 0.116 | ( 0.119) | | 0.016 |
| 67 | 5.58 | 0.27 | 0.152 | | 0.116 | ( 0.137) | | 0.036 |
| 68 | 5.67 | 0.27 | 0.152 | | 0.115 | ( 0.137) | | 0.036 |
| 69 | 5.75 | 0.27 | 0.152 | | 0.115 | ( 0.137) | | 0.037 |
| 70 | 5.83 | 0.27 | 0.152 | | 0.114 | ( 0.137) | | 0.037 |
| 71 | 5.92 | 0.27 | 0.152 | | 0.114 | ( 0.137) | | 0.038 |
| 72 | 6.00 | 0.27 | 0.152 | | 0.113 | ( 0.137) | | 0.038 |
| 73 | 6.08 | 0.30 | 0.171 | | 0.113 | ( 0.154) | | 0.058 |
| 74 | 6.17 | 0.30 | 0.171 | | 0.112 | ( 0.154) | | 0.058 |
| 75 | 6.25 | 0.30 | 0.171 | | 0.112 | ( 0.154) | | 0.059 |
| 76 | 6.33 | 0.30 | 0.171 | | 0.111 | ( 0.154) | | 0.059 |
| 77 | 6.42 | 0.30 | 0.171 | | 0.111 | ( 0.154) | | 0.060 |
| 78 | 6.50 | 0.30 | 0.171 | | 0.110 | ( 0.154) | | 0.060 |
| 79 | 6.58 | 0.33 | 0.190 | | 0.110 | ( 0.171) | | 0.080 |
| 80 | 6.67 | 0.33 | 0.190 | | 0.109 | ( 0.171) | | 0.080 |
| 81 | 6.75 | 0.33 | 0.190 | | 0.109 | ( 0.171) | | 0.081 |
| 82 | 6.83 | 0.33 | 0.190 | | 0.108 | ( 0.171) | | 0.081 |
| 83 | 6.92 | 0.33 | 0.190 | | 0.108 | ( 0.171) | | 0.082 |
| 84 | 7.00 | 0.33 | 0.190 | | 0.107 | ( 0.171) | | 0.082 |
| 85 | 7.08 | 0.33 | 0.190 | | 0.107 | ( 0.171) | | 0.083 |
| 86 | 7.17 | 0.33 | 0.190 | | 0.106 | ( 0.171) | | 0.083 |
| 87 | 7.25 | 0.33 | 0.190 | | 0.106 | ( 0.171) | | 0.084 |
| 88 | 7.33 | 0.37 | 0.209 | | 0.105 | ( 0.188) | | 0.103 |
| 89 | 7.42 | 0.37 | 0.209 | | 0.105 | ( 0.188) | | 0.104 |
| 90 | 7.50 | 0.37 | 0.209 | | 0.104 | ( 0.188) | | 0.104 |
| 91 | 7.58 | 0.40 | 0.228 | | 0.104 | ( 0.205) | | 0.124 |
| 92 | 7.67 | 0.40 | 0.228 | | 0.103 | ( 0.205) | | 0.124 |
| 93 | 7.75 | 0.40 | 0.228 | | 0.103 | ( 0.205) | | 0.125 |
| 94 | 7.83 | 0.43 | 0.246 | | 0.102 | ( 0.222) | | 0.144 |
| 95 | 7.92 | 0.43 | 0.246 | | 0.102 | ( 0.222) | | 0.144 |
| 96 | 8.00 | 0.43 | 0.246 | | 0.102 | ( 0.222) | | 0.145 |
| 97 | 8.08 | 0.50 | 0.284 | | 0.101 | ( 0.256) | | 0.183 |
| 98 | 8.17 | 0.50 | 0.284 | | 0.101 | ( 0.256) | | 0.184 |
| 99 | 8.25 | 0.50 | 0.284 | | 0.100 | ( 0.256) | | 0.184 |
| 100 | 8.33 | 0.50 | 0.284 | | 0.100 | ( 0.256) | | 0.185 |
| 101 | 8.42 | 0.50 | 0.284 | | 0.099 | ( 0.256) | | 0.185 |
| 102 | 8.50 | 0.50 | 0.284 | | 0.099 | ( 0.256) | | 0.186 |
| 103 | 8.58 | 0.53 | 0.303 | | 0.098 | ( 0.273) | | 0.205 |
| 104 | 8.67 | 0.53 | 0.303 | | 0.098 | ( 0.273) | | 0.206 |
| 105 | 8.75 | 0.53 | 0.303 | | 0.097 | ( 0.273) | | 0.206 |
| 106 | 8.83 | 0.57 | 0.322 | | 0.097 | ( 0.290) | | 0.225 |
| 107 | 8.92 | 0.57 | 0.322 | | 0.096 | ( 0.290) | | 0.226 |
| 108 | 9.00 | 0.57 | 0.322 | | 0.096 | ( 0.290) | | 0.226 |
| 109 | 9.08 | 0.63 | 0.360 | | 0.096 | ( 0.324) | | 0.265 |
| 110 | 9.17 | 0.63 | 0.360 | | 0.095 | ( 0.324) | | 0.265 |
| 111 | 9.25 | 0.63 | 0.360 | | 0.095 | ( 0.324) | | 0.266 |
| 112 | 9.33 | 0.67 | 0.379 | | 0.094 | ( 0.341) | | 0.285 |
| 113 | 9.42 | 0.67 | 0.379 | | 0.094 | ( 0.341) | | 0.285 |
| 114 | 9.50 | 0.67 | 0.379 | | 0.093 | ( 0.341) | | 0.286 |
| 115 | 9.58 | 0.70 | 0.398 | | 0.093 | ( 0.358) | | 0.305 |
| 116 | 9.67 | 0.70 | 0.398 | | 0.092 | ( 0.358) | | 0.306 |
| 117 | 9.75 | 0.70 | 0.398 | | 0.092 | ( 0.358) | | 0.306 |
| 118 | 9.83 | 0.73 | 0.417 | | 0.091 | ( 0.375) | | 0.326 |
| 119 | 9.92 | 0.73 | 0.417 | | 0.091 | ( 0.375) | | 0.326 |
| 120 | 10.00 | 0.73 | 0.417 | | 0.091 | ( 0.375) | | 0.327 |
| 121 | 10.08 | 0.50 | 0.284 | | 0.090 | ( 0.256) | | 0.194 |
| 122 | 10.17 | 0.50 | 0.284 | | 0.090 | ( 0.256) | | 0.195 |
| 123 | 10.25 | 0.50 | 0.284 | | 0.089 | ( 0.256) | | 0.195 |
| 124 | 10.33 | 0.50 | 0.284 | | 0.089 | ( 0.256) | | 0.196 |
| 125 | 10.42 | 0.50 | 0.284 | | 0.088 | ( 0.256) | | 0.196 |
| 126 | 10.50 | 0.50 | 0.284 | | 0.088 | ( 0.256) | | 0.196 |
| 127 | 10.58 | 0.67 | 0.379 | | 0.088 | ( 0.341) | | 0.292 |
| 128 | 10.67 | 0.67 | 0.379 | | 0.087 | ( 0.341) | | 0.292 |

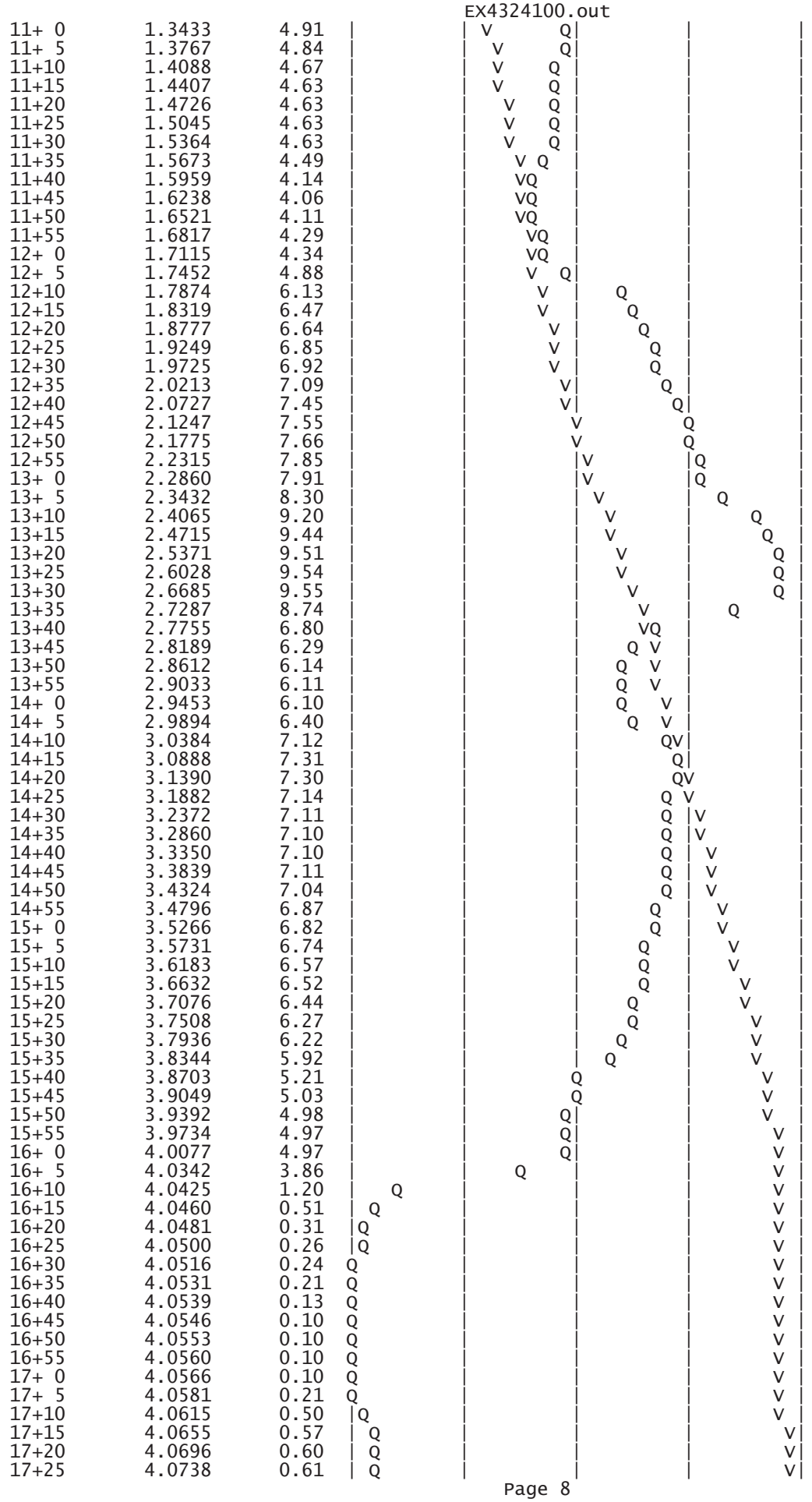
| | | | | | | |
|---|---|---|---|---|---|---|
| 129 | 10.75 | 0.67 | 0.379 | 0.087 | ( 0.341) | 0.292 |
| 130 | 10.83 | 0.67 | 0.379 | 0.086 | ( 0.341) | 0.293 |
| 131 | 10.92 | 0.67 | 0.379 | 0.086 | ( 0.341) | 0.293 |
| 132 | 11.00 | 0.67 | 0.379 | 0.085 | ( 0.341) | 0.294 |
| 133 | 11.08 | 0.63 | 0.360 | 0.085 | ( 0.324) | 0.275 |
| 134 | 11.17 | 0.63 | 0.360 | 0.085 | ( 0.324) | 0.276 |
| 135 | 11.25 | 0.63 | 0.360 | 0.084 | ( 0.324) | 0.276 |
| 136 | 11.33 | 0.63 | 0.360 | 0.084 | ( 0.324) | 0.276 |
| 137 | 11.42 | 0.63 | 0.360 | 0.083 | ( 0.324) | 0.277 |
| 138 | 11.50 | 0.63 | 0.360 | 0.083 | ( 0.324) | 0.277 |
| 139 | 11.58 | 0.57 | 0.322 | 0.083 | ( 0.290) | 0.240 |
| 140 | 11.67 | 0.57 | 0.322 | 0.082 | ( 0.290) | 0.240 |
| 141 | 11.75 | 0.57 | 0.322 | 0.082 | ( 0.290) | 0.241 |
| 142 | 11.83 | 0.60 | 0.341 | 0.081 | ( 0.307) | 0.260 |
| 143 | 11.92 | 0.60 | 0.341 | 0.081 | ( 0.307) | 0.260 |
| 144 | 12.00 | 0.60 | 0.341 | 0.080 | ( 0.307) | 0.261 |
| 145 | 12.08 | 0.83 | 0.474 | 0.080 | ( 0.427) | 0.394 |
| 146 | 12.17 | 0.83 | 0.474 | 0.080 | ( 0.427) | 0.394 |
| 147 | 12.25 | 0.83 | 0.474 | 0.079 | ( 0.427) | 0.395 |
| 148 | 12.33 | 0.87 | 0.493 | 0.079 | ( 0.444) | 0.414 |
| 149 | 12.42 | 0.87 | 0.493 | 0.078 | ( 0.444) | 0.414 |
| 150 | 12.50 | 0.87 | 0.493 | 0.078 | ( 0.444) | 0.415 |
| 151 | 12.58 | 0.93 | 0.531 | 0.078 | ( 0.478) | 0.453 |
| 152 | 12.67 | 0.93 | 0.531 | 0.077 | ( 0.478) | 0.454 |
| 153 | 12.75 | 0.93 | 0.531 | 0.077 | ( 0.478) | 0.454 |
| 154 | 12.83 | 0.97 | 0.550 | 0.077 | ( 0.495) | 0.473 |
| 155 | 12.92 | 0.97 | 0.550 | 0.076 | ( 0.495) | 0.474 |
| 156 | 13.00 | 0.97 | 0.550 | 0.076 | ( 0.495) | 0.474 |
| 157 | 13.08 | 1.13 | 0.645 | 0.075 | ( 0.580) | 0.569 |
| 158 | 13.17 | 1.13 | 0.645 | 0.075 | ( 0.580) | 0.570 |
| 159 | 13.25 | 1.13 | 0.645 | 0.075 | ( 0.580) | 0.570 |
| 160 | 13.33 | 1.13 | 0.645 | 0.074 | ( 0.580) | 0.570 |
| 161 | 13.42 | 1.13 | 0.645 | 0.074 | ( 0.580) | 0.571 |
| 162 | 13.50 | 1.13 | 0.645 | 0.073 | ( 0.580) | 0.571 |
| 163 | 13.58 | 0.77 | 0.436 | 0.073 | ( 0.392) | 0.363 |
| 164 | 13.67 | 0.77 | 0.436 | 0.073 | ( 0.392) | 0.363 |
| 165 | 13.75 | 0.77 | 0.436 | 0.072 | ( 0.392) | 0.364 |
| 166 | 13.83 | 0.77 | 0.436 | 0.072 | ( 0.392) | 0.364 |
| 167 | 13.92 | 0.77 | 0.436 | 0.072 | ( 0.392) | 0.364 |
| 168 | 14.00 | 0.77 | 0.436 | 0.071 | ( 0.392) | 0.365 |
| 169 | 14.08 | 0.90 | 0.512 | 0.071 | ( 0.461) | 0.441 |
| 170 | 14.17 | 0.90 | 0.512 | 0.071 | ( 0.461) | 0.441 |
| 171 | 14.25 | 0.90 | 0.512 | 0.070 | ( 0.461) | 0.442 |
| 172 | 14.33 | 0.87 | 0.493 | 0.070 | ( 0.444) | 0.423 |
| 173 | 14.42 | 0.87 | 0.493 | 0.069 | ( 0.444) | 0.423 |
| 174 | 14.50 | 0.87 | 0.493 | 0.069 | ( 0.444) | 0.424 |
| 175 | 14.58 | 0.87 | 0.493 | 0.069 | ( 0.444) | 0.424 |
| 176 | 14.67 | 0.87 | 0.493 | 0.068 | ( 0.444) | 0.425 |
| 177 | 14.75 | 0.87 | 0.493 | 0.068 | ( 0.444) | 0.425 |
| 178 | 14.83 | 0.83 | 0.474 | 0.068 | ( 0.427) | 0.406 |
| 179 | 14.92 | 0.83 | 0.474 | 0.067 | ( 0.427) | 0.407 |
| 180 | 15.00 | 0.83 | 0.474 | 0.067 | ( 0.427) | 0.407 |
| 181 | 15.08 | 0.80 | 0.455 | 0.067 | ( 0.410) | 0.388 |
| 182 | 15.17 | 0.80 | 0.455 | 0.066 | ( 0.410) | 0.389 |
| 183 | 15.25 | 0.80 | 0.455 | 0.066 | ( 0.410) | 0.389 |
| 184 | 15.33 | 0.77 | 0.436 | 0.066 | ( 0.392) | 0.370 |
| 185 | 15.42 | 0.77 | 0.436 | 0.065 | ( 0.392) | 0.371 |
| 186 | 15.50 | 0.77 | 0.436 | 0.065 | ( 0.392) | 0.371 |
| 187 | 15.58 | 0.63 | 0.360 | 0.065 | ( 0.324) | 0.296 |
| 188 | 15.67 | 0.63 | 0.360 | 0.064 | ( 0.324) | 0.296 |
| 189 | 15.75 | 0.63 | 0.360 | 0.064 | ( 0.324) | 0.296 |
| 190 | 15.83 | 0.63 | 0.360 | 0.064 | ( 0.324) | 0.297 |
| 191 | 15.92 | 0.63 | 0.360 | 0.063 | ( 0.324) | 0.297 |
| 192 | 16.00 | 0.63 | 0.360 | 0.063 | ( 0.324) | 0.297 |
| 193 | 16.08 | 0.13 | 0.076 | 0.063 | ( 0.068) | 0.013 |
| 194 | 16.17 | 0.13 | 0.076 | 0.062 | ( 0.068) | 0.013 |
| 195 | 16.25 | 0.13 | 0.076 | 0.062 | ( 0.068) | 0.014 |
| 196 | 16.33 | 0.13 | 0.076 | 0.062 | ( 0.068) | 0.014 |
| 197 | 16.42 | 0.13 | 0.076 | 0.061 | ( 0.068) | 0.014 |
| 198 | 16.50 | 0.13 | 0.076 | 0.061 | ( 0.068) | 0.015 |
| 199 | 16.58 | 0.10 | 0.057 | ( 0.061) | 0.051 | 0.006 |
| 200 | 16.67 | 0.10 | 0.057 | ( 0.060) | 0.051 | 0.006 |
| 201 | 16.75 | 0.10 | 0.057 | ( 0.060) | 0.051 | 0.006 |
| 202 | 16.83 | 0.10 | 0.057 | ( 0.060) | 0.051 | 0.006 |
| 203 | 16.92 | 0.10 | 0.057 | ( 0.060) | 0.051 | 0.006 |
| 204 | 17.00 | 0.10 | 0.057 | ( 0.059) | 0.051 | 0.006 |
| 205 | 17.08 | 0.17 | 0.095 | 0.059 | ( 0.085) | 0.036 |
| 206 | 17.17 | 0.17 | 0.095 | 0.059 | ( 0.085) | 0.036 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 207 | 17.25 | 0.17 | 0.095 | 0.058 | ( 0.085) | 0.036 |
| 208 | 17.33 | 0.17 | 0.095 | 0.058 | ( 0.085) | 0.037 |
| 209 | 17.42 | 0.17 | 0.095 | 0.058 | ( 0.085) | 0.037 |
| 210 | 17.50 | 0.17 | 0.095 | 0.058 | ( 0.085) | 0.037 |
| 211 | 17.58 | 0.17 | 0.095 | 0.057 | ( 0.085) | 0.038 |
| 212 | 17.67 | 0.17 | 0.095 | 0.057 | ( 0.085) | 0.038 |
| 213 | 17.75 | 0.17 | 0.095 | 0.057 | ( 0.085) | 0.038 |
| 214 | 17.83 | 0.13 | 0.076 | 0.056 | ( 0.068) | 0.019 |
| 215 | 17.92 | 0.13 | 0.076 | 0.056 | ( 0.068) | 0.020 |
| 216 | 18.00 | 0.13 | 0.076 | 0.056 | ( 0.068) | 0.020 |
| 217 | 18.08 | 0.13 | 0.076 | 0.056 | ( 0.068) | 0.020 |
| 218 | 18.17 | 0.13 | 0.076 | 0.055 | ( 0.068) | 0.021 |
| 219 | 18.25 | 0.13 | 0.076 | 0.055 | ( 0.068) | 0.021 |
| 220 | 18.33 | 0.13 | 0.076 | 0.055 | ( 0.068) | 0.021 |
| 221 | 18.42 | 0.13 | 0.076 | 0.054 | ( 0.068) | 0.021 |
| 222 | 18.50 | 0.13 | 0.076 | 0.054 | ( 0.068) | 0.022 |
| 223 | 18.58 | 0.10 | 0.057 | ( 0.054) | 0.051 | 0.006 |
| 224 | 18.67 | 0.10 | 0.057 | ( 0.054) | 0.051 | 0.006 |
| 225 | 18.75 | 0.10 | 0.057 | ( 0.053) | 0.051 | 0.006 |
| 226 | 18.83 | 0.07 | 0.038 | ( 0.053) | 0.034 | 0.004 |
| 227 | 18.92 | 0.07 | 0.038 | ( 0.053) | 0.034 | 0.004 |
| 228 | 19.00 | 0.07 | 0.038 | ( 0.053) | 0.034 | 0.004 |
| 229 | 19.08 | 0.10 | 0.057 | ( 0.052) | 0.051 | 0.006 |
| 230 | 19.17 | 0.10 | 0.057 | ( 0.052) | 0.051 | 0.006 |
| 231 | 19.25 | 0.10 | 0.057 | ( 0.052) | 0.051 | 0.006 |
| 232 | 19.33 | 0.13 | 0.076 | 0.052 | ( 0.068) | 0.024 |
| 233 | 19.42 | 0.13 | 0.076 | 0.051 | ( 0.068) | 0.024 |
| 234 | 19.50 | 0.13 | 0.076 | 0.051 | ( 0.068) | 0.025 |
| 235 | 19.58 | 0.10 | 0.057 | 0.051 | ( 0.051) | 0.006 |
| 236 | 19.67 | 0.10 | 0.057 | 0.051 | ( 0.051) | 0.006 |
| 237 | 19.75 | 0.10 | 0.057 | 0.050 | ( 0.051) | 0.006 |
| 238 | 19.83 | 0.07 | 0.038 | ( 0.050) | 0.034 | 0.004 |
| 239 | 19.92 | 0.07 | 0.038 | ( 0.050) | 0.034 | 0.004 |
| 240 | 20.00 | 0.07 | 0.038 | ( 0.050) | 0.034 | 0.004 |
| 241 | 20.08 | 0.10 | 0.057 | 0.050 | ( 0.051) | 0.007 |
| 242 | 20.17 | 0.10 | 0.057 | 0.049 | ( 0.051) | 0.007 |
| 243 | 20.25 | 0.10 | 0.057 | 0.049 | ( 0.051) | 0.008 |
| 244 | 20.33 | 0.10 | 0.057 | 0.049 | ( 0.051) | 0.008 |
| 245 | 20.42 | 0.10 | 0.057 | 0.049 | ( 0.051) | 0.008 |
| 246 | 20.50 | 0.10 | 0.057 | 0.049 | ( 0.051) | 0.008 |
| 247 | 20.58 | 0.10 | 0.057 | 0.048 | ( 0.051) | 0.009 |
| 248 | 20.67 | 0.10 | 0.057 | 0.048 | ( 0.051) | 0.009 |
| 249 | 20.75 | 0.10 | 0.057 | 0.048 | ( 0.051) | 0.009 |
| 250 | 20.83 | 0.07 | 0.038 | ( 0.048) | 0.034 | 0.004 |
| 251 | 20.92 | 0.07 | 0.038 | ( 0.048) | 0.034 | 0.004 |
| 252 | 21.00 | 0.07 | 0.038 | ( 0.047) | 0.034 | 0.004 |
| 253 | 21.08 | 0.10 | 0.057 | 0.047 | ( 0.051) | 0.010 |
| 254 | 21.17 | 0.10 | 0.057 | 0.047 | ( 0.051) | 0.010 |
| 255 | 21.25 | 0.10 | 0.057 | 0.047 | ( 0.051) | 0.010 |
| 256 | 21.33 | 0.07 | 0.038 | ( 0.047) | 0.034 | 0.004 |
| 257 | 21.42 | 0.07 | 0.038 | ( 0.046) | 0.034 | 0.004 |
| 258 | 21.50 | 0.07 | 0.038 | ( 0.046) | 0.034 | 0.004 |
| 259 | 21.58 | 0.10 | 0.057 | 0.046 | ( 0.051) | 0.011 |
| 260 | 21.67 | 0.10 | 0.057 | 0.046 | ( 0.051) | 0.011 |
| 261 | 21.75 | 0.10 | 0.057 | 0.046 | ( 0.051) | 0.011 |
| 262 | 21.83 | 0.07 | 0.038 | ( 0.046) | 0.034 | 0.004 |
| 263 | 21.92 | 0.07 | 0.038 | ( 0.045) | 0.034 | 0.004 |
| 264 | 22.00 | 0.07 | 0.038 | ( 0.045) | 0.034 | 0.004 |
| 265 | 22.08 | 0.10 | 0.057 | 0.045 | ( 0.051) | 0.012 |
| 266 | 22.17 | 0.10 | 0.057 | 0.045 | ( 0.051) | 0.012 |
| 267 | 22.25 | 0.10 | 0.057 | 0.045 | ( 0.051) | 0.012 |
| 268 | 22.33 | 0.07 | 0.038 | ( 0.045) | 0.034 | 0.004 |
| 269 | 22.42 | 0.07 | 0.038 | ( 0.045) | 0.034 | 0.004 |
| 270 | 22.50 | 0.07 | 0.038 | ( 0.044) | 0.034 | 0.004 |
| 271 | 22.58 | 0.07 | 0.038 | ( 0.044) | 0.034 | 0.004 |
| 272 | 22.67 | 0.07 | 0.038 | ( 0.044) | 0.034 | 0.004 |
| 273 | 22.75 | 0.07 | 0.038 | ( 0.044) | 0.034 | 0.004 |
| 274 | 22.83 | 0.07 | 0.038 | ( 0.044) | 0.034 | 0.004 |
| 275 | 22.92 | 0.07 | 0.038 | ( 0.044) | 0.034 | 0.004 |
| 276 | 23.00 | 0.07 | 0.038 | ( 0.044) | 0.034 | 0.004 |
| 277 | 23.08 | 0.07 | 0.038 | ( 0.044) | 0.034 | 0.004 |
| 278 | 23.17 | 0.07 | 0.038 | ( 0.044) | 0.034 | 0.004 |
| 279 | 23.25 | 0.07 | 0.038 | ( 0.043) | 0.034 | 0.004 |
| 280 | 23.33 | 0.07 | 0.038 | ( 0.043) | 0.034 | 0.004 |
| 281 | 23.42 | 0.07 | 0.038 | ( 0.043) | 0.034 | 0.004 |
| 282 | 23.50 | 0.07 | 0.038 | ( 0.043) | 0.034 | 0.004 |
| 283 | 23.58 | 0.07 | 0.038 | ( 0.043) | 0.034 | 0.004 |
| 284 | 23.67 | 0.07 | 0.038 | ( 0.043) | 0.034 | 0.004 |

```
285  23.75     0.07      0.038       (  0.043)       0.034        0.004
286  23.83     0.07      0.038       (  0.043)       0.034        0.004
287  23.92     0.07      0.038       (  0.043)       0.034        0.004
288  24.00     0.07      0.038       (  0.043)       0.034        0.004
              (Loss Rate Not Used)
    Sum =     100.0                                    Sum =    36.1
       Flood volume = Effective rainfall      3.01(In)
        times area      16.6(Ac.)/[(In)/(Ft.)] =       4.2(Ac.Ft)
       Total soil loss =      1.73(In)
       Total soil loss =     2.390(Ac.Ft)
       Total rainfall =      4.74(In)
       Flood volume =      181515.6 Cubic Feet
       Total soil loss =      104098.1 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =      9.553(CFS)
       ---------------------------------------------------------------------
       +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
       ---------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))

       ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5       10.0
 ----------------------------------------------------------------------------
   0+ 5       0.0001      0.01  Q          |         |         |         |
   0+10       0.0004      0.05  Q          |         |         |         |
   0+15       0.0009      0.06  Q          |         |         |         |
   0+20       0.0013      0.07  Q          |         |         |         |
   0+25       0.0020      0.09  Q          |         |         |         |
   0+30       0.0026      0.09  Q          |         |         |         |
   0+35       0.0032      0.09  Q          |         |         |         |
   0+40       0.0039      0.10  Q          |         |         |         |
   0+45       0.0046      0.10  Q          |         |         |         |
   0+50       0.0053      0.10  Q          |         |         |         |
   0+55       0.0061      0.12  Q          |         |         |         |
   1+ 0       0.0070      0.13  Q          |         |         |         |
   1+ 5       0.0078      0.12  Q          |         |         |         |
   1+10       0.0085      0.10  Q          |         |         |         |
   1+15       0.0091      0.10  Q          |         |         |         |
   1+20       0.0098      0.10  Q          |         |         |         |
   1+25       0.0105      0.10  Q          |         |         |         |
   1+30       0.0111      0.10  Q          |         |         |         |
   1+35       0.0118      0.10  Q          |         |         |         |
   1+40       0.0124      0.10  Q          |         |         |         |
   1+45       0.0131      0.10  Q          |         |         |         |
   1+50       0.0138      0.10  Q          |         |         |         |
   1+55       0.0146      0.12  Q          |         |         |         |
   2+ 0       0.0155      0.13  Q          |         |         |         |
   2+ 5       0.0163      0.13  Q          |         |         |         |
   2+10       0.0172      0.13  Q          |         |         |         |
   2+15       0.0181      0.13  Q          |         |         |         |
   2+20       0.0190      0.13  Q          |         |         |         |
   2+25       0.0198      0.13  Q          |         |         |         |
   2+30       0.0207      0.13  Q          |         |         |         |
   2+35       0.0216      0.13  Q          |         |         |         |
   2+40       0.0227      0.15  Q          |         |         |         |
   2+45       0.0238      0.16  Q          |         |         |         |
   2+50       0.0249      0.16  Q          |         |         |         |
   2+55       0.0260      0.16  Q          |         |         |         |
   3+ 0       0.0270      0.16  Q          |         |         |         |
   3+ 5       0.0281      0.16  Q          |         |         |         |
   3+10       0.0292      0.16  Q          |         |         |         |
   3+15       0.0303      0.16  Q          |         |         |         |
   3+20       0.0314      0.16  Q          |         |         |         |
   3+25       0.0325      0.16  Q          |         |         |         |
   3+30       0.0336      0.16  Q          |         |         |         |
   3+35       0.0347      0.16  Q          |         |         |         |
   3+40       0.0358      0.16  Q          |         |         |         |
   3+45       0.0369      0.16  Q          |         |         |         |
   3+50       0.0380      0.17  Q          |         |         |         |
   3+55       0.0393      0.18  Q          |         |         |         |
   4+ 0       0.0406      0.19  Q          |         |         |         |
   4+ 5       0.0419      0.19  Q          |         |         |         |
   4+10       0.0432      0.19  Q          |         |         |         |
   4+15       0.0445      0.19  Q          |         |         |         |
   4+20       0.0459      0.20  Q          |         |         |         |
   4+25       0.0474      0.22  Q          |         |         |         |
```

```
 4+30       0.0489      0.22  Q          |          |          |          |
 4+35       0.0504      0.22  Q          |          |          |          |
 4+40       0.0519      0.22  Q          |          |          |          |
 4+45       0.0535      0.22  Q          |          |          |          |
 4+50       0.0555      0.29  VQ         |          |          |          |
 4+55       0.0587      0.46  VQ         |          |          |          |
 5+ 0       0.0622      0.51  V Q        |          |          |          |
 5+ 5       0.0653      0.45  VQ         |          |          |          |
 5+10       0.0671      0.26  VQ         |          |          |          |
 5+15       0.0686      0.21  Q          |          |          |          |
 5+20       0.0700      0.21  Q          |          |          |          |
 5+25       0.0717      0.25  Q          |          |          |          |
 5+30       0.0735      0.26  VQ         |          |          |          |
 5+35       0.0759      0.35  VQ         |          |          |          |
 5+40       0.0796      0.53  V Q        |          |          |          |
 5+45       0.0837      0.59  V Q        |          |          |          |
 5+50       0.0879      0.61  V Q        |          |          |          |
 5+55       0.0922      0.62  V Q        |          |          |          |
 6+ 0       0.0966      0.63  V Q        |          |          |          |
 6+ 5       0.1015      0.72  V Q        |          |          |          |
 6+10       0.1077      0.90  |V Q       |          |          |          |
 6+15       0.1143      0.96  |V Q       |          |          |          |
 6+20       0.1211      0.98  |V Q       |          |          |          |
 6+25       0.1279      0.99  |V Q       |          |          |          |
 6+30       0.1348      1.00  |V  Q      |          |          |          |
 6+35       0.1423      1.08  |V  Q      |          |          |          |
 6+40       0.1510      1.27  |V   Q     |          |          |          |
 6+45       0.1601      1.33  |V   Q     |          |          |          |
 6+50       0.1694      1.35  |V   Q     |          |          |          |
 6+55       0.1788      1.36  |V   Q     |          |          |          |
 7+ 0       0.1882      1.37  |V   Q     |          |          |          |
 7+ 5       0.1977      1.38  |V   Q     |          |          |          |
 7+10       0.2072      1.39  |V   Q     |          |          |          |
 7+15       0.2168      1.39  | V  Q     |          |          |          |
 7+20       0.2270      1.48  | V  Q     |          |          |          |
 7+25       0.2384      1.66  | V   Q    |          |          |          |
 7+30       0.2502      1.72  | V   Q    |          |          |          |
 7+35       0.2627      1.81  | V    Q   |          |          |          |
 7+40       0.2765      2.00  | V     Q  |          |          |          |
 7+45       0.2907      2.06  | V     Q  |          |          |          |
 7+50       0.3055      2.15  | V     Q  |          |          |          |
 7+55       0.3216      2.34  |  V     Q |          |          |          |
 8+ 0       0.3382      2.40  |  V     Q|          |          |          |
 8+ 5       0.3559      2.57  |  V      Q          |          |          |
 8+10       0.3761      2.94  |  V      |Q         |          |          |
 8+15       0.3970      3.04  |  V      | Q        |          |          |
 8+20       0.4182      3.07  |   V     | Q        |          |          |
 8+25       0.4394      3.09  |   V     | Q        |          |          |
 8+30       0.4608      3.10  |   V     | Q        |          |          |
 8+35       0.4827      3.18  |   V     | Q        |          |          |
 8+40       0.5059      3.37  |   V     |  Q       |          |          |
 8+45       0.5294      3.42  |    V    |  Q       |          |          |
 8+50       0.5537      3.52  |    V    |   Q      |          |          |
 8+55       0.5792      3.71  |    V    |   Q      |          |          |
 9+ 0       0.6051      3.76  |    V    |    Q     |          |          |
 9+ 5       0.6322      3.93  |     V   |    Q     |          |          |
 9+10       0.6618      4.30  |     V   |      Q   |          |          |
 9+15       0.6921      4.40  |     V   |      Q   |          |          |
 9+20       0.7231      4.51  |     V   |       Q  |          |          |
 9+25       0.7555      4.70  |      V  |       Q  |          |          |
 9+30       0.7883      4.76  |      V  |        Q|          |          |
 9+35       0.8217      4.85  |      V  |        Q|          |          |
 9+40       0.8564      5.04  |       V |         Q          |          |
 9+45       0.8916      5.10  |       V |         Q          |          |
 9+50       0.9273      5.19  |       V |         Q          |          |
 9+55       0.9644      5.38  |        V|         |Q         |          |
10+ 0       1.0019      5.44  |        V|         |Q         |          |
10+ 5       1.0359      4.94  |        V|        Q|          |          |
10+10       1.0614      3.71  |         V   Q     |          |          |
10+15       1.0847      3.39  |         V  Q      |          |          |
10+20       1.1075      3.30  |         V  Q      |          |          |
10+25       1.1301      3.28  |         V  Q      |          |          |
10+30       1.1527      3.28  |         |V Q      |          |          |
10+35       1.1779      3.66  |         |V  Q     |          |          |
10+40       1.2093      4.55  |         |V      Q |          |          |
10+45       1.2423      4.79  |         |V       Q|          |          |
10+50       1.2758      4.87  |         | V      Q|          |          |
10+55       1.3095      4.89  |         | V      Q|          |          |
```



| | | | |
|---|---|---|---|
| 11+ 0 | 1.3433 | 4.91 | |
| 11+ 5 | 1.3767 | 4.84 | |
| 11+10 | 1.4088 | 4.67 | |
| 11+15 | 1.4407 | 4.63 | |
| 11+20 | 1.4726 | 4.63 | |
| 11+25 | 1.5045 | 4.63 | |
| 11+30 | 1.5364 | 4.63 | |
| 11+35 | 1.5673 | 4.49 | |
| 11+40 | 1.5959 | 4.14 | |
| 11+45 | 1.6238 | 4.06 | |
| 11+50 | 1.6521 | 4.11 | |
| 11+55 | 1.6817 | 4.29 | |
| 12+ 0 | 1.7115 | 4.34 | |
| 12+ 5 | 1.7452 | 4.88 | |
| 12+10 | 1.7874 | 6.13 | |
| 12+15 | 1.8319 | 6.47 | |
| 12+20 | 1.8777 | 6.64 | |
| 12+25 | 1.9249 | 6.85 | |
| 12+30 | 1.9725 | 6.92 | |
| 12+35 | 2.0213 | 7.09 | |
| 12+40 | 2.0727 | 7.45 | |
| 12+45 | 2.1247 | 7.55 | |
| 12+50 | 2.1775 | 7.66 | |
| 12+55 | 2.2315 | 7.85 | |
| 13+ 0 | 2.2860 | 7.91 | |
| 13+ 5 | 2.3432 | 8.30 | |
| 13+10 | 2.4065 | 9.20 | |
| 13+15 | 2.4715 | 9.44 | |
| 13+20 | 2.5371 | 9.51 | |
| 13+25 | 2.6028 | 9.54 | |
| 13+30 | 2.6685 | 9.55 | |
| 13+35 | 2.7287 | 8.74 | |
| 13+40 | 2.7755 | 6.80 | |
| 13+45 | 2.8189 | 6.29 | |
| 13+50 | 2.8612 | 6.14 | |
| 13+55 | 2.9033 | 6.11 | |
| 14+ 0 | 2.9453 | 6.10 | |
| 14+ 5 | 2.9894 | 6.40 | |
| 14+10 | 3.0384 | 7.12 | |
| 14+15 | 3.0888 | 7.31 | |
| 14+20 | 3.1390 | 7.30 | |
| 14+25 | 3.1882 | 7.14 | |
| 14+30 | 3.2372 | 7.11 | |
| 14+35 | 3.2860 | 7.10 | |
| 14+40 | 3.3350 | 7.10 | |
| 14+45 | 3.3839 | 7.11 | |
| 14+50 | 3.4324 | 7.04 | |
| 14+55 | 3.4796 | 6.87 | |
| 15+ 0 | 3.5266 | 6.82 | |
| 15+ 5 | 3.5731 | 6.74 | |
| 15+10 | 3.6183 | 6.57 | |
| 15+15 | 3.6632 | 6.52 | |
| 15+20 | 3.7076 | 6.44 | |
| 15+25 | 3.7508 | 6.27 | |
| 15+30 | 3.7936 | 6.22 | |
| 15+35 | 3.8344 | 5.92 | |
| 15+40 | 3.8703 | 5.21 | |
| 15+45 | 3.9049 | 5.03 | |
| 15+50 | 3.9392 | 4.98 | |
| 15+55 | 3.9734 | 4.97 | |
| 16+ 0 | 4.0077 | 4.97 | |
| 16+ 5 | 4.0342 | 3.86 | |
| 16+10 | 4.0425 | 1.20 | |
| 16+15 | 4.0460 | 0.51 | |
| 16+20 | 4.0481 | 0.31 | |
| 16+25 | 4.0500 | 0.26 | |
| 16+30 | 4.0516 | 0.24 | |
| 16+35 | 4.0531 | 0.21 | |
| 16+40 | 4.0539 | 0.13 | |
| 16+45 | 4.0546 | 0.10 | |
| 16+50 | 4.0553 | 0.10 | |
| 16+55 | 4.0560 | 0.10 | |
| 17+ 0 | 4.0566 | 0.10 | |
| 17+ 5 | 4.0581 | 0.21 | |
| 17+10 | 4.0615 | 0.50 | |
| 17+15 | 4.0655 | 0.57 | |
| 17+20 | 4.0696 | 0.60 | |
| 17+25 | 4.0738 | 0.61 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+30 | 4.0781 | 0.62 | \| Q | \| | \| | \| | V\| |
| 17+35 | 4.0824 | 0.62 | \| Q | \| | \| | \| | V\| |
| 17+40 | 4.0867 | 0.63 | \| Q | \| | \| | \| | V\| |
| 17+45 | 4.0911 | 0.63 | \| Q | \| | \| | \| | V\| |
| 17+50 | 4.0950 | 0.56 | \| Q | \| | \| | \| | V\| |
| 17+55 | 4.0977 | 0.39 | \|Q | \| | \| | \| | V\| |
| 18+ 0 | 4.1001 | 0.35 | \|Q | \| | \| | \| | V\| |
| 18+ 5 | 4.1024 | 0.34 | \|Q | \| | \| | \| | V\| |
| 18+10 | 4.1048 | 0.34 | \|Q | \| | \| | \| | V\| |
| 18+15 | 4.1071 | 0.34 | \|Q | \| | \| | \| | V\| |
| 18+20 | 4.1095 | 0.35 | \|Q | \| | \| | \| | V\| |
| 18+25 | 4.1120 | 0.35 | \|Q | \| | \| | \| | V\| |
| 18+30 | 4.1144 | 0.36 | \|Q | \| | \| | \| | V\| |
| 18+35 | 4.1165 | 0.30 | \|Q | \| | \| | \| | V\| |
| 18+40 | 4.1175 | 0.15 | Q | \| | \| | \| | V\| |
| 18+45 | 4.1183 | 0.11 | Q | \| | \| | \| | V\| |
| 18+50 | 4.1189 | 0.09 | Q | \| | \| | \| | V\| |
| 18+55 | 4.1194 | 0.07 | Q | \| | \| | \| | V\| |
| 19+ 0 | 4.1199 | 0.07 | Q | \| | \| | \| | V\| |
| 19+ 5 | 4.1204 | 0.07 | Q | \| | \| | \| | V\| |
| 19+10 | 4.1210 | 0.09 | Q | \| | \| | \| | V\| |
| 19+15 | 4.1216 | 0.09 | Q | \| | \| | \| | V\| |
| 19+20 | 4.1228 | 0.17 | Q | \| | \| | \| | V\| |
| 19+25 | 4.1251 | 0.34 | \|Q | \| | \| | \| | V\| |
| 19+30 | 4.1278 | 0.39 | \|Q | \| | \| | \| | V\| |
| 19+35 | 4.1301 | 0.33 | \|Q | \| | \| | \| | V\| |
| 19+40 | 4.1312 | 0.16 | Q | \| | \| | \| | V\| |
| 19+45 | 4.1321 | 0.12 | Q | \| | \| | \| | V\| |
| 19+50 | 4.1327 | 0.10 | Q | \| | \| | \| | V\| |
| 19+55 | 4.1333 | 0.07 | Q | \| | \| | \| | V\| |
| 20+ 0 | 4.1337 | 0.07 | Q | \| | \| | \| | V\| |
| 20+ 5 | 4.1342 | 0.08 | Q | \| | \| | \| | V\| |
| 20+10 | 4.1350 | 0.11 | Q | \| | \| | \| | V\| |
| 20+15 | 4.1358 | 0.12 | Q | \| | \| | \| | V\| |
| 20+20 | 4.1367 | 0.13 | Q | \| | \| | \| | V\| |
| 20+25 | 4.1376 | 0.13 | Q | \| | \| | \| | V\| |
| 20+30 | 4.1386 | 0.14 | Q | \| | \| | \| | V\| |
| 20+35 | 4.1395 | 0.14 | Q | \| | \| | \| | V\| |
| 20+40 | 4.1405 | 0.14 | Q | \| | \| | \| | V\| |
| 20+45 | 4.1415 | 0.15 | Q | \| | \| | \| | V\| |
| 20+50 | 4.1424 | 0.13 | Q | \| | \| | \| | V\| |
| 20+55 | 4.1430 | 0.08 | Q | \| | \| | \| | V\| |
| 21+ 0 | 4.1434 | 0.07 | Q | \| | \| | \| | V\| |
| 21+ 5 | 4.1440 | 0.09 | Q | \| | \| | \| | V\| |
| 21+10 | 4.1450 | 0.14 | Q | \| | \| | \| | V\| |
| 21+15 | 4.1461 | 0.16 | Q | \| | \| | \| | V\| |
| 21+20 | 4.1471 | 0.14 | Q | \| | \| | \| | V\| |
| 21+25 | 4.1477 | 0.08 | Q | \| | \| | \| | V\| |
| 21+30 | 4.1482 | 0.07 | Q | \| | \| | \| | V\| |
| 21+35 | 4.1488 | 0.09 | Q | \| | \| | \| | V\| |
| 21+40 | 4.1499 | 0.16 | Q | \| | \| | \| | V\| |
| 21+45 | 4.1511 | 0.18 | Q | \| | \| | \| | V\| |
| 21+50 | 4.1522 | 0.15 | Q | \| | \| | \| | V\| |
| 21+55 | 4.1528 | 0.09 | Q | \| | \| | \| | V\| |
| 22+ 0 | 4.1533 | 0.07 | Q | \| | \| | \| | V\| |
| 22+ 5 | 4.1539 | 0.10 | Q | \| | \| | \| | V\| |
| 22+10 | 4.1551 | 0.17 | Q | \| | \| | \| | V\| |
| 22+15 | 4.1564 | 0.19 | Q | \| | \| | \| | V\| |
| 22+20 | 4.1576 | 0.17 | Q | \| | \| | \| | V\| |
| 22+25 | 4.1582 | 0.09 | Q | \| | \| | \| | V\| |
| 22+30 | 4.1587 | 0.07 | Q | \| | \| | \| | V\| |
| 22+35 | 4.1591 | 0.07 | Q | \| | \| | \| | V\| |
| 22+40 | 4.1596 | 0.06 | Q | \| | \| | \| | V\| |
| 22+45 | 4.1600 | 0.06 | Q | \| | \| | \| | V\| |
| 22+50 | 4.1604 | 0.06 | Q | \| | \| | \| | V\| |
| 22+55 | 4.1609 | 0.06 | Q | \| | \| | \| | V\| |
| 23+ 0 | 4.1613 | 0.06 | Q | \| | \| | \| | V\| |
| 23+ 5 | 4.1618 | 0.06 | Q | \| | \| | \| | V\| |
| 23+10 | 4.1622 | 0.06 | Q | \| | \| | \| | V\| |
| 23+15 | 4.1626 | 0.06 | Q | \| | \| | \| | V\| |
| 23+20 | 4.1631 | 0.06 | Q | \| | \| | \| | V\| |
| 23+25 | 4.1635 | 0.06 | Q | \| | \| | \| | V\| |
| 23+30 | 4.1639 | 0.06 | Q | \| | \| | \| | V\| |
| 23+35 | 4.1644 | 0.06 | Q | \| | \| | \| | V\| |
| 23+40 | 4.1648 | 0.06 | Q | \| | \| | \| | V\| |
| 23+45 | 4.1653 | 0.06 | Q | \| | \| | \| | V\| |
| 23+50 | 4.1657 | 0.06 | Q | \| | \| | \| | V\| |
| 23+55 | 4.1661 | 0.06 | Q | \| | \| | \| | V\| |

```
   24+ 0       4.1666      0.06  Q         |          |          |         V|
   24+ 5       4.1669      0.05  Q         |          |          |         V|
   24+10       4.1670      0.01  Q         |          |          |         V|
   24+15       4.1670      0.00  Q         |          |          |         V|
   24+20       4.1670      0.00  Q         |          |          |         V|
   24+25       4.1670      0.00  Q         |          |          |         V|
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX441100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 44
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 13.40(Ac.) = 0.021 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 13.40(Ac.) = 0.021 Sq. Mi.
Length along longest watercourse = 1692.00(Ft.)
Length along longest watercourse measured to centroid = 1195.00(Ft.)
Length along longest watercourse = 0.320 Mi.
Length along longest watercourse measured to centroid = 0.226 Mi.
Difference in elevation = 334.00(Ft.)
Slope along watercourse = 1042.2695 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.083 Hr.
Lag time = 4.97 Min.
25% of lag time = 1.24 Min.
40% of lag time = 1.99 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 13.40 | 0.50 | 6.70 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 13.40 | 1.20 | 16.08 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 13.400 | 83.98 | 0.000 |

Total Area Entered = 13.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

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| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 100.685 | 14.661 | 1.980 |
| 2 0.167 | 201.370 | 55.782 | 7.533 |
| 3 0.250 | 302.056 | 18.314 | 2.473 |
| 4 0.333 | 402.741 | 7.359 | 0.994 |
| 5 0.417 | 503.426 | 2.392 | 0.323 |
| 6 0.500 | 604.111 | 0.843 | 0.114 |
| 7 0.583 | 704.796 | 0.649 | 0.088 |
| | Sum = 100.000 | Sum= | 13.505 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 4.20 | 0.605 | 0.086 | ( 0.544) | 0.519 |
| 2 0.17 | 4.30 | 0.619 | 0.086 | ( 0.557) | 0.533 |
| 3 0.25 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 4 0.33 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 5 0.42 | 5.80 | 0.835 | 0.086 | ( 0.752) | 0.749 |
| 6 0.50 | 6.50 | 0.936 | 0.086 | ( 0.842) | 0.850 |
| 7 0.58 | 7.40 | 1.065 | 0.086 | ( 0.959) | 0.980 |
| 8 0.67 | 8.60 | 1.238 | 0.086 | ( 1.114) | 1.152 |
| 9 0.75 | 12.30 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 10 0.83 | 29.10 | 4.190 | 0.086 | ( 3.771) | 4.104 |
| 11 0.92 | 6.80 | 0.979 | 0.086 | ( 0.881) | 0.893 |
| 12 1.00 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 13.4 |

Flood volume = Effective rainfall 1.11(In)
times area 13.4(Ac.)/[(In)/(Ft.)] = 1.2(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.096(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 54182.2 Cubic Feet
Total soil loss = 4181.1 Cubic Feet

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Peak flow rate of this hydrograph = 38.496(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 10.0 | 20.0 | 30.0 | 40.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0071 | 1.03 | VQ | | | | |
| 0+10 | 0.0413 | 4.97 | \|V Q | | | | |
| 0+15 | 0.0864 | 6.56 | \| V Q | | | | |
| 0+20 | 0.1406 | 7.87 | \| V Q | | | | |
| 0+25 | 0.1994 | 8.53 | \| V Q | | | | |
| 0+30 | 0.2666 | 9.76 | \| VQ | | | | |
| 0+35 | 0.3433 | 11.14 | \| Q | | | | |
| 0+40 | 0.4317 | 12.84 | \| QV | | | | |
| 0+45 | 0.5396 | 15.66 | \| Q V | | | | |
| 0+50 | 0.7123 | 25.07 | \| V Q | | | | |
| 0+55 | 0.9774 | 38.50 | \| V Q | | | | |
| 1+ 0 | 1.1177 | 20.38 | \| Q | | V | | |
| 1+ 5 | 1.1992 | 11.83 | \| Q | | | V | |
| 1+10 | 1.2273 | 4.08 | \| Q | | | V | |

```
    1+15       1.2378      1.53  |Q        |          |          |        V|
    1+20       1.2424      0.67  Q         |          |          |        V|
    1+25       1.2435      0.15  Q         |          |          |        V|
    1+30       1.2439      0.06  Q         |          |          |        V|
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX443100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 44
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 13.40(Ac.) = 0.021 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 13.40(Ac.) = 0.021 Sq. Mi.
Length along longest watercourse = 1692.00(Ft.)
Length along longest watercourse measured to centroid = 1195.00(Ft.)
Length along longest watercourse = 0.320 Mi.
Length along longest watercourse measured to centroid = 0.226 Mi.
Difference in elevation = 334.00(Ft.)
Slope along watercourse = 1042.2695 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.083 Hr.
Lag time = 4.97 Min.
25% of lag time = 1.24 Min.
40% of lag time = 1.99 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 13.40 | 0.81 | 10.85 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 13.40 | 1.82 | 24.39 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.810(In)
Area Averaged 100-Year Rainfall = 1.820(In)

Point rain (area averaged) = 1.820(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.820(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 13.400 | 83.98 | 0.000 |

Total Area Entered = 13.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 100.685 | 14.661 | 1.980 |
| 2 | 0.167 | 201.370 | 55.782 | 7.533 |
| 3 | 0.250 | 302.056 | 18.314 | 2.473 |
| 4 | 0.333 | 402.741 | 7.359 | 0.994 |
| 5 | 0.417 | 503.426 | 2.392 | 0.323 |
| 6 | 0.500 | 604.111 | 0.843 | 0.114 |
| 7 | 0.583 | 704.796 | 0.649 | 0.088 |
| | | | Sum = 100.000 | Sum= 13.505 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.284 | 0.086 | ( | 0.256) | 0.198 |
| 2 | 0.17 | 1.30 | 0.284 | 0.086 | ( | 0.256) | 0.198 |
| 3 | 0.25 | 1.10 | 0.240 | 0.086 | ( | 0.216) | 0.154 |
| 4 | 0.33 | 1.50 | 0.328 | 0.086 | ( | 0.295) | 0.242 |
| 5 | 0.42 | 1.50 | 0.328 | 0.086 | ( | 0.295) | 0.242 |
| 6 | 0.50 | 1.80 | 0.393 | 0.086 | ( | 0.354) | 0.307 |
| 7 | 0.58 | 1.50 | 0.328 | 0.086 | ( | 0.295) | 0.242 |
| 8 | 0.67 | 1.80 | 0.393 | 0.086 | ( | 0.354) | 0.307 |
| 9 | 0.75 | 1.80 | 0.393 | 0.086 | ( | 0.354) | 0.307 |
| 10 | 0.83 | 1.50 | 0.328 | 0.086 | ( | 0.295) | 0.242 |
| 11 | 0.92 | 1.60 | 0.349 | 0.086 | ( | 0.314) | 0.263 |
| 12 | 1.00 | 1.80 | 0.393 | 0.086 | ( | 0.354) | 0.307 |
| 13 | 1.08 | 2.20 | 0.480 | 0.086 | ( | 0.432) | 0.394 |
| 14 | 1.17 | 2.20 | 0.480 | 0.086 | ( | 0.432) | 0.394 |
| 15 | 1.25 | 2.20 | 0.480 | 0.086 | ( | 0.432) | 0.394 |
| 16 | 1.33 | 2.00 | 0.437 | 0.086 | ( | 0.393) | 0.351 |
| 17 | 1.42 | 2.60 | 0.568 | 0.086 | ( | 0.511) | 0.482 |
| 18 | 1.50 | 2.70 | 0.590 | 0.086 | ( | 0.531) | 0.504 |
| 19 | 1.58 | 2.40 | 0.524 | 0.086 | ( | 0.472) | 0.438 |
| 20 | 1.67 | 2.70 | 0.590 | 0.086 | ( | 0.531) | 0.504 |
| 21 | 1.75 | 3.30 | 0.721 | 0.086 | ( | 0.649) | 0.635 |
| 22 | 1.83 | 3.10 | 0.677 | 0.086 | ( | 0.609) | 0.591 |
| 23 | 1.92 | 2.90 | 0.633 | 0.086 | ( | 0.570) | 0.547 |
| 24 | 2.00 | 3.00 | 0.655 | 0.086 | ( | 0.590) | 0.569 |
| 25 | 2.08 | 3.10 | 0.677 | 0.086 | ( | 0.609) | 0.591 |
| 26 | 2.17 | 4.20 | 0.917 | 0.086 | ( | 0.826) | 0.831 |
| 27 | 2.25 | 5.00 | 1.092 | 0.086 | ( | 0.983) | 1.006 |
| 28 | 2.33 | 3.50 | 0.764 | 0.086 | ( | 0.688) | 0.678 |
| 29 | 2.42 | 6.80 | 1.485 | 0.086 | ( | 1.337) | 1.399 |
| 30 | 2.50 | 7.30 | 1.594 | 0.086 | ( | 1.435) | 1.508 |
| 31 | 2.58 | 8.20 | 1.791 | 0.086 | ( | 1.612) | 1.705 |
| 32 | 2.67 | 5.90 | 1.288 | 0.086 | ( | 1.160) | 1.203 |
| 33 | 2.75 | 2.00 | 0.437 | 0.086 | ( | 0.393) | 0.351 |
| 34 | 2.83 | 1.80 | 0.393 | 0.086 | ( | 0.354) | 0.307 |
| 35 | 2.92 | 1.80 | 0.393 | 0.086 | ( | 0.354) | 0.307 |
| 36 | 3.00 | 0.60 | 0.131 | 0.086 | ( | 0.118) | 0.045 |
| | | (Loss Rate Not Used) | | | | | |
| Sum = | | 100.0 | | | | Sum = | 18.7 |

Flood volume = Effective rainfall 1.56(In)
times area 13.4(Ac.)/[(In)/(Ft.)] = 1.7(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.288(Ac.Ft)
Total rainfall = 1.82(In)
Flood volume = 75980.0 Cubic Feet
Total soil loss = 12543.2 Cubic Feet

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Peak flow rate of this hydrograph = 20.762(CFS)

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3 - H O U R  S T O R M
R u n o f f  H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 7.5 | 15.0 | 22.5 | 30.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0027 | 0.39 | Q | | | | |
| 0+10 | 0.0157 | 1.88 | V Q | | | | |
| 0+15 | 0.0314 | 2.29 | V Q | | | | |
| 0+20 | 0.0475 | 2.33 | V Q | | | | |
| 0+25 | 0.0677 | 2.94 | V Q | | | | |
| 0+30 | 0.0902 | 3.27 | V Q | | | | |
| 0+35 | 0.1159 | 3.72 | V Q | | | | |
| 0+40 | 0.1403 | 3.54 | VQ | | | | |
| 0+45 | 0.1674 | 3.95 | V Q | | | | |
| 0+50 | 0.1946 | 3.94 | VQ | | | | |
| 0+55 | 0.2190 | 3.54 | QV | | | | |
| 1+ 0 | 0.2441 | 3.65 | QV | | | | |
| 1+ 5 | 0.2727 | 4.14 | QV | | | | |
| 1+10 | 0.3065 | 4.92 | QV | | | | |
| 1+15 | 0.3422 | 5.18 | QV | | | | |
| 1+20 | 0.3779 | 5.19 | Q V | | | | |
| 1+25 | 0.4134 | 5.15 | Q V | | | | |
| 1+30 | 0.4553 | 6.09 | Q V | | | | |
| 1+35 | 0.4995 | 6.41 | Q V | | | | |
| 1+40 | 0.5423 | 6.22 | Q V | | | | |
| 1+45 | 0.5896 | 6.87 | Q V | | | | |
| 1+50 | 0.6439 | 7.89 | Q V | | | | |
| 1+55 | 0.6980 | 7.85 | Q V | | | | |
| 2+ 0 | 0.7504 | 7.60 | Q V | | | | |
| 2+ 5 | 0.8034 | 7.70 | Q V | | | | |
| 2+10 | 0.8610 | 8.36 | Q V | | | | |
| 2+15 | 0.9339 | 10.59 | Q V | | | | |
| 2+20 | 1.0157 | 11.87 | Q V | | | | |
| 2+25 | 1.0949 | 11.50 | Q V | | | | |
| 2+30 | 1.2092 | 16.60 | Q V | | | | |
| 2+35 | 1.3425 | 19.35 | Q V | | | | |
| 2+40 | 1.4855 | 20.76 | Q V | | | | |
| 2+45 | 1.5963 | 16.09 | Q V | | | | |
| 2+50 | 1.6558 | 8.63 | Q V | | | | |
| 2+55 | 1.6959 | 5.83 | Q V | | | | |
| 3+ 0 | 1.7251 | 4.23 | Q V | | | | |
| 3+ 5 | 1.7375 | 1.80 | Q V | | | | |
| 3+10 | 1.7420 | 0.66 | Q V | | | | |
| 3+15 | 1.7435 | 0.21 | Q V | | | | |
| 3+20 | 1.7440 | 0.08 | Q V | | | | |
| 3+25 | 1.7442 | 0.03 | Q V | | | | |
| 3+30 | 1.7443 | 0.00 | Q V | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX446100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 44
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 13.40(Ac.) = 0.021 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 13.40(Ac.) = 0.021 Sq. Mi.
Length along longest watercourse = 1692.00(Ft.)
Length along longest watercourse measured to centroid = 1195.00(Ft.)
Length along longest watercourse = 0.320 Mi.
Length along longest watercourse measured to centroid = 0.226 Mi.
Difference in elevation = 334.00(Ft.)
Slope along watercourse = 1042.2695 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.083 Hr.
Lag time = 4.97 Min.
25% of lag time = 1.24 Min.
40% of lag time = 1.99 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 13.40 | 1.15 | 15.41 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 13.40 | 2.50 | 33.50 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.150(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 13.400 | 83.98 | 0.000 |

Total Area Entered = 13.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 100.685 | 14.661 | 1.980 |
| 2 0.167 | 201.370 | 55.782 | 7.533 |
| 3 0.250 | 302.056 | 18.314 | 2.473 |
| 4 0.333 | 402.741 | 7.359 | 0.994 |
| 5 0.417 | 503.426 | 2.392 | 0.323 |
| 6 0.500 | 604.111 | 0.843 | 0.114 |
| 7 0.583 | 704.796 | 0.649 | 0.088 |
| | Sum = | 100.000 Sum= | 13.505 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.086 | ( 0.135) | 0.064 |
| 2 | 0.17 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 3 | 0.25 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 4 | 0.33 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 5 | 0.42 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 6 | 0.50 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 7 | 0.58 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 8 | 0.67 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 9 | 0.75 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 10 | 0.83 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 11 | 0.92 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 12 | 1.00 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 13 | 1.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 14 | 1.17 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 15 | 1.25 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 16 | 1.33 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 17 | 1.42 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 18 | 1.50 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 19 | 1.58 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 20 | 1.67 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 21 | 1.75 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 22 | 1.83 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 23 | 1.92 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 24 | 2.00 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 25 | 2.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 26 | 2.17 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 27 | 2.25 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 28 | 2.33 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 29 | 2.42 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 30 | 2.50 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 31 | 2.58 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 32 | 2.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 33 | 2.75 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 34 | 2.83 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 35 | 2.92 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 36 | 3.00 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 37 | 3.08 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 38 | 3.17 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 39 | 3.25 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 40 | 3.33 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 41 | 3.42 | 1.20 | 0.360 | 0.086 | ( 0.324) | 0.274 |
| 42 | 3.50 | 1.30 | 0.390 | 0.086 | ( 0.351) | 0.304 |
| 43 | 3.58 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 44 | 3.67 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 45 | 3.75 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 46 | 3.83 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 47 | 3.92 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 48 | 4.00 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 49 | 4.08 | 1.70 | 0.510 | 0.086 | ( 0.459) | 0.424 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 50 | 4.17 | 1.80 | 0.540 | 0.086 | ( 0.486) | 0.454 | |
| 51 | 4.25 | 1.90 | 0.570 | 0.086 | ( 0.513) | 0.484 | |
| 52 | 4.33 | 2.00 | 0.600 | 0.086 | ( 0.540) | 0.514 | |
| 53 | 4.42 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 | |
| 54 | 4.50 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 | |
| 55 | 4.58 | 2.20 | 0.660 | 0.086 | ( 0.594) | 0.574 | |
| 56 | 4.67 | 2.30 | 0.690 | 0.086 | ( 0.621) | 0.604 | |
| 57 | 4.75 | 2.40 | 0.720 | 0.086 | ( 0.648) | 0.634 | |
| 58 | 4.83 | 2.40 | 0.720 | 0.086 | ( 0.648) | 0.634 | |
| 59 | 4.92 | 2.50 | 0.750 | 0.086 | ( 0.675) | 0.664 | |
| 60 | 5.00 | 2.60 | 0.780 | 0.086 | ( 0.702) | 0.694 | |
| 61 | 5.08 | 3.10 | 0.930 | 0.086 | ( 0.837) | 0.844 | |
| 62 | 5.17 | 3.60 | 1.080 | 0.086 | ( 0.972) | 0.994 | |
| 63 | 5.25 | 3.90 | 1.170 | 0.086 | ( 1.053) | 1.084 | |
| 64 | 5.33 | 4.20 | 1.260 | 0.086 | ( 1.134) | 1.174 | |
| 65 | 5.42 | 4.70 | 1.410 | 0.086 | ( 1.269) | 1.324 | |
| 66 | 5.50 | 5.60 | 1.680 | 0.086 | ( 1.512) | 1.594 | |
| 67 | 5.58 | 1.90 | 0.570 | 0.086 | ( 0.513) | 0.484 | |
| 68 | 5.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 | |
| 69 | 5.75 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 | |
| 70 | 5.83 | 0.50 | 0.150 | 0.086 | ( 0.135) | 0.064 | |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.086) | 0.081 | 0.009 | |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.086) | 0.054 | 0.006 | |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.8

Flood volume = Effective rainfall 1.99(In)
times area 13.4(Ac.)/[(In)/(Ft.)] = 2.2(Ac.Ft)
Total soil loss = 0.51(In)
Total soil loss = 0.572(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 96662.6 Cubic Feet
Total soil loss = 24936.8 Cubic Feet

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Peak flow rate of this hydrograph = 17.954(CFS)

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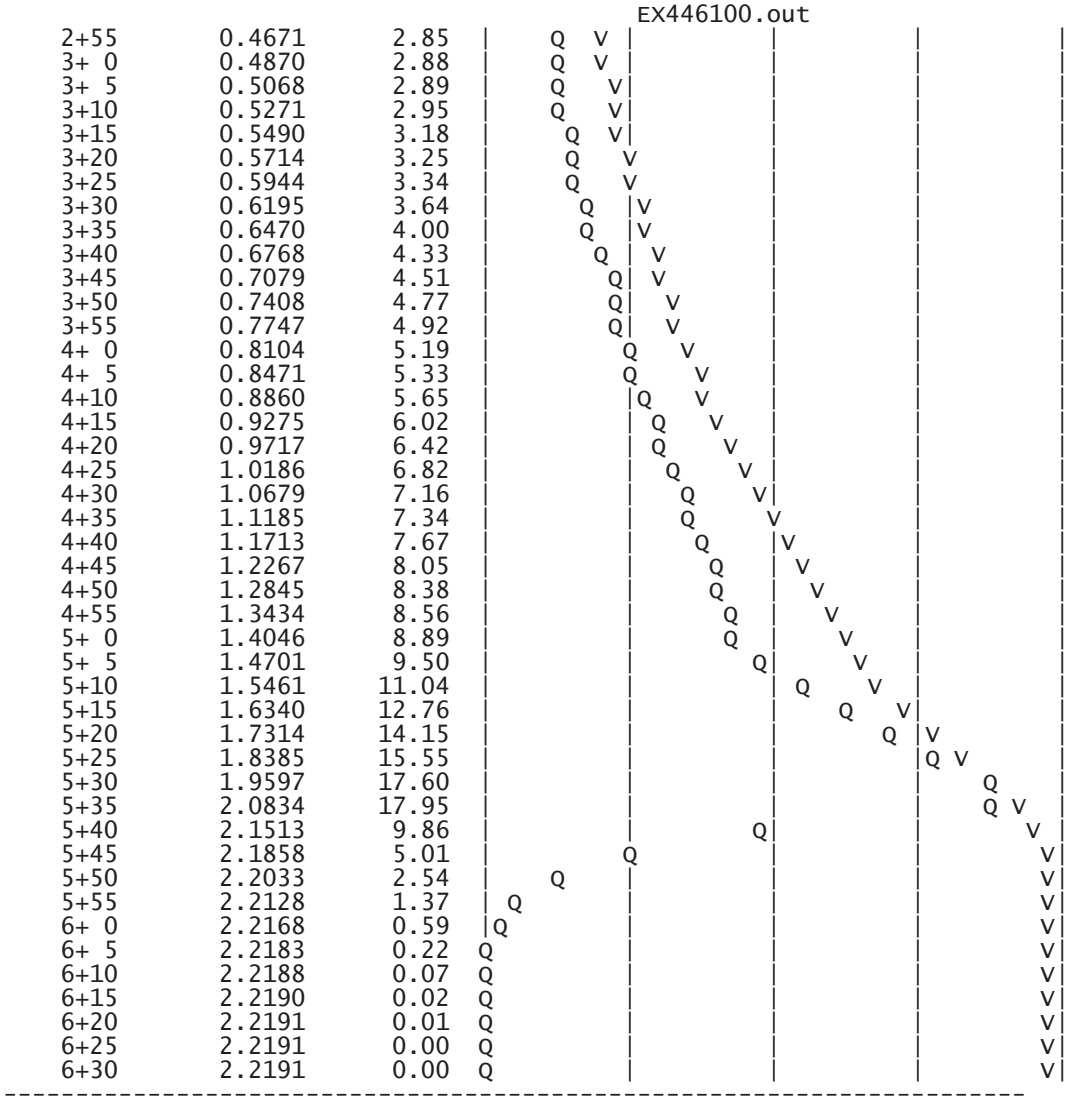
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 5.0 | 10.0 | 15.0 | 20.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0009 | 0.13 | Q | \| | \| | \| | \| |
| 0+10 | 0.0055 | 0.67 | VQ | \| | \| | \| | \| |
| 0+15 | 0.0127 | 1.05 | V Q | \| | \| | \| | \| |
| 0+20 | 0.0209 | 1.19 | V Q | \| | \| | \| | \| |
| 0+25 | 0.0295 | 1.24 | V Q | \| | \| | \| | \| |
| 0+30 | 0.0386 | 1.32 | V Q | \| | \| | \| | \| |
| 0+35 | 0.0493 | 1.55 | V Q | \| | \| | \| | \| |
| 0+40 | 0.0605 | 1.63 | \|V Q | \| | \| | \| | \| |
| 0+45 | 0.0719 | 1.66 | \|V Q | \| | \| | \| | \| |
| 0+50 | 0.0834 | 1.67 | \|V Q | \| | \| | \| | \| |
| 0+55 | 0.0950 | 1.67 | \|V Q | \| | \| | \| | \| |
| 1+ 0 | 0.1069 | 1.74 | \|V Q | \| | \| | \| | \| |
| 1+ 5 | 0.1204 | 1.96 | \| VQ | \| | \| | \| | \| |
| 1+10 | 0.1344 | 2.04 | \| V Q | \| | \| | \| | \| |
| 1+15 | 0.1487 | 2.07 | \| V Q | \| | \| | \| | \| |
| 1+20 | 0.1630 | 2.08 | \| V Q | \| | \| | \| | \| |
| 1+25 | 0.1773 | 2.08 | \| VQ | \| | \| | \| | \| |
| 1+30 | 0.1916 | 2.08 | \| VQ | \| | \| | \| | \| |
| 1+35 | 0.2059 | 2.08 | \| VQ | \| | \| | \| | \| |
| 1+40 | 0.2203 | 2.08 | \| VQ | \| | \| | \| | \| |
| 1+45 | 0.2346 | 2.08 | \| Q | \| | \| | \| | \| |
| 1+50 | 0.2489 | 2.08 | \| Q | \| | \| | \| | \| |
| 1+55 | 0.2633 | 2.08 | \| Q | \| | \| | \| | \| |
| 2+ 0 | 0.2780 | 2.14 | \| QV | \| | \| | \| | \| |
| 2+ 5 | 0.2939 | 2.31 | \| QV | \| | \| | \| | \| |
| 2+10 | 0.3092 | 2.21 | \| QV | \| | \| | \| | \| |
| 2+15 | 0.3257 | 2.40 | \| QV | \| | \| | \| | \| |
| 2+20 | 0.3425 | 2.45 | \| Q V | \| | \| | \| | \| |
| 2+25 | 0.3596 | 2.47 | \| Q V | \| | \| | \| | \| |
| 2+30 | 0.3767 | 2.48 | \| Q V | \| | \| | \| | \| |
| 2+35 | 0.3938 | 2.48 | \| Q V | \| | \| | \| | \| |
| 2+40 | 0.4109 | 2.49 | \| Q V | \| | \| | \| | \| |
| 2+45 | 0.4285 | 2.55 | \| Q V | \| | \| | \| | \| |
| 2+50 | 0.4475 | 2.77 | \| Q V \| | \| | \| | \| | \| |



| | | | |
|---|---|---|---|
| 2+55 | 0.4671 | 2.85 | |
| 3+ 0 | 0.4870 | 2.88 | |
| 3+ 5 | 0.5068 | 2.89 | |
| 3+10 | 0.5271 | 2.95 | |
| 3+15 | 0.5490 | 3.18 | |
| 3+20 | 0.5714 | 3.25 | |
| 3+25 | 0.5944 | 3.34 | |
| 3+30 | 0.6195 | 3.64 | |
| 3+35 | 0.6470 | 4.00 | |
| 3+40 | 0.6768 | 4.33 | |
| 3+45 | 0.7079 | 4.51 | |
| 3+50 | 0.7408 | 4.77 | |
| 3+55 | 0.7747 | 4.92 | |
| 4+ 0 | 0.8104 | 5.19 | |
| 4+ 5 | 0.8471 | 5.33 | |
| 4+10 | 0.8860 | 5.65 | |
| 4+15 | 0.9275 | 6.02 | |
| 4+20 | 0.9717 | 6.42 | |
| 4+25 | 1.0186 | 6.82 | |
| 4+30 | 1.0679 | 7.16 | |
| 4+35 | 1.1185 | 7.34 | |
| 4+40 | 1.1713 | 7.67 | |
| 4+45 | 1.2267 | 8.05 | |
| 4+50 | 1.2845 | 8.38 | |
| 4+55 | 1.3434 | 8.56 | |
| 5+ 0 | 1.4046 | 8.89 | |
| 5+ 5 | 1.4701 | 9.50 | |
| 5+10 | 1.5461 | 11.04 | |
| 5+15 | 1.6340 | 12.76 | |
| 5+20 | 1.7314 | 14.15 | |
| 5+25 | 1.8385 | 15.55 | |
| 5+30 | 1.9597 | 17.60 | |
| 5+35 | 2.0834 | 17.95 | |
| 5+40 | 2.1513 | 9.86 | |
| 5+45 | 2.1858 | 5.01 | |
| 5+50 | 2.2033 | 2.54 | |
| 5+55 | 2.2128 | 1.37 | |
| 6+ 0 | 2.2168 | 0.59 | |
| 6+ 5 | 2.2183 | 0.22 | |
| 6+10 | 2.2188 | 0.07 | |
| 6+15 | 2.2190 | 0.02 | |
| 6+20 | 2.2191 | 0.01 | |
| 6+25 | 2.2191 | 0.00 | |
| 6+30 | 2.2191 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX4424100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 44
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 13.40(Ac.) = 0.021 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 13.40(Ac.) = 0.021 Sq. Mi.
Length along longest watercourse = 1692.00(Ft.)
Length along longest watercourse measured to centroid = 1195.00(Ft.)
Length along longest watercourse = 0.320 Mi.
Length along longest watercourse measured to centroid = 0.226 Mi.
Difference in elevation = 334.00(Ft.)
Slope along watercourse = 1042.2695 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.083 Hr.
Lag time = 4.97 Min.
25% of lag time = 1.24 Min.
40% of lag time = 1.99 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 13.40 | 1.80 | 24.12 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 13.40 | 4.71 | 63.11 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.710(In)

Point rain (area averaged) = 4.710(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.710(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 13.400 | 83.98 | 0.000 |

Total Area Entered = 13.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 100.685 | 14.661 | 1.980 |
| 2 0.167 | 201.370 | 55.782 | 7.533 |
| 3 0.250 | 302.056 | 18.314 | 2.473 |
| 4 0.333 | 402.741 | 7.359 | 0.994 |
| 5 0.417 | 503.426 | 2.392 | 0.323 |
| 6 0.500 | 604.111 | 0.843 | 0.114 |
| 7 0.583 | 704.796 | 0.649 | 0.088 |
| | Sum = | 100.000 Sum= | 13.505 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.038 | ( 0.152) | 0.034 | 0.004 |
| 2 | 0.17 | 0.07 | 0.038 | ( 0.152) | 0.034 | 0.004 |
| 3 | 0.25 | 0.07 | 0.038 | ( 0.151) | 0.034 | 0.004 |
| 4 | 0.33 | 0.10 | 0.057 | ( 0.151) | 0.051 | 0.006 |
| 5 | 0.42 | 0.10 | 0.057 | ( 0.150) | 0.051 | 0.006 |
| 6 | 0.50 | 0.10 | 0.057 | ( 0.149) | 0.051 | 0.006 |
| 7 | 0.58 | 0.10 | 0.057 | ( 0.149) | 0.051 | 0.006 |
| 8 | 0.67 | 0.10 | 0.057 | ( 0.148) | 0.051 | 0.006 |
| 9 | 0.75 | 0.10 | 0.057 | ( 0.148) | 0.051 | 0.006 |
| 10 | 0.83 | 0.13 | 0.075 | ( 0.147) | 0.068 | 0.008 |
| 11 | 0.92 | 0.13 | 0.075 | ( 0.147) | 0.068 | 0.008 |
| 12 | 1.00 | 0.13 | 0.075 | ( 0.146) | 0.068 | 0.008 |
| 13 | 1.08 | 0.10 | 0.057 | ( 0.145) | 0.051 | 0.006 |
| 14 | 1.17 | 0.10 | 0.057 | ( 0.145) | 0.051 | 0.006 |
| 15 | 1.25 | 0.10 | 0.057 | ( 0.144) | 0.051 | 0.006 |
| 16 | 1.33 | 0.10 | 0.057 | ( 0.144) | 0.051 | 0.006 |
| 17 | 1.42 | 0.10 | 0.057 | ( 0.143) | 0.051 | 0.006 |
| 18 | 1.50 | 0.10 | 0.057 | ( 0.143) | 0.051 | 0.006 |
| 19 | 1.58 | 0.10 | 0.057 | ( 0.142) | 0.051 | 0.006 |
| 20 | 1.67 | 0.10 | 0.057 | ( 0.141) | 0.051 | 0.006 |
| 21 | 1.75 | 0.10 | 0.057 | ( 0.141) | 0.051 | 0.006 |
| 22 | 1.83 | 0.13 | 0.075 | ( 0.140) | 0.068 | 0.008 |
| 23 | 1.92 | 0.13 | 0.075 | ( 0.140) | 0.068 | 0.008 |
| 24 | 2.00 | 0.13 | 0.075 | ( 0.139) | 0.068 | 0.008 |
| 25 | 2.08 | 0.13 | 0.075 | ( 0.139) | 0.068 | 0.008 |
| 26 | 2.17 | 0.13 | 0.075 | ( 0.138) | 0.068 | 0.008 |
| 27 | 2.25 | 0.13 | 0.075 | ( 0.137) | 0.068 | 0.008 |
| 28 | 2.33 | 0.13 | 0.075 | ( 0.137) | 0.068 | 0.008 |
| 29 | 2.42 | 0.13 | 0.075 | ( 0.136) | 0.068 | 0.008 |
| 30 | 2.50 | 0.13 | 0.075 | ( 0.136) | 0.068 | 0.008 |
| 31 | 2.58 | 0.17 | 0.094 | ( 0.135) | 0.085 | 0.009 |
| 32 | 2.67 | 0.17 | 0.094 | ( 0.135) | 0.085 | 0.009 |
| 33 | 2.75 | 0.17 | 0.094 | ( 0.134) | 0.085 | 0.009 |
| 34 | 2.83 | 0.17 | 0.094 | ( 0.134) | 0.085 | 0.009 |
| 35 | 2.92 | 0.17 | 0.094 | ( 0.133) | 0.085 | 0.009 |
| 36 | 3.00 | 0.17 | 0.094 | ( 0.132) | 0.085 | 0.009 |
| 37 | 3.08 | 0.17 | 0.094 | ( 0.132) | 0.085 | 0.009 |
| 38 | 3.17 | 0.17 | 0.094 | ( 0.131) | 0.085 | 0.009 |
| 39 | 3.25 | 0.17 | 0.094 | ( 0.131) | 0.085 | 0.009 |
| 40 | 3.33 | 0.17 | 0.094 | ( 0.130) | 0.085 | 0.009 |
| 41 | 3.42 | 0.17 | 0.094 | ( 0.130) | 0.085 | 0.009 |
| 42 | 3.50 | 0.17 | 0.094 | ( 0.129) | 0.085 | 0.009 |
| 43 | 3.58 | 0.17 | 0.094 | ( 0.129) | 0.085 | 0.009 |
| 44 | 3.67 | 0.17 | 0.094 | ( 0.128) | 0.085 | 0.009 |
| 45 | 3.75 | 0.17 | 0.094 | ( 0.128) | 0.085 | 0.009 |
| 46 | 3.83 | 0.20 | 0.113 | ( 0.127) | 0.102 | 0.011 |
| 47 | 3.92 | 0.20 | 0.113 | ( 0.126) | 0.102 | 0.011 |
| 48 | 4.00 | 0.20 | 0.113 | ( 0.126) | 0.102 | 0.011 |
| 49 | 4.08 | 0.20 | 0.113 | ( 0.125) | 0.102 | 0.011 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 50 | 4.17 | 0.20 | 0.113 | ( | 0.125) | 0.102 | | 0.011 |
| 51 | 4.25 | 0.20 | 0.113 | ( | 0.124) | 0.102 | | 0.011 |
| 52 | 4.33 | 0.23 | 0.132 | ( | 0.124) | 0.119 | | 0.013 |
| 53 | 4.42 | 0.23 | 0.132 | ( | 0.123) | 0.119 | | 0.013 |
| 54 | 4.50 | 0.23 | 0.132 | ( | 0.123) | 0.119 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.132 | ( | 0.122) | 0.119 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.132 | ( | 0.122) | 0.119 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.132 | ( | 0.121) | 0.119 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.151 | | 0.121 | ( | 0.136) | 0.030 |
| 59 | 4.92 | 0.27 | 0.151 | | 0.120 | ( | 0.136) | 0.031 |
| 60 | 5.00 | 0.27 | 0.151 | | 0.120 | ( | 0.136) | 0.031 |
| 61 | 5.08 | 0.20 | 0.113 | ( | 0.119) | 0.102 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.113 | ( | 0.119) | 0.102 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.113 | ( | 0.118) | 0.102 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.132 | | 0.118 | ( | 0.119) | 0.014 |
| 65 | 5.42 | 0.23 | 0.132 | | 0.117 | ( | 0.119) | 0.015 |
| 66 | 5.50 | 0.23 | 0.132 | | 0.117 | ( | 0.119) | 0.015 |
| 67 | 5.58 | 0.27 | 0.151 | | 0.116 | ( | 0.136) | 0.035 |
| 68 | 5.67 | 0.27 | 0.151 | | 0.115 | ( | 0.136) | 0.035 |
| 69 | 5.75 | 0.27 | 0.151 | | 0.115 | ( | 0.136) | 0.036 |
| 70 | 5.83 | 0.27 | 0.151 | | 0.114 | ( | 0.136) | 0.036 |
| 71 | 5.92 | 0.27 | 0.151 | | 0.114 | ( | 0.136) | 0.037 |
| 72 | 6.00 | 0.27 | 0.151 | | 0.113 | ( | 0.136) | 0.037 |
| 73 | 6.08 | 0.30 | 0.170 | | 0.113 | ( | 0.153) | 0.057 |
| 74 | 6.17 | 0.30 | 0.170 | | 0.112 | ( | 0.153) | 0.057 |
| 75 | 6.25 | 0.30 | 0.170 | | 0.112 | ( | 0.153) | 0.058 |
| 76 | 6.33 | 0.30 | 0.170 | | 0.111 | ( | 0.153) | 0.058 |
| 77 | 6.42 | 0.30 | 0.170 | | 0.111 | ( | 0.153) | 0.059 |
| 78 | 6.50 | 0.30 | 0.170 | | 0.110 | ( | 0.153) | 0.059 |
| 79 | 6.58 | 0.33 | 0.188 | | 0.110 | ( | 0.170) | 0.078 |
| 80 | 6.67 | 0.33 | 0.188 | | 0.109 | ( | 0.170) | 0.079 |
| 81 | 6.75 | 0.33 | 0.188 | | 0.109 | ( | 0.170) | 0.079 |
| 82 | 6.83 | 0.33 | 0.188 | | 0.108 | ( | 0.170) | 0.080 |
| 83 | 6.92 | 0.33 | 0.188 | | 0.108 | ( | 0.170) | 0.080 |
| 84 | 7.00 | 0.33 | 0.188 | | 0.107 | ( | 0.170) | 0.081 |
| 85 | 7.08 | 0.33 | 0.188 | | 0.107 | ( | 0.170) | 0.081 |
| 86 | 7.17 | 0.33 | 0.188 | | 0.107 | ( | 0.170) | 0.082 |
| 87 | 7.25 | 0.33 | 0.188 | | 0.106 | ( | 0.170) | 0.082 |
| 88 | 7.33 | 0.37 | 0.207 | | 0.106 | ( | 0.187) | 0.102 |
| 89 | 7.42 | 0.37 | 0.207 | | 0.105 | ( | 0.187) | 0.102 |
| 90 | 7.50 | 0.37 | 0.207 | | 0.105 | ( | 0.187) | 0.103 |
| 91 | 7.58 | 0.40 | 0.226 | | 0.104 | ( | 0.203) | 0.122 |
| 92 | 7.67 | 0.40 | 0.226 | | 0.104 | ( | 0.203) | 0.122 |
| 93 | 7.75 | 0.40 | 0.226 | | 0.103 | ( | 0.203) | 0.123 |
| 94 | 7.83 | 0.43 | 0.245 | | 0.103 | ( | 0.220) | 0.142 |
| 95 | 7.92 | 0.43 | 0.245 | | 0.102 | ( | 0.220) | 0.143 |
| 96 | 8.00 | 0.43 | 0.245 | | 0.102 | ( | 0.220) | 0.143 |
| 97 | 8.08 | 0.50 | 0.283 | | 0.101 | ( | 0.254) | 0.181 |
| 98 | 8.17 | 0.50 | 0.283 | | 0.101 | ( | 0.254) | 0.182 |
| 99 | 8.25 | 0.50 | 0.283 | | 0.100 | ( | 0.254) | 0.182 |
| 100 | 8.33 | 0.50 | 0.283 | | 0.100 | ( | 0.254) | 0.183 |
| 101 | 8.42 | 0.50 | 0.283 | | 0.099 | ( | 0.254) | 0.183 |
| 102 | 8.50 | 0.50 | 0.283 | | 0.099 | ( | 0.254) | 0.184 |
| 103 | 8.58 | 0.53 | 0.301 | | 0.098 | ( | 0.271) | 0.203 |
| 104 | 8.67 | 0.53 | 0.301 | | 0.098 | ( | 0.271) | 0.203 |
| 105 | 8.75 | 0.53 | 0.301 | | 0.098 | ( | 0.271) | 0.204 |
| 106 | 8.83 | 0.57 | 0.320 | | 0.097 | ( | 0.288) | 0.223 |
| 107 | 8.92 | 0.57 | 0.320 | | 0.097 | ( | 0.288) | 0.224 |
| 108 | 9.00 | 0.57 | 0.320 | | 0.096 | ( | 0.288) | 0.224 |
| 109 | 9.08 | 0.63 | 0.358 | | 0.096 | ( | 0.322) | 0.262 |
| 110 | 9.17 | 0.63 | 0.358 | | 0.095 | ( | 0.322) | 0.263 |
| 111 | 9.25 | 0.63 | 0.358 | | 0.095 | ( | 0.322) | 0.263 |
| 112 | 9.33 | 0.67 | 0.377 | | 0.094 | ( | 0.339) | 0.282 |
| 113 | 9.42 | 0.67 | 0.377 | | 0.094 | ( | 0.339) | 0.283 |
| 114 | 9.50 | 0.67 | 0.377 | | 0.093 | ( | 0.339) | 0.283 |
| 115 | 9.58 | 0.70 | 0.396 | | 0.093 | ( | 0.356) | 0.303 |
| 116 | 9.67 | 0.70 | 0.396 | | 0.093 | ( | 0.356) | 0.303 |
| 117 | 9.75 | 0.70 | 0.396 | | 0.092 | ( | 0.356) | 0.304 |
| 118 | 9.83 | 0.73 | 0.414 | | 0.092 | ( | 0.373) | 0.323 |
| 119 | 9.92 | 0.73 | 0.414 | | 0.091 | ( | 0.373) | 0.323 |
| 120 | 10.00 | 0.73 | 0.414 | | 0.091 | ( | 0.373) | 0.324 |
| 121 | 10.08 | 0.50 | 0.283 | | 0.090 | ( | 0.254) | 0.192 |
| 122 | 10.17 | 0.50 | 0.283 | | 0.090 | ( | 0.254) | 0.193 |
| 123 | 10.25 | 0.50 | 0.283 | | 0.089 | ( | 0.254) | 0.193 |
| 124 | 10.33 | 0.50 | 0.283 | | 0.089 | ( | 0.254) | 0.194 |
| 125 | 10.42 | 0.50 | 0.283 | | 0.089 | ( | 0.254) | 0.194 |
| 126 | 10.50 | 0.50 | 0.283 | | 0.088 | ( | 0.254) | 0.194 |
| 127 | 10.58 | 0.67 | 0.377 | | 0.088 | ( | 0.339) | 0.289 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 128 | 10.67 | 0.67 | 0.377 | 0.087 | ( 0.339) | 0.289 |
| 129 | 10.75 | 0.67 | 0.377 | 0.087 | ( 0.339) | 0.290 |
| 130 | 10.83 | 0.67 | 0.377 | 0.086 | ( 0.339) | 0.290 |
| 131 | 10.92 | 0.67 | 0.377 | 0.086 | ( 0.339) | 0.291 |
| 132 | 11.00 | 0.67 | 0.377 | 0.086 | ( 0.339) | 0.291 |
| 133 | 11.08 | 0.63 | 0.358 | 0.085 | ( 0.322) | 0.273 |
| 134 | 11.17 | 0.63 | 0.358 | 0.085 | ( 0.322) | 0.273 |
| 135 | 11.25 | 0.63 | 0.358 | 0.084 | ( 0.322) | 0.274 |
| 136 | 11.33 | 0.63 | 0.358 | 0.084 | ( 0.322) | 0.274 |
| 137 | 11.42 | 0.63 | 0.358 | 0.084 | ( 0.322) | 0.274 |
| 138 | 11.50 | 0.63 | 0.358 | 0.083 | ( 0.322) | 0.275 |
| 139 | 11.58 | 0.57 | 0.320 | 0.083 | ( 0.288) | 0.238 |
| 140 | 11.67 | 0.57 | 0.320 | 0.082 | ( 0.288) | 0.238 |
| 141 | 11.75 | 0.57 | 0.320 | 0.082 | ( 0.288) | 0.238 |
| 142 | 11.83 | 0.60 | 0.339 | 0.081 | ( 0.305) | 0.258 |
| 143 | 11.92 | 0.60 | 0.339 | 0.081 | ( 0.305) | 0.258 |
| 144 | 12.00 | 0.60 | 0.339 | 0.081 | ( 0.305) | 0.258 |
| 145 | 12.08 | 0.83 | 0.471 | 0.080 | ( 0.424) | 0.391 |
| 146 | 12.17 | 0.83 | 0.471 | 0.080 | ( 0.424) | 0.391 |
| 147 | 12.25 | 0.83 | 0.471 | 0.079 | ( 0.424) | 0.392 |
| 148 | 12.33 | 0.87 | 0.490 | 0.079 | ( 0.441) | 0.411 |
| 149 | 12.42 | 0.87 | 0.490 | 0.079 | ( 0.441) | 0.411 |
| 150 | 12.50 | 0.87 | 0.490 | 0.078 | ( 0.441) | 0.412 |
| 151 | 12.58 | 0.93 | 0.528 | 0.078 | ( 0.475) | 0.450 |
| 152 | 12.67 | 0.93 | 0.528 | 0.077 | ( 0.475) | 0.450 |
| 153 | 12.75 | 0.93 | 0.528 | 0.077 | ( 0.475) | 0.450 |
| 154 | 12.83 | 0.97 | 0.546 | 0.077 | ( 0.492) | 0.470 |
| 155 | 12.92 | 0.97 | 0.546 | 0.076 | ( 0.492) | 0.470 |
| 156 | 13.00 | 0.97 | 0.546 | 0.076 | ( 0.492) | 0.470 |
| 157 | 13.08 | 1.13 | 0.641 | 0.076 | ( 0.576) | 0.565 |
| 158 | 13.17 | 1.13 | 0.641 | 0.075 | ( 0.576) | 0.565 |
| 159 | 13.25 | 1.13 | 0.641 | 0.075 | ( 0.576) | 0.566 |
| 160 | 13.33 | 1.13 | 0.641 | 0.074 | ( 0.576) | 0.566 |
| 161 | 13.42 | 1.13 | 0.641 | 0.074 | ( 0.576) | 0.567 |
| 162 | 13.50 | 1.13 | 0.641 | 0.074 | ( 0.576) | 0.567 |
| 163 | 13.58 | 0.77 | 0.433 | 0.073 | ( 0.390) | 0.360 |
| 164 | 13.67 | 0.77 | 0.433 | 0.073 | ( 0.390) | 0.360 |
| 165 | 13.75 | 0.77 | 0.433 | 0.073 | ( 0.390) | 0.361 |
| 166 | 13.83 | 0.77 | 0.433 | 0.072 | ( 0.390) | 0.361 |
| 167 | 13.92 | 0.77 | 0.433 | 0.072 | ( 0.390) | 0.362 |
| 168 | 14.00 | 0.77 | 0.433 | 0.071 | ( 0.390) | 0.362 |
| 169 | 14.08 | 0.90 | 0.509 | 0.071 | ( 0.458) | 0.438 |
| 170 | 14.17 | 0.90 | 0.509 | 0.071 | ( 0.458) | 0.438 |
| 171 | 14.25 | 0.90 | 0.509 | 0.070 | ( 0.458) | 0.438 |
| 172 | 14.33 | 0.87 | 0.490 | 0.070 | ( 0.441) | 0.420 |
| 173 | 14.42 | 0.87 | 0.490 | 0.070 | ( 0.441) | 0.420 |
| 174 | 14.50 | 0.87 | 0.490 | 0.069 | ( 0.441) | 0.421 |
| 175 | 14.58 | 0.87 | 0.490 | 0.069 | ( 0.441) | 0.421 |
| 176 | 14.67 | 0.87 | 0.490 | 0.069 | ( 0.441) | 0.421 |
| 177 | 14.75 | 0.87 | 0.490 | 0.068 | ( 0.441) | 0.422 |
| 178 | 14.83 | 0.83 | 0.471 | 0.068 | ( 0.424) | 0.403 |
| 179 | 14.92 | 0.83 | 0.471 | 0.067 | ( 0.424) | 0.404 |
| 180 | 15.00 | 0.83 | 0.471 | 0.067 | ( 0.424) | 0.404 |
| 181 | 15.08 | 0.80 | 0.452 | 0.067 | ( 0.407) | 0.385 |
| 182 | 15.17 | 0.80 | 0.452 | 0.066 | ( 0.407) | 0.386 |
| 183 | 15.25 | 0.80 | 0.452 | 0.066 | ( 0.407) | 0.386 |
| 184 | 15.33 | 0.77 | 0.433 | 0.066 | ( 0.390) | 0.368 |
| 185 | 15.42 | 0.77 | 0.433 | 0.065 | ( 0.390) | 0.368 |
| 186 | 15.50 | 0.77 | 0.433 | 0.065 | ( 0.390) | 0.368 |
| 187 | 15.58 | 0.63 | 0.358 | 0.065 | ( 0.322) | 0.293 |
| 188 | 15.67 | 0.63 | 0.358 | 0.064 | ( 0.322) | 0.294 |
| 189 | 15.75 | 0.63 | 0.358 | 0.064 | ( 0.322) | 0.294 |
| 190 | 15.83 | 0.63 | 0.358 | 0.064 | ( 0.322) | 0.294 |
| 191 | 15.92 | 0.63 | 0.358 | 0.063 | ( 0.322) | 0.295 |
| 192 | 16.00 | 0.63 | 0.358 | 0.063 | ( 0.322) | 0.295 |
| 193 | 16.08 | 0.13 | 0.075 | 0.063 | ( 0.068) | 0.013 |
| 194 | 16.17 | 0.13 | 0.075 | 0.062 | ( 0.068) | 0.013 |
| 195 | 16.25 | 0.13 | 0.075 | 0.062 | ( 0.068) | 0.013 |
| 196 | 16.33 | 0.13 | 0.075 | 0.062 | ( 0.068) | 0.014 |
| 197 | 16.42 | 0.13 | 0.075 | 0.062 | ( 0.068) | 0.014 |
| 198 | 16.50 | 0.13 | 0.075 | 0.061 | ( 0.068) | 0.014 |
| 199 | 16.58 | 0.10 | 0.057 | ( 0.061) | 0.051 | 0.006 |
| 200 | 16.67 | 0.10 | 0.057 | ( 0.061) | 0.051 | 0.006 |
| 201 | 16.75 | 0.10 | 0.057 | ( 0.060) | 0.051 | 0.006 |
| 202 | 16.83 | 0.10 | 0.057 | ( 0.060) | 0.051 | 0.006 |
| 203 | 16.92 | 0.10 | 0.057 | ( 0.060) | 0.051 | 0.006 |
| 204 | 17.00 | 0.10 | 0.057 | ( 0.059) | 0.051 | 0.006 |
| 205 | 17.08 | 0.17 | 0.094 | 0.059 | ( 0.085) | 0.035 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 206 | 17.17 | 0.17 | 0.094 | | 0.059 | ( | 0.085) | 0.035 |
| 207 | 17.25 | 0.17 | 0.094 | | 0.058 | ( | 0.085) | 0.036 |
| 208 | 17.33 | 0.17 | 0.094 | | 0.058 | ( | 0.085) | 0.036 |
| 209 | 17.42 | 0.17 | 0.094 | | 0.058 | ( | 0.085) | 0.036 |
| 210 | 17.50 | 0.17 | 0.094 | | 0.058 | ( | 0.085) | 0.037 |
| 211 | 17.58 | 0.17 | 0.094 | | 0.057 | ( | 0.085) | 0.037 |
| 212 | 17.67 | 0.17 | 0.094 | | 0.057 | ( | 0.085) | 0.037 |
| 213 | 17.75 | 0.17 | 0.094 | | 0.057 | ( | 0.085) | 0.037 |
| 214 | 17.83 | 0.13 | 0.075 | | 0.056 | ( | 0.068) | 0.019 |
| 215 | 17.92 | 0.13 | 0.075 | | 0.056 | ( | 0.068) | 0.019 |
| 216 | 18.00 | 0.13 | 0.075 | | 0.056 | ( | 0.068) | 0.019 |
| 217 | 18.08 | 0.13 | 0.075 | | 0.056 | ( | 0.068) | 0.020 |
| 218 | 18.17 | 0.13 | 0.075 | | 0.055 | ( | 0.068) | 0.020 |
| 219 | 18.25 | 0.13 | 0.075 | | 0.055 | ( | 0.068) | 0.020 |
| 220 | 18.33 | 0.13 | 0.075 | | 0.055 | ( | 0.068) | 0.021 |
| 221 | 18.42 | 0.13 | 0.075 | | 0.055 | ( | 0.068) | 0.021 |
| 222 | 18.50 | 0.13 | 0.075 | | 0.054 | ( | 0.068) | 0.021 |
| 223 | 18.58 | 0.10 | 0.057 | ( | 0.054) | | 0.051 | 0.006 |
| 224 | 18.67 | 0.10 | 0.057 | ( | 0.054) | | 0.051 | 0.006 |
| 225 | 18.75 | 0.10 | 0.057 | ( | 0.054) | | 0.051 | 0.006 |
| 226 | 18.83 | 0.07 | 0.038 | ( | 0.053) | | 0.034 | 0.004 |
| 227 | 18.92 | 0.07 | 0.038 | ( | 0.053) | | 0.034 | 0.004 |
| 228 | 19.00 | 0.07 | 0.038 | ( | 0.053) | | 0.034 | 0.004 |
| 229 | 19.08 | 0.10 | 0.057 | ( | 0.052) | | 0.051 | 0.006 |
| 230 | 19.17 | 0.10 | 0.057 | ( | 0.052) | | 0.051 | 0.006 |
| 231 | 19.25 | 0.10 | 0.057 | ( | 0.052) | | 0.051 | 0.006 |
| 232 | 19.33 | 0.13 | 0.075 | | 0.052 | ( | 0.068) | 0.024 |
| 233 | 19.42 | 0.13 | 0.075 | | 0.052 | ( | 0.068) | 0.024 |
| 234 | 19.50 | 0.13 | 0.075 | | 0.051 | ( | 0.068) | 0.024 |
| 235 | 19.58 | 0.10 | 0.057 | ( | 0.051) | | 0.051 | 0.006 |
| 236 | 19.67 | 0.10 | 0.057 | | 0.051 | ( | 0.051) | 0.006 |
| 237 | 19.75 | 0.10 | 0.057 | | 0.051 | ( | 0.051) | 0.006 |
| 238 | 19.83 | 0.07 | 0.038 | ( | 0.050) | | 0.034 | 0.004 |
| 239 | 19.92 | 0.07 | 0.038 | ( | 0.050) | | 0.034 | 0.004 |
| 240 | 20.00 | 0.07 | 0.038 | ( | 0.050) | | 0.034 | 0.004 |
| 241 | 20.08 | 0.10 | 0.057 | | 0.050 | ( | 0.051) | 0.007 |
| 242 | 20.17 | 0.10 | 0.057 | | 0.049 | ( | 0.051) | 0.007 |
| 243 | 20.25 | 0.10 | 0.057 | | 0.049 | ( | 0.051) | 0.007 |
| 244 | 20.33 | 0.10 | 0.057 | | 0.049 | ( | 0.051) | 0.007 |
| 245 | 20.42 | 0.10 | 0.057 | | 0.049 | ( | 0.051) | 0.008 |
| 246 | 20.50 | 0.10 | 0.057 | | 0.049 | ( | 0.051) | 0.008 |
| 247 | 20.58 | 0.10 | 0.057 | | 0.048 | ( | 0.051) | 0.008 |
| 248 | 20.67 | 0.10 | 0.057 | | 0.048 | ( | 0.051) | 0.008 |
| 249 | 20.75 | 0.10 | 0.057 | | 0.048 | ( | 0.051) | 0.008 |
| 250 | 20.83 | 0.07 | 0.038 | ( | 0.048) | | 0.034 | 0.004 |
| 251 | 20.92 | 0.07 | 0.038 | ( | 0.048) | | 0.034 | 0.004 |
| 252 | 21.00 | 0.07 | 0.038 | ( | 0.047) | | 0.034 | 0.004 |
| 253 | 21.08 | 0.10 | 0.057 | | 0.047 | ( | 0.051) | 0.009 |
| 254 | 21.17 | 0.10 | 0.057 | | 0.047 | ( | 0.051) | 0.009 |
| 255 | 21.25 | 0.10 | 0.057 | | 0.047 | ( | 0.051) | 0.010 |
| 256 | 21.33 | 0.07 | 0.038 | ( | 0.047) | | 0.034 | 0.004 |
| 257 | 21.42 | 0.07 | 0.038 | ( | 0.047) | | 0.034 | 0.004 |
| 258 | 21.50 | 0.07 | 0.038 | ( | 0.046) | | 0.034 | 0.004 |
| 259 | 21.58 | 0.10 | 0.057 | | 0.046 | ( | 0.051) | 0.010 |
| 260 | 21.67 | 0.10 | 0.057 | | 0.046 | ( | 0.051) | 0.010 |
| 261 | 21.75 | 0.10 | 0.057 | | 0.046 | ( | 0.051) | 0.011 |
| 262 | 21.83 | 0.07 | 0.038 | ( | 0.046) | | 0.034 | 0.004 |
| 263 | 21.92 | 0.07 | 0.038 | ( | 0.046) | | 0.034 | 0.004 |
| 264 | 22.00 | 0.07 | 0.038 | ( | 0.045) | | 0.034 | 0.004 |
| 265 | 22.08 | 0.10 | 0.057 | | 0.045 | ( | 0.051) | 0.011 |
| 266 | 22.17 | 0.10 | 0.057 | | 0.045 | ( | 0.051) | 0.011 |
| 267 | 22.25 | 0.10 | 0.057 | | 0.045 | ( | 0.051) | 0.012 |
| 268 | 22.33 | 0.07 | 0.038 | ( | 0.045) | | 0.034 | 0.004 |
| 269 | 22.42 | 0.07 | 0.038 | ( | 0.045) | | 0.034 | 0.004 |
| 270 | 22.50 | 0.07 | 0.038 | ( | 0.045) | | 0.034 | 0.004 |
| 271 | 22.58 | 0.07 | 0.038 | ( | 0.044) | | 0.034 | 0.004 |
| 272 | 22.67 | 0.07 | 0.038 | ( | 0.044) | | 0.034 | 0.004 |
| 273 | 22.75 | 0.07 | 0.038 | ( | 0.044) | | 0.034 | 0.004 |
| 274 | 22.83 | 0.07 | 0.038 | ( | 0.044) | | 0.034 | 0.004 |
| 275 | 22.92 | 0.07 | 0.038 | ( | 0.044) | | 0.034 | 0.004 |
| 276 | 23.00 | 0.07 | 0.038 | ( | 0.044) | | 0.034 | 0.004 |
| 277 | 23.08 | 0.07 | 0.038 | ( | 0.044) | | 0.034 | 0.004 |
| 278 | 23.17 | 0.07 | 0.038 | ( | 0.044) | | 0.034 | 0.004 |
| 279 | 23.25 | 0.07 | 0.038 | ( | 0.044) | | 0.034 | 0.004 |
| 280 | 23.33 | 0.07 | 0.038 | ( | 0.043) | | 0.034 | 0.004 |
| 281 | 23.42 | 0.07 | 0.038 | ( | 0.043) | | 0.034 | 0.004 |
| 282 | 23.50 | 0.07 | 0.038 | ( | 0.043) | | 0.034 | 0.004 |
| 283 | 23.58 | 0.07 | 0.038 | ( | 0.043) | | 0.034 | 0.004 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 284 | 23.67 | 0.07 | 0.038 | ( 0.043) | 0.034 | 0.004 | |
| 285 | 23.75 | 0.07 | 0.038 | ( 0.043) | 0.034 | 0.004 | |
| 286 | 23.83 | 0.07 | 0.038 | ( 0.043) | 0.034 | 0.004 | |
| 287 | 23.92 | 0.07 | 0.038 | ( 0.043) | 0.034 | 0.004 | |
| 288 | 24.00 | 0.07 | 0.038 | ( 0.043) | 0.034 | 0.004 | |

(Loss Rate Not Used)

Sum = 100.0 Sum = 35.8

Flood volume = Effective rainfall 2.98(In)
times area 13.4(Ac.)/[(In)/(Ft.)] = 3.3(Ac.Ft)
Total soil loss = 1.73(In)
Total soil loss = 1.928(Ac.Ft)
Total rainfall = 4.71(In)
Flood volume = 145127.7 Cubic Feet
Total soil loss = 83970.2 Cubic Feet

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Peak flow rate of this hydrograph = 7.645(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

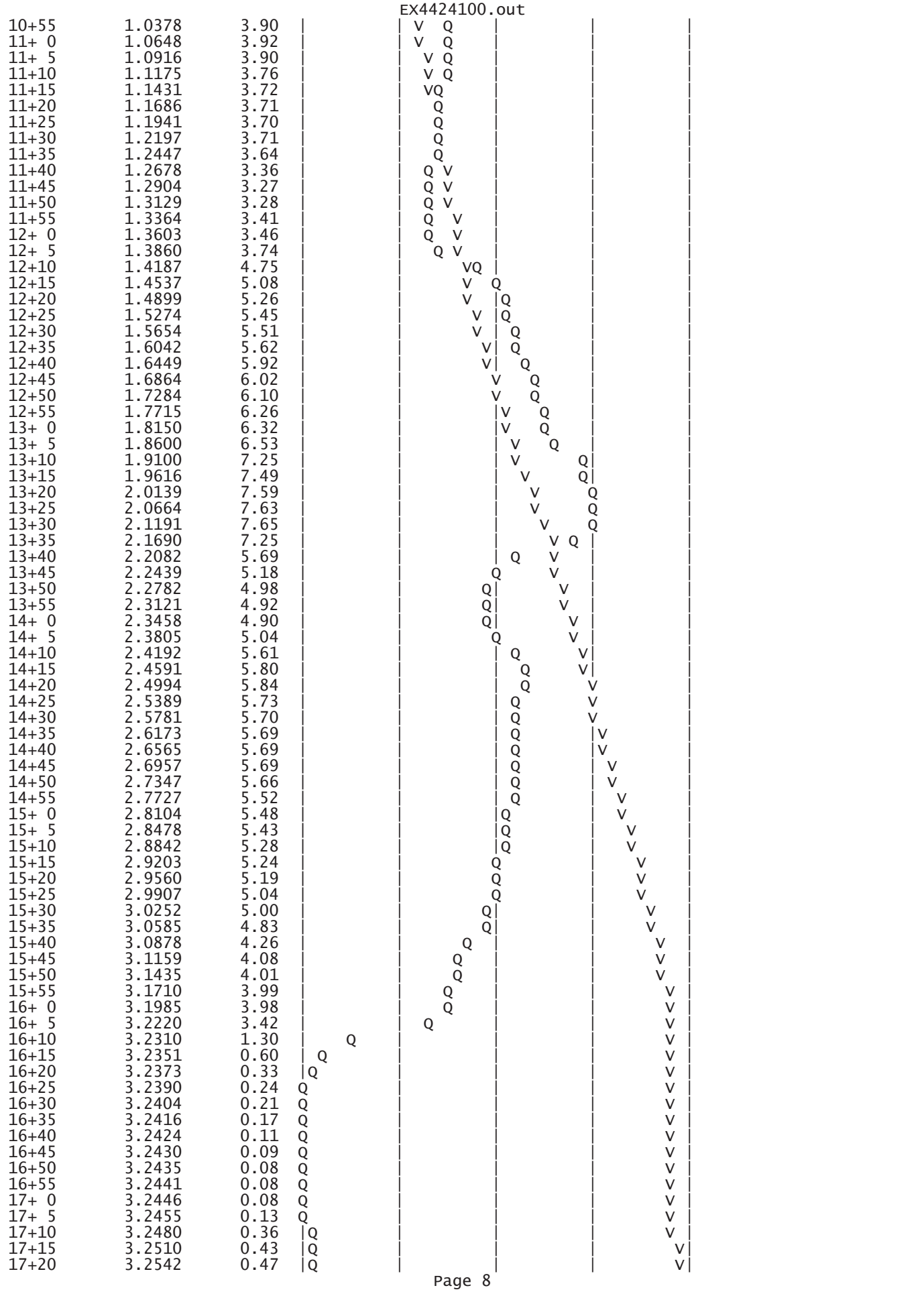
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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0001 | 0.01 | Q | | | | |
| 0+10 | 0.0003 | 0.04 | Q | | | | |
| 0+15 | 0.0006 | 0.05 | Q | | | | |
| 0+20 | 0.0010 | 0.05 | Q | | | | |
| 0+25 | 0.0014 | 0.07 | Q | | | | |
| 0+30 | 0.0019 | 0.07 | Q | | | | |
| 0+35 | 0.0025 | 0.08 | Q | | | | |
| 0+40 | 0.0030 | 0.08 | Q | | | | |
| 0+45 | 0.0035 | 0.08 | Q | | | | |
| 0+50 | 0.0041 | 0.08 | Q | | | | |
| 0+55 | 0.0047 | 0.09 | Q | | | | |
| 1+ 0 | 0.0054 | 0.10 | Q | | | | |
| 1+ 5 | 0.0061 | 0.10 | Q | | | | |
| 1+10 | 0.0066 | 0.08 | Q | | | | |
| 1+15 | 0.0072 | 0.08 | Q | | | | |
| 1+20 | 0.0077 | 0.08 | Q | | | | |
| 1+25 | 0.0082 | 0.08 | Q | | | | |
| 1+30 | 0.0088 | 0.08 | Q | | | | |
| 1+35 | 0.0093 | 0.08 | Q | | | | |
| 1+40 | 0.0098 | 0.08 | Q | | | | |
| 1+45 | 0.0103 | 0.08 | Q | | | | |
| 1+50 | 0.0109 | 0.08 | Q | | | | |
| 1+55 | 0.0116 | 0.09 | Q | | | | |
| 2+ 0 | 0.0122 | 0.10 | Q | | | | |
| 2+ 5 | 0.0129 | 0.10 | Q | | | | |
| 2+10 | 0.0136 | 0.10 | Q | | | | |
| 2+15 | 0.0143 | 0.10 | Q | | | | |
| 2+20 | 0.0150 | 0.10 | Q | | | | |
| 2+25 | 0.0157 | 0.10 | Q | | | | |
| 2+30 | 0.0164 | 0.10 | Q | | | | |
| 2+35 | 0.0172 | 0.11 | Q | | | | |
| 2+40 | 0.0180 | 0.12 | Q | | | | |
| 2+45 | 0.0188 | 0.12 | Q | | | | |
| 2+50 | 0.0197 | 0.13 | Q | | | | |
| 2+55 | 0.0206 | 0.13 | Q | | | | |
| 3+ 0 | 0.0215 | 0.13 | Q | | | | |
| 3+ 5 | 0.0223 | 0.13 | Q | | | | |
| 3+10 | 0.0232 | 0.13 | Q | | | | |
| 3+15 | 0.0241 | 0.13 | Q | | | | |
| 3+20 | 0.0250 | 0.13 | Q | | | | |
| 3+25 | 0.0258 | 0.13 | Q | | | | |
| 3+30 | 0.0267 | 0.13 | Q | | | | |
| 3+35 | 0.0276 | 0.13 | Q | | | | |
| 3+40 | 0.0285 | 0.13 | Q | | | | |
| 3+45 | 0.0293 | 0.13 | Q | | | | |
| 3+50 | 0.0302 | 0.13 | Q | | | | |
| 3+55 | 0.0312 | 0.15 | Q | | | | |
| 4+ 0 | 0.0323 | 0.15 | Q | | | | |
| 4+ 5 | 0.0333 | 0.15 | Q | | | | |
| 4+10 | 0.0344 | 0.15 | Q | | | | |
| 4+15 | 0.0354 | 0.15 | Q | | | | |
| 4+20 | 0.0365 | 0.16 | Q | | | | |

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 4+25       0.0377      0.17  Q          |          |          |          |
 4+30       0.0389      0.18  Q          |          |          |          |
 4+35       0.0401      0.18  Q          |          |          |          |
 4+40       0.0413      0.18  Q          |          |          |          |
 4+45       0.0426      0.18  Q          |          |          |          |
 4+50       0.0440      0.21  Q          |          |          |          |
 4+55       0.0464      0.34  VQ         |          |          |          |
 5+ 0       0.0490      0.39  VQ         |          |          |          |
 5+ 5       0.0516      0.37  VQ         |          |          |          |
 5+10       0.0531      0.23  Q          |          |          |          |
 5+15       0.0544      0.18  Q          |          |          |          |
 5+20       0.0555      0.17  Q          |          |          |          |
 5+25       0.0568      0.19  Q          |          |          |          |
 5+30       0.0582      0.20  Q          |          |          |          |
 5+35       0.0598      0.24  Q          |          |          |          |
 5+40       0.0625      0.39  VQ         |          |          |          |
 5+45       0.0656      0.44  VQ         |          |          |          |
 5+50       0.0688      0.47  VQ         |          |          |          |
 5+55       0.0722      0.48  VQ         |          |          |          |
 6+ 0       0.0756      0.49  VQ         |          |          |          |
 6+ 5       0.0793      0.54  V Q        |          |          |          |
 6+10       0.0840      0.69  |VQ        |          |          |          |
 6+15       0.0891      0.74  |VQ        |          |          |          |
 6+20       0.0944      0.77  |V Q       |          |          |          |
 6+25       0.0998      0.78  |V Q       |          |          |          |
 6+30       0.1052      0.79  |V Q       |          |          |          |
 6+35       0.1109      0.83  |V Q       |          |          |          |
 6+40       0.1177      0.98  |V Q       |          |          |          |
 6+45       0.1248      1.04  |V  Q      |          |          |          |
 6+50       0.1321      1.06  |V  Q      |          |          |          |
 6+55       0.1395      1.07  |V  Q      |          |          |          |
 7+ 0       0.1470      1.08  |V  Q      |          |          |          |
 7+ 5       0.1545      1.09  |V  Q      |          |          |          |
 7+10       0.1621      1.10  |V  Q      |          |          |          |
 7+15       0.1697      1.10  | V Q      |          |          |          |
 7+20       0.1776      1.15  | V Q      |          |          |          |
 7+25       0.1865      1.30  | V  Q     |          |          |          |
 7+30       0.1958      1.35  | V  Q     |          |          |          |
 7+35       0.2055      1.41  | V  Q     |          |          |          |
 7+40       0.2163      1.57  | V   Q    |          |          |          |
 7+45       0.2275      1.62  | V   Q    |          |          |          |
 7+50       0.2391      1.69  | V   Q    |          |          |          |
 7+55       0.2518      1.84  |  V   Q   |          |          |          |
 8+ 0       0.2648      1.90  |  V   Q   |          |          |          |
 8+ 5       0.2786      2.00  |  V   Q   |          |          |          |
 8+10       0.2944      2.29  |  V     Q|          |          |          |
 8+15       0.3109      2.40  |  V     Q|          |          |          |
 8+20       0.3277      2.44  |  V     Q|          |          |          |
 8+25       0.3446      2.46  |   V    Q|          |          |          |
 8+30       0.3616      2.47  |   V    Q|          |          |          |
 8+35       0.3790      2.52  |   V     Q          |          |          |
 8+40       0.3973      2.67  |   V     Q          |          |          |
 8+45       0.4161      2.72  |   V     Q          |          |          |
 8+50       0.4352      2.78  |    V    |Q         |          |          |
 8+55       0.4554      2.93  |    V    |Q         |          |          |
 9+ 0       0.4760      2.99  |    V    |Q         |          |          |
 9+ 5       0.4973      3.09  |    V    | Q        |          |          |
 9+10       0.5206      3.39  |     V   |  Q       |          |          |
 9+15       0.5447      3.49  |     V   |  Q       |          |          |
 9+20       0.5692      3.57  |     V   |   Q      |          |          |
 9+25       0.5949      3.73  |      V  |   Q      |          |          |
 9+30       0.6210      3.79  |      V  |    Q     |          |          |
 9+35       0.6476      3.85  |      V  |    Q     |          |          |
 9+40       0.6752      4.01  |       V |     Q    |          |          |
 9+45       0.7032      4.06  |       V |     Q    |          |          |
 9+50       0.7316      4.13  |       V |     Q    |          |          |
 9+55       0.7611      4.28  |        V|      Q   |          |          |
10+ 0       0.7909      4.34  |        V|      Q   |          |          |
10+ 5       0.8192      4.10  |        V|     Q    |          |          |
10+10       0.8407      3.12  |         V Q        |          |          |
10+15       0.8599      2.80  |         VQ         |          |          |
10+20       0.8784      2.68  |         Q          |          |          |
10+25       0.8966      2.64  |         Q          |          |          |
10+30       0.9147      2.63  |         Q          |          |          |
10+35       0.9340      2.81  |         |Q         |          |          |
10+40       0.9583      3.53  |         |V  Q      |          |          |
10+45       0.9843      3.77  |         |V   Q     |          |          |
10+50       1.0109      3.87  |         | V  Q     |          |          |
```



| | | | |
|---|---|---|---|
| 10+55 | 1.0378 | 3.90 | |
| 11+ 0 | 1.0648 | 3.92 | |
| 11+ 5 | 1.0916 | 3.90 | |
| 11+10 | 1.1175 | 3.76 | |
| 11+15 | 1.1431 | 3.72 | |
| 11+20 | 1.1686 | 3.71 | |
| 11+25 | 1.1941 | 3.70 | |
| 11+30 | 1.2197 | 3.71 | |
| 11+35 | 1.2447 | 3.64 | |
| 11+40 | 1.2678 | 3.36 | |
| 11+45 | 1.2904 | 3.27 | |
| 11+50 | 1.3129 | 3.28 | |
| 11+55 | 1.3364 | 3.41 | |
| 12+ 0 | 1.3603 | 3.46 | |
| 12+ 5 | 1.3860 | 3.74 | |
| 12+10 | 1.4187 | 4.75 | |
| 12+15 | 1.4537 | 5.08 | |
| 12+20 | 1.4899 | 5.26 | |
| 12+25 | 1.5274 | 5.45 | |
| 12+30 | 1.5654 | 5.51 | |
| 12+35 | 1.6042 | 5.62 | |
| 12+40 | 1.6449 | 5.92 | |
| 12+45 | 1.6864 | 6.02 | |
| 12+50 | 1.7284 | 6.10 | |
| 12+55 | 1.7715 | 6.26 | |
| 13+ 0 | 1.8150 | 6.32 | |
| 13+ 5 | 1.8600 | 6.53 | |
| 13+10 | 1.9100 | 7.25 | |
| 13+15 | 1.9616 | 7.49 | |
| 13+20 | 2.0139 | 7.59 | |
| 13+25 | 2.0664 | 7.63 | |
| 13+30 | 2.1191 | 7.65 | |
| 13+35 | 2.1690 | 7.25 | |
| 13+40 | 2.2082 | 5.69 | |
| 13+45 | 2.2439 | 5.18 | |
| 13+50 | 2.2782 | 4.98 | |
| 13+55 | 2.3121 | 4.92 | |
| 14+ 0 | 2.3458 | 4.90 | |
| 14+ 5 | 2.3805 | 5.04 | |
| 14+10 | 2.4192 | 5.61 | |
| 14+15 | 2.4591 | 5.80 | |
| 14+20 | 2.4994 | 5.84 | |
| 14+25 | 2.5389 | 5.73 | |
| 14+30 | 2.5781 | 5.70 | |
| 14+35 | 2.6173 | 5.69 | |
| 14+40 | 2.6565 | 5.69 | |
| 14+45 | 2.6957 | 5.69 | |
| 14+50 | 2.7347 | 5.66 | |
| 14+55 | 2.7727 | 5.52 | |
| 15+ 0 | 2.8104 | 5.48 | |
| 15+ 5 | 2.8478 | 5.43 | |
| 15+10 | 2.8842 | 5.28 | |
| 15+15 | 2.9203 | 5.24 | |
| 15+20 | 2.9560 | 5.19 | |
| 15+25 | 2.9907 | 5.04 | |
| 15+30 | 3.0252 | 5.00 | |
| 15+35 | 3.0585 | 4.83 | |
| 15+40 | 3.0878 | 4.26 | |
| 15+45 | 3.1159 | 4.08 | |
| 15+50 | 3.1435 | 4.01 | |
| 15+55 | 3.1710 | 3.99 | |
| 16+ 0 | 3.1985 | 3.98 | |
| 16+ 5 | 3.2220 | 3.42 | |
| 16+10 | 3.2310 | 1.30 | |
| 16+15 | 3.2351 | 0.60 | |
| 16+20 | 3.2373 | 0.33 | |
| 16+25 | 3.2390 | 0.24 | |
| 16+30 | 3.2404 | 0.21 | |
| 16+35 | 3.2416 | 0.17 | |
| 16+40 | 3.2424 | 0.11 | |
| 16+45 | 3.2430 | 0.09 | |
| 16+50 | 3.2435 | 0.08 | |
| 16+55 | 3.2441 | 0.08 | |
| 17+ 0 | 3.2446 | 0.08 | |
| 17+ 5 | 3.2455 | 0.13 | |
| 17+10 | 3.2480 | 0.36 | |
| 17+15 | 3.2510 | 0.43 | |
| 17+20 | 3.2542 | 0.47 | |

```
17+25       3.2575      0.48  |Q        |         |         V|
17+30       3.2608      0.49  |Q        |         |         V|
17+35       3.2642      0.49  |Q        |         |         V|
17+40       3.2677      0.50  |Q        |         |         V|
17+45       3.2711      0.50  | Q       |         |         V|
17+50       3.2743      0.47  |Q        |         |         V|
17+55       3.2766      0.33  |Q        |         |         V|
18+ 0       3.2786      0.29  |Q        |         |         V|
18+ 5       3.2804      0.27  |Q        |         |         V|
18+10       3.2823      0.27  |Q        |         |         V|
18+15       3.2842      0.27  |Q        |         |         V|
18+20       3.2860      0.27  |Q        |         |         V|
18+25       3.2879      0.28  |Q        |         |         V|
18+30       3.2899      0.28  |Q        |         |         V|
18+35       3.2916      0.25  |Q        |         |         V|
18+40       3.2926      0.14  Q         |         |         V|
18+45       3.2932      0.10  Q         |         |         V|
18+50       3.2938      0.08  Q         |         |         V|
18+55       3.2942      0.06  Q         |         |         V|
19+ 0       3.2946      0.06  Q         |         |         V|
19+ 5       3.2950      0.06  Q         |         |         V|
19+10       3.2955      0.07  Q         |         |         V|
19+15       3.2960      0.07  Q         |         |         V|
19+20       3.2967      0.11  Q         |         |         V|
19+25       3.2984      0.25  Q         |         |         V|
19+30       3.3005      0.29  |Q        |         |         V|
19+35       3.3024      0.28  |Q        |         |         V|
19+40       3.3034      0.15  Q         |         |         V|
19+45       3.3041      0.10  Q         |         |         V|
19+50       3.3047      0.08  Q         |         |         V|
19+55       3.3051      0.06  Q         |         |         V|
20+ 0       3.3055      0.06  Q         |         |         V|
20+ 5       3.3059      0.06  Q         |         |         V|
20+10       3.3064      0.08  Q         |         |         V|
20+15       3.3071      0.09  Q         |         |         V|
20+20       3.3077      0.10  Q         |         |         V|
20+25       3.3084      0.10  Q         |         |         V|
20+30       3.3091      0.10  Q         |         |         V|
20+35       3.3099      0.11  Q         |         |         V|
20+40       3.3106      0.11  Q         |         |         V|
20+45       3.3114      0.11  Q         |         |         V|
20+50       3.3121      0.10  Q         |         |         V|
20+55       3.3126      0.07  Q         |         |         V|
21+ 0       3.3130      0.06  Q         |         |         V|
21+ 5       3.3134      0.06  Q         |         |         V|
21+10       3.3141      0.10  Q         |         |         V|
21+15       3.3149      0.12  Q         |         |         V|
21+20       3.3157      0.11  Q         |         |         V|
21+25       3.3162      0.07  Q         |         |         V|
21+30       3.3166      0.06  Q         |         |         V|
21+35       3.3171      0.07  Q         |         |         V|
21+40       3.3179      0.11  Q         |         |         V|
21+45       3.3188      0.13  Q         |         |         V|
21+50       3.3197      0.13  Q         |         |         V|
21+55       3.3202      0.08  Q         |         |         V|
22+ 0       3.3206      0.06  Q         |         |         V|
22+ 5       3.3211      0.07  Q         |         |         V|
22+10       3.3219      0.12  Q         |         |         V|
22+15       3.3229      0.14  Q         |         |         V|
22+20       3.3239      0.14  Q         |         |         V|
22+25       3.3244      0.08  Q         |         |         V|
22+30       3.3249      0.06  Q         |         |         V|
22+35       3.3252      0.05  Q         |         |         V|
22+40       3.3256      0.05  Q         |         |         V|
22+45       3.3259      0.05  Q         |         |         V|
22+50       3.3263      0.05  Q         |         |         V|
22+55       3.3267      0.05  Q         |         |         V|
23+ 0       3.3270      0.05  Q         |         |         V|
23+ 5       3.3274      0.05  Q         |         |         V|
23+10       3.3277      0.05  Q         |         |         V|
23+15       3.3281      0.05  Q         |         |         V|
23+20       3.3284      0.05  Q         |         |         V|
23+25       3.3288      0.05  Q         |         |         V|
23+30       3.3291      0.05  Q         |         |         V|
23+35       3.3295      0.05  Q         |         |         V|
23+40       3.3298      0.05  Q         |         |         V|
23+45       3.3302      0.05  Q         |         |         V|
23+50       3.3305      0.05  Q         |         |         V|
```

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   23+55       3.3309      0.05  Q          |          |          |        V|
   24+ 0       3.3312      0.05  Q          |          |          |        V|
   24+ 5       3.3315      0.04  Q          |          |          |        V|
   24+10       3.3316      0.02  Q          |          |          |        V|
   24+15       3.3317      0.01  Q          |          |          |        V|
   24+20       3.3317      0.00  Q          |          |          |        V|
   24+25       3.3317      0.00  Q          |          |          |        V|
   24+30       3.3317      0.00  Q          |          |          |        V|
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# ATTACHMENT NO. 5

Developed Conditions
100-Year Unit Hydrograph Calculations

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/19/17 File: EX11100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 1
100-YEAR STORM EVENT
BY: JDN, DATE: 12-19-17

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Drainage Area = 2855.40(Ac.) = 4.462 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2855.40(Ac.) = 4.462 Sq. Mi.
Length along longest watercourse = 15691.00(Ft.)
Length along longest watercourse measured to centroid = 7916.00(Ft.)
Length along longest watercourse = 2.972 Mi.
Length along longest watercourse measured to centroid = 1.499 Mi.
Difference in elevation = 575.00(Ft.)
Slope along watercourse = 193.4867 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.545 Hr.
Lag time = 32.70 Min.
25% of lag time = 8.17 Min.
40% of lag time = 13.08 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2855.40 | 0.52 | 1484.81 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2855.40 | 1.20 | 3426.48 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.520(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 97.41 %
Adjusted average point rain = 1.169(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2855.400 | 80.59 | 0.000 |

Total Area Entered = 2855.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 80.6 | 91.4 | 0.112 | 0.000 | 0.112 | 1.000 | 0.112 |
| | | | | | Sum (F) = | 0.112 |

Area averaged mean soil loss (F) (In/Hr) = 0.112

Minimum soil loss rate ((In/Hr)) = 0.056
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 15.291 | 0.969 | 27.873 |
| 2 | 0.167 | 30.581 | 2.470 | 71.074 |
| 3 | 0.250 | 45.872 | 3.529 | 101.558 |
| 4 | 0.333 | 61.163 | 4.687 | 134.867 |
| 5 | 0.417 | 76.453 | 6.882 | 198.049 |
| 6 | 0.500 | 91.744 | 10.344 | 297.674 |
| 7 | 0.583 | 107.034 | 19.083 | 549.146 |
| 8 | 0.667 | 122.325 | 11.023 | 317.218 |
| 9 | 0.750 | 137.616 | 6.510 | 187.339 |
| 10 | 0.833 | 152.906 | 5.004 | 143.992 |
| 11 | 0.917 | 168.197 | 3.890 | 111.941 |
| 12 | 1.000 | 183.488 | 3.486 | 100.320 |
| 13 | 1.083 | 198.778 | 2.892 | 83.228 |
| 14 | 1.167 | 214.069 | 2.555 | 73.513 |
| 15 | 1.250 | 229.360 | 2.189 | 62.990 |
| 16 | 1.333 | 244.650 | 1.929 | 55.501 |
| 17 | 1.417 | 259.941 | 1.757 | 50.571 |
| 18 | 1.500 | 275.231 | 1.490 | 42.887 |
| 19 | 1.583 | 290.522 | 1.342 | 38.616 |
| 20 | 1.667 | 305.813 | 1.206 | 34.693 |
| 21 | 1.750 | 321.103 | 1.026 | 29.514 |
| 22 | 1.833 | 336.394 | 0.911 | 26.207 |
| 23 | 1.917 | 351.685 | 0.741 | 21.328 |
| 24 | 2.000 | 366.975 | 0.660 | 18.994 |
| 25 | 2.083 | 382.266 | 0.591 | 17.005 |
| 26 | 2.167 | 397.557 | 0.453 | 13.048 |
| 27 | 2.250 | 412.847 | 0.342 | 9.836 |
| 28 | 2.333 | 428.138 | 0.187 | 5.370 |
| 29 | 2.417 | 443.428 | 0.183 | 5.280 |
| 30 | 2.500 | 458.719 | 0.179 | 5.137 |
| 31 | 2.583 | 474.010 | 0.156 | 4.481 |
| 32 | 2.667 | 489.300 | 0.153 | 4.400 |
| 33 | 2.750 | 504.591 | 0.150 | 4.321 |
| 34 | 2.833 | 519.882 | 0.107 | 3.071 |
| 35 | 2.917 | 535.172 | 0.092 | 2.640 |
| 36 | 3.000 | 550.463 | 0.092 | 2.641 |
| 37 | 3.083 | 565.754 | 0.108 | 3.106 |
| 38 | 3.167 | 581.044 | 0.122 | 3.520 |
| 39 | 3.250 | 596.335 | 0.122 | 3.520 |
| 40 | 3.333 | 611.625 | 0.105 | 3.011 |
| 41 | 3.417 | 626.916 | 0.063 | 1.811 |
| 42 | 3.500 | 642.207 | 0.061 | 1.760 |
| 43 | 3.583 | 657.497 | 0.057 | 1.654 |
| 44 | 3.667 | 672.788 | 0.035 | 0.994 |
| 45 | 3.750 | 688.079 | 0.031 | 0.880 |
| 46 | 3.833 | 703.369 | 0.039 | 1.126 |
| | | | Sum = 100.000 | Sum= 2877.708 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.589 | 0.112 | ( | 0.530) | 0.477 |
| 2 | 0.17 | 4.30 | 0.603 | 0.112 | ( | 0.543) | 0.491 |
| 3 | 0.25 | 5.00 | 0.701 | 0.112 | ( | 0.631) | 0.589 |
| 4 | 0.33 | 5.00 | 0.701 | 0.112 | ( | 0.631) | 0.589 |
| 5 | 0.42 | 5.80 | 0.814 | 0.112 | ( | 0.732) | 0.701 |
| 6 | 0.50 | 6.50 | 0.912 | 0.112 | ( | 0.821) | 0.799 |
| 7 | 0.58 | 7.40 | 1.038 | 0.112 | ( | 0.934) | 0.926 |
| 8 | 0.67 | 8.60 | 1.206 | 0.112 | ( | 1.086) | 1.094 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 9 | 0.75 | 12.30 | 1.725 | 0.112 | ( 1.553) | 1.613 |
| 10 | 0.83 | 29.10 | 4.082 | 0.112 | ( 3.674) | 3.970 |
| 11 | 0.92 | 6.80 | 0.954 | 0.112 | ( 0.858) | 0.841 |
| 12 | 1.00 | 5.00 | 0.701 | 0.112 | ( 0.631) | 0.589 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 12.7

Flood volume = Effective rainfall 1.06(In)
times area 2855.4(Ac.)/[(In)/(Ft.)] = 251.4(Ac.Ft)
Total soil loss = 0.11(In)
Total soil loss = 26.745(Ac.Ft)
Total rainfall = 1.17(In)
Flood volume = 10951243.6 Cubic Feet
Total soil loss = 1165016.7 Cubic Feet

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Peak flow rate of this hydrograph = 3708.320(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 950.0 | 1900.0 | 2850.0 | 3800.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0916 | 13.30 | Q | | | | |
| 0+10 | 0.4193 | 47.59 | Q | | | | |
| 0+15 | 1.1064 | 99.77 | VQ | | | | |
| 0+20 | 2.2945 | 172.51 | VQ | | | | |
| 0+25 | 4.2365 | 281.98 | V Q | | | | |
| 0+30 | 7.3405 | 450.71 | \|V Q | | | | |
| 0+35 | 12.5623 | 758.19 | \|V Q | | | | |
| 0+40 | 19.3477 | 985.25 | \| V Q | | | | |
| 0+45 | 27.6657 | 1207.77 | \| V \| Q | | | | |
| 0+50 | 37.9955 | 1499.89 | \| V \| Q | | | | |
| 0+55 | 50.7051 | 1845.42 | \| V \| Q | | | | |
| 1+ 0 | 65.5089 | 2149.52 | \| V \| Q | | | | |
| 1+ 5 | 82.3266 | 2441.93 | \| \| V \| Q | | | | |
| 1+10 | 101.5212 | 2787.05 | \| \| V \| Q | | | | |
| 1+15 | 123.5830 | 3203.37 | \| \| V \| Q | | | | |
| 1+20 | 149.1223 | 3708.32 | \| \| \| V \| Q | | | | |
| 1+25 | 167.9353 | 2731.64 | \| \| \| V Q \| | | | | |
| 1+30 | 181.8179 | 2015.76 | \| \| \|Q V \| | | | | |
| 1+35 | 192.0730 | 1489.03 | \| \| Q V \| | | | | |
| 1+40 | 200.1803 | 1177.18 | \| \| Q \| V \| | | | | |
| 1+45 | 207.1337 | 1009.64 | \| \| Q \| V \| | | | | |
| 1+50 | 213.0613 | 860.68 | \| \| Q\| V \| | | | | |
| 1+55 | 218.2449 | 752.66 | \| \| Q \| V \| | | | | |
| 2+ 0 | 222.7444 | 653.33 | \| \| Q \| V \| | | | | |
| 2+ 5 | 226.7044 | 575.00 | \| \| Q \| V \| | | | | |
| 2+10 | 230.2074 | 508.62 | \| \| Q \| V \| | | | | |
| 2+15 | 233.2478 | 441.47 | \| Q \| V \| | | | | |
| 2+20 | 235.9153 | 387.32 | \| Q \| V \| | | | | |
| 2+25 | 238.2390 | 337.40 | \| Q \| V \| | | | | |
| 2+30 | 240.2305 | 289.17 | \| Q \| V \| | | | | |
| 2+35 | 241.9426 | 248.60 | \| Q \| V \| | | | | |
| 2+40 | 243.3722 | 207.58 | \| Q \| V \| | | | | |
| 2+45 | 244.5951 | 177.56 | \|Q \| V \| | | | | |
| 2+50 | 245.6250 | 149.54 | \|Q \| V \| | | | | |
| 2+55 | 246.4454 | 119.13 | \|Q \| V \| | | | | |
| 3+ 0 | 247.0849 | 92.85 | Q \| V \| | | | | |
| 3+ 5 | 247.5552 | 68.29 | Q \| V \| | | | | |
| 3+10 | 247.9718 | 60.49 | Q \| V \| | | | | |
| 3+15 | 248.3517 | 55.17 | Q \| V \| | | | | |
| 3+20 | 248.7025 | 50.94 | Q \| V \| | | | | |
| 3+25 | 249.0320 | 47.84 | Q \| V \| | | | | |
| 3+30 | 249.3373 | 44.33 | Q \| V \| | | | | |
| 3+35 | 249.6006 | 38.24 | Q \| V \| | | | | |
| 3+40 | 249.8407 | 34.86 | Q \| V \| | | | | |
| 3+45 | 250.0696 | 33.24 | Q \| V \| | | | | |
| 3+50 | 250.3014 | 33.65 | Q \| V \| | | | | |
| 3+55 | 250.5289 | 33.03 | Q \| V \| | | | | |
| 4+ 0 | 250.7386 | 30.45 | Q \| V \| | | | | |
| 4+ 5 | 250.9139 | 25.46 | Q \| V \| | | | | |
| 4+10 | 251.0438 | 18.87 | Q \| V \| | | | | |
| 4+15 | 251.1524 | 15.76 | Q \| V \| | | | | |
| 4+20 | 251.2401 | 12.73 | Q \| V \| | | | | |
| 4+25 | 251.3023 | 9.03 | Q \| V \| | | | | |

```
    4+30     251.3513      7.12  Q          |          |          |         V|
    4+35     251.3913      5.80  Q          |          |          |         V|
    4+40     251.4014      1.47  Q          |          |          |         V|
    4+45     251.4060      0.66  Q          |          |          |          V
--------------------------------------------------------------------------
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/19/17 File: EX13100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 1
100-YEAR STORM EVENT
BY: JDN, DATE: 12-19-17

---

Drainage Area = 2855.40(Ac.) = 4.462 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2855.40(Ac.) = 4.462 Sq. Mi.
Length along longest watercourse = 15691.00(Ft.)
Length along longest watercourse measured to centroid = 7916.00(Ft.)
Length along longest watercourse = 2.972 Mi.
Length along longest watercourse measured to centroid = 1.499 Mi.
Difference in elevation = 575.00(Ft.)
Slope along watercourse = 193.4867 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.545 Hr.
Lag time = 32.70 Min.
25% of lag time = 8.17 Min.
40% of lag time = 13.08 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2855.40 | 0.86 | 2455.64 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2855.40 | 1.86 | 5311.04 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.860(In)
Area Averaged 100-Year Rainfall = 1.860(In)

Point rain (area averaged) = 1.860(In)
Areal adjustment factor = 98.75 %
Adjusted average point rain = 1.837(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2855.400 | 80.59 | 0.000 |

Total Area Entered = 2855.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 80.6 | 91.4 | 0.112 | 0.000 | 0.112 | 1.000 | 0.112 |
| | | | | | Sum (F) = | 0.112 |

Area averaged mean soil loss (F) (In/Hr) = 0.112

Minimum soil loss rate ((In/Hr)) = 0.056
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 15.291 | 0.969 | 27.873 |
| 2 | 0.167 | 30.581 | 2.470 | 71.074 |
| 3 | 0.250 | 45.872 | 3.529 | 101.558 |
| 4 | 0.333 | 61.163 | 4.687 | 134.867 |
| 5 | 0.417 | 76.453 | 6.882 | 198.049 |
| 6 | 0.500 | 91.744 | 10.344 | 297.674 |
| 7 | 0.583 | 107.034 | 19.083 | 549.146 |
| 8 | 0.667 | 122.325 | 11.023 | 317.218 |
| 9 | 0.750 | 137.616 | 6.510 | 187.339 |
| 10 | 0.833 | 152.906 | 5.004 | 143.992 |
| 11 | 0.917 | 168.197 | 3.890 | 111.941 |
| 12 | 1.000 | 183.488 | 3.486 | 100.320 |
| 13 | 1.083 | 198.778 | 2.892 | 83.228 |
| 14 | 1.167 | 214.069 | 2.555 | 73.513 |
| 15 | 1.250 | 229.360 | 2.189 | 62.990 |
| 16 | 1.333 | 244.650 | 1.929 | 55.501 |
| 17 | 1.417 | 259.941 | 1.757 | 50.571 |
| 18 | 1.500 | 275.231 | 1.490 | 42.887 |
| 19 | 1.583 | 290.522 | 1.342 | 38.616 |
| 20 | 1.667 | 305.813 | 1.206 | 34.693 |
| 21 | 1.750 | 321.103 | 1.026 | 29.514 |
| 22 | 1.833 | 336.394 | 0.911 | 26.207 |
| 23 | 1.917 | 351.685 | 0.741 | 21.328 |
| 24 | 2.000 | 366.975 | 0.660 | 18.994 |
| 25 | 2.083 | 382.266 | 0.591 | 17.005 |
| 26 | 2.167 | 397.557 | 0.453 | 13.048 |
| 27 | 2.250 | 412.847 | 0.342 | 9.836 |
| 28 | 2.333 | 428.138 | 0.187 | 5.370 |
| 29 | 2.417 | 443.428 | 0.183 | 5.280 |
| 30 | 2.500 | 458.719 | 0.179 | 5.137 |
| 31 | 2.583 | 474.010 | 0.156 | 4.481 |
| 32 | 2.667 | 489.300 | 0.153 | 4.400 |
| 33 | 2.750 | 504.591 | 0.150 | 4.321 |
| 34 | 2.833 | 519.882 | 0.107 | 3.071 |
| 35 | 2.917 | 535.172 | 0.092 | 2.640 |
| 36 | 3.000 | 550.463 | 0.092 | 2.641 |
| 37 | 3.083 | 565.754 | 0.108 | 3.106 |
| 38 | 3.167 | 581.044 | 0.122 | 3.520 |
| 39 | 3.250 | 596.335 | 0.122 | 3.520 |
| 40 | 3.333 | 611.625 | 0.105 | 3.011 |
| 41 | 3.417 | 626.916 | 0.063 | 1.811 |
| 42 | 3.500 | 642.207 | 0.061 | 1.760 |
| 43 | 3.583 | 657.497 | 0.057 | 1.654 |
| 44 | 3.667 | 672.788 | 0.035 | 0.994 |
| 45 | 3.750 | 688.079 | 0.031 | 0.880 |
| 46 | 3.833 | 703.369 | 0.039 | 1.126 |
| | | | Sum = 100.000 | Sum= 2877.708 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.287 | 0.112 | ( 0.258) | 0.174 |
| 2 | 0.17 | 1.30 | 0.287 | 0.112 | ( 0.258) | 0.174 |
| 3 | 0.25 | 1.10 | 0.242 | 0.112 | ( 0.218) | 0.130 |
| 4 | 0.33 | 1.50 | 0.331 | 0.112 | ( 0.298) | 0.218 |
| 5 | 0.42 | 1.50 | 0.331 | 0.112 | ( 0.298) | 0.218 |
| 6 | 0.50 | 1.80 | 0.397 | 0.112 | ( 0.357) | 0.284 |
| 7 | 0.58 | 1.50 | 0.331 | 0.112 | ( 0.298) | 0.218 |
| 8 | 0.67 | 1.80 | 0.397 | 0.112 | ( 0.357) | 0.284 |
| 9 | 0.75 | 1.80 | 0.397 | 0.112 | ( 0.357) | 0.284 |
| 10 | 0.83 | 1.50 | 0.331 | 0.112 | ( 0.298) | 0.218 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 11 | 0.92 | 1.60 | 0.353 | 0.112 | ( | 0.317) | 0.240 |
| 12 | 1.00 | 1.80 | 0.397 | 0.112 | ( | 0.357) | 0.284 |
| 13 | 1.08 | 2.20 | 0.485 | 0.112 | ( | 0.436) | 0.373 |
| 14 | 1.17 | 2.20 | 0.485 | 0.112 | ( | 0.436) | 0.373 |
| 15 | 1.25 | 2.20 | 0.485 | 0.112 | ( | 0.436) | 0.373 |
| 16 | 1.33 | 2.00 | 0.441 | 0.112 | ( | 0.397) | 0.328 |
| 17 | 1.42 | 2.60 | 0.573 | 0.112 | ( | 0.516) | 0.461 |
| 18 | 1.50 | 2.70 | 0.595 | 0.112 | ( | 0.536) | 0.483 |
| 19 | 1.58 | 2.40 | 0.529 | 0.112 | ( | 0.476) | 0.417 |
| 20 | 1.67 | 2.70 | 0.595 | 0.112 | ( | 0.536) | 0.483 |
| 21 | 1.75 | 3.30 | 0.727 | 0.112 | ( | 0.655) | 0.615 |
| 22 | 1.83 | 3.10 | 0.683 | 0.112 | ( | 0.615) | 0.571 |
| 23 | 1.92 | 2.90 | 0.639 | 0.112 | ( | 0.575) | 0.527 |
| 24 | 2.00 | 3.00 | 0.661 | 0.112 | ( | 0.595) | 0.549 |
| 25 | 2.08 | 3.10 | 0.683 | 0.112 | ( | 0.615) | 0.571 |
| 26 | 2.17 | 4.20 | 0.926 | 0.112 | ( | 0.833) | 0.813 |
| 27 | 2.25 | 5.00 | 1.102 | 0.112 | ( | 0.992) | 0.990 |
| 28 | 2.33 | 3.50 | 0.771 | 0.112 | ( | 0.694) | 0.659 |
| 29 | 2.42 | 6.80 | 1.499 | 0.112 | ( | 1.349) | 1.386 |
| 30 | 2.50 | 7.30 | 1.609 | 0.112 | ( | 1.448) | 1.497 |
| 31 | 2.58 | 8.20 | 1.807 | 0.112 | ( | 1.627) | 1.695 |
| 32 | 2.67 | 5.90 | 1.300 | 0.112 | ( | 1.170) | 1.188 |
| 33 | 2.75 | 2.00 | 0.441 | 0.112 | ( | 0.397) | 0.328 |
| 34 | 2.83 | 1.80 | 0.397 | 0.112 | ( | 0.357) | 0.284 |
| 35 | 2.92 | 1.80 | 0.397 | 0.112 | ( | 0.357) | 0.284 |
| 36 | 3.00 | 0.60 | 0.132 | 0.112 | ( | 0.119) | 0.020 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 18.0

Flood volume = Effective rainfall 1.50(In)
times area 2855.4(Ac.)/[(In)/(Ft.)] = 356.8(Ac.Ft)
Total soil loss = 0.34(In)
Total soil loss = 80.235(Ac.Ft)
Total rainfall = 1.84(In)
Flood volume = 15543197.9 Cubic Feet
Total soil loss = 3495050.2 Cubic Feet

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Peak flow rate of this hydrograph = 2795.783(CFS)

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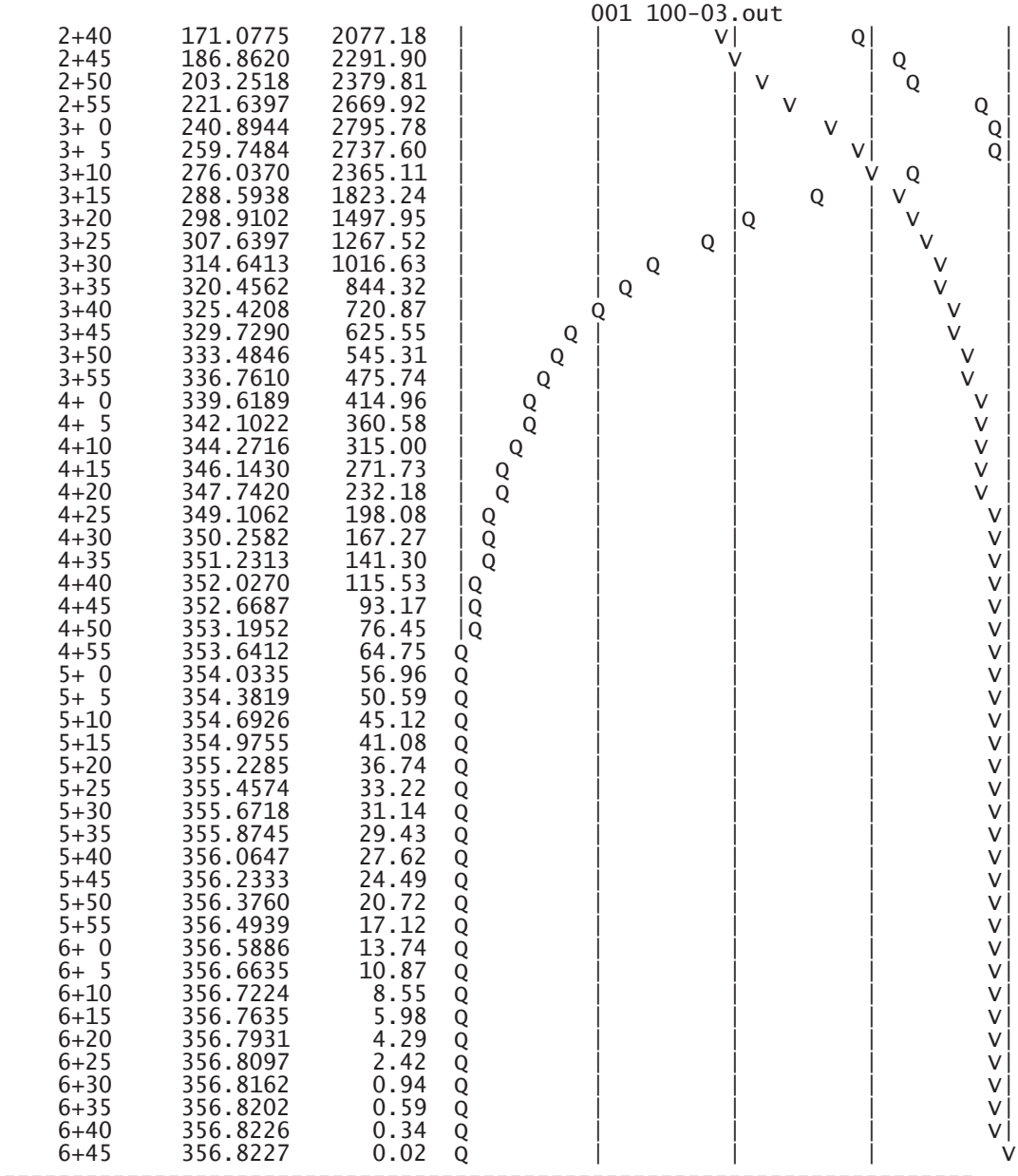
3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 700.0 | 1400.0 | 2100.0 | 2800.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0334 | 4.86 | Q | | | | |
| 0+10 | 0.1522 | 17.24 | Q | | | | |
| 0+15 | 0.3843 | 33.70 | Q | | | | |
| 0+20 | 0.7736 | 56.53 | Q | | | | |
| 0+25 | 1.4129 | 92.82 | VQ | | | | |
| 0+30 | 2.4427 | 149.54 | V Q | | | | |
| 0+35 | 4.1730 | 251.23 | V Q | | | | |
| 0+40 | 6.3404 | 314.70 | V Q | | | | |
| 0+45 | 8.7942 | 356.29 | V Q | | | | |
| 0+50 | 11.7203 | 424.88 | \|V Q | | | | |
| 0+55 | 14.9953 | 475.53 | \|V Q | | | | |
| 1+ 0 | 18.6385 | 529.00 | \| V Q | | | | |
| 1+ 5 | 22.4576 | 554.52 | \| V Q | | | | |
| 1+10 | 26.5976 | 601.14 | \| V Q | | | | |
| 1+15 | 30.9708 | 634.99 | \| V Q\| | | | | |
| 1+20 | 35.4383 | 648.67 | \| V Q\| | | | | |
| 1+25 | 40.2056 | 692.22 | \| V Q\| | | | | |
| 1+30 | 45.4377 | 759.70 | \| V Q | | | | |
| 1+35 | 51.2182 | 839.33 | \| V \|Q | | | | |
| 1+40 | 57.3701 | 893.26 | \| V \| Q | | | | |
| 1+45 | 63.8528 | 941.28 | \| V \| Q | | | | |
| 1+50 | 70.6807 | 991.41 | \| V \| Q | | | | |
| 1+55 | 78.1287 | 1081.45 | \| V \| Q | | | | |
| 2+ 0 | 86.0441 | 1149.32 | \| V\| Q | | | | |
| 2+ 5 | 94.2486 | 1191.29 | \| V Q | | | | |
| 2+10 | 103.0146 | 1272.82 | \| \|V Q | | | | |
| 2+15 | 112.5472 | 1384.14 | \| \| V Q\| | | | | |
| 2+20 | 122.5197 | 1448.01 | \| \| V Q | | | | |
| 2+25 | 132.9409 | 1513.15 | \| \| V \|Q | | | | |
| 2+30 | 144.2241 | 1638.32 | \| \| V \| Q | | | | |
| 2+35 | 156.7719 | 1821.94 | \| \| V \| Q | | | | |



| | | | |
|---|---|---|---|
| 2+40 | 171.0775 | 2077.18 | |
| 2+45 | 186.8620 | 2291.90 | |
| 2+50 | 203.2518 | 2379.81 | |
| 2+55 | 221.6397 | 2669.92 | |
| 3+ 0 | 240.8944 | 2795.78 | |
| 3+ 5 | 259.7484 | 2737.60 | |
| 3+10 | 276.0370 | 2365.11 | |
| 3+15 | 288.5938 | 1823.24 | |
| 3+20 | 298.9102 | 1497.95 | |
| 3+25 | 307.6397 | 1267.52 | |
| 3+30 | 314.6413 | 1016.63 | |
| 3+35 | 320.4562 | 844.32 | |
| 3+40 | 325.4208 | 720.87 | |
| 3+45 | 329.7290 | 625.55 | |
| 3+50 | 333.4846 | 545.31 | |
| 3+55 | 336.7610 | 475.74 | |
| 4+ 0 | 339.6189 | 414.96 | |
| 4+ 5 | 342.1022 | 360.58 | |
| 4+10 | 344.2716 | 315.00 | |
| 4+15 | 346.1430 | 271.73 | |
| 4+20 | 347.7420 | 232.18 | |
| 4+25 | 349.1062 | 198.08 | |
| 4+30 | 350.2582 | 167.27 | |
| 4+35 | 351.2313 | 141.30 | |
| 4+40 | 352.0270 | 115.53 | |
| 4+45 | 352.6687 | 93.17 | |
| 4+50 | 353.1952 | 76.45 | |
| 4+55 | 353.6412 | 64.75 | |
| 5+ 0 | 354.0335 | 56.96 | |
| 5+ 5 | 354.3819 | 50.59 | |
| 5+10 | 354.6926 | 45.12 | |
| 5+15 | 354.9755 | 41.08 | |
| 5+20 | 355.2285 | 36.74 | |
| 5+25 | 355.4574 | 33.22 | |
| 5+30 | 355.6718 | 31.14 | |
| 5+35 | 355.8745 | 29.43 | |
| 5+40 | 356.0647 | 27.62 | |
| 5+45 | 356.2333 | 24.49 | |
| 5+50 | 356.3760 | 20.72 | |
| 5+55 | 356.4939 | 17.12 | |
| 6+ 0 | 356.5886 | 13.74 | |
| 6+ 5 | 356.6635 | 10.87 | |
| 6+10 | 356.7224 | 8.55 | |
| 6+15 | 356.7635 | 5.98 | |
| 6+20 | 356.7931 | 4.29 | |
| 6+25 | 356.8097 | 2.42 | |
| 6+30 | 356.8162 | 0.94 | |
| 6+35 | 356.8202 | 0.59 | |
| 6+40 | 356.8226 | 0.34 | |
| 6+45 | 356.8227 | 0.02 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/19/17 File: EX16100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 1
100-YEAR STORM EVENT
BY: JDN, DATE: 12-19-17

---

Drainage Area = 2855.40(Ac.) = 4.462 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2855.40(Ac.) = 4.462 Sq. Mi.
Length along longest watercourse = 15691.00(Ft.)
Length along longest watercourse measured to centroid = 7916.00(Ft.)
Length along longest watercourse = 2.972 Mi.
Length along longest watercourse measured to centroid = 1.499 Mi.
Difference in elevation = 575.00(Ft.)
Slope along watercourse = 193.4867 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.545 Hr.
Lag time = 32.70 Min.
25% of lag time = 8.17 Min.
40% of lag time = 13.08 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2855.40 | 1.20 | 3426.48 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2855.40 | 2.51 | 7167.05 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.200(In)
Area Averaged 100-Year Rainfall = 2.510(In)

Point rain (area averaged) = 2.510(In)
Areal adjustment factor = 99.02 %
Adjusted average point rain = 2.485(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2855.400 | 80.59 | 0.000 |

Total Area Entered = 2855.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 80.6 | 91.4 | 0.112 | 0.000 | 0.112 | 1.000 | 0.112 |
| | | | | | Sum (F) = | 0.112 |

Area averaged mean soil loss (F) (In/Hr) = 0.112

Minimum soil loss rate ((In/Hr)) = 0.056
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 15.291 | 0.969 | 27.873 |
| 2 0.167 | 30.581 | 2.470 | 71.074 |
| 3 0.250 | 45.872 | 3.529 | 101.558 |
| 4 0.333 | 61.163 | 4.687 | 134.867 |
| 5 0.417 | 76.453 | 6.882 | 198.049 |
| 6 0.500 | 91.744 | 10.344 | 297.674 |
| 7 0.583 | 107.034 | 19.083 | 549.146 |
| 8 0.667 | 122.325 | 11.023 | 317.218 |
| 9 0.750 | 137.616 | 6.510 | 187.339 |
| 10 0.833 | 152.906 | 5.004 | 143.992 |
| 11 0.917 | 168.197 | 3.890 | 111.941 |
| 12 1.000 | 183.488 | 3.486 | 100.320 |
| 13 1.083 | 198.778 | 2.892 | 83.228 |
| 14 1.167 | 214.069 | 2.555 | 73.513 |
| 15 1.250 | 229.360 | 2.189 | 62.990 |
| 16 1.333 | 244.650 | 1.929 | 55.501 |
| 17 1.417 | 259.941 | 1.757 | 50.571 |
| 18 1.500 | 275.231 | 1.490 | 42.887 |
| 19 1.583 | 290.522 | 1.342 | 38.616 |
| 20 1.667 | 305.813 | 1.206 | 34.693 |
| 21 1.750 | 321.103 | 1.026 | 29.514 |
| 22 1.833 | 336.394 | 0.911 | 26.207 |
| 23 1.917 | 351.685 | 0.741 | 21.328 |
| 24 2.000 | 366.975 | 0.660 | 18.994 |
| 25 2.083 | 382.266 | 0.591 | 17.005 |
| 26 2.167 | 397.557 | 0.453 | 13.048 |
| 27 2.250 | 412.847 | 0.342 | 9.836 |
| 28 2.333 | 428.138 | 0.187 | 5.370 |
| 29 2.417 | 443.428 | 0.183 | 5.280 |
| 30 2.500 | 458.719 | 0.179 | 5.137 |
| 31 2.583 | 474.010 | 0.156 | 4.481 |
| 32 2.667 | 489.300 | 0.153 | 4.400 |
| 33 2.750 | 504.591 | 0.150 | 4.321 |
| 34 2.833 | 519.882 | 0.107 | 3.071 |
| 35 2.917 | 535.172 | 0.092 | 2.640 |
| 36 3.000 | 550.463 | 0.092 | 2.641 |
| 37 3.083 | 565.754 | 0.108 | 3.106 |
| 38 3.167 | 581.044 | 0.122 | 3.520 |
| 39 3.250 | 596.335 | 0.122 | 3.520 |
| 40 3.333 | 611.625 | 0.105 | 3.011 |
| 41 3.417 | 626.916 | 0.063 | 1.811 |
| 42 3.500 | 642.207 | 0.061 | 1.760 |
| 43 3.583 | 657.497 | 0.057 | 1.654 |
| 44 3.667 | 672.788 | 0.035 | 0.994 |
| 45 3.750 | 688.079 | 0.031 | 0.880 |
| 46 3.833 | 703.369 | 0.039 | 1.126 |
| | | Sum = 100.000 | Sum= 2877.708 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.149 | 0.112 | ( 0.134) | 0.037 |
| 2 | 0.17 | 0.60 | 0.179 | 0.112 | ( 0.161) | 0.067 |
| 3 | 0.25 | 0.60 | 0.179 | 0.112 | ( 0.161) | 0.067 |
| 4 | 0.33 | 0.60 | 0.179 | 0.112 | ( 0.161) | 0.067 |
| 5 | 0.42 | 0.60 | 0.179 | 0.112 | ( 0.161) | 0.067 |
| 6 | 0.50 | 0.70 | 0.209 | 0.112 | ( 0.188) | 0.096 |
| 7 | 0.58 | 0.70 | 0.209 | 0.112 | ( 0.188) | 0.096 |
| 8 | 0.67 | 0.70 | 0.209 | 0.112 | ( 0.188) | 0.096 |
| 9 | 0.75 | 0.70 | 0.209 | 0.112 | ( 0.188) | 0.096 |
| 10 | 0.83 | 0.70 | 0.209 | 0.112 | ( 0.188) | 0.096 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 11 | 0.92 | 0.70 | 0.209 | 0.112 | ( 0.188) | 0.096 |
| 12 | 1.00 | 0.80 | 0.239 | 0.112 | ( 0.215) | 0.126 |
| 13 | 1.08 | 0.80 | 0.239 | 0.112 | ( 0.215) | 0.126 |
| 14 | 1.17 | 0.80 | 0.239 | 0.112 | ( 0.215) | 0.126 |
| 15 | 1.25 | 0.80 | 0.239 | 0.112 | ( 0.215) | 0.126 |
| 16 | 1.33 | 0.80 | 0.239 | 0.112 | ( 0.215) | 0.126 |
| 17 | 1.42 | 0.80 | 0.239 | 0.112 | ( 0.215) | 0.126 |
| 18 | 1.50 | 0.80 | 0.239 | 0.112 | ( 0.215) | 0.126 |
| 19 | 1.58 | 0.80 | 0.239 | 0.112 | ( 0.215) | 0.126 |
| 20 | 1.67 | 0.80 | 0.239 | 0.112 | ( 0.215) | 0.126 |
| 21 | 1.75 | 0.80 | 0.239 | 0.112 | ( 0.215) | 0.126 |
| 22 | 1.83 | 0.80 | 0.239 | 0.112 | ( 0.215) | 0.126 |
| 23 | 1.92 | 0.80 | 0.239 | 0.112 | ( 0.215) | 0.126 |
| 24 | 2.00 | 0.90 | 0.268 | 0.112 | ( 0.242) | 0.156 |
| 25 | 2.08 | 0.80 | 0.239 | 0.112 | ( 0.215) | 0.126 |
| 26 | 2.17 | 0.90 | 0.268 | 0.112 | ( 0.242) | 0.156 |
| 27 | 2.25 | 0.90 | 0.268 | 0.112 | ( 0.242) | 0.156 |
| 28 | 2.33 | 0.90 | 0.268 | 0.112 | ( 0.242) | 0.156 |
| 29 | 2.42 | 0.90 | 0.268 | 0.112 | ( 0.242) | 0.156 |
| 30 | 2.50 | 0.90 | 0.268 | 0.112 | ( 0.242) | 0.156 |
| 31 | 2.58 | 0.90 | 0.268 | 0.112 | ( 0.242) | 0.156 |
| 32 | 2.67 | 0.90 | 0.268 | 0.112 | ( 0.242) | 0.156 |
| 33 | 2.75 | 1.00 | 0.298 | 0.112 | ( 0.268) | 0.186 |
| 34 | 2.83 | 1.00 | 0.298 | 0.112 | ( 0.268) | 0.186 |
| 35 | 2.92 | 1.00 | 0.298 | 0.112 | ( 0.268) | 0.186 |
| 36 | 3.00 | 1.00 | 0.298 | 0.112 | ( 0.268) | 0.186 |
| 37 | 3.08 | 1.00 | 0.298 | 0.112 | ( 0.268) | 0.186 |
| 38 | 3.17 | 1.10 | 0.328 | 0.112 | ( 0.295) | 0.216 |
| 39 | 3.25 | 1.10 | 0.328 | 0.112 | ( 0.295) | 0.216 |
| 40 | 3.33 | 1.10 | 0.328 | 0.112 | ( 0.295) | 0.216 |
| 41 | 3.42 | 1.20 | 0.358 | 0.112 | ( 0.322) | 0.245 |
| 42 | 3.50 | 1.30 | 0.388 | 0.112 | ( 0.349) | 0.275 |
| 43 | 3.58 | 1.40 | 0.418 | 0.112 | ( 0.376) | 0.305 |
| 44 | 3.67 | 1.40 | 0.418 | 0.112 | ( 0.376) | 0.305 |
| 45 | 3.75 | 1.50 | 0.447 | 0.112 | ( 0.403) | 0.335 |
| 46 | 3.83 | 1.50 | 0.447 | 0.112 | ( 0.403) | 0.335 |
| 47 | 3.92 | 1.60 | 0.477 | 0.112 | ( 0.429) | 0.365 |
| 48 | 4.00 | 1.60 | 0.477 | 0.112 | ( 0.429) | 0.365 |
| 49 | 4.08 | 1.70 | 0.507 | 0.112 | ( 0.456) | 0.395 |
| 50 | 4.17 | 1.80 | 0.537 | 0.112 | ( 0.483) | 0.424 |
| 51 | 4.25 | 1.90 | 0.567 | 0.112 | ( 0.510) | 0.454 |
| 52 | 4.33 | 2.00 | 0.596 | 0.112 | ( 0.537) | 0.484 |
| 53 | 4.42 | 2.10 | 0.626 | 0.112 | ( 0.564) | 0.514 |
| 54 | 4.50 | 2.10 | 0.626 | 0.112 | ( 0.564) | 0.514 |
| 55 | 4.58 | 2.20 | 0.656 | 0.112 | ( 0.591) | 0.544 |
| 56 | 4.67 | 2.30 | 0.686 | 0.112 | ( 0.617) | 0.574 |
| 57 | 4.75 | 2.40 | 0.716 | 0.112 | ( 0.644) | 0.603 |
| 58 | 4.83 | 2.40 | 0.716 | 0.112 | ( 0.644) | 0.603 |
| 59 | 4.92 | 2.50 | 0.746 | 0.112 | ( 0.671) | 0.633 |
| 60 | 5.00 | 2.60 | 0.775 | 0.112 | ( 0.698) | 0.663 |
| 61 | 5.08 | 3.10 | 0.925 | 0.112 | ( 0.832) | 0.812 |
| 62 | 5.17 | 3.60 | 1.074 | 0.112 | ( 0.966) | 0.961 |
| 63 | 5.25 | 3.90 | 1.163 | 0.112 | ( 1.047) | 1.051 |
| 64 | 5.33 | 4.20 | 1.253 | 0.112 | ( 1.127) | 1.140 |
| 65 | 5.42 | 4.70 | 1.402 | 0.112 | ( 1.262) | 1.289 |
| 66 | 5.50 | 5.60 | 1.670 | 0.112 | ( 1.503) | 1.558 |
| 67 | 5.58 | 1.90 | 0.567 | 0.112 | ( 0.510) | 0.454 |
| 68 | 5.67 | 0.90 | 0.268 | 0.112 | ( 0.242) | 0.156 |
| 69 | 5.75 | 0.60 | 0.179 | 0.112 | ( 0.161) | 0.067 |
| 70 | 5.83 | 0.50 | 0.149 | 0.112 | ( 0.134) | 0.037 |
| 71 | 5.92 | 0.30 | 0.089 | ( 0.112) | 0.081 | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.112) | 0.054 | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 21.8

Flood volume = Effective rainfall 1.82(In)
times area 2855.4(Ac.)/[(In)/(Ft.)] = 432.7(Ac.Ft)
Total soil loss = 0.67(In)
Total soil loss = 158.674(Ac.Ft)
Total rainfall = 2.49(In)
Flood volume = 18849188.0 Cubic Feet
Total soil loss = 6911855.6 Cubic Feet

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Peak flow rate of this hydrograph = 2476.969(CFS)

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6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 625.0 1250.0 1875.0 2500.0 |
|---|---|---|---|
| 0+ 5 | 0.0071 | 1.02 | Q |
| 0+10 | 0.0378 | 4.47 | Q |
| 0+15 | 0.1089 | 10.32 | Q |
| 0+20 | 0.2350 | 18.31 | Q |
| 0+25 | 0.4389 | 29.61 | Q |
| 0+30 | 0.7645 | 47.29 | Q |
| 0+35 | 1.3049 | 78.47 | VQ |
| 0+40 | 2.0593 | 109.54 | VQ |
| 0+45 | 2.9540 | 129.91 | V Q |
| 0+50 | 3.9644 | 146.70 | V Q |
| 0+55 | 5.0938 | 163.99 | V Q |
| 1+ 0 | 6.3902 | 188.24 | V Q |
| 1+ 5 | 7.8081 | 205.88 | V Q |
| 1+10 | 9.3211 | 219.68 | V Q |
| 1+15 | 10.9224 | 232.51 | \|V Q |
| 1+20 | 12.6144 | 245.68 | \|V Q |
| 1+25 | 14.4124 | 261.07 | \|V Q |
| 1+30 | 16.3616 | 283.03 | \|V Q |
| 1+35 | 18.4097 | 297.38 | \|V Q |
| 1+40 | 20.5260 | 307.28 | \|V Q |
| 1+45 | 22.6979 | 315.35 | \| V Q |
| 1+50 | 24.9158 | 322.05 | \| V Q |
| 1+55 | 27.1740 | 327.88 | \| V Q |
| 2+ 0 | 29.4721 | 333.69 | \| V Q |
| 2+ 5 | 31.8095 | 339.40 | \| V Q |
| 2+10 | 34.1848 | 344.88 | \| V Q |
| 2+15 | 36.6034 | 351.19 | \| V Q |
| 2+20 | 39.0741 | 358.74 | \| V Q |
| 2+25 | 41.6081 | 367.94 | \| V Q |
| 2+30 | 44.2483 | 383.36 | \| V Q |
| 2+35 | 46.9140 | 387.06 | \| V Q |
| 2+40 | 49.6760 | 401.04 | \| V Q |
| 2+45 | 52.5085 | 411.28 | \| V Q |
| 2+50 | 55.3947 | 419.07 | \| VQ |
| 2+55 | 58.3351 | 426.96 | \| VQ |
| 3+ 0 | 61.3285 | 434.63 | \| VQ |
| 3+ 5 | 64.3860 | 443.96 | \| V Q |
| 3+10 | 67.5298 | 456.49 | \| VQ |
| 3+15 | 70.8181 | 477.45 | \| VQ |
| 3+20 | 74.2074 | 492.13 | \| VQ |
| 3+25 | 77.6812 | 504.39 | \| VQ |
| 3+30 | 81.2574 | 519.28 | \| VQ |
| 3+35 | 84.9695 | 538.99 | \| VQ |
| 3+40 | 88.8874 | 568.87 | \| VQ |
| 3+45 | 92.9906 | 595.79 | \| VQ |
| 3+50 | 97.2981 | 625.45 | \| V Q |
| 3+55 | 101.8955 | 667.55 | \| VQ |
| 4+ 0 | 106.8139 | 714.14 | \| V\|Q |
| 4+ 5 | 112.0511 | 760.44 | \| V Q |
| 4+10 | 117.5604 | 799.96 | \| V Q |
| 4+15 | 123.3813 | 845.19 | \| \|V Q |
| 4+20 | 129.4931 | 887.44 | \| \|V Q |
| 4+25 | 135.9455 | 936.89 | \| \| V Q |
| 4+30 | 142.7277 | 984.77 | \| \| V Q |
| 4+35 | 149.9001 | 1041.42 | \| \| V Q |
| 4+40 | 157.5029 | 1103.94 | \| \| V Q |
| 4+45 | 165.5518 | 1168.70 | \| \| V Q |
| 4+50 | 174.0471 | 1233.51 | \| \| V Q\| |
| 4+55 | 182.9717 | 1295.86 | \| \| V Q |
| 5+ 0 | 192.2797 | 1351.52 | \| \| V \|Q |
| 5+ 5 | 202.0454 | 1417.98 | \| \| V \| Q |
| 5+10 | 212.3501 | 1496.23 | \| \| V\| Q |
| 5+15 | 223.2614 | 1584.32 | \| \| V Q |
| 5+20 | 234.8220 | 1678.60 | \| \| \|V Q |
| 5+25 | 247.2202 | 1800.22 | \| \| \| V Q |
| 5+30 | 260.7328 | 1962.02 | \| \| \| V \|Q |
| 5+35 | 275.5810 | 2155.96 | \| \| \| V \| Q |
| 5+40 | 291.5372 | 2316.84 | \| \| \| V \| Q |
| 5+45 | 308.2034 | 2419.93 | \| \| \| V \| Q |
| 5+50 | 325.2624 | 2476.97 | \| \| \| V Q\| |
| 5+55 | 342.2582 | 2467.79 | \| \| \| \|V Q\| |
| 6+ 0 | 358.3269 | 2333.17 | \| \| \| \| V Q \| |
| 6+ 5 | 370.6471 | 1788.90 | \| \| \| Q \| V \| |

| | | | |
|---|---|---|---|
| 6+10 | 380.0317 | 1362.65 | |
| 6+15 | 387.5947 | 1098.14 | |
| 6+20 | 393.8869 | 913.62 | |
| 6+25 | 399.2434 | 777.77 | |
| 6+30 | 403.8349 | 666.68 | |
| 6+35 | 407.8086 | 576.99 | |
| 6+40 | 411.2598 | 501.10 | |
| 6+45 | 414.2736 | 437.61 | |
| 6+50 | 416.9074 | 382.44 | |
| 6+55 | 419.1918 | 331.68 | |
| 7+ 0 | 421.1770 | 288.26 | |
| 7+ 5 | 422.8946 | 249.39 | |
| 7+10 | 424.3651 | 213.52 | |
| 7+15 | 425.6192 | 182.10 | |
| 7+20 | 426.6743 | 153.19 | |
| 7+25 | 427.5629 | 129.03 | |
| 7+30 | 428.3036 | 107.54 | |
| 7+35 | 428.9062 | 87.50 | |
| 7+40 | 429.3964 | 71.17 | |
| 7+45 | 429.7997 | 58.56 | |
| 7+50 | 430.1578 | 52.00 | |
| 7+55 | 430.4807 | 46.89 | |
| 8+ 0 | 430.7709 | 42.13 | |
| 8+ 5 | 431.0341 | 38.22 | |
| 8+10 | 431.2724 | 34.59 | |
| 8+15 | 431.4843 | 30.77 | |
| 8+20 | 431.6788 | 28.24 | |
| 8+25 | 431.8606 | 26.40 | |
| 8+30 | 432.0308 | 24.72 | |
| 8+35 | 432.1856 | 22.48 | |
| 8+40 | 432.3192 | 19.39 | |
| 8+45 | 432.4272 | 15.69 | |
| 8+50 | 432.5105 | 12.09 | |
| 8+55 | 432.5775 | 9.72 | |
| 9+ 0 | 432.6292 | 7.51 | |
| 9+ 5 | 432.6656 | 5.28 | |
| 9+10 | 432.6915 | 3.77 | |
| 9+15 | 432.7088 | 2.52 | |
| 9+20 | 432.7144 | 0.80 | |
| 9+25 | 432.7164 | 0.30 | |
| 9+30 | 432.7173 | 0.13 | |
| 9+35 | 432.7177 | 0.06 | |
| 9+40 | 432.7178 | 0.02 | |
| 9+45 | 432.7178 | 0.01 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/19/17 File: EX124100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 1
100-YEAR STORM EVENT
BY: JDN, DATE: 12-19-17

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Drainage Area = 2855.40(Ac.) = 4.462 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2855.40(Ac.) = 4.462 Sq. Mi.
Length along longest watercourse = 15691.00(Ft.)
Length along longest watercourse measured to centroid = 7916.00(Ft.)
Length along longest watercourse = 2.972 Mi.
Length along longest watercourse measured to centroid = 1.499 Mi.
Difference in elevation = 575.00(Ft.)
Slope along watercourse = 193.4867 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.545 Hr.
Lag time = 32.70 Min.
25% of lag time = 8.17 Min.
40% of lag time = 13.08 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2855.40 | 2.06 | 5882.12 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2855.40 | 5.17 | 14762.42 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 2.060(In)
Area Averaged 100-Year Rainfall = 5.170(In)

Point rain (area averaged) = 5.170(In)
Areal adjustment factor = 99.44 %
Adjusted average point rain = 5.141(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2855.400 | 80.59 | 0.000 |

Total Area Entered = 2855.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 80.6 | 91.4 | 0.112 | 0.000 | 0.112 | 1.000 | 0.112 |
| | | | | | Sum (F) = | 0.112 |

Area averaged mean soil loss (F) (In/Hr) = 0.112

Minimum soil loss rate ((In/Hr)) = 0.056
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 15.291 | 0.969 | 27.873 |
| 2 0.167 | 30.581 | 2.470 | 71.074 |
| 3 0.250 | 45.872 | 3.529 | 101.558 |
| 4 0.333 | 61.163 | 4.687 | 134.867 |
| 5 0.417 | 76.453 | 6.882 | 198.049 |
| 6 0.500 | 91.744 | 10.344 | 297.674 |
| 7 0.583 | 107.034 | 19.083 | 549.146 |
| 8 0.667 | 122.325 | 11.023 | 317.218 |
| 9 0.750 | 137.616 | 6.510 | 187.339 |
| 10 0.833 | 152.906 | 5.004 | 143.992 |
| 11 0.917 | 168.197 | 3.890 | 111.941 |
| 12 1.000 | 183.488 | 3.486 | 100.320 |
| 13 1.083 | 198.778 | 2.892 | 83.228 |
| 14 1.167 | 214.069 | 2.555 | 73.513 |
| 15 1.250 | 229.360 | 2.189 | 62.990 |
| 16 1.333 | 244.650 | 1.929 | 55.501 |
| 17 1.417 | 259.941 | 1.757 | 50.571 |
| 18 1.500 | 275.231 | 1.490 | 42.887 |
| 19 1.583 | 290.522 | 1.342 | 38.616 |
| 20 1.667 | 305.813 | 1.206 | 34.693 |
| 21 1.750 | 321.103 | 1.026 | 29.514 |
| 22 1.833 | 336.394 | 0.911 | 26.207 |
| 23 1.917 | 351.685 | 0.741 | 21.328 |
| 24 2.000 | 366.975 | 0.660 | 18.994 |
| 25 2.083 | 382.266 | 0.591 | 17.005 |
| 26 2.167 | 397.557 | 0.453 | 13.048 |
| 27 2.250 | 412.847 | 0.342 | 9.836 |
| 28 2.333 | 428.138 | 0.187 | 5.370 |
| 29 2.417 | 443.428 | 0.183 | 5.280 |
| 30 2.500 | 458.719 | 0.179 | 5.137 |
| 31 2.583 | 474.010 | 0.156 | 4.481 |
| 32 2.667 | 489.300 | 0.153 | 4.400 |
| 33 2.750 | 504.591 | 0.150 | 4.321 |
| 34 2.833 | 519.882 | 0.107 | 3.071 |
| 35 2.917 | 535.172 | 0.092 | 2.640 |
| 36 3.000 | 550.463 | 0.092 | 2.641 |
| 37 3.083 | 565.754 | 0.108 | 3.106 |
| 38 3.167 | 581.044 | 0.122 | 3.520 |
| 39 3.250 | 596.335 | 0.122 | 3.520 |
| 40 3.333 | 611.625 | 0.105 | 3.011 |
| 41 3.417 | 626.916 | 0.063 | 1.811 |
| 42 3.500 | 642.207 | 0.061 | 1.760 |
| 43 3.583 | 657.497 | 0.057 | 1.654 |
| 44 3.667 | 672.788 | 0.035 | 0.994 |
| 45 3.750 | 688.079 | 0.031 | 0.880 |
| 46 3.833 | 703.369 | 0.039 | 1.126 |
| | | Sum = 100.000 | Sum= 2877.708 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.041 | ( 0.199) | 0.037 | 0.004 |
| 2 | 0.17 | 0.07 | 0.041 | ( 0.198) | 0.037 | 0.004 |
| 3 | 0.25 | 0.07 | 0.041 | ( 0.198) | 0.037 | 0.004 |
| 4 | 0.33 | 0.10 | 0.062 | ( 0.197) | 0.056 | 0.006 |
| 5 | 0.42 | 0.10 | 0.062 | ( 0.196) | 0.056 | 0.006 |
| 6 | 0.50 | 0.10 | 0.062 | ( 0.195) | 0.056 | 0.006 |
| 7 | 0.58 | 0.10 | 0.062 | ( 0.195) | 0.056 | 0.006 |
| 8 | 0.67 | 0.10 | 0.062 | ( 0.194) | 0.056 | 0.006 |
| 9 | 0.75 | 0.10 | 0.062 | ( 0.193) | 0.056 | 0.006 |
| 10 | 0.83 | 0.13 | 0.082 | ( 0.192) | 0.074 | 0.008 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 11 | 0.92 | 0.13 | 0.082 | ( | 0.192) | 0.074 | | 0.008 |
| 12 | 1.00 | 0.13 | 0.082 | ( | 0.191) | 0.074 | | 0.008 |
| 13 | 1.08 | 0.10 | 0.062 | ( | 0.190) | 0.056 | | 0.006 |
| 14 | 1.17 | 0.10 | 0.062 | ( | 0.189) | 0.056 | | 0.006 |
| 15 | 1.25 | 0.10 | 0.062 | ( | 0.189) | 0.056 | | 0.006 |
| 16 | 1.33 | 0.10 | 0.062 | ( | 0.188) | 0.056 | | 0.006 |
| 17 | 1.42 | 0.10 | 0.062 | ( | 0.187) | 0.056 | | 0.006 |
| 18 | 1.50 | 0.10 | 0.062 | ( | 0.186) | 0.056 | | 0.006 |
| 19 | 1.58 | 0.10 | 0.062 | ( | 0.186) | 0.056 | | 0.006 |
| 20 | 1.67 | 0.10 | 0.062 | ( | 0.185) | 0.056 | | 0.006 |
| 21 | 1.75 | 0.10 | 0.062 | ( | 0.184) | 0.056 | | 0.006 |
| 22 | 1.83 | 0.13 | 0.082 | ( | 0.183) | 0.074 | | 0.008 |
| 23 | 1.92 | 0.13 | 0.082 | ( | 0.183) | 0.074 | | 0.008 |
| 24 | 2.00 | 0.13 | 0.082 | ( | 0.182) | 0.074 | | 0.008 |
| 25 | 2.08 | 0.13 | 0.082 | ( | 0.181) | 0.074 | | 0.008 |
| 26 | 2.17 | 0.13 | 0.082 | ( | 0.180) | 0.074 | | 0.008 |
| 27 | 2.25 | 0.13 | 0.082 | ( | 0.180) | 0.074 | | 0.008 |
| 28 | 2.33 | 0.13 | 0.082 | ( | 0.179) | 0.074 | | 0.008 |
| 29 | 2.42 | 0.13 | 0.082 | ( | 0.178) | 0.074 | | 0.008 |
| 30 | 2.50 | 0.13 | 0.082 | ( | 0.178) | 0.074 | | 0.008 |
| 31 | 2.58 | 0.17 | 0.103 | ( | 0.177) | 0.093 | | 0.010 |
| 32 | 2.67 | 0.17 | 0.103 | ( | 0.176) | 0.093 | | 0.010 |
| 33 | 2.75 | 0.17 | 0.103 | ( | 0.175) | 0.093 | | 0.010 |
| 34 | 2.83 | 0.17 | 0.103 | ( | 0.175) | 0.093 | | 0.010 |
| 35 | 2.92 | 0.17 | 0.103 | ( | 0.174) | 0.093 | | 0.010 |
| 36 | 3.00 | 0.17 | 0.103 | ( | 0.173) | 0.093 | | 0.010 |
| 37 | 3.08 | 0.17 | 0.103 | ( | 0.172) | 0.093 | | 0.010 |
| 38 | 3.17 | 0.17 | 0.103 | ( | 0.172) | 0.093 | | 0.010 |
| 39 | 3.25 | 0.17 | 0.103 | ( | 0.171) | 0.093 | | 0.010 |
| 40 | 3.33 | 0.17 | 0.103 | ( | 0.170) | 0.093 | | 0.010 |
| 41 | 3.42 | 0.17 | 0.103 | ( | 0.170) | 0.093 | | 0.010 |
| 42 | 3.50 | 0.17 | 0.103 | ( | 0.169) | 0.093 | | 0.010 |
| 43 | 3.58 | 0.17 | 0.103 | ( | 0.168) | 0.093 | | 0.010 |
| 44 | 3.67 | 0.17 | 0.103 | ( | 0.167) | 0.093 | | 0.010 |
| 45 | 3.75 | 0.17 | 0.103 | ( | 0.167) | 0.093 | | 0.010 |
| 46 | 3.83 | 0.20 | 0.123 | ( | 0.166) | 0.111 | | 0.012 |
| 47 | 3.92 | 0.20 | 0.123 | ( | 0.165) | 0.111 | | 0.012 |
| 48 | 4.00 | 0.20 | 0.123 | ( | 0.165) | 0.111 | | 0.012 |
| 49 | 4.08 | 0.20 | 0.123 | ( | 0.164) | 0.111 | | 0.012 |
| 50 | 4.17 | 0.20 | 0.123 | ( | 0.163) | 0.111 | | 0.012 |
| 51 | 4.25 | 0.20 | 0.123 | ( | 0.163) | 0.111 | | 0.012 |
| 52 | 4.33 | 0.23 | 0.144 | ( | 0.162) | 0.130 | | 0.014 |
| 53 | 4.42 | 0.23 | 0.144 | ( | 0.161) | 0.130 | | 0.014 |
| 54 | 4.50 | 0.23 | 0.144 | ( | 0.161) | 0.130 | | 0.014 |
| 55 | 4.58 | 0.23 | 0.144 | ( | 0.160) | 0.130 | | 0.014 |
| 56 | 4.67 | 0.23 | 0.144 | ( | 0.159) | 0.130 | | 0.014 |
| 57 | 4.75 | 0.23 | 0.144 | ( | 0.158) | 0.130 | | 0.014 |
| 58 | 4.83 | 0.27 | 0.165 | ( | 0.158) | 0.148 | | 0.016 |
| 59 | 4.92 | 0.27 | 0.165 | ( | 0.157) | 0.148 | | 0.016 |
| 60 | 5.00 | 0.27 | 0.165 | ( | 0.156) | 0.148 | | 0.016 |
| 61 | 5.08 | 0.20 | 0.123 | ( | 0.156) | 0.111 | | 0.012 |
| 62 | 5.17 | 0.20 | 0.123 | ( | 0.155) | 0.111 | | 0.012 |
| 63 | 5.25 | 0.20 | 0.123 | ( | 0.154) | 0.111 | | 0.012 |
| 64 | 5.33 | 0.23 | 0.144 | ( | 0.154) | 0.130 | | 0.014 |
| 65 | 5.42 | 0.23 | 0.144 | ( | 0.153) | 0.130 | | 0.014 |
| 66 | 5.50 | 0.23 | 0.144 | ( | 0.152) | 0.130 | | 0.014 |
| 67 | 5.58 | 0.27 | 0.165 | ( | 0.152) | 0.148 | | 0.016 |
| 68 | 5.67 | 0.27 | 0.165 | ( | 0.151) | 0.148 | | 0.016 |
| 69 | 5.75 | 0.27 | 0.165 | ( | 0.150) | 0.148 | | 0.016 |
| 70 | 5.83 | 0.27 | 0.165 | ( | 0.150) | 0.148 | | 0.016 |
| 71 | 5.92 | 0.27 | 0.165 | ( | 0.149) | 0.148 | | 0.016 |
| 72 | 6.00 | 0.27 | 0.165 | ( | 0.148) | 0.148 | | 0.016 |
| 73 | 6.08 | 0.30 | 0.185 | | 0.148 | ( | 0.167) | 0.037 |
| 74 | 6.17 | 0.30 | 0.185 | | 0.147 | ( | 0.167) | 0.038 |
| 75 | 6.25 | 0.30 | 0.185 | | 0.146 | ( | 0.167) | 0.039 |
| 76 | 6.33 | 0.30 | 0.185 | | 0.146 | ( | 0.167) | 0.039 |
| 77 | 6.42 | 0.30 | 0.185 | | 0.145 | ( | 0.167) | 0.040 |
| 78 | 6.50 | 0.30 | 0.185 | | 0.144 | ( | 0.167) | 0.041 |
| 79 | 6.58 | 0.33 | 0.206 | | 0.144 | ( | 0.185) | 0.062 |
| 80 | 6.67 | 0.33 | 0.206 | | 0.143 | ( | 0.185) | 0.063 |
| 81 | 6.75 | 0.33 | 0.206 | | 0.142 | ( | 0.185) | 0.063 |
| 82 | 6.83 | 0.33 | 0.206 | | 0.142 | ( | 0.185) | 0.064 |
| 83 | 6.92 | 0.33 | 0.206 | | 0.141 | ( | 0.185) | 0.064 |
| 84 | 7.00 | 0.33 | 0.206 | | 0.141 | ( | 0.185) | 0.065 |
| 85 | 7.08 | 0.33 | 0.206 | | 0.140 | ( | 0.185) | 0.066 |
| 86 | 7.17 | 0.33 | 0.206 | | 0.139 | ( | 0.185) | 0.066 |
| 87 | 7.25 | 0.33 | 0.206 | | 0.139 | ( | 0.185) | 0.067 |
| 88 | 7.33 | 0.37 | 0.226 | | 0.138 | ( | 0.204) | 0.088 |

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|---|---|---|---|---|---|---|
| 89 | 7.42 | 0.37 | 0.226 | 0.137 | ( 0.204) | 0.089 |
| 90 | 7.50 | 0.37 | 0.226 | 0.137 | ( 0.204) | 0.089 |
| 91 | 7.58 | 0.40 | 0.247 | 0.136 | ( 0.222) | 0.111 |
| 92 | 7.67 | 0.40 | 0.247 | 0.136 | ( 0.222) | 0.111 |
| 93 | 7.75 | 0.40 | 0.247 | 0.135 | ( 0.222) | 0.112 |
| 94 | 7.83 | 0.43 | 0.267 | 0.134 | ( 0.241) | 0.133 |
| 95 | 7.92 | 0.43 | 0.267 | 0.134 | ( 0.241) | 0.134 |
| 96 | 8.00 | 0.43 | 0.267 | 0.133 | ( 0.241) | 0.134 |
| 97 | 8.08 | 0.50 | 0.308 | 0.132 | ( 0.278) | 0.176 |
| 98 | 8.17 | 0.50 | 0.308 | 0.132 | ( 0.278) | 0.177 |
| 99 | 8.25 | 0.50 | 0.308 | 0.131 | ( 0.278) | 0.177 |
| 100 | 8.33 | 0.50 | 0.308 | 0.131 | ( 0.278) | 0.178 |
| 101 | 8.42 | 0.50 | 0.308 | 0.130 | ( 0.278) | 0.179 |
| 102 | 8.50 | 0.50 | 0.308 | 0.129 | ( 0.278) | 0.179 |
| 103 | 8.58 | 0.53 | 0.329 | 0.129 | ( 0.296) | 0.200 |
| 104 | 8.67 | 0.53 | 0.329 | 0.128 | ( 0.296) | 0.201 |
| 105 | 8.75 | 0.53 | 0.329 | 0.128 | ( 0.296) | 0.202 |
| 106 | 8.83 | 0.57 | 0.350 | 0.127 | ( 0.315) | 0.223 |
| 107 | 8.92 | 0.57 | 0.350 | 0.126 | ( 0.315) | 0.223 |
| 108 | 9.00 | 0.57 | 0.350 | 0.126 | ( 0.315) | 0.224 |
| 109 | 9.08 | 0.63 | 0.391 | 0.125 | ( 0.352) | 0.266 |
| 110 | 9.17 | 0.63 | 0.391 | 0.125 | ( 0.352) | 0.266 |
| 111 | 9.25 | 0.63 | 0.391 | 0.124 | ( 0.352) | 0.267 |
| 112 | 9.33 | 0.67 | 0.411 | 0.123 | ( 0.370) | 0.288 |
| 113 | 9.42 | 0.67 | 0.411 | 0.123 | ( 0.370) | 0.289 |
| 114 | 9.50 | 0.67 | 0.411 | 0.122 | ( 0.370) | 0.289 |
| 115 | 9.58 | 0.70 | 0.432 | 0.122 | ( 0.389) | 0.310 |
| 116 | 9.67 | 0.70 | 0.432 | 0.121 | ( 0.389) | 0.311 |
| 117 | 9.75 | 0.70 | 0.432 | 0.120 | ( 0.389) | 0.311 |
| 118 | 9.83 | 0.73 | 0.452 | 0.120 | ( 0.407) | 0.333 |
| 119 | 9.92 | 0.73 | 0.452 | 0.119 | ( 0.407) | 0.333 |
| 120 | 10.00 | 0.73 | 0.452 | 0.119 | ( 0.407) | 0.334 |
| 121 | 10.08 | 0.50 | 0.308 | 0.118 | ( 0.278) | 0.190 |
| 122 | 10.17 | 0.50 | 0.308 | 0.118 | ( 0.278) | 0.191 |
| 123 | 10.25 | 0.50 | 0.308 | 0.117 | ( 0.278) | 0.191 |
| 124 | 10.33 | 0.50 | 0.308 | 0.116 | ( 0.278) | 0.192 |
| 125 | 10.42 | 0.50 | 0.308 | 0.116 | ( 0.278) | 0.193 |
| 126 | 10.50 | 0.50 | 0.308 | 0.115 | ( 0.278) | 0.193 |
| 127 | 10.58 | 0.67 | 0.411 | 0.115 | ( 0.370) | 0.297 |
| 128 | 10.67 | 0.67 | 0.411 | 0.114 | ( 0.370) | 0.297 |
| 129 | 10.75 | 0.67 | 0.411 | 0.114 | ( 0.370) | 0.298 |
| 130 | 10.83 | 0.67 | 0.411 | 0.113 | ( 0.370) | 0.298 |
| 131 | 10.92 | 0.67 | 0.411 | 0.112 | ( 0.370) | 0.299 |
| 132 | 11.00 | 0.67 | 0.411 | 0.112 | ( 0.370) | 0.299 |
| 133 | 11.08 | 0.63 | 0.391 | 0.111 | ( 0.352) | 0.279 |
| 134 | 11.17 | 0.63 | 0.391 | 0.111 | ( 0.352) | 0.280 |
| 135 | 11.25 | 0.63 | 0.391 | 0.110 | ( 0.352) | 0.280 |
| 136 | 11.33 | 0.63 | 0.391 | 0.110 | ( 0.352) | 0.281 |
| 137 | 11.42 | 0.63 | 0.391 | 0.109 | ( 0.352) | 0.282 |
| 138 | 11.50 | 0.63 | 0.391 | 0.109 | ( 0.352) | 0.282 |
| 139 | 11.58 | 0.57 | 0.350 | 0.108 | ( 0.315) | 0.241 |
| 140 | 11.67 | 0.57 | 0.350 | 0.108 | ( 0.315) | 0.242 |
| 141 | 11.75 | 0.57 | 0.350 | 0.107 | ( 0.315) | 0.243 |
| 142 | 11.83 | 0.60 | 0.370 | 0.107 | ( 0.333) | 0.264 |
| 143 | 11.92 | 0.60 | 0.370 | 0.106 | ( 0.333) | 0.264 |
| 144 | 12.00 | 0.60 | 0.370 | 0.105 | ( 0.333) | 0.265 |
| 145 | 12.08 | 0.83 | 0.514 | 0.105 | ( 0.463) | 0.409 |
| 146 | 12.17 | 0.83 | 0.514 | 0.104 | ( 0.463) | 0.410 |
| 147 | 12.25 | 0.83 | 0.514 | 0.104 | ( 0.463) | 0.410 |
| 148 | 12.33 | 0.87 | 0.535 | 0.103 | ( 0.481) | 0.431 |
| 149 | 12.42 | 0.87 | 0.535 | 0.103 | ( 0.481) | 0.432 |
| 150 | 12.50 | 0.87 | 0.535 | 0.102 | ( 0.481) | 0.432 |
| 151 | 12.58 | 0.93 | 0.576 | 0.102 | ( 0.518) | 0.474 |
| 152 | 12.67 | 0.93 | 0.576 | 0.101 | ( 0.518) | 0.475 |
| 153 | 12.75 | 0.93 | 0.576 | 0.101 | ( 0.518) | 0.475 |
| 154 | 12.83 | 0.97 | 0.596 | 0.100 | ( 0.537) | 0.496 |
| 155 | 12.92 | 0.97 | 0.596 | 0.100 | ( 0.537) | 0.497 |
| 156 | 13.00 | 0.97 | 0.596 | 0.099 | ( 0.537) | 0.497 |
| 157 | 13.08 | 1.13 | 0.699 | 0.099 | ( 0.629) | 0.600 |
| 158 | 13.17 | 1.13 | 0.699 | 0.098 | ( 0.629) | 0.601 |
| 159 | 13.25 | 1.13 | 0.699 | 0.098 | ( 0.629) | 0.601 |
| 160 | 13.33 | 1.13 | 0.699 | 0.097 | ( 0.629) | 0.602 |
| 161 | 13.42 | 1.13 | 0.699 | 0.097 | ( 0.629) | 0.602 |
| 162 | 13.50 | 1.13 | 0.699 | 0.096 | ( 0.629) | 0.603 |
| 163 | 13.58 | 0.77 | 0.473 | 0.096 | ( 0.426) | 0.377 |
| 164 | 13.67 | 0.77 | 0.473 | 0.095 | ( 0.426) | 0.378 |
| 165 | 13.75 | 0.77 | 0.473 | 0.095 | ( 0.426) | 0.378 |
| 166 | 13.83 | 0.77 | 0.473 | 0.094 | ( 0.426) | 0.379 |

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|---|---|---|---|---|---|---|---|---|
| 167 | 13.92 | 0.77 | 0.473 | | 0.094 | ( 0.426) | | 0.379 |
| 168 | 14.00 | 0.77 | 0.473 | | 0.093 | ( 0.426) | | 0.380 |
| 169 | 14.08 | 0.90 | 0.555 | | 0.093 | ( 0.500) | | 0.462 |
| 170 | 14.17 | 0.90 | 0.555 | | 0.092 | ( 0.500) | | 0.463 |
| 171 | 14.25 | 0.90 | 0.555 | | 0.092 | ( 0.500) | | 0.463 |
| 172 | 14.33 | 0.87 | 0.535 | | 0.091 | ( 0.481) | | 0.443 |
| 173 | 14.42 | 0.87 | 0.535 | | 0.091 | ( 0.481) | | 0.444 |
| 174 | 14.50 | 0.87 | 0.535 | | 0.091 | ( 0.481) | | 0.444 |
| 175 | 14.58 | 0.87 | 0.535 | | 0.090 | ( 0.481) | | 0.445 |
| 176 | 14.67 | 0.87 | 0.535 | | 0.090 | ( 0.481) | | 0.445 |
| 177 | 14.75 | 0.87 | 0.535 | | 0.089 | ( 0.481) | | 0.446 |
| 178 | 14.83 | 0.83 | 0.514 | | 0.089 | ( 0.463) | | 0.425 |
| 179 | 14.92 | 0.83 | 0.514 | | 0.088 | ( 0.463) | | 0.426 |
| 180 | 15.00 | 0.83 | 0.514 | | 0.088 | ( 0.463) | | 0.426 |
| 181 | 15.08 | 0.80 | 0.494 | | 0.087 | ( 0.444) | | 0.406 |
| 182 | 15.17 | 0.80 | 0.494 | | 0.087 | ( 0.444) | | 0.407 |
| 183 | 15.25 | 0.80 | 0.494 | | 0.086 | ( 0.444) | | 0.407 |
| 184 | 15.33 | 0.77 | 0.473 | | 0.086 | ( 0.426) | | 0.387 |
| 185 | 15.42 | 0.77 | 0.473 | | 0.086 | ( 0.426) | | 0.387 |
| 186 | 15.50 | 0.77 | 0.473 | | 0.085 | ( 0.426) | | 0.388 |
| 187 | 15.58 | 0.63 | 0.391 | | 0.085 | ( 0.352) | | 0.306 |
| 188 | 15.67 | 0.63 | 0.391 | | 0.084 | ( 0.352) | | 0.306 |
| 189 | 15.75 | 0.63 | 0.391 | | 0.084 | ( 0.352) | | 0.307 |
| 190 | 15.83 | 0.63 | 0.391 | | 0.083 | ( 0.352) | | 0.307 |
| 191 | 15.92 | 0.63 | 0.391 | | 0.083 | ( 0.352) | | 0.308 |
| 192 | 16.00 | 0.63 | 0.391 | | 0.083 | ( 0.352) | | 0.308 |
| 193 | 16.08 | 0.13 | 0.082 | ( 0.082) | | 0.074 | | 0.008 |
| 194 | 16.17 | 0.13 | 0.082 | ( 0.082) | | 0.074 | | 0.008 |
| 195 | 16.25 | 0.13 | 0.082 | ( 0.081) | | 0.074 | | 0.008 |
| 196 | 16.33 | 0.13 | 0.082 | ( 0.081) | | 0.074 | | 0.008 |
| 197 | 16.42 | 0.13 | 0.082 | ( 0.080) | | 0.074 | | 0.008 |
| 198 | 16.50 | 0.13 | 0.082 | ( 0.080) | | 0.074 | | 0.008 |
| 199 | 16.58 | 0.10 | 0.062 | ( 0.080) | | 0.056 | | 0.006 |
| 200 | 16.67 | 0.10 | 0.062 | ( 0.079) | | 0.056 | | 0.006 |
| 201 | 16.75 | 0.10 | 0.062 | ( 0.079) | | 0.056 | | 0.006 |
| 202 | 16.83 | 0.10 | 0.062 | ( 0.078) | | 0.056 | | 0.006 |
| 203 | 16.92 | 0.10 | 0.062 | ( 0.078) | | 0.056 | | 0.006 |
| 204 | 17.00 | 0.10 | 0.062 | ( 0.078) | | 0.056 | | 0.006 |
| 205 | 17.08 | 0.17 | 0.103 | | 0.077 | ( 0.093) | | 0.026 |
| 206 | 17.17 | 0.17 | 0.103 | | 0.077 | ( 0.093) | | 0.026 |
| 207 | 17.25 | 0.17 | 0.103 | | 0.076 | ( 0.093) | | 0.026 |
| 208 | 17.33 | 0.17 | 0.103 | | 0.076 | ( 0.093) | | 0.027 |
| 209 | 17.42 | 0.17 | 0.103 | | 0.076 | ( 0.093) | | 0.027 |
| 210 | 17.50 | 0.17 | 0.103 | | 0.075 | ( 0.093) | | 0.027 |
| 211 | 17.58 | 0.17 | 0.103 | | 0.075 | ( 0.093) | | 0.028 |
| 212 | 17.67 | 0.17 | 0.103 | | 0.075 | ( 0.093) | | 0.028 |
| 213 | 17.75 | 0.17 | 0.103 | | 0.074 | ( 0.093) | | 0.029 |
| 214 | 17.83 | 0.13 | 0.082 | | 0.074 | ( 0.074) | | 0.008 |
| 215 | 17.92 | 0.13 | 0.082 | | 0.073 | ( 0.074) | | 0.009 |
| 216 | 18.00 | 0.13 | 0.082 | | 0.073 | ( 0.074) | | 0.009 |
| 217 | 18.08 | 0.13 | 0.082 | | 0.073 | ( 0.074) | | 0.010 |
| 218 | 18.17 | 0.13 | 0.082 | | 0.072 | ( 0.074) | | 0.010 |
| 219 | 18.25 | 0.13 | 0.082 | | 0.072 | ( 0.074) | | 0.010 |
| 220 | 18.33 | 0.13 | 0.082 | | 0.072 | ( 0.074) | | 0.011 |
| 221 | 18.42 | 0.13 | 0.082 | | 0.071 | ( 0.074) | | 0.011 |
| 222 | 18.50 | 0.13 | 0.082 | | 0.071 | ( 0.074) | | 0.011 |
| 223 | 18.58 | 0.10 | 0.062 | ( 0.071) | | 0.056 | | 0.006 |
| 224 | 18.67 | 0.10 | 0.062 | ( 0.070) | | 0.056 | | 0.006 |
| 225 | 18.75 | 0.10 | 0.062 | ( 0.070) | | 0.056 | | 0.006 |
| 226 | 18.83 | 0.07 | 0.041 | ( 0.070) | | 0.037 | | 0.004 |
| 227 | 18.92 | 0.07 | 0.041 | ( 0.069) | | 0.037 | | 0.004 |
| 228 | 19.00 | 0.07 | 0.041 | ( 0.069) | | 0.037 | | 0.004 |
| 229 | 19.08 | 0.10 | 0.062 | ( 0.069) | | 0.056 | | 0.006 |
| 230 | 19.17 | 0.10 | 0.062 | ( 0.068) | | 0.056 | | 0.006 |
| 231 | 19.25 | 0.10 | 0.062 | ( 0.068) | | 0.056 | | 0.006 |
| 232 | 19.33 | 0.13 | 0.082 | | 0.068 | ( 0.074) | | 0.015 |
| 233 | 19.42 | 0.13 | 0.082 | | 0.067 | ( 0.074) | | 0.015 |
| 234 | 19.50 | 0.13 | 0.082 | | 0.067 | ( 0.074) | | 0.015 |
| 235 | 19.58 | 0.10 | 0.062 | ( 0.067) | | 0.056 | | 0.006 |
| 236 | 19.67 | 0.10 | 0.062 | ( 0.066) | | 0.056 | | 0.006 |
| 237 | 19.75 | 0.10 | 0.062 | ( 0.066) | | 0.056 | | 0.006 |
| 238 | 19.83 | 0.07 | 0.041 | ( 0.066) | | 0.037 | | 0.004 |
| 239 | 19.92 | 0.07 | 0.041 | ( 0.066) | | 0.037 | | 0.004 |
| 240 | 20.00 | 0.07 | 0.041 | ( 0.065) | | 0.037 | | 0.004 |
| 241 | 20.08 | 0.10 | 0.062 | ( 0.065) | | 0.056 | | 0.006 |
| 242 | 20.17 | 0.10 | 0.062 | ( 0.065) | | 0.056 | | 0.006 |
| 243 | 20.25 | 0.10 | 0.062 | ( 0.064) | | 0.056 | | 0.006 |
| 244 | 20.33 | 0.10 | 0.062 | ( 0.064) | | 0.056 | | 0.006 |

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|---|---|---|---|---|---|---|---|
| 245 | 20.42 | 0.10 | 0.062 | ( | 0.064) | 0.056 | 0.006 |
| 246 | 20.50 | 0.10 | 0.062 | ( | 0.064) | 0.056 | 0.006 |
| 247 | 20.58 | 0.10 | 0.062 | ( | 0.063) | 0.056 | 0.006 |
| 248 | 20.67 | 0.10 | 0.062 | ( | 0.063) | 0.056 | 0.006 |
| 249 | 20.75 | 0.10 | 0.062 | ( | 0.063) | 0.056 | 0.006 |
| 250 | 20.83 | 0.07 | 0.041 | ( | 0.063) | 0.037 | 0.004 |
| 251 | 20.92 | 0.07 | 0.041 | ( | 0.062) | 0.037 | 0.004 |
| 252 | 21.00 | 0.07 | 0.041 | ( | 0.062) | 0.037 | 0.004 |
| 253 | 21.08 | 0.10 | 0.062 | ( | 0.062) | 0.056 | 0.006 |
| 254 | 21.17 | 0.10 | 0.062 | ( | 0.062) | 0.056 | 0.006 |
| 255 | 21.25 | 0.10 | 0.062 | ( | 0.061) | 0.056 | 0.006 |
| 256 | 21.33 | 0.07 | 0.041 | ( | 0.061) | 0.037 | 0.004 |
| 257 | 21.42 | 0.07 | 0.041 | ( | 0.061) | 0.037 | 0.004 |
| 258 | 21.50 | 0.07 | 0.041 | ( | 0.061) | 0.037 | 0.004 |
| 259 | 21.58 | 0.10 | 0.062 | ( | 0.060) | 0.056 | 0.006 |
| 260 | 21.67 | 0.10 | 0.062 | ( | 0.060) | 0.056 | 0.006 |
| 261 | 21.75 | 0.10 | 0.062 | ( | 0.060) | 0.056 | 0.006 |
| 262 | 21.83 | 0.07 | 0.041 | ( | 0.060) | 0.037 | 0.004 |
| 263 | 21.92 | 0.07 | 0.041 | ( | 0.060) | 0.037 | 0.004 |
| 264 | 22.00 | 0.07 | 0.041 | ( | 0.059) | 0.037 | 0.004 |
| 265 | 22.08 | 0.10 | 0.062 | ( | 0.059) | 0.056 | 0.006 |
| 266 | 22.17 | 0.10 | 0.062 | ( | 0.059) | 0.056 | 0.006 |
| 267 | 22.25 | 0.10 | 0.062 | ( | 0.059) | 0.056 | 0.006 |
| 268 | 22.33 | 0.07 | 0.041 | ( | 0.059) | 0.037 | 0.004 |
| 269 | 22.42 | 0.07 | 0.041 | ( | 0.058) | 0.037 | 0.004 |
| 270 | 22.50 | 0.07 | 0.041 | ( | 0.058) | 0.037 | 0.004 |
| 271 | 22.58 | 0.07 | 0.041 | ( | 0.058) | 0.037 | 0.004 |
| 272 | 22.67 | 0.07 | 0.041 | ( | 0.058) | 0.037 | 0.004 |
| 273 | 22.75 | 0.07 | 0.041 | ( | 0.058) | 0.037 | 0.004 |
| 274 | 22.83 | 0.07 | 0.041 | ( | 0.058) | 0.037 | 0.004 |
| 275 | 22.92 | 0.07 | 0.041 | ( | 0.057) | 0.037 | 0.004 |
| 276 | 23.00 | 0.07 | 0.041 | ( | 0.057) | 0.037 | 0.004 |
| 277 | 23.08 | 0.07 | 0.041 | ( | 0.057) | 0.037 | 0.004 |
| 278 | 23.17 | 0.07 | 0.041 | ( | 0.057) | 0.037 | 0.004 |
| 279 | 23.25 | 0.07 | 0.041 | ( | 0.057) | 0.037 | 0.004 |
| 280 | 23.33 | 0.07 | 0.041 | ( | 0.057) | 0.037 | 0.004 |
| 281 | 23.42 | 0.07 | 0.041 | ( | 0.057) | 0.037 | 0.004 |
| 282 | 23.50 | 0.07 | 0.041 | ( | 0.057) | 0.037 | 0.004 |
| 283 | 23.58 | 0.07 | 0.041 | ( | 0.057) | 0.037 | 0.004 |
| 284 | 23.67 | 0.07 | 0.041 | ( | 0.056) | 0.037 | 0.004 |
| 285 | 23.75 | 0.07 | 0.041 | ( | 0.056) | 0.037 | 0.004 |
| 286 | 23.83 | 0.07 | 0.041 | ( | 0.056) | 0.037 | 0.004 |
| 287 | 23.92 | 0.07 | 0.041 | ( | 0.056) | 0.037 | 0.004 |
| 288 | 24.00 | 0.07 | 0.041 | ( | 0.056) | 0.037 | 0.004 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 36.3

Flood volume = Effective rainfall 3.02(In)
times area 2855.4(Ac.)/[(In)/(Ft.)] = 719.6(Ac.Ft)
Total soil loss = 2.12(In)
Total soil loss = 503.698(Ac.Ft)
Total rainfall = 5.14(In)
Flood volume = 31347647.2 Cubic Feet
Total soil loss = 21941074.8 Cubic Feet

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Peak flow rate of this hydrograph = 1520.583(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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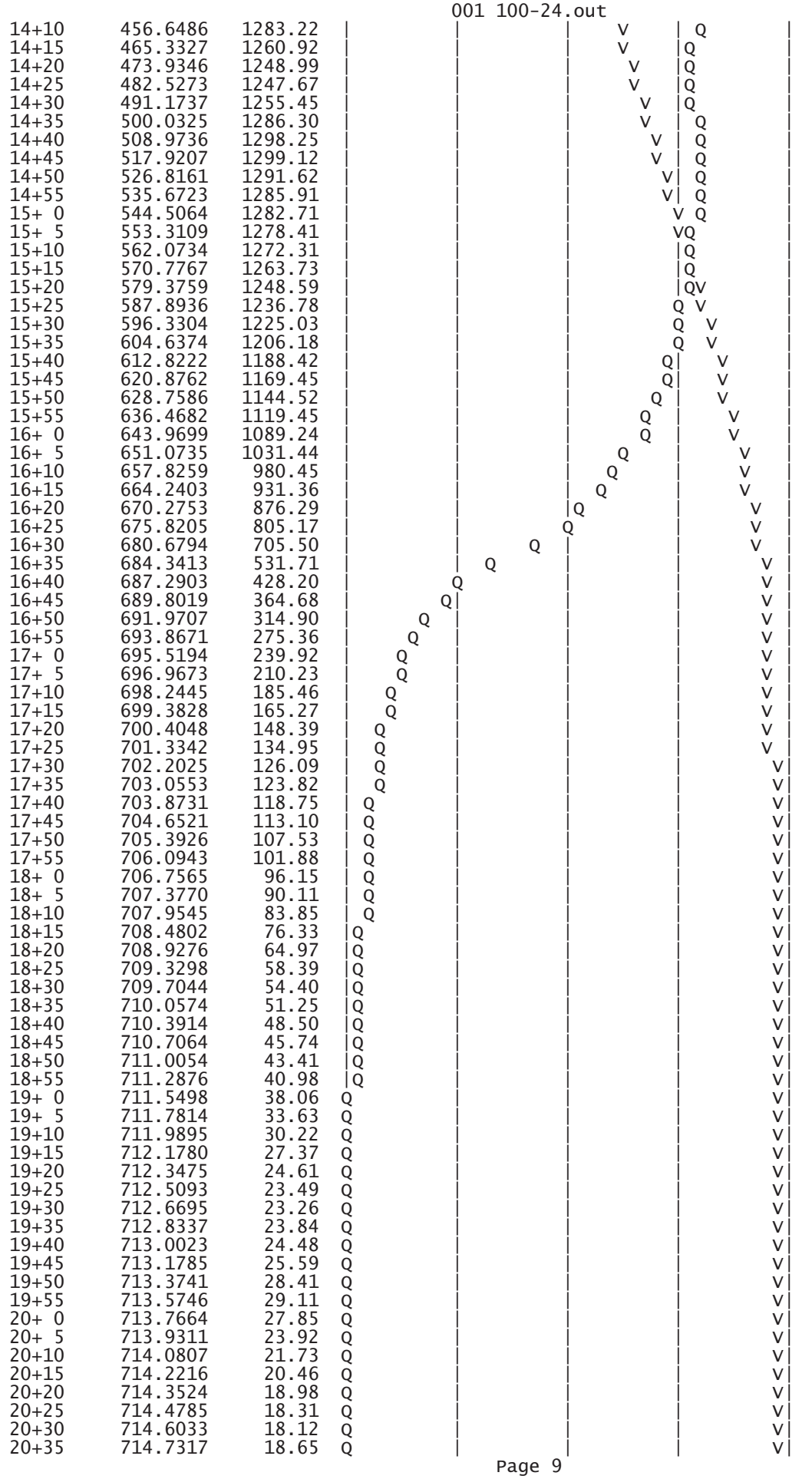
Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 400.0 | 800.0 | 1200.0 | 1600.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0008 | 0.11 | Q | \| | \| | \| | \| |
| 0+10 | 0.0036 | 0.41 | Q | \| | \| | \| | \| |
| 0+15 | 0.0093 | 0.83 | Q | \| | \| | \| | \| |
| 0+20 | 0.0192 | 1.44 | Q | \| | \| | \| | \| |
| 0+25 | 0.0357 | 2.40 | Q | \| | \| | \| | \| |
| 0+30 | 0.0621 | 3.83 | Q | \| | \| | \| | \| |
| 0+35 | 0.1060 | 6.37 | Q | \| | \| | \| | \| |
| 0+40 | 0.1616 | 8.08 | Q | \| | \| | \| | \| |
| 0+45 | 0.2268 | 9.47 | Q | \| | \| | \| | \| |
| 0+50 | 0.3043 | 11.25 | Q | \| | \| | \| | \| |
| 0+55 | 0.3904 | 12.51 | Q | \| | \| | \| | \| |
| 1+ 0 | 0.4835 | 13.51 | Q | \| | \| | \| | \| |
| 1+ 5 | 0.5824 | 14.37 | Q | \| | \| | \| | \| |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1+10 | 0.6869 | 15.17 | Q | | | | |
| 1+15 | 0.7973 | 16.03 | Q | | | | |
| 1+20 | 0.9164 | 17.29 | Q | | | | |
| 1+25 | 1.0396 | 17.89 | Q | | | | |
| 1+30 | 1.1634 | 17.97 | Q | | | | |
| 1+35 | 1.2833 | 17.41 | Q | | | | |
| 1+40 | 1.4019 | 17.23 | Q | | | | |
| 1+45 | 1.5209 | 17.26 | Q | | | | |
| 1+50 | 1.6406 | 17.38 | Q | | | | |
| 1+55 | 1.7619 | 17.61 | Q | | | | |
| 2+ 0 | 1.8850 | 17.88 | Q | | | | |
| 2+ 5 | 2.0105 | 18.23 | Q | | | | |
| 2+10 | 2.1392 | 18.68 | Q | | | | |
| 2+15 | 2.2724 | 19.33 | Q | | | | |
| 2+20 | 2.4135 | 20.49 | Q | | | | |
| 2+25 | 2.5592 | 21.16 | Q | | | | |
| 2+30 | 2.7076 | 21.55 | Q | | | | |
| 2+35 | 2.8585 | 21.91 | Q | | | | |
| 2+40 | 3.0121 | 22.29 | Q | | | | |
| 2+45 | 3.1685 | 22.71 | Q | | | | |
| 2+50 | 3.3280 | 23.16 | Q | | | | |
| 2+55 | 3.4914 | 23.73 | Q | | | | |
| 3+ 0 | 3.6599 | 24.47 | Q | | | | |
| 3+ 5 | 3.8370 | 25.71 | Q | | | | |
| 3+10 | 4.0193 | 26.47 | Q | | | | |
| 3+15 | 4.2049 | 26.95 | Q | | | | |
| 3+20 | 4.3932 | 27.35 | Q | | | | |
| 3+25 | 4.5837 | 27.66 | Q | | | | |
| 3+30 | 4.7762 | 27.94 | Q | | | | |
| 3+35 | 4.9702 | 28.18 | Q | | | | |
| 3+40 | 5.1656 | 28.37 | Q | | | | |
| 3+45 | 5.3622 | 28.55 | Q | | | | |
| 3+50 | 5.5603 | 28.76 | Q | | | | |
| 3+55 | 5.7603 | 29.04 | Q | | | | |
| 4+ 0 | 5.9626 | 29.36 | Q | | | | |
| 4+ 5 | 6.1673 | 29.73 | Q | | | | |
| 4+10 | 6.3755 | 30.22 | Q | | | | |
| 4+15 | 6.5883 | 30.90 | Q | | | | |
| 4+20 | 6.8097 | 32.15 | Q | | | | |
| 4+25 | 7.0369 | 33.00 | Q | | | | |
| 4+30 | 7.2686 | 33.64 | Q | | | | |
| 4+35 | 7.5045 | 34.25 | Q | | | | |
| 4+40 | 7.7450 | 34.92 | Q | | | | |
| 4+45 | 7.9913 | 35.76 | Q | | | | |
| 4+50 | 8.2471 | 37.14 | Q | | | | |
| 4+55 | 8.5095 | 38.11 | Q | | | | |
| 5+ 0 | 8.7771 | 38.85 | Q | | | | |
| 5+ 5 | 9.0487 | 39.44 | Q | | | | |
| 5+10 | 9.3234 | 39.90 | Q | | | | |
| 5+15 | 9.6017 | 40.40 | VQ | | | | |
| 5+20 | 9.8860 | 41.29 | VQ | | | | |
| 5+25 | 10.1719 | 41.51 | VQ | | | | |
| 5+30 | 10.4548 | 41.07 | VQ | | | | |
| 5+35 | 10.7277 | 39.62 | Q | | | | |
| 5+40 | 10.9980 | 39.26 | Q | | | | |
| 5+45 | 11.2711 | 39.65 | Q | | | | |
| 5+50 | 11.5517 | 40.75 | VQ | | | | |
| 5+55 | 11.8383 | 41.61 | VQ | | | | |
| 6+ 0 | 12.1303 | 42.41 | VQ | | | | |
| 6+ 5 | 12.4351 | 44.26 | VQ | | | | |
| 6+10 | 12.7554 | 46.50 | VQ | | | | |
| 6+15 | 13.0940 | 49.17 | VQ | | | | |
| 6+20 | 13.4555 | 52.49 | VQ | | | | |
| 6+25 | 13.8490 | 57.13 | VQ | | | | |
| 6+30 | 14.2895 | 63.97 | VQ | | | | |
| 6+35 | 14.8183 | 76.78 | VQ | | | | |
| 6+40 | 15.4103 | 85.96 | V Q | | | | |
| 6+45 | 16.0524 | 93.23 | V Q | | | | |
| 6+50 | 16.7438 | 100.39 | V Q | | | | |
| 6+55 | 17.4894 | 108.26 | V Q | | | | |
| 7+ 0 | 18.3020 | 117.99 | \|VQ | | | | |
| 7+ 5 | 19.2150 | 132.57 | \|V Q | | | | |
| 7+10 | 20.1945 | 142.22 | \|V Q | | | | |
| 7+15 | 21.2209 | 149.03 | \|V Q | | | | |
| 7+20 | 22.2911 | 155.40 | \|V Q | | | | |
| 7+25 | 23.4062 | 161.91 | \|V  Q | | | | |
| 7+30 | 24.5678 | 168.67 | \|V  Q | | | | |
| 7+35 | 25.7817 | 176.25 | \|v  Q | | | | |

| | | | |
|---|---|---|---|
| 7+40 | 27.0609 | 185.75 | V Q |
| 7+45 | 28.4219 | 197.61 | V Q |
| 7+50 | 29.9074 | 215.69 | V Q |
| 7+55 | 31.4983 | 231.00 | V Q |
| 8+ 0 | 33.1933 | 246.12 | V Q |
| 8+ 5 | 35.0337 | 267.22 | V Q |
| 8+10 | 37.0020 | 285.80 | V Q |
| 8+15 | 39.0998 | 304.61 | V Q |
| 8+20 | 41.3626 | 328.55 | V Q |
| 8+25 | 43.7687 | 349.37 | V Q |
| 8+30 | 46.3245 | 371.10 | V Q |
| 8+35 | 49.0953 | 402.31 | V Q |
| 8+40 | 52.0140 | 423.81 | V Q |
| 8+45 | 55.0437 | 439.91 | V Q |
| 8+50 | 58.1757 | 454.77 | V Q |
| 8+55 | 61.4133 | 470.10 | V Q |
| 9+ 0 | 64.7683 | 487.15 | V Q |
| 9+ 5 | 68.2820 | 510.18 | V Q |
| 9+10 | 71.9378 | 530.83 | V Q |
| 9+15 | 75.7351 | 551.37 | V Q |
| 9+20 | 79.7130 | 577.59 | V Q |
| 9+25 | 83.8546 | 601.36 | V Q |
| 9+30 | 88.1687 | 626.41 | V Q |
| 9+35 | 92.7241 | 661.44 | V Q |
| 9+40 | 97.4618 | 687.91 | V Q |
| 9+45 | 102.3579 | 710.92 | V Q |
| 9+50 | 107.4390 | 737.77 | V Q |
| 9+55 | 112.6737 | 760.09 | V Q |
| 10+ 0 | 118.0552 | 781.38 | V Q |
| 10+ 5 | 123.5818 | 802.46 | V Q |
| 10+10 | 129.1769 | 812.42 | V Q |
| 10+15 | 134.7986 | 816.27 | V Q |
| 10+20 | 140.4363 | 818.59 | V Q |
| 10+25 | 145.9856 | 805.75 | V Q |
| 10+30 | 151.3227 | 774.96 | V Q |
| 10+35 | 156.2061 | 709.07 | V Q |
| 10+40 | 160.8871 | 679.69 | V Q |
| 10+45 | 165.5097 | 671.20 | V Q |
| 10+50 | 170.1341 | 671.46 | V Q |
| 10+55 | 174.8319 | 682.12 | V Q |
| 11+ 0 | 179.6807 | 704.04 | V Q |
| 11+ 5 | 184.8683 | 753.24 | V Q |
| 11+10 | 190.2304 | 778.58 | V Q |
| 11+15 | 195.6781 | 791.00 | V Q |
| 11+20 | 201.1801 | 798.90 | V Q |
| 11+25 | 206.7073 | 802.55 | V Q |
| 11+30 | 212.2433 | 803.82 | V Q |
| 11+35 | 217.7348 | 797.38 | V Q |
| 11+40 | 223.1980 | 793.25 | V Q |
| 11+45 | 228.6393 | 790.08 | V Q |
| 11+50 | 234.0560 | 786.51 | V Q |
| 11+55 | 239.4411 | 781.91 | V Q |
| 12+ 0 | 244.7686 | 773.55 | V Q |
| 12+ 5 | 250.0001 | 759.61 | V Q |
| 12+10 | 255.2554 | 763.07 | V Q |
| 12+15 | 260.6166 | 778.44 | V Q |
| 12+20 | 266.1713 | 806.54 | V Q |
| 12+25 | 271.9612 | 840.70 | V Q |
| 12+30 | 278.0739 | 887.57 | V Q |
| 12+35 | 284.7698 | 972.24 | V Q |
| 12+40 | 291.8354 | 1025.93 | V Q |
| 12+45 | 299.1646 | 1064.19 | V Q |
| 12+50 | 306.7616 | 1103.08 | V Q |
| 12+55 | 314.5862 | 1136.13 | V Q |
| 13+ 0 | 322.6419 | 1169.70 | V Q |
| 13+ 5 | 331.0009 | 1213.72 | V Q |
| 13+10 | 339.6228 | 1251.89 | V Q |
| 13+15 | 348.4950 | 1288.26 | V Q |
| 13+20 | 357.6554 | 1330.09 | V Q |
| 13+25 | 367.1019 | 1371.62 | V Q |
| 13+30 | 376.8741 | 1418.93 | V Q |
| 13+35 | 387.0912 | 1483.52 | V Q |
| 13+40 | 397.5108 | 1512.92 | V Q |
| 13+45 | 407.9831 | 1520.58 | V Q |
| 13+50 | 418.4176 | 1515.10 | V Q |
| 13+55 | 428.6848 | 1490.79 | V Q |
| 14+ 0 | 438.6138 | 1441.69 | V Q |
| 14+ 5 | 447.8110 | 1335.44 | V Q |



| | | | |
|---|---|---|---|
| 14+10 | 456.6486 | 1283.22 | |
| 14+15 | 465.3327 | 1260.92 | |
| 14+20 | 473.9346 | 1248.99 | |
| 14+25 | 482.5273 | 1247.67 | |
| 14+30 | 491.1737 | 1255.45 | |
| 14+35 | 500.0325 | 1286.30 | |
| 14+40 | 508.9736 | 1298.25 | |
| 14+45 | 517.9207 | 1299.12 | |
| 14+50 | 526.8161 | 1291.62 | |
| 14+55 | 535.6723 | 1285.91 | |
| 15+ 0 | 544.5064 | 1282.71 | |
| 15+ 5 | 553.3109 | 1278.41 | |
| 15+10 | 562.0734 | 1272.31 | |
| 15+15 | 570.7767 | 1263.73 | |
| 15+20 | 579.3759 | 1248.59 | |
| 15+25 | 587.8936 | 1236.78 | |
| 15+30 | 596.3304 | 1225.03 | |
| 15+35 | 604.6374 | 1206.18 | |
| 15+40 | 612.8222 | 1188.42 | |
| 15+45 | 620.8762 | 1169.45 | |
| 15+50 | 628.7586 | 1144.52 | |
| 15+55 | 636.4682 | 1119.45 | |
| 16+ 0 | 643.9699 | 1089.24 | |
| 16+ 5 | 651.0735 | 1031.44 | |
| 16+10 | 657.8259 | 980.45 | |
| 16+15 | 664.2403 | 931.36 | |
| 16+20 | 670.2753 | 876.29 | |
| 16+25 | 675.8205 | 805.17 | |
| 16+30 | 680.6794 | 705.50 | |
| 16+35 | 684.3413 | 531.71 | |
| 16+40 | 687.2903 | 428.20 | |
| 16+45 | 689.8019 | 364.68 | |
| 16+50 | 691.9707 | 314.90 | |
| 16+55 | 693.8671 | 275.36 | |
| 17+ 0 | 695.5194 | 239.92 | |
| 17+ 5 | 696.9673 | 210.23 | |
| 17+10 | 698.2445 | 185.46 | |
| 17+15 | 699.3828 | 165.27 | |
| 17+20 | 700.4048 | 148.39 | |
| 17+25 | 701.3342 | 134.95 | |
| 17+30 | 702.2025 | 126.09 | |
| 17+35 | 703.0553 | 123.82 | |
| 17+40 | 703.8731 | 118.75 | |
| 17+45 | 704.6521 | 113.10 | |
| 17+50 | 705.3926 | 107.53 | |
| 17+55 | 706.0943 | 101.88 | |
| 18+ 0 | 706.7565 | 96.15 | |
| 18+ 5 | 707.3770 | 90.11 | |
| 18+10 | 707.9545 | 83.85 | |
| 18+15 | 708.4802 | 76.33 | |
| 18+20 | 708.9276 | 64.97 | |
| 18+25 | 709.3298 | 58.39 | |
| 18+30 | 709.7044 | 54.40 | |
| 18+35 | 710.0574 | 51.25 | |
| 18+40 | 710.3914 | 48.50 | |
| 18+45 | 710.7064 | 45.74 | |
| 18+50 | 711.0054 | 43.41 | |
| 18+55 | 711.2876 | 40.98 | |
| 19+ 0 | 711.5498 | 38.06 | |
| 19+ 5 | 711.7814 | 33.63 | |
| 19+10 | 711.9895 | 30.22 | |
| 19+15 | 712.1780 | 27.37 | |
| 19+20 | 712.3475 | 24.61 | |
| 19+25 | 712.5093 | 23.49 | |
| 19+30 | 712.6695 | 23.26 | |
| 19+35 | 712.8337 | 23.84 | |
| 19+40 | 713.0023 | 24.48 | |
| 19+45 | 713.1785 | 25.59 | |
| 19+50 | 713.3741 | 28.41 | |
| 19+55 | 713.5746 | 29.11 | |
| 20+ 0 | 713.7664 | 27.85 | |
| 20+ 5 | 713.9311 | 23.92 | |
| 20+10 | 714.0807 | 21.73 | |
| 20+15 | 714.2216 | 20.46 | |
| 20+20 | 714.3524 | 18.98 | |
| 20+25 | 714.4785 | 18.31 | |
| 20+30 | 714.6033 | 18.12 | |
| 20+35 | 714.7317 | 18.65 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 20+40 | 714.8612 | 18.82 | Q | \| | \| | \| | V\| |
| 20+45 | 714.9905 | 18.77 | Q | \| | \| | \| | V\| |
| 20+50 | 715.1191 | 18.66 | Q | \| | \| | \| | V\| |
| 20+55 | 715.2457 | 18.39 | Q | \| | \| | \| | V\| |
| 21+ 0 | 715.3703 | 18.08 | Q | \| | \| | \| | V\| |
| 21+ 5 | 715.4926 | 17.76 | Q | \| | \| | \| | V\| |
| 21+10 | 715.6124 | 17.40 | Q | \| | \| | \| | V\| |
| 21+15 | 715.7288 | 16.91 | Q | \| | \| | \| | V\| |
| 21+20 | 715.8384 | 15.91 | Q | \| | \| | \| | V\| |
| 21+25 | 715.9449 | 15.46 | Q | \| | \| | \| | V\| |
| 21+30 | 716.0509 | 15.40 | Q | \| | \| | \| | V\| |
| 21+35 | 716.1605 | 15.91 | Q | \| | \| | \| | V\| |
| 21+40 | 716.2708 | 16.02 | Q | \| | \| | \| | V\| |
| 21+45 | 716.3794 | 15.76 | Q | \| | \| | \| | V\| |
| 21+50 | 716.4826 | 14.98 | Q | \| | \| | \| | V\| |
| 21+55 | 716.5836 | 14.67 | Q | \| | \| | \| | V\| |
| 22+ 0 | 716.6853 | 14.76 | Q | \| | \| | \| | V\| |
| 22+ 5 | 716.7916 | 15.44 | Q | \| | \| | \| | V\| |
| 22+10 | 716.8994 | 15.65 | Q | \| | \| | \| | V\| |
| 22+15 | 717.0058 | 15.46 | Q | \| | \| | \| | V\| |
| 22+20 | 717.1071 | 14.71 | Q | \| | \| | \| | V\| |
| 22+25 | 717.2065 | 14.44 | Q | \| | \| | \| | V\| |
| 22+30 | 717.3069 | 14.57 | Q | \| | \| | \| | V\| |
| 22+35 | 717.4117 | 15.21 | Q | \| | \| | \| | V\| |
| 22+40 | 717.5170 | 15.30 | Q | \| | \| | \| | V\| |
| 22+45 | 717.6198 | 14.91 | Q | \| | \| | \| | V\| |
| 22+50 | 717.7159 | 13.95 | Q | \| | \| | \| | V\| |
| 22+55 | 717.8083 | 13.42 | Q | \| | \| | \| | V\| |
| 23+ 0 | 717.8988 | 13.15 | Q | \| | \| | \| | V\| |
| 23+ 5 | 717.9881 | 12.95 | Q | \| | \| | \| | V\| |
| 23+10 | 718.0763 | 12.81 | Q | \| | \| | \| | V\| |
| 23+15 | 718.1636 | 12.67 | Q | \| | \| | \| | V\| |
| 23+20 | 718.2500 | 12.55 | Q | \| | \| | \| | V\| |
| 23+25 | 718.3358 | 12.45 | Q | \| | \| | \| | V\| |
| 23+30 | 718.4210 | 12.37 | Q | \| | \| | \| | V\| |
| 23+35 | 718.5057 | 12.31 | Q | \| | \| | \| | V\| |
| 23+40 | 718.5902 | 12.26 | Q | \| | \| | \| | V\| |
| 23+45 | 718.6742 | 12.20 | Q | \| | \| | \| | V\| |
| 23+50 | 718.7579 | 12.15 | Q | \| | \| | \| | V\| |
| 23+55 | 718.8412 | 12.09 | Q | \| | \| | \| | V\| |
| 24+ 0 | 718.9242 | 12.05 | Q | \| | \| | \| | V\| |
| 24+ 5 | 719.0062 | 11.91 | Q | \| | \| | \| | V\| |
| 24+10 | 719.0861 | 11.60 | Q | \| | \| | \| | V\| |
| 24+15 | 719.1629 | 11.16 | Q | \| | \| | \| | V\| |
| 24+20 | 719.2357 | 10.57 | Q | \| | \| | \| | V\| |
| 24+25 | 719.3027 | 9.73 | Q | \| | \| | \| | V\| |
| 24+30 | 719.3612 | 8.49 | Q | \| | \| | \| | V\| |
| 24+35 | 719.4040 | 6.22 | Q | \| | \| | \| | V\| |
| 24+40 | 719.4378 | 4.91 | Q | \| | \| | \| | V\| |
| 24+45 | 719.4664 | 4.14 | Q | \| | \| | \| | V\| |
| 24+50 | 719.4908 | 3.54 | Q | \| | \| | \| | V\| |
| 24+55 | 719.5120 | 3.07 | Q | \| | \| | \| | V\| |
| 25+ 0 | 719.5302 | 2.65 | Q | \| | \| | \| | V\| |
| 25+ 5 | 719.5461 | 2.31 | Q | \| | \| | \| | V\| |
| 25+10 | 719.5599 | 2.00 | Q | \| | \| | \| | V\| |
| 25+15 | 719.5719 | 1.74 | Q | \| | \| | \| | V\| |
| 25+20 | 719.5823 | 1.51 | Q | \| | \| | \| | V\| |
| 25+25 | 719.5913 | 1.30 | Q | \| | \| | \| | V\| |
| 25+30 | 719.5990 | 1.12 | Q | \| | \| | \| | V\| |
| 25+35 | 719.6056 | 0.95 | Q | \| | \| | \| | V\| |
| 25+40 | 719.6111 | 0.81 | Q | \| | \| | \| | V\| |
| 25+45 | 719.6159 | 0.69 | Q | \| | \| | \| | V\| |
| 25+50 | 719.6199 | 0.58 | Q | \| | \| | \| | V\| |
| 25+55 | 719.6232 | 0.49 | Q | \| | \| | \| | V\| |
| 26+ 0 | 719.6260 | 0.41 | Q | \| | \| | \| | V\| |
| 26+ 5 | 719.6283 | 0.34 | Q | \| | \| | \| | V\| |
| 26+10 | 719.6303 | 0.28 | Q | \| | \| | \| | V\| |
| 26+15 | 719.6319 | 0.24 | Q | \| | \| | \| | V\| |
| 26+20 | 719.6335 | 0.22 | Q | \| | \| | \| | V\| |
| 26+25 | 719.6348 | 0.20 | Q | \| | \| | \| | V\| |
| 26+30 | 719.6360 | 0.18 | Q | \| | \| | \| | V\| |
| 26+35 | 719.6371 | 0.16 | Q | \| | \| | \| | V\| |
| 26+40 | 719.6381 | 0.14 | Q | \| | \| | \| | V\| |
| 26+45 | 719.6389 | 0.12 | Q | \| | \| | \| | V\| |
| 26+50 | 719.6397 | 0.11 | Q | \| | \| | \| | V\| |
| 26+55 | 719.6404 | 0.10 | Q | \| | \| | \| | V\| |
| 27+ 0 | 719.6410 | 0.09 | Q | \| | \| | \| | V\| |
| 27+ 5 | 719.6415 | 0.08 | Q | \| | \| | \| | V\| |

```
   27+10     719.6419      0.06  Q          |          |          |         V|
   27+15     719.6422      0.05  Q          |          |          |         V|
   27+20     719.6425      0.03  Q          |          |          |         V|
   27+25     719.6427      0.03  Q          |          |          |         V|
   27+30     719.6428      0.02  Q          |          |          |         V|
   27+35     719.6429      0.01  Q          |          |          |         V|
   27+40     719.6429      0.01  Q          |          |          |         V|
   27+45     719.6430      0.00  Q          |          |          |          V
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/19/17 File: EX21100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 2
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 12-19-17

---

Drainage Area = 31.00(Ac.) = 0.048 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 31.00(Ac.) = 0.048 Sq. Mi.
Length along longest watercourse = 2195.00(Ft.)
Length along longest watercourse measured to centroid = 1000.00(Ft.)
Length along longest watercourse = 0.416 Mi.
Length along longest watercourse measured to centroid = 0.189 Mi.
Difference in elevation = 522.00(Ft.)
Slope along watercourse = 1255.6538 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.082 Hr.
Lag time = 4.95 Min.
25% of lag time = 1.24 Min.
40% of lag time = 1.98 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 31.00 | 0.50 | 15.50 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 31.00 | 1.20 | 37.20 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.97 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 31.000 | 83.73 | 0.000 |

Total Area Entered = 31.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.7 | 93.2 | 0.088 | 0.000 | 0.088 | 1.000 | 0.088 |
| | | | | | Sum (F) = | 0.088 |

Area averaged mean soil loss (F) (In/Hr) = 0.088

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

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| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 101.107 | 14.811 | 4.627 |
| 2 0.167 | 202.214 | 55.817 | 17.438 |
| 3 0.250 | 303.321 | 18.240 | 5.699 |
| 4 0.333 | 404.428 | 7.310 | 2.284 |
| 5 0.417 | 505.535 | 2.350 | 0.734 |
| 6 0.500 | 606.642 | 0.839 | 0.262 |
| 7 0.583 | 707.749 | 0.633 | 0.198 |
| | Sum = 100.000 | Sum= | 31.242 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 4.20 | 0.605 | 0.088 | ( 0.544) | 0.517 |
| 2 0.17 | 4.30 | 0.619 | 0.088 | ( 0.557) | 0.531 |
| 3 0.25 | 5.00 | 0.720 | 0.088 | ( 0.648) | 0.632 |
| 4 0.33 | 5.00 | 0.720 | 0.088 | ( 0.648) | 0.632 |
| 5 0.42 | 5.80 | 0.835 | 0.088 | ( 0.751) | 0.747 |
| 6 0.50 | 6.50 | 0.936 | 0.088 | ( 0.842) | 0.848 |
| 7 0.58 | 7.40 | 1.065 | 0.088 | ( 0.959) | 0.977 |
| 8 0.67 | 8.60 | 1.238 | 0.088 | ( 1.114) | 1.150 |
| 9 0.75 | 12.30 | 1.771 | 0.088 | ( 1.594) | 1.683 |
| 10 0.83 | 29.10 | 4.189 | 0.088 | ( 3.770) | 4.101 |
| 11 0.92 | 6.80 | 0.979 | 0.088 | ( 0.881) | 0.891 |
| 12 1.00 | 5.00 | 0.720 | 0.088 | ( 0.648) | 0.632 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 13.3 |

Flood volume = Effective rainfall 1.11(In)
times area 31.0(Ac.)/[(In)/(Ft.)] = 2.9(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.227(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 125106.0 Cubic Feet
Total soil loss = 9892.1 Cubic Feet

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Peak flow rate of this hydrograph = 88.994(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 22.5 | 45.0 | 67.5 | 90.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0165 | 2.39 | VQ | | | | |
| 0+10 | 0.0955 | 11.47 | V Q | | | | |
| 0+15 | 0.1998 | 15.14 | V Q | | | | |
| 0+20 | 0.3248 | 18.16 | V Q | | | | |
| 0+25 | 0.4604 | 19.68 | V Q | | | | |
| 0+30 | 0.6155 | 22.53 | V Q | | | | |
| 0+35 | 0.7927 | 25.73 | Q | | | | |
| 0+40 | 0.9969 | 29.65 | Q | | | | |
| 0+45 | 1.2463 | 36.21 | QV | | | | |
| 0+50 | 1.6463 | 58.08 | V Q | | | | |
| 0+55 | 2.2592 | 88.99 | V Q | | | | |
| 1+ 0 | 2.5827 | 46.97 | Q | | | V | |
| 1+ 5 | 2.7701 | 27.21 | Q | | | V | |
| 1+10 | 2.8343 | 9.32 | Q | | | V | |

```
    1+15       2.8584      3.51  |Q        |          |          |        V|
    1+20       2.8688      1.51  Q         |          |          |        V|
    1+25       2.8712      0.34  Q         |          |          |        V|
    1+30       2.8720      0.12  Q         |          |          |        V|
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/19/17 File: EX23100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 2
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 12-19-17

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Drainage Area = 31.00(Ac.) = 0.048 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 31.00(Ac.) = 0.048 Sq. Mi.
Length along longest watercourse = 2195.00(Ft.)
Length along longest watercourse measured to centroid = 1000.00(Ft.)
Length along longest watercourse = 0.416 Mi.
Length along longest watercourse measured to centroid = 0.189 Mi.
Difference in elevation = 522.00(Ft.)
Slope along watercourse = 1255.6538 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.082 Hr.
Lag time = 4.95 Min.
25% of lag time = 1.24 Min.
40% of lag time = 1.98 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 31.00 | 0.81 | 25.11 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 31.00 | 1.81 | 56.11 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.810(In)
Area Averaged 100-Year Rainfall = 1.810(In)

Point rain (area averaged) = 1.810(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.810(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 31.000 | 83.73 | 0.000 |

Total Area Entered = 31.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.7 | 93.2 | 0.088 | 0.000 | 0.088 | 1.000 | 0.088 |
| | | | | | Sum (F) = | 0.088 |

Area averaged mean soil loss (F) (In/Hr) = 0.088

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 101.107 | 14.811 | 4.627 |
| 2 0.167 | 202.214 | 55.817 | 17.438 |
| 3 0.250 | 303.321 | 18.240 | 5.699 |
| 4 0.333 | 404.428 | 7.310 | 2.284 |
| 5 0.417 | 505.535 | 2.350 | 0.734 |
| 6 0.500 | 606.642 | 0.839 | 0.262 |
| 7 0.583 | 707.749 | 0.633 | 0.198 |
| | | Sum = 100.000 | Sum= 31.242 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.282 | 0.088 | ( 0.254) | 0.194 |
| 2 | 0.17 | 1.30 | 0.282 | 0.088 | ( 0.254) | 0.194 |
| 3 | 0.25 | 1.10 | 0.239 | 0.088 | ( 0.215) | 0.151 |
| 4 | 0.33 | 1.50 | 0.326 | 0.088 | ( 0.293) | 0.238 |
| 5 | 0.42 | 1.50 | 0.326 | 0.088 | ( 0.293) | 0.238 |
| 6 | 0.50 | 1.80 | 0.391 | 0.088 | ( 0.352) | 0.303 |
| 7 | 0.58 | 1.50 | 0.326 | 0.088 | ( 0.293) | 0.238 |
| 8 | 0.67 | 1.80 | 0.391 | 0.088 | ( 0.352) | 0.303 |
| 9 | 0.75 | 1.80 | 0.391 | 0.088 | ( 0.352) | 0.303 |
| 10 | 0.83 | 1.50 | 0.326 | 0.088 | ( 0.293) | 0.238 |
| 11 | 0.92 | 1.60 | 0.347 | 0.088 | ( 0.313) | 0.260 |
| 12 | 1.00 | 1.80 | 0.391 | 0.088 | ( 0.352) | 0.303 |
| 13 | 1.08 | 2.20 | 0.478 | 0.088 | ( 0.430) | 0.390 |
| 14 | 1.17 | 2.20 | 0.478 | 0.088 | ( 0.430) | 0.390 |
| 15 | 1.25 | 2.20 | 0.478 | 0.088 | ( 0.430) | 0.390 |
| 16 | 1.33 | 2.00 | 0.434 | 0.088 | ( 0.391) | 0.346 |
| 17 | 1.42 | 2.60 | 0.565 | 0.088 | ( 0.508) | 0.477 |
| 18 | 1.50 | 2.70 | 0.586 | 0.088 | ( 0.528) | 0.498 |
| 19 | 1.58 | 2.40 | 0.521 | 0.088 | ( 0.469) | 0.433 |
| 20 | 1.67 | 2.70 | 0.586 | 0.088 | ( 0.528) | 0.498 |
| 21 | 1.75 | 3.30 | 0.717 | 0.088 | ( 0.645) | 0.629 |
| 22 | 1.83 | 3.10 | 0.673 | 0.088 | ( 0.606) | 0.585 |
| 23 | 1.92 | 2.90 | 0.630 | 0.088 | ( 0.567) | 0.542 |
| 24 | 2.00 | 3.00 | 0.652 | 0.088 | ( 0.586) | 0.564 |
| 25 | 2.08 | 3.10 | 0.673 | 0.088 | ( 0.606) | 0.585 |
| 26 | 2.17 | 4.20 | 0.912 | 0.088 | ( 0.821) | 0.824 |
| 27 | 2.25 | 5.00 | 1.086 | 0.088 | ( 0.977) | 0.998 |
| 28 | 2.33 | 3.50 | 0.760 | 0.088 | ( 0.684) | 0.672 |
| 29 | 2.42 | 6.80 | 1.477 | 0.088 | ( 1.329) | 1.389 |
| 30 | 2.50 | 7.30 | 1.585 | 0.088 | ( 1.427) | 1.497 |
| 31 | 2.58 | 8.20 | 1.781 | 0.088 | ( 1.603) | 1.693 |
| 32 | 2.67 | 5.90 | 1.281 | 0.088 | ( 1.153) | 1.193 |
| 33 | 2.75 | 2.00 | 0.434 | 0.088 | ( 0.391) | 0.346 |
| 34 | 2.83 | 1.80 | 0.391 | 0.088 | ( 0.352) | 0.303 |
| 35 | 2.92 | 1.80 | 0.391 | 0.088 | ( 0.352) | 0.303 |
| 36 | 3.00 | 0.60 | 0.130 | 0.088 | ( 0.117) | 0.042 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 18.6 |

Flood volume = Effective rainfall 1.55(In)
times area 31.0(Ac.)/[(In)/(Ft.)] = 4.0(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.681(Ac.Ft)
Total rainfall = 1.81(In)
Flood volume = 173975.5 Cubic Feet
Total soil loss = 29676.2 Cubic Feet

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Peak flow rate of this hydrograph = 47.692(CFS)

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3 - H O U R  S T O R M
R u n o f f  H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 12.5 | 25.0 | 37.5 | 50.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0062 | 0.90 | Q | | | | |
| 0+10 | 0.0358 | 4.29 | V Q | | | | |
| 0+15 | 0.0716 | 5.20 | V Q | | | | |
| 0+20 | 0.1080 | 5.29 | V Q | | | | |
| 0+25 | 0.1541 | 6.70 | V Q | | | | |
| 0+30 | 0.2054 | 7.45 | V Q | | | | |
| 0+35 | 0.2639 | 8.49 | V Q | | | | |
| 0+40 | 0.3195 | 8.08 | V Q | | | | |
| 0+45 | 0.3815 | 9.00 | V Q | | | | |
| 0+50 | 0.4434 | 8.99 | V Q | | | | |
| 0+55 | 0.4990 | 8.07 | V Q | | | | |
| 1+ 0 | 0.5564 | 8.32 | VQ | | | | |
| 1+ 5 | 0.6215 | 9.46 | VQ | | | | |
| 1+10 | 0.6990 | 11.24 | VQ | | | | |
| 1+15 | 0.7805 | 11.84 | V Q | | | | |
| 1+20 | 0.8621 | 11.86 | VQ | | | | |
| 1+25 | 0.9433 | 11.78 | Q | | | | |
| 1+30 | 1.0393 | 13.94 | VQ | | | | |
| 1+35 | 1.1404 | 14.68 | Q | | | | |
| 1+40 | 1.2384 | 14.23 | QV | | | | |
| 1+45 | 1.3468 | 15.74 | QV | | | | |
| 1+50 | 1.4712 | 18.07 | Q | | | | |
| 1+55 | 1.5951 | 17.99 | QV | | | | |
| 2+ 0 | 1.7151 | 17.42 | Q V | | | | |
| 2+ 5 | 1.8366 | 17.65 | Q V | | | | |
| 2+10 | 1.9687 | 19.17 | Q V | | | | |
| 2+15 | 2.1360 | 24.30 | Q V | | | | |
| 2+20 | 2.3236 | 27.23 | Q V | | | | |
| 2+25 | 2.5055 | 26.42 | Q V | | | | |
| 2+30 | 2.7682 | 38.15 | V Q | | | | |
| 2+35 | 3.0746 | 44.48 | V Q | | | | |
| 2+40 | 3.4031 | 47.69 | V Q | | | | |
| 2+45 | 3.6571 | 36.89 | Q V | | | | |
| 2+50 | 3.7929 | 19.72 | Q V | | | | |
| 2+55 | 3.8846 | 13.30 | Q V | | | | |
| 3+ 0 | 3.9508 | 9.62 | Q V | | | | |
| 3+ 5 | 3.9788 | 4.06 | Q V | | | | |
| 3+10 | 3.9890 | 1.48 | Q V | | | | |
| 3+15 | 3.9922 | 0.47 | Q V | | | | |
| 3+20 | 3.9934 | 0.17 | Q V | | | | |
| 3+25 | 3.9939 | 0.07 | Q V | | | | |
| 3+30 | 3.9939 | 0.01 | Q V | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/19/17 File: EX26100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 2
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 12-19-17

---

Drainage Area = 31.00(Ac.) = 0.048 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 31.00(Ac.) = 0.048 Sq. Mi.
Length along longest watercourse = 2195.00(Ft.)
Length along longest watercourse measured to centroid = 1000.00(Ft.)
Length along longest watercourse = 0.416 Mi.
Length along longest watercourse measured to centroid = 0.189 Mi.
Difference in elevation = 522.00(Ft.)
Slope along watercourse = 1255.6538 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.082 Hr.
Lag time = 4.95 Min.
25% of lag time = 1.24 Min.
40% of lag time = 1.98 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 31.00 | 1.14 | 35.34 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 31.00 | 2.50 | 77.50 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.140(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 31.000 | 83.73 | 0.000 |

Total Area Entered = 31.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.7 | 93.2 | 0.088 | 0.000 | 0.088 | 1.000 | 0.088 |
| | | | | | Sum (F) = | 0.088 |

Area averaged mean soil loss (F) (In/Hr) = 0.088

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 101.107 | 14.811 | 4.627 |
| 2 | 0.167 | 202.214 | 55.817 | 17.438 |
| 3 | 0.250 | 303.321 | 18.240 | 5.699 |
| 4 | 0.333 | 404.428 | 7.310 | 2.284 |
| 5 | 0.417 | 505.535 | 2.350 | 0.734 |
| 6 | 0.500 | 606.642 | 0.839 | 0.262 |
| 7 | 0.583 | 707.749 | 0.633 | 0.198 |
| | | Sum = | 100.000 Sum= | 31.242 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.088 | ( | 0.135) | 0.062 |
| 2 | 0.17 | 0.60 | 0.180 | 0.088 | ( | 0.162) | 0.092 |
| 3 | 0.25 | 0.60 | 0.180 | 0.088 | ( | 0.162) | 0.092 |
| 4 | 0.33 | 0.60 | 0.180 | 0.088 | ( | 0.162) | 0.092 |
| 5 | 0.42 | 0.60 | 0.180 | 0.088 | ( | 0.162) | 0.092 |
| 6 | 0.50 | 0.70 | 0.210 | 0.088 | ( | 0.189) | 0.122 |
| 7 | 0.58 | 0.70 | 0.210 | 0.088 | ( | 0.189) | 0.122 |
| 8 | 0.67 | 0.70 | 0.210 | 0.088 | ( | 0.189) | 0.122 |
| 9 | 0.75 | 0.70 | 0.210 | 0.088 | ( | 0.189) | 0.122 |
| 10 | 0.83 | 0.70 | 0.210 | 0.088 | ( | 0.189) | 0.122 |
| 11 | 0.92 | 0.70 | 0.210 | 0.088 | ( | 0.189) | 0.122 |
| 12 | 1.00 | 0.80 | 0.240 | 0.088 | ( | 0.216) | 0.152 |
| 13 | 1.08 | 0.80 | 0.240 | 0.088 | ( | 0.216) | 0.152 |
| 14 | 1.17 | 0.80 | 0.240 | 0.088 | ( | 0.216) | 0.152 |
| 15 | 1.25 | 0.80 | 0.240 | 0.088 | ( | 0.216) | 0.152 |
| 16 | 1.33 | 0.80 | 0.240 | 0.088 | ( | 0.216) | 0.152 |
| 17 | 1.42 | 0.80 | 0.240 | 0.088 | ( | 0.216) | 0.152 |
| 18 | 1.50 | 0.80 | 0.240 | 0.088 | ( | 0.216) | 0.152 |
| 19 | 1.58 | 0.80 | 0.240 | 0.088 | ( | 0.216) | 0.152 |
| 20 | 1.67 | 0.80 | 0.240 | 0.088 | ( | 0.216) | 0.152 |
| 21 | 1.75 | 0.80 | 0.240 | 0.088 | ( | 0.216) | 0.152 |
| 22 | 1.83 | 0.80 | 0.240 | 0.088 | ( | 0.216) | 0.152 |
| 23 | 1.92 | 0.80 | 0.240 | 0.088 | ( | 0.216) | 0.152 |
| 24 | 2.00 | 0.90 | 0.270 | 0.088 | ( | 0.243) | 0.182 |
| 25 | 2.08 | 0.80 | 0.240 | 0.088 | ( | 0.216) | 0.152 |
| 26 | 2.17 | 0.90 | 0.270 | 0.088 | ( | 0.243) | 0.182 |
| 27 | 2.25 | 0.90 | 0.270 | 0.088 | ( | 0.243) | 0.182 |
| 28 | 2.33 | 0.90 | 0.270 | 0.088 | ( | 0.243) | 0.182 |
| 29 | 2.42 | 0.90 | 0.270 | 0.088 | ( | 0.243) | 0.182 |
| 30 | 2.50 | 0.90 | 0.270 | 0.088 | ( | 0.243) | 0.182 |
| 31 | 2.58 | 0.90 | 0.270 | 0.088 | ( | 0.243) | 0.182 |
| 32 | 2.67 | 0.90 | 0.270 | 0.088 | ( | 0.243) | 0.182 |
| 33 | 2.75 | 1.00 | 0.300 | 0.088 | ( | 0.270) | 0.212 |
| 34 | 2.83 | 1.00 | 0.300 | 0.088 | ( | 0.270) | 0.212 |
| 35 | 2.92 | 1.00 | 0.300 | 0.088 | ( | 0.270) | 0.212 |
| 36 | 3.00 | 1.00 | 0.300 | 0.088 | ( | 0.270) | 0.212 |
| 37 | 3.08 | 1.00 | 0.300 | 0.088 | ( | 0.270) | 0.212 |
| 38 | 3.17 | 1.10 | 0.330 | 0.088 | ( | 0.297) | 0.242 |
| 39 | 3.25 | 1.10 | 0.330 | 0.088 | ( | 0.297) | 0.242 |
| 40 | 3.33 | 1.10 | 0.330 | 0.088 | ( | 0.297) | 0.242 |
| 41 | 3.42 | 1.20 | 0.360 | 0.088 | ( | 0.324) | 0.272 |
| 42 | 3.50 | 1.30 | 0.390 | 0.088 | ( | 0.351) | 0.302 |
| 43 | 3.58 | 1.40 | 0.420 | 0.088 | ( | 0.378) | 0.332 |
| 44 | 3.67 | 1.40 | 0.420 | 0.088 | ( | 0.378) | 0.332 |
| 45 | 3.75 | 1.50 | 0.450 | 0.088 | ( | 0.405) | 0.362 |
| 46 | 3.83 | 1.50 | 0.450 | 0.088 | ( | 0.405) | 0.362 |
| 47 | 3.92 | 1.60 | 0.480 | 0.088 | ( | 0.432) | 0.392 |
| 48 | 4.00 | 1.60 | 0.480 | 0.088 | ( | 0.432) | 0.392 |
| 49 | 4.08 | 1.70 | 0.510 | 0.088 | ( | 0.459) | 0.422 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 50 | 4.17 | 1.80 | 0.540 | 0.088 | ( 0.486) | | 0.452 |
| 51 | 4.25 | 1.90 | 0.570 | 0.088 | ( 0.513) | | 0.482 |
| 52 | 4.33 | 2.00 | 0.600 | 0.088 | ( 0.540) | | 0.512 |
| 53 | 4.42 | 2.10 | 0.630 | 0.088 | ( 0.567) | | 0.542 |
| 54 | 4.50 | 2.10 | 0.630 | 0.088 | ( 0.567) | | 0.542 |
| 55 | 4.58 | 2.20 | 0.660 | 0.088 | ( 0.594) | | 0.572 |
| 56 | 4.67 | 2.30 | 0.690 | 0.088 | ( 0.621) | | 0.602 |
| 57 | 4.75 | 2.40 | 0.720 | 0.088 | ( 0.648) | | 0.632 |
| 58 | 4.83 | 2.40 | 0.720 | 0.088 | ( 0.648) | | 0.632 |
| 59 | 4.92 | 2.50 | 0.750 | 0.088 | ( 0.675) | | 0.662 |
| 60 | 5.00 | 2.60 | 0.780 | 0.088 | ( 0.702) | | 0.692 |
| 61 | 5.08 | 3.10 | 0.930 | 0.088 | ( 0.837) | | 0.842 |
| 62 | 5.17 | 3.60 | 1.080 | 0.088 | ( 0.972) | | 0.992 |
| 63 | 5.25 | 3.90 | 1.170 | 0.088 | ( 1.053) | | 1.082 |
| 64 | 5.33 | 4.20 | 1.260 | 0.088 | ( 1.134) | | 1.172 |
| 65 | 5.42 | 4.70 | 1.410 | 0.088 | ( 1.269) | | 1.322 |
| 66 | 5.50 | 5.60 | 1.680 | 0.088 | ( 1.512) | | 1.592 |
| 67 | 5.58 | 1.90 | 0.570 | 0.088 | ( 0.513) | | 0.482 |
| 68 | 5.67 | 0.90 | 0.270 | 0.088 | ( 0.243) | | 0.182 |
| 69 | 5.75 | 0.60 | 0.180 | 0.088 | ( 0.162) | | 0.092 |
| 70 | 5.83 | 0.50 | 0.150 | 0.088 | ( 0.135) | | 0.062 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.088) | 0.081 | | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.088) | 0.054 | | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.7

Flood volume = Effective rainfall 1.98(In)
times area 31.0(Ac.)/[(In)/(Ft.)] = 5.1(Ac.Ft)
Total soil loss = 0.52(In)
Total soil loss = 1.354(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 222325.5 Cubic Feet
Total soil loss = 58969.5 Cubic Feet

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Peak flow rate of this hydrograph = 41.443(CFS)

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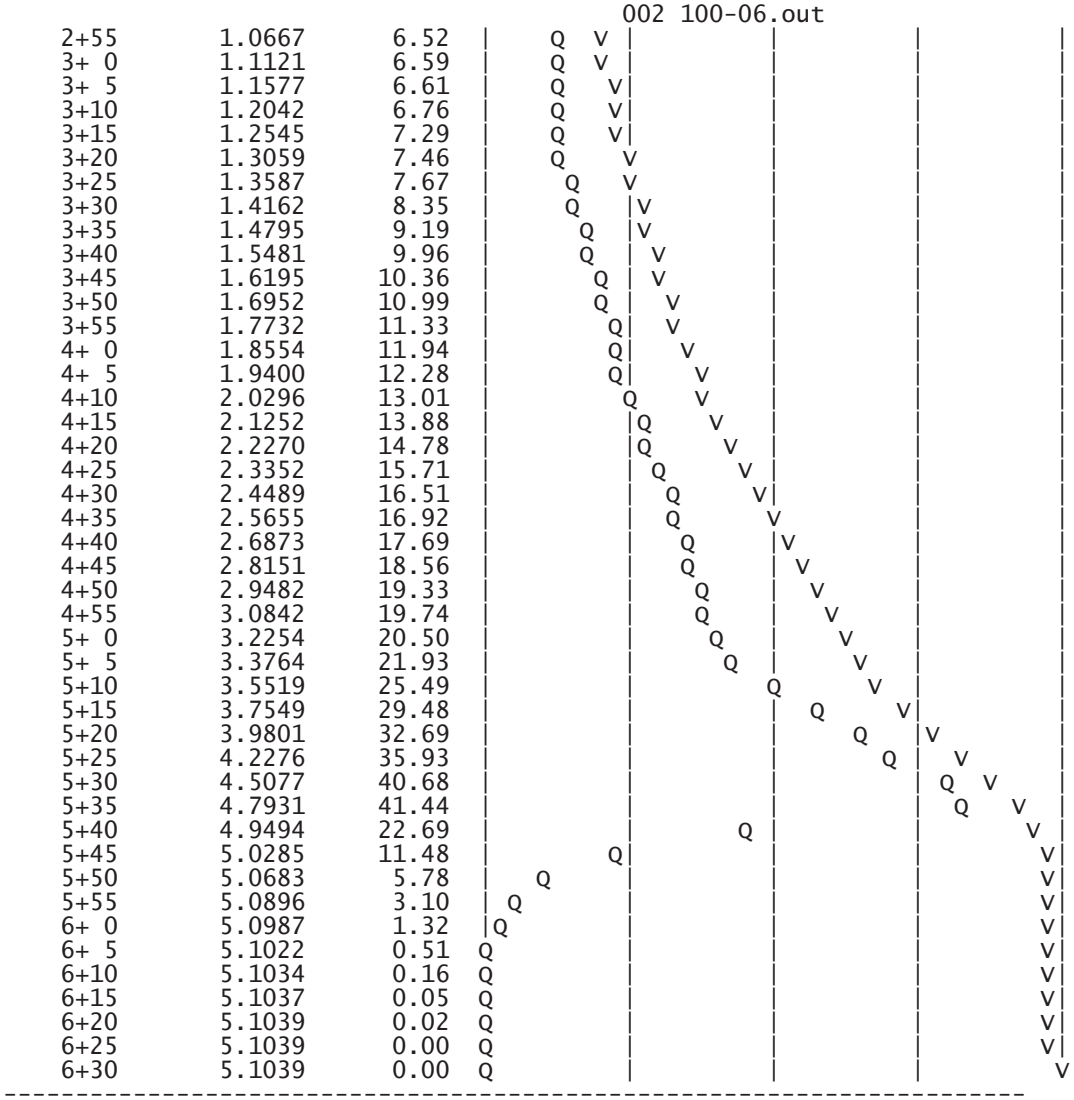
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 12.5 | 25.0 | 37.5 | 50.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0020 | 0.29 | Q | | | | |
| 0+10 | 0.0124 | 1.51 | VQ | | | | |
| 0+15 | 0.0288 | 2.39 | VQ | | | | |
| 0+20 | 0.0474 | 2.70 | V Q | | | | |
| 0+25 | 0.0668 | 2.81 | V Q | | | | |
| 0+30 | 0.0874 | 2.99 | V Q | | | | |
| 0+35 | 0.1117 | 3.53 | V Q | | | | |
| 0+40 | 0.1373 | 3.71 | \|VQ | | | | |
| 0+45 | 0.1633 | 3.78 | \|V Q | | | | |
| 0+50 | 0.1895 | 3.80 | \|V Q | | | | |
| 0+55 | 0.2157 | 3.81 | \|V Q | | | | |
| 1+ 0 | 0.2430 | 3.95 | \|V Q | | | | |
| 1+ 5 | 0.2738 | 4.48 | \| VQ | | | | |
| 1+10 | 0.3058 | 4.65 | \| VQ | | | | |
| 1+15 | 0.3383 | 4.72 | \| VQ | | | | |
| 1+20 | 0.3710 | 4.74 | \| VQ | | | | |
| 1+25 | 0.4037 | 4.75 | \| Q | | | | |
| 1+30 | 0.4364 | 4.75 | \| Q | | | | |
| 1+35 | 0.4691 | 4.75 | \| Q | | | | |
| 1+40 | 0.5019 | 4.75 | \| Q | | | | |
| 1+45 | 0.5346 | 4.75 | \| QV | | | | |
| 1+50 | 0.5673 | 4.75 | \| QV | | | | |
| 1+55 | 0.6001 | 4.75 | \| QV | | | | |
| 2+ 0 | 0.6338 | 4.89 | \| QV | | | | |
| 2+ 5 | 0.6701 | 5.28 | \| QV | | | | |
| 2+10 | 0.7050 | 5.06 | \| QV | | | | |
| 2+15 | 0.7428 | 5.48 | \| QV | | | | |
| 2+20 | 0.7814 | 5.61 | \| Q V | | | | |
| 2+25 | 0.8204 | 5.66 | \| Q V | | | | |
| 2+30 | 0.8595 | 5.68 | \| Q V | | | | |
| 2+35 | 0.8987 | 5.69 | \| Q V | | | | |
| 2+40 | 0.9379 | 5.69 | \| Q V | | | | |
| 2+45 | 0.9780 | 5.83 | \| Q V | | | | |
| 2+50 | 1.0218 | 6.35 | \| Q V \| | | | | |



| | | | |
|---|---|---|---|
| 2+55 | 1.0667 | 6.52 | |
| 3+ 0 | 1.1121 | 6.59 | |
| 3+ 5 | 1.1577 | 6.61 | |
| 3+10 | 1.2042 | 6.76 | |
| 3+15 | 1.2545 | 7.29 | |
| 3+20 | 1.3059 | 7.46 | |
| 3+25 | 1.3587 | 7.67 | |
| 3+30 | 1.4162 | 8.35 | |
| 3+35 | 1.4795 | 9.19 | |
| 3+40 | 1.5481 | 9.96 | |
| 3+45 | 1.6195 | 10.36 | |
| 3+50 | 1.6952 | 10.99 | |
| 3+55 | 1.7732 | 11.33 | |
| 4+ 0 | 1.8554 | 11.94 | |
| 4+ 5 | 1.9400 | 12.28 | |
| 4+10 | 2.0296 | 13.01 | |
| 4+15 | 2.1252 | 13.88 | |
| 4+20 | 2.2270 | 14.78 | |
| 4+25 | 2.3352 | 15.71 | |
| 4+30 | 2.4489 | 16.51 | |
| 4+35 | 2.5655 | 16.92 | |
| 4+40 | 2.6873 | 17.69 | |
| 4+45 | 2.8151 | 18.56 | |
| 4+50 | 2.9482 | 19.33 | |
| 4+55 | 3.0842 | 19.74 | |
| 5+ 0 | 3.2254 | 20.50 | |
| 5+ 5 | 3.3764 | 21.93 | |
| 5+10 | 3.5519 | 25.49 | |
| 5+15 | 3.7549 | 29.48 | |
| 5+20 | 3.9801 | 32.69 | |
| 5+25 | 4.2276 | 35.93 | |
| 5+30 | 4.5077 | 40.68 | |
| 5+35 | 4.7931 | 41.44 | |
| 5+40 | 4.9494 | 22.69 | |
| 5+45 | 5.0285 | 11.48 | |
| 5+50 | 5.0683 | 5.78 | |
| 5+55 | 5.0896 | 3.10 | |
| 6+ 0 | 5.0987 | 1.32 | |
| 6+ 5 | 5.1022 | 0.51 | |
| 6+10 | 5.1034 | 0.16 | |
| 6+15 | 5.1037 | 0.05 | |
| 6+20 | 5.1039 | 0.02 | |
| 6+25 | 5.1039 | 0.00 | |
| 6+30 | 5.1039 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/19/17 File: EX224100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 2
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 12-19-17

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Drainage Area = 31.00(Ac.) = 0.048 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 31.00(Ac.) = 0.048 Sq. Mi.
Length along longest watercourse = 2195.00(Ft.)
Length along longest watercourse measured to centroid = 1000.00(Ft.)
Length along longest watercourse = 0.416 Mi.
Length along longest watercourse measured to centroid = 0.189 Mi.
Difference in elevation = 522.00(Ft.)
Slope along watercourse = 1255.6538 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.082 Hr.
Lag time = 4.95 Min.
25% of lag time = 1.24 Min.
40% of lag time = 1.98 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 31.00 | 1.80 | 55.80 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 31.00 | 4.71 | 146.01 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.710(In)

Point rain (area averaged) = 4.710(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 4.710(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 31.000 | 83.73 | 0.000 |

Total Area Entered = 31.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.7 | 93.2 | 0.088 | 0.000 | 0.088 | 1.000 | 0.088 |
| | | | | | Sum (F) = | 0.088 |

Area averaged mean soil loss (F) (In/Hr) = 0.088

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 101.107 | 14.811 | 4.627 |
| 2 0.167 | 202.214 | 55.817 | 17.438 |
| 3 0.250 | 303.321 | 18.240 | 5.699 |
| 4 0.333 | 404.428 | 7.310 | 2.284 |
| 5 0.417 | 505.535 | 2.350 | 0.734 |
| 6 0.500 | 606.642 | 0.839 | 0.262 |
| 7 0.583 | 707.749 | 0.633 | 0.198 |
| | | Sum = 100.000 | Sum= 31.242 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.038 | ( 0.156) | 0.034 | 0.004 |
| 2 | 0.17 | 0.07 | 0.038 | ( 0.155) | 0.034 | 0.004 |
| 3 | 0.25 | 0.07 | 0.038 | ( 0.155) | 0.034 | 0.004 |
| 4 | 0.33 | 0.10 | 0.057 | ( 0.154) | 0.051 | 0.006 |
| 5 | 0.42 | 0.10 | 0.057 | ( 0.153) | 0.051 | 0.006 |
| 6 | 0.50 | 0.10 | 0.057 | ( 0.153) | 0.051 | 0.006 |
| 7 | 0.58 | 0.10 | 0.057 | ( 0.152) | 0.051 | 0.006 |
| 8 | 0.67 | 0.10 | 0.057 | ( 0.152) | 0.051 | 0.006 |
| 9 | 0.75 | 0.10 | 0.057 | ( 0.151) | 0.051 | 0.006 |
| 10 | 0.83 | 0.13 | 0.075 | ( 0.150) | 0.068 | 0.008 |
| 11 | 0.92 | 0.13 | 0.075 | ( 0.150) | 0.068 | 0.008 |
| 12 | 1.00 | 0.13 | 0.075 | ( 0.149) | 0.068 | 0.008 |
| 13 | 1.08 | 0.10 | 0.057 | ( 0.149) | 0.051 | 0.006 |
| 14 | 1.17 | 0.10 | 0.057 | ( 0.148) | 0.051 | 0.006 |
| 15 | 1.25 | 0.10 | 0.057 | ( 0.148) | 0.051 | 0.006 |
| 16 | 1.33 | 0.10 | 0.057 | ( 0.147) | 0.051 | 0.006 |
| 17 | 1.42 | 0.10 | 0.057 | ( 0.146) | 0.051 | 0.006 |
| 18 | 1.50 | 0.10 | 0.057 | ( 0.146) | 0.051 | 0.006 |
| 19 | 1.58 | 0.10 | 0.057 | ( 0.145) | 0.051 | 0.006 |
| 20 | 1.67 | 0.10 | 0.057 | ( 0.145) | 0.051 | 0.006 |
| 21 | 1.75 | 0.10 | 0.057 | ( 0.144) | 0.051 | 0.006 |
| 22 | 1.83 | 0.13 | 0.075 | ( 0.143) | 0.068 | 0.008 |
| 23 | 1.92 | 0.13 | 0.075 | ( 0.143) | 0.068 | 0.008 |
| 24 | 2.00 | 0.13 | 0.075 | ( 0.142) | 0.068 | 0.008 |
| 25 | 2.08 | 0.13 | 0.075 | ( 0.142) | 0.068 | 0.008 |
| 26 | 2.17 | 0.13 | 0.075 | ( 0.141) | 0.068 | 0.008 |
| 27 | 2.25 | 0.13 | 0.075 | ( 0.141) | 0.068 | 0.008 |
| 28 | 2.33 | 0.13 | 0.075 | ( 0.140) | 0.068 | 0.008 |
| 29 | 2.42 | 0.13 | 0.075 | ( 0.139) | 0.068 | 0.008 |
| 30 | 2.50 | 0.13 | 0.075 | ( 0.139) | 0.068 | 0.008 |
| 31 | 2.58 | 0.17 | 0.094 | ( 0.138) | 0.085 | 0.009 |
| 32 | 2.67 | 0.17 | 0.094 | ( 0.138) | 0.085 | 0.009 |
| 33 | 2.75 | 0.17 | 0.094 | ( 0.137) | 0.085 | 0.009 |
| 34 | 2.83 | 0.17 | 0.094 | ( 0.137) | 0.085 | 0.009 |
| 35 | 2.92 | 0.17 | 0.094 | ( 0.136) | 0.085 | 0.009 |
| 36 | 3.00 | 0.17 | 0.094 | ( 0.135) | 0.085 | 0.009 |
| 37 | 3.08 | 0.17 | 0.094 | ( 0.135) | 0.085 | 0.009 |
| 38 | 3.17 | 0.17 | 0.094 | ( 0.134) | 0.085 | 0.009 |
| 39 | 3.25 | 0.17 | 0.094 | ( 0.134) | 0.085 | 0.009 |
| 40 | 3.33 | 0.17 | 0.094 | ( 0.133) | 0.085 | 0.009 |
| 41 | 3.42 | 0.17 | 0.094 | ( 0.133) | 0.085 | 0.009 |
| 42 | 3.50 | 0.17 | 0.094 | ( 0.132) | 0.085 | 0.009 |
| 43 | 3.58 | 0.17 | 0.094 | ( 0.132) | 0.085 | 0.009 |
| 44 | 3.67 | 0.17 | 0.094 | ( 0.131) | 0.085 | 0.009 |
| 45 | 3.75 | 0.17 | 0.094 | ( 0.130) | 0.085 | 0.009 |
| 46 | 3.83 | 0.20 | 0.113 | ( 0.130) | 0.102 | 0.011 |
| 47 | 3.92 | 0.20 | 0.113 | ( 0.129) | 0.102 | 0.011 |
| 48 | 4.00 | 0.20 | 0.113 | ( 0.129) | 0.102 | 0.011 |
| 49 | 4.08 | 0.20 | 0.113 | ( 0.128) | 0.102 | 0.011 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 50 | 4.17 | 0.20 | 0.113 | ( | 0.128) | 0.102 | | 0.011 |
| 51 | 4.25 | 0.20 | 0.113 | ( | 0.127) | 0.102 | | 0.011 |
| 52 | 4.33 | 0.23 | 0.132 | ( | 0.127) | 0.119 | | 0.013 |
| 53 | 4.42 | 0.23 | 0.132 | ( | 0.126) | 0.119 | | 0.013 |
| 54 | 4.50 | 0.23 | 0.132 | ( | 0.126) | 0.119 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.132 | ( | 0.125) | 0.119 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.132 | ( | 0.124) | 0.119 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.132 | ( | 0.124) | 0.119 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.151 | | 0.123 | ( 0.136) | | 0.027 |
| 59 | 4.92 | 0.27 | 0.151 | | 0.123 | ( 0.136) | | 0.028 |
| 60 | 5.00 | 0.27 | 0.151 | | 0.122 | ( 0.136) | | 0.028 |
| 61 | 5.08 | 0.20 | 0.113 | ( | 0.122) | 0.102 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.113 | ( | 0.121) | 0.102 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.113 | ( | 0.121) | 0.102 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.132 | ( | 0.120) | 0.119 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.132 | ( | 0.120) | 0.119 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.132 | ( | 0.119) | 0.119 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.151 | | 0.119 | ( 0.136) | | 0.032 |
| 68 | 5.67 | 0.27 | 0.151 | | 0.118 | ( 0.136) | | 0.033 |
| 69 | 5.75 | 0.27 | 0.151 | | 0.118 | ( 0.136) | | 0.033 |
| 70 | 5.83 | 0.27 | 0.151 | | 0.117 | ( 0.136) | | 0.034 |
| 71 | 5.92 | 0.27 | 0.151 | | 0.117 | ( 0.136) | | 0.034 |
| 72 | 6.00 | 0.27 | 0.151 | | 0.116 | ( 0.136) | | 0.035 |
| 73 | 6.08 | 0.30 | 0.170 | | 0.116 | ( 0.153) | | 0.054 |
| 74 | 6.17 | 0.30 | 0.170 | | 0.115 | ( 0.153) | | 0.055 |
| 75 | 6.25 | 0.30 | 0.170 | | 0.114 | ( 0.153) | | 0.055 |
| 76 | 6.33 | 0.30 | 0.170 | | 0.114 | ( 0.153) | | 0.056 |
| 77 | 6.42 | 0.30 | 0.170 | | 0.113 | ( 0.153) | | 0.056 |
| 78 | 6.50 | 0.30 | 0.170 | | 0.113 | ( 0.153) | | 0.057 |
| 79 | 6.58 | 0.33 | 0.188 | | 0.112 | ( 0.170) | | 0.076 |
| 80 | 6.67 | 0.33 | 0.188 | | 0.112 | ( 0.170) | | 0.076 |
| 81 | 6.75 | 0.33 | 0.188 | | 0.111 | ( 0.170) | | 0.077 |
| 82 | 6.83 | 0.33 | 0.188 | | 0.111 | ( 0.170) | | 0.077 |
| 83 | 6.92 | 0.33 | 0.188 | | 0.110 | ( 0.170) | | 0.078 |
| 84 | 7.00 | 0.33 | 0.188 | | 0.110 | ( 0.170) | | 0.078 |
| 85 | 7.08 | 0.33 | 0.188 | | 0.109 | ( 0.170) | | 0.079 |
| 86 | 7.17 | 0.33 | 0.188 | | 0.109 | ( 0.170) | | 0.079 |
| 87 | 7.25 | 0.33 | 0.188 | | 0.108 | ( 0.170) | | 0.080 |
| 88 | 7.33 | 0.37 | 0.207 | | 0.108 | ( 0.187) | | 0.099 |
| 89 | 7.42 | 0.37 | 0.207 | | 0.107 | ( 0.187) | | 0.100 |
| 90 | 7.50 | 0.37 | 0.207 | | 0.107 | ( 0.187) | | 0.100 |
| 91 | 7.58 | 0.40 | 0.226 | | 0.106 | ( 0.203) | | 0.120 |
| 92 | 7.67 | 0.40 | 0.226 | | 0.106 | ( 0.203) | | 0.120 |
| 93 | 7.75 | 0.40 | 0.226 | | 0.105 | ( 0.203) | | 0.121 |
| 94 | 7.83 | 0.43 | 0.245 | | 0.105 | ( 0.220) | | 0.140 |
| 95 | 7.92 | 0.43 | 0.245 | | 0.105 | ( 0.220) | | 0.140 |
| 96 | 8.00 | 0.43 | 0.245 | | 0.104 | ( 0.220) | | 0.141 |
| 97 | 8.08 | 0.50 | 0.283 | | 0.104 | ( 0.254) | | 0.179 |
| 98 | 8.17 | 0.50 | 0.283 | | 0.103 | ( 0.254) | | 0.180 |
| 99 | 8.25 | 0.50 | 0.283 | | 0.103 | ( 0.254) | | 0.180 |
| 100 | 8.33 | 0.50 | 0.283 | | 0.102 | ( 0.254) | | 0.180 |
| 101 | 8.42 | 0.50 | 0.283 | | 0.102 | ( 0.254) | | 0.181 |
| 102 | 8.50 | 0.50 | 0.283 | | 0.101 | ( 0.254) | | 0.181 |
| 103 | 8.58 | 0.53 | 0.301 | | 0.101 | ( 0.271) | | 0.201 |
| 104 | 8.67 | 0.53 | 0.301 | | 0.100 | ( 0.271) | | 0.201 |
| 105 | 8.75 | 0.53 | 0.301 | | 0.100 | ( 0.271) | | 0.202 |
| 106 | 8.83 | 0.57 | 0.320 | | 0.099 | ( 0.288) | | 0.221 |
| 107 | 8.92 | 0.57 | 0.320 | | 0.099 | ( 0.288) | | 0.221 |
| 108 | 9.00 | 0.57 | 0.320 | | 0.098 | ( 0.288) | | 0.222 |
| 109 | 9.08 | 0.63 | 0.358 | | 0.098 | ( 0.322) | | 0.260 |
| 110 | 9.17 | 0.63 | 0.358 | | 0.097 | ( 0.322) | | 0.261 |
| 111 | 9.25 | 0.63 | 0.358 | | 0.097 | ( 0.322) | | 0.261 |
| 112 | 9.33 | 0.67 | 0.377 | | 0.096 | ( 0.339) | | 0.280 |
| 113 | 9.42 | 0.67 | 0.377 | | 0.096 | ( 0.339) | | 0.281 |
| 114 | 9.50 | 0.67 | 0.377 | | 0.096 | ( 0.339) | | 0.281 |
| 115 | 9.58 | 0.70 | 0.396 | | 0.095 | ( 0.356) | | 0.301 |
| 116 | 9.67 | 0.70 | 0.396 | | 0.095 | ( 0.356) | | 0.301 |
| 117 | 9.75 | 0.70 | 0.396 | | 0.094 | ( 0.356) | | 0.301 |
| 118 | 9.83 | 0.73 | 0.414 | | 0.094 | ( 0.373) | | 0.321 |
| 119 | 9.92 | 0.73 | 0.414 | | 0.093 | ( 0.373) | | 0.321 |
| 120 | 10.00 | 0.73 | 0.414 | | 0.093 | ( 0.373) | | 0.322 |
| 121 | 10.08 | 0.50 | 0.283 | | 0.092 | ( 0.254) | | 0.190 |
| 122 | 10.17 | 0.50 | 0.283 | | 0.092 | ( 0.254) | | 0.191 |
| 123 | 10.25 | 0.50 | 0.283 | | 0.091 | ( 0.254) | | 0.191 |
| 124 | 10.33 | 0.50 | 0.283 | | 0.091 | ( 0.254) | | 0.192 |
| 125 | 10.42 | 0.50 | 0.283 | | 0.091 | ( 0.254) | | 0.192 |
| 126 | 10.50 | 0.50 | 0.283 | | 0.090 | ( 0.254) | | 0.192 |
| 127 | 10.58 | 0.67 | 0.377 | | 0.090 | ( 0.339) | | 0.287 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 128 | 10.67 | 0.67 | 0.377 | 0.089 | ( 0.339) | 0.287 |
| 129 | 10.75 | 0.67 | 0.377 | 0.089 | ( 0.339) | 0.288 |
| 130 | 10.83 | 0.67 | 0.377 | 0.088 | ( 0.339) | 0.288 |
| 131 | 10.92 | 0.67 | 0.377 | 0.088 | ( 0.339) | 0.289 |
| 132 | 11.00 | 0.67 | 0.377 | 0.088 | ( 0.339) | 0.289 |
| 133 | 11.08 | 0.63 | 0.358 | 0.087 | ( 0.322) | 0.271 |
| 134 | 11.17 | 0.63 | 0.358 | 0.087 | ( 0.322) | 0.271 |
| 135 | 11.25 | 0.63 | 0.358 | 0.086 | ( 0.322) | 0.272 |
| 136 | 11.33 | 0.63 | 0.358 | 0.086 | ( 0.322) | 0.272 |
| 137 | 11.42 | 0.63 | 0.358 | 0.085 | ( 0.322) | 0.273 |
| 138 | 11.50 | 0.63 | 0.358 | 0.085 | ( 0.322) | 0.273 |
| 139 | 11.58 | 0.57 | 0.320 | 0.085 | ( 0.288) | 0.236 |
| 140 | 11.67 | 0.57 | 0.320 | 0.084 | ( 0.288) | 0.236 |
| 141 | 11.75 | 0.57 | 0.320 | 0.084 | ( 0.288) | 0.237 |
| 142 | 11.83 | 0.60 | 0.339 | 0.083 | ( 0.305) | 0.256 |
| 143 | 11.92 | 0.60 | 0.339 | 0.083 | ( 0.305) | 0.256 |
| 144 | 12.00 | 0.60 | 0.339 | 0.082 | ( 0.305) | 0.257 |
| 145 | 12.08 | 0.83 | 0.471 | 0.082 | ( 0.424) | 0.389 |
| 146 | 12.17 | 0.83 | 0.471 | 0.082 | ( 0.424) | 0.389 |
| 147 | 12.25 | 0.83 | 0.471 | 0.081 | ( 0.424) | 0.390 |
| 148 | 12.33 | 0.87 | 0.490 | 0.081 | ( 0.441) | 0.409 |
| 149 | 12.42 | 0.87 | 0.490 | 0.080 | ( 0.441) | 0.409 |
| 150 | 12.50 | 0.87 | 0.490 | 0.080 | ( 0.441) | 0.410 |
| 151 | 12.58 | 0.93 | 0.527 | 0.080 | ( 0.475) | 0.448 |
| 152 | 12.67 | 0.93 | 0.527 | 0.079 | ( 0.475) | 0.448 |
| 153 | 12.75 | 0.93 | 0.527 | 0.079 | ( 0.475) | 0.449 |
| 154 | 12.83 | 0.97 | 0.546 | 0.078 | ( 0.492) | 0.468 |
| 155 | 12.92 | 0.97 | 0.546 | 0.078 | ( 0.492) | 0.468 |
| 156 | 13.00 | 0.97 | 0.546 | 0.078 | ( 0.492) | 0.469 |
| 157 | 13.08 | 1.13 | 0.641 | 0.077 | ( 0.576) | 0.563 |
| 158 | 13.17 | 1.13 | 0.641 | 0.077 | ( 0.576) | 0.564 |
| 159 | 13.25 | 1.13 | 0.641 | 0.076 | ( 0.576) | 0.564 |
| 160 | 13.33 | 1.13 | 0.641 | 0.076 | ( 0.576) | 0.564 |
| 161 | 13.42 | 1.13 | 0.641 | 0.076 | ( 0.576) | 0.565 |
| 162 | 13.50 | 1.13 | 0.641 | 0.075 | ( 0.576) | 0.565 |
| 163 | 13.58 | 0.77 | 0.433 | 0.075 | ( 0.390) | 0.358 |
| 164 | 13.67 | 0.77 | 0.433 | 0.075 | ( 0.390) | 0.359 |
| 165 | 13.75 | 0.77 | 0.433 | 0.074 | ( 0.390) | 0.359 |
| 166 | 13.83 | 0.77 | 0.433 | 0.074 | ( 0.390) | 0.360 |
| 167 | 13.92 | 0.77 | 0.433 | 0.073 | ( 0.390) | 0.360 |
| 168 | 14.00 | 0.77 | 0.433 | 0.073 | ( 0.390) | 0.360 |
| 169 | 14.08 | 0.90 | 0.509 | 0.073 | ( 0.458) | 0.436 |
| 170 | 14.17 | 0.90 | 0.509 | 0.072 | ( 0.458) | 0.436 |
| 171 | 14.25 | 0.90 | 0.509 | 0.072 | ( 0.458) | 0.437 |
| 172 | 14.33 | 0.87 | 0.490 | 0.072 | ( 0.441) | 0.418 |
| 173 | 14.42 | 0.87 | 0.490 | 0.071 | ( 0.441) | 0.419 |
| 174 | 14.50 | 0.87 | 0.490 | 0.071 | ( 0.441) | 0.419 |
| 175 | 14.58 | 0.87 | 0.490 | 0.070 | ( 0.441) | 0.419 |
| 176 | 14.67 | 0.87 | 0.490 | 0.070 | ( 0.441) | 0.420 |
| 177 | 14.75 | 0.87 | 0.490 | 0.070 | ( 0.441) | 0.420 |
| 178 | 14.83 | 0.83 | 0.471 | 0.069 | ( 0.424) | 0.402 |
| 179 | 14.92 | 0.83 | 0.471 | 0.069 | ( 0.424) | 0.402 |
| 180 | 15.00 | 0.83 | 0.471 | 0.069 | ( 0.424) | 0.402 |
| 181 | 15.08 | 0.80 | 0.452 | 0.068 | ( 0.407) | 0.384 |
| 182 | 15.17 | 0.80 | 0.452 | 0.068 | ( 0.407) | 0.384 |
| 183 | 15.25 | 0.80 | 0.452 | 0.068 | ( 0.407) | 0.385 |
| 184 | 15.33 | 0.77 | 0.433 | 0.067 | ( 0.390) | 0.366 |
| 185 | 15.42 | 0.77 | 0.433 | 0.067 | ( 0.390) | 0.366 |
| 186 | 15.50 | 0.77 | 0.433 | 0.067 | ( 0.390) | 0.367 |
| 187 | 15.58 | 0.63 | 0.358 | 0.066 | ( 0.322) | 0.292 |
| 188 | 15.67 | 0.63 | 0.358 | 0.066 | ( 0.322) | 0.292 |
| 189 | 15.75 | 0.63 | 0.358 | 0.066 | ( 0.322) | 0.292 |
| 190 | 15.83 | 0.63 | 0.358 | 0.065 | ( 0.322) | 0.293 |
| 191 | 15.92 | 0.63 | 0.358 | 0.065 | ( 0.322) | 0.293 |
| 192 | 16.00 | 0.63 | 0.358 | 0.065 | ( 0.322) | 0.293 |
| 193 | 16.08 | 0.13 | 0.075 | 0.064 | ( 0.068) | 0.011 |
| 194 | 16.17 | 0.13 | 0.075 | 0.064 | ( 0.068) | 0.011 |
| 195 | 16.25 | 0.13 | 0.075 | 0.064 | ( 0.068) | 0.012 |
| 196 | 16.33 | 0.13 | 0.075 | 0.063 | ( 0.068) | 0.012 |
| 197 | 16.42 | 0.13 | 0.075 | 0.063 | ( 0.068) | 0.012 |
| 198 | 16.50 | 0.13 | 0.075 | 0.063 | ( 0.068) | 0.013 |
| 199 | 16.58 | 0.10 | 0.057 | ( 0.062) | 0.051 | 0.006 |
| 200 | 16.67 | 0.10 | 0.057 | ( 0.062) | 0.051 | 0.006 |
| 201 | 16.75 | 0.10 | 0.057 | ( 0.062) | 0.051 | 0.006 |
| 202 | 16.83 | 0.10 | 0.057 | ( 0.061) | 0.051 | 0.006 |
| 203 | 16.92 | 0.10 | 0.057 | ( 0.061) | 0.051 | 0.006 |
| 204 | 17.00 | 0.10 | 0.057 | ( 0.061) | 0.051 | 0.006 |
| 205 | 17.08 | 0.17 | 0.094 | 0.060 | ( 0.085) | 0.034 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 206 | 17.17 | 0.17 | 0.094 | | 0.060 | ( | 0.085) | 0.034 |
| 207 | 17.25 | 0.17 | 0.094 | | 0.060 | ( | 0.085) | 0.034 |
| 208 | 17.33 | 0.17 | 0.094 | | 0.060 | ( | 0.085) | 0.035 |
| 209 | 17.42 | 0.17 | 0.094 | | 0.059 | ( | 0.085) | 0.035 |
| 210 | 17.50 | 0.17 | 0.094 | | 0.059 | ( | 0.085) | 0.035 |
| 211 | 17.58 | 0.17 | 0.094 | | 0.059 | ( | 0.085) | 0.036 |
| 212 | 17.67 | 0.17 | 0.094 | | 0.058 | ( | 0.085) | 0.036 |
| 213 | 17.75 | 0.17 | 0.094 | | 0.058 | ( | 0.085) | 0.036 |
| 214 | 17.83 | 0.13 | 0.075 | | 0.058 | ( | 0.068) | 0.018 |
| 215 | 17.92 | 0.13 | 0.075 | | 0.057 | ( | 0.068) | 0.018 |
| 216 | 18.00 | 0.13 | 0.075 | | 0.057 | ( | 0.068) | 0.018 |
| 217 | 18.08 | 0.13 | 0.075 | | 0.057 | ( | 0.068) | 0.018 |
| 218 | 18.17 | 0.13 | 0.075 | | 0.057 | ( | 0.068) | 0.019 |
| 219 | 18.25 | 0.13 | 0.075 | | 0.056 | ( | 0.068) | 0.019 |
| 220 | 18.33 | 0.13 | 0.075 | | 0.056 | ( | 0.068) | 0.019 |
| 221 | 18.42 | 0.13 | 0.075 | | 0.056 | ( | 0.068) | 0.020 |
| 222 | 18.50 | 0.13 | 0.075 | | 0.056 | ( | 0.068) | 0.020 |
| 223 | 18.58 | 0.10 | 0.057 | ( | 0.055) | | 0.051 | 0.006 |
| 224 | 18.67 | 0.10 | 0.057 | ( | 0.055) | | 0.051 | 0.006 |
| 225 | 18.75 | 0.10 | 0.057 | ( | 0.055) | | 0.051 | 0.006 |
| 226 | 18.83 | 0.07 | 0.038 | ( | 0.054) | | 0.034 | 0.004 |
| 227 | 18.92 | 0.07 | 0.038 | ( | 0.054) | | 0.034 | 0.004 |
| 228 | 19.00 | 0.07 | 0.038 | ( | 0.054) | | 0.034 | 0.004 |
| 229 | 19.08 | 0.10 | 0.057 | ( | 0.054) | | 0.051 | 0.006 |
| 230 | 19.17 | 0.10 | 0.057 | ( | 0.053) | | 0.051 | 0.006 |
| 231 | 19.25 | 0.10 | 0.057 | ( | 0.053) | | 0.051 | 0.006 |
| 232 | 19.33 | 0.13 | 0.075 | | 0.053 | ( | 0.068) | 0.022 |
| 233 | 19.42 | 0.13 | 0.075 | | 0.053 | ( | 0.068) | 0.023 |
| 234 | 19.50 | 0.13 | 0.075 | | 0.052 | ( | 0.068) | 0.023 |
| 235 | 19.58 | 0.10 | 0.057 | ( | 0.052) | | 0.051 | 0.006 |
| 236 | 19.67 | 0.10 | 0.057 | ( | 0.052) | | 0.051 | 0.006 |
| 237 | 19.75 | 0.10 | 0.057 | ( | 0.052) | | 0.051 | 0.006 |
| 238 | 19.83 | 0.07 | 0.038 | ( | 0.052) | | 0.034 | 0.004 |
| 239 | 19.92 | 0.07 | 0.038 | ( | 0.051) | | 0.034 | 0.004 |
| 240 | 20.00 | 0.07 | 0.038 | ( | 0.051) | | 0.034 | 0.004 |
| 241 | 20.08 | 0.10 | 0.057 | | 0.051 | ( | 0.051) | 0.006 |
| 242 | 20.17 | 0.10 | 0.057 | | 0.051 | ( | 0.051) | 0.006 |
| 243 | 20.25 | 0.10 | 0.057 | | 0.050 | ( | 0.051) | 0.006 |
| 244 | 20.33 | 0.10 | 0.057 | | 0.050 | ( | 0.051) | 0.006 |
| 245 | 20.42 | 0.10 | 0.057 | | 0.050 | ( | 0.051) | 0.007 |
| 246 | 20.50 | 0.10 | 0.057 | | 0.050 | ( | 0.051) | 0.007 |
| 247 | 20.58 | 0.10 | 0.057 | | 0.050 | ( | 0.051) | 0.007 |
| 248 | 20.67 | 0.10 | 0.057 | | 0.049 | ( | 0.051) | 0.007 |
| 249 | 20.75 | 0.10 | 0.057 | | 0.049 | ( | 0.051) | 0.007 |
| 250 | 20.83 | 0.07 | 0.038 | ( | 0.049) | | 0.034 | 0.004 |
| 251 | 20.92 | 0.07 | 0.038 | ( | 0.049) | | 0.034 | 0.004 |
| 252 | 21.00 | 0.07 | 0.038 | ( | 0.049) | | 0.034 | 0.004 |
| 253 | 21.08 | 0.10 | 0.057 | | 0.048 | ( | 0.051) | 0.008 |
| 254 | 21.17 | 0.10 | 0.057 | | 0.048 | ( | 0.051) | 0.008 |
| 255 | 21.25 | 0.10 | 0.057 | | 0.048 | ( | 0.051) | 0.009 |
| 256 | 21.33 | 0.07 | 0.038 | ( | 0.048) | | 0.034 | 0.004 |
| 257 | 21.42 | 0.07 | 0.038 | ( | 0.048) | | 0.034 | 0.004 |
| 258 | 21.50 | 0.07 | 0.038 | ( | 0.047) | | 0.034 | 0.004 |
| 259 | 21.58 | 0.10 | 0.057 | | 0.047 | ( | 0.051) | 0.009 |
| 260 | 21.67 | 0.10 | 0.057 | | 0.047 | ( | 0.051) | 0.009 |
| 261 | 21.75 | 0.10 | 0.057 | | 0.047 | ( | 0.051) | 0.010 |
| 262 | 21.83 | 0.07 | 0.038 | ( | 0.047) | | 0.034 | 0.004 |
| 263 | 21.92 | 0.07 | 0.038 | ( | 0.047) | | 0.034 | 0.004 |
| 264 | 22.00 | 0.07 | 0.038 | ( | 0.046) | | 0.034 | 0.004 |
| 265 | 22.08 | 0.10 | 0.057 | | 0.046 | ( | 0.051) | 0.010 |
| 266 | 22.17 | 0.10 | 0.057 | | 0.046 | ( | 0.051) | 0.010 |
| 267 | 22.25 | 0.10 | 0.057 | | 0.046 | ( | 0.051) | 0.011 |
| 268 | 22.33 | 0.07 | 0.038 | ( | 0.046) | | 0.034 | 0.004 |
| 269 | 22.42 | 0.07 | 0.038 | ( | 0.046) | | 0.034 | 0.004 |
| 270 | 22.50 | 0.07 | 0.038 | ( | 0.046) | | 0.034 | 0.004 |
| 271 | 22.58 | 0.07 | 0.038 | ( | 0.045) | | 0.034 | 0.004 |
| 272 | 22.67 | 0.07 | 0.038 | ( | 0.045) | | 0.034 | 0.004 |
| 273 | 22.75 | 0.07 | 0.038 | ( | 0.045) | | 0.034 | 0.004 |
| 274 | 22.83 | 0.07 | 0.038 | ( | 0.045) | | 0.034 | 0.004 |
| 275 | 22.92 | 0.07 | 0.038 | ( | 0.045) | | 0.034 | 0.004 |
| 276 | 23.00 | 0.07 | 0.038 | ( | 0.045) | | 0.034 | 0.004 |
| 277 | 23.08 | 0.07 | 0.038 | ( | 0.045) | | 0.034 | 0.004 |
| 278 | 23.17 | 0.07 | 0.038 | ( | 0.045) | | 0.034 | 0.004 |
| 279 | 23.25 | 0.07 | 0.038 | ( | 0.045) | | 0.034 | 0.004 |
| 280 | 23.33 | 0.07 | 0.038 | ( | 0.044) | | 0.034 | 0.004 |
| 281 | 23.42 | 0.07 | 0.038 | ( | 0.044) | | 0.034 | 0.004 |
| 282 | 23.50 | 0.07 | 0.038 | ( | 0.044) | | 0.034 | 0.004 |
| 283 | 23.58 | 0.07 | 0.038 | ( | 0.044) | | 0.034 | 0.004 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 284 | 23.67 | 0.07 | 0.038 | ( | 0.044) | 0.034 | 0.004 |
| 285 | 23.75 | 0.07 | 0.038 | ( | 0.044) | 0.034 | 0.004 |
| 286 | 23.83 | 0.07 | 0.038 | ( | 0.044) | 0.034 | 0.004 |
| 287 | 23.92 | 0.07 | 0.038 | ( | 0.044) | 0.034 | 0.004 |
| 288 | 24.00 | 0.07 | 0.038 | ( | 0.044) | 0.034 | 0.004 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 35.5

Flood volume = Effective rainfall 2.96(In)
times area 31.0(Ac.)/[(In)/(Ft.)] = 7.6(Ac.Ft)
Total soil loss = 1.75(In)
Total soil loss = 4.528(Ac.Ft)
Total rainfall = 4.71(In)
Flood volume = 332740.8 Cubic Feet
Total soil loss = 197243.4 Cubic Feet

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Peak flow rate of this hydrograph = 17.634(CFS)

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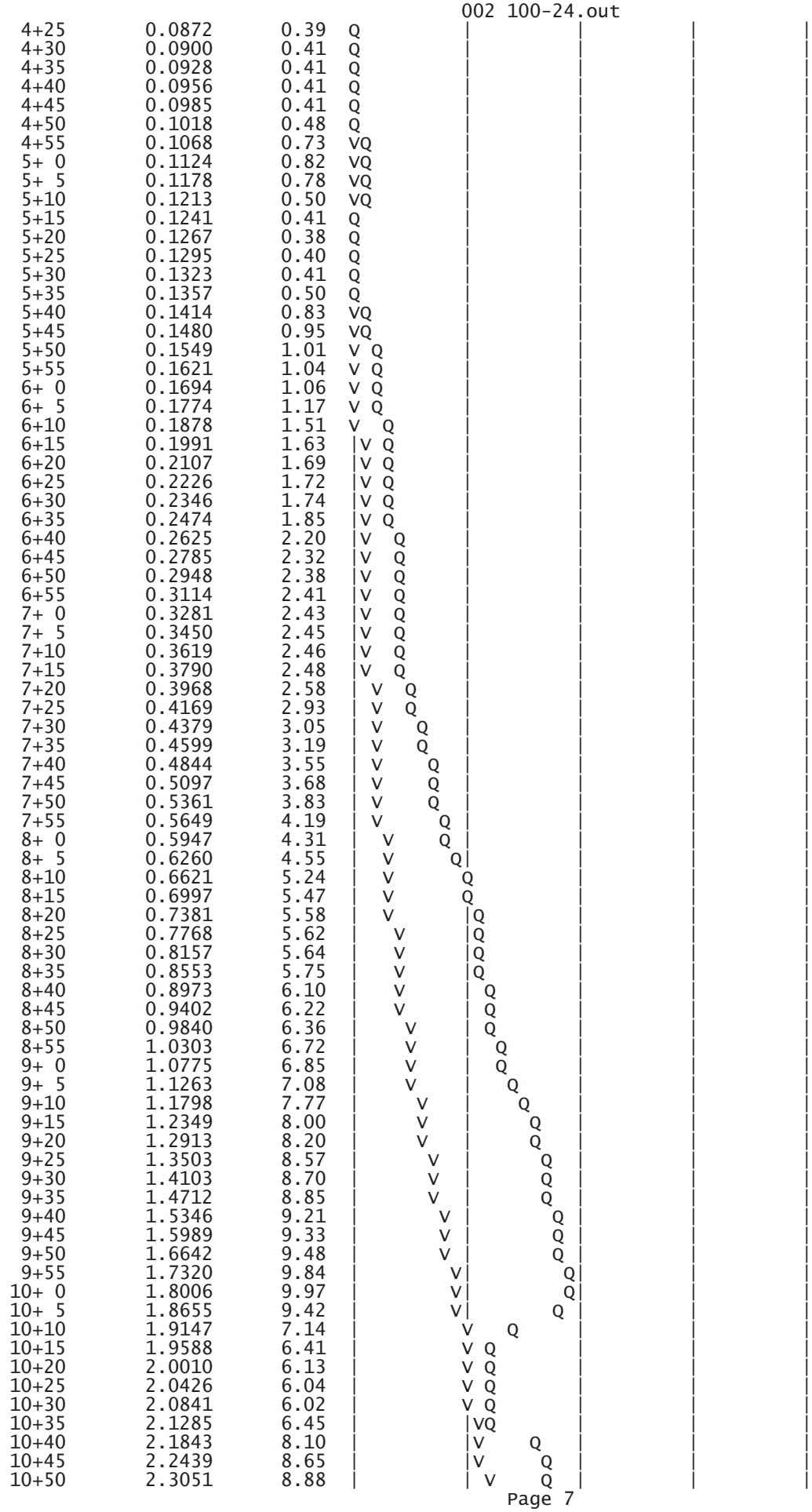
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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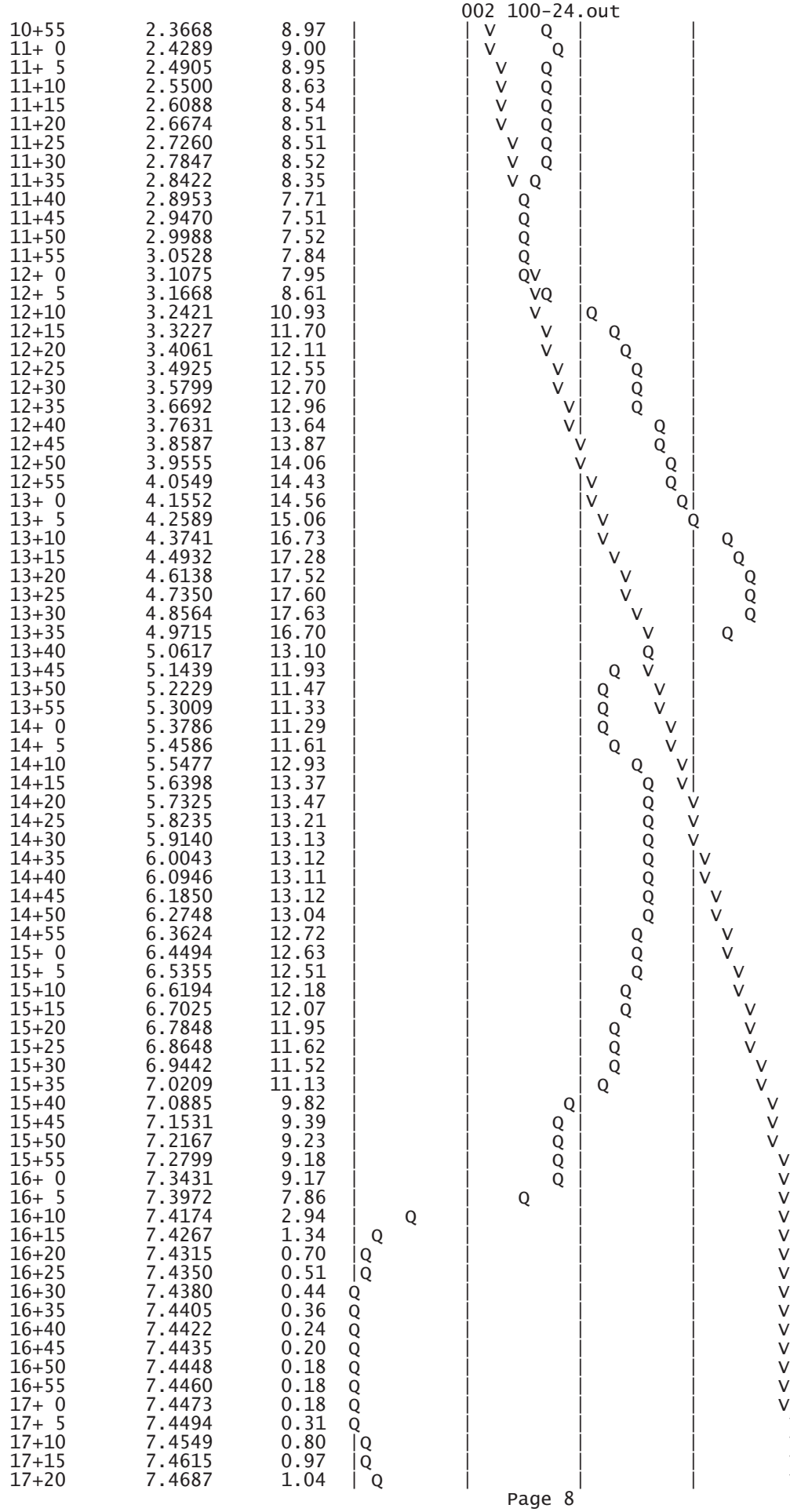
Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 5.0 | 10.0 | 15.0 | 20.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0001 | 0.02 | Q | | | | |
| 0+10 | 0.0007 | 0.08 | Q | | | | |
| 0+15 | 0.0014 | 0.10 | Q | | | | |
| 0+20 | 0.0023 | 0.12 | Q | | | | |
| 0+25 | 0.0033 | 0.16 | Q | | | | |
| 0+30 | 0.0045 | 0.17 | Q | | | | |
| 0+35 | 0.0057 | 0.17 | Q | | | | |
| 0+40 | 0.0069 | 0.18 | Q | | | | |
| 0+45 | 0.0081 | 0.18 | Q | | | | |
| 0+50 | 0.0094 | 0.19 | Q | | | | |
| 0+55 | 0.0109 | 0.22 | Q | | | | |
| 1+ 0 | 0.0125 | 0.23 | Q | | | | |
| 1+ 5 | 0.0140 | 0.22 | Q | | | | |
| 1+10 | 0.0154 | 0.19 | Q | | | | |
| 1+15 | 0.0166 | 0.18 | Q | | | | |
| 1+20 | 0.0179 | 0.18 | Q | | | | |
| 1+25 | 0.0191 | 0.18 | Q | | | | |
| 1+30 | 0.0203 | 0.18 | Q | | | | |
| 1+35 | 0.0215 | 0.18 | Q | | | | |
| 1+40 | 0.0227 | 0.18 | Q | | | | |
| 1+45 | 0.0239 | 0.18 | Q | | | | |
| 1+50 | 0.0252 | 0.19 | Q | | | | |
| 1+55 | 0.0267 | 0.22 | Q | | | | |
| 2+ 0 | 0.0283 | 0.23 | Q | | | | |
| 2+ 5 | 0.0299 | 0.23 | Q | | | | |
| 2+10 | 0.0315 | 0.23 | Q | | | | |
| 2+15 | 0.0331 | 0.24 | Q | | | | |
| 2+20 | 0.0348 | 0.24 | Q | | | | |
| 2+25 | 0.0364 | 0.24 | Q | | | | |
| 2+30 | 0.0380 | 0.24 | Q | | | | |
| 2+35 | 0.0397 | 0.24 | Q | | | | |
| 2+40 | 0.0416 | 0.28 | Q | | | | |
| 2+45 | 0.0436 | 0.29 | Q | | | | |
| 2+50 | 0.0456 | 0.29 | Q | | | | |
| 2+55 | 0.0476 | 0.29 | Q | | | | |
| 3+ 0 | 0.0496 | 0.29 | Q | | | | |
| 3+ 5 | 0.0517 | 0.29 | Q | | | | |
| 3+10 | 0.0537 | 0.29 | Q | | | | |
| 3+15 | 0.0557 | 0.29 | Q | | | | |
| 3+20 | 0.0578 | 0.29 | Q | | | | |
| 3+25 | 0.0598 | 0.29 | Q | | | | |
| 3+30 | 0.0618 | 0.29 | Q | | | | |
| 3+35 | 0.0638 | 0.29 | Q | | | | |
| 3+40 | 0.0659 | 0.29 | Q | | | | |
| 3+45 | 0.0679 | 0.29 | Q | | | | |
| 3+50 | 0.0700 | 0.30 | Q | | | | |
| 3+55 | 0.0723 | 0.34 | Q | | | | |
| 4+ 0 | 0.0747 | 0.35 | Q | | | | |
| 4+ 5 | 0.0771 | 0.35 | Q | | | | |
| 4+10 | 0.0795 | 0.35 | Q | | | | |
| 4+15 | 0.0820 | 0.35 | Q | | | | |
| 4+20 | 0.0845 | 0.36 | Q | | | | |



| | | | |
|---|---|---|---|
| 4+25 | 0.0872 | 0.39 | Q |
| 4+30 | 0.0900 | 0.41 | Q |
| 4+35 | 0.0928 | 0.41 | Q |
| 4+40 | 0.0956 | 0.41 | Q |
| 4+45 | 0.0985 | 0.41 | Q |
| 4+50 | 0.1018 | 0.48 | Q |
| 4+55 | 0.1068 | 0.73 | VQ |
| 5+ 0 | 0.1124 | 0.82 | VQ |
| 5+ 5 | 0.1178 | 0.78 | VQ |
| 5+10 | 0.1213 | 0.50 | VQ |
| 5+15 | 0.1241 | 0.41 | Q |
| 5+20 | 0.1267 | 0.38 | Q |
| 5+25 | 0.1295 | 0.40 | Q |
| 5+30 | 0.1323 | 0.41 | Q |
| 5+35 | 0.1357 | 0.50 | Q |
| 5+40 | 0.1414 | 0.83 | VQ |
| 5+45 | 0.1480 | 0.95 | VQ |
| 5+50 | 0.1549 | 1.01 | V Q |
| 5+55 | 0.1621 | 1.04 | V Q |
| 6+ 0 | 0.1694 | 1.06 | V Q |
| 6+ 5 | 0.1774 | 1.17 | V Q |
| 6+10 | 0.1878 | 1.51 | V  Q |
| 6+15 | 0.1991 | 1.63 | \|V Q |
| 6+20 | 0.2107 | 1.69 | \|V Q |
| 6+25 | 0.2226 | 1.72 | \|V Q |
| 6+30 | 0.2346 | 1.74 | \|V Q |
| 6+35 | 0.2474 | 1.85 | \|V Q |
| 6+40 | 0.2625 | 2.20 | \|V  Q |
| 6+45 | 0.2785 | 2.32 | \|V  Q |
| 6+50 | 0.2948 | 2.38 | \|V  Q |
| 6+55 | 0.3114 | 2.41 | \|V  Q |
| 7+ 0 | 0.3281 | 2.43 | \|V  Q |
| 7+ 5 | 0.3450 | 2.45 | \|V  Q |
| 7+10 | 0.3619 | 2.46 | \|V  Q |
| 7+15 | 0.3790 | 2.48 | \|V  Q |
| 7+20 | 0.3968 | 2.58 | \| V  Q |
| 7+25 | 0.4169 | 2.93 | \| V  Q |
| 7+30 | 0.4379 | 3.05 | \| V   Q |
| 7+35 | 0.4599 | 3.19 | \| V   Q |
| 7+40 | 0.4844 | 3.55 | \| V    Q |
| 7+45 | 0.5097 | 3.68 | \| V    Q |
| 7+50 | 0.5361 | 3.83 | \| V    Q |
| 7+55 | 0.5649 | 4.19 | \| V     Q |
| 8+ 0 | 0.5947 | 4.31 | \|  V    Q |
| 8+ 5 | 0.6260 | 4.55 | \|  V     Q\| |
| 8+10 | 0.6621 | 5.24 | \|  V      Q |
| 8+15 | 0.6997 | 5.47 | \|  V      Q |
| 8+20 | 0.7381 | 5.58 | \|  V      \|Q |
| 8+25 | 0.7768 | 5.62 | \|   V     \|Q |
| 8+30 | 0.8157 | 5.64 | \|   V     \|Q |
| 8+35 | 0.8553 | 5.75 | \|   V     \|Q |
| 8+40 | 0.8973 | 6.10 | \|   V     \| Q |
| 8+45 | 0.9402 | 6.22 | \|   V     \| Q |
| 8+50 | 0.9840 | 6.36 | \|    V    \| Q |
| 8+55 | 1.0303 | 6.72 | \|    V    \|  Q |
| 9+ 0 | 1.0775 | 6.85 | \|    V    \|  Q |
| 9+ 5 | 1.1263 | 7.08 | \|    V    \|   Q |
| 9+10 | 1.1798 | 7.77 | \|     V   \|    Q |
| 9+15 | 1.2349 | 8.00 | \|     V   \|     Q |
| 9+20 | 1.2913 | 8.20 | \|     V   \|     Q |
| 9+25 | 1.3503 | 8.57 | \|      V  \|      Q |
| 9+30 | 1.4103 | 8.70 | \|      V  \|      Q |
| 9+35 | 1.4712 | 8.85 | \|      V  \|      Q |
| 9+40 | 1.5346 | 9.21 | \|       V \|       Q |
| 9+45 | 1.5989 | 9.33 | \|       V \|       Q |
| 9+50 | 1.6642 | 9.48 | \|       V \|       Q |
| 9+55 | 1.7320 | 9.84 | \|        V\|        Q|
| 10+ 0 | 1.8006 | 9.97 | \|        V\|        Q|
| 10+ 5 | 1.8655 | 9.42 | \|        V\|       Q |
| 10+10 | 1.9147 | 7.14 | \|         V   Q     |
| 10+15 | 1.9588 | 6.41 | \|         V Q       |
| 10+20 | 2.0010 | 6.13 | \|         V Q       |
| 10+25 | 2.0426 | 6.04 | \|         V Q       |
| 10+30 | 2.0841 | 6.02 | \|         V Q       |
| 10+35 | 2.1285 | 6.45 | \|         \|VQ       |
| 10+40 | 2.1843 | 8.10 | \|         \|V    Q   |
| 10+45 | 2.2439 | 8.65 | \|         \|V     Q  |
| 10+50 | 2.3051 | 8.88 | \|         \| V    Q  \| |



| | | | |
|---|---|---|---|
| 10+55 | 2.3668 | 8.97 | |
| 11+ 0 | 2.4289 | 9.00 | |
| 11+ 5 | 2.4905 | 8.95 | |
| 11+10 | 2.5500 | 8.63 | |
| 11+15 | 2.6088 | 8.54 | |
| 11+20 | 2.6674 | 8.51 | |
| 11+25 | 2.7260 | 8.51 | |
| 11+30 | 2.7847 | 8.52 | |
| 11+35 | 2.8422 | 8.35 | |
| 11+40 | 2.8953 | 7.71 | |
| 11+45 | 2.9470 | 7.51 | |
| 11+50 | 2.9988 | 7.52 | |
| 11+55 | 3.0528 | 7.84 | |
| 12+ 0 | 3.1075 | 7.95 | |
| 12+ 5 | 3.1668 | 8.61 | |
| 12+10 | 3.2421 | 10.93 | |
| 12+15 | 3.3227 | 11.70 | |
| 12+20 | 3.4061 | 12.11 | |
| 12+25 | 3.4925 | 12.55 | |
| 12+30 | 3.5799 | 12.70 | |
| 12+35 | 3.6692 | 12.96 | |
| 12+40 | 3.7631 | 13.64 | |
| 12+45 | 3.8587 | 13.87 | |
| 12+50 | 3.9555 | 14.06 | |
| 12+55 | 4.0549 | 14.43 | |
| 13+ 0 | 4.1552 | 14.56 | |
| 13+ 5 | 4.2589 | 15.06 | |
| 13+10 | 4.3741 | 16.73 | |
| 13+15 | 4.4932 | 17.28 | |
| 13+20 | 4.6138 | 17.52 | |
| 13+25 | 4.7350 | 17.60 | |
| 13+30 | 4.8564 | 17.63 | |
| 13+35 | 4.9715 | 16.70 | |
| 13+40 | 5.0617 | 13.10 | |
| 13+45 | 5.1439 | 11.93 | |
| 13+50 | 5.2229 | 11.47 | |
| 13+55 | 5.3009 | 11.33 | |
| 14+ 0 | 5.3786 | 11.29 | |
| 14+ 5 | 5.4586 | 11.61 | |
| 14+10 | 5.5477 | 12.93 | |
| 14+15 | 5.6398 | 13.37 | |
| 14+20 | 5.7325 | 13.47 | |
| 14+25 | 5.8235 | 13.21 | |
| 14+30 | 5.9140 | 13.13 | |
| 14+35 | 6.0043 | 13.12 | |
| 14+40 | 6.0946 | 13.11 | |
| 14+45 | 6.1850 | 13.12 | |
| 14+50 | 6.2748 | 13.04 | |
| 14+55 | 6.3624 | 12.72 | |
| 15+ 0 | 6.4494 | 12.63 | |
| 15+ 5 | 6.5355 | 12.51 | |
| 15+10 | 6.6194 | 12.18 | |
| 15+15 | 6.7025 | 12.07 | |
| 15+20 | 6.7848 | 11.95 | |
| 15+25 | 6.8648 | 11.62 | |
| 15+30 | 6.9442 | 11.52 | |
| 15+35 | 7.0209 | 11.13 | |
| 15+40 | 7.0885 | 9.82 | |
| 15+45 | 7.1531 | 9.39 | |
| 15+50 | 7.2167 | 9.23 | |
| 15+55 | 7.2799 | 9.18 | |
| 16+ 0 | 7.3431 | 9.17 | |
| 16+ 5 | 7.3972 | 7.86 | |
| 16+10 | 7.4174 | 2.94 | |
| 16+15 | 7.4267 | 1.34 | |
| 16+20 | 7.4315 | 0.70 | |
| 16+25 | 7.4350 | 0.51 | |
| 16+30 | 7.4380 | 0.44 | |
| 16+35 | 7.4405 | 0.36 | |
| 16+40 | 7.4422 | 0.24 | |
| 16+45 | 7.4435 | 0.20 | |
| 16+50 | 7.4448 | 0.18 | |
| 16+55 | 7.4460 | 0.18 | |
| 17+ 0 | 7.4473 | 0.18 | |
| 17+ 5 | 7.4494 | 0.31 | |
| 17+10 | 7.4549 | 0.80 | |
| 17+15 | 7.4615 | 0.97 | |
| 17+20 | 7.4687 | 1.04 | |

```
17+25       7.4761      1.07  | Q       |         |         V|
17+30       7.4835      1.09  | Q       |         |         V|
17+35       7.4911      1.10  | Q       |         |         V|
17+40       7.4987      1.11  | Q       |         |         V|
17+45       7.5064      1.12  | Q       |         |         V|
17+50       7.5136      1.04  | Q       |         |         V|
17+55       7.5186      0.72  |Q        |         |         V|
18+ 0       7.5229      0.62  |Q        |         |         V|
18+ 5       7.5269      0.59  |Q        |         |         V|
18+10       7.5309      0.58  |Q        |         |         V|
18+15       7.5350      0.59  |Q        |         |         V|
18+20       7.5390      0.59  |Q        |         |         V|
18+25       7.5432      0.60  |Q        |         |         V|
18+30       7.5474      0.61  |Q        |         |         V|
18+35       7.5512      0.55  |Q        |         |         V|
18+40       7.5533      0.31  Q         |         |         V|
18+45       7.5548      0.23  Q         |         |         V|
18+50       7.5561      0.18  Q         |         |         V|
18+55       7.5571      0.14  Q         |         |         V|
19+ 0       7.5579      0.13  Q         |         |         V|
19+ 5       7.5588      0.13  Q         |         |         V|
19+10       7.5599      0.16  Q         |         |         V|
19+15       7.5611      0.17  Q         |         |         V|
19+20       7.5628      0.25  Q         |         |         V|
19+25       7.5666      0.55  |Q        |         |         V|
19+30       7.5711      0.65  |Q        |         |         V|
19+35       7.5753      0.61  |Q        |         |         V|
19+40       7.5775      0.33  Q         |         |         V|
19+45       7.5791      0.23  Q         |         |         V|
19+50       7.5804      0.19  Q         |         |         V|
19+55       7.5814      0.14  Q         |         |         V|
20+ 0       7.5823      0.13  Q         |         |         V|
20+ 5       7.5832      0.13  Q         |         |         V|
20+10       7.5843      0.16  Q         |         |         V|
20+15       7.5855      0.18  Q         |         |         V|
20+20       7.5868      0.19  Q         |         |         V|
20+25       7.5882      0.20  Q         |         |         V|
20+30       7.5896      0.20  Q         |         |         V|
20+35       7.5910      0.21  Q         |         |         V|
20+40       7.5925      0.22  Q         |         |         V|
20+45       7.5940      0.22  Q         |         |         V|
20+50       7.5955      0.21  Q         |         |         V|
20+55       7.5965      0.15  Q         |         |         V|
21+ 0       7.5974      0.13  Q         |         |         V|
21+ 5       7.5984      0.14  Q         |         |         V|
21+10       7.5999      0.22  Q         |         |         V|
21+15       7.6016      0.25  Q         |         |         V|
21+20       7.6032      0.24  Q         |         |         V|
21+25       7.6043      0.16  Q         |         |         V|
21+30       7.6053      0.13  Q         |         |         V|
21+35       7.6063      0.15  Q         |         |         V|
21+40       7.6080      0.24  Q         |         |         V|
21+45       7.6099      0.28  Q         |         |         V|
21+50       7.6117      0.26  Q         |         |         V|
21+55       7.6128      0.17  Q         |         |         V|
22+ 0       7.6138      0.14  Q         |         |         V|
22+ 5       7.6148      0.15  Q         |         |         V|
22+10       7.6167      0.26  Q         |         |         V|
22+15       7.6188      0.30  Q         |         |         V|
22+20       7.6207      0.29  Q         |         |         V|
22+25       7.6220      0.18  Q         |         |         V|
22+30       7.6229      0.14  Q         |         |         V|
22+35       7.6238      0.13  Q         |         |         V|
22+40       7.6246      0.12  Q         |         |         V|
22+45       7.6254      0.12  Q         |         |         V|
22+50       7.6263      0.12  Q         |         |         V|
22+55       7.6271      0.12  Q         |         |         V|
23+ 0       7.6279      0.12  Q         |         |         V|
23+ 5       7.6287      0.12  Q         |         |         V|
23+10       7.6295      0.12  Q         |         |         V|
23+15       7.6303      0.12  Q         |         |         V|
23+20       7.6311      0.12  Q         |         |         V|
23+25       7.6319      0.12  Q         |         |         V|
23+30       7.6327      0.12  Q         |         |         V|
23+35       7.6336      0.12  Q         |         |         V|
23+40       7.6344      0.12  Q         |         |         V|
23+45       7.6352      0.12  Q         |         |         V|
23+50       7.6360      0.12  Q         |         |         V|
```

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   23+55       7.6368      0.12  Q          |          |          |        V|
   24+ 0       7.6376      0.12  Q          |          |          |        V|
   24+ 5       7.6383      0.10  Q          |          |          |        V|
   24+10       7.6385      0.03  Q          |          |          |        V|
   24+15       7.6386      0.01  Q          |          |          |        V|
   24+20       7.6387      0.00  Q          |          |          |        V|
   24+25       7.6387      0.00  Q          |          |          |        V|
   24+30       7.6387      0.00  Q          |          |          |        V|
-------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/19/17 File: EX31100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 3
100-YEAR STORM EVENT
BY: JDN, DATE: 12-19-17

---

Drainage Area = 6.40(Ac.) = 0.010 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 6.40(Ac.) = 0.010 Sq. Mi.
Length along longest watercourse = 991.00(Ft.)
Length along longest watercourse measured to centroid = 436.00(Ft.)
Length along longest watercourse = 0.188 Mi.
Length along longest watercourse measured to centroid = 0.083 Mi.
Difference in elevation = 142.00(Ft.)
Slope along watercourse = 756.5691 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.049 Hr.
Lag time = 2.94 Min.
25% of lag time = 0.73 Min.
40% of lag time = 1.17 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.40 | 0.50 | 3.20 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.40 | 1.20 | 7.68 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 6.400 | 83.81 | 0.000 |

Total Area Entered = 6.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.8 | 93.3 | 0.087 | 0.000 | 0.087 | 1.000 | 0.087 |
| | | | | | Sum (F) = | 0.087 |

Area averaged mean soil loss (F) (In/Hr) = 0.087

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 170.298 | 35.761 | 2.307 |
| 2 0.167 | 340.596 | 52.705 | 3.399 |
| 3 0.250 | 510.894 | 9.510 | 0.613 |
| 4 0.333 | 681.192 | 1.618 | 0.104 |
| 5 0.417 | 851.490 | 0.406 | 0.026 |
| | Sum = | 100.000 Sum= | 6.450 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 4.20 | 0.605 | 0.087 | ( 0.544) | 0.517 |
| 2 0.17 | 4.30 | 0.619 | 0.087 | ( 0.557) | 0.532 |
| 3 0.25 | 5.00 | 0.720 | 0.087 | ( 0.648) | 0.633 |
| 4 0.33 | 5.00 | 0.720 | 0.087 | ( 0.648) | 0.633 |
| 5 0.42 | 5.80 | 0.835 | 0.087 | ( 0.752) | 0.748 |
| 6 0.50 | 6.50 | 0.936 | 0.087 | ( 0.842) | 0.849 |
| 7 0.58 | 7.40 | 1.066 | 0.087 | ( 0.959) | 0.978 |
| 8 0.67 | 8.60 | 1.238 | 0.087 | ( 1.114) | 1.151 |
| 9 0.75 | 12.30 | 1.771 | 0.087 | ( 1.594) | 1.684 |
| 10 0.83 | 29.10 | 4.190 | 0.087 | ( 3.771) | 4.103 |
| 11 0.92 | 6.80 | 0.979 | 0.087 | ( 0.881) | 0.892 |
| 12 1.00 | 5.00 | 0.720 | 0.087 | ( 0.648) | 0.633 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 13.4 |

Flood volume = Effective rainfall 1.11(In)
times area 6.4(Ac.)/[(In)/(Ft.)] = 0.6(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.047(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 25849.0 Cubic Feet
Total soil loss = 2027.7 Cubic Feet

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Peak flow rate of this hydrograph = 17.192(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 5.0 | 10.0 | 15.0 | 20.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0082 | 1.19 | V Q | \| | \| | \| | \| |
| 0+10 | 0.0288 | 2.99 | \|V Q | \| | \| | \| | \| |
| 0+15 | 0.0535 | 3.59 | \| V Q | \| | \| | \| | \| |
| 0+20 | 0.0810 | 3.99 | \| V Q | \| | \| | \| | \| |
| 0+25 | 0.1109 | 4.34 | \| VQ | \| | \| | \| | \| |
| 0+30 | 0.1451 | 4.97 | \| Q | \| | \| | \| | \| |
| 0+35 | 0.1842 | 5.69 | \| QV | \| | \| | \| | \| |
| 0+40 | 0.2297 | 6.60 | \| Q V | \| | \| | \| | \| |
| 0+45 | 0.2883 | 8.51 | \| Q V | \| | \| | \| | \| |
| 0+50 | 0.3987 | 16.03 | \| V | \| | \| | \| | \| |
| 0+55 | 0.5171 | 17.19 | \| Q | \| | \| | \| | \| |
| 1+ 0 | 0.5668 | 7.22 | \| Q | \| | \| | \| | \| V |
| 1+ 5 | 0.5886 | 3.17 | \| Q | \| | \| | \| | \| V |
| 1+10 | 0.5927 | 0.59 | \|Q | \| | \| | \| | \| V |
| 1+15 | 0.5933 | 0.09 | Q | \| | \| | \| | \| V |
| 1+20 | 0.5934 | 0.02 | Q | \| | \| | \| | \| V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/19/17 File: EX33100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 3
100-YEAR STORM EVENT
BY: JDN, DATE: 12-19-17

---

Drainage Area = 6.40(Ac.) = 0.010 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 6.40(Ac.) = 0.010 Sq. Mi.
Length along longest watercourse = 991.00(Ft.)
Length along longest watercourse measured to centroid = 436.00(Ft.)
Length along longest watercourse = 0.188 Mi.
Length along longest watercourse measured to centroid = 0.083 Mi.
Difference in elevation = 142.00(Ft.)
Slope along watercourse = 756.5691 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.049 Hr.
Lag time = 2.94 Min.
25% of lag time = 0.73 Min.
40% of lag time = 1.17 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.40 | 0.81 | 5.18 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.40 | 1.81 | 11.58 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.810(In)
Area Averaged 100-Year Rainfall = 1.810(In)

Point rain (area averaged) = 1.810(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.810(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 6.400 | 83.81 | 0.000 |

Total Area Entered = 6.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.8 | 93.3 | 0.087 | 0.000 | 0.087 | 1.000 | 0.087 |
| | | | | | Sum (F) = | 0.087 |

Area averaged mean soil loss (F) (In/Hr) = 0.087

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 170.298 | 35.761 | 2.307 |
| 2 | 0.167 | 340.596 | 52.705 | 3.399 |
| 3 | 0.250 | 510.894 | 9.510 | 0.613 |
| 4 | 0.333 | 681.192 | 1.618 | 0.104 |
| 5 | 0.417 | 851.490 | 0.406 | 0.026 |
| | | | Sum = 100.000 | Sum= 6.450 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.282 | 0.087 | ( 0.254) | 0.195 |
| 2 | 0.17 | 1.30 | 0.282 | 0.087 | ( 0.254) | 0.195 |
| 3 | 0.25 | 1.10 | 0.239 | 0.087 | ( 0.215) | 0.152 |
| 4 | 0.33 | 1.50 | 0.326 | 0.087 | ( 0.293) | 0.239 |
| 5 | 0.42 | 1.50 | 0.326 | 0.087 | ( 0.293) | 0.239 |
| 6 | 0.50 | 1.80 | 0.391 | 0.087 | ( 0.352) | 0.304 |
| 7 | 0.58 | 1.50 | 0.326 | 0.087 | ( 0.293) | 0.239 |
| 8 | 0.67 | 1.80 | 0.391 | 0.087 | ( 0.352) | 0.304 |
| 9 | 0.75 | 1.80 | 0.391 | 0.087 | ( 0.352) | 0.304 |
| 10 | 0.83 | 1.50 | 0.326 | 0.087 | ( 0.293) | 0.239 |
| 11 | 0.92 | 1.60 | 0.348 | 0.087 | ( 0.313) | 0.260 |
| 12 | 1.00 | 1.80 | 0.391 | 0.087 | ( 0.352) | 0.304 |
| 13 | 1.08 | 2.20 | 0.478 | 0.087 | ( 0.430) | 0.391 |
| 14 | 1.17 | 2.20 | 0.478 | 0.087 | ( 0.430) | 0.391 |
| 15 | 1.25 | 2.20 | 0.478 | 0.087 | ( 0.430) | 0.391 |
| 16 | 1.33 | 2.00 | 0.434 | 0.087 | ( 0.391) | 0.347 |
| 17 | 1.42 | 2.60 | 0.565 | 0.087 | ( 0.508) | 0.477 |
| 18 | 1.50 | 2.70 | 0.586 | 0.087 | ( 0.528) | 0.499 |
| 19 | 1.58 | 2.40 | 0.521 | 0.087 | ( 0.469) | 0.434 |
| 20 | 1.67 | 2.70 | 0.586 | 0.087 | ( 0.528) | 0.499 |
| 21 | 1.75 | 3.30 | 0.717 | 0.087 | ( 0.645) | 0.629 |
| 22 | 1.83 | 3.10 | 0.673 | 0.087 | ( 0.606) | 0.586 |
| 23 | 1.92 | 2.90 | 0.630 | 0.087 | ( 0.567) | 0.543 |
| 24 | 2.00 | 3.00 | 0.652 | 0.087 | ( 0.586) | 0.564 |
| 25 | 2.08 | 3.10 | 0.673 | 0.087 | ( 0.606) | 0.586 |
| 26 | 2.17 | 4.20 | 0.912 | 0.087 | ( 0.821) | 0.825 |
| 27 | 2.25 | 5.00 | 1.086 | 0.087 | ( 0.977) | 0.999 |
| 28 | 2.33 | 3.50 | 0.760 | 0.087 | ( 0.684) | 0.673 |
| 29 | 2.42 | 6.80 | 1.477 | 0.087 | ( 1.329) | 1.390 |
| 30 | 2.50 | 7.30 | 1.586 | 0.087 | ( 1.427) | 1.498 |
| 31 | 2.58 | 8.20 | 1.781 | 0.087 | ( 1.603) | 1.694 |
| 32 | 2.67 | 5.90 | 1.281 | 0.087 | ( 1.153) | 1.194 |
| 33 | 2.75 | 2.00 | 0.434 | 0.087 | ( 0.391) | 0.347 |
| 34 | 2.83 | 1.80 | 0.391 | 0.087 | ( 0.352) | 0.304 |
| 35 | 2.92 | 1.80 | 0.391 | 0.087 | ( 0.352) | 0.304 |
| 36 | 3.00 | 0.60 | 0.130 | 0.087 | ( 0.117) | 0.043 |
| | | (Loss Rate Not Used) | | | |
| Sum = | | 100.0 | | | Sum = 18.6 |

Flood volume = Effective rainfall 1.55(In)
times area 6.4(Ac.)/[(In)/(Ft.)] = 0.8(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.140(Ac.Ft)
Total rainfall = 1.81(In)
Flood volume = 35965.5 Cubic Feet
Total soil loss = 6083.2 Cubic Feet

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Peak flow rate of this hydrograph = 9.954(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 2.5 5.0 7.5 10.0 |
|---|---|---|---|
| 0+ 5 | 0.0031 | 0.45 | VQ |
| 0+10 | 0.0108 | 1.11 | V Q |
| 0+15 | 0.0186 | 1.13 | V Q |
| 0+20 | 0.0269 | 1.21 | V Q |
| 0+25 | 0.0371 | 1.48 | V Q |
| 0+30 | 0.0486 | 1.68 | V Q |
| 0+35 | 0.0608 | 1.76 | V Q |
| 0+40 | 0.0727 | 1.73 | V Q |
| 0+45 | 0.0859 | 1.92 | V Q |
| 0+50 | 0.0983 | 1.80 | V Q |
| 0+55 | 0.1096 | 1.64 | VQ |
| 1+ 0 | 0.1218 | 1.77 | V Q |
| 1+ 5 | 0.1364 | 2.13 | V Q |
| 1+10 | 0.1533 | 2.45 | V Q |
| 1+15 | 0.1705 | 2.51 | V Q |
| 1+20 | 0.1872 | 2.42 | Q |
| 1+25 | 0.2049 | 2.57 | VQ |
| 1+30 | 0.2259 | 3.04 | V Q |
| 1+35 | 0.2468 | 3.04 | VQ |
| 1+40 | 0.2674 | 2.99 | QV |
| 1+45 | 0.2914 | 3.48 | QV |
| 1+50 | 0.3179 | 3.86 | Q |
| 1+55 | 0.3434 | 3.70 | Q V |
| 2+ 0 | 0.3681 | 3.59 | Q V |
| 2+ 5 | 0.3934 | 3.68 | Q V |
| 2+10 | 0.4232 | 4.32 | Q V |
| 2+15 | 0.4613 | 5.54 | Q |
| 2+20 | 0.4994 | 5.53 | Q V |
| 2+25 | 0.5422 | 6.21 | Q V |
| 2+30 | 0.6023 | 8.72 | V Q |
| 2+35 | 0.6708 | 9.95 | V Q |
| 2+40 | 0.7369 | 9.60 | V Q |
| 2+45 | 0.7789 | 6.09 | Q V |
| 2+50 | 0.7984 | 2.83 | Q V |
| 2+55 | 0.8130 | 2.12 | Q V |
| 3+ 0 | 0.8225 | 1.39 | Q V |
| 3+ 5 | 0.8251 | 0.37 | Q V |
| 3+10 | 0.8256 | 0.07 | Q V |
| 3+15 | 0.8256 | 0.01 | Q V |
| 3+20 | 0.8257 | 0.00 | Q V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/19/17 File: EX36100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 3
100-YEAR STORM EVENT
BY: JDN, DATE: 12-19-17

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Drainage Area = 6.40(Ac.) = 0.010 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 6.40(Ac.) = 0.010 Sq. Mi.
Length along longest watercourse = 991.00(Ft.)
Length along longest watercourse measured to centroid = 436.00(Ft.)
Length along longest watercourse = 0.188 Mi.
Length along longest watercourse measured to centroid = 0.083 Mi.
Difference in elevation = 142.00(Ft.)
Slope along watercourse = 756.5691 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.049 Hr.
Lag time = 2.94 Min.
25% of lag time = 0.73 Min.
40% of lag time = 1.17 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.40 | 1.14 | 7.30 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.40 | 2.50 | 16.00 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.140(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 6.400 | 83.81 | 0.000 |

Total Area Entered = 6.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.8 | 93.3 | 0.087 | 0.000 | 0.087 | 1.000 | 0.087 |
| | | | | | Sum (F) = | 0.087 |

Area averaged mean soil loss (F) (In/Hr) = 0.087

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 170.298 | 35.761 | 2.307 |
| 2 | 0.167 | 340.596 | 52.705 | 3.399 |
| 3 | 0.250 | 510.894 | 9.510 | 0.613 |
| 4 | 0.333 | 681.192 | 1.618 | 0.104 |
| 5 | 0.417 | 851.490 | 0.406 | 0.026 |
| | | | Sum = 100.000 Sum= | 6.450 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.087 | ( 0.135) | 0.063 |
| 2 | 0.17 | 0.60 | 0.180 | 0.087 | ( 0.162) | 0.093 |
| 3 | 0.25 | 0.60 | 0.180 | 0.087 | ( 0.162) | 0.093 |
| 4 | 0.33 | 0.60 | 0.180 | 0.087 | ( 0.162) | 0.093 |
| 5 | 0.42 | 0.60 | 0.180 | 0.087 | ( 0.162) | 0.093 |
| 6 | 0.50 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 7 | 0.58 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 8 | 0.67 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 9 | 0.75 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 10 | 0.83 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 11 | 0.92 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 12 | 1.00 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 13 | 1.08 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 14 | 1.17 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 15 | 1.25 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 16 | 1.33 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 17 | 1.42 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 18 | 1.50 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 19 | 1.58 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 20 | 1.67 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 21 | 1.75 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 22 | 1.83 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 23 | 1.92 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 24 | 2.00 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 25 | 2.08 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 26 | 2.17 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 27 | 2.25 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 28 | 2.33 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 29 | 2.42 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 30 | 2.50 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 31 | 2.58 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 32 | 2.67 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 33 | 2.75 | 1.00 | 0.300 | 0.087 | ( 0.270) | 0.213 |
| 34 | 2.83 | 1.00 | 0.300 | 0.087 | ( 0.270) | 0.213 |
| 35 | 2.92 | 1.00 | 0.300 | 0.087 | ( 0.270) | 0.213 |
| 36 | 3.00 | 1.00 | 0.300 | 0.087 | ( 0.270) | 0.213 |
| 37 | 3.08 | 1.00 | 0.300 | 0.087 | ( 0.270) | 0.213 |
| 38 | 3.17 | 1.10 | 0.330 | 0.087 | ( 0.297) | 0.243 |
| 39 | 3.25 | 1.10 | 0.330 | 0.087 | ( 0.297) | 0.243 |
| 40 | 3.33 | 1.10 | 0.330 | 0.087 | ( 0.297) | 0.243 |
| 41 | 3.42 | 1.20 | 0.360 | 0.087 | ( 0.324) | 0.273 |
| 42 | 3.50 | 1.30 | 0.390 | 0.087 | ( 0.351) | 0.303 |
| 43 | 3.58 | 1.40 | 0.420 | 0.087 | ( 0.378) | 0.333 |
| 44 | 3.67 | 1.40 | 0.420 | 0.087 | ( 0.378) | 0.333 |
| 45 | 3.75 | 1.50 | 0.450 | 0.087 | ( 0.405) | 0.363 |
| 46 | 3.83 | 1.50 | 0.450 | 0.087 | ( 0.405) | 0.363 |
| 47 | 3.92 | 1.60 | 0.480 | 0.087 | ( 0.432) | 0.393 |
| 48 | 4.00 | 1.60 | 0.480 | 0.087 | ( 0.432) | 0.393 |
| 49 | 4.08 | 1.70 | 0.510 | 0.087 | ( 0.459) | 0.423 |
| 50 | 4.17 | 1.80 | 0.540 | 0.087 | ( 0.486) | 0.453 |
| 51 | 4.25 | 1.90 | 0.570 | 0.087 | ( 0.513) | 0.483 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 52 | 4.33 | 2.00 | 0.600 | 0.087 | ( 0.540) | 0.513 | |
| 53 | 4.42 | 2.10 | 0.630 | 0.087 | ( 0.567) | 0.543 | |
| 54 | 4.50 | 2.10 | 0.630 | 0.087 | ( 0.567) | 0.543 | |
| 55 | 4.58 | 2.20 | 0.660 | 0.087 | ( 0.594) | 0.573 | |
| 56 | 4.67 | 2.30 | 0.690 | 0.087 | ( 0.621) | 0.603 | |
| 57 | 4.75 | 2.40 | 0.720 | 0.087 | ( 0.648) | 0.633 | |
| 58 | 4.83 | 2.40 | 0.720 | 0.087 | ( 0.648) | 0.633 | |
| 59 | 4.92 | 2.50 | 0.750 | 0.087 | ( 0.675) | 0.663 | |
| 60 | 5.00 | 2.60 | 0.780 | 0.087 | ( 0.702) | 0.693 | |
| 61 | 5.08 | 3.10 | 0.930 | 0.087 | ( 0.837) | 0.843 | |
| 62 | 5.17 | 3.60 | 1.080 | 0.087 | ( 0.972) | 0.993 | |
| 63 | 5.25 | 3.90 | 1.170 | 0.087 | ( 1.053) | 1.083 | |
| 64 | 5.33 | 4.20 | 1.260 | 0.087 | ( 1.134) | 1.173 | |
| 65 | 5.42 | 4.70 | 1.410 | 0.087 | ( 1.269) | 1.323 | |
| 66 | 5.50 | 5.60 | 1.680 | 0.087 | ( 1.512) | 1.593 | |
| 67 | 5.58 | 1.90 | 0.570 | 0.087 | ( 0.513) | 0.483 | |
| 68 | 5.67 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 | |
| 69 | 5.75 | 0.60 | 0.180 | 0.087 | ( 0.162) | 0.093 | |
| 70 | 5.83 | 0.50 | 0.150 | 0.087 | ( 0.135) | 0.063 | |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.087) | 0.081 | 0.009 | |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.087) | 0.054 | 0.006 | |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.8

Flood volume = Effective rainfall 1.98(In)
times area 6.4(Ac.)/[(In)/(Ft.)] = 1.1(Ac.Ft)
Total soil loss = 0.52(In)
Total soil loss = 0.278(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 45988.9 Cubic Feet
Total soil loss = 12089.8 Cubic Feet

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Peak flow rate of this hydrograph = 9.033(CFS)

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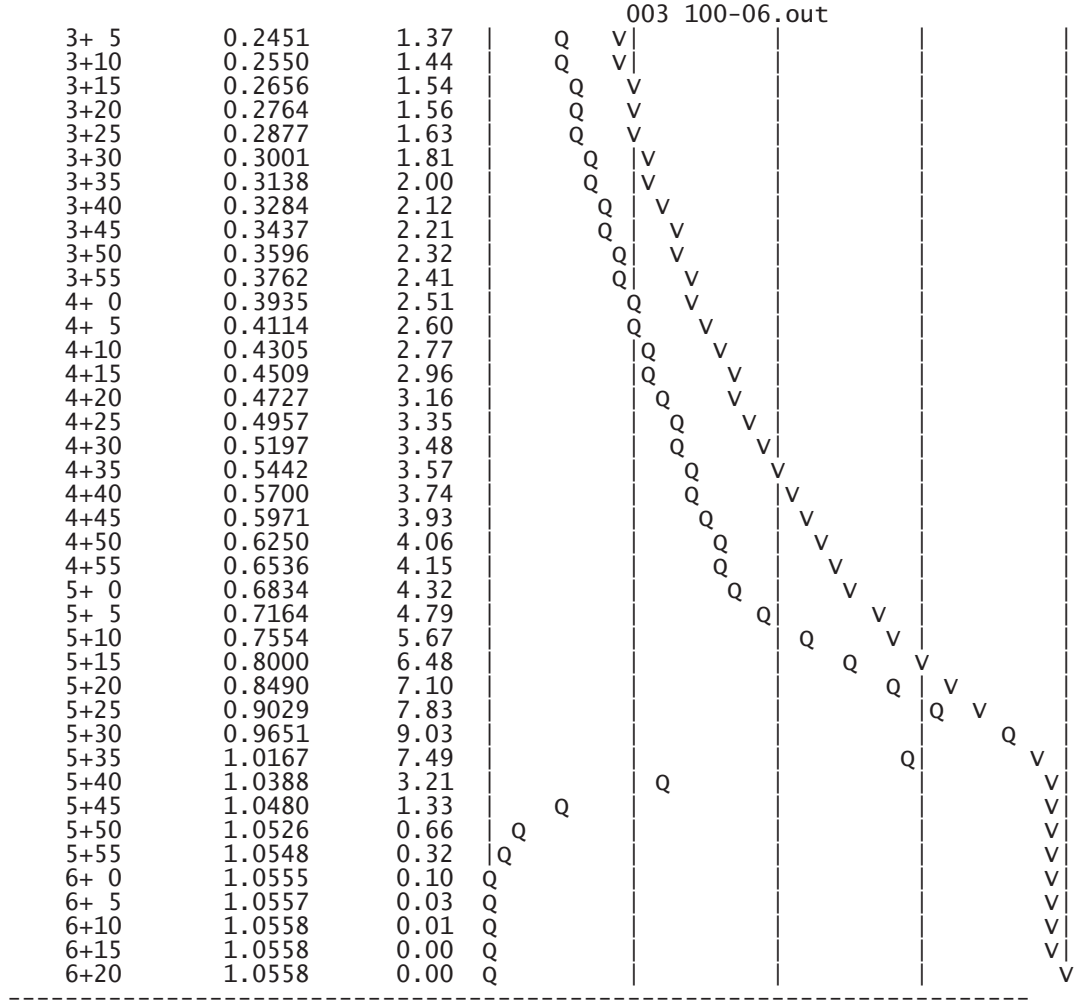
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0010 | 0.14 | Q | | | | |
| 0+10 | 0.0039 | 0.43 | VQ | | | | |
| 0+15 | 0.0078 | 0.57 | V Q | | | | |
| 0+20 | 0.0119 | 0.59 | V Q | | | | |
| 0+25 | 0.0160 | 0.60 | V Q | | | | |
| 0+30 | 0.0206 | 0.67 | V Q | | | | |
| 0+35 | 0.0259 | 0.77 | V Q | | | | |
| 0+40 | 0.0314 | 0.79 | \|V Q | | | | |
| 0+45 | 0.0368 | 0.79 | \|V Q | | | | |
| 0+50 | 0.0423 | 0.79 | \|V Q | | | | |
| 0+55 | 0.0477 | 0.79 | \|V Q | | | | |
| 1+ 0 | 0.0537 | 0.86 | \| VQ | | | | |
| 1+ 5 | 0.0603 | 0.96 | \| VQ | | | | |
| 1+10 | 0.0671 | 0.98 | \| VQ | | | | |
| 1+15 | 0.0738 | 0.98 | \| VQ | | | | |
| 1+20 | 0.0806 | 0.99 | \| Q | | | | |
| 1+25 | 0.0874 | 0.99 | \| Q | | | | |
| 1+30 | 0.0942 | 0.99 | \| Q | | | | |
| 1+35 | 0.1010 | 0.99 | \| Q | | | | |
| 1+40 | 0.1078 | 0.99 | \| QV | | | | |
| 1+45 | 0.1146 | 0.99 | \| QV | | | | |
| 1+50 | 0.1213 | 0.99 | \| QV | | | | |
| 1+55 | 0.1281 | 0.99 | \| QV | | | | |
| 2+ 0 | 0.1354 | 1.05 | \| QV | | | | |
| 2+ 5 | 0.1429 | 1.09 | \| QV | | | | |
| 2+10 | 0.1503 | 1.07 | \| QV | | | | |
| 2+15 | 0.1583 | 1.16 | \| QV | | | | |
| 2+20 | 0.1664 | 1.18 | \| Q V | | | | |
| 2+25 | 0.1745 | 1.18 | \| Q V | | | | |
| 2+30 | 0.1826 | 1.18 | \| Q V | | | | |
| 2+35 | 0.1907 | 1.18 | \| Q V | | | | |
| 2+40 | 0.1988 | 1.18 | \| Q V | | | | |
| 2+45 | 0.2074 | 1.25 | \| Q V | | | | |
| 2+50 | 0.2167 | 1.35 | \| Q V | | | | |
| 2+55 | 0.2262 | 1.37 | \| Q V | | | | |
| 3+ 0 | 0.2356 | 1.37 | \| Q V | | | | |



| | | | |
|---|---|---|---|
| 3+ 5 | 0.2451 | 1.37 | |
| 3+10 | 0.2550 | 1.44 | |
| 3+15 | 0.2656 | 1.54 | |
| 3+20 | 0.2764 | 1.56 | |
| 3+25 | 0.2877 | 1.63 | |
| 3+30 | 0.3001 | 1.81 | |
| 3+35 | 0.3138 | 2.00 | |
| 3+40 | 0.3284 | 2.12 | |
| 3+45 | 0.3437 | 2.21 | |
| 3+50 | 0.3596 | 2.32 | |
| 3+55 | 0.3762 | 2.41 | |
| 4+ 0 | 0.3935 | 2.51 | |
| 4+ 5 | 0.4114 | 2.60 | |
| 4+10 | 0.4305 | 2.77 | |
| 4+15 | 0.4509 | 2.96 | |
| 4+20 | 0.4727 | 3.16 | |
| 4+25 | 0.4957 | 3.35 | |
| 4+30 | 0.5197 | 3.48 | |
| 4+35 | 0.5442 | 3.57 | |
| 4+40 | 0.5700 | 3.74 | |
| 4+45 | 0.5971 | 3.93 | |
| 4+50 | 0.6250 | 4.06 | |
| 4+55 | 0.6536 | 4.15 | |
| 5+ 0 | 0.6834 | 4.32 | |
| 5+ 5 | 0.7164 | 4.79 | |
| 5+10 | 0.7554 | 5.67 | |
| 5+15 | 0.8000 | 6.48 | |
| 5+20 | 0.8490 | 7.10 | |
| 5+25 | 0.9029 | 7.83 | |
| 5+30 | 0.9651 | 9.03 | |
| 5+35 | 1.0167 | 7.49 | |
| 5+40 | 1.0388 | 3.21 | |
| 5+45 | 1.0480 | 1.33 | |
| 5+50 | 1.0526 | 0.66 | |
| 5+55 | 1.0548 | 0.32 | |
| 6+ 0 | 1.0555 | 0.10 | |
| 6+ 5 | 1.0557 | 0.03 | |
| 6+10 | 1.0558 | 0.01 | |
| 6+15 | 1.0558 | 0.00 | |
| 6+20 | 1.0558 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/19/17 File: EX324100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 3
100-YEAR STORM EVENT
BY: JDN, DATE: 12-19-17

---

Drainage Area = 6.40(Ac.) = 0.010 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 6.40(Ac.) = 0.010 Sq. Mi.
Length along longest watercourse = 991.00(Ft.)
Length along longest watercourse measured to centroid = 436.00(Ft.)
Length along longest watercourse = 0.188 Mi.
Length along longest watercourse measured to centroid = 0.083 Mi.
Difference in elevation = 142.00(Ft.)
Slope along watercourse = 756.5691 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.049 Hr.
Lag time = 2.94 Min.
25% of lag time = 0.73 Min.
40% of lag time = 1.17 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.40 | 1.80 | 11.52 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.40 | 4.66 | 29.82 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.660(In)

Point rain (area averaged) = 4.660(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.660(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 6.400 | 83.81 | 0.000 |

Total Area Entered = 6.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.8 | 93.3 | 0.087 | 0.000 | 0.087 | 1.000 | 0.087 |
| | | | | | Sum (F) = | 0.087 |

Area averaged mean soil loss (F) (In/Hr) = 0.087

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 170.298 | 35.761 | 2.307 |
| 2 | 0.167 | 340.596 | 52.705 | 3.399 |
| 3 | 0.250 | 510.894 | 9.510 | 0.613 |
| 4 | 0.333 | 681.192 | 1.618 | 0.104 |
| 5 | 0.417 | 851.490 | 0.406 | 0.026 |
| | | | Sum = 100.000 | Sum= 6.450 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.037 | ( 0.155) | 0.034 | 0.004 |
| 2 | 0.17 | 0.07 | 0.037 | ( 0.154) | 0.034 | 0.004 |
| 3 | 0.25 | 0.07 | 0.037 | ( 0.154) | 0.034 | 0.004 |
| 4 | 0.33 | 0.10 | 0.056 | ( 0.153) | 0.050 | 0.006 |
| 5 | 0.42 | 0.10 | 0.056 | ( 0.152) | 0.050 | 0.006 |
| 6 | 0.50 | 0.10 | 0.056 | ( 0.152) | 0.050 | 0.006 |
| 7 | 0.58 | 0.10 | 0.056 | ( 0.151) | 0.050 | 0.006 |
| 8 | 0.67 | 0.10 | 0.056 | ( 0.151) | 0.050 | 0.006 |
| 9 | 0.75 | 0.10 | 0.056 | ( 0.150) | 0.050 | 0.006 |
| 10 | 0.83 | 0.13 | 0.075 | ( 0.149) | 0.067 | 0.007 |
| 11 | 0.92 | 0.13 | 0.075 | ( 0.149) | 0.067 | 0.007 |
| 12 | 1.00 | 0.13 | 0.075 | ( 0.148) | 0.067 | 0.007 |
| 13 | 1.08 | 0.10 | 0.056 | ( 0.148) | 0.050 | 0.006 |
| 14 | 1.17 | 0.10 | 0.056 | ( 0.147) | 0.050 | 0.006 |
| 15 | 1.25 | 0.10 | 0.056 | ( 0.146) | 0.050 | 0.006 |
| 16 | 1.33 | 0.10 | 0.056 | ( 0.146) | 0.050 | 0.006 |
| 17 | 1.42 | 0.10 | 0.056 | ( 0.145) | 0.050 | 0.006 |
| 18 | 1.50 | 0.10 | 0.056 | ( 0.145) | 0.050 | 0.006 |
| 19 | 1.58 | 0.10 | 0.056 | ( 0.144) | 0.050 | 0.006 |
| 20 | 1.67 | 0.10 | 0.056 | ( 0.144) | 0.050 | 0.006 |
| 21 | 1.75 | 0.10 | 0.056 | ( 0.143) | 0.050 | 0.006 |
| 22 | 1.83 | 0.13 | 0.075 | ( 0.142) | 0.067 | 0.007 |
| 23 | 1.92 | 0.13 | 0.075 | ( 0.142) | 0.067 | 0.007 |
| 24 | 2.00 | 0.13 | 0.075 | ( 0.141) | 0.067 | 0.007 |
| 25 | 2.08 | 0.13 | 0.075 | ( 0.141) | 0.067 | 0.007 |
| 26 | 2.17 | 0.13 | 0.075 | ( 0.140) | 0.067 | 0.007 |
| 27 | 2.25 | 0.13 | 0.075 | ( 0.140) | 0.067 | 0.007 |
| 28 | 2.33 | 0.13 | 0.075 | ( 0.139) | 0.067 | 0.007 |
| 29 | 2.42 | 0.13 | 0.075 | ( 0.138) | 0.067 | 0.007 |
| 30 | 2.50 | 0.13 | 0.075 | ( 0.138) | 0.067 | 0.007 |
| 31 | 2.58 | 0.17 | 0.093 | ( 0.137) | 0.084 | 0.009 |
| 32 | 2.67 | 0.17 | 0.093 | ( 0.137) | 0.084 | 0.009 |
| 33 | 2.75 | 0.17 | 0.093 | ( 0.136) | 0.084 | 0.009 |
| 34 | 2.83 | 0.17 | 0.093 | ( 0.136) | 0.084 | 0.009 |
| 35 | 2.92 | 0.17 | 0.093 | ( 0.135) | 0.084 | 0.009 |
| 36 | 3.00 | 0.17 | 0.093 | ( 0.134) | 0.084 | 0.009 |
| 37 | 3.08 | 0.17 | 0.093 | ( 0.134) | 0.084 | 0.009 |
| 38 | 3.17 | 0.17 | 0.093 | ( 0.133) | 0.084 | 0.009 |
| 39 | 3.25 | 0.17 | 0.093 | ( 0.133) | 0.084 | 0.009 |
| 40 | 3.33 | 0.17 | 0.093 | ( 0.132) | 0.084 | 0.009 |
| 41 | 3.42 | 0.17 | 0.093 | ( 0.132) | 0.084 | 0.009 |
| 42 | 3.50 | 0.17 | 0.093 | ( 0.131) | 0.084 | 0.009 |
| 43 | 3.58 | 0.17 | 0.093 | ( 0.131) | 0.084 | 0.009 |
| 44 | 3.67 | 0.17 | 0.093 | ( 0.130) | 0.084 | 0.009 |
| 45 | 3.75 | 0.17 | 0.093 | ( 0.130) | 0.084 | 0.009 |
| 46 | 3.83 | 0.20 | 0.112 | ( 0.129) | 0.101 | 0.011 |
| 47 | 3.92 | 0.20 | 0.112 | ( 0.128) | 0.101 | 0.011 |
| 48 | 4.00 | 0.20 | 0.112 | ( 0.128) | 0.101 | 0.011 |
| 49 | 4.08 | 0.20 | 0.112 | ( 0.127) | 0.101 | 0.011 |
| 50 | 4.17 | 0.20 | 0.112 | ( 0.127) | 0.101 | 0.011 |
| 51 | 4.25 | 0.20 | 0.112 | ( 0.126) | 0.101 | 0.011 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 52 | 4.33 | 0.23 | 0.130 | ( | 0.126) | 0.117 | | 0.013 |
| 53 | 4.42 | 0.23 | 0.130 | ( | 0.125) | 0.117 | | 0.013 |
| 54 | 4.50 | 0.23 | 0.130 | ( | 0.125) | 0.117 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.130 | ( | 0.124) | 0.117 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.130 | ( | 0.124) | 0.117 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.130 | ( | 0.123) | 0.117 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.149 | | 0.123 | ( 0.134) | | 0.027 |
| 59 | 4.92 | 0.27 | 0.149 | | 0.122 | ( 0.134) | | 0.027 |
| 60 | 5.00 | 0.27 | 0.149 | | 0.121 | ( 0.134) | | 0.028 |
| 61 | 5.08 | 0.20 | 0.112 | ( | 0.121) | 0.101 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.112 | ( | 0.120) | 0.101 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.112 | ( | 0.120) | 0.101 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.130 | ( | 0.119) | 0.117 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.130 | ( | 0.119) | 0.117 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.130 | ( | 0.118) | 0.117 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.149 | | 0.118 | ( 0.134) | | 0.031 |
| 68 | 5.67 | 0.27 | 0.149 | | 0.117 | ( 0.134) | | 0.032 |
| 69 | 5.75 | 0.27 | 0.149 | | 0.117 | ( 0.134) | | 0.032 |
| 70 | 5.83 | 0.27 | 0.149 | | 0.116 | ( 0.134) | | 0.033 |
| 71 | 5.92 | 0.27 | 0.149 | | 0.116 | ( 0.134) | | 0.033 |
| 72 | 6.00 | 0.27 | 0.149 | | 0.115 | ( 0.134) | | 0.034 |
| 73 | 6.08 | 0.30 | 0.168 | | 0.115 | ( 0.151) | | 0.053 |
| 74 | 6.17 | 0.30 | 0.168 | | 0.114 | ( 0.151) | | 0.054 |
| 75 | 6.25 | 0.30 | 0.168 | | 0.114 | ( 0.151) | | 0.054 |
| 76 | 6.33 | 0.30 | 0.168 | | 0.113 | ( 0.151) | | 0.055 |
| 77 | 6.42 | 0.30 | 0.168 | | 0.113 | ( 0.151) | | 0.055 |
| 78 | 6.50 | 0.30 | 0.168 | | 0.112 | ( 0.151) | | 0.056 |
| 79 | 6.58 | 0.33 | 0.186 | | 0.112 | ( 0.168) | | 0.075 |
| 80 | 6.67 | 0.33 | 0.186 | | 0.111 | ( 0.168) | | 0.075 |
| 81 | 6.75 | 0.33 | 0.186 | | 0.111 | ( 0.168) | | 0.076 |
| 82 | 6.83 | 0.33 | 0.186 | | 0.110 | ( 0.168) | | 0.076 |
| 83 | 6.92 | 0.33 | 0.186 | | 0.110 | ( 0.168) | | 0.077 |
| 84 | 7.00 | 0.33 | 0.186 | | 0.109 | ( 0.168) | | 0.077 |
| 85 | 7.08 | 0.33 | 0.186 | | 0.109 | ( 0.168) | | 0.078 |
| 86 | 7.17 | 0.33 | 0.186 | | 0.108 | ( 0.168) | | 0.078 |
| 87 | 7.25 | 0.33 | 0.186 | | 0.108 | ( 0.168) | | 0.079 |
| 88 | 7.33 | 0.37 | 0.205 | | 0.107 | ( 0.185) | | 0.098 |
| 89 | 7.42 | 0.37 | 0.205 | | 0.107 | ( 0.185) | | 0.098 |
| 90 | 7.50 | 0.37 | 0.205 | | 0.106 | ( 0.185) | | 0.099 |
| 91 | 7.58 | 0.40 | 0.224 | | 0.106 | ( 0.201) | | 0.118 |
| 92 | 7.67 | 0.40 | 0.224 | | 0.105 | ( 0.201) | | 0.118 |
| 93 | 7.75 | 0.40 | 0.224 | | 0.105 | ( 0.201) | | 0.119 |
| 94 | 7.83 | 0.43 | 0.242 | | 0.104 | ( 0.218) | | 0.138 |
| 95 | 7.92 | 0.43 | 0.242 | | 0.104 | ( 0.218) | | 0.139 |
| 96 | 8.00 | 0.43 | 0.242 | | 0.103 | ( 0.218) | | 0.139 |
| 97 | 8.08 | 0.50 | 0.280 | | 0.103 | ( 0.252) | | 0.177 |
| 98 | 8.17 | 0.50 | 0.280 | | 0.102 | ( 0.252) | | 0.177 |
| 99 | 8.25 | 0.50 | 0.280 | | 0.102 | ( 0.252) | | 0.178 |
| 100 | 8.33 | 0.50 | 0.280 | | 0.101 | ( 0.252) | | 0.178 |
| 101 | 8.42 | 0.50 | 0.280 | | 0.101 | ( 0.252) | | 0.179 |
| 102 | 8.50 | 0.50 | 0.280 | | 0.100 | ( 0.252) | | 0.179 |
| 103 | 8.58 | 0.53 | 0.298 | | 0.100 | ( 0.268) | | 0.198 |
| 104 | 8.67 | 0.53 | 0.298 | | 0.099 | ( 0.268) | | 0.199 |
| 105 | 8.75 | 0.53 | 0.298 | | 0.099 | ( 0.268) | | 0.199 |
| 106 | 8.83 | 0.57 | 0.317 | | 0.099 | ( 0.285) | | 0.218 |
| 107 | 8.92 | 0.57 | 0.317 | | 0.098 | ( 0.285) | | 0.219 |
| 108 | 9.00 | 0.57 | 0.317 | | 0.098 | ( 0.285) | | 0.219 |
| 109 | 9.08 | 0.63 | 0.354 | | 0.097 | ( 0.319) | | 0.257 |
| 110 | 9.17 | 0.63 | 0.354 | | 0.097 | ( 0.319) | | 0.257 |
| 111 | 9.25 | 0.63 | 0.354 | | 0.096 | ( 0.319) | | 0.258 |
| 112 | 9.33 | 0.67 | 0.373 | | 0.096 | ( 0.336) | | 0.277 |
| 113 | 9.42 | 0.67 | 0.373 | | 0.095 | ( 0.336) | | 0.277 |
| 114 | 9.50 | 0.67 | 0.373 | | 0.095 | ( 0.336) | | 0.278 |
| 115 | 9.58 | 0.70 | 0.391 | | 0.094 | ( 0.352) | | 0.297 |
| 116 | 9.67 | 0.70 | 0.391 | | 0.094 | ( 0.352) | | 0.297 |
| 117 | 9.75 | 0.70 | 0.391 | | 0.094 | ( 0.352) | | 0.298 |
| 118 | 9.83 | 0.73 | 0.410 | | 0.093 | ( 0.369) | | 0.317 |
| 119 | 9.92 | 0.73 | 0.410 | | 0.093 | ( 0.369) | | 0.317 |
| 120 | 10.00 | 0.73 | 0.410 | | 0.092 | ( 0.369) | | 0.318 |
| 121 | 10.08 | 0.50 | 0.280 | | 0.092 | ( 0.252) | | 0.188 |
| 122 | 10.17 | 0.50 | 0.280 | | 0.091 | ( 0.252) | | 0.188 |
| 123 | 10.25 | 0.50 | 0.280 | | 0.091 | ( 0.252) | | 0.189 |
| 124 | 10.33 | 0.50 | 0.280 | | 0.090 | ( 0.252) | | 0.189 |
| 125 | 10.42 | 0.50 | 0.280 | | 0.090 | ( 0.252) | | 0.190 |
| 126 | 10.50 | 0.50 | 0.280 | | 0.090 | ( 0.252) | | 0.190 |
| 127 | 10.58 | 0.67 | 0.373 | | 0.089 | ( 0.336) | | 0.284 |
| 128 | 10.67 | 0.67 | 0.373 | | 0.089 | ( 0.336) | | 0.284 |
| 129 | 10.75 | 0.67 | 0.373 | | 0.088 | ( 0.336) | | 0.285 |

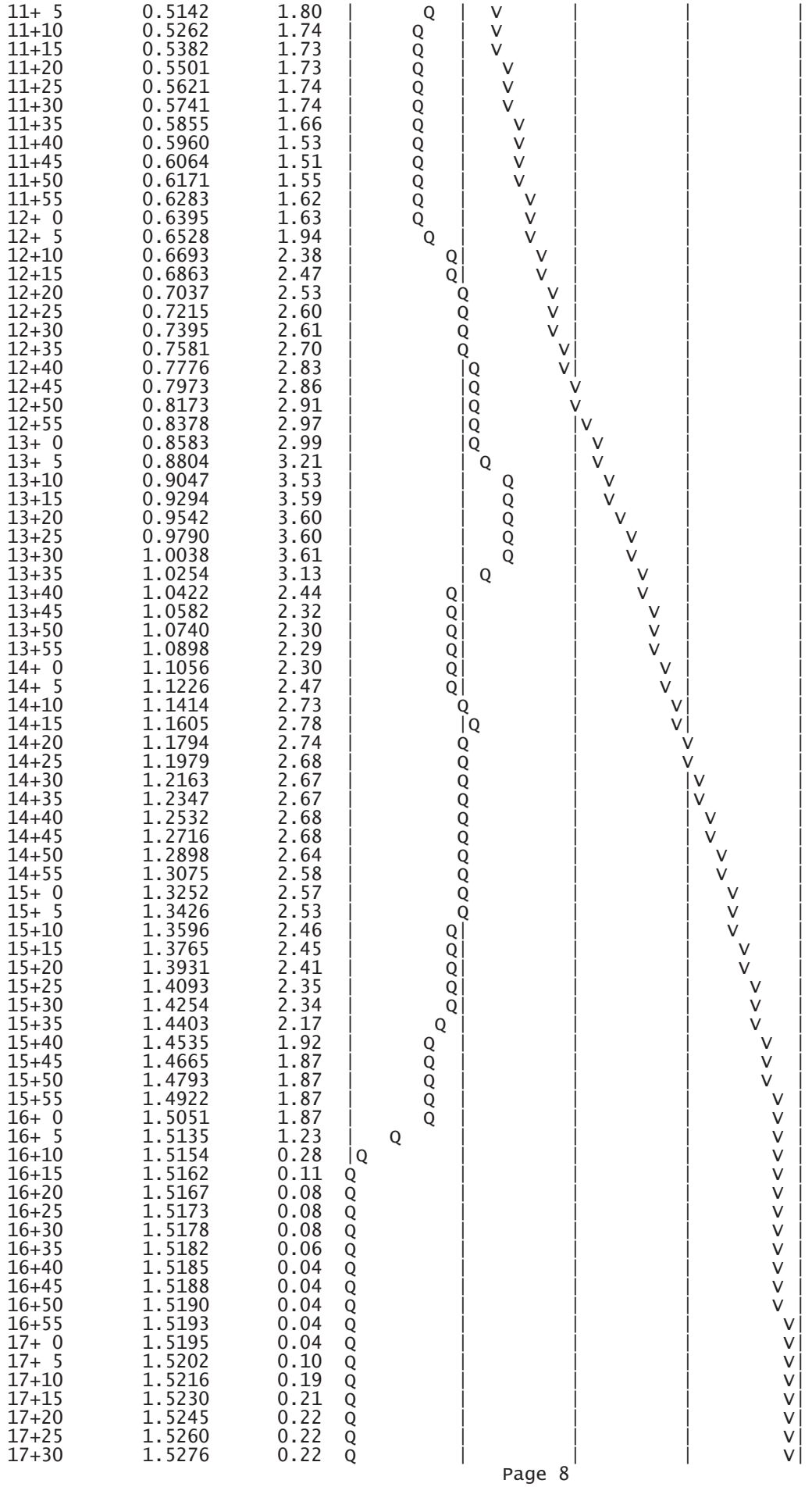
| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 130 | 10.83 | 0.67 | 0.373 | | 0.088 | ( 0.336) | | 0.285 |
| 131 | 10.92 | 0.67 | 0.373 | | 0.087 | ( 0.336) | | 0.285 |
| 132 | 11.00 | 0.67 | 0.373 | | 0.087 | ( 0.336) | | 0.286 |
| 133 | 11.08 | 0.63 | 0.354 | | 0.086 | ( 0.319) | | 0.268 |
| 134 | 11.17 | 0.63 | 0.354 | | 0.086 | ( 0.319) | | 0.268 |
| 135 | 11.25 | 0.63 | 0.354 | | 0.086 | ( 0.319) | | 0.269 |
| 136 | 11.33 | 0.63 | 0.354 | | 0.085 | ( 0.319) | | 0.269 |
| 137 | 11.42 | 0.63 | 0.354 | | 0.085 | ( 0.319) | | 0.269 |
| 138 | 11.50 | 0.63 | 0.354 | | 0.084 | ( 0.319) | | 0.270 |
| 139 | 11.58 | 0.57 | 0.317 | | 0.084 | ( 0.285) | | 0.233 |
| 140 | 11.67 | 0.57 | 0.317 | | 0.084 | ( 0.285) | | 0.233 |
| 141 | 11.75 | 0.57 | 0.317 | | 0.083 | ( 0.285) | | 0.234 |
| 142 | 11.83 | 0.60 | 0.336 | | 0.083 | ( 0.302) | | 0.253 |
| 143 | 11.92 | 0.60 | 0.336 | | 0.082 | ( 0.302) | | 0.253 |
| 144 | 12.00 | 0.60 | 0.336 | | 0.082 | ( 0.302) | | 0.254 |
| 145 | 12.08 | 0.83 | 0.466 | | 0.081 | ( 0.419) | | 0.385 |
| 146 | 12.17 | 0.83 | 0.466 | | 0.081 | ( 0.419) | | 0.385 |
| 147 | 12.25 | 0.83 | 0.466 | | 0.081 | ( 0.419) | | 0.385 |
| 148 | 12.33 | 0.87 | 0.485 | | 0.080 | ( 0.436) | | 0.404 |
| 149 | 12.42 | 0.87 | 0.485 | | 0.080 | ( 0.436) | | 0.405 |
| 150 | 12.50 | 0.87 | 0.485 | | 0.079 | ( 0.436) | | 0.405 |
| 151 | 12.58 | 0.93 | 0.522 | | 0.079 | ( 0.470) | | 0.443 |
| 152 | 12.67 | 0.93 | 0.522 | | 0.079 | ( 0.470) | | 0.443 |
| 153 | 12.75 | 0.93 | 0.522 | | 0.078 | ( 0.470) | | 0.444 |
| 154 | 12.83 | 0.97 | 0.541 | | 0.078 | ( 0.486) | | 0.463 |
| 155 | 12.92 | 0.97 | 0.541 | | 0.077 | ( 0.486) | | 0.463 |
| 156 | 13.00 | 0.97 | 0.541 | | 0.077 | ( 0.486) | | 0.463 |
| 157 | 13.08 | 1.13 | 0.634 | | 0.077 | ( 0.570) | | 0.557 |
| 158 | 13.17 | 1.13 | 0.634 | | 0.076 | ( 0.570) | | 0.557 |
| 159 | 13.25 | 1.13 | 0.634 | | 0.076 | ( 0.570) | | 0.558 |
| 160 | 13.33 | 1.13 | 0.634 | | 0.076 | ( 0.570) | | 0.558 |
| 161 | 13.42 | 1.13 | 0.634 | | 0.075 | ( 0.570) | | 0.559 |
| 162 | 13.50 | 1.13 | 0.634 | | 0.075 | ( 0.570) | | 0.559 |
| 163 | 13.58 | 0.77 | 0.429 | | 0.074 | ( 0.386) | | 0.354 |
| 164 | 13.67 | 0.77 | 0.429 | | 0.074 | ( 0.386) | | 0.355 |
| 165 | 13.75 | 0.77 | 0.429 | | 0.074 | ( 0.386) | | 0.355 |
| 166 | 13.83 | 0.77 | 0.429 | | 0.073 | ( 0.386) | | 0.355 |
| 167 | 13.92 | 0.77 | 0.429 | | 0.073 | ( 0.386) | | 0.356 |
| 168 | 14.00 | 0.77 | 0.429 | | 0.073 | ( 0.386) | | 0.356 |
| 169 | 14.08 | 0.90 | 0.503 | | 0.072 | ( 0.453) | | 0.431 |
| 170 | 14.17 | 0.90 | 0.503 | | 0.072 | ( 0.453) | | 0.432 |
| 171 | 14.25 | 0.90 | 0.503 | | 0.071 | ( 0.453) | | 0.432 |
| 172 | 14.33 | 0.87 | 0.485 | | 0.071 | ( 0.436) | | 0.414 |
| 173 | 14.42 | 0.87 | 0.485 | | 0.071 | ( 0.436) | | 0.414 |
| 174 | 14.50 | 0.87 | 0.485 | | 0.070 | ( 0.436) | | 0.414 |
| 175 | 14.58 | 0.87 | 0.485 | | 0.070 | ( 0.436) | | 0.415 |
| 176 | 14.67 | 0.87 | 0.485 | | 0.070 | ( 0.436) | | 0.415 |
| 177 | 14.75 | 0.87 | 0.485 | | 0.069 | ( 0.436) | | 0.415 |
| 178 | 14.83 | 0.83 | 0.466 | | 0.069 | ( 0.419) | | 0.397 |
| 179 | 14.92 | 0.83 | 0.466 | | 0.069 | ( 0.419) | | 0.397 |
| 180 | 15.00 | 0.83 | 0.466 | | 0.068 | ( 0.419) | | 0.398 |
| 181 | 15.08 | 0.80 | 0.447 | | 0.068 | ( 0.403) | | 0.380 |
| 182 | 15.17 | 0.80 | 0.447 | | 0.067 | ( 0.403) | | 0.380 |
| 183 | 15.25 | 0.80 | 0.447 | | 0.067 | ( 0.403) | | 0.380 |
| 184 | 15.33 | 0.77 | 0.429 | | 0.067 | ( 0.386) | | 0.362 |
| 185 | 15.42 | 0.77 | 0.429 | | 0.066 | ( 0.386) | | 0.362 |
| 186 | 15.50 | 0.77 | 0.429 | | 0.066 | ( 0.386) | | 0.363 |
| 187 | 15.58 | 0.63 | 0.354 | | 0.066 | ( 0.319) | | 0.288 |
| 188 | 15.67 | 0.63 | 0.354 | | 0.065 | ( 0.319) | | 0.289 |
| 189 | 15.75 | 0.63 | 0.354 | | 0.065 | ( 0.319) | | 0.289 |
| 190 | 15.83 | 0.63 | 0.354 | | 0.065 | ( 0.319) | | 0.289 |
| 191 | 15.92 | 0.63 | 0.354 | | 0.064 | ( 0.319) | | 0.290 |
| 192 | 16.00 | 0.63 | 0.354 | | 0.064 | ( 0.319) | | 0.290 |
| 193 | 16.08 | 0.13 | 0.075 | | 0.064 | ( 0.067) | | 0.011 |
| 194 | 16.17 | 0.13 | 0.075 | | 0.063 | ( 0.067) | | 0.011 |
| 195 | 16.25 | 0.13 | 0.075 | | 0.063 | ( 0.067) | | 0.011 |
| 196 | 16.33 | 0.13 | 0.075 | | 0.063 | ( 0.067) | | 0.012 |
| 197 | 16.42 | 0.13 | 0.075 | | 0.062 | ( 0.067) | | 0.012 |
| 198 | 16.50 | 0.13 | 0.075 | | 0.062 | ( 0.067) | | 0.012 |
| 199 | 16.58 | 0.10 | 0.056 | ( 0.062) | | 0.050 | | 0.006 |
| 200 | 16.67 | 0.10 | 0.056 | ( 0.062) | | 0.050 | | 0.006 |
| 201 | 16.75 | 0.10 | 0.056 | ( 0.061) | | 0.050 | | 0.006 |
| 202 | 16.83 | 0.10 | 0.056 | ( 0.061) | | 0.050 | | 0.006 |
| 203 | 16.92 | 0.10 | 0.056 | ( 0.061) | | 0.050 | | 0.006 |
| 204 | 17.00 | 0.10 | 0.056 | ( 0.060) | | 0.050 | | 0.006 |
| 205 | 17.08 | 0.17 | 0.093 | | 0.060 | ( 0.084) | | 0.033 |
| 206 | 17.17 | 0.17 | 0.093 | | 0.060 | ( 0.084) | | 0.034 |
| 207 | 17.25 | 0.17 | 0.093 | | 0.059 | ( 0.084) | | 0.034 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 208 | 17.33 | 0.17 | 0.093 | | 0.059 | ( | 0.084) | 0.034 |
| 209 | 17.42 | 0.17 | 0.093 | | 0.059 | ( | 0.084) | 0.034 |
| 210 | 17.50 | 0.17 | 0.093 | | 0.058 | ( | 0.084) | 0.035 |
| 211 | 17.58 | 0.17 | 0.093 | | 0.058 | ( | 0.084) | 0.035 |
| 212 | 17.67 | 0.17 | 0.093 | | 0.058 | ( | 0.084) | 0.035 |
| 213 | 17.75 | 0.17 | 0.093 | | 0.058 | ( | 0.084) | 0.036 |
| 214 | 17.83 | 0.13 | 0.075 | | 0.057 | ( | 0.067) | 0.017 |
| 215 | 17.92 | 0.13 | 0.075 | | 0.057 | ( | 0.067) | 0.018 |
| 216 | 18.00 | 0.13 | 0.075 | | 0.057 | ( | 0.067) | 0.018 |
| 217 | 18.08 | 0.13 | 0.075 | | 0.056 | ( | 0.067) | 0.018 |
| 218 | 18.17 | 0.13 | 0.075 | | 0.056 | ( | 0.067) | 0.018 |
| 219 | 18.25 | 0.13 | 0.075 | | 0.056 | ( | 0.067) | 0.019 |
| 220 | 18.33 | 0.13 | 0.075 | | 0.056 | ( | 0.067) | 0.019 |
| 221 | 18.42 | 0.13 | 0.075 | | 0.055 | ( | 0.067) | 0.019 |
| 222 | 18.50 | 0.13 | 0.075 | | 0.055 | ( | 0.067) | 0.019 |
| 223 | 18.58 | 0.10 | 0.056 | ( | 0.055) | | 0.050 | 0.006 |
| 224 | 18.67 | 0.10 | 0.056 | ( | 0.055) | | 0.050 | 0.006 |
| 225 | 18.75 | 0.10 | 0.056 | ( | 0.054) | | 0.050 | 0.006 |
| 226 | 18.83 | 0.07 | 0.037 | ( | 0.054) | | 0.034 | 0.004 |
| 227 | 18.92 | 0.07 | 0.037 | ( | 0.054) | | 0.034 | 0.004 |
| 228 | 19.00 | 0.07 | 0.037 | ( | 0.054) | | 0.034 | 0.004 |
| 229 | 19.08 | 0.10 | 0.056 | ( | 0.053) | | 0.050 | 0.006 |
| 230 | 19.17 | 0.10 | 0.056 | ( | 0.053) | | 0.050 | 0.006 |
| 231 | 19.25 | 0.10 | 0.056 | ( | 0.053) | | 0.050 | 0.006 |
| 232 | 19.33 | 0.13 | 0.075 | | 0.053 | ( | 0.067) | 0.022 |
| 233 | 19.42 | 0.13 | 0.075 | | 0.052 | ( | 0.067) | 0.022 |
| 234 | 19.50 | 0.13 | 0.075 | | 0.052 | ( | 0.067) | 0.022 |
| 235 | 19.58 | 0.10 | 0.056 | ( | 0.052) | | 0.050 | 0.006 |
| 236 | 19.67 | 0.10 | 0.056 | ( | 0.052) | | 0.050 | 0.006 |
| 237 | 19.75 | 0.10 | 0.056 | ( | 0.051) | | 0.050 | 0.006 |
| 238 | 19.83 | 0.07 | 0.037 | ( | 0.051) | | 0.034 | 0.004 |
| 239 | 19.92 | 0.07 | 0.037 | ( | 0.051) | | 0.034 | 0.004 |
| 240 | 20.00 | 0.07 | 0.037 | ( | 0.051) | | 0.034 | 0.004 |
| 241 | 20.08 | 0.10 | 0.056 | ( | 0.050) | | 0.050 | 0.006 |
| 242 | 20.17 | 0.10 | 0.056 | | 0.050 | ( | 0.050) | 0.006 |
| 243 | 20.25 | 0.10 | 0.056 | | 0.050 | ( | 0.050) | 0.006 |
| 244 | 20.33 | 0.10 | 0.056 | | 0.050 | ( | 0.050) | 0.006 |
| 245 | 20.42 | 0.10 | 0.056 | | 0.050 | ( | 0.050) | 0.006 |
| 246 | 20.50 | 0.10 | 0.056 | | 0.049 | ( | 0.050) | 0.007 |
| 247 | 20.58 | 0.10 | 0.056 | | 0.049 | ( | 0.050) | 0.007 |
| 248 | 20.67 | 0.10 | 0.056 | | 0.049 | ( | 0.050) | 0.007 |
| 249 | 20.75 | 0.10 | 0.056 | | 0.049 | ( | 0.050) | 0.007 |
| 250 | 20.83 | 0.07 | 0.037 | ( | 0.049) | | 0.034 | 0.004 |
| 251 | 20.92 | 0.07 | 0.037 | ( | 0.048) | | 0.034 | 0.004 |
| 252 | 21.00 | 0.07 | 0.037 | ( | 0.048) | | 0.034 | 0.004 |
| 253 | 21.08 | 0.10 | 0.056 | | 0.048 | ( | 0.050) | 0.008 |
| 254 | 21.17 | 0.10 | 0.056 | | 0.048 | ( | 0.050) | 0.008 |
| 255 | 21.25 | 0.10 | 0.056 | | 0.048 | ( | 0.050) | 0.008 |
| 256 | 21.33 | 0.07 | 0.037 | ( | 0.047) | | 0.034 | 0.004 |
| 257 | 21.42 | 0.07 | 0.037 | ( | 0.047) | | 0.034 | 0.004 |
| 258 | 21.50 | 0.07 | 0.037 | ( | 0.047) | | 0.034 | 0.004 |
| 259 | 21.58 | 0.10 | 0.056 | | 0.047 | ( | 0.050) | 0.009 |
| 260 | 21.67 | 0.10 | 0.056 | | 0.047 | ( | 0.050) | 0.009 |
| 261 | 21.75 | 0.10 | 0.056 | | 0.047 | ( | 0.050) | 0.009 |
| 262 | 21.83 | 0.07 | 0.037 | ( | 0.046) | | 0.034 | 0.004 |
| 263 | 21.92 | 0.07 | 0.037 | ( | 0.046) | | 0.034 | 0.004 |
| 264 | 22.00 | 0.07 | 0.037 | ( | 0.046) | | 0.034 | 0.004 |
| 265 | 22.08 | 0.10 | 0.056 | | 0.046 | ( | 0.050) | 0.010 |
| 266 | 22.17 | 0.10 | 0.056 | | 0.046 | ( | 0.050) | 0.010 |
| 267 | 22.25 | 0.10 | 0.056 | | 0.046 | ( | 0.050) | 0.010 |
| 268 | 22.33 | 0.07 | 0.037 | ( | 0.045) | | 0.034 | 0.004 |
| 269 | 22.42 | 0.07 | 0.037 | ( | 0.045) | | 0.034 | 0.004 |
| 270 | 22.50 | 0.07 | 0.037 | ( | 0.045) | | 0.034 | 0.004 |
| 271 | 22.58 | 0.07 | 0.037 | ( | 0.045) | | 0.034 | 0.004 |
| 272 | 22.67 | 0.07 | 0.037 | ( | 0.045) | | 0.034 | 0.004 |
| 273 | 22.75 | 0.07 | 0.037 | ( | 0.045) | | 0.034 | 0.004 |
| 274 | 22.83 | 0.07 | 0.037 | ( | 0.045) | | 0.034 | 0.004 |
| 275 | 22.92 | 0.07 | 0.037 | ( | 0.045) | | 0.034 | 0.004 |
| 276 | 23.00 | 0.07 | 0.037 | ( | 0.045) | | 0.034 | 0.004 |
| 277 | 23.08 | 0.07 | 0.037 | ( | 0.044) | | 0.034 | 0.004 |
| 278 | 23.17 | 0.07 | 0.037 | ( | 0.044) | | 0.034 | 0.004 |
| 279 | 23.25 | 0.07 | 0.037 | ( | 0.044) | | 0.034 | 0.004 |
| 280 | 23.33 | 0.07 | 0.037 | ( | 0.044) | | 0.034 | 0.004 |
| 281 | 23.42 | 0.07 | 0.037 | ( | 0.044) | | 0.034 | 0.004 |
| 282 | 23.50 | 0.07 | 0.037 | ( | 0.044) | | 0.034 | 0.004 |
| 283 | 23.58 | 0.07 | 0.037 | ( | 0.044) | | 0.034 | 0.004 |
| 284 | 23.67 | 0.07 | 0.037 | ( | 0.044) | | 0.034 | 0.004 |
| 285 | 23.75 | 0.07 | 0.037 | ( | 0.044) | | 0.034 | 0.004 |

```
286  23.83     0.07      0.037       (  0.044)       0.034        0.004
287  23.92     0.07      0.037       (  0.044)       0.034        0.004
288  24.00     0.07      0.037       (  0.044)       0.034        0.004
              (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    35.1
       Flood volume = Effective rainfall      2.92(In)
        times area       6.4(Ac.)/[(In)/(Ft.)] =       1.6(Ac.Ft)
       Total soil loss =      1.74(In)
       Total soil loss =     0.927(Ac.Ft)
       Total rainfall =      4.66(In)
       Flood volume =       67874.3 Cubic Feet
       Total soil loss =       40385.4 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =      3.605(CFS)
       ---------------------------------------------------------------------
       +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
       ---------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))

       ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5       10.0
 ----------------------------------------------------------------------------
   0+ 5       0.0001      0.01  Q          |         |         |         |
   0+10       0.0002      0.02  Q          |         |         |         |
   0+15       0.0004      0.02  Q          |         |         |         |
   0+20       0.0006      0.03  Q          |         |         |         |
   0+25       0.0008      0.03  Q          |         |         |         |
   0+30       0.0010      0.04  Q          |         |         |         |
   0+35       0.0013      0.04  Q          |         |         |         |
   0+40       0.0015      0.04  Q          |         |         |         |
   0+45       0.0018      0.04  Q          |         |         |         |
   0+50       0.0021      0.04  Q          |         |         |         |
   0+55       0.0024      0.05  Q          |         |         |         |
   1+ 0       0.0027      0.05  Q          |         |         |         |
   1+ 5       0.0030      0.04  Q          |         |         |         |
   1+10       0.0033      0.04  Q          |         |         |         |
   1+15       0.0035      0.04  Q          |         |         |         |
   1+20       0.0038      0.04  Q          |         |         |         |
   1+25       0.0040      0.04  Q          |         |         |         |
   1+30       0.0043      0.04  Q          |         |         |         |
   1+35       0.0045      0.04  Q          |         |         |         |
   1+40       0.0048      0.04  Q          |         |         |         |
   1+45       0.0050      0.04  Q          |         |         |         |
   1+50       0.0053      0.04  Q          |         |         |         |
   1+55       0.0056      0.05  Q          |         |         |         |
   2+ 0       0.0060      0.05  Q          |         |         |         |
   2+ 5       0.0063      0.05  Q          |         |         |         |
   2+10       0.0066      0.05  Q          |         |         |         |
   2+15       0.0069      0.05  Q          |         |         |         |
   2+20       0.0073      0.05  Q          |         |         |         |
   2+25       0.0076      0.05  Q          |         |         |         |
   2+30       0.0079      0.05  Q          |         |         |         |
   2+35       0.0083      0.05  Q          |         |         |         |
   2+40       0.0087      0.06  Q          |         |         |         |
   2+45       0.0091      0.06  Q          |         |         |         |
   2+50       0.0095      0.06  Q          |         |         |         |
   2+55       0.0099      0.06  Q          |         |         |         |
   3+ 0       0.0104      0.06  Q          |         |         |         |
   3+ 5       0.0108      0.06  Q          |         |         |         |
   3+10       0.0112      0.06  Q          |         |         |         |
   3+15       0.0116      0.06  Q          |         |         |         |
   3+20       0.0120      0.06  Q          |         |         |         |
   3+25       0.0124      0.06  Q          |         |         |         |
   3+30       0.0128      0.06  Q          |         |         |         |
   3+35       0.0133      0.06  Q          |         |         |         |
   3+40       0.0137      0.06  Q          |         |         |         |
   3+45       0.0141      0.06  Q          |         |         |         |
   3+50       0.0145      0.06  Q          |         |         |         |
   3+55       0.0150      0.07  Q          |         |         |         |
   4+ 0       0.0155      0.07  Q          |         |         |         |
   4+ 5       0.0160      0.07  Q          |         |         |         |
   4+10       0.0165      0.07  Q          |         |         |         |
   4+15       0.0170      0.07  Q          |         |         |         |
   4+20       0.0175      0.08  Q          |         |         |         |
   4+25       0.0181      0.08  Q          |         |         |         |
   4+30       0.0187      0.08  Q          |         |         |         |
```

```
 4+35       0.0193      0.08  Q          |          |          |          |
 4+40       0.0198      0.08  Q          |          |          |          |
 4+45       0.0204      0.08  Q          |          |          |          |
 4+50       0.0212      0.12  Q          |          |          |          |
 4+55       0.0223      0.16  Q          |          |          |          |
 5+ 0       0.0235      0.17  Q          |          |          |          |
 5+ 5       0.0245      0.14  Q          |          |          |          |
 5+10       0.0251      0.08  Q          |          |          |          |
 5+15       0.0256      0.07  Q          |          |          |          |
 5+20       0.0261      0.08  Q          |          |          |          |
 5+25       0.0267      0.08  Q          |          |          |          |
 5+30       0.0273      0.08  Q          |          |          |          |
 5+35       0.0281      0.13  Q          |          |          |          |
 5+40       0.0294      0.19  Q          |          |          |          |
 5+45       0.0309      0.20  Q          |          |          |          |
 5+50       0.0323      0.21  Q          |          |          |          |
 5+55       0.0338      0.21  Q          |          |          |          |
 6+ 0       0.0352      0.22  Q          |          |          |          |
 6+ 5       0.0371      0.26  VQ         |          |          |          |
 6+10       0.0393      0.33  |Q         |          |          |          |
 6+15       0.0417      0.34  |Q         |          |          |          |
 6+20       0.0441      0.35  |Q         |          |          |          |
 6+25       0.0465      0.35  |Q         |          |          |          |
 6+30       0.0490      0.36  |Q         |          |          |          |
 6+35       0.0518      0.40  |Q         |          |          |          |
 6+40       0.0550      0.47  |Q         |          |          |          |
 6+45       0.0583      0.48  |Q         |          |          |          |
 6+50       0.0617      0.49  |Q         |          |          |          |
 6+55       0.0651      0.49  |Q         |          |          |          |
 7+ 0       0.0685      0.50  |Q         |          |          |          |
 7+ 5       0.0719      0.50  |Q         |          |          |          |
 7+10       0.0754      0.50  |VQ        |          |          |          |
 7+15       0.0789      0.51  | Q        |          |          |          |
 7+20       0.0827      0.55  | Q        |          |          |          |
 7+25       0.0869      0.62  | Q        |          |          |          |
 7+30       0.0913      0.63  | Q        |          |          |          |
 7+35       0.0960      0.68  | Q        |          |          |          |
 7+40       0.1011      0.75  | Q        |          |          |          |
 7+45       0.1064      0.76  | VQ       |          |          |          |
 7+50       0.1120      0.81  | VQ       |          |          |          |
 7+55       0.1180      0.88  |  Q       |          |          |          |
 8+ 0       0.1242      0.89  |  Q       |          |          |          |
 8+ 5       0.1309      0.98  |  Q       |          |          |          |
 8+10       0.1386      1.11  |  VQ      |          |          |          |
 8+15       0.1465      1.14  |  VQ      |          |          |          |
 8+20       0.1544      1.15  |  VQ      |          |          |          |
 8+25       0.1623      1.15  |   Q      |          |          |          |
 8+30       0.1702      1.15  |   Q      |          |          |          |
 8+35       0.1785      1.20  |   Q      |          |          |          |
 8+40       0.1872      1.27  |   VQ     |          |          |          |
 8+45       0.1960      1.28  |    Q     |          |          |          |
 8+50       0.2052      1.33  |    Q     |          |          |          |
 8+55       0.2148      1.40  |    Q     |          |          |          |
 9+ 0       0.2245      1.41  |    Q     |          |          |          |
 9+ 5       0.2348      1.50  |     Q    |          |          |          |
 9+10       0.2461      1.63  |     Q    |          |          |          |
 9+15       0.2575      1.66  |     Q    |          |          |          |
 9+20       0.2692      1.71  |     Q    |          |          |          |
 9+25       0.2815      1.77  |      Q   |          |          |          |
 9+30       0.2938      1.79  |      Q   |          |          |          |
 9+35       0.3064      1.84  |      Q   |          |          |          |
 9+40       0.3195      1.90  |      QV  |          |          |          |
 9+45       0.3328      1.92  |      QV  |          |          |          |
 9+50       0.3463      1.97  |      QV  |          |          |          |
 9+55       0.3603      2.03  |       QV |          |          |          |
10+ 0       0.3744      2.05  |       QV |          |          |          |
10+ 5       0.3864      1.75  |      Q V |          |          |          |
10+10       0.3955      1.31  |    Q     V          |          |          |
10+15       0.4040      1.23  |   Q      V          |          |          |
10+20       0.4124      1.22  |   Q      V          |          |          |
10+25       0.4208      1.22  |   Q      V          |          |          |
10+30       0.4292      1.22  |   Q      |V         |          |          |
10+35       0.4392      1.44  |    Q     |V         |          |          |
10+40       0.4513      1.76  |      Q   |V         |          |          |
10+45       0.4638      1.82  |      Q   |V         |          |          |
10+50       0.4765      1.83  |      Q   | V        |          |          |
10+55       0.4891      1.84  |      Q   | V        |          |          |
11+ 0       0.5018      1.84  |      Q   | V        |          |          |
```



| | | | |
|---|---|---|---|
| 11+ 5 | 0.5142 | 1.80 | |
| 11+10 | 0.5262 | 1.74 | |
| 11+15 | 0.5382 | 1.73 | |
| 11+20 | 0.5501 | 1.73 | |
| 11+25 | 0.5621 | 1.74 | |
| 11+30 | 0.5741 | 1.74 | |
| 11+35 | 0.5855 | 1.66 | |
| 11+40 | 0.5960 | 1.53 | |
| 11+45 | 0.6064 | 1.51 | |
| 11+50 | 0.6171 | 1.55 | |
| 11+55 | 0.6283 | 1.62 | |
| 12+ 0 | 0.6395 | 1.63 | |
| 12+ 5 | 0.6528 | 1.94 | |
| 12+10 | 0.6693 | 2.38 | |
| 12+15 | 0.6863 | 2.47 | |
| 12+20 | 0.7037 | 2.53 | |
| 12+25 | 0.7215 | 2.60 | |
| 12+30 | 0.7395 | 2.61 | |
| 12+35 | 0.7581 | 2.70 | |
| 12+40 | 0.7776 | 2.83 | |
| 12+45 | 0.7973 | 2.86 | |
| 12+50 | 0.8173 | 2.91 | |
| 12+55 | 0.8378 | 2.97 | |
| 13+ 0 | 0.8583 | 2.99 | |
| 13+ 5 | 0.8804 | 3.21 | |
| 13+10 | 0.9047 | 3.53 | |
| 13+15 | 0.9294 | 3.59 | |
| 13+20 | 0.9542 | 3.60 | |
| 13+25 | 0.9790 | 3.60 | |
| 13+30 | 1.0038 | 3.61 | |
| 13+35 | 1.0254 | 3.13 | |
| 13+40 | 1.0422 | 2.44 | |
| 13+45 | 1.0582 | 2.32 | |
| 13+50 | 1.0740 | 2.30 | |
| 13+55 | 1.0898 | 2.29 | |
| 14+ 0 | 1.1056 | 2.30 | |
| 14+ 5 | 1.1226 | 2.47 | |
| 14+10 | 1.1414 | 2.73 | |
| 14+15 | 1.1605 | 2.78 | |
| 14+20 | 1.1794 | 2.74 | |
| 14+25 | 1.1979 | 2.68 | |
| 14+30 | 1.2163 | 2.67 | |
| 14+35 | 1.2347 | 2.67 | |
| 14+40 | 1.2532 | 2.68 | |
| 14+45 | 1.2716 | 2.68 | |
| 14+50 | 1.2898 | 2.64 | |
| 14+55 | 1.3075 | 2.58 | |
| 15+ 0 | 1.3252 | 2.57 | |
| 15+ 5 | 1.3426 | 2.53 | |
| 15+10 | 1.3596 | 2.46 | |
| 15+15 | 1.3765 | 2.45 | |
| 15+20 | 1.3931 | 2.41 | |
| 15+25 | 1.4093 | 2.35 | |
| 15+30 | 1.4254 | 2.34 | |
| 15+35 | 1.4403 | 2.17 | |
| 15+40 | 1.4535 | 1.92 | |
| 15+45 | 1.4665 | 1.87 | |
| 15+50 | 1.4793 | 1.87 | |
| 15+55 | 1.4922 | 1.87 | |
| 16+ 0 | 1.5051 | 1.87 | |
| 16+ 5 | 1.5135 | 1.23 | |
| 16+10 | 1.5154 | 0.28 | |
| 16+15 | 1.5162 | 0.11 | |
| 16+20 | 1.5167 | 0.08 | |
| 16+25 | 1.5173 | 0.08 | |
| 16+30 | 1.5178 | 0.08 | |
| 16+35 | 1.5182 | 0.06 | |
| 16+40 | 1.5185 | 0.04 | |
| 16+45 | 1.5188 | 0.04 | |
| 16+50 | 1.5190 | 0.04 | |
| 16+55 | 1.5193 | 0.04 | |
| 17+ 0 | 1.5195 | 0.04 | |
| 17+ 5 | 1.5202 | 0.10 | |
| 17+10 | 1.5216 | 0.19 | |
| 17+15 | 1.5230 | 0.21 | |
| 17+20 | 1.5245 | 0.22 | |
| 17+25 | 1.5260 | 0.22 | |
| 17+30 | 1.5276 | 0.22 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+35 | 1.5291 | 0.22 | Q | \| | \| | \| | V\| |
| 17+40 | 1.5307 | 0.23 | Q | \| | \| | \| | V\| |
| 17+45 | 1.5323 | 0.23 | Q | \| | \| | \| | V\| |
| 17+50 | 1.5335 | 0.19 | Q | \| | \| | \| | V\| |
| 17+55 | 1.5344 | 0.13 | Q | \| | \| | \| | V\| |
| 18+ 0 | 1.5352 | 0.12 | Q | \| | \| | \| | V\| |
| 18+ 5 | 1.5360 | 0.12 | Q | \| | \| | \| | V\| |
| 18+10 | 1.5368 | 0.12 | Q | \| | \| | \| | V\| |
| 18+15 | 1.5376 | 0.12 | Q | \| | \| | \| | V\| |
| 18+20 | 1.5384 | 0.12 | Q | \| | \| | \| | V\| |
| 18+25 | 1.5393 | 0.12 | Q | \| | \| | \| | V\| |
| 18+30 | 1.5401 | 0.12 | Q | \| | \| | \| | V\| |
| 18+35 | 1.5408 | 0.09 | Q | \| | \| | \| | V\| |
| 18+40 | 1.5411 | 0.05 | Q | \| | \| | \| | V\| |
| 18+45 | 1.5414 | 0.04 | Q | \| | \| | \| | V\| |
| 18+50 | 1.5416 | 0.03 | Q | \| | \| | \| | V\| |
| 18+55 | 1.5418 | 0.03 | Q | \| | \| | \| | V\| |
| 19+ 0 | 1.5419 | 0.02 | Q | \| | \| | \| | V\| |
| 19+ 5 | 1.5421 | 0.03 | Q | \| | \| | \| | V\| |
| 19+10 | 1.5424 | 0.03 | Q | \| | \| | \| | V\| |
| 19+15 | 1.5426 | 0.04 | Q | \| | \| | \| | V\| |
| 19+20 | 1.5431 | 0.07 | Q | \| | \| | \| | V\| |
| 19+25 | 1.5440 | 0.13 | Q | \| | \| | \| | V\| |
| 19+30 | 1.5450 | 0.14 | Q | \| | \| | \| | V\| |
| 19+35 | 1.5457 | 0.11 | Q | \| | \| | \| | V\| |
| 19+40 | 1.5461 | 0.05 | Q | \| | \| | \| | V\| |
| 19+45 | 1.5463 | 0.04 | Q | \| | \| | \| | V\| |
| 19+50 | 1.5465 | 0.03 | Q | \| | \| | \| | V\| |
| 19+55 | 1.5467 | 0.03 | Q | \| | \| | \| | V\| |
| 20+ 0 | 1.5469 | 0.02 | Q | \| | \| | \| | V\| |
| 20+ 5 | 1.5471 | 0.03 | Q | \| | \| | \| | V\| |
| 20+10 | 1.5473 | 0.03 | Q | \| | \| | \| | V\| |
| 20+15 | 1.5476 | 0.04 | Q | \| | \| | \| | V\| |
| 20+20 | 1.5478 | 0.04 | Q | \| | \| | \| | V\| |
| 20+25 | 1.5481 | 0.04 | Q | \| | \| | \| | V\| |
| 20+30 | 1.5484 | 0.04 | Q | \| | \| | \| | V\| |
| 20+35 | 1.5487 | 0.04 | Q | \| | \| | \| | V\| |
| 20+40 | 1.5490 | 0.04 | Q | \| | \| | \| | V\| |
| 20+45 | 1.5493 | 0.05 | Q | \| | \| | \| | V\| |
| 20+50 | 1.5496 | 0.04 | Q | \| | \| | \| | V\| |
| 20+55 | 1.5497 | 0.03 | Q | \| | \| | \| | V\| |
| 21+ 0 | 1.5499 | 0.02 | Q | \| | \| | \| | V\| |
| 21+ 5 | 1.5501 | 0.03 | Q | \| | \| | \| | V\| |
| 21+10 | 1.5505 | 0.05 | Q | \| | \| | \| | V\| |
| 21+15 | 1.5508 | 0.05 | Q | \| | \| | \| | V\| |
| 21+20 | 1.5511 | 0.04 | Q | \| | \| | \| | V\| |
| 21+25 | 1.5513 | 0.03 | Q | \| | \| | \| | V\| |
| 21+30 | 1.5515 | 0.02 | Q | \| | \| | \| | V\| |
| 21+35 | 1.5517 | 0.04 | Q | \| | \| | \| | V\| |
| 21+40 | 1.5521 | 0.05 | Q | \| | \| | \| | V\| |
| 21+45 | 1.5525 | 0.06 | Q | \| | \| | \| | V\| |
| 21+50 | 1.5529 | 0.05 | Q | \| | \| | \| | V\| |
| 21+55 | 1.5530 | 0.03 | Q | \| | \| | \| | V\| |
| 22+ 0 | 1.5532 | 0.02 | Q | \| | \| | \| | V\| |
| 22+ 5 | 1.5535 | 0.04 | Q | \| | \| | \| | V\| |
| 22+10 | 1.5539 | 0.06 | Q | \| | \| | \| | V\| |
| 22+15 | 1.5543 | 0.06 | Q | \| | \| | \| | V\| |
| 22+20 | 1.5547 | 0.05 | Q | \| | \| | \| | V\| |
| 22+25 | 1.5549 | 0.03 | Q | \| | \| | \| | V\| |
| 22+30 | 1.5551 | 0.02 | Q | \| | \| | \| | V\| |
| 22+35 | 1.5552 | 0.02 | Q | \| | \| | \| | V\| |
| 22+40 | 1.5554 | 0.02 | Q | \| | \| | \| | V\| |
| 22+45 | 1.5556 | 0.02 | Q | \| | \| | \| | V\| |
| 22+50 | 1.5557 | 0.02 | Q | \| | \| | \| | V\| |
| 22+55 | 1.5559 | 0.02 | Q | \| | \| | \| | V\| |
| 23+ 0 | 1.5561 | 0.02 | Q | \| | \| | \| | V\| |
| 23+ 5 | 1.5562 | 0.02 | Q | \| | \| | \| | V\| |
| 23+10 | 1.5564 | 0.02 | Q | \| | \| | \| | V\| |
| 23+15 | 1.5566 | 0.02 | Q | \| | \| | \| | V\| |
| 23+20 | 1.5567 | 0.02 | Q | \| | \| | \| | V\| |
| 23+25 | 1.5569 | 0.02 | Q | \| | \| | \| | V\| |
| 23+30 | 1.5571 | 0.02 | Q | \| | \| | \| | V\| |
| 23+35 | 1.5572 | 0.02 | Q | \| | \| | \| | V\| |
| 23+40 | 1.5574 | 0.02 | Q | \| | \| | \| | V\| |
| 23+45 | 1.5576 | 0.02 | Q | \| | \| | \| | V\| |
| 23+50 | 1.5577 | 0.02 | Q | \| | \| | \| | V\| |
| 23+55 | 1.5579 | 0.02 | Q | \| | \| | \| | V\| |
| 24+ 0 | 1.5581 | 0.02 | Q | \| | \| | \| | V\| |

```
   24+ 5       1.5582      0.02  Q         |          |          |        V|
   24+10       1.5582      0.00  Q         |          |          |        V|
   24+15       1.5582      0.00  Q         |          |          |        V|
   24+20       1.5582      0.00  Q         |          |          |         V
-------------------------------------------------------------------------
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/19/17 File: EX41100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 4
100-YEAR STORM EVENT
BY: JDN, DATE: 12-19-17

---

Drainage Area = 0.70(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.70(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 426.00(Ft.)
Length along longest watercourse measured to centroid = 170.00(Ft.)
Length along longest watercourse = 0.081 Mi.
Length along longest watercourse measured to centroid = 0.032 Mi.
Difference in elevation = 88.00(Ft.)
Slope along watercourse = 1090.7042 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.023 Hr.
Lag time = 1.39 Min.
25% of lag time = 0.35 Min.
40% of lag time = 0.56 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.70 | 0.50 | 0.35 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.70 | 1.20 | 0.84 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.700 | 83.27 | 0.000 |

Total Area Entered = 0.70(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.3 | 93.0 | 0.091 | 0.000 | 0.091 | 1.000 | 0.091 |
| | | | | | Sum (F) = | 0.091 |

Area averaged mean soil loss (F) (In/Hr) = 0.091

Minimum soil loss rate ((In/Hr)) = 0.046
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

---

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 359.881 | 63.940 | 0.451 |
| 2 | 0.167 | 719.763 | 36.060 | 0.254 |
| | | Sum = 100.000 | Sum= | 0.705 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.091 | ( 0.544) | 0.513 |
| 2 | 0.17 | 4.30 | 0.619 | 0.091 | ( 0.557) | 0.528 |
| 3 | 0.25 | 5.00 | 0.720 | 0.091 | ( 0.648) | 0.629 |
| 4 | 0.33 | 5.00 | 0.720 | 0.091 | ( 0.648) | 0.629 |
| 5 | 0.42 | 5.80 | 0.835 | 0.091 | ( 0.752) | 0.744 |
| 6 | 0.50 | 6.50 | 0.936 | 0.091 | ( 0.842) | 0.845 |
| 7 | 0.58 | 7.40 | 1.066 | 0.091 | ( 0.959) | 0.974 |
| 8 | 0.67 | 8.60 | 1.238 | 0.091 | ( 1.115) | 1.147 |
| 9 | 0.75 | 12.30 | 1.771 | 0.091 | ( 1.594) | 1.680 |
| 10 | 0.83 | 29.10 | 4.190 | 0.091 | ( 3.771) | 4.099 |
| 11 | 0.92 | 6.80 | 0.979 | 0.091 | ( 0.881) | 0.888 |
| 12 | 1.00 | 5.00 | 0.720 | 0.091 | ( 0.648) | 0.629 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 13.3 |

Flood volume = Effective rainfall 1.11(In)
times area 0.7(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.005(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 2816.7 Cubic Feet
Total soil loss = 232.5 Cubic Feet

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Peak flow rate of this hydrograph = 2.277(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0016 | 0.23 | Q | | | | |
| 0+10 | 0.0041 | 0.37 | QV | | | | |
| 0+15 | 0.0070 | 0.42 | Q V | | | | |
| 0+20 | 0.0101 | 0.44 | Q V | | | | |
| 0+25 | 0.0135 | 0.50 | Q V | | | | |
| 0+30 | 0.0174 | 0.57 | Q V | | | | |
| 0+35 | 0.0219 | 0.65 | Q V | | | | |
| 0+40 | 0.0272 | 0.77 | Q V | | | | |
| 0+45 | 0.0344 | 1.05 | Q V | | | | |
| 0+50 | 0.0501 | 2.28 | Q V | | | | |
| 0+55 | 0.0601 | 1.44 | Q V | | | | |
| 1+ 0 | 0.0636 | 0.51 | Q V | | | | |
| 1+ 5 | 0.0647 | 0.16 | Q V | | | | |

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U n i t  H y d r o g r a p h  A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 4
100-YEAR STORM EVENT
BY: JDN, DATE: 12-19-17

---

Drainage Area = 0.70(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.70(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 426.00(Ft.)
Length along longest watercourse measured to centroid = 170.00(Ft.)
Length along longest watercourse = 0.081 Mi.
Length along longest watercourse measured to centroid = 0.032 Mi.
Difference in elevation = 88.00(Ft.)
Slope along watercourse = 1090.7042 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.023 Hr.
Lag time = 1.39 Min.
25% of lag time = 0.35 Min.
40% of lag time = 0.56 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.70 | 0.81 | 0.57 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.70 | 1.81 | 1.27 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.810(In)
Area Averaged 100-Year Rainfall = 1.810(In)

Point rain (area averaged) = 1.810(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.810(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.700 | 83.27 | 0.000 |

Total Area Entered = 0.70(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.3 | 93.0 | 0.091 | 0.000 | 0.091 | 1.000 | 0.091 |
| | | | | | Sum (F) = | 0.091 |

Area averaged mean soil loss (F) (In/Hr) = 0.091

Minimum soil loss rate ((In/Hr)) = 0.046
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 359.881 | 63.940 | 0.451 |
| 2 0.167 | 719.763 | 36.060 | 0.254 |
| | | Sum = 100.000 Sum= | 0.705 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 1.30 | 0.282 | 0.091 | ( 0.254) | 0.191 |
| 2 0.17 | 1.30 | 0.282 | 0.091 | ( 0.254) | 0.191 |
| 3 0.25 | 1.10 | 0.239 | 0.091 | ( 0.215) | 0.147 |
| 4 0.33 | 1.50 | 0.326 | 0.091 | ( 0.293) | 0.234 |
| 5 0.42 | 1.50 | 0.326 | 0.091 | ( 0.293) | 0.234 |
| 6 0.50 | 1.80 | 0.391 | 0.091 | ( 0.352) | 0.299 |
| 7 0.58 | 1.50 | 0.326 | 0.091 | ( 0.293) | 0.234 |
| 8 0.67 | 1.80 | 0.391 | 0.091 | ( 0.352) | 0.299 |
| 9 0.75 | 1.80 | 0.391 | 0.091 | ( 0.352) | 0.299 |
| 10 0.83 | 1.50 | 0.326 | 0.091 | ( 0.293) | 0.234 |
| 11 0.92 | 1.60 | 0.348 | 0.091 | ( 0.313) | 0.256 |
| 12 1.00 | 1.80 | 0.391 | 0.091 | ( 0.352) | 0.299 |
| 13 1.08 | 2.20 | 0.478 | 0.091 | ( 0.430) | 0.386 |
| 14 1.17 | 2.20 | 0.478 | 0.091 | ( 0.430) | 0.386 |
| 15 1.25 | 2.20 | 0.478 | 0.091 | ( 0.430) | 0.386 |
| 16 1.33 | 2.00 | 0.434 | 0.091 | ( 0.391) | 0.343 |
| 17 1.42 | 2.60 | 0.565 | 0.091 | ( 0.508) | 0.473 |
| 18 1.50 | 2.70 | 0.586 | 0.091 | ( 0.528) | 0.495 |
| 19 1.58 | 2.40 | 0.521 | 0.091 | ( 0.469) | 0.430 |
| 20 1.67 | 2.70 | 0.586 | 0.091 | ( 0.528) | 0.495 |
| 21 1.75 | 3.30 | 0.717 | 0.091 | ( 0.645) | 0.625 |
| 22 1.83 | 3.10 | 0.673 | 0.091 | ( 0.606) | 0.582 |
| 23 1.92 | 2.90 | 0.630 | 0.091 | ( 0.567) | 0.538 |
| 24 2.00 | 3.00 | 0.652 | 0.091 | ( 0.586) | 0.560 |
| 25 2.08 | 3.10 | 0.673 | 0.091 | ( 0.606) | 0.582 |
| 26 2.17 | 4.20 | 0.912 | 0.091 | ( 0.821) | 0.821 |
| 27 2.25 | 5.00 | 1.086 | 0.091 | ( 0.977) | 0.995 |
| 28 2.33 | 3.50 | 0.760 | 0.091 | ( 0.684) | 0.669 |
| 29 2.42 | 6.80 | 1.477 | 0.091 | ( 1.329) | 1.385 |
| 30 2.50 | 7.30 | 1.586 | 0.091 | ( 1.427) | 1.494 |
| 31 2.58 | 8.20 | 1.781 | 0.091 | ( 1.603) | 1.690 |
| 32 2.67 | 5.90 | 1.281 | 0.091 | ( 1.153) | 1.190 |
| 33 2.75 | 2.00 | 0.434 | 0.091 | ( 0.391) | 0.343 |
| 34 2.83 | 1.80 | 0.391 | 0.091 | ( 0.352) | 0.299 |
| 35 2.92 | 1.80 | 0.391 | 0.091 | ( 0.352) | 0.299 |
| 36 3.00 | 0.60 | 0.130 | 0.091 | ( 0.117) | 0.039 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 18.4 |

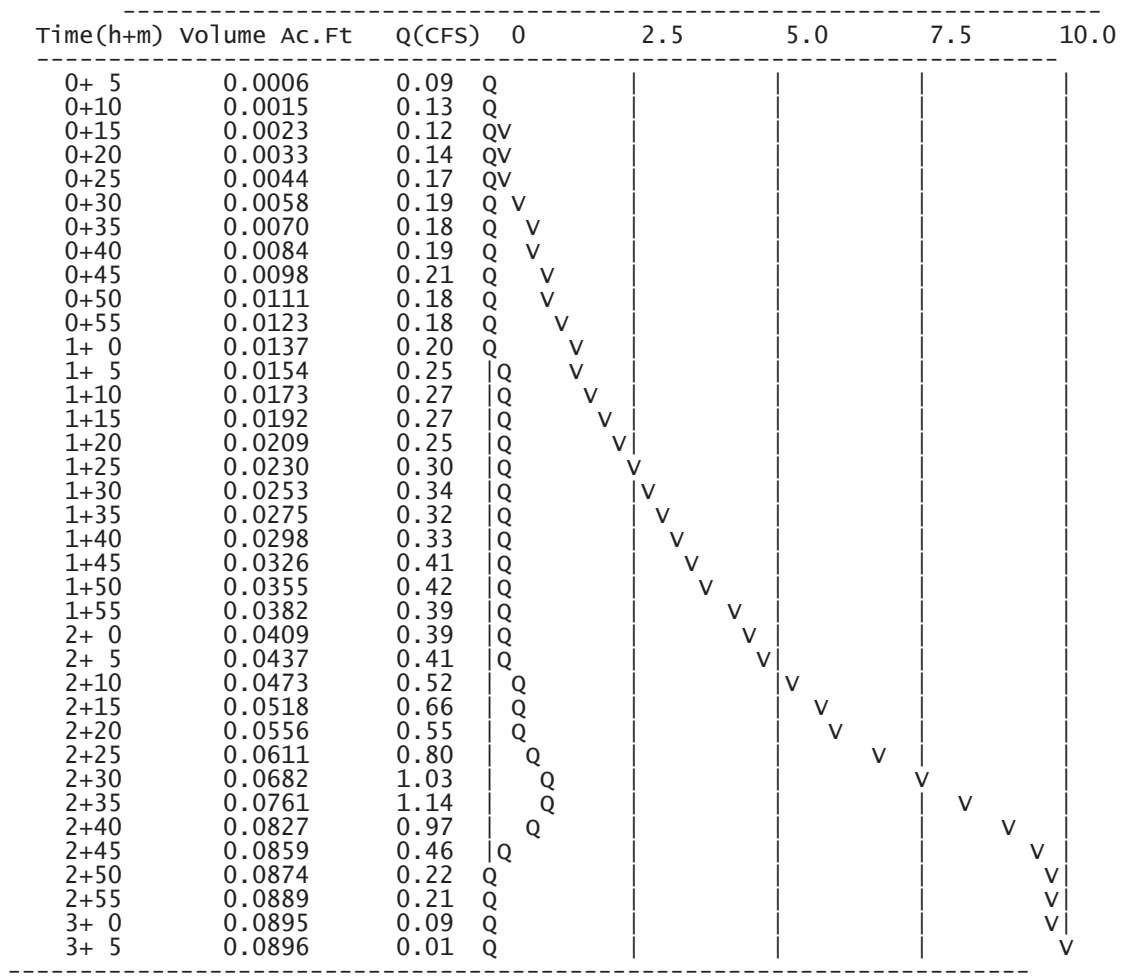
Flood volume = Effective rainfall 1.54(In)
times area 0.7(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.27(In)
Total soil loss = 0.016(Ac.Ft)
Total rainfall = 1.81(In)
Flood volume = 3901.7 Cubic Feet
Total soil loss = 697.5 Cubic Feet

Peak flow rate of this hydrograph = 1.143(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))


Time(h+m) Volume Ac.Ft Q(CFS) 0 2.5 5.0 7.5 10.0
0+ 5 0.0006 0.09
0+10 0.0015 0.13
0+15 0.0023 0.12
0+20 0.0033 0.14
0+25 0.0044 0.17
0+30 0.0058 0.19
0+35 0.0070 0.18
0+40 0.0084 0.19
0+45 0.0098 0.21
0+50 0.0111 0.18
0+55 0.0123 0.18
1+ 0 0.0137 0.20
1+ 5 0.0154 0.25
1+10 0.0173 0.27
1+15 0.0192 0.27
1+20 0.0209 0.25
1+25 0.0230 0.30
1+30 0.0253 0.34
1+35 0.0275 0.32
1+40 0.0298 0.33
1+45 0.0326 0.41
1+50 0.0355 0.42
1+55 0.0382 0.39
2+ 0 0.0409 0.39
2+ 5 0.0437 0.41
2+10 0.0473 0.52
2+15 0.0518 0.66
2+20 0.0556 0.55
2+25 0.0611 0.80
2+30 0.0682 1.03
2+35 0.0761 1.14
2+40 0.0827 0.97
2+45 0.0859 0.46
2+50 0.0874 0.22
2+55 0.0889 0.21
3+ 0 0.0895 0.09
3+ 5 0.0896 0.01

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/19/17 File: EX46100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 4
100-YEAR STORM EVENT
BY: JDN, DATE: 12-19-17

---

Drainage Area = 0.70(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.70(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 426.00(Ft.)
Length along longest watercourse measured to centroid = 170.00(Ft.)
Length along longest watercourse = 0.081 Mi.
Length along longest watercourse measured to centroid = 0.032 Mi.
Difference in elevation = 88.00(Ft.)
Slope along watercourse = 1090.7042 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.023 Hr.
Lag time = 1.39 Min.
25% of lag time = 0.35 Min.
40% of lag time = 0.56 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.70 | 1.14 | 0.80 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.70 | 2.50 | 1.75 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.140(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.700 | 83.27 | 0.000 |

Total Area Entered = 0.70(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.3 | 93.0 | 0.091 | 0.000 | 0.091 | 1.000 | 0.091 |
| | | | | | Sum (F) = | 0.091 |

Area averaged mean soil loss (F) (In/Hr) = 0.091

Minimum soil loss rate ((In/Hr)) = 0.046
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 359.881 | 63.940 | 0.451 |
| 2 0.167 | 719.763 | 36.060 | 0.254 |
| | Sum = 100.000 | Sum= | 0.705 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 0.50 | 0.150 | 0.091 | ( 0.135) | 0.059 |
| 2 0.17 | 0.60 | 0.180 | 0.091 | ( 0.162) | 0.089 |
| 3 0.25 | 0.60 | 0.180 | 0.091 | ( 0.162) | 0.089 |
| 4 0.33 | 0.60 | 0.180 | 0.091 | ( 0.162) | 0.089 |
| 5 0.42 | 0.60 | 0.180 | 0.091 | ( 0.162) | 0.089 |
| 6 0.50 | 0.70 | 0.210 | 0.091 | ( 0.189) | 0.119 |
| 7 0.58 | 0.70 | 0.210 | 0.091 | ( 0.189) | 0.119 |
| 8 0.67 | 0.70 | 0.210 | 0.091 | ( 0.189) | 0.119 |
| 9 0.75 | 0.70 | 0.210 | 0.091 | ( 0.189) | 0.119 |
| 10 0.83 | 0.70 | 0.210 | 0.091 | ( 0.189) | 0.119 |
| 11 0.92 | 0.70 | 0.210 | 0.091 | ( 0.189) | 0.119 |
| 12 1.00 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 13 1.08 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 14 1.17 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 15 1.25 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 16 1.33 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 17 1.42 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 18 1.50 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 19 1.58 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 20 1.67 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 21 1.75 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 22 1.83 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 23 1.92 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 24 2.00 | 0.90 | 0.270 | 0.091 | ( 0.243) | 0.179 |
| 25 2.08 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 26 2.17 | 0.90 | 0.270 | 0.091 | ( 0.243) | 0.179 |
| 27 2.25 | 0.90 | 0.270 | 0.091 | ( 0.243) | 0.179 |
| 28 2.33 | 0.90 | 0.270 | 0.091 | ( 0.243) | 0.179 |
| 29 2.42 | 0.90 | 0.270 | 0.091 | ( 0.243) | 0.179 |
| 30 2.50 | 0.90 | 0.270 | 0.091 | ( 0.243) | 0.179 |
| 31 2.58 | 0.90 | 0.270 | 0.091 | ( 0.243) | 0.179 |
| 32 2.67 | 0.90 | 0.270 | 0.091 | ( 0.243) | 0.179 |
| 33 2.75 | 1.00 | 0.300 | 0.091 | ( 0.270) | 0.209 |
| 34 2.83 | 1.00 | 0.300 | 0.091 | ( 0.270) | 0.209 |
| 35 2.92 | 1.00 | 0.300 | 0.091 | ( 0.270) | 0.209 |
| 36 3.00 | 1.00 | 0.300 | 0.091 | ( 0.270) | 0.209 |
| 37 3.08 | 1.00 | 0.300 | 0.091 | ( 0.270) | 0.209 |
| 38 3.17 | 1.10 | 0.330 | 0.091 | ( 0.297) | 0.239 |
| 39 3.25 | 1.10 | 0.330 | 0.091 | ( 0.297) | 0.239 |
| 40 3.33 | 1.10 | 0.330 | 0.091 | ( 0.297) | 0.239 |
| 41 3.42 | 1.20 | 0.360 | 0.091 | ( 0.324) | 0.269 |
| 42 3.50 | 1.30 | 0.390 | 0.091 | ( 0.351) | 0.299 |
| 43 3.58 | 1.40 | 0.420 | 0.091 | ( 0.378) | 0.329 |
| 44 3.67 | 1.40 | 0.420 | 0.091 | ( 0.378) | 0.329 |
| 45 3.75 | 1.50 | 0.450 | 0.091 | ( 0.405) | 0.359 |
| 46 3.83 | 1.50 | 0.450 | 0.091 | ( 0.405) | 0.359 |
| 47 3.92 | 1.60 | 0.480 | 0.091 | ( 0.432) | 0.389 |
| 48 4.00 | 1.60 | 0.480 | 0.091 | ( 0.432) | 0.389 |
| 49 4.08 | 1.70 | 0.510 | 0.091 | ( 0.459) | 0.419 |
| 50 4.17 | 1.80 | 0.540 | 0.091 | ( 0.486) | 0.449 |
| 51 4.25 | 1.90 | 0.570 | 0.091 | ( 0.513) | 0.479 |
| 52 4.33 | 2.00 | 0.600 | 0.091 | ( 0.540) | 0.509 |
| 53 4.42 | 2.10 | 0.630 | 0.091 | ( 0.567) | 0.539 |
| 54 4.50 | 2.10 | 0.630 | 0.091 | ( 0.567) | 0.539 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 55 | 4.58 | 2.20 | 0.660 | 0.091 | ( 0.594) | | 0.569 |
| 56 | 4.67 | 2.30 | 0.690 | 0.091 | ( 0.621) | | 0.599 |
| 57 | 4.75 | 2.40 | 0.720 | 0.091 | ( 0.648) | | 0.629 |
| 58 | 4.83 | 2.40 | 0.720 | 0.091 | ( 0.648) | | 0.629 |
| 59 | 4.92 | 2.50 | 0.750 | 0.091 | ( 0.675) | | 0.659 |
| 60 | 5.00 | 2.60 | 0.780 | 0.091 | ( 0.702) | | 0.689 |
| 61 | 5.08 | 3.10 | 0.930 | 0.091 | ( 0.837) | | 0.839 |
| 62 | 5.17 | 3.60 | 1.080 | 0.091 | ( 0.972) | | 0.989 |
| 63 | 5.25 | 3.90 | 1.170 | 0.091 | ( 1.053) | | 1.079 |
| 64 | 5.33 | 4.20 | 1.260 | 0.091 | ( 1.134) | | 1.169 |
| 65 | 5.42 | 4.70 | 1.410 | 0.091 | ( 1.269) | | 1.319 |
| 66 | 5.50 | 5.60 | 1.680 | 0.091 | ( 1.512) | | 1.589 |
| 67 | 5.58 | 1.90 | 0.570 | 0.091 | ( 0.513) | | 0.479 |
| 68 | 5.67 | 0.90 | 0.270 | 0.091 | ( 0.243) | | 0.179 |
| 69 | 5.75 | 0.60 | 0.180 | 0.091 | ( 0.162) | | 0.089 |
| 70 | 5.83 | 0.50 | 0.150 | 0.091 | ( 0.135) | | 0.059 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.091) | 0.081 | | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.091) | 0.054 | | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.5

Flood volume = Effective rainfall 1.96(In)
times area 0.7(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.54(In)
Total soil loss = 0.032(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 4967.7 Cubic Feet
Total soil loss = 1384.8 Cubic Feet

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Peak flow rate of this hydrograph = 1.052(CFS)

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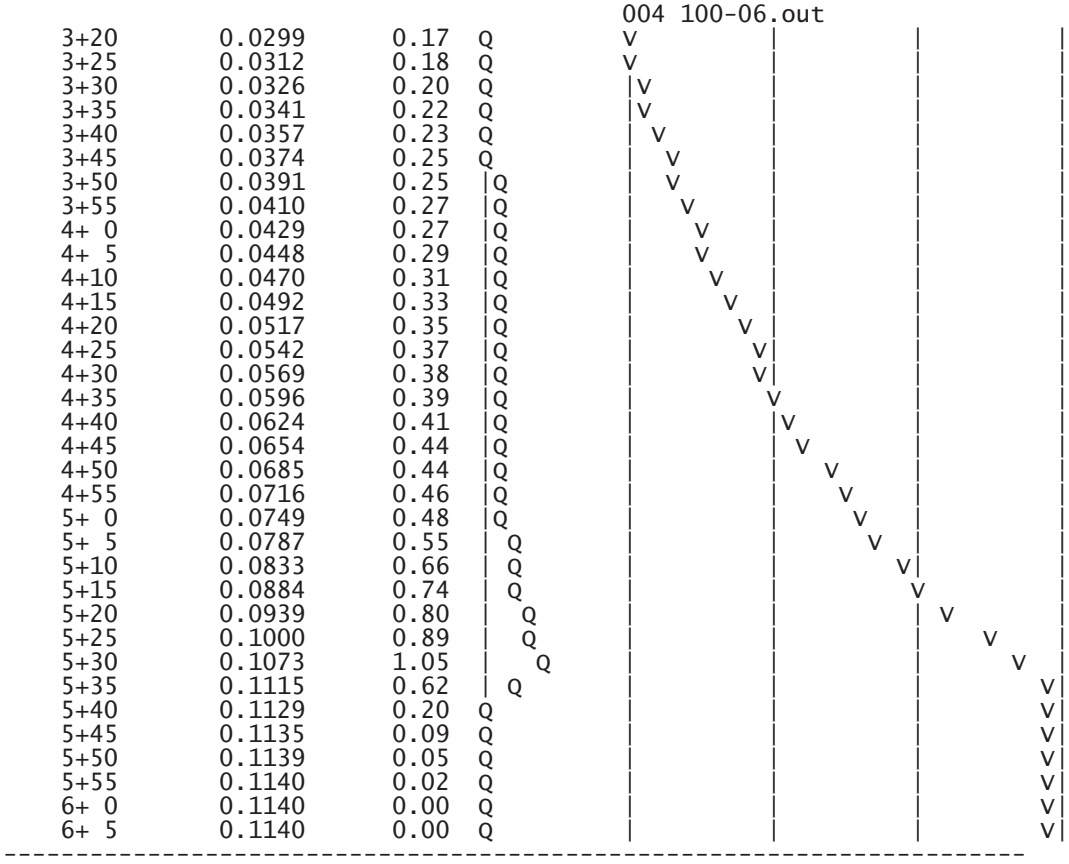
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0002 | 0.03 | Q | \| | \| | \| | \| |
| 0+10 | 0.0006 | 0.05 | Q | \| | \| | \| | \| |
| 0+15 | 0.0010 | 0.06 | Q | \| | \| | \| | \| |
| 0+20 | 0.0014 | 0.06 | Q | \| | \| | \| | \| |
| 0+25 | 0.0019 | 0.06 | Q | \| | \| | \| | \| |
| 0+30 | 0.0024 | 0.08 | Q | \| | \| | \| | \| |
| 0+35 | 0.0029 | 0.08 | QV | \| | \| | \| | \| |
| 0+40 | 0.0035 | 0.08 | QV | \| | \| | \| | \| |
| 0+45 | 0.0041 | 0.08 | QV | \| | \| | \| | \| |
| 0+50 | 0.0047 | 0.08 | QV | \| | \| | \| | \| |
| 0+55 | 0.0053 | 0.08 | QV | \| | \| | \| | \| |
| 1+ 0 | 0.0059 | 0.10 | Q V | \| | \| | \| | \| |
| 1+ 5 | 0.0066 | 0.10 | Q V | \| | \| | \| | \| |
| 1+10 | 0.0074 | 0.10 | Q V | \| | \| | \| | \| |
| 1+15 | 0.0081 | 0.10 | Q V | \| | \| | \| | \| |
| 1+20 | 0.0088 | 0.10 | Q V | \| | \| | \| | \| |
| 1+25 | 0.0095 | 0.10 | Q V | \| | \| | \| | \| |
| 1+30 | 0.0103 | 0.10 | Q V | \| | \| | \| | \| |
| 1+35 | 0.0110 | 0.10 | Q V | \| | \| | \| | \| |
| 1+40 | 0.0117 | 0.10 | Q V | \| | \| | \| | \| |
| 1+45 | 0.0124 | 0.10 | Q V | \| | \| | \| | \| |
| 1+50 | 0.0131 | 0.10 | Q V | \| | \| | \| | \| |
| 1+55 | 0.0139 | 0.10 | Q V | \| | \| | \| | \| |
| 2+ 0 | 0.0147 | 0.12 | Q V | \| | \| | \| | \| |
| 2+ 5 | 0.0155 | 0.11 | Q V | \| | \| | \| | \| |
| 2+10 | 0.0163 | 0.12 | Q V | \| | \| | \| | \| |
| 2+15 | 0.0171 | 0.13 | Q V | \| | \| | \| | \| |
| 2+20 | 0.0180 | 0.13 | Q V | \| | \| | \| | \| |
| 2+25 | 0.0189 | 0.13 | Q V | \| | \| | \| | \| |
| 2+30 | 0.0197 | 0.13 | Q V | \| | \| | \| | \| |
| 2+35 | 0.0206 | 0.13 | Q V | \| | \| | \| | \| |
| 2+40 | 0.0215 | 0.13 | Q V | \| | \| | \| | \| |
| 2+45 | 0.0224 | 0.14 | Q V | \| | \| | \| | \| |
| 2+50 | 0.0234 | 0.15 | Q V | \| | \| | \| | \| |
| 2+55 | 0.0245 | 0.15 | Q V | \| | \| | \| | \| |
| 3+ 0 | 0.0255 | 0.15 | Q V | \| | \| | \| | \| |
| 3+ 5 | 0.0265 | 0.15 | Q V | \| | \| | \| | \| |
| 3+10 | 0.0276 | 0.16 | Q V | \| | \| | \| | \| |
| 3+15 | 0.0288 | 0.17 | Q V | \| | \| | \| | \| |



| | | | |
|---|---|---|---|
| 3+20 | 0.0299 | 0.17 | Q |
| 3+25 | 0.0312 | 0.18 | Q |
| 3+30 | 0.0326 | 0.20 | Q |
| 3+35 | 0.0341 | 0.22 | Q |
| 3+40 | 0.0357 | 0.23 | Q |
| 3+45 | 0.0374 | 0.25 | Q |
| 3+50 | 0.0391 | 0.25 | Q |
| 3+55 | 0.0410 | 0.27 | Q |
| 4+ 0 | 0.0429 | 0.27 | Q |
| 4+ 5 | 0.0448 | 0.29 | Q |
| 4+10 | 0.0470 | 0.31 | Q |
| 4+15 | 0.0492 | 0.33 | Q |
| 4+20 | 0.0517 | 0.35 | Q |
| 4+25 | 0.0542 | 0.37 | Q |
| 4+30 | 0.0569 | 0.38 | Q |
| 4+35 | 0.0596 | 0.39 | Q |
| 4+40 | 0.0624 | 0.41 | Q |
| 4+45 | 0.0654 | 0.44 | Q |
| 4+50 | 0.0685 | 0.44 | Q |
| 4+55 | 0.0716 | 0.46 | Q |
| 5+ 0 | 0.0749 | 0.48 | Q |
| 5+ 5 | 0.0787 | 0.55 | Q |
| 5+10 | 0.0833 | 0.66 | Q |
| 5+15 | 0.0884 | 0.74 | Q |
| 5+20 | 0.0939 | 0.80 | Q |
| 5+25 | 0.1000 | 0.89 | Q |
| 5+30 | 0.1073 | 1.05 | Q |
| 5+35 | 0.1115 | 0.62 | Q |
| 5+40 | 0.1129 | 0.20 | Q |
| 5+45 | 0.1135 | 0.09 | Q |
| 5+50 | 0.1139 | 0.05 | Q |
| 5+55 | 0.1140 | 0.02 | Q |
| 6+ 0 | 0.1140 | 0.00 | Q |
| 6+ 5 | 0.1140 | 0.00 | Q |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/19/17 File: EX424100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 4
100-YEAR STORM EVENT
BY: JDN, DATE: 12-19-17

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Drainage Area = 0.70(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.70(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 426.00(Ft.)
Length along longest watercourse measured to centroid = 170.00(Ft.)
Length along longest watercourse = 0.081 Mi.
Length along longest watercourse measured to centroid = 0.032 Mi.
Difference in elevation = 88.00(Ft.)
Slope along watercourse = 1090.7042 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.023 Hr.
Lag time = 1.39 Min.
25% of lag time = 0.35 Min.
40% of lag time = 0.56 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.70 | 1.80 | 1.26 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.70 | 4.64 | 3.25 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.640(In)

Point rain (area averaged) = 4.640(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.640(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.700 | 83.27 | 0.000 |

Total Area Entered = 0.70(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.3 | 93.0 | 0.091 | 0.000 | 0.091 | 1.000 | 0.091 |
| | | | | | Sum (F) = | 0.091 |

Area averaged mean soil loss (F) (In/Hr) = 0.091

Minimum soil loss rate ((In/Hr)) = 0.046
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 359.881 | 63.940 | 0.451 |
| 2 0.167 | 719.763 | 36.060 | 0.254 |
| | | Sum = 100.000 | Sum= 0.705 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 0.07 | 0.037 | ( 0.162) | 0.033 | 0.004 |
| 2 0.17 | 0.07 | 0.037 | ( 0.162) | 0.033 | 0.004 |
| 3 0.25 | 0.07 | 0.037 | ( 0.161) | 0.033 | 0.004 |
| 4 0.33 | 0.10 | 0.056 | ( 0.160) | 0.050 | 0.006 |
| 5 0.42 | 0.10 | 0.056 | ( 0.160) | 0.050 | 0.006 |
| 6 0.50 | 0.10 | 0.056 | ( 0.159) | 0.050 | 0.006 |
| 7 0.58 | 0.10 | 0.056 | ( 0.158) | 0.050 | 0.006 |
| 8 0.67 | 0.10 | 0.056 | ( 0.158) | 0.050 | 0.006 |
| 9 0.75 | 0.10 | 0.056 | ( 0.157) | 0.050 | 0.006 |
| 10 0.83 | 0.13 | 0.074 | ( 0.157) | 0.067 | 0.007 |
| 11 0.92 | 0.13 | 0.074 | ( 0.156) | 0.067 | 0.007 |
| 12 1.00 | 0.13 | 0.074 | ( 0.155) | 0.067 | 0.007 |
| 13 1.08 | 0.10 | 0.056 | ( 0.155) | 0.050 | 0.006 |
| 14 1.17 | 0.10 | 0.056 | ( 0.154) | 0.050 | 0.006 |
| 15 1.25 | 0.10 | 0.056 | ( 0.154) | 0.050 | 0.006 |
| 16 1.33 | 0.10 | 0.056 | ( 0.153) | 0.050 | 0.006 |
| 17 1.42 | 0.10 | 0.056 | ( 0.152) | 0.050 | 0.006 |
| 18 1.50 | 0.10 | 0.056 | ( 0.152) | 0.050 | 0.006 |
| 19 1.58 | 0.10 | 0.056 | ( 0.151) | 0.050 | 0.006 |
| 20 1.67 | 0.10 | 0.056 | ( 0.150) | 0.050 | 0.006 |
| 21 1.75 | 0.10 | 0.056 | ( 0.150) | 0.050 | 0.006 |
| 22 1.83 | 0.13 | 0.074 | ( 0.149) | 0.067 | 0.007 |
| 23 1.92 | 0.13 | 0.074 | ( 0.149) | 0.067 | 0.007 |
| 24 2.00 | 0.13 | 0.074 | ( 0.148) | 0.067 | 0.007 |
| 25 2.08 | 0.13 | 0.074 | ( 0.147) | 0.067 | 0.007 |
| 26 2.17 | 0.13 | 0.074 | ( 0.147) | 0.067 | 0.007 |
| 27 2.25 | 0.13 | 0.074 | ( 0.146) | 0.067 | 0.007 |
| 28 2.33 | 0.13 | 0.074 | ( 0.146) | 0.067 | 0.007 |
| 29 2.42 | 0.13 | 0.074 | ( 0.145) | 0.067 | 0.007 |
| 30 2.50 | 0.13 | 0.074 | ( 0.145) | 0.067 | 0.007 |
| 31 2.58 | 0.17 | 0.093 | ( 0.144) | 0.084 | 0.009 |
| 32 2.67 | 0.17 | 0.093 | ( 0.143) | 0.084 | 0.009 |
| 33 2.75 | 0.17 | 0.093 | ( 0.143) | 0.084 | 0.009 |
| 34 2.83 | 0.17 | 0.093 | ( 0.142) | 0.084 | 0.009 |
| 35 2.92 | 0.17 | 0.093 | ( 0.142) | 0.084 | 0.009 |
| 36 3.00 | 0.17 | 0.093 | ( 0.141) | 0.084 | 0.009 |
| 37 3.08 | 0.17 | 0.093 | ( 0.140) | 0.084 | 0.009 |
| 38 3.17 | 0.17 | 0.093 | ( 0.140) | 0.084 | 0.009 |
| 39 3.25 | 0.17 | 0.093 | ( 0.139) | 0.084 | 0.009 |
| 40 3.33 | 0.17 | 0.093 | ( 0.139) | 0.084 | 0.009 |
| 41 3.42 | 0.17 | 0.093 | ( 0.138) | 0.084 | 0.009 |
| 42 3.50 | 0.17 | 0.093 | ( 0.137) | 0.084 | 0.009 |
| 43 3.58 | 0.17 | 0.093 | ( 0.137) | 0.084 | 0.009 |
| 44 3.67 | 0.17 | 0.093 | ( 0.136) | 0.084 | 0.009 |
| 45 3.75 | 0.17 | 0.093 | ( 0.136) | 0.084 | 0.009 |
| 46 3.83 | 0.20 | 0.111 | ( 0.135) | 0.100 | 0.011 |
| 47 3.92 | 0.20 | 0.111 | ( 0.135) | 0.100 | 0.011 |
| 48 4.00 | 0.20 | 0.111 | ( 0.134) | 0.100 | 0.011 |
| 49 4.08 | 0.20 | 0.111 | ( 0.133) | 0.100 | 0.011 |
| 50 4.17 | 0.20 | 0.111 | ( 0.133) | 0.100 | 0.011 |
| 51 4.25 | 0.20 | 0.111 | ( 0.132) | 0.100 | 0.011 |
| 52 4.33 | 0.23 | 0.130 | ( 0.132) | 0.117 | 0.013 |
| 53 4.42 | 0.23 | 0.130 | ( 0.131) | 0.117 | 0.013 |
| 54 4.50 | 0.23 | 0.130 | ( 0.131) | 0.117 | 0.013 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 55 | 4.58 | 0.23 | 0.130 | ( | 0.130) | 0.117 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.130 | ( | 0.130) | 0.117 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.130 | ( | 0.129) | 0.117 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.148 | | 0.128 | ( 0.134) | | 0.020 |
| 59 | 4.92 | 0.27 | 0.148 | | 0.128 | ( 0.134) | | 0.021 |
| 60 | 5.00 | 0.27 | 0.148 | | 0.127 | ( 0.134) | | 0.021 |
| 61 | 5.08 | 0.20 | 0.111 | ( | 0.127) | 0.100 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.111 | ( | 0.126) | 0.100 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.111 | ( | 0.126) | 0.100 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.130 | ( | 0.125) | 0.117 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.130 | ( | 0.125) | 0.117 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.130 | ( | 0.124) | 0.117 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.148 | | 0.123 | ( 0.134) | | 0.025 |
| 68 | 5.67 | 0.27 | 0.148 | | 0.123 | ( 0.134) | | 0.026 |
| 69 | 5.75 | 0.27 | 0.148 | | 0.122 | ( 0.134) | | 0.026 |
| 70 | 5.83 | 0.27 | 0.148 | | 0.122 | ( 0.134) | | 0.027 |
| 71 | 5.92 | 0.27 | 0.148 | | 0.121 | ( 0.134) | | 0.027 |
| 72 | 6.00 | 0.27 | 0.148 | | 0.121 | ( 0.134) | | 0.028 |
| 73 | 6.08 | 0.30 | 0.167 | | 0.120 | ( 0.150) | | 0.047 |
| 74 | 6.17 | 0.30 | 0.167 | | 0.120 | ( 0.150) | | 0.047 |
| 75 | 6.25 | 0.30 | 0.167 | | 0.119 | ( 0.150) | | 0.048 |
| 76 | 6.33 | 0.30 | 0.167 | | 0.119 | ( 0.150) | | 0.048 |
| 77 | 6.42 | 0.30 | 0.167 | | 0.118 | ( 0.150) | | 0.049 |
| 78 | 6.50 | 0.30 | 0.167 | | 0.118 | ( 0.150) | | 0.049 |
| 79 | 6.58 | 0.33 | 0.186 | | 0.117 | ( 0.167) | | 0.069 |
| 80 | 6.67 | 0.33 | 0.186 | | 0.117 | ( 0.167) | | 0.069 |
| 81 | 6.75 | 0.33 | 0.186 | | 0.116 | ( 0.167) | | 0.070 |
| 82 | 6.83 | 0.33 | 0.186 | | 0.115 | ( 0.167) | | 0.070 |
| 83 | 6.92 | 0.33 | 0.186 | | 0.115 | ( 0.167) | | 0.071 |
| 84 | 7.00 | 0.33 | 0.186 | | 0.114 | ( 0.167) | | 0.071 |
| 85 | 7.08 | 0.33 | 0.186 | | 0.114 | ( 0.167) | | 0.072 |
| 86 | 7.17 | 0.33 | 0.186 | | 0.113 | ( 0.167) | | 0.072 |
| 87 | 7.25 | 0.33 | 0.186 | | 0.113 | ( 0.167) | | 0.073 |
| 88 | 7.33 | 0.37 | 0.204 | | 0.112 | ( 0.184) | | 0.092 |
| 89 | 7.42 | 0.37 | 0.204 | | 0.112 | ( 0.184) | | 0.092 |
| 90 | 7.50 | 0.37 | 0.204 | | 0.111 | ( 0.184) | | 0.093 |
| 91 | 7.58 | 0.40 | 0.223 | | 0.111 | ( 0.200) | | 0.112 |
| 92 | 7.67 | 0.40 | 0.223 | | 0.110 | ( 0.200) | | 0.112 |
| 93 | 7.75 | 0.40 | 0.223 | | 0.110 | ( 0.200) | | 0.113 |
| 94 | 7.83 | 0.43 | 0.241 | | 0.109 | ( 0.217) | | 0.132 |
| 95 | 7.92 | 0.43 | 0.241 | | 0.109 | ( 0.217) | | 0.132 |
| 96 | 8.00 | 0.43 | 0.241 | | 0.108 | ( 0.217) | | 0.133 |
| 97 | 8.08 | 0.50 | 0.278 | | 0.108 | ( 0.251) | | 0.171 |
| 98 | 8.17 | 0.50 | 0.278 | | 0.107 | ( 0.251) | | 0.171 |
| 99 | 8.25 | 0.50 | 0.278 | | 0.107 | ( 0.251) | | 0.172 |
| 100 | 8.33 | 0.50 | 0.278 | | 0.106 | ( 0.251) | | 0.172 |
| 101 | 8.42 | 0.50 | 0.278 | | 0.106 | ( 0.251) | | 0.173 |
| 102 | 8.50 | 0.50 | 0.278 | | 0.105 | ( 0.251) | | 0.173 |
| 103 | 8.58 | 0.53 | 0.297 | | 0.105 | ( 0.267) | | 0.192 |
| 104 | 8.67 | 0.53 | 0.297 | | 0.104 | ( 0.267) | | 0.193 |
| 105 | 8.75 | 0.53 | 0.297 | | 0.104 | ( 0.267) | | 0.193 |
| 106 | 8.83 | 0.57 | 0.316 | | 0.103 | ( 0.284) | | 0.212 |
| 107 | 8.92 | 0.57 | 0.316 | | 0.103 | ( 0.284) | | 0.213 |
| 108 | 9.00 | 0.57 | 0.316 | | 0.102 | ( 0.284) | | 0.213 |
| 109 | 9.08 | 0.63 | 0.353 | | 0.102 | ( 0.317) | | 0.251 |
| 110 | 9.17 | 0.63 | 0.353 | | 0.101 | ( 0.317) | | 0.251 |
| 111 | 9.25 | 0.63 | 0.353 | | 0.101 | ( 0.317) | | 0.252 |
| 112 | 9.33 | 0.67 | 0.371 | | 0.100 | ( 0.334) | | 0.271 |
| 113 | 9.42 | 0.67 | 0.371 | | 0.100 | ( 0.334) | | 0.271 |
| 114 | 9.50 | 0.67 | 0.371 | | 0.099 | ( 0.334) | | 0.272 |
| 115 | 9.58 | 0.70 | 0.390 | | 0.099 | ( 0.351) | | 0.291 |
| 116 | 9.67 | 0.70 | 0.390 | | 0.099 | ( 0.351) | | 0.291 |
| 117 | 9.75 | 0.70 | 0.390 | | 0.098 | ( 0.351) | | 0.292 |
| 118 | 9.83 | 0.73 | 0.408 | | 0.098 | ( 0.367) | | 0.311 |
| 119 | 9.92 | 0.73 | 0.408 | | 0.097 | ( 0.367) | | 0.311 |
| 120 | 10.00 | 0.73 | 0.408 | | 0.097 | ( 0.367) | | 0.312 |
| 121 | 10.08 | 0.50 | 0.278 | | 0.096 | ( 0.251) | | 0.182 |
| 122 | 10.17 | 0.50 | 0.278 | | 0.096 | ( 0.251) | | 0.183 |
| 123 | 10.25 | 0.50 | 0.278 | | 0.095 | ( 0.251) | | 0.183 |
| 124 | 10.33 | 0.50 | 0.278 | | 0.095 | ( 0.251) | | 0.184 |
| 125 | 10.42 | 0.50 | 0.278 | | 0.094 | ( 0.251) | | 0.184 |
| 126 | 10.50 | 0.50 | 0.278 | | 0.094 | ( 0.251) | | 0.185 |
| 127 | 10.58 | 0.67 | 0.371 | | 0.093 | ( 0.334) | | 0.278 |
| 128 | 10.67 | 0.67 | 0.371 | | 0.093 | ( 0.334) | | 0.278 |
| 129 | 10.75 | 0.67 | 0.371 | | 0.092 | ( 0.334) | | 0.279 |
| 130 | 10.83 | 0.67 | 0.371 | | 0.092 | ( 0.334) | | 0.279 |
| 131 | 10.92 | 0.67 | 0.371 | | 0.092 | ( 0.334) | | 0.280 |
| 132 | 11.00 | 0.67 | 0.371 | | 0.091 | ( 0.334) | | 0.280 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 133 | 11.08 | 0.63 | 0.353 | 0.091 | ( 0.317) | 0.262 |
| 134 | 11.17 | 0.63 | 0.353 | 0.090 | ( 0.317) | 0.262 |
| 135 | 11.25 | 0.63 | 0.353 | 0.090 | ( 0.317) | 0.263 |
| 136 | 11.33 | 0.63 | 0.353 | 0.089 | ( 0.317) | 0.263 |
| 137 | 11.42 | 0.63 | 0.353 | 0.089 | ( 0.317) | 0.264 |
| 138 | 11.50 | 0.63 | 0.353 | 0.088 | ( 0.317) | 0.264 |
| 139 | 11.58 | 0.57 | 0.316 | 0.088 | ( 0.284) | 0.228 |
| 140 | 11.67 | 0.57 | 0.316 | 0.088 | ( 0.284) | 0.228 |
| 141 | 11.75 | 0.57 | 0.316 | 0.087 | ( 0.284) | 0.228 |
| 142 | 11.83 | 0.60 | 0.334 | 0.087 | ( 0.301) | 0.247 |
| 143 | 11.92 | 0.60 | 0.334 | 0.086 | ( 0.301) | 0.248 |
| 144 | 12.00 | 0.60 | 0.334 | 0.086 | ( 0.301) | 0.248 |
| 145 | 12.08 | 0.83 | 0.464 | 0.085 | ( 0.418) | 0.379 |
| 146 | 12.17 | 0.83 | 0.464 | 0.085 | ( 0.418) | 0.379 |
| 147 | 12.25 | 0.83 | 0.464 | 0.085 | ( 0.418) | 0.379 |
| 148 | 12.33 | 0.87 | 0.483 | 0.084 | ( 0.434) | 0.398 |
| 149 | 12.42 | 0.87 | 0.483 | 0.084 | ( 0.434) | 0.399 |
| 150 | 12.50 | 0.87 | 0.483 | 0.083 | ( 0.434) | 0.399 |
| 151 | 12.58 | 0.93 | 0.520 | 0.083 | ( 0.468) | 0.437 |
| 152 | 12.67 | 0.93 | 0.520 | 0.082 | ( 0.468) | 0.437 |
| 153 | 12.75 | 0.93 | 0.520 | 0.082 | ( 0.468) | 0.438 |
| 154 | 12.83 | 0.97 | 0.538 | 0.082 | ( 0.484) | 0.457 |
| 155 | 12.92 | 0.97 | 0.538 | 0.081 | ( 0.484) | 0.457 |
| 156 | 13.00 | 0.97 | 0.538 | 0.081 | ( 0.484) | 0.457 |
| 157 | 13.08 | 1.13 | 0.631 | 0.080 | ( 0.568) | 0.551 |
| 158 | 13.17 | 1.13 | 0.631 | 0.080 | ( 0.568) | 0.551 |
| 159 | 13.25 | 1.13 | 0.631 | 0.080 | ( 0.568) | 0.551 |
| 160 | 13.33 | 1.13 | 0.631 | 0.079 | ( 0.568) | 0.552 |
| 161 | 13.42 | 1.13 | 0.631 | 0.079 | ( 0.568) | 0.552 |
| 162 | 13.50 | 1.13 | 0.631 | 0.078 | ( 0.568) | 0.553 |
| 163 | 13.58 | 0.77 | 0.427 | 0.078 | ( 0.384) | 0.349 |
| 164 | 13.67 | 0.77 | 0.427 | 0.078 | ( 0.384) | 0.349 |
| 165 | 13.75 | 0.77 | 0.427 | 0.077 | ( 0.384) | 0.350 |
| 166 | 13.83 | 0.77 | 0.427 | 0.077 | ( 0.384) | 0.350 |
| 167 | 13.92 | 0.77 | 0.427 | 0.076 | ( 0.384) | 0.350 |
| 168 | 14.00 | 0.77 | 0.427 | 0.076 | ( 0.384) | 0.351 |
| 169 | 14.08 | 0.90 | 0.501 | 0.076 | ( 0.451) | 0.426 |
| 170 | 14.17 | 0.90 | 0.501 | 0.075 | ( 0.451) | 0.426 |
| 171 | 14.25 | 0.90 | 0.501 | 0.075 | ( 0.451) | 0.426 |
| 172 | 14.33 | 0.87 | 0.483 | 0.074 | ( 0.434) | 0.408 |
| 173 | 14.42 | 0.87 | 0.483 | 0.074 | ( 0.434) | 0.408 |
| 174 | 14.50 | 0.87 | 0.483 | 0.074 | ( 0.434) | 0.409 |
| 175 | 14.58 | 0.87 | 0.483 | 0.073 | ( 0.434) | 0.409 |
| 176 | 14.67 | 0.87 | 0.483 | 0.073 | ( 0.434) | 0.410 |
| 177 | 14.75 | 0.87 | 0.483 | 0.073 | ( 0.434) | 0.410 |
| 178 | 14.83 | 0.83 | 0.464 | 0.072 | ( 0.418) | 0.392 |
| 179 | 14.92 | 0.83 | 0.464 | 0.072 | ( 0.418) | 0.392 |
| 180 | 15.00 | 0.83 | 0.464 | 0.071 | ( 0.418) | 0.393 |
| 181 | 15.08 | 0.80 | 0.445 | 0.071 | ( 0.401) | 0.374 |
| 182 | 15.17 | 0.80 | 0.445 | 0.071 | ( 0.401) | 0.375 |
| 183 | 15.25 | 0.80 | 0.445 | 0.070 | ( 0.401) | 0.375 |
| 184 | 15.33 | 0.77 | 0.427 | 0.070 | ( 0.384) | 0.357 |
| 185 | 15.42 | 0.77 | 0.427 | 0.070 | ( 0.384) | 0.357 |
| 186 | 15.50 | 0.77 | 0.427 | 0.069 | ( 0.384) | 0.358 |
| 187 | 15.58 | 0.63 | 0.353 | 0.069 | ( 0.317) | 0.284 |
| 188 | 15.67 | 0.63 | 0.353 | 0.069 | ( 0.317) | 0.284 |
| 189 | 15.75 | 0.63 | 0.353 | 0.068 | ( 0.317) | 0.284 |
| 190 | 15.83 | 0.63 | 0.353 | 0.068 | ( 0.317) | 0.285 |
| 191 | 15.92 | 0.63 | 0.353 | 0.068 | ( 0.317) | 0.285 |
| 192 | 16.00 | 0.63 | 0.353 | 0.067 | ( 0.317) | 0.285 |
| 193 | 16.08 | 0.13 | 0.074 | ( 0.067) | 0.067 | 0.007 |
| 194 | 16.17 | 0.13 | 0.074 | 0.067 | ( 0.067) | 0.008 |
| 195 | 16.25 | 0.13 | 0.074 | 0.066 | ( 0.067) | 0.008 |
| 196 | 16.33 | 0.13 | 0.074 | 0.066 | ( 0.067) | 0.008 |
| 197 | 16.42 | 0.13 | 0.074 | 0.065 | ( 0.067) | 0.009 |
| 198 | 16.50 | 0.13 | 0.074 | 0.065 | ( 0.067) | 0.009 |
| 199 | 16.58 | 0.10 | 0.056 | ( 0.065) | 0.050 | 0.006 |
| 200 | 16.67 | 0.10 | 0.056 | ( 0.064) | 0.050 | 0.006 |
| 201 | 16.75 | 0.10 | 0.056 | ( 0.064) | 0.050 | 0.006 |
| 202 | 16.83 | 0.10 | 0.056 | ( 0.064) | 0.050 | 0.006 |
| 203 | 16.92 | 0.10 | 0.056 | ( 0.064) | 0.050 | 0.006 |
| 204 | 17.00 | 0.10 | 0.056 | ( 0.063) | 0.050 | 0.006 |
| 205 | 17.08 | 0.17 | 0.093 | 0.063 | ( 0.084) | 0.030 |
| 206 | 17.17 | 0.17 | 0.093 | 0.063 | ( 0.084) | 0.030 |
| 207 | 17.25 | 0.17 | 0.093 | 0.062 | ( 0.084) | 0.031 |
| 208 | 17.33 | 0.17 | 0.093 | 0.062 | ( 0.084) | 0.031 |
| 209 | 17.42 | 0.17 | 0.093 | 0.062 | ( 0.084) | 0.031 |
| 210 | 17.50 | 0.17 | 0.093 | 0.061 | ( 0.084) | 0.031 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 211 | 17.58 | 0.17 | 0.093 | | 0.061 | ( | 0.084) | 0.032 |
| 212 | 17.67 | 0.17 | 0.093 | | 0.061 | ( | 0.084) | 0.032 |
| 213 | 17.75 | 0.17 | 0.093 | | 0.060 | ( | 0.084) | 0.032 |
| 214 | 17.83 | 0.13 | 0.074 | | 0.060 | ( | 0.067) | 0.014 |
| 215 | 17.92 | 0.13 | 0.074 | | 0.060 | ( | 0.067) | 0.014 |
| 216 | 18.00 | 0.13 | 0.074 | | 0.060 | ( | 0.067) | 0.015 |
| 217 | 18.08 | 0.13 | 0.074 | | 0.059 | ( | 0.067) | 0.015 |
| 218 | 18.17 | 0.13 | 0.074 | | 0.059 | ( | 0.067) | 0.015 |
| 219 | 18.25 | 0.13 | 0.074 | | 0.059 | ( | 0.067) | 0.016 |
| 220 | 18.33 | 0.13 | 0.074 | | 0.058 | ( | 0.067) | 0.016 |
| 221 | 18.42 | 0.13 | 0.074 | | 0.058 | ( | 0.067) | 0.016 |
| 222 | 18.50 | 0.13 | 0.074 | | 0.058 | ( | 0.067) | 0.016 |
| 223 | 18.58 | 0.10 | 0.056 | ( | 0.058) | | 0.050 | 0.006 |
| 224 | 18.67 | 0.10 | 0.056 | ( | 0.057) | | 0.050 | 0.006 |
| 225 | 18.75 | 0.10 | 0.056 | ( | 0.057) | | 0.050 | 0.006 |
| 226 | 18.83 | 0.07 | 0.037 | ( | 0.057) | | 0.033 | 0.004 |
| 227 | 18.92 | 0.07 | 0.037 | ( | 0.056) | | 0.033 | 0.004 |
| 228 | 19.00 | 0.07 | 0.037 | ( | 0.056) | | 0.033 | 0.004 |
| 229 | 19.08 | 0.10 | 0.056 | ( | 0.056) | | 0.050 | 0.006 |
| 230 | 19.17 | 0.10 | 0.056 | ( | 0.056) | | 0.050 | 0.006 |
| 231 | 19.25 | 0.10 | 0.056 | ( | 0.055) | | 0.050 | 0.006 |
| 232 | 19.33 | 0.13 | 0.074 | | 0.055 | ( | 0.067) | 0.019 |
| 233 | 19.42 | 0.13 | 0.074 | | 0.055 | ( | 0.067) | 0.019 |
| 234 | 19.50 | 0.13 | 0.074 | | 0.055 | ( | 0.067) | 0.020 |
| 235 | 19.58 | 0.10 | 0.056 | ( | 0.054) | | 0.050 | 0.006 |
| 236 | 19.67 | 0.10 | 0.056 | ( | 0.054) | | 0.050 | 0.006 |
| 237 | 19.75 | 0.10 | 0.056 | ( | 0.054) | | 0.050 | 0.006 |
| 238 | 19.83 | 0.07 | 0.037 | ( | 0.054) | | 0.033 | 0.004 |
| 239 | 19.92 | 0.07 | 0.037 | ( | 0.053) | | 0.033 | 0.004 |
| 240 | 20.00 | 0.07 | 0.037 | ( | 0.053) | | 0.033 | 0.004 |
| 241 | 20.08 | 0.10 | 0.056 | ( | 0.053) | | 0.050 | 0.006 |
| 242 | 20.17 | 0.10 | 0.056 | ( | 0.053) | | 0.050 | 0.006 |
| 243 | 20.25 | 0.10 | 0.056 | ( | 0.052) | | 0.050 | 0.006 |
| 244 | 20.33 | 0.10 | 0.056 | ( | 0.052) | | 0.050 | 0.006 |
| 245 | 20.42 | 0.10 | 0.056 | ( | 0.052) | | 0.050 | 0.006 |
| 246 | 20.50 | 0.10 | 0.056 | ( | 0.052) | | 0.050 | 0.006 |
| 247 | 20.58 | 0.10 | 0.056 | ( | 0.052) | | 0.050 | 0.006 |
| 248 | 20.67 | 0.10 | 0.056 | ( | 0.051) | | 0.050 | 0.006 |
| 249 | 20.75 | 0.10 | 0.056 | ( | 0.051) | | 0.050 | 0.006 |
| 250 | 20.83 | 0.07 | 0.037 | ( | 0.051) | | 0.033 | 0.004 |
| 251 | 20.92 | 0.07 | 0.037 | ( | 0.051) | | 0.033 | 0.004 |
| 252 | 21.00 | 0.07 | 0.037 | ( | 0.050) | | 0.033 | 0.004 |
| 253 | 21.08 | 0.10 | 0.056 | ( | 0.050) | | 0.050 | 0.006 |
| 254 | 21.17 | 0.10 | 0.056 | | 0.050 | ( | 0.050) | 0.006 |
| 255 | 21.25 | 0.10 | 0.056 | | 0.050 | ( | 0.050) | 0.006 |
| 256 | 21.33 | 0.07 | 0.037 | ( | 0.050) | | 0.033 | 0.004 |
| 257 | 21.42 | 0.07 | 0.037 | ( | 0.050) | | 0.033 | 0.004 |
| 258 | 21.50 | 0.07 | 0.037 | ( | 0.049) | | 0.033 | 0.004 |
| 259 | 21.58 | 0.10 | 0.056 | | 0.049 | ( | 0.050) | 0.007 |
| 260 | 21.67 | 0.10 | 0.056 | | 0.049 | ( | 0.050) | 0.007 |
| 261 | 21.75 | 0.10 | 0.056 | | 0.049 | ( | 0.050) | 0.007 |
| 262 | 21.83 | 0.07 | 0.037 | ( | 0.049) | | 0.033 | 0.004 |
| 263 | 21.92 | 0.07 | 0.037 | ( | 0.048) | | 0.033 | 0.004 |
| 264 | 22.00 | 0.07 | 0.037 | ( | 0.048) | | 0.033 | 0.004 |
| 265 | 22.08 | 0.10 | 0.056 | | 0.048 | ( | 0.050) | 0.008 |
| 266 | 22.17 | 0.10 | 0.056 | | 0.048 | ( | 0.050) | 0.008 |
| 267 | 22.25 | 0.10 | 0.056 | | 0.048 | ( | 0.050) | 0.008 |
| 268 | 22.33 | 0.07 | 0.037 | ( | 0.048) | | 0.033 | 0.004 |
| 269 | 22.42 | 0.07 | 0.037 | ( | 0.048) | | 0.033 | 0.004 |
| 270 | 22.50 | 0.07 | 0.037 | ( | 0.047) | | 0.033 | 0.004 |
| 271 | 22.58 | 0.07 | 0.037 | ( | 0.047) | | 0.033 | 0.004 |
| 272 | 22.67 | 0.07 | 0.037 | ( | 0.047) | | 0.033 | 0.004 |
| 273 | 22.75 | 0.07 | 0.037 | ( | 0.047) | | 0.033 | 0.004 |
| 274 | 22.83 | 0.07 | 0.037 | ( | 0.047) | | 0.033 | 0.004 |
| 275 | 22.92 | 0.07 | 0.037 | ( | 0.047) | | 0.033 | 0.004 |
| 276 | 23.00 | 0.07 | 0.037 | ( | 0.047) | | 0.033 | 0.004 |
| 277 | 23.08 | 0.07 | 0.037 | ( | 0.047) | | 0.033 | 0.004 |
| 278 | 23.17 | 0.07 | 0.037 | ( | 0.046) | | 0.033 | 0.004 |
| 279 | 23.25 | 0.07 | 0.037 | ( | 0.046) | | 0.033 | 0.004 |
| 280 | 23.33 | 0.07 | 0.037 | ( | 0.046) | | 0.033 | 0.004 |
| 281 | 23.42 | 0.07 | 0.037 | ( | 0.046) | | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.037 | ( | 0.046) | | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.037 | ( | 0.046) | | 0.033 | 0.004 |
| 284 | 23.67 | 0.07 | 0.037 | ( | 0.046) | | 0.033 | 0.004 |
| 285 | 23.75 | 0.07 | 0.037 | ( | 0.046) | | 0.033 | 0.004 |
| 286 | 23.83 | 0.07 | 0.037 | ( | 0.046) | | 0.033 | 0.004 |
| 287 | 23.92 | 0.07 | 0.037 | ( | 0.046) | | 0.033 | 0.004 |
| 288 | 24.00 | 0.07 | 0.037 | ( | 0.046) | | 0.033 | 0.004 |

(Loss Rate Not Used)
Sum = 100.0 Sum = 34.2
Flood volume = Effective rainfall 2.85(In)
times area 0.7(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 1.79(In)
Total soil loss = 0.104(Ac.Ft)
Total rainfall = 4.64(In)
Flood volume = 7239.7 Cubic Feet
Total soil loss = 4550.6 Cubic Feet

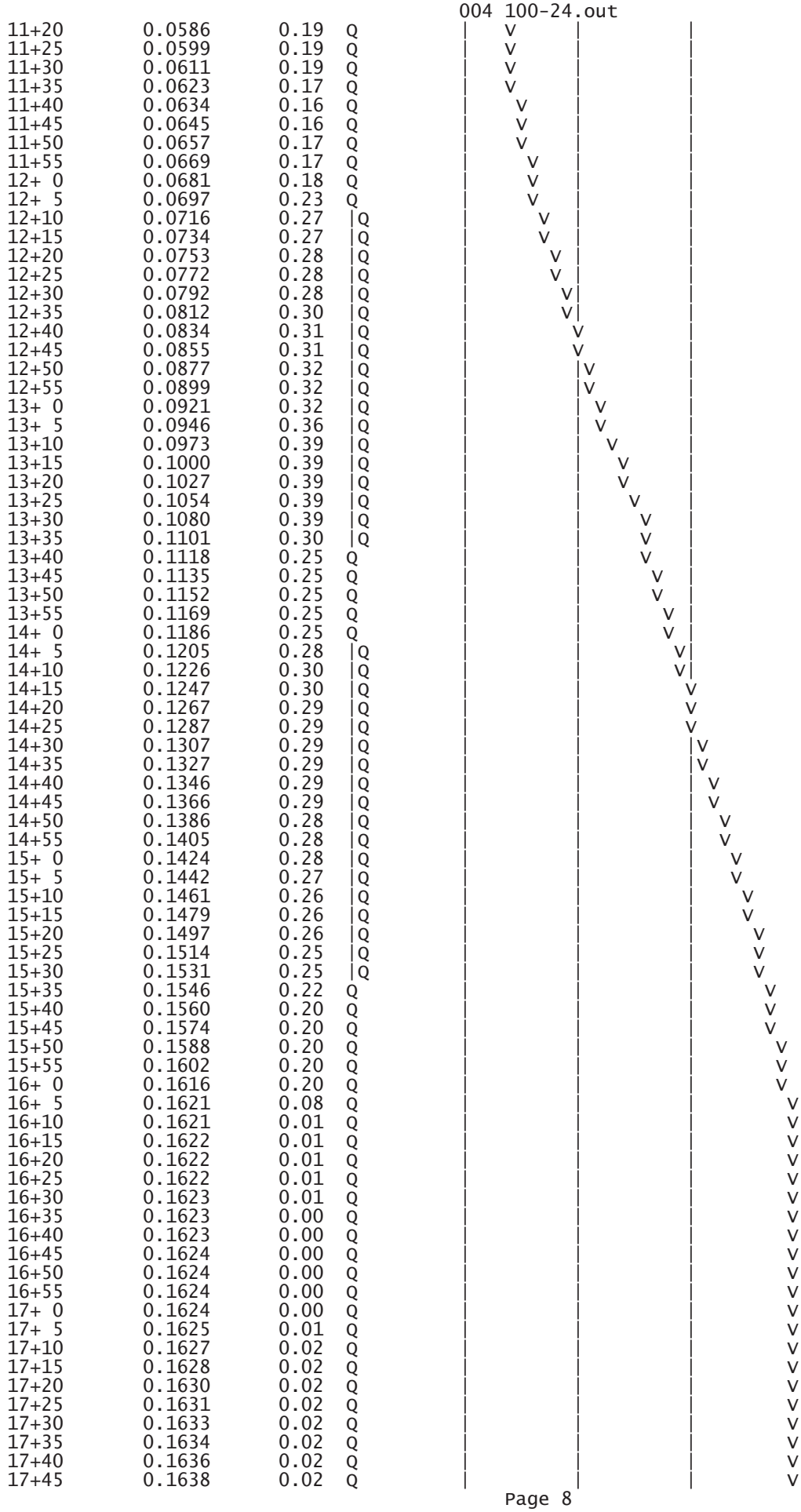
Peak flow rate of this hydrograph = 0.390(CFS)

24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0000 | 0.00 | Q | | | | |
| 0+10 | 0.0000 | 0.00 | Q | | | | |
| 0+15 | 0.0000 | 0.00 | Q | | | | |
| 0+20 | 0.0001 | 0.00 | Q | | | | |
| 0+25 | 0.0001 | 0.00 | Q | | | | |
| 0+30 | 0.0001 | 0.00 | Q | | | | |
| 0+35 | 0.0002 | 0.00 | Q | | | | |
| 0+40 | 0.0002 | 0.00 | Q | | | | |
| 0+45 | 0.0002 | 0.00 | Q | | | | |
| 0+50 | 0.0002 | 0.00 | Q | | | | |
| 0+55 | 0.0003 | 0.01 | Q | | | | |
| 1+ 0 | 0.0003 | 0.01 | Q | | | | |
| 1+ 5 | 0.0003 | 0.00 | Q | | | | |
| 1+10 | 0.0004 | 0.00 | Q | | | | |
| 1+15 | 0.0004 | 0.00 | Q | | | | |
| 1+20 | 0.0004 | 0.00 | Q | | | | |
| 1+25 | 0.0005 | 0.00 | Q | | | | |
| 1+30 | 0.0005 | 0.00 | Q | | | | |
| 1+35 | 0.0005 | 0.00 | Q | | | | |
| 1+40 | 0.0005 | 0.00 | Q | | | | |
| 1+45 | 0.0006 | 0.00 | Q | | | | |
| 1+50 | 0.0006 | 0.00 | Q | | | | |
| 1+55 | 0.0006 | 0.01 | Q | | | | |
| 2+ 0 | 0.0007 | 0.01 | Q | | | | |
| 2+ 5 | 0.0007 | 0.01 | Q | | | | |
| 2+10 | 0.0007 | 0.01 | Q | | | | |
| 2+15 | 0.0008 | 0.01 | Q | | | | |
| 2+20 | 0.0008 | 0.01 | Q | | | | |
| 2+25 | 0.0008 | 0.01 | Q | | | | |
| 2+30 | 0.0009 | 0.01 | Q | | | | |
| 2+35 | 0.0009 | 0.01 | Q | | | | |
| 2+40 | 0.0010 | 0.01 | Q | | | | |
| 2+45 | 0.0010 | 0.01 | Q | | | | |
| 2+50 | 0.0011 | 0.01 | Q | | | | |
| 2+55 | 0.0011 | 0.01 | Q | | | | |
| 3+ 0 | 0.0011 | 0.01 | Q | | | | |
| 3+ 5 | 0.0012 | 0.01 | Q | | | | |
| 3+10 | 0.0012 | 0.01 | Q | | | | |
| 3+15 | 0.0013 | 0.01 | Q | | | | |
| 3+20 | 0.0013 | 0.01 | Q | | | | |
| 3+25 | 0.0014 | 0.01 | Q | | | | |
| 3+30 | 0.0014 | 0.01 | Q | | | | |
| 3+35 | 0.0015 | 0.01 | Q | | | | |
| 3+40 | 0.0015 | 0.01 | Q | | | | |
| 3+45 | 0.0016 | 0.01 | Q | | | | |
| 3+50 | 0.0016 | 0.01 | Q | | | | |
| 3+55 | 0.0017 | 0.01 | Q | | | | |
| 4+ 0 | 0.0017 | 0.01 | Q | | | | |
| 4+ 5 | 0.0018 | 0.01 | Q | | | | |
| 4+10 | 0.0018 | 0.01 | Q | | | | |
| 4+15 | 0.0019 | 0.01 | Q | | | | |
| 4+20 | 0.0019 | 0.01 | Q | | | | |
| 4+25 | 0.0020 | 0.01 | Q | | | | |
| 4+30 | 0.0021 | 0.01 | Q | | | | |
| 4+35 | 0.0021 | 0.01 | Q | | | | |
| 4+40 | 0.0022 | 0.01 | Q | | | | |
| 4+45 | 0.0023 | 0.01 | Q | | | | |

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 4+50       0.0023      0.01  Q          |          |          |          |
 4+55       0.0024      0.01  Q          |          |          |          |
 5+ 0       0.0025      0.01  Q          |          |          |          |
 5+ 5       0.0026      0.01  Q          |          |          |          |
 5+10       0.0027      0.01  Q          |          |          |          |
 5+15       0.0027      0.01  Q          |          |          |          |
 5+20       0.0028      0.01  Q          |          |          |          |
 5+25       0.0028      0.01  Q          |          |          |          |
 5+30       0.0029      0.01  Q          |          |          |          |
 5+35       0.0030      0.01  Q          |          |          |          |
 5+40       0.0031      0.02  Q          |          |          |          |
 5+45       0.0033      0.02  Q          |          |          |          |
 5+50       0.0034      0.02  Q          |          |          |          |
 5+55       0.0035      0.02  Q          |          |          |          |
 6+ 0       0.0036      0.02  Q          |          |          |          |
 6+ 5       0.0038      0.03  Q          |          |          |          |
 6+10       0.0041      0.03  Q          |          |          |          |
 6+15       0.0043      0.03  QV         |          |          |          |
 6+20       0.0045      0.03  QV         |          |          |          |
 6+25       0.0048      0.03  QV         |          |          |          |
 6+30       0.0050      0.03  QV         |          |          |          |
 6+35       0.0053      0.04  QV         |          |          |          |
 6+40       0.0056      0.05  QV         |          |          |          |
 6+45       0.0060      0.05  QV         |          |          |          |
 6+50       0.0063      0.05  QV         |          |          |          |
 6+55       0.0067      0.05  QV         |          |          |          |
 7+ 0       0.0070      0.05  QV         |          |          |          |
 7+ 5       0.0074      0.05  QV         |          |          |          |
 7+10       0.0077      0.05  QV         |          |          |          |
 7+15       0.0081      0.05  QV         |          |          |          |
 7+20       0.0085      0.06  Q V        |          |          |          |
 7+25       0.0089      0.07  Q V        |          |          |          |
 7+30       0.0094      0.07  Q V        |          |          |          |
 7+35       0.0099      0.07  Q V        |          |          |          |
 7+40       0.0104      0.08  Q V        |          |          |          |
 7+45       0.0110      0.08  Q V        |          |          |          |
 7+50       0.0116      0.09  Q V        |          |          |          |
 7+55       0.0122      0.09  Q V        |          |          |          |
 8+ 0       0.0129      0.09  Q  V       |          |          |          |
 8+ 5       0.0136      0.11  Q  V       |          |          |          |
 8+10       0.0145      0.12  Q  V       |          |          |          |
 8+15       0.0153      0.12  Q  V       |          |          |          |
 8+20       0.0161      0.12  Q  V       |          |          |          |
 8+25       0.0170      0.12  Q   V      |          |          |          |
 8+30       0.0178      0.12  Q   V      |          |          |          |
 8+35       0.0187      0.13  Q   V      |          |          |          |
 8+40       0.0197      0.14  Q   V      |          |          |          |
 8+45       0.0206      0.14  Q   V      |          |          |          |
 8+50       0.0216      0.14  Q    V     |          |          |          |
 8+55       0.0226      0.15  Q    V     |          |          |          |
 9+ 0       0.0237      0.15  Q    V     |          |          |          |
 9+ 5       0.0248      0.17  Q    V     |          |          |          |
 9+10       0.0260      0.18  Q     V    |          |          |          |
 9+15       0.0273      0.18  Q     V    |          |          |          |
 9+20       0.0285      0.19  Q     V    |          |          |          |
 9+25       0.0299      0.19  Q      V   |          |          |          |
 9+30       0.0312      0.19  Q      V   |          |          |          |
 9+35       0.0326      0.20  Q      V   |          |          |          |
 9+40       0.0340      0.21  Q       V  |          |          |          |
 9+45       0.0354      0.21  Q       V  |          |          |          |
 9+50       0.0369      0.21  Q       V  |          |          |          |
 9+55       0.0384      0.22  Q        V |          |          |          |
10+ 0       0.0399      0.22  Q        V |          |          |          |
10+ 5       0.0410      0.16  Q        V |          |          |          |
10+10       0.0419      0.13  Q         V          |          |          |
10+15       0.0428      0.13  Q         V          |          |          |
10+20       0.0437      0.13  Q         V          |          |          |
10+25       0.0446      0.13  Q         V          |          |          |
10+30       0.0455      0.13  Q         V          |          |          |
10+35       0.0467      0.17  Q         |V         |          |          |
10+40       0.0480      0.20  Q         |V         |          |          |
10+45       0.0494      0.20  Q         |V         |          |          |
10+50       0.0507      0.20  Q         | V        |          |          |
10+55       0.0521      0.20  Q         | V        |          |          |
11+ 0       0.0534      0.20  Q         | V        |          |          |
11+ 5       0.0547      0.19  Q         |  V       |          |          |
11+10       0.0560      0.19  Q         |  V       |          |          |
11+15       0.0573      0.19  Q         |  V       |          |          |
```



| | | | | |
|---|---|---|---|---|
| 11+20 | 0.0586 | 0.19 | Q | \| V \| \| \| |
| 11+25 | 0.0599 | 0.19 | Q | \| V \| \| \| |
| 11+30 | 0.0611 | 0.19 | Q | \| V \| \| \| |
| 11+35 | 0.0623 | 0.17 | Q | \| V \| \| \| |
| 11+40 | 0.0634 | 0.16 | Q | \| V \| \| \| |
| 11+45 | 0.0645 | 0.16 | Q | \| V \| \| \| |
| 11+50 | 0.0657 | 0.17 | Q | \| V \| \| \| |
| 11+55 | 0.0669 | 0.17 | Q | \| V \| \| \| |
| 12+ 0 | 0.0681 | 0.18 | Q | \| V \| \| \| |
| 12+ 5 | 0.0697 | 0.23 | Q | \| V \| \| \| |
| 12+10 | 0.0716 | 0.27 | \|Q | \| V \| \| \| |
| 12+15 | 0.0734 | 0.27 | \|Q | \| V \| \| \| |
| 12+20 | 0.0753 | 0.28 | \|Q | \| V \| \| \| |
| 12+25 | 0.0772 | 0.28 | \|Q | \| V \| \| \| |
| 12+30 | 0.0792 | 0.28 | \|Q | \| V\| \| \| |
| 12+35 | 0.0812 | 0.30 | \|Q | \| V\| \| \| |
| 12+40 | 0.0834 | 0.31 | \|Q | \| V \| \| |
| 12+45 | 0.0855 | 0.31 | \|Q | \| V \| \| |
| 12+50 | 0.0877 | 0.32 | \|Q | \| V\| \| |
| 12+55 | 0.0899 | 0.32 | \|Q | \| V\| \| |
| 13+ 0 | 0.0921 | 0.32 | \|Q | \| V \| \| |
| 13+ 5 | 0.0946 | 0.36 | \|Q | \| V \| \| |
| 13+10 | 0.0973 | 0.39 | \|Q | \| V \| \| |
| 13+15 | 0.1000 | 0.39 | \|Q | \| V \| \| |
| 13+20 | 0.1027 | 0.39 | \|Q | \| V \| \| |
| 13+25 | 0.1054 | 0.39 | \|Q | \| V \| \| |
| 13+30 | 0.1080 | 0.39 | \|Q | \| V \| \| |
| 13+35 | 0.1101 | 0.30 | \|Q | \| V \| \| |
| 13+40 | 0.1118 | 0.25 | Q | \| V \| \| |
| 13+45 | 0.1135 | 0.25 | Q | \| V \| \| |
| 13+50 | 0.1152 | 0.25 | Q | \| V \| \| |
| 13+55 | 0.1169 | 0.25 | Q | \| V \| \| |
| 14+ 0 | 0.1186 | 0.25 | Q | \| V \| \| |
| 14+ 5 | 0.1205 | 0.28 | \|Q | \| V\| \| |
| 14+10 | 0.1226 | 0.30 | \|Q | \| V\| \| |
| 14+15 | 0.1247 | 0.30 | \|Q | \| V \| |
| 14+20 | 0.1267 | 0.29 | \|Q | \| V \| |
| 14+25 | 0.1287 | 0.29 | \|Q | \| V \| |
| 14+30 | 0.1307 | 0.29 | \|Q | \| \|V \| |
| 14+35 | 0.1327 | 0.29 | \|Q | \| \|V \| |
| 14+40 | 0.1346 | 0.29 | \|Q | \| V \| |
| 14+45 | 0.1366 | 0.29 | \|Q | \| V \| |
| 14+50 | 0.1386 | 0.28 | \|Q | \| V \| |
| 14+55 | 0.1405 | 0.28 | \|Q | \| V \| |
| 15+ 0 | 0.1424 | 0.28 | \|Q | \| V \| |
| 15+ 5 | 0.1442 | 0.27 | \|Q | \| V \| |
| 15+10 | 0.1461 | 0.26 | \|Q | \| V \| |
| 15+15 | 0.1479 | 0.26 | \|Q | \| V \| |
| 15+20 | 0.1497 | 0.26 | \|Q | \| V \| |
| 15+25 | 0.1514 | 0.25 | \|Q | \| V \| |
| 15+30 | 0.1531 | 0.25 | \|Q | \| V \| |
| 15+35 | 0.1546 | 0.22 | Q | \| V \| |
| 15+40 | 0.1560 | 0.20 | Q | \| V \| |
| 15+45 | 0.1574 | 0.20 | Q | \| V \| |
| 15+50 | 0.1588 | 0.20 | Q | \| V \| |
| 15+55 | 0.1602 | 0.20 | Q | \| V \| |
| 16+ 0 | 0.1616 | 0.20 | Q | \| V \| |
| 16+ 5 | 0.1621 | 0.08 | Q | \| V\| |
| 16+10 | 0.1621 | 0.01 | Q | \| V\| |
| 16+15 | 0.1622 | 0.01 | Q | \| V\| |
| 16+20 | 0.1622 | 0.01 | Q | \| V\| |
| 16+25 | 0.1622 | 0.01 | Q | \| V\| |
| 16+30 | 0.1623 | 0.01 | Q | \| V\| |
| 16+35 | 0.1623 | 0.00 | Q | \| V\| |
| 16+40 | 0.1623 | 0.00 | Q | \| V\| |
| 16+45 | 0.1624 | 0.00 | Q | \| V\| |
| 16+50 | 0.1624 | 0.00 | Q | \| V\| |
| 16+55 | 0.1624 | 0.00 | Q | \| V\| |
| 17+ 0 | 0.1624 | 0.00 | Q | \| V\| |
| 17+ 5 | 0.1625 | 0.01 | Q | \| V\| |
| 17+10 | 0.1627 | 0.02 | Q | \| V\| |
| 17+15 | 0.1628 | 0.02 | Q | \| V\| |
| 17+20 | 0.1630 | 0.02 | Q | \| V\| |
| 17+25 | 0.1631 | 0.02 | Q | \| V\| |
| 17+30 | 0.1633 | 0.02 | Q | \| V\| |
| 17+35 | 0.1634 | 0.02 | Q | \| V\| |
| 17+40 | 0.1636 | 0.02 | Q | \| V\| |
| 17+45 | 0.1638 | 0.02 | Q | \| V\| |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+50 | 0.1639 | 0.01 | Q | \| | \| | \| | V\| |
| 17+55 | 0.1639 | 0.01 | Q | \| | \| | \| | V\| |
| 18+ 0 | 0.1640 | 0.01 | Q | \| | \| | \| | V\| |
| 18+ 5 | 0.1641 | 0.01 | Q | \| | \| | \| | V\| |
| 18+10 | 0.1641 | 0.01 | Q | \| | \| | \| | V\| |
| 18+15 | 0.1642 | 0.01 | Q | \| | \| | \| | V\| |
| 18+20 | 0.1643 | 0.01 | Q | \| | \| | \| | V\| |
| 18+25 | 0.1644 | 0.01 | Q | \| | \| | \| | V\| |
| 18+30 | 0.1645 | 0.01 | Q | \| | \| | \| | V\| |
| 18+35 | 0.1645 | 0.01 | Q | \| | \| | \| | V\| |
| 18+40 | 0.1645 | 0.00 | Q | \| | \| | \| | V\| |
| 18+45 | 0.1646 | 0.00 | Q | \| | \| | \| | V\| |
| 18+50 | 0.1646 | 0.00 | Q | \| | \| | \| | V\| |
| 18+55 | 0.1646 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 0 | 0.1646 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 5 | 0.1646 | 0.00 | Q | \| | \| | \| | V\| |
| 19+10 | 0.1647 | 0.00 | Q | \| | \| | \| | V\| |
| 19+15 | 0.1647 | 0.00 | Q | \| | \| | \| | V\| |
| 19+20 | 0.1648 | 0.01 | Q | \| | \| | \| | V\| |
| 19+25 | 0.1649 | 0.01 | Q | \| | \| | \| | V\| |
| 19+30 | 0.1650 | 0.01 | Q | \| | \| | \| | V\| |
| 19+35 | 0.1650 | 0.01 | Q | \| | \| | \| | V\| |
| 19+40 | 0.1650 | 0.00 | Q | \| | \| | \| | V\| |
| 19+45 | 0.1651 | 0.00 | Q | \| | \| | \| | V\| |
| 19+50 | 0.1651 | 0.00 | Q | \| | \| | \| | V\| |
| 19+55 | 0.1651 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 0 | 0.1651 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 5 | 0.1651 | 0.00 | Q | \| | \| | \| | V\| |
| 20+10 | 0.1652 | 0.00 | Q | \| | \| | \| | V\| |
| 20+15 | 0.1652 | 0.00 | Q | \| | \| | \| | V\| |
| 20+20 | 0.1652 | 0.00 | Q | \| | \| | \| | V\| |
| 20+25 | 0.1652 | 0.00 | Q | \| | \| | \| | V\| |
| 20+30 | 0.1653 | 0.00 | Q | \| | \| | \| | V\| |
| 20+35 | 0.1653 | 0.00 | Q | \| | \| | \| | V\| |
| 20+40 | 0.1653 | 0.00 | Q | \| | \| | \| | V\| |
| 20+45 | 0.1654 | 0.00 | Q | \| | \| | \| | V\| |
| 20+50 | 0.1654 | 0.00 | Q | \| | \| | \| | V\| |
| 20+55 | 0.1654 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 0 | 0.1654 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 5 | 0.1654 | 0.00 | Q | \| | \| | \| | V\| |
| 21+10 | 0.1655 | 0.00 | Q | \| | \| | \| | V\| |
| 21+15 | 0.1655 | 0.00 | Q | \| | \| | \| | V\| |
| 21+20 | 0.1655 | 0.00 | Q | \| | \| | \| | V\| |
| 21+25 | 0.1655 | 0.00 | Q | \| | \| | \| | V\| |
| 21+30 | 0.1656 | 0.00 | Q | \| | \| | \| | V\| |
| 21+35 | 0.1656 | 0.00 | Q | \| | \| | \| | V\| |
| 21+40 | 0.1656 | 0.00 | Q | \| | \| | \| | V\| |
| 21+45 | 0.1656 | 0.00 | Q | \| | \| | \| | V\| |
| 21+50 | 0.1657 | 0.00 | Q | \| | \| | \| | V\| |
| 21+55 | 0.1657 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 0 | 0.1657 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 5 | 0.1657 | 0.00 | Q | \| | \| | \| | V\| |
| 22+10 | 0.1658 | 0.01 | Q | \| | \| | \| | V\| |
| 22+15 | 0.1658 | 0.01 | Q | \| | \| | \| | V\| |
| 22+20 | 0.1658 | 0.00 | Q | \| | \| | \| | V\| |
| 22+25 | 0.1659 | 0.00 | Q | \| | \| | \| | V\| |
| 22+30 | 0.1659 | 0.00 | Q | \| | \| | \| | V\| |
| 22+35 | 0.1659 | 0.00 | Q | \| | \| | \| | V\| |
| 22+40 | 0.1659 | 0.00 | Q | \| | \| | \| | V\| |
| 22+45 | 0.1659 | 0.00 | Q | \| | \| | \| | V\| |
| 22+50 | 0.1659 | 0.00 | Q | \| | \| | \| | V\| |
| 22+55 | 0.1660 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 0 | 0.1660 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 5 | 0.1660 | 0.00 | Q | \| | \| | \| | V\| |
| 23+10 | 0.1660 | 0.00 | Q | \| | \| | \| | V\| |
| 23+15 | 0.1660 | 0.00 | Q | \| | \| | \| | V\| |
| 23+20 | 0.1660 | 0.00 | Q | \| | \| | \| | V\| |
| 23+25 | 0.1661 | 0.00 | Q | \| | \| | \| | V\| |
| 23+30 | 0.1661 | 0.00 | Q | \| | \| | \| | V\| |
| 23+35 | 0.1661 | 0.00 | Q | \| | \| | \| | V\| |
| 23+40 | 0.1661 | 0.00 | Q | \| | \| | \| | V\| |
| 23+45 | 0.1661 | 0.00 | Q | \| | \| | \| | V\| |
| 23+50 | 0.1662 | 0.00 | Q | \| | \| | \| | V\| |
| 23+55 | 0.1662 | 0.00 | Q | \| | \| | \| | V\| |
| 24+ 0 | 0.1662 | 0.00 | Q | \| | \| | \| | V\| |
| 24+ 5 | 0.1662 | 0.00 | Q | \| | \| | \| | V\| |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/19/17 File: EX51100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 5
100-YEAR STORM EVENT
BY: JDN, DATE: 12-19-17

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Drainage Area = 1.50(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.50(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 472.00(Ft.)
Length along longest watercourse measured to centroid = 283.00(Ft.)
Length along longest watercourse = 0.089 Mi.
Length along longest watercourse measured to centroid = 0.054 Mi.
Difference in elevation = 88.00(Ft.)
Slope along watercourse = 984.4068 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.030 Hr.
Lag time = 1.79 Min.
25% of lag time = 0.45 Min.
40% of lag time = 0.72 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.50 | 0.50 | 0.75 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.50 | 1.20 | 1.80 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 1.500 | 83.69 | 0.000 |

Total Area Entered = 1.50(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.7 | 93.2 | 0.088 | 0.000 | 0.088 | 1.000 | 0.088 |
| | | | | | Sum (F) = | 0.088 |

Area averaged mean soil loss (F) (In/Hr) = 0.088

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

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| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 279.684 | 55.177 | 0.834 |
| 2 | 0.167 | 559.368 | 42.139 | 0.637 |
| 3 | 0.250 | 839.052 | 2.684 | 0.041 |
| | | Sum = 100.000 | Sum= | 1.512 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.088 | ( 0.544) | 0.517 |
| 2 | 0.17 | 4.30 | 0.619 | 0.088 | ( 0.557) | 0.531 |
| 3 | 0.25 | 5.00 | 0.720 | 0.088 | ( 0.648) | 0.632 |
| 4 | 0.33 | 5.00 | 0.720 | 0.088 | ( 0.648) | 0.632 |
| 5 | 0.42 | 5.80 | 0.835 | 0.088 | ( 0.752) | 0.747 |
| 6 | 0.50 | 6.50 | 0.936 | 0.088 | ( 0.842) | 0.848 |
| 7 | 0.58 | 7.40 | 1.066 | 0.088 | ( 0.959) | 0.977 |
| 8 | 0.67 | 8.60 | 1.238 | 0.088 | ( 1.115) | 1.150 |
| 9 | 0.75 | 12.30 | 1.771 | 0.088 | ( 1.594) | 1.683 |
| 10 | 0.83 | 29.10 | 4.190 | 0.088 | ( 3.771) | 4.102 |
| 11 | 0.92 | 6.80 | 0.979 | 0.088 | ( 0.881) | 0.891 |
| 12 | 1.00 | 5.00 | 0.720 | 0.088 | ( 0.648) | 0.632 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 13.3 |

Flood volume = Effective rainfall 1.11(In)
times area 1.5(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.011(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 6053.6 Cubic Feet
Total soil loss = 480.3 Cubic Feet

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Peak flow rate of this hydrograph = 4.543(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0030 | 0.43 | VQ | | | | |
| 0+10 | 0.0083 | 0.77 | \| VQ | | | | |
| 0+15 | 0.0144 | 0.89 | \| QV | | | | |
| 0+20 | 0.0209 | 0.95 | \| Q V | | | | |
| 0+25 | 0.0282 | 1.05 | \| Q V | | | | |
| 0+30 | 0.0365 | 1.21 | \| Q V | | | | |
| 0+35 | 0.0461 | 1.39 | \| Q \| V | | | | |
| 0+40 | 0.0572 | 1.62 | \| Q \| V | | | | |
| 0+45 | 0.0722 | 2.18 | \| Q \| V | | | | |
| 0+50 | 0.1035 | 4.54 | \| \| Q \| V \| | | | |
| 0+55 | 0.1271 | 3.43 | \| \| Q \| \| V \| | | | |
| 1+ 0 | 0.1358 | 1.26 | \| Q \| \| \| V| | | |
| 1+ 5 | 0.1388 | 0.44 | \|Q \| \| \| V| | | |
| 1+10 | 0.1390 | 0.03 | Q \| \| \| V | | |

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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/19/17 File: EX53100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 5
100-YEAR STORM EVENT
BY: JDN, DATE: 12-19-17

---

Drainage Area = 1.50(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.50(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 472.00(Ft.)
Length along longest watercourse measured to centroid = 283.00(Ft.)
Length along longest watercourse = 0.089 Mi.
Length along longest watercourse measured to centroid = 0.054 Mi.
Difference in elevation = 88.00(Ft.)
Slope along watercourse = 984.4068 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.030 Hr.
Lag time = 1.79 Min.
25% of lag time = 0.45 Min.
40% of lag time = 0.72 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.50 | 0.81 | 1.22 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.50 | 1.81 | 2.71 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.810(In)
Area Averaged 100-Year Rainfall = 1.810(In)

Point rain (area averaged) = 1.810(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.810(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 1.500 | 83.69 | 0.000 |

Total Area Entered = 1.50(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.7 | 93.2 | 0.088 | 0.000 | 0.088 | 1.000 | 0.088 |
| | | | | | Sum (F) = | 0.088 |

Area averaged mean soil loss (F) (In/Hr) = 0.088

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 279.684 | 55.177 | 0.834 |
| 2 | 0.167 | 559.368 | 42.139 | 0.637 |
| 3 | 0.250 | 839.052 | 2.684 | 0.041 |
| | | Sum = 100.000 | Sum= | 1.512 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.282 | 0.088 | ( 0.254) | 0.194 |
| 2 | 0.17 | 1.30 | 0.282 | 0.088 | ( 0.254) | 0.194 |
| 3 | 0.25 | 1.10 | 0.239 | 0.088 | ( 0.215) | 0.151 |
| 4 | 0.33 | 1.50 | 0.326 | 0.088 | ( 0.293) | 0.238 |
| 5 | 0.42 | 1.50 | 0.326 | 0.088 | ( 0.293) | 0.238 |
| 6 | 0.50 | 1.80 | 0.391 | 0.088 | ( 0.352) | 0.303 |
| 7 | 0.58 | 1.50 | 0.326 | 0.088 | ( 0.293) | 0.238 |
| 8 | 0.67 | 1.80 | 0.391 | 0.088 | ( 0.352) | 0.303 |
| 9 | 0.75 | 1.80 | 0.391 | 0.088 | ( 0.352) | 0.303 |
| 10 | 0.83 | 1.50 | 0.326 | 0.088 | ( 0.293) | 0.238 |
| 11 | 0.92 | 1.60 | 0.348 | 0.088 | ( 0.313) | 0.259 |
| 12 | 1.00 | 1.80 | 0.391 | 0.088 | ( 0.352) | 0.303 |
| 13 | 1.08 | 2.20 | 0.478 | 0.088 | ( 0.430) | 0.390 |
| 14 | 1.17 | 2.20 | 0.478 | 0.088 | ( 0.430) | 0.390 |
| 15 | 1.25 | 2.20 | 0.478 | 0.088 | ( 0.430) | 0.390 |
| 16 | 1.33 | 2.00 | 0.434 | 0.088 | ( 0.391) | 0.346 |
| 17 | 1.42 | 2.60 | 0.565 | 0.088 | ( 0.508) | 0.476 |
| 18 | 1.50 | 2.70 | 0.586 | 0.088 | ( 0.528) | 0.498 |
| 19 | 1.58 | 2.40 | 0.521 | 0.088 | ( 0.469) | 0.433 |
| 20 | 1.67 | 2.70 | 0.586 | 0.088 | ( 0.528) | 0.498 |
| 21 | 1.75 | 3.30 | 0.717 | 0.088 | ( 0.645) | 0.629 |
| 22 | 1.83 | 3.10 | 0.673 | 0.088 | ( 0.606) | 0.585 |
| 23 | 1.92 | 2.90 | 0.630 | 0.088 | ( 0.567) | 0.542 |
| 24 | 2.00 | 3.00 | 0.652 | 0.088 | ( 0.586) | 0.563 |
| 25 | 2.08 | 3.10 | 0.673 | 0.088 | ( 0.606) | 0.585 |
| 26 | 2.17 | 4.20 | 0.912 | 0.088 | ( 0.821) | 0.824 |
| 27 | 2.25 | 5.00 | 1.086 | 0.088 | ( 0.977) | 0.998 |
| 28 | 2.33 | 3.50 | 0.760 | 0.088 | ( 0.684) | 0.672 |
| 29 | 2.42 | 6.80 | 1.477 | 0.088 | ( 1.329) | 1.389 |
| 30 | 2.50 | 7.30 | 1.586 | 0.088 | ( 1.427) | 1.497 |
| 31 | 2.58 | 8.20 | 1.781 | 0.088 | ( 1.603) | 1.693 |
| 32 | 2.67 | 5.90 | 1.281 | 0.088 | ( 1.153) | 1.193 |
| 33 | 2.75 | 2.00 | 0.434 | 0.088 | ( 0.391) | 0.346 |
| 34 | 2.83 | 1.80 | 0.391 | 0.088 | ( 0.352) | 0.303 |
| 35 | 2.92 | 1.80 | 0.391 | 0.088 | ( 0.352) | 0.303 |
| 36 | 3.00 | 0.60 | 0.130 | 0.088 | ( 0.117) | 0.042 |
| | | (Loss Rate Not Used) | | | |
| Sum = | | 100.0 | | | Sum = 18.5 |

Flood volume = Effective rainfall 1.55(In)
times area 1.5(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.033(Ac.Ft)
Total rainfall = 1.81(In)
Flood volume = 8414.3 Cubic Feet
Total soil loss = 1441.0 Cubic Feet

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Peak flow rate of this hydrograph = 2.423(CFS)

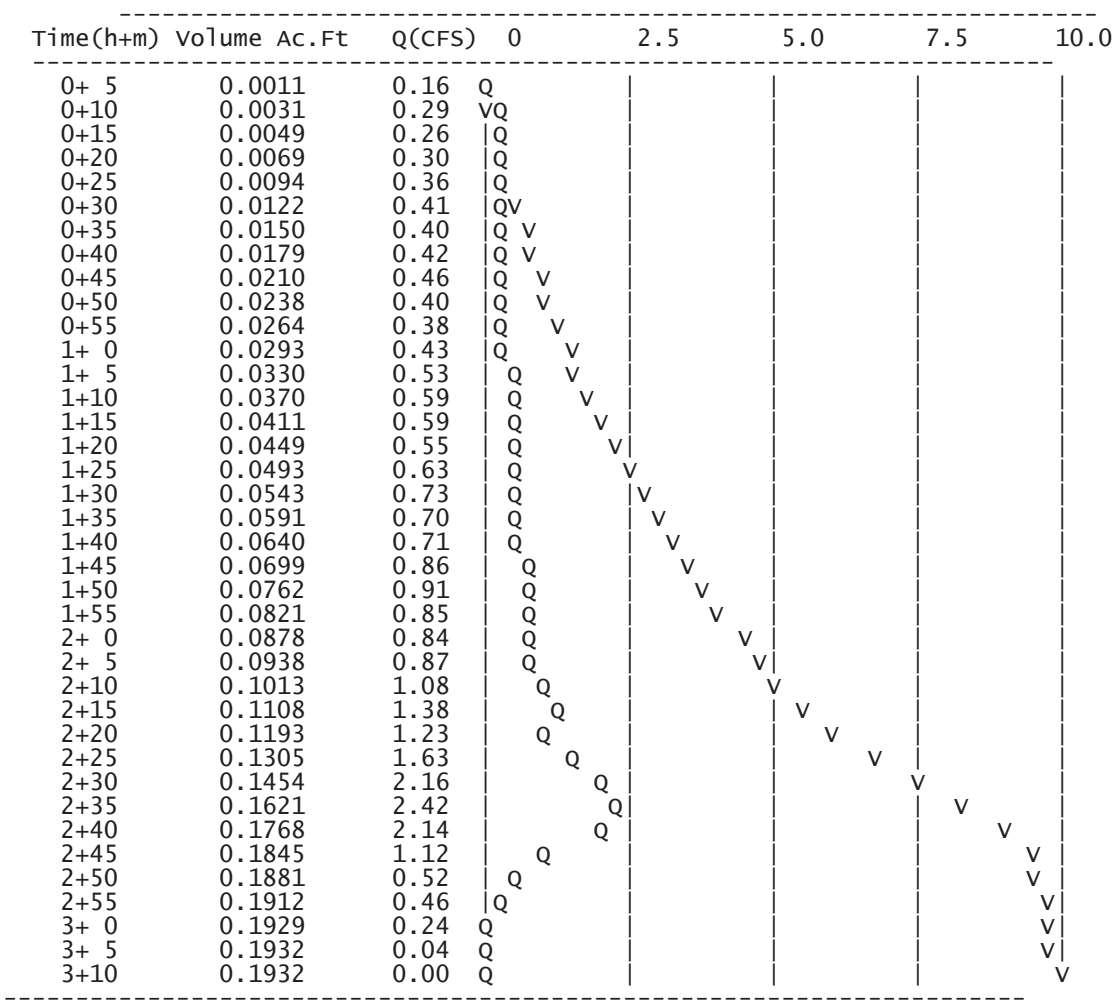
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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))


Time(h+m) Volume Ac.Ft Q(CFS) 0 2.5 5.0 7.5 10.0
0+ 5 0.0011 0.16
0+10 0.0031 0.29
0+15 0.0049 0.26
0+20 0.0069 0.30
0+25 0.0094 0.36
0+30 0.0122 0.41
0+35 0.0150 0.40
0+40 0.0179 0.42
0+45 0.0210 0.46
0+50 0.0238 0.40
0+55 0.0264 0.38
1+ 0 0.0293 0.43
1+ 5 0.0330 0.53
1+10 0.0370 0.59
1+15 0.0411 0.59
1+20 0.0449 0.55
1+25 0.0493 0.63
1+30 0.0543 0.73
1+35 0.0591 0.70
1+40 0.0640 0.71
1+45 0.0699 0.86
1+50 0.0762 0.91
1+55 0.0821 0.85
2+ 0 0.0878 0.84
2+ 5 0.0938 0.87
2+10 0.1013 1.08
2+15 0.1108 1.38
2+20 0.1193 1.23
2+25 0.1305 1.63
2+30 0.1454 2.16
2+35 0.1621 2.42
2+40 0.1768 2.14
2+45 0.1845 1.12
2+50 0.1881 0.52
2+55 0.1912 0.46
3+ 0 0.1929 0.24
3+ 5 0.1932 0.04
3+10 0.1932 0.00

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/19/17 File: EX56100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 5
100-YEAR STORM EVENT
BY: JDN, DATE: 12-19-17

---

Drainage Area = 1.50(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.50(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 472.00(Ft.)
Length along longest watercourse measured to centroid = 283.00(Ft.)
Length along longest watercourse = 0.089 Mi.
Length along longest watercourse measured to centroid = 0.054 Mi.
Difference in elevation = 88.00(Ft.)
Slope along watercourse = 984.4068 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.030 Hr.
Lag time = 1.79 Min.
25% of lag time = 0.45 Min.
40% of lag time = 0.72 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.50 | 1.13 | 1.69 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.50 | 2.50 | 3.75 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.130(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 1.500 | 83.69 | 0.000 |

Total Area Entered = 1.50(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.7 | 93.2 | 0.088 | 0.000 | 0.088 | 1.000 | 0.088 |
| | | | | | Sum (F) = | 0.088 |

Area averaged mean soil loss (F) (In/Hr) = 0.088

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 279.684 | 55.177 | 0.834 |
| 2 0.167 | 559.368 | 42.139 | 0.637 |
| 3 0.250 | 839.052 | 2.684 | 0.041 |
| | | Sum = 100.000 Sum= | 1.512 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.088 | ( 0.135) | 0.062 |
| 2 | 0.17 | 0.60 | 0.180 | 0.088 | ( 0.162) | 0.092 |
| 3 | 0.25 | 0.60 | 0.180 | 0.088 | ( 0.162) | 0.092 |
| 4 | 0.33 | 0.60 | 0.180 | 0.088 | ( 0.162) | 0.092 |
| 5 | 0.42 | 0.60 | 0.180 | 0.088 | ( 0.162) | 0.092 |
| 6 | 0.50 | 0.70 | 0.210 | 0.088 | ( 0.189) | 0.122 |
| 7 | 0.58 | 0.70 | 0.210 | 0.088 | ( 0.189) | 0.122 |
| 8 | 0.67 | 0.70 | 0.210 | 0.088 | ( 0.189) | 0.122 |
| 9 | 0.75 | 0.70 | 0.210 | 0.088 | ( 0.189) | 0.122 |
| 10 | 0.83 | 0.70 | 0.210 | 0.088 | ( 0.189) | 0.122 |
| 11 | 0.92 | 0.70 | 0.210 | 0.088 | ( 0.189) | 0.122 |
| 12 | 1.00 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 13 | 1.08 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 14 | 1.17 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 15 | 1.25 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 16 | 1.33 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 17 | 1.42 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 18 | 1.50 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 19 | 1.58 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 20 | 1.67 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 21 | 1.75 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 22 | 1.83 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 23 | 1.92 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 24 | 2.00 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 25 | 2.08 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 26 | 2.17 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 27 | 2.25 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 28 | 2.33 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 29 | 2.42 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 30 | 2.50 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 31 | 2.58 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 32 | 2.67 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 33 | 2.75 | 1.00 | 0.300 | 0.088 | ( 0.270) | 0.212 |
| 34 | 2.83 | 1.00 | 0.300 | 0.088 | ( 0.270) | 0.212 |
| 35 | 2.92 | 1.00 | 0.300 | 0.088 | ( 0.270) | 0.212 |
| 36 | 3.00 | 1.00 | 0.300 | 0.088 | ( 0.270) | 0.212 |
| 37 | 3.08 | 1.00 | 0.300 | 0.088 | ( 0.270) | 0.212 |
| 38 | 3.17 | 1.10 | 0.330 | 0.088 | ( 0.297) | 0.242 |
| 39 | 3.25 | 1.10 | 0.330 | 0.088 | ( 0.297) | 0.242 |
| 40 | 3.33 | 1.10 | 0.330 | 0.088 | ( 0.297) | 0.242 |
| 41 | 3.42 | 1.20 | 0.360 | 0.088 | ( 0.324) | 0.272 |
| 42 | 3.50 | 1.30 | 0.390 | 0.088 | ( 0.351) | 0.302 |
| 43 | 3.58 | 1.40 | 0.420 | 0.088 | ( 0.378) | 0.332 |
| 44 | 3.67 | 1.40 | 0.420 | 0.088 | ( 0.378) | 0.332 |
| 45 | 3.75 | 1.50 | 0.450 | 0.088 | ( 0.405) | 0.362 |
| 46 | 3.83 | 1.50 | 0.450 | 0.088 | ( 0.405) | 0.362 |
| 47 | 3.92 | 1.60 | 0.480 | 0.088 | ( 0.432) | 0.392 |
| 48 | 4.00 | 1.60 | 0.480 | 0.088 | ( 0.432) | 0.392 |
| 49 | 4.08 | 1.70 | 0.510 | 0.088 | ( 0.459) | 0.422 |
| 50 | 4.17 | 1.80 | 0.540 | 0.088 | ( 0.486) | 0.452 |
| 51 | 4.25 | 1.90 | 0.570 | 0.088 | ( 0.513) | 0.482 |
| 52 | 4.33 | 2.00 | 0.600 | 0.088 | ( 0.540) | 0.512 |
| 53 | 4.42 | 2.10 | 0.630 | 0.088 | ( 0.567) | 0.542 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 54 | 4.50 | 2.10 | 0.630 | 0.088 | ( 0.567) | | 0.542 |
| 55 | 4.58 | 2.20 | 0.660 | 0.088 | ( 0.594) | | 0.572 |
| 56 | 4.67 | 2.30 | 0.690 | 0.088 | ( 0.621) | | 0.602 |
| 57 | 4.75 | 2.40 | 0.720 | 0.088 | ( 0.648) | | 0.632 |
| 58 | 4.83 | 2.40 | 0.720 | 0.088 | ( 0.648) | | 0.632 |
| 59 | 4.92 | 2.50 | 0.750 | 0.088 | ( 0.675) | | 0.662 |
| 60 | 5.00 | 2.60 | 0.780 | 0.088 | ( 0.702) | | 0.692 |
| 61 | 5.08 | 3.10 | 0.930 | 0.088 | ( 0.837) | | 0.842 |
| 62 | 5.17 | 3.60 | 1.080 | 0.088 | ( 0.972) | | 0.992 |
| 63 | 5.25 | 3.90 | 1.170 | 0.088 | ( 1.053) | | 1.082 |
| 64 | 5.33 | 4.20 | 1.260 | 0.088 | ( 1.134) | | 1.172 |
| 65 | 5.42 | 4.70 | 1.410 | 0.088 | ( 1.269) | | 1.322 |
| 66 | 5.50 | 5.60 | 1.680 | 0.088 | ( 1.512) | | 1.592 |
| 67 | 5.58 | 1.90 | 0.570 | 0.088 | ( 0.513) | | 0.482 |
| 68 | 5.67 | 0.90 | 0.270 | 0.088 | ( 0.243) | | 0.182 |
| 69 | 5.75 | 0.60 | 0.180 | 0.088 | ( 0.162) | | 0.092 |
| 70 | 5.83 | 0.50 | 0.150 | 0.088 | ( 0.135) | | 0.062 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.088) | 0.081 | | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.088) | 0.054 | | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.7

Flood volume = Effective rainfall 1.97(In)
times area 1.5(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 0.53(In)
Total soil loss = 0.066(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 10749.1 Cubic Feet
Total soil loss = 2863.3 Cubic Feet

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Peak flow rate of this hydrograph = 2.218(CFS)

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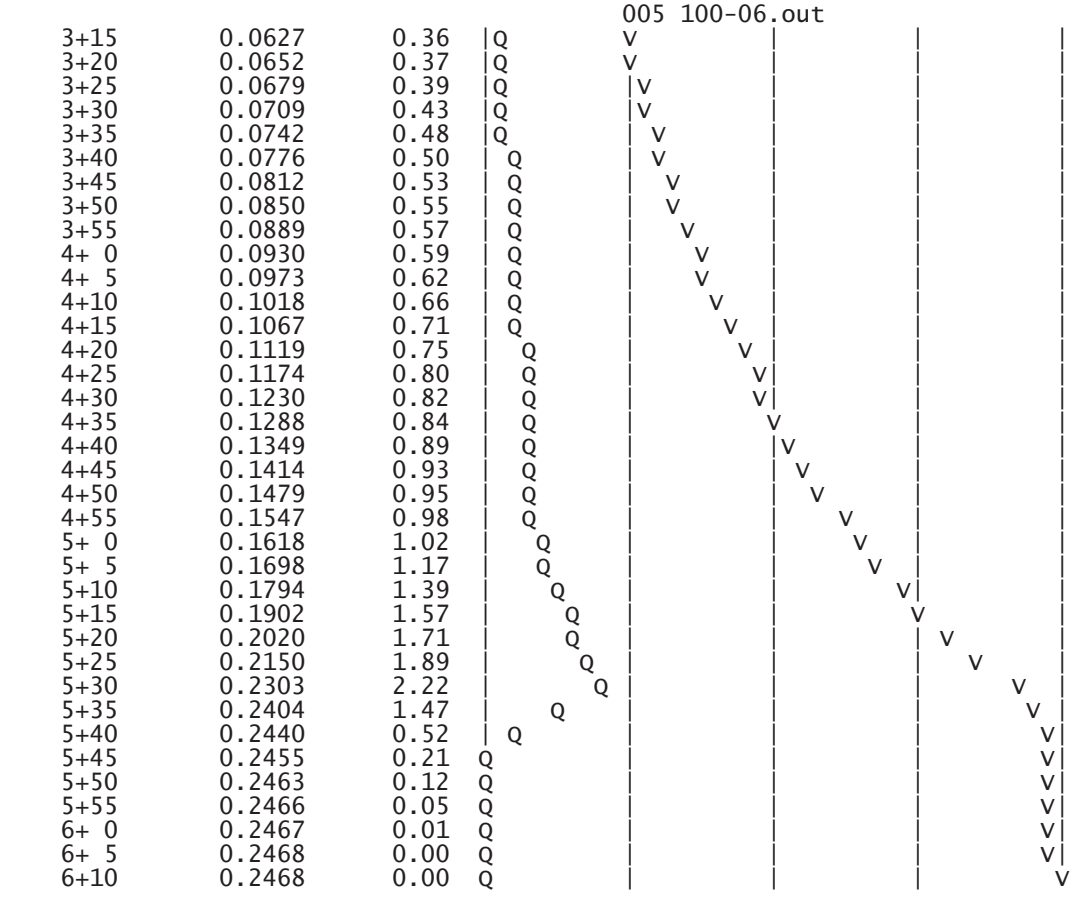
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

---

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0004 | 0.05 | Q | \| | \| | \| | \| |
| 0+10 | 0.0012 | 0.12 | Q | \| | \| | \| | \| |
| 0+15 | 0.0021 | 0.14 | Q | \| | \| | \| | \| |
| 0+20 | 0.0031 | 0.14 | Q | \| | \| | \| | \| |
| 0+25 | 0.0040 | 0.14 | Q | \| | \| | \| | \| |
| 0+30 | 0.0051 | 0.16 | Q | \| | \| | \| | \| |
| 0+35 | 0.0064 | 0.18 | QV | \| | \| | \| | \| |
| 0+40 | 0.0077 | 0.18 | QV | \| | \| | \| | \| |
| 0+45 | 0.0089 | 0.18 | QV | \| | \| | \| | \| |
| 0+50 | 0.0102 | 0.18 | QV | \| | \| | \| | \| |
| 0+55 | 0.0115 | 0.18 | QV | \| | \| | \| | \| |
| 1+ 0 | 0.0129 | 0.21 | Q V | \| | \| | \| | \| |
| 1+ 5 | 0.0145 | 0.23 | Q V | \| | \| | \| | \| |
| 1+10 | 0.0161 | 0.23 | Q V | \| | \| | \| | \| |
| 1+15 | 0.0177 | 0.23 | Q V | \| | \| | \| | \| |
| 1+20 | 0.0192 | 0.23 | Q V | \| | \| | \| | \| |
| 1+25 | 0.0208 | 0.23 | Q V | \| | \| | \| | \| |
| 1+30 | 0.0224 | 0.23 | Q V | \| | \| | \| | \| |
| 1+35 | 0.0240 | 0.23 | Q V | \| | \| | \| | \| |
| 1+40 | 0.0256 | 0.23 | Q V | \| | \| | \| | \| |
| 1+45 | 0.0271 | 0.23 | Q V | \| | \| | \| | \| |
| 1+50 | 0.0287 | 0.23 | Q V | \| | \| | \| | \| |
| 1+55 | 0.0303 | 0.23 | Q V | \| | \| | \| | \| |
| 2+ 0 | 0.0321 | 0.25 | \|Q V | \| | \| | \| | \| |
| 2+ 5 | 0.0338 | 0.25 | Q V | \| | \| | \| | \| |
| 2+10 | 0.0355 | 0.26 | \|Q V | \| | \| | \| | \| |
| 2+15 | 0.0374 | 0.27 | \|Q V | \| | \| | \| | \| |
| 2+20 | 0.0393 | 0.27 | \|Q V | \| | \| | \| | \| |
| 2+25 | 0.0412 | 0.27 | \|Q V | \| | \| | \| | \| |
| 2+30 | 0.0431 | 0.27 | \|Q V | \| | \| | \| | \| |
| 2+35 | 0.0450 | 0.27 | \|Q V | \| | \| | \| | \| |
| 2+40 | 0.0469 | 0.27 | \|Q V | \| | \| | \| | \| |
| 2+45 | 0.0489 | 0.30 | \|Q V | \| | \| | \| | \| |
| 2+50 | 0.0511 | 0.32 | \|Q V | \| | \| | \| | \| |
| 2+55 | 0.0534 | 0.32 | \|Q V | \| | \| | \| | \| |
| 3+ 0 | 0.0556 | 0.32 | \|Q V\| | \| | \| | \| | \| |
| 3+ 5 | 0.0578 | 0.32 | \|Q V\| | \| | \| | \| | \| |
| 3+10 | 0.0601 | 0.35 | \|Q V\| | \| | \| | \| | \| |


3+15 0.0627 0.36
3+20 0.0652 0.37
3+25 0.0679 0.39
3+30 0.0709 0.43
3+35 0.0742 0.48
3+40 0.0776 0.50
3+45 0.0812 0.53
3+50 0.0850 0.55
3+55 0.0889 0.57
4+ 0 0.0930 0.59
4+ 5 0.0973 0.62
4+10 0.1018 0.66
4+15 0.1067 0.71
4+20 0.1119 0.75
4+25 0.1174 0.80
4+30 0.1230 0.82
4+35 0.1288 0.84
4+40 0.1349 0.89
4+45 0.1414 0.93
4+50 0.1479 0.95
4+55 0.1547 0.98
5+ 0 0.1618 1.02
5+ 5 0.1698 1.17
5+10 0.1794 1.39
5+15 0.1902 1.57
5+20 0.2020 1.71
5+25 0.2150 1.89
5+30 0.2303 2.22
5+35 0.2404 1.47
5+40 0.2440 0.52
5+45 0.2455 0.21
5+50 0.2463 0.12
5+55 0.2466 0.05
6+ 0 0.2467 0.01
6+ 5 0.2468 0.00
6+10 0.2468 0.00

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/19/17 File: EX524100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 5
100-YEAR STORM EVENT
BY: JDN, DATE: 12-19-17

---

Drainage Area = 1.50(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.50(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 472.00(Ft.)
Length along longest watercourse measured to centroid = 283.00(Ft.)
Length along longest watercourse = 0.089 Mi.
Length along longest watercourse measured to centroid = 0.054 Mi.
Difference in elevation = 88.00(Ft.)
Slope along watercourse = 984.4068 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.030 Hr.
Lag time = 1.79 Min.
25% of lag time = 0.45 Min.
40% of lag time = 0.72 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.50 | 1.80 | 2.70 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.50 | 4.64 | 6.96 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.640(In)

Point rain (area averaged) = 4.640(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.640(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 1.500 | 83.69 | 0.000 |

Total Area Entered = 1.50(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.7 | 93.2 | 0.088 | 0.000 | 0.088 | 1.000 | 0.088 |
| | | | | | Sum (F) = | 0.088 |

Area averaged mean soil loss (F) (In/Hr) = 0.088

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 279.684 | 55.177 | 0.834 |
| 2 | 0.167 | 559.368 | 42.139 | 0.637 |
| 3 | 0.250 | 839.052 | 2.684 | 0.041 |
| | | | Sum = 100.000 Sum= | 1.512 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.037 | ( 0.156) | 0.033 | 0.004 |
| 2 | 0.17 | 0.07 | 0.037 | ( 0.156) | 0.033 | 0.004 |
| 3 | 0.25 | 0.07 | 0.037 | ( 0.155) | 0.033 | 0.004 |
| 4 | 0.33 | 0.10 | 0.056 | ( 0.155) | 0.050 | 0.006 |
| 5 | 0.42 | 0.10 | 0.056 | ( 0.154) | 0.050 | 0.006 |
| 6 | 0.50 | 0.10 | 0.056 | ( 0.153) | 0.050 | 0.006 |
| 7 | 0.58 | 0.10 | 0.056 | ( 0.153) | 0.050 | 0.006 |
| 8 | 0.67 | 0.10 | 0.056 | ( 0.152) | 0.050 | 0.006 |
| 9 | 0.75 | 0.10 | 0.056 | ( 0.152) | 0.050 | 0.006 |
| 10 | 0.83 | 0.13 | 0.074 | ( 0.151) | 0.067 | 0.007 |
| 11 | 0.92 | 0.13 | 0.074 | ( 0.150) | 0.067 | 0.007 |
| 12 | 1.00 | 0.13 | 0.074 | ( 0.150) | 0.067 | 0.007 |
| 13 | 1.08 | 0.10 | 0.056 | ( 0.149) | 0.050 | 0.006 |
| 14 | 1.17 | 0.10 | 0.056 | ( 0.149) | 0.050 | 0.006 |
| 15 | 1.25 | 0.10 | 0.056 | ( 0.148) | 0.050 | 0.006 |
| 16 | 1.33 | 0.10 | 0.056 | ( 0.147) | 0.050 | 0.006 |
| 17 | 1.42 | 0.10 | 0.056 | ( 0.147) | 0.050 | 0.006 |
| 18 | 1.50 | 0.10 | 0.056 | ( 0.146) | 0.050 | 0.006 |
| 19 | 1.58 | 0.10 | 0.056 | ( 0.146) | 0.050 | 0.006 |
| 20 | 1.67 | 0.10 | 0.056 | ( 0.145) | 0.050 | 0.006 |
| 21 | 1.75 | 0.10 | 0.056 | ( 0.145) | 0.050 | 0.006 |
| 22 | 1.83 | 0.13 | 0.074 | ( 0.144) | 0.067 | 0.007 |
| 23 | 1.92 | 0.13 | 0.074 | ( 0.143) | 0.067 | 0.007 |
| 24 | 2.00 | 0.13 | 0.074 | ( 0.143) | 0.067 | 0.007 |
| 25 | 2.08 | 0.13 | 0.074 | ( 0.142) | 0.067 | 0.007 |
| 26 | 2.17 | 0.13 | 0.074 | ( 0.142) | 0.067 | 0.007 |
| 27 | 2.25 | 0.13 | 0.074 | ( 0.141) | 0.067 | 0.007 |
| 28 | 2.33 | 0.13 | 0.074 | ( 0.140) | 0.067 | 0.007 |
| 29 | 2.42 | 0.13 | 0.074 | ( 0.140) | 0.067 | 0.007 |
| 30 | 2.50 | 0.13 | 0.074 | ( 0.139) | 0.067 | 0.007 |
| 31 | 2.58 | 0.17 | 0.093 | ( 0.139) | 0.084 | 0.009 |
| 32 | 2.67 | 0.17 | 0.093 | ( 0.138) | 0.084 | 0.009 |
| 33 | 2.75 | 0.17 | 0.093 | ( 0.138) | 0.084 | 0.009 |
| 34 | 2.83 | 0.17 | 0.093 | ( 0.137) | 0.084 | 0.009 |
| 35 | 2.92 | 0.17 | 0.093 | ( 0.136) | 0.084 | 0.009 |
| 36 | 3.00 | 0.17 | 0.093 | ( 0.136) | 0.084 | 0.009 |
| 37 | 3.08 | 0.17 | 0.093 | ( 0.135) | 0.084 | 0.009 |
| 38 | 3.17 | 0.17 | 0.093 | ( 0.135) | 0.084 | 0.009 |
| 39 | 3.25 | 0.17 | 0.093 | ( 0.134) | 0.084 | 0.009 |
| 40 | 3.33 | 0.17 | 0.093 | ( 0.134) | 0.084 | 0.009 |
| 41 | 3.42 | 0.17 | 0.093 | ( 0.133) | 0.084 | 0.009 |
| 42 | 3.50 | 0.17 | 0.093 | ( 0.133) | 0.084 | 0.009 |
| 43 | 3.58 | 0.17 | 0.093 | ( 0.132) | 0.084 | 0.009 |
| 44 | 3.67 | 0.17 | 0.093 | ( 0.131) | 0.084 | 0.009 |
| 45 | 3.75 | 0.17 | 0.093 | ( 0.131) | 0.084 | 0.009 |
| 46 | 3.83 | 0.20 | 0.111 | ( 0.130) | 0.100 | 0.011 |
| 47 | 3.92 | 0.20 | 0.111 | ( 0.130) | 0.100 | 0.011 |
| 48 | 4.00 | 0.20 | 0.111 | ( 0.129) | 0.100 | 0.011 |
| 49 | 4.08 | 0.20 | 0.111 | ( 0.129) | 0.100 | 0.011 |
| 50 | 4.17 | 0.20 | 0.111 | ( 0.128) | 0.100 | 0.011 |
| 51 | 4.25 | 0.20 | 0.111 | ( 0.128) | 0.100 | 0.011 |
| 52 | 4.33 | 0.23 | 0.130 | ( 0.127) | 0.117 | 0.013 |
| 53 | 4.42 | 0.23 | 0.130 | ( 0.127) | 0.117 | 0.013 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 54 | 4.50 | 0.23 | 0.130 | ( | 0.126) | 0.117 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.130 | ( | 0.125) | 0.117 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.130 | ( | 0.125) | 0.117 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.130 | ( | 0.124) | 0.117 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.148 | | 0.124 | ( 0.134) | | 0.025 |
| 59 | 4.92 | 0.27 | 0.148 | | 0.123 | ( 0.134) | | 0.025 |
| 60 | 5.00 | 0.27 | 0.148 | | 0.123 | ( 0.134) | | 0.026 |
| 61 | 5.08 | 0.20 | 0.111 | ( | 0.122) | 0.100 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.111 | ( | 0.122) | 0.100 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.111 | ( | 0.121) | 0.100 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.130 | ( | 0.121) | 0.117 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.130 | ( | 0.120) | 0.117 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.130 | ( | 0.120) | 0.117 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.148 | | 0.119 | ( 0.134) | | 0.029 |
| 68 | 5.67 | 0.27 | 0.148 | | 0.119 | ( 0.134) | | 0.030 |
| 69 | 5.75 | 0.27 | 0.148 | | 0.118 | ( 0.134) | | 0.030 |
| 70 | 5.83 | 0.27 | 0.148 | | 0.117 | ( 0.134) | | 0.031 |
| 71 | 5.92 | 0.27 | 0.148 | | 0.117 | ( 0.134) | | 0.032 |
| 72 | 6.00 | 0.27 | 0.148 | | 0.116 | ( 0.134) | | 0.032 |
| 73 | 6.08 | 0.30 | 0.167 | | 0.116 | ( 0.150) | | 0.051 |
| 74 | 6.17 | 0.30 | 0.167 | | 0.115 | ( 0.150) | | 0.052 |
| 75 | 6.25 | 0.30 | 0.167 | | 0.115 | ( 0.150) | | 0.052 |
| 76 | 6.33 | 0.30 | 0.167 | | 0.114 | ( 0.150) | | 0.053 |
| 77 | 6.42 | 0.30 | 0.167 | | 0.114 | ( 0.150) | | 0.053 |
| 78 | 6.50 | 0.30 | 0.167 | | 0.113 | ( 0.150) | | 0.054 |
| 79 | 6.58 | 0.33 | 0.186 | | 0.113 | ( 0.167) | | 0.073 |
| 80 | 6.67 | 0.33 | 0.186 | | 0.112 | ( 0.167) | | 0.073 |
| 81 | 6.75 | 0.33 | 0.186 | | 0.112 | ( 0.167) | | 0.074 |
| 82 | 6.83 | 0.33 | 0.186 | | 0.111 | ( 0.167) | | 0.074 |
| 83 | 6.92 | 0.33 | 0.186 | | 0.111 | ( 0.167) | | 0.075 |
| 84 | 7.00 | 0.33 | 0.186 | | 0.110 | ( 0.167) | | 0.075 |
| 85 | 7.08 | 0.33 | 0.186 | | 0.110 | ( 0.167) | | 0.076 |
| 86 | 7.17 | 0.33 | 0.186 | | 0.109 | ( 0.167) | | 0.076 |
| 87 | 7.25 | 0.33 | 0.186 | | 0.109 | ( 0.167) | | 0.077 |
| 88 | 7.33 | 0.37 | 0.204 | | 0.108 | ( 0.184) | | 0.096 |
| 89 | 7.42 | 0.37 | 0.204 | | 0.108 | ( 0.184) | | 0.096 |
| 90 | 7.50 | 0.37 | 0.204 | | 0.107 | ( 0.184) | | 0.097 |
| 91 | 7.58 | 0.40 | 0.223 | | 0.107 | ( 0.200) | | 0.116 |
| 92 | 7.67 | 0.40 | 0.223 | | 0.106 | ( 0.200) | | 0.116 |
| 93 | 7.75 | 0.40 | 0.223 | | 0.106 | ( 0.200) | | 0.117 |
| 94 | 7.83 | 0.43 | 0.241 | | 0.105 | ( 0.217) | | 0.136 |
| 95 | 7.92 | 0.43 | 0.241 | | 0.105 | ( 0.217) | | 0.136 |
| 96 | 8.00 | 0.43 | 0.241 | | 0.104 | ( 0.217) | | 0.137 |
| 97 | 8.08 | 0.50 | 0.278 | | 0.104 | ( 0.251) | | 0.174 |
| 98 | 8.17 | 0.50 | 0.278 | | 0.103 | ( 0.251) | | 0.175 |
| 99 | 8.25 | 0.50 | 0.278 | | 0.103 | ( 0.251) | | 0.175 |
| 100 | 8.33 | 0.50 | 0.278 | | 0.102 | ( 0.251) | | 0.176 |
| 101 | 8.42 | 0.50 | 0.278 | | 0.102 | ( 0.251) | | 0.176 |
| 102 | 8.50 | 0.50 | 0.278 | | 0.102 | ( 0.251) | | 0.177 |
| 103 | 8.58 | 0.53 | 0.297 | | 0.101 | ( 0.267) | | 0.196 |
| 104 | 8.67 | 0.53 | 0.297 | | 0.101 | ( 0.267) | | 0.196 |
| 105 | 8.75 | 0.53 | 0.297 | | 0.100 | ( 0.267) | | 0.197 |
| 106 | 8.83 | 0.57 | 0.316 | | 0.100 | ( 0.284) | | 0.216 |
| 107 | 8.92 | 0.57 | 0.316 | | 0.099 | ( 0.284) | | 0.216 |
| 108 | 9.00 | 0.57 | 0.316 | | 0.099 | ( 0.284) | | 0.217 |
| 109 | 9.08 | 0.63 | 0.353 | | 0.098 | ( 0.317) | | 0.254 |
| 110 | 9.17 | 0.63 | 0.353 | | 0.098 | ( 0.317) | | 0.255 |
| 111 | 9.25 | 0.63 | 0.353 | | 0.097 | ( 0.317) | | 0.255 |
| 112 | 9.33 | 0.67 | 0.371 | | 0.097 | ( 0.334) | | 0.274 |
| 113 | 9.42 | 0.67 | 0.371 | | 0.096 | ( 0.334) | | 0.275 |
| 114 | 9.50 | 0.67 | 0.371 | | 0.096 | ( 0.334) | | 0.275 |
| 115 | 9.58 | 0.70 | 0.390 | | 0.095 | ( 0.351) | | 0.294 |
| 116 | 9.67 | 0.70 | 0.390 | | 0.095 | ( 0.351) | | 0.295 |
| 117 | 9.75 | 0.70 | 0.390 | | 0.095 | ( 0.351) | | 0.295 |
| 118 | 9.83 | 0.73 | 0.408 | | 0.094 | ( 0.367) | | 0.314 |
| 119 | 9.92 | 0.73 | 0.408 | | 0.094 | ( 0.367) | | 0.315 |
| 120 | 10.00 | 0.73 | 0.408 | | 0.093 | ( 0.367) | | 0.315 |
| 121 | 10.08 | 0.50 | 0.278 | | 0.093 | ( 0.251) | | 0.186 |
| 122 | 10.17 | 0.50 | 0.278 | | 0.092 | ( 0.251) | | 0.186 |
| 123 | 10.25 | 0.50 | 0.278 | | 0.092 | ( 0.251) | | 0.187 |
| 124 | 10.33 | 0.50 | 0.278 | | 0.091 | ( 0.251) | | 0.187 |
| 125 | 10.42 | 0.50 | 0.278 | | 0.091 | ( 0.251) | | 0.187 |
| 126 | 10.50 | 0.50 | 0.278 | | 0.090 | ( 0.251) | | 0.188 |
| 127 | 10.58 | 0.67 | 0.371 | | 0.090 | ( 0.334) | | 0.281 |
| 128 | 10.67 | 0.67 | 0.371 | | 0.090 | ( 0.334) | | 0.282 |
| 129 | 10.75 | 0.67 | 0.371 | | 0.089 | ( 0.334) | | 0.282 |
| 130 | 10.83 | 0.67 | 0.371 | | 0.089 | ( 0.334) | | 0.282 |
| 131 | 10.92 | 0.67 | 0.371 | | 0.088 | ( 0.334) | | 0.283 |

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|---|---|---|---|---|---|---|
| 132 | 11.00 | 0.67 | 0.371 | 0.088 | ( 0.334) | 0.283 |
| 133 | 11.08 | 0.63 | 0.353 | 0.087 | ( 0.317) | 0.265 |
| 134 | 11.17 | 0.63 | 0.353 | 0.087 | ( 0.317) | 0.266 |
| 135 | 11.25 | 0.63 | 0.353 | 0.087 | ( 0.317) | 0.266 |
| 136 | 11.33 | 0.63 | 0.353 | 0.086 | ( 0.317) | 0.267 |
| 137 | 11.42 | 0.63 | 0.353 | 0.086 | ( 0.317) | 0.267 |
| 138 | 11.50 | 0.63 | 0.353 | 0.085 | ( 0.317) | 0.267 |
| 139 | 11.58 | 0.57 | 0.316 | 0.085 | ( 0.284) | 0.231 |
| 140 | 11.67 | 0.57 | 0.316 | 0.084 | ( 0.284) | 0.231 |
| 141 | 11.75 | 0.57 | 0.316 | 0.084 | ( 0.284) | 0.232 |
| 142 | 11.83 | 0.60 | 0.334 | 0.084 | ( 0.301) | 0.250 |
| 143 | 11.92 | 0.60 | 0.334 | 0.083 | ( 0.301) | 0.251 |
| 144 | 12.00 | 0.60 | 0.334 | 0.083 | ( 0.301) | 0.251 |
| 145 | 12.08 | 0.83 | 0.464 | 0.082 | ( 0.418) | 0.382 |
| 146 | 12.17 | 0.83 | 0.464 | 0.082 | ( 0.418) | 0.382 |
| 147 | 12.25 | 0.83 | 0.464 | 0.082 | ( 0.418) | 0.382 |
| 148 | 12.33 | 0.87 | 0.483 | 0.081 | ( 0.434) | 0.401 |
| 149 | 12.42 | 0.87 | 0.483 | 0.081 | ( 0.434) | 0.402 |
| 150 | 12.50 | 0.87 | 0.483 | 0.080 | ( 0.434) | 0.402 |
| 151 | 12.58 | 0.93 | 0.520 | 0.080 | ( 0.468) | 0.440 |
| 152 | 12.67 | 0.93 | 0.520 | 0.079 | ( 0.468) | 0.440 |
| 153 | 12.75 | 0.93 | 0.520 | 0.079 | ( 0.468) | 0.441 |
| 154 | 12.83 | 0.97 | 0.538 | 0.079 | ( 0.484) | 0.460 |
| 155 | 12.92 | 0.97 | 0.538 | 0.078 | ( 0.484) | 0.460 |
| 156 | 13.00 | 0.97 | 0.538 | 0.078 | ( 0.484) | 0.460 |
| 157 | 13.08 | 1.13 | 0.631 | 0.078 | ( 0.568) | 0.554 |
| 158 | 13.17 | 1.13 | 0.631 | 0.077 | ( 0.568) | 0.554 |
| 159 | 13.25 | 1.13 | 0.631 | 0.077 | ( 0.568) | 0.554 |
| 160 | 13.33 | 1.13 | 0.631 | 0.076 | ( 0.568) | 0.555 |
| 161 | 13.42 | 1.13 | 0.631 | 0.076 | ( 0.568) | 0.555 |
| 162 | 13.50 | 1.13 | 0.631 | 0.076 | ( 0.568) | 0.555 |
| 163 | 13.58 | 0.77 | 0.427 | 0.075 | ( 0.384) | 0.352 |
| 164 | 13.67 | 0.77 | 0.427 | 0.075 | ( 0.384) | 0.352 |
| 165 | 13.75 | 0.77 | 0.427 | 0.074 | ( 0.384) | 0.352 |
| 166 | 13.83 | 0.77 | 0.427 | 0.074 | ( 0.384) | 0.353 |
| 167 | 13.92 | 0.77 | 0.427 | 0.074 | ( 0.384) | 0.353 |
| 168 | 14.00 | 0.77 | 0.427 | 0.073 | ( 0.384) | 0.354 |
| 169 | 14.08 | 0.90 | 0.501 | 0.073 | ( 0.451) | 0.428 |
| 170 | 14.17 | 0.90 | 0.501 | 0.073 | ( 0.451) | 0.429 |
| 171 | 14.25 | 0.90 | 0.501 | 0.072 | ( 0.451) | 0.429 |
| 172 | 14.33 | 0.87 | 0.483 | 0.072 | ( 0.434) | 0.411 |
| 173 | 14.42 | 0.87 | 0.483 | 0.071 | ( 0.434) | 0.411 |
| 174 | 14.50 | 0.87 | 0.483 | 0.071 | ( 0.434) | 0.412 |
| 175 | 14.58 | 0.87 | 0.483 | 0.071 | ( 0.434) | 0.412 |
| 176 | 14.67 | 0.87 | 0.483 | 0.070 | ( 0.434) | 0.412 |
| 177 | 14.75 | 0.87 | 0.483 | 0.070 | ( 0.434) | 0.413 |
| 178 | 14.83 | 0.83 | 0.464 | 0.070 | ( 0.418) | 0.394 |
| 179 | 14.92 | 0.83 | 0.464 | 0.069 | ( 0.418) | 0.395 |
| 180 | 15.00 | 0.83 | 0.464 | 0.069 | ( 0.418) | 0.395 |
| 181 | 15.08 | 0.80 | 0.445 | 0.069 | ( 0.401) | 0.377 |
| 182 | 15.17 | 0.80 | 0.445 | 0.068 | ( 0.401) | 0.377 |
| 183 | 15.25 | 0.80 | 0.445 | 0.068 | ( 0.401) | 0.378 |
| 184 | 15.33 | 0.77 | 0.427 | 0.067 | ( 0.384) | 0.359 |
| 185 | 15.42 | 0.77 | 0.427 | 0.067 | ( 0.384) | 0.360 |
| 186 | 15.50 | 0.77 | 0.427 | 0.067 | ( 0.384) | 0.360 |
| 187 | 15.58 | 0.63 | 0.353 | 0.066 | ( 0.317) | 0.286 |
| 188 | 15.67 | 0.63 | 0.353 | 0.066 | ( 0.317) | 0.287 |
| 189 | 15.75 | 0.63 | 0.353 | 0.066 | ( 0.317) | 0.287 |
| 190 | 15.83 | 0.63 | 0.353 | 0.065 | ( 0.317) | 0.287 |
| 191 | 15.92 | 0.63 | 0.353 | 0.065 | ( 0.317) | 0.288 |
| 192 | 16.00 | 0.63 | 0.353 | 0.065 | ( 0.317) | 0.288 |
| 193 | 16.08 | 0.13 | 0.074 | 0.064 | ( 0.067) | 0.010 |
| 194 | 16.17 | 0.13 | 0.074 | 0.064 | ( 0.067) | 0.010 |
| 195 | 16.25 | 0.13 | 0.074 | 0.064 | ( 0.067) | 0.010 |
| 196 | 16.33 | 0.13 | 0.074 | 0.063 | ( 0.067) | 0.011 |
| 197 | 16.42 | 0.13 | 0.074 | 0.063 | ( 0.067) | 0.011 |
| 198 | 16.50 | 0.13 | 0.074 | 0.063 | ( 0.067) | 0.011 |
| 199 | 16.58 | 0.10 | 0.056 | ( 0.063) | 0.050 | 0.006 |
| 200 | 16.67 | 0.10 | 0.056 | ( 0.062) | 0.050 | 0.006 |
| 201 | 16.75 | 0.10 | 0.056 | ( 0.062) | 0.050 | 0.006 |
| 202 | 16.83 | 0.10 | 0.056 | ( 0.062) | 0.050 | 0.006 |
| 203 | 16.92 | 0.10 | 0.056 | ( 0.061) | 0.050 | 0.006 |
| 204 | 17.00 | 0.10 | 0.056 | ( 0.061) | 0.050 | 0.006 |
| 205 | 17.08 | 0.17 | 0.093 | 0.061 | ( 0.084) | 0.032 |
| 206 | 17.17 | 0.17 | 0.093 | 0.060 | ( 0.084) | 0.032 |
| 207 | 17.25 | 0.17 | 0.093 | 0.060 | ( 0.084) | 0.033 |
| 208 | 17.33 | 0.17 | 0.093 | 0.060 | ( 0.084) | 0.033 |
| 209 | 17.42 | 0.17 | 0.093 | 0.059 | ( 0.084) | 0.033 |

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|---|---|---|---|---|---|---|---|---|
| 210 | 17.50 | 0.17 | 0.093 | | 0.059 | ( | 0.084) | 0.034 |
| 211 | 17.58 | 0.17 | 0.093 | | 0.059 | ( | 0.084) | 0.034 |
| 212 | 17.67 | 0.17 | 0.093 | | 0.059 | ( | 0.084) | 0.034 |
| 213 | 17.75 | 0.17 | 0.093 | | 0.058 | ( | 0.084) | 0.035 |
| 214 | 17.83 | 0.13 | 0.074 | | 0.058 | ( | 0.067) | 0.016 |
| 215 | 17.92 | 0.13 | 0.074 | | 0.058 | ( | 0.067) | 0.017 |
| 216 | 18.00 | 0.13 | 0.074 | | 0.057 | ( | 0.067) | 0.017 |
| 217 | 18.08 | 0.13 | 0.074 | | 0.057 | ( | 0.067) | 0.017 |
| 218 | 18.17 | 0.13 | 0.074 | | 0.057 | ( | 0.067) | 0.017 |
| 219 | 18.25 | 0.13 | 0.074 | | 0.057 | ( | 0.067) | 0.018 |
| 220 | 18.33 | 0.13 | 0.074 | | 0.056 | ( | 0.067) | 0.018 |
| 221 | 18.42 | 0.13 | 0.074 | | 0.056 | ( | 0.067) | 0.018 |
| 222 | 18.50 | 0.13 | 0.074 | | 0.056 | ( | 0.067) | 0.019 |
| 223 | 18.58 | 0.10 | 0.056 | ( | 0.055) | | 0.050 | 0.006 |
| 224 | 18.67 | 0.10 | 0.056 | ( | 0.055) | | 0.050 | 0.006 |
| 225 | 18.75 | 0.10 | 0.056 | ( | 0.055) | | 0.050 | 0.006 |
| 226 | 18.83 | 0.07 | 0.037 | ( | 0.055) | | 0.033 | 0.004 |
| 227 | 18.92 | 0.07 | 0.037 | ( | 0.054) | | 0.033 | 0.004 |
| 228 | 19.00 | 0.07 | 0.037 | ( | 0.054) | | 0.033 | 0.004 |
| 229 | 19.08 | 0.10 | 0.056 | ( | 0.054) | | 0.050 | 0.006 |
| 230 | 19.17 | 0.10 | 0.056 | ( | 0.054) | | 0.050 | 0.006 |
| 231 | 19.25 | 0.10 | 0.056 | ( | 0.053) | | 0.050 | 0.006 |
| 232 | 19.33 | 0.13 | 0.074 | | 0.053 | ( | 0.067) | 0.021 |
| 233 | 19.42 | 0.13 | 0.074 | | 0.053 | ( | 0.067) | 0.021 |
| 234 | 19.50 | 0.13 | 0.074 | | 0.053 | ( | 0.067) | 0.022 |
| 235 | 19.58 | 0.10 | 0.056 | ( | 0.052) | | 0.050 | 0.006 |
| 236 | 19.67 | 0.10 | 0.056 | ( | 0.052) | | 0.050 | 0.006 |
| 237 | 19.75 | 0.10 | 0.056 | ( | 0.052) | | 0.050 | 0.006 |
| 238 | 19.83 | 0.07 | 0.037 | ( | 0.052) | | 0.033 | 0.004 |
| 239 | 19.92 | 0.07 | 0.037 | ( | 0.051) | | 0.033 | 0.004 |
| 240 | 20.00 | 0.07 | 0.037 | ( | 0.051) | | 0.033 | 0.004 |
| 241 | 20.08 | 0.10 | 0.056 | ( | 0.051) | | 0.050 | 0.006 |
| 242 | 20.17 | 0.10 | 0.056 | ( | 0.051) | | 0.050 | 0.006 |
| 243 | 20.25 | 0.10 | 0.056 | ( | 0.051) | | 0.050 | 0.006 |
| 244 | 20.33 | 0.10 | 0.056 | ( | 0.050) | | 0.050 | 0.006 |
| 245 | 20.42 | 0.10 | 0.056 | ( | 0.050) | | 0.050 | 0.006 |
| 246 | 20.50 | 0.10 | 0.056 | | 0.050 | ( | 0.050) | 0.006 |
| 247 | 20.58 | 0.10 | 0.056 | | 0.050 | ( | 0.050) | 0.006 |
| 248 | 20.67 | 0.10 | 0.056 | | 0.049 | ( | 0.050) | 0.006 |
| 249 | 20.75 | 0.10 | 0.056 | | 0.049 | ( | 0.050) | 0.006 |
| 250 | 20.83 | 0.07 | 0.037 | ( | 0.049) | | 0.033 | 0.004 |
| 251 | 20.92 | 0.07 | 0.037 | ( | 0.049) | | 0.033 | 0.004 |
| 252 | 21.00 | 0.07 | 0.037 | ( | 0.049) | | 0.033 | 0.004 |
| 253 | 21.08 | 0.10 | 0.056 | | 0.048 | ( | 0.050) | 0.007 |
| 254 | 21.17 | 0.10 | 0.056 | | 0.048 | ( | 0.050) | 0.007 |
| 255 | 21.25 | 0.10 | 0.056 | | 0.048 | ( | 0.050) | 0.008 |
| 256 | 21.33 | 0.07 | 0.037 | ( | 0.048) | | 0.033 | 0.004 |
| 257 | 21.42 | 0.07 | 0.037 | ( | 0.048) | | 0.033 | 0.004 |
| 258 | 21.50 | 0.07 | 0.037 | ( | 0.048) | | 0.033 | 0.004 |
| 259 | 21.58 | 0.10 | 0.056 | | 0.047 | ( | 0.050) | 0.008 |
| 260 | 21.67 | 0.10 | 0.056 | | 0.047 | ( | 0.050) | 0.008 |
| 261 | 21.75 | 0.10 | 0.056 | | 0.047 | ( | 0.050) | 0.009 |
| 262 | 21.83 | 0.07 | 0.037 | ( | 0.047) | | 0.033 | 0.004 |
| 263 | 21.92 | 0.07 | 0.037 | ( | 0.047) | | 0.033 | 0.004 |
| 264 | 22.00 | 0.07 | 0.037 | ( | 0.047) | | 0.033 | 0.004 |
| 265 | 22.08 | 0.10 | 0.056 | | 0.046 | ( | 0.050) | 0.009 |
| 266 | 22.17 | 0.10 | 0.056 | | 0.046 | ( | 0.050) | 0.009 |
| 267 | 22.25 | 0.10 | 0.056 | | 0.046 | ( | 0.050) | 0.010 |
| 268 | 22.33 | 0.07 | 0.037 | ( | 0.046) | | 0.033 | 0.004 |
| 269 | 22.42 | 0.07 | 0.037 | ( | 0.046) | | 0.033 | 0.004 |
| 270 | 22.50 | 0.07 | 0.037 | ( | 0.046) | | 0.033 | 0.004 |
| 271 | 22.58 | 0.07 | 0.037 | ( | 0.046) | | 0.033 | 0.004 |
| 272 | 22.67 | 0.07 | 0.037 | ( | 0.045) | | 0.033 | 0.004 |
| 273 | 22.75 | 0.07 | 0.037 | ( | 0.045) | | 0.033 | 0.004 |
| 274 | 22.83 | 0.07 | 0.037 | ( | 0.045) | | 0.033 | 0.004 |
| 275 | 22.92 | 0.07 | 0.037 | ( | 0.045) | | 0.033 | 0.004 |
| 276 | 23.00 | 0.07 | 0.037 | ( | 0.045) | | 0.033 | 0.004 |
| 277 | 23.08 | 0.07 | 0.037 | ( | 0.045) | | 0.033 | 0.004 |
| 278 | 23.17 | 0.07 | 0.037 | ( | 0.045) | | 0.033 | 0.004 |
| 279 | 23.25 | 0.07 | 0.037 | ( | 0.045) | | 0.033 | 0.004 |
| 280 | 23.33 | 0.07 | 0.037 | ( | 0.045) | | 0.033 | 0.004 |
| 281 | 23.42 | 0.07 | 0.037 | ( | 0.045) | | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 284 | 23.67 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 285 | 23.75 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 286 | 23.83 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 287 | 23.92 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |

288 24.00 0.07 0.037 ( 0.044) 0.033 0.004
(Loss Rate Not Used)
Sum = 100.0 Sum = 34.7
Flood volume = Effective rainfall 2.89(In)
times area 1.5(Ac.)/[(In)/(Ft.)] = 0.4(Ac.Ft)
Total soil loss = 1.75(In)
Total soil loss = 0.219(Ac.Ft)
Total rainfall = 4.64(In)
Flood volume = 15745.4 Cubic Feet
Total soil loss = 9519.3 Cubic Feet

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Peak flow rate of this hydrograph = 0.840(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

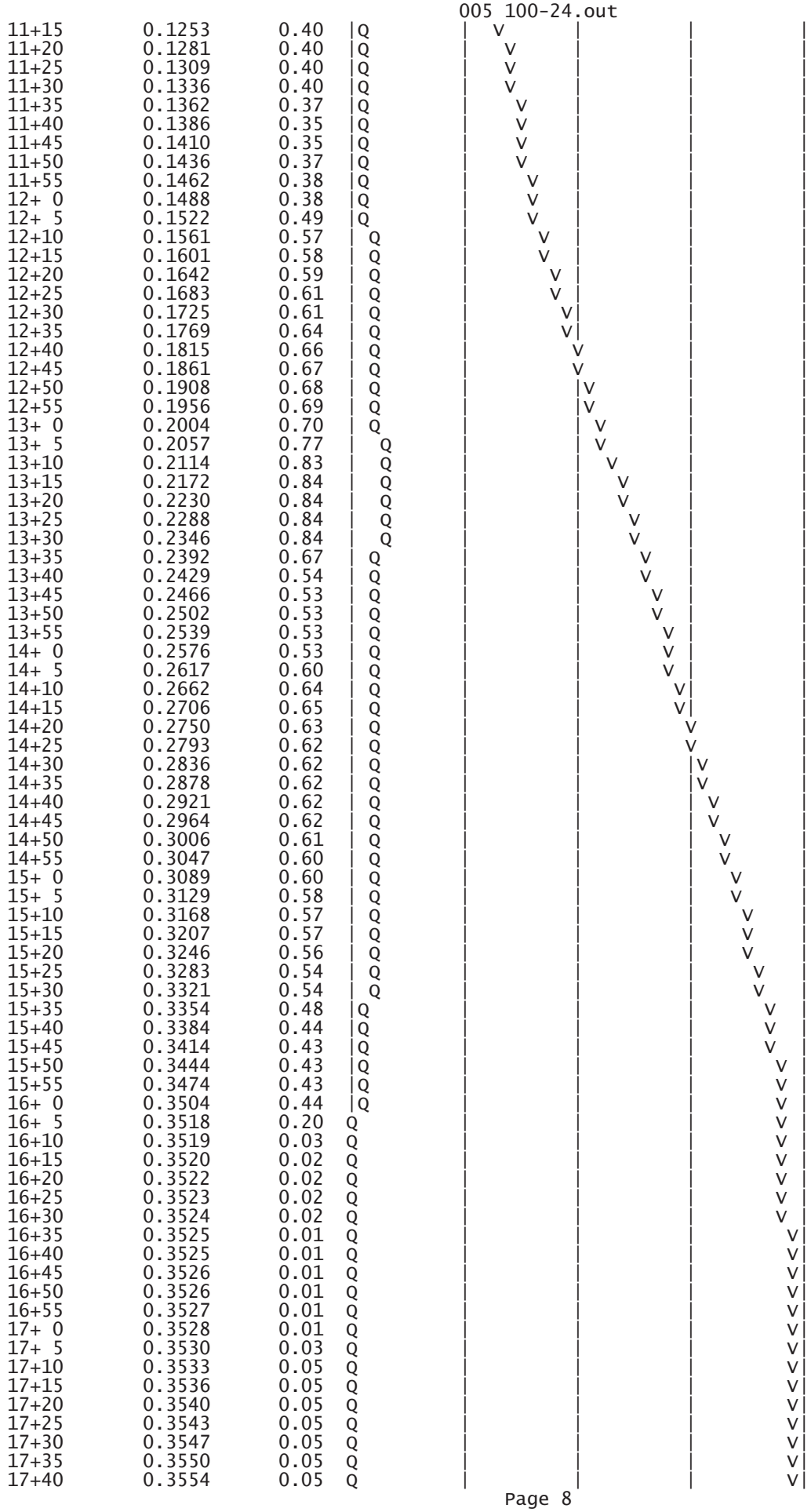
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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0000 | 0.00 | Q | | | | |
| 0+10 | 0.0001 | 0.01 | Q | | | | |
| 0+15 | 0.0001 | 0.01 | Q | | | | |
| 0+20 | 0.0001 | 0.01 | Q | | | | |
| 0+25 | 0.0002 | 0.01 | Q | | | | |
| 0+30 | 0.0003 | 0.01 | Q | | | | |
| 0+35 | 0.0003 | 0.01 | Q | | | | |
| 0+40 | 0.0004 | 0.01 | Q | | | | |
| 0+45 | 0.0004 | 0.01 | Q | | | | |
| 0+50 | 0.0005 | 0.01 | Q | | | | |
| 0+55 | 0.0006 | 0.01 | Q | | | | |
| 1+ 0 | 0.0007 | 0.01 | Q | | | | |
| 1+ 5 | 0.0007 | 0.01 | Q | | | | |
| 1+10 | 0.0008 | 0.01 | Q | | | | |
| 1+15 | 0.0008 | 0.01 | Q | | | | |
| 1+20 | 0.0009 | 0.01 | Q | | | | |
| 1+25 | 0.0010 | 0.01 | Q | | | | |
| 1+30 | 0.0010 | 0.01 | Q | | | | |
| 1+35 | 0.0011 | 0.01 | Q | | | | |
| 1+40 | 0.0011 | 0.01 | Q | | | | |
| 1+45 | 0.0012 | 0.01 | Q | | | | |
| 1+50 | 0.0013 | 0.01 | Q | | | | |
| 1+55 | 0.0013 | 0.01 | Q | | | | |
| 2+ 0 | 0.0014 | 0.01 | Q | | | | |
| 2+ 5 | 0.0015 | 0.01 | Q | | | | |
| 2+10 | 0.0016 | 0.01 | Q | | | | |
| 2+15 | 0.0016 | 0.01 | Q | | | | |
| 2+20 | 0.0017 | 0.01 | Q | | | | |
| 2+25 | 0.0018 | 0.01 | Q | | | | |
| 2+30 | 0.0019 | 0.01 | Q | | | | |
| 2+35 | 0.0020 | 0.01 | Q | | | | |
| 2+40 | 0.0021 | 0.01 | Q | | | | |
| 2+45 | 0.0022 | 0.01 | Q | | | | |
| 2+50 | 0.0023 | 0.01 | Q | | | | |
| 2+55 | 0.0024 | 0.01 | Q | | | | |
| 3+ 0 | 0.0024 | 0.01 | Q | | | | |
| 3+ 5 | 0.0025 | 0.01 | Q | | | | |
| 3+10 | 0.0026 | 0.01 | Q | | | | |
| 3+15 | 0.0027 | 0.01 | Q | | | | |
| 3+20 | 0.0028 | 0.01 | Q | | | | |
| 3+25 | 0.0029 | 0.01 | Q | | | | |
| 3+30 | 0.0030 | 0.01 | Q | | | | |
| 3+35 | 0.0031 | 0.01 | Q | | | | |
| 3+40 | 0.0032 | 0.01 | Q | | | | |
| 3+45 | 0.0033 | 0.01 | Q | | | | |
| 3+50 | 0.0034 | 0.02 | Q | | | | |
| 3+55 | 0.0035 | 0.02 | Q | | | | |
| 4+ 0 | 0.0037 | 0.02 | Q | | | | |
| 4+ 5 | 0.0038 | 0.02 | Q | | | | |
| 4+10 | 0.0039 | 0.02 | Q | | | | |
| 4+15 | 0.0040 | 0.02 | Q | | | | |
| 4+20 | 0.0041 | 0.02 | Q | | | | |
| 4+25 | 0.0043 | 0.02 | Q | | | | |
| 4+30 | 0.0044 | 0.02 | Q | | | | |
| 4+35 | 0.0045 | 0.02 | Q | | | | |
| 4+40 | 0.0047 | 0.02 | Q | | | | |

```
 4+45       0.0048      0.02  Q          |          |          |          |
 4+50       0.0050      0.03  Q          |          |          |          |
 4+55       0.0053      0.04  Q          |          |          |          |
 5+ 0       0.0055      0.04  Q          |          |          |          |
 5+ 5       0.0057      0.03  Q          |          |          |          |
 5+10       0.0058      0.02  Q          |          |          |          |
 5+15       0.0060      0.02  Q          |          |          |          |
 5+20       0.0061      0.02  Q          |          |          |          |
 5+25       0.0062      0.02  Q          |          |          |          |
 5+30       0.0063      0.02  Q          |          |          |          |
 5+35       0.0066      0.03  Q          |          |          |          |
 5+40       0.0069      0.04  Q          |          |          |          |
 5+45       0.0072      0.05  Q          |          |          |          |
 5+50       0.0075      0.05  Q          |          |          |          |
 5+55       0.0078      0.05  Q          |          |          |          |
 6+ 0       0.0082      0.05  Q          |          |          |          |
 6+ 5       0.0086      0.06  Q          |          |          |          |
 6+10       0.0091      0.08  QV         |          |          |          |
 6+15       0.0097      0.08  QV         |          |          |          |
 6+20       0.0102      0.08  QV         |          |          |          |
 6+25       0.0108      0.08  QV         |          |          |          |
 6+30       0.0113      0.08  QV         |          |          |          |
 6+35       0.0120      0.10  QV         |          |          |          |
 6+40       0.0128      0.11  QV         |          |          |          |
 6+45       0.0135      0.11  QV         |          |          |          |
 6+50       0.0143      0.11  QV         |          |          |          |
 6+55       0.0151      0.11  QV         |          |          |          |
 7+ 0       0.0159      0.11  QV         |          |          |          |
 7+ 5       0.0166      0.11  QV         |          |          |          |
 7+10       0.0174      0.12  QV         |          |          |          |
 7+15       0.0182      0.12  Q V        |          |          |          |
 7+20       0.0191      0.13  Q V        |          |          |          |
 7+25       0.0201      0.14  Q V        |          |          |          |
 7+30       0.0211      0.15  Q V        |          |          |          |
 7+35       0.0223      0.16  Q V        |          |          |          |
 7+40       0.0235      0.17  Q V        |          |          |          |
 7+45       0.0247      0.18  Q V        |          |          |          |
 7+50       0.0260      0.19  Q V        |          |          |          |
 7+55       0.0274      0.21  Q  V       |          |          |          |
 8+ 0       0.0288      0.21  Q  V       |          |          |          |
 8+ 5       0.0305      0.24  Q  V       |          |          |          |
 8+10       0.0323      0.26  |Q V       |          |          |          |
 8+15       0.0341      0.27  |Q V       |          |          |          |
 8+20       0.0360      0.27  |Q V       |          |          |          |
 8+25       0.0378      0.27  |Q  V      |          |          |          |
 8+30       0.0396      0.27  |Q  V      |          |          |          |
 8+35       0.0416      0.28  |Q  V      |          |          |          |
 8+40       0.0436      0.30  |Q  V      |          |          |          |
 8+45       0.0457      0.30  |Q   V     |          |          |          |
 8+50       0.0478      0.31  |Q   V     |          |          |          |
 8+55       0.0501      0.33  |Q   V     |          |          |          |
 9+ 0       0.0523      0.33  |Q   V     |          |          |          |
 9+ 5       0.0548      0.36  |Q    V    |          |          |          |
 9+10       0.0575      0.38  |Q    V    |          |          |          |
 9+15       0.0601      0.39  |Q    V    |          |          |          |
 9+20       0.0629      0.40  |Q    V    |          |          |          |
 9+25       0.0657      0.41  |Q     V   |          |          |          |
 9+30       0.0686      0.42  |Q     V   |          |          |          |
 9+35       0.0716      0.43  |Q     V   |          |          |          |
 9+40       0.0746      0.44  |Q      V  |          |          |          |
 9+45       0.0777      0.45  |Q      V  |          |          |          |
 9+50       0.0809      0.46  |Q      V  |          |          |          |
 9+55       0.0842      0.47  |Q       V |          |          |          |
10+ 0       0.0874      0.48  |Q       V |          |          |          |
10+ 5       0.0900      0.37  |Q       V |          |          |          |
10+10       0.0920      0.29  |Q        V          |          |          |
10+15       0.0939      0.28  |Q        V          |          |          |
10+20       0.0958      0.28  |Q        V          |          |          |
10+25       0.0978      0.28  |Q        V          |          |          |
10+30       0.0998      0.28  |Q         |V         |          |          |
10+35       0.1022      0.36  |Q         |V         |          |          |
10+40       0.1052      0.42  |Q         |V         |          |          |
10+45       0.1081      0.43  |Q         |V         |          |          |
10+50       0.1110      0.43  |Q         | V        |          |          |
10+55       0.1140      0.43  |Q         | V        |          |          |
11+ 0       0.1169      0.43  |Q         | V        |          |          |
11+ 5       0.1198      0.41  |Q         |  V       |          |          |
11+10       0.1225      0.40  |Q         |  V       |          |          |
```



| | | | |
|---|---|---|---|
| 11+15 | 0.1253 | 0.40 | Q |
| 11+20 | 0.1281 | 0.40 | Q |
| 11+25 | 0.1309 | 0.40 | Q |
| 11+30 | 0.1336 | 0.40 | Q |
| 11+35 | 0.1362 | 0.37 | Q |
| 11+40 | 0.1386 | 0.35 | Q |
| 11+45 | 0.1410 | 0.35 | Q |
| 11+50 | 0.1436 | 0.37 | Q |
| 11+55 | 0.1462 | 0.38 | Q |
| 12+ 0 | 0.1488 | 0.38 | Q |
| 12+ 5 | 0.1522 | 0.49 | Q |
| 12+10 | 0.1561 | 0.57 | Q |
| 12+15 | 0.1601 | 0.58 | Q |
| 12+20 | 0.1642 | 0.59 | Q |
| 12+25 | 0.1683 | 0.61 | Q |
| 12+30 | 0.1725 | 0.61 | Q |
| 12+35 | 0.1769 | 0.64 | Q |
| 12+40 | 0.1815 | 0.66 | Q |
| 12+45 | 0.1861 | 0.67 | Q |
| 12+50 | 0.1908 | 0.68 | Q |
| 12+55 | 0.1956 | 0.69 | Q |
| 13+ 0 | 0.2004 | 0.70 | Q |
| 13+ 5 | 0.2057 | 0.77 | Q |
| 13+10 | 0.2114 | 0.83 | Q |
| 13+15 | 0.2172 | 0.84 | Q |
| 13+20 | 0.2230 | 0.84 | Q |
| 13+25 | 0.2288 | 0.84 | Q |
| 13+30 | 0.2346 | 0.84 | Q |
| 13+35 | 0.2392 | 0.67 | Q |
| 13+40 | 0.2429 | 0.54 | Q |
| 13+45 | 0.2466 | 0.53 | Q |
| 13+50 | 0.2502 | 0.53 | Q |
| 13+55 | 0.2539 | 0.53 | Q |
| 14+ 0 | 0.2576 | 0.53 | Q |
| 14+ 5 | 0.2617 | 0.60 | Q |
| 14+10 | 0.2662 | 0.64 | Q |
| 14+15 | 0.2706 | 0.65 | Q |
| 14+20 | 0.2750 | 0.63 | Q |
| 14+25 | 0.2793 | 0.62 | Q |
| 14+30 | 0.2836 | 0.62 | Q |
| 14+35 | 0.2878 | 0.62 | Q |
| 14+40 | 0.2921 | 0.62 | Q |
| 14+45 | 0.2964 | 0.62 | Q |
| 14+50 | 0.3006 | 0.61 | Q |
| 14+55 | 0.3047 | 0.60 | Q |
| 15+ 0 | 0.3089 | 0.60 | Q |
| 15+ 5 | 0.3129 | 0.58 | Q |
| 15+10 | 0.3168 | 0.57 | Q |
| 15+15 | 0.3207 | 0.57 | Q |
| 15+20 | 0.3246 | 0.56 | Q |
| 15+25 | 0.3283 | 0.54 | Q |
| 15+30 | 0.3321 | 0.54 | Q |
| 15+35 | 0.3354 | 0.48 | Q |
| 15+40 | 0.3384 | 0.44 | Q |
| 15+45 | 0.3414 | 0.43 | Q |
| 15+50 | 0.3444 | 0.43 | Q |
| 15+55 | 0.3474 | 0.43 | Q |
| 16+ 0 | 0.3504 | 0.44 | Q |
| 16+ 5 | 0.3518 | 0.20 | Q |
| 16+10 | 0.3519 | 0.03 | Q |
| 16+15 | 0.3520 | 0.02 | Q |
| 16+20 | 0.3522 | 0.02 | Q |
| 16+25 | 0.3523 | 0.02 | Q |
| 16+30 | 0.3524 | 0.02 | Q |
| 16+35 | 0.3525 | 0.01 | Q |
| 16+40 | 0.3525 | 0.01 | Q |
| 16+45 | 0.3526 | 0.01 | Q |
| 16+50 | 0.3526 | 0.01 | Q |
| 16+55 | 0.3527 | 0.01 | Q |
| 17+ 0 | 0.3528 | 0.01 | Q |
| 17+ 5 | 0.3530 | 0.03 | Q |
| 17+10 | 0.3533 | 0.05 | Q |
| 17+15 | 0.3536 | 0.05 | Q |
| 17+20 | 0.3540 | 0.05 | Q |
| 17+25 | 0.3543 | 0.05 | Q |
| 17+30 | 0.3547 | 0.05 | Q |
| 17+35 | 0.3550 | 0.05 | Q |
| 17+40 | 0.3554 | 0.05 | Q |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+45 | 0.3557 | 0.05 | Q | \| | \| | \| | V\| |
| 17+50 | 0.3560 | 0.04 | Q | \| | \| | \| | V\| |
| 17+55 | 0.3562 | 0.03 | Q | \| | \| | \| | V\| |
| 18+ 0 | 0.3564 | 0.03 | Q | \| | \| | \| | V\| |
| 18+ 5 | 0.3565 | 0.03 | Q | \| | \| | \| | V\| |
| 18+10 | 0.3567 | 0.03 | Q | \| | \| | \| | V\| |
| 18+15 | 0.3569 | 0.03 | Q | \| | \| | \| | V\| |
| 18+20 | 0.3571 | 0.03 | Q | \| | \| | \| | V\| |
| 18+25 | 0.3573 | 0.03 | Q | \| | \| | \| | V\| |
| 18+30 | 0.3575 | 0.03 | Q | \| | \| | \| | V\| |
| 18+35 | 0.3576 | 0.02 | Q | \| | \| | \| | V\| |
| 18+40 | 0.3576 | 0.01 | Q | \| | \| | \| | V\| |
| 18+45 | 0.3577 | 0.01 | Q | \| | \| | \| | V\| |
| 18+50 | 0.3577 | 0.01 | Q | \| | \| | \| | V\| |
| 18+55 | 0.3578 | 0.01 | Q | \| | \| | \| | V\| |
| 19+ 0 | 0.3578 | 0.01 | Q | \| | \| | \| | V\| |
| 19+ 5 | 0.3579 | 0.01 | Q | \| | \| | \| | V\| |
| 19+10 | 0.3579 | 0.01 | Q | \| | \| | \| | V\| |
| 19+15 | 0.3580 | 0.01 | Q | \| | \| | \| | V\| |
| 19+20 | 0.3581 | 0.02 | Q | \| | \| | \| | V\| |
| 19+25 | 0.3584 | 0.03 | Q | \| | \| | \| | V\| |
| 19+30 | 0.3586 | 0.03 | Q | \| | \| | \| | V\| |
| 19+35 | 0.3587 | 0.02 | Q | \| | \| | \| | V\| |
| 19+40 | 0.3588 | 0.01 | Q | \| | \| | \| | V\| |
| 19+45 | 0.3588 | 0.01 | Q | \| | \| | \| | V\| |
| 19+50 | 0.3589 | 0.01 | Q | \| | \| | \| | V\| |
| 19+55 | 0.3589 | 0.01 | Q | \| | \| | \| | V\| |
| 20+ 0 | 0.3590 | 0.01 | Q | \| | \| | \| | V\| |
| 20+ 5 | 0.3590 | 0.01 | Q | \| | \| | \| | V\| |
| 20+10 | 0.3591 | 0.01 | Q | \| | \| | \| | V\| |
| 20+15 | 0.3591 | 0.01 | Q | \| | \| | \| | V\| |
| 20+20 | 0.3592 | 0.01 | Q | \| | \| | \| | V\| |
| 20+25 | 0.3592 | 0.01 | Q | \| | \| | \| | V\| |
| 20+30 | 0.3593 | 0.01 | Q | \| | \| | \| | V\| |
| 20+35 | 0.3594 | 0.01 | Q | \| | \| | \| | V\| |
| 20+40 | 0.3594 | 0.01 | Q | \| | \| | \| | V\| |
| 20+45 | 0.3595 | 0.01 | Q | \| | \| | \| | V\| |
| 20+50 | 0.3595 | 0.01 | Q | \| | \| | \| | V\| |
| 20+55 | 0.3596 | 0.01 | Q | \| | \| | \| | V\| |
| 21+ 0 | 0.3596 | 0.01 | Q | \| | \| | \| | V\| |
| 21+ 5 | 0.3597 | 0.01 | Q | \| | \| | \| | V\| |
| 21+10 | 0.3597 | 0.01 | Q | \| | \| | \| | V\| |
| 21+15 | 0.3598 | 0.01 | Q | \| | \| | \| | V\| |
| 21+20 | 0.3599 | 0.01 | Q | \| | \| | \| | V\| |
| 21+25 | 0.3599 | 0.01 | Q | \| | \| | \| | V\| |
| 21+30 | 0.3600 | 0.01 | Q | \| | \| | \| | V\| |
| 21+35 | 0.3600 | 0.01 | Q | \| | \| | \| | V\| |
| 21+40 | 0.3601 | 0.01 | Q | \| | \| | \| | V\| |
| 21+45 | 0.3602 | 0.01 | Q | \| | \| | \| | V\| |
| 21+50 | 0.3603 | 0.01 | Q | \| | \| | \| | V\| |
| 21+55 | 0.3603 | 0.01 | Q | \| | \| | \| | V\| |
| 22+ 0 | 0.3603 | 0.01 | Q | \| | \| | \| | V\| |
| 22+ 5 | 0.3604 | 0.01 | Q | \| | \| | \| | V\| |
| 22+10 | 0.3605 | 0.01 | Q | \| | \| | \| | V\| |
| 22+15 | 0.3606 | 0.01 | Q | \| | \| | \| | V\| |
| 22+20 | 0.3607 | 0.01 | Q | \| | \| | \| | V\| |
| 22+25 | 0.3607 | 0.01 | Q | \| | \| | \| | V\| |
| 22+30 | 0.3608 | 0.01 | Q | \| | \| | \| | V\| |
| 22+35 | 0.3608 | 0.01 | Q | \| | \| | \| | V\| |
| 22+40 | 0.3608 | 0.01 | Q | \| | \| | \| | V\| |
| 22+45 | 0.3609 | 0.01 | Q | \| | \| | \| | V\| |
| 22+50 | 0.3609 | 0.01 | Q | \| | \| | \| | V\| |
| 22+55 | 0.3609 | 0.01 | Q | \| | \| | \| | V\| |
| 23+ 0 | 0.3610 | 0.01 | Q | \| | \| | \| | V\| |
| 23+ 5 | 0.3610 | 0.01 | Q | \| | \| | \| | V\| |
| 23+10 | 0.3611 | 0.01 | Q | \| | \| | \| | V\| |
| 23+15 | 0.3611 | 0.01 | Q | \| | \| | \| | V\| |
| 23+20 | 0.3611 | 0.01 | Q | \| | \| | \| | V\| |
| 23+25 | 0.3612 | 0.01 | Q | \| | \| | \| | V\| |
| 23+30 | 0.3612 | 0.01 | Q | \| | \| | \| | V\| |
| 23+35 | 0.3613 | 0.01 | Q | \| | \| | \| | V\| |
| 23+40 | 0.3613 | 0.01 | Q | \| | \| | \| | V\| |
| 23+45 | 0.3613 | 0.01 | Q | \| | \| | \| | V\| |
| 23+50 | 0.3614 | 0.01 | Q | \| | \| | \| | V\| |
| 23+55 | 0.3614 | 0.01 | Q | \| | \| | \| | V\| |
| 24+ 0 | 0.3614 | 0.01 | Q | \| | \| | \| | V\| |
| 24+ 5 | 0.3615 | 0.00 | Q | \| | \| | \| | V\| |
| 24+10 | 0.3615 | 0.00 | Q | \| | \| | \| | V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX61100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS ARA 6
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 4.50(Ac.) = 0.007 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 4.50(Ac.) = 0.007 Sq. Mi.
Length along longest watercourse = 735.00(Ft.)
Length along longest watercourse measured to centroid = 371.00(Ft.)
Length along longest watercourse = 0.139 Mi.
Length along longest watercourse measured to centroid = 0.070 Mi.
Difference in elevation = 62.00(Ft.)
Slope along watercourse = 445.3878 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.045 Hr.
Lag time = 2.73 Min.
25% of lag time = 0.68 Min.
40% of lag time = 1.09 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 4.50 | 0.50 | 2.25 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 4.50 | 1.20 | 5.40 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 4.500 | 84.00 | 0.000 |

Total Area Entered = 4.50(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

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| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 183.422 | 38.790 | 1.759 |
| 2 | 0.167 | 366.843 | 51.544 | 2.338 |
| 3 | 0.250 | 550.265 | 8.136 | 0.369 |
| 4 | 0.333 | 733.686 | 1.530 | 0.069 |
| | | Sum = 100.000 | Sum= | 4.535 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.086 ( 0.544) | 0.519 |
| 2 | 0.17 | 4.30 | 0.619 | 0.086 ( 0.557) | 0.533 |
| 3 | 0.25 | 5.00 | 0.720 | 0.086 ( 0.648) | 0.634 |
| 4 | 0.33 | 5.00 | 0.720 | 0.086 ( 0.648) | 0.634 |
| 5 | 0.42 | 5.80 | 0.835 | 0.086 ( 0.752) | 0.749 |
| 6 | 0.50 | 6.50 | 0.936 | 0.086 ( 0.842) | 0.850 |
| 7 | 0.58 | 7.40 | 1.066 | 0.086 ( 0.959) | 0.980 |
| 8 | 0.67 | 8.60 | 1.238 | 0.086 ( 1.115) | 1.153 |
| 9 | 0.75 | 12.30 | 1.771 | 0.086 ( 1.594) | 1.685 |
| 10 | 0.83 | 29.10 | 4.190 | 0.086 ( 3.771) | 4.104 |
| 11 | 0.92 | 6.80 | 0.979 | 0.086 ( 0.881) | 0.893 |
| 12 | 1.00 | 5.00 | 0.720 | 0.086 ( 0.648) | 0.634 |
| | | (Loss Rate Not Used) | | | |
| Sum = | | 100.0 | | Sum = | 13.4 |

Flood volume = Effective rainfall 1.11(In)
times area 4.5(Ac.)/[(In)/(Ft.)] = 0.4(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.032(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 18199.7 Cubic Feet
Total soil loss = 1401.5 Cubic Feet

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Peak flow rate of this hydrograph = 11.874(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 5.0 10.0 15.0 20.0 |
|---|---|---|---|
| 0+ 5 | 0.0063 | 0.91 | VQ |
| 0+10 | 0.0211 | 2.15 | V Q |
| 0+15 | 0.0387 | 2.56 | V Q |
| 0+20 | 0.0582 | 2.83 | Q |
| 0+25 | 0.0794 | 3.07 | QV |
| 0+30 | 0.1037 | 3.53 | Q V |
| 0+35 | 0.1315 | 4.03 | Q V |
| 0+40 | 0.1637 | 4.69 | Q V |
| 0+45 | 0.2056 | 6.08 | Q V |
| 0+50 | 0.2859 | 11.66 | Q V |
| 0+55 | 0.3677 | 11.87 | Q V |
| 1+ 0 | 0.4010 | 4.84 | Q V |
| 1+ 5 | 0.4155 | 2.10 | Q V |
| 1+10 | 0.4175 | 0.30 | Q V |
| 1+15 | 0.4178 | 0.04 | Q V |

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U n i t  H y d r o g r a p h  A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS ARA 6
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 4.50(Ac.) = 0.007 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 4.50(Ac.) = 0.007 Sq. Mi.
Length along longest watercourse = 735.00(Ft.)
Length along longest watercourse measured to centroid = 371.00(Ft.)
Length along longest watercourse = 0.139 Mi.
Length along longest watercourse measured to centroid = 0.070 Mi.
Difference in elevation = 62.00(Ft.)
Slope along watercourse = 445.3878 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.045 Hr.
Lag time = 2.73 Min.
25% of lag time = 0.68 Min.
40% of lag time = 1.09 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 4.50 | 0.81 | 3.65 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 4.50 | 1.81 | 8.14 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.810(In)
Area Averaged 100-Year Rainfall = 1.810(In)

Point rain (area averaged) = 1.810(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.810(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 4.500 | 84.00 | 0.000 |

Total Area Entered = 4.50(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 183.422 | 38.790 | 1.759 |
| 2 0.167 | 366.843 | 51.544 | 2.338 |
| 3 0.250 | 550.265 | 8.136 | 0.369 |
| 4 0.333 | 733.686 | 1.530 | 0.069 |
| | | Sum = 100.000 | Sum= 4.535 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 1.30 | 0.282 | 0.086 | ( 0.254) | 0.197 |
| 2 0.17 | 1.30 | 0.282 | 0.086 | ( 0.254) | 0.197 |
| 3 0.25 | 1.10 | 0.239 | 0.086 | ( 0.215) | 0.153 |
| 4 0.33 | 1.50 | 0.326 | 0.086 | ( 0.293) | 0.240 |
| 5 0.42 | 1.50 | 0.326 | 0.086 | ( 0.293) | 0.240 |
| 6 0.50 | 1.80 | 0.391 | 0.086 | ( 0.352) | 0.305 |
| 7 0.58 | 1.50 | 0.326 | 0.086 | ( 0.293) | 0.240 |
| 8 0.67 | 1.80 | 0.391 | 0.086 | ( 0.352) | 0.305 |
| 9 0.75 | 1.80 | 0.391 | 0.086 | ( 0.352) | 0.305 |
| 10 0.83 | 1.50 | 0.326 | 0.086 | ( 0.293) | 0.240 |
| 11 0.92 | 1.60 | 0.348 | 0.086 | ( 0.313) | 0.262 |
| 12 1.00 | 1.80 | 0.391 | 0.086 | ( 0.352) | 0.305 |
| 13 1.08 | 2.20 | 0.478 | 0.086 | ( 0.430) | 0.392 |
| 14 1.17 | 2.20 | 0.478 | 0.086 | ( 0.430) | 0.392 |
| 15 1.25 | 2.20 | 0.478 | 0.086 | ( 0.430) | 0.392 |
| 16 1.33 | 2.00 | 0.434 | 0.086 | ( 0.391) | 0.349 |
| 17 1.42 | 2.60 | 0.565 | 0.086 | ( 0.508) | 0.479 |
| 18 1.50 | 2.70 | 0.586 | 0.086 | ( 0.528) | 0.501 |
| 19 1.58 | 2.40 | 0.521 | 0.086 | ( 0.469) | 0.435 |
| 20 1.67 | 2.70 | 0.586 | 0.086 | ( 0.528) | 0.501 |
| 21 1.75 | 3.30 | 0.717 | 0.086 | ( 0.645) | 0.631 |
| 22 1.83 | 3.10 | 0.673 | 0.086 | ( 0.606) | 0.588 |
| 23 1.92 | 2.90 | 0.630 | 0.086 | ( 0.567) | 0.544 |
| 24 2.00 | 3.00 | 0.652 | 0.086 | ( 0.586) | 0.566 |
| 25 2.08 | 3.10 | 0.673 | 0.086 | ( 0.606) | 0.588 |
| 26 2.17 | 4.20 | 0.912 | 0.086 | ( 0.821) | 0.826 |
| 27 2.25 | 5.00 | 1.086 | 0.086 | ( 0.977) | 1.000 |
| 28 2.33 | 3.50 | 0.760 | 0.086 | ( 0.684) | 0.674 |
| 29 2.42 | 6.80 | 1.477 | 0.086 | ( 1.329) | 1.391 |
| 30 2.50 | 7.30 | 1.586 | 0.086 | ( 1.427) | 1.500 |
| 31 2.58 | 8.20 | 1.781 | 0.086 | ( 1.603) | 1.695 |
| 32 2.67 | 5.90 | 1.281 | 0.086 | ( 1.153) | 1.196 |
| 33 2.75 | 2.00 | 0.434 | 0.086 | ( 0.391) | 0.349 |
| 34 2.83 | 1.80 | 0.391 | 0.086 | ( 0.352) | 0.305 |
| 35 2.92 | 1.80 | 0.391 | 0.086 | ( 0.352) | 0.305 |
| 36 3.00 | 0.60 | 0.130 | 0.086 | ( 0.117) | 0.045 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | | Sum = 18.6 |

Flood volume = Effective rainfall 1.55(In)
times area 4.5(Ac.)/[(In)/(Ft.)] = 0.6(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.097(Ac.Ft)
Total rainfall = 1.81(In)
Flood volume = 25361.1 Cubic Feet
Total soil loss = 4204.6 Cubic Feet

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Peak flow rate of this hydrograph = 7.052(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0024 | 0.35 | VQ | | | | |
| 0+10 | 0.0079 | 0.81 | V Q | | | | |
| 0+15 | 0.0135 | 0.80 | V Q | | | | |
| 0+20 | 0.0194 | 0.87 | V Q | | | | |
| 0+25 | 0.0267 | 1.05 | V Q | | | | |
| 0+30 | 0.0349 | 1.20 | V Q | | | | |
| 0+35 | 0.0435 | 1.24 | V Q | | | | |
| 0+40 | 0.0519 | 1.23 | VQ | | | | |
| 0+45 | 0.0613 | 1.36 | VQ | | | | |
| 0+50 | 0.0700 | 1.27 | VQ | | | | |
| 0+55 | 0.0780 | 1.16 | QV | | | | |
| 1+ 0 | 0.0866 | 1.26 | Q | | | | |
| 1+ 5 | 0.0971 | 1.52 | Q | | | | |
| 1+10 | 0.1091 | 1.74 | QV | | | | |
| 1+15 | 0.1213 | 1.77 | QV | | | | |
| 1+20 | 0.1330 | 1.70 | Q V | | | | |
| 1+25 | 0.1456 | 1.83 | Q V | | | | |
| 1+30 | 0.1605 | 2.16 | Q V | | | | |
| 1+35 | 0.1752 | 2.14 | Q V | | | | |
| 1+40 | 0.1898 | 2.12 | Q V | | | | |
| 1+45 | 0.2068 | 2.48 | Q V | | | | |
| 1+50 | 0.2256 | 2.72 | Q V | | | | |
| 1+55 | 0.2435 | 2.60 | Q V | | | | |
| 2+ 0 | 0.2609 | 2.53 | Q V | | | | |
| 2+ 5 | 0.2788 | 2.60 | Q V | | | | |
| 2+10 | 0.3000 | 3.08 | Q V | | | | |
| 2+15 | 0.3272 | 3.95 | Q V | | | | |
| 2+20 | 0.3539 | 3.87 | Q V | | | | |
| 2+25 | 0.3845 | 4.45 | Q V | | | | |
| 2+30 | 0.4273 | 6.21 | Q V | | | | |
| 2+35 | 0.4759 | 7.05 | Q V | | | | |
| 2+40 | 0.5221 | 6.72 | Q V | | | | |
| 2+45 | 0.5507 | 4.14 | Q V | | | | |
| 2+50 | 0.5638 | 1.91 | Q V | | | | |
| 2+55 | 0.5739 | 1.46 | Q V | | | | |
| 3+ 0 | 0.5803 | 0.93 | Q V | | | | |
| 3+ 5 | 0.5819 | 0.24 | Q V | | | | |
| 3+10 | 0.5822 | 0.04 | Q V | | | | |
| 3+15 | 0.5822 | 0.00 | Q V | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX66100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS ARA 6
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 4.50(Ac.) = 0.007 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 4.50(Ac.) = 0.007 Sq. Mi.
Length along longest watercourse = 735.00(Ft.)
Length along longest watercourse measured to centroid = 371.00(Ft.)
Length along longest watercourse = 0.139 Mi.
Length along longest watercourse measured to centroid = 0.070 Mi.
Difference in elevation = 62.00(Ft.)
Slope along watercourse = 445.3878 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.045 Hr.
Lag time = 2.73 Min.
25% of lag time = 0.68 Min.
40% of lag time = 1.09 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 4.50 | 1.13 | 5.08 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 4.50 | 2.50 | 11.25 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.130(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 4.500 | 84.00 | 0.000 |

Total Area Entered = 4.50(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 183.422 | 38.790 | 1.759 |
| 2 0.167 | 366.843 | 51.544 | 2.338 |
| 3 0.250 | 550.265 | 8.136 | 0.369 |
| 4 0.333 | 733.686 | 1.530 | 0.069 |
| | | Sum = 100.000 Sum= | 4.535 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.086 | ( 0.135) | 0.064 |
| 2 | 0.17 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 3 | 0.25 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 4 | 0.33 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 5 | 0.42 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 6 | 0.50 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 7 | 0.58 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 8 | 0.67 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 9 | 0.75 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 10 | 0.83 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 11 | 0.92 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 12 | 1.00 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 13 | 1.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 14 | 1.17 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 15 | 1.25 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 16 | 1.33 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 17 | 1.42 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 18 | 1.50 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 19 | 1.58 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 20 | 1.67 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 21 | 1.75 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 22 | 1.83 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 23 | 1.92 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 24 | 2.00 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 25 | 2.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 26 | 2.17 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 27 | 2.25 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 28 | 2.33 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 29 | 2.42 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 30 | 2.50 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 31 | 2.58 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 32 | 2.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 33 | 2.75 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 34 | 2.83 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 35 | 2.92 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 36 | 3.00 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 37 | 3.08 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 38 | 3.17 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 39 | 3.25 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 40 | 3.33 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 41 | 3.42 | 1.20 | 0.360 | 0.086 | ( 0.324) | 0.274 |
| 42 | 3.50 | 1.30 | 0.390 | 0.086 | ( 0.351) | 0.304 |
| 43 | 3.58 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 44 | 3.67 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 45 | 3.75 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 46 | 3.83 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 47 | 3.92 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 48 | 4.00 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 49 | 4.08 | 1.70 | 0.510 | 0.086 | ( 0.459) | 0.424 |
| 50 | 4.17 | 1.80 | 0.540 | 0.086 | ( 0.486) | 0.454 |
| 51 | 4.25 | 1.90 | 0.570 | 0.086 | ( 0.513) | 0.484 |
| 52 | 4.33 | 2.00 | 0.600 | 0.086 | ( 0.540) | 0.514 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 53 | 4.42 | 2.10 | 0.630 | 0.086 | ( 0.567) | | 0.544 |
| 54 | 4.50 | 2.10 | 0.630 | 0.086 | ( 0.567) | | 0.544 |
| 55 | 4.58 | 2.20 | 0.660 | 0.086 | ( 0.594) | | 0.574 |
| 56 | 4.67 | 2.30 | 0.690 | 0.086 | ( 0.621) | | 0.604 |
| 57 | 4.75 | 2.40 | 0.720 | 0.086 | ( 0.648) | | 0.634 |
| 58 | 4.83 | 2.40 | 0.720 | 0.086 | ( 0.648) | | 0.634 |
| 59 | 4.92 | 2.50 | 0.750 | 0.086 | ( 0.675) | | 0.664 |
| 60 | 5.00 | 2.60 | 0.780 | 0.086 | ( 0.702) | | 0.694 |
| 61 | 5.08 | 3.10 | 0.930 | 0.086 | ( 0.837) | | 0.844 |
| 62 | 5.17 | 3.60 | 1.080 | 0.086 | ( 0.972) | | 0.994 |
| 63 | 5.25 | 3.90 | 1.170 | 0.086 | ( 1.053) | | 1.084 |
| 64 | 5.33 | 4.20 | 1.260 | 0.086 | ( 1.134) | | 1.174 |
| 65 | 5.42 | 4.70 | 1.410 | 0.086 | ( 1.269) | | 1.324 |
| 66 | 5.50 | 5.60 | 1.680 | 0.086 | ( 1.512) | | 1.594 |
| 67 | 5.58 | 1.90 | 0.570 | 0.086 | ( 0.513) | | 0.484 |
| 68 | 5.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | | 0.184 |
| 69 | 5.75 | 0.60 | 0.180 | 0.086 | ( 0.162) | | 0.094 |
| 70 | 5.83 | 0.50 | 0.150 | 0.086 | ( 0.135) | | 0.064 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.086) | 0.081 | | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.086) | 0.054 | | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.9

Flood volume = Effective rainfall 1.99(In)
times area 4.5(Ac.)/[(In)/(Ft.)] = 0.7(Ac.Ft)
Total soil loss = 0.51(In)
Total soil loss = 0.192(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 32477.4 Cubic Feet
Total soil loss = 8359.4 Cubic Feet

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Peak flow rate of this hydrograph = 6.412(CFS)

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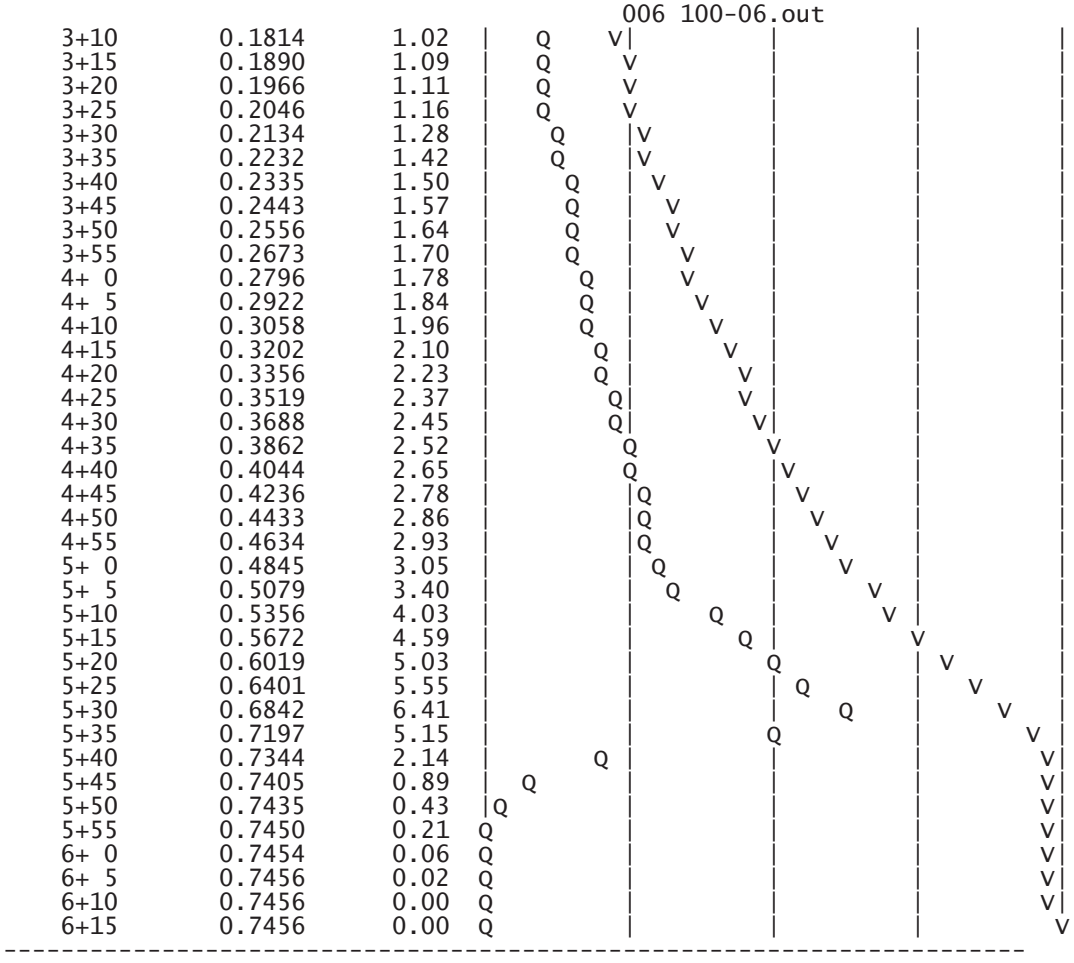
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

---

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0008 | 0.11 | Q | \| | \| | \| | \| |
| 0+10 | 0.0030 | 0.32 | VQ | \| | \| | \| | \| |
| 0+15 | 0.0058 | 0.41 | VQ | \| | \| | \| | \| |
| 0+20 | 0.0087 | 0.43 | VQ | \| | \| | \| | \| |
| 0+25 | 0.0116 | 0.43 | VQ | \| | \| | \| | \| |
| 0+30 | 0.0150 | 0.48 | VQ | \| | \| | \| | \| |
| 0+35 | 0.0187 | 0.55 | \|VQ | \| | \| | \| | \| |
| 0+40 | 0.0226 | 0.56 | \|VQ | \| | \| | \| | \| |
| 0+45 | 0.0265 | 0.56 | \|VQ | \| | \| | \| | \| |
| 0+50 | 0.0304 | 0.56 | \|VQ | \| | \| | \| | \| |
| 0+55 | 0.0343 | 0.56 | \|VQ | \| | \| | \| | \| |
| 1+ 0 | 0.0385 | 0.62 | \| Q | \| | \| | \| | \| |
| 1+ 5 | 0.0432 | 0.69 | \| Q | \| | \| | \| | \| |
| 1+10 | 0.0480 | 0.70 | \| Q | \| | \| | \| | \| |
| 1+15 | 0.0529 | 0.70 | \| Q | \| | \| | \| | \| |
| 1+20 | 0.0577 | 0.70 | \| QV | \| | \| | \| | \| |
| 1+25 | 0.0625 | 0.70 | \| QV | \| | \| | \| | \| |
| 1+30 | 0.0673 | 0.70 | \| QV | \| | \| | \| | \| |
| 1+35 | 0.0721 | 0.70 | \| QV | \| | \| | \| | \| |
| 1+40 | 0.0769 | 0.70 | \| Q V | \| | \| | \| | \| |
| 1+45 | 0.0818 | 0.70 | \| Q V | \| | \| | \| | \| |
| 1+50 | 0.0866 | 0.70 | \| Q V | \| | \| | \| | \| |
| 1+55 | 0.0914 | 0.70 | \| Q V | \| | \| | \| | \| |
| 2+ 0 | 0.0966 | 0.75 | \| Q V | \| | \| | \| | \| |
| 2+ 5 | 0.1019 | 0.77 | \| Q V | \| | \| | \| | \| |
| 2+10 | 0.1071 | 0.76 | \| Q V | \| | \| | \| | \| |
| 2+15 | 0.1128 | 0.82 | \| Q V | \| | \| | \| | \| |
| 2+20 | 0.1186 | 0.83 | \| Q V | \| | \| | \| | \| |
| 2+25 | 0.1243 | 0.84 | \| Q V | \| | \| | \| | \| |
| 2+30 | 0.1301 | 0.84 | \| Q V | \| | \| | \| | \| |
| 2+35 | 0.1358 | 0.84 | \| Q V | \| | \| | \| | \| |
| 2+40 | 0.1416 | 0.84 | \| Q V | \| | \| | \| | \| |
| 2+45 | 0.1477 | 0.89 | \| Q V | \| | \| | \| | \| |
| 2+50 | 0.1543 | 0.96 | \| Q V | \| | \| | \| | \| |
| 2+55 | 0.1610 | 0.97 | \| Q V | \| | \| | \| | \| |
| 3+ 0 | 0.1677 | 0.97 | \| Q V | \| | \| | \| | \| |
| 3+ 5 | 0.1744 | 0.97 | \| Q V\| | \| | \| | \| | \| |



| | | | |
|---|---|---|---|
| 3+10 | 0.1814 | 1.02 | |
| 3+15 | 0.1890 | 1.09 | |
| 3+20 | 0.1966 | 1.11 | |
| 3+25 | 0.2046 | 1.16 | |
| 3+30 | 0.2134 | 1.28 | |
| 3+35 | 0.2232 | 1.42 | |
| 3+40 | 0.2335 | 1.50 | |
| 3+45 | 0.2443 | 1.57 | |
| 3+50 | 0.2556 | 1.64 | |
| 3+55 | 0.2673 | 1.70 | |
| 4+ 0 | 0.2796 | 1.78 | |
| 4+ 5 | 0.2922 | 1.84 | |
| 4+10 | 0.3058 | 1.96 | |
| 4+15 | 0.3202 | 2.10 | |
| 4+20 | 0.3356 | 2.23 | |
| 4+25 | 0.3519 | 2.37 | |
| 4+30 | 0.3688 | 2.45 | |
| 4+35 | 0.3862 | 2.52 | |
| 4+40 | 0.4044 | 2.65 | |
| 4+45 | 0.4236 | 2.78 | |
| 4+50 | 0.4433 | 2.86 | |
| 4+55 | 0.4634 | 2.93 | |
| 5+ 0 | 0.4845 | 3.05 | |
| 5+ 5 | 0.5079 | 3.40 | |
| 5+10 | 0.5356 | 4.03 | |
| 5+15 | 0.5672 | 4.59 | |
| 5+20 | 0.6019 | 5.03 | |
| 5+25 | 0.6401 | 5.55 | |
| 5+30 | 0.6842 | 6.41 | |
| 5+35 | 0.7197 | 5.15 | |
| 5+40 | 0.7344 | 2.14 | |
| 5+45 | 0.7405 | 0.89 | |
| 5+50 | 0.7435 | 0.43 | |
| 5+55 | 0.7450 | 0.21 | |
| 6+ 0 | 0.7454 | 0.06 | |
| 6+ 5 | 0.7456 | 0.02 | |
| 6+10 | 0.7456 | 0.00 | |
| 6+15 | 0.7456 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX624100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS ARA 6
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 4.50(Ac.) = 0.007 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 4.50(Ac.) = 0.007 Sq. Mi.
Length along longest watercourse = 735.00(Ft.)
Length along longest watercourse measured to centroid = 371.00(Ft.)
Length along longest watercourse = 0.139 Mi.
Length along longest watercourse measured to centroid = 0.070 Mi.
Difference in elevation = 62.00(Ft.)
Slope along watercourse = 445.3878 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.045 Hr.
Lag time = 2.73 Min.
25% of lag time = 0.68 Min.
40% of lag time = 1.09 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 4.50 | 1.80 | 8.10 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 4.50 | 4.63 | 20.84 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.630(In)

Point rain (area averaged) = 4.630(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.630(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 4.500 | 84.00 | 0.000 |

Total Area Entered = 4.50(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 183.422 | 38.790 | 1.759 |
| 2 | 0.167 | 366.843 | 51.544 | 2.338 |
| 3 | 0.250 | 550.265 | 8.136 | 0.369 |
| 4 | 0.333 | 733.686 | 1.530 | 0.069 |
| | | | Sum = 100.000 Sum= | 4.535 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.037 | ( 0.152) | 0.033 | 0.004 |
| 2 | 0.17 | 0.07 | 0.037 | ( 0.152) | 0.033 | 0.004 |
| 3 | 0.25 | 0.07 | 0.037 | ( 0.151) | 0.033 | 0.004 |
| 4 | 0.33 | 0.10 | 0.056 | ( 0.150) | 0.050 | 0.006 |
| 5 | 0.42 | 0.10 | 0.056 | ( 0.150) | 0.050 | 0.006 |
| 6 | 0.50 | 0.10 | 0.056 | ( 0.149) | 0.050 | 0.006 |
| 7 | 0.58 | 0.10 | 0.056 | ( 0.149) | 0.050 | 0.006 |
| 8 | 0.67 | 0.10 | 0.056 | ( 0.148) | 0.050 | 0.006 |
| 9 | 0.75 | 0.10 | 0.056 | ( 0.147) | 0.050 | 0.006 |
| 10 | 0.83 | 0.13 | 0.074 | ( 0.147) | 0.067 | 0.007 |
| 11 | 0.92 | 0.13 | 0.074 | ( 0.146) | 0.067 | 0.007 |
| 12 | 1.00 | 0.13 | 0.074 | ( 0.146) | 0.067 | 0.007 |
| 13 | 1.08 | 0.10 | 0.056 | ( 0.145) | 0.050 | 0.006 |
| 14 | 1.17 | 0.10 | 0.056 | ( 0.145) | 0.050 | 0.006 |
| 15 | 1.25 | 0.10 | 0.056 | ( 0.144) | 0.050 | 0.006 |
| 16 | 1.33 | 0.10 | 0.056 | ( 0.143) | 0.050 | 0.006 |
| 17 | 1.42 | 0.10 | 0.056 | ( 0.143) | 0.050 | 0.006 |
| 18 | 1.50 | 0.10 | 0.056 | ( 0.142) | 0.050 | 0.006 |
| 19 | 1.58 | 0.10 | 0.056 | ( 0.142) | 0.050 | 0.006 |
| 20 | 1.67 | 0.10 | 0.056 | ( 0.141) | 0.050 | 0.006 |
| 21 | 1.75 | 0.10 | 0.056 | ( 0.141) | 0.050 | 0.006 |
| 22 | 1.83 | 0.13 | 0.074 | ( 0.140) | 0.067 | 0.007 |
| 23 | 1.92 | 0.13 | 0.074 | ( 0.139) | 0.067 | 0.007 |
| 24 | 2.00 | 0.13 | 0.074 | ( 0.139) | 0.067 | 0.007 |
| 25 | 2.08 | 0.13 | 0.074 | ( 0.138) | 0.067 | 0.007 |
| 26 | 2.17 | 0.13 | 0.074 | ( 0.138) | 0.067 | 0.007 |
| 27 | 2.25 | 0.13 | 0.074 | ( 0.137) | 0.067 | 0.007 |
| 28 | 2.33 | 0.13 | 0.074 | ( 0.137) | 0.067 | 0.007 |
| 29 | 2.42 | 0.13 | 0.074 | ( 0.136) | 0.067 | 0.007 |
| 30 | 2.50 | 0.13 | 0.074 | ( 0.136) | 0.067 | 0.007 |
| 31 | 2.58 | 0.17 | 0.093 | ( 0.135) | 0.083 | 0.009 |
| 32 | 2.67 | 0.17 | 0.093 | ( 0.134) | 0.083 | 0.009 |
| 33 | 2.75 | 0.17 | 0.093 | ( 0.134) | 0.083 | 0.009 |
| 34 | 2.83 | 0.17 | 0.093 | ( 0.133) | 0.083 | 0.009 |
| 35 | 2.92 | 0.17 | 0.093 | ( 0.133) | 0.083 | 0.009 |
| 36 | 3.00 | 0.17 | 0.093 | ( 0.132) | 0.083 | 0.009 |
| 37 | 3.08 | 0.17 | 0.093 | ( 0.132) | 0.083 | 0.009 |
| 38 | 3.17 | 0.17 | 0.093 | ( 0.131) | 0.083 | 0.009 |
| 39 | 3.25 | 0.17 | 0.093 | ( 0.131) | 0.083 | 0.009 |
| 40 | 3.33 | 0.17 | 0.093 | ( 0.130) | 0.083 | 0.009 |
| 41 | 3.42 | 0.17 | 0.093 | ( 0.129) | 0.083 | 0.009 |
| 42 | 3.50 | 0.17 | 0.093 | ( 0.129) | 0.083 | 0.009 |
| 43 | 3.58 | 0.17 | 0.093 | ( 0.128) | 0.083 | 0.009 |
| 44 | 3.67 | 0.17 | 0.093 | ( 0.128) | 0.083 | 0.009 |
| 45 | 3.75 | 0.17 | 0.093 | ( 0.127) | 0.083 | 0.009 |
| 46 | 3.83 | 0.20 | 0.111 | ( 0.127) | 0.100 | 0.011 |
| 47 | 3.92 | 0.20 | 0.111 | ( 0.126) | 0.100 | 0.011 |
| 48 | 4.00 | 0.20 | 0.111 | ( 0.126) | 0.100 | 0.011 |
| 49 | 4.08 | 0.20 | 0.111 | ( 0.125) | 0.100 | 0.011 |
| 50 | 4.17 | 0.20 | 0.111 | ( 0.125) | 0.100 | 0.011 |
| 51 | 4.25 | 0.20 | 0.111 | ( 0.124) | 0.100 | 0.011 |
| 52 | 4.33 | 0.23 | 0.130 | ( 0.124) | 0.117 | 0.013 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 53 | 4.42 | 0.23 | 0.130 | ( | 0.123) | 0.117 | | 0.013 |
| 54 | 4.50 | 0.23 | 0.130 | ( | 0.123) | 0.117 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.130 | ( | 0.122) | 0.117 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.130 | ( | 0.121) | 0.117 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.130 | ( | 0.121) | 0.117 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.148 | | 0.120 | ( 0.133) | | 0.028 |
| 59 | 4.92 | 0.27 | 0.148 | | 0.120 | ( 0.133) | | 0.028 |
| 60 | 5.00 | 0.27 | 0.148 | | 0.119 | ( 0.133) | | 0.029 |
| 61 | 5.08 | 0.20 | 0.111 | ( | 0.119) | 0.100 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.111 | ( | 0.118) | 0.100 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.111 | ( | 0.118) | 0.100 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.130 | ( | 0.117) | 0.117 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.130 | ( | 0.117) | 0.117 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.130 | | 0.116 | ( 0.117) | | 0.013 |
| 67 | 5.58 | 0.27 | 0.148 | | 0.116 | ( 0.133) | | 0.032 |
| 68 | 5.67 | 0.27 | 0.148 | | 0.115 | ( 0.133) | | 0.033 |
| 69 | 5.75 | 0.27 | 0.148 | | 0.115 | ( 0.133) | | 0.033 |
| 70 | 5.83 | 0.27 | 0.148 | | 0.114 | ( 0.133) | | 0.034 |
| 71 | 5.92 | 0.27 | 0.148 | | 0.114 | ( 0.133) | | 0.034 |
| 72 | 6.00 | 0.27 | 0.148 | | 0.113 | ( 0.133) | | 0.035 |
| 73 | 6.08 | 0.30 | 0.167 | | 0.113 | ( 0.150) | | 0.054 |
| 74 | 6.17 | 0.30 | 0.167 | | 0.112 | ( 0.150) | | 0.054 |
| 75 | 6.25 | 0.30 | 0.167 | | 0.112 | ( 0.150) | | 0.055 |
| 76 | 6.33 | 0.30 | 0.167 | | 0.111 | ( 0.150) | | 0.055 |
| 77 | 6.42 | 0.30 | 0.167 | | 0.111 | ( 0.150) | | 0.056 |
| 78 | 6.50 | 0.30 | 0.167 | | 0.110 | ( 0.150) | | 0.056 |
| 79 | 6.58 | 0.33 | 0.185 | | 0.110 | ( 0.167) | | 0.075 |
| 80 | 6.67 | 0.33 | 0.185 | | 0.109 | ( 0.167) | | 0.076 |
| 81 | 6.75 | 0.33 | 0.185 | | 0.109 | ( 0.167) | | 0.076 |
| 82 | 6.83 | 0.33 | 0.185 | | 0.108 | ( 0.167) | | 0.077 |
| 83 | 6.92 | 0.33 | 0.185 | | 0.108 | ( 0.167) | | 0.077 |
| 84 | 7.00 | 0.33 | 0.185 | | 0.107 | ( 0.167) | | 0.078 |
| 85 | 7.08 | 0.33 | 0.185 | | 0.107 | ( 0.167) | | 0.078 |
| 86 | 7.17 | 0.33 | 0.185 | | 0.106 | ( 0.167) | | 0.079 |
| 87 | 7.25 | 0.33 | 0.185 | | 0.106 | ( 0.167) | | 0.079 |
| 88 | 7.33 | 0.37 | 0.204 | | 0.105 | ( 0.183) | | 0.098 |
| 89 | 7.42 | 0.37 | 0.204 | | 0.105 | ( 0.183) | | 0.099 |
| 90 | 7.50 | 0.37 | 0.204 | | 0.104 | ( 0.183) | | 0.099 |
| 91 | 7.58 | 0.40 | 0.222 | | 0.104 | ( 0.200) | | 0.118 |
| 92 | 7.67 | 0.40 | 0.222 | | 0.103 | ( 0.200) | | 0.119 |
| 93 | 7.75 | 0.40 | 0.222 | | 0.103 | ( 0.200) | | 0.119 |
| 94 | 7.83 | 0.43 | 0.241 | | 0.102 | ( 0.217) | | 0.138 |
| 95 | 7.92 | 0.43 | 0.241 | | 0.102 | ( 0.217) | | 0.139 |
| 96 | 8.00 | 0.43 | 0.241 | | 0.102 | ( 0.217) | | 0.139 |
| 97 | 8.08 | 0.50 | 0.278 | | 0.101 | ( 0.250) | | 0.177 |
| 98 | 8.17 | 0.50 | 0.278 | | 0.101 | ( 0.250) | | 0.177 |
| 99 | 8.25 | 0.50 | 0.278 | | 0.100 | ( 0.250) | | 0.178 |
| 100 | 8.33 | 0.50 | 0.278 | | 0.100 | ( 0.250) | | 0.178 |
| 101 | 8.42 | 0.50 | 0.278 | | 0.099 | ( 0.250) | | 0.179 |
| 102 | 8.50 | 0.50 | 0.278 | | 0.099 | ( 0.250) | | 0.179 |
| 103 | 8.58 | 0.53 | 0.296 | | 0.098 | ( 0.267) | | 0.198 |
| 104 | 8.67 | 0.53 | 0.296 | | 0.098 | ( 0.267) | | 0.199 |
| 105 | 8.75 | 0.53 | 0.296 | | 0.097 | ( 0.267) | | 0.199 |
| 106 | 8.83 | 0.57 | 0.315 | | 0.097 | ( 0.283) | | 0.218 |
| 107 | 8.92 | 0.57 | 0.315 | | 0.096 | ( 0.283) | | 0.218 |
| 108 | 9.00 | 0.57 | 0.315 | | 0.096 | ( 0.283) | | 0.219 |
| 109 | 9.08 | 0.63 | 0.352 | | 0.096 | ( 0.317) | | 0.256 |
| 110 | 9.17 | 0.63 | 0.352 | | 0.095 | ( 0.317) | | 0.257 |
| 111 | 9.25 | 0.63 | 0.352 | | 0.095 | ( 0.317) | | 0.257 |
| 112 | 9.33 | 0.67 | 0.370 | | 0.094 | ( 0.333) | | 0.276 |
| 113 | 9.42 | 0.67 | 0.370 | | 0.094 | ( 0.333) | | 0.277 |
| 114 | 9.50 | 0.67 | 0.370 | | 0.093 | ( 0.333) | | 0.277 |
| 115 | 9.58 | 0.70 | 0.389 | | 0.093 | ( 0.350) | | 0.296 |
| 116 | 9.67 | 0.70 | 0.389 | | 0.092 | ( 0.350) | | 0.297 |
| 117 | 9.75 | 0.70 | 0.389 | | 0.092 | ( 0.350) | | 0.297 |
| 118 | 9.83 | 0.73 | 0.407 | | 0.091 | ( 0.367) | | 0.316 |
| 119 | 9.92 | 0.73 | 0.407 | | 0.091 | ( 0.367) | | 0.316 |
| 120 | 10.00 | 0.73 | 0.407 | | 0.091 | ( 0.367) | | 0.317 |
| 121 | 10.08 | 0.50 | 0.278 | | 0.090 | ( 0.250) | | 0.188 |
| 122 | 10.17 | 0.50 | 0.278 | | 0.090 | ( 0.250) | | 0.188 |
| 123 | 10.25 | 0.50 | 0.278 | | 0.089 | ( 0.250) | | 0.189 |
| 124 | 10.33 | 0.50 | 0.278 | | 0.089 | ( 0.250) | | 0.189 |
| 125 | 10.42 | 0.50 | 0.278 | | 0.088 | ( 0.250) | | 0.189 |
| 126 | 10.50 | 0.50 | 0.278 | | 0.088 | ( 0.250) | | 0.190 |
| 127 | 10.58 | 0.67 | 0.370 | | 0.088 | ( 0.333) | | 0.283 |
| 128 | 10.67 | 0.67 | 0.370 | | 0.087 | ( 0.333) | | 0.283 |
| 129 | 10.75 | 0.67 | 0.370 | | 0.087 | ( 0.333) | | 0.284 |
| 130 | 10.83 | 0.67 | 0.370 | | 0.086 | ( 0.333) | | 0.284 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 131 | 10.92 | 0.67 | 0.370 | 0.086 | ( 0.333) | 0.285 |
| 132 | 11.00 | 0.67 | 0.370 | 0.085 | ( 0.333) | 0.285 |
| 133 | 11.08 | 0.63 | 0.352 | 0.085 | ( 0.317) | 0.267 |
| 134 | 11.17 | 0.63 | 0.352 | 0.085 | ( 0.317) | 0.267 |
| 135 | 11.25 | 0.63 | 0.352 | 0.084 | ( 0.317) | 0.268 |
| 136 | 11.33 | 0.63 | 0.352 | 0.084 | ( 0.317) | 0.268 |
| 137 | 11.42 | 0.63 | 0.352 | 0.083 | ( 0.317) | 0.269 |
| 138 | 11.50 | 0.63 | 0.352 | 0.083 | ( 0.317) | 0.269 |
| 139 | 11.58 | 0.57 | 0.315 | 0.083 | ( 0.283) | 0.232 |
| 140 | 11.67 | 0.57 | 0.315 | 0.082 | ( 0.283) | 0.233 |
| 141 | 11.75 | 0.57 | 0.315 | 0.082 | ( 0.283) | 0.233 |
| 142 | 11.83 | 0.60 | 0.333 | 0.081 | ( 0.300) | 0.252 |
| 143 | 11.92 | 0.60 | 0.333 | 0.081 | ( 0.300) | 0.252 |
| 144 | 12.00 | 0.60 | 0.333 | 0.080 | ( 0.300) | 0.253 |
| 145 | 12.08 | 0.83 | 0.463 | 0.080 | ( 0.417) | 0.383 |
| 146 | 12.17 | 0.83 | 0.463 | 0.080 | ( 0.417) | 0.383 |
| 147 | 12.25 | 0.83 | 0.463 | 0.079 | ( 0.417) | 0.384 |
| 148 | 12.33 | 0.87 | 0.482 | 0.079 | ( 0.433) | 0.403 |
| 149 | 12.42 | 0.87 | 0.482 | 0.078 | ( 0.433) | 0.403 |
| 150 | 12.50 | 0.87 | 0.482 | 0.078 | ( 0.433) | 0.403 |
| 151 | 12.58 | 0.93 | 0.519 | 0.078 | ( 0.467) | 0.441 |
| 152 | 12.67 | 0.93 | 0.519 | 0.077 | ( 0.467) | 0.441 |
| 153 | 12.75 | 0.93 | 0.519 | 0.077 | ( 0.467) | 0.442 |
| 154 | 12.83 | 0.97 | 0.537 | 0.077 | ( 0.483) | 0.461 |
| 155 | 12.92 | 0.97 | 0.537 | 0.076 | ( 0.483) | 0.461 |
| 156 | 13.00 | 0.97 | 0.537 | 0.076 | ( 0.483) | 0.461 |
| 157 | 13.08 | 1.13 | 0.630 | 0.075 | ( 0.567) | 0.554 |
| 158 | 13.17 | 1.13 | 0.630 | 0.075 | ( 0.567) | 0.555 |
| 159 | 13.25 | 1.13 | 0.630 | 0.075 | ( 0.567) | 0.555 |
| 160 | 13.33 | 1.13 | 0.630 | 0.074 | ( 0.567) | 0.555 |
| 161 | 13.42 | 1.13 | 0.630 | 0.074 | ( 0.567) | 0.556 |
| 162 | 13.50 | 1.13 | 0.630 | 0.073 | ( 0.567) | 0.556 |
| 163 | 13.58 | 0.77 | 0.426 | 0.073 | ( 0.383) | 0.353 |
| 164 | 13.67 | 0.77 | 0.426 | 0.073 | ( 0.383) | 0.353 |
| 165 | 13.75 | 0.77 | 0.426 | 0.072 | ( 0.383) | 0.354 |
| 166 | 13.83 | 0.77 | 0.426 | 0.072 | ( 0.383) | 0.354 |
| 167 | 13.92 | 0.77 | 0.426 | 0.072 | ( 0.383) | 0.354 |
| 168 | 14.00 | 0.77 | 0.426 | 0.071 | ( 0.383) | 0.355 |
| 169 | 14.08 | 0.90 | 0.500 | 0.071 | ( 0.450) | 0.429 |
| 170 | 14.17 | 0.90 | 0.500 | 0.071 | ( 0.450) | 0.429 |
| 171 | 14.25 | 0.90 | 0.500 | 0.070 | ( 0.450) | 0.430 |
| 172 | 14.33 | 0.87 | 0.482 | 0.070 | ( 0.433) | 0.412 |
| 173 | 14.42 | 0.87 | 0.482 | 0.069 | ( 0.433) | 0.412 |
| 174 | 14.50 | 0.87 | 0.482 | 0.069 | ( 0.433) | 0.412 |
| 175 | 14.58 | 0.87 | 0.482 | 0.069 | ( 0.433) | 0.413 |
| 176 | 14.67 | 0.87 | 0.482 | 0.068 | ( 0.433) | 0.413 |
| 177 | 14.75 | 0.87 | 0.482 | 0.068 | ( 0.433) | 0.413 |
| 178 | 14.83 | 0.83 | 0.463 | 0.068 | ( 0.417) | 0.395 |
| 179 | 14.92 | 0.83 | 0.463 | 0.067 | ( 0.417) | 0.396 |
| 180 | 15.00 | 0.83 | 0.463 | 0.067 | ( 0.417) | 0.396 |
| 181 | 15.08 | 0.80 | 0.444 | 0.067 | ( 0.400) | 0.378 |
| 182 | 15.17 | 0.80 | 0.444 | 0.066 | ( 0.400) | 0.378 |
| 183 | 15.25 | 0.80 | 0.444 | 0.066 | ( 0.400) | 0.378 |
| 184 | 15.33 | 0.77 | 0.426 | 0.066 | ( 0.383) | 0.360 |
| 185 | 15.42 | 0.77 | 0.426 | 0.065 | ( 0.383) | 0.361 |
| 186 | 15.50 | 0.77 | 0.426 | 0.065 | ( 0.383) | 0.361 |
| 187 | 15.58 | 0.63 | 0.352 | 0.065 | ( 0.317) | 0.287 |
| 188 | 15.67 | 0.63 | 0.352 | 0.064 | ( 0.317) | 0.288 |
| 189 | 15.75 | 0.63 | 0.352 | 0.064 | ( 0.317) | 0.288 |
| 190 | 15.83 | 0.63 | 0.352 | 0.064 | ( 0.317) | 0.288 |
| 191 | 15.92 | 0.63 | 0.352 | 0.063 | ( 0.317) | 0.289 |
| 192 | 16.00 | 0.63 | 0.352 | 0.063 | ( 0.317) | 0.289 |
| 193 | 16.08 | 0.13 | 0.074 | 0.063 | ( 0.067) | 0.011 |
| 194 | 16.17 | 0.13 | 0.074 | 0.062 | ( 0.067) | 0.012 |
| 195 | 16.25 | 0.13 | 0.074 | 0.062 | ( 0.067) | 0.012 |
| 196 | 16.33 | 0.13 | 0.074 | 0.062 | ( 0.067) | 0.012 |
| 197 | 16.42 | 0.13 | 0.074 | 0.061 | ( 0.067) | 0.013 |
| 198 | 16.50 | 0.13 | 0.074 | 0.061 | ( 0.067) | 0.013 |
| 199 | 16.58 | 0.10 | 0.056 | ( 0.061) | 0.050 | 0.006 |
| 200 | 16.67 | 0.10 | 0.056 | ( 0.060) | 0.050 | 0.006 |
| 201 | 16.75 | 0.10 | 0.056 | ( 0.060) | 0.050 | 0.006 |
| 202 | 16.83 | 0.10 | 0.056 | ( 0.060) | 0.050 | 0.006 |
| 203 | 16.92 | 0.10 | 0.056 | ( 0.060) | 0.050 | 0.006 |
| 204 | 17.00 | 0.10 | 0.056 | ( 0.059) | 0.050 | 0.006 |
| 205 | 17.08 | 0.17 | 0.093 | 0.059 | ( 0.083) | 0.034 |
| 206 | 17.17 | 0.17 | 0.093 | 0.059 | ( 0.083) | 0.034 |
| 207 | 17.25 | 0.17 | 0.093 | 0.058 | ( 0.083) | 0.034 |
| 208 | 17.33 | 0.17 | 0.093 | 0.058 | ( 0.083) | 0.035 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 209 | 17.42 | 0.17 | 0.093 | | 0.058 | ( | 0.083) | 0.035 |
| 210 | 17.50 | 0.17 | 0.093 | | 0.058 | ( | 0.083) | 0.035 |
| 211 | 17.58 | 0.17 | 0.093 | | 0.057 | ( | 0.083) | 0.035 |
| 212 | 17.67 | 0.17 | 0.093 | | 0.057 | ( | 0.083) | 0.036 |
| 213 | 17.75 | 0.17 | 0.093 | | 0.057 | ( | 0.083) | 0.036 |
| 214 | 17.83 | 0.13 | 0.074 | | 0.056 | ( | 0.067) | 0.018 |
| 215 | 17.92 | 0.13 | 0.074 | | 0.056 | ( | 0.067) | 0.018 |
| 216 | 18.00 | 0.13 | 0.074 | | 0.056 | ( | 0.067) | 0.018 |
| 217 | 18.08 | 0.13 | 0.074 | | 0.056 | ( | 0.067) | 0.019 |
| 218 | 18.17 | 0.13 | 0.074 | | 0.055 | ( | 0.067) | 0.019 |
| 219 | 18.25 | 0.13 | 0.074 | | 0.055 | ( | 0.067) | 0.019 |
| 220 | 18.33 | 0.13 | 0.074 | | 0.055 | ( | 0.067) | 0.019 |
| 221 | 18.42 | 0.13 | 0.074 | | 0.054 | ( | 0.067) | 0.020 |
| 222 | 18.50 | 0.13 | 0.074 | | 0.054 | ( | 0.067) | 0.020 |
| 223 | 18.58 | 0.10 | 0.056 | ( | 0.054) | | 0.050 | 0.006 |
| 224 | 18.67 | 0.10 | 0.056 | ( | 0.054) | | 0.050 | 0.006 |
| 225 | 18.75 | 0.10 | 0.056 | ( | 0.053) | | 0.050 | 0.006 |
| 226 | 18.83 | 0.07 | 0.037 | ( | 0.053) | | 0.033 | 0.004 |
| 227 | 18.92 | 0.07 | 0.037 | ( | 0.053) | | 0.033 | 0.004 |
| 228 | 19.00 | 0.07 | 0.037 | ( | 0.053) | | 0.033 | 0.004 |
| 229 | 19.08 | 0.10 | 0.056 | ( | 0.052) | | 0.050 | 0.006 |
| 230 | 19.17 | 0.10 | 0.056 | ( | 0.052) | | 0.050 | 0.006 |
| 231 | 19.25 | 0.10 | 0.056 | ( | 0.052) | | 0.050 | 0.006 |
| 232 | 19.33 | 0.13 | 0.074 | | 0.052 | ( | 0.067) | 0.022 |
| 233 | 19.42 | 0.13 | 0.074 | | 0.051 | ( | 0.067) | 0.023 |
| 234 | 19.50 | 0.13 | 0.074 | | 0.051 | ( | 0.067) | 0.023 |
| 235 | 19.58 | 0.10 | 0.056 | ( | 0.051) | | 0.050 | 0.006 |
| 236 | 19.67 | 0.10 | 0.056 | ( | 0.051) | | 0.050 | 0.006 |
| 237 | 19.75 | 0.10 | 0.056 | ( | 0.050) | | 0.050 | 0.006 |
| 238 | 19.83 | 0.07 | 0.037 | ( | 0.050) | | 0.033 | 0.004 |
| 239 | 19.92 | 0.07 | 0.037 | ( | 0.050) | | 0.033 | 0.004 |
| 240 | 20.00 | 0.07 | 0.037 | ( | 0.050) | | 0.033 | 0.004 |
| 241 | 20.08 | 0.10 | 0.056 | | 0.050 | ( | 0.050) | 0.006 |
| 242 | 20.17 | 0.10 | 0.056 | | 0.049 | ( | 0.050) | 0.006 |
| 243 | 20.25 | 0.10 | 0.056 | | 0.049 | ( | 0.050) | 0.006 |
| 244 | 20.33 | 0.10 | 0.056 | | 0.049 | ( | 0.050) | 0.007 |
| 245 | 20.42 | 0.10 | 0.056 | | 0.049 | ( | 0.050) | 0.007 |
| 246 | 20.50 | 0.10 | 0.056 | | 0.049 | ( | 0.050) | 0.007 |
| 247 | 20.58 | 0.10 | 0.056 | | 0.048 | ( | 0.050) | 0.007 |
| 248 | 20.67 | 0.10 | 0.056 | | 0.048 | ( | 0.050) | 0.007 |
| 249 | 20.75 | 0.10 | 0.056 | | 0.048 | ( | 0.050) | 0.008 |
| 250 | 20.83 | 0.07 | 0.037 | ( | 0.048) | | 0.033 | 0.004 |
| 251 | 20.92 | 0.07 | 0.037 | ( | 0.048) | | 0.033 | 0.004 |
| 252 | 21.00 | 0.07 | 0.037 | ( | 0.047) | | 0.033 | 0.004 |
| 253 | 21.08 | 0.10 | 0.056 | | 0.047 | ( | 0.050) | 0.008 |
| 254 | 21.17 | 0.10 | 0.056 | | 0.047 | ( | 0.050) | 0.009 |
| 255 | 21.25 | 0.10 | 0.056 | | 0.047 | ( | 0.050) | 0.009 |
| 256 | 21.33 | 0.07 | 0.037 | ( | 0.047) | | 0.033 | 0.004 |
| 257 | 21.42 | 0.07 | 0.037 | ( | 0.046) | | 0.033 | 0.004 |
| 258 | 21.50 | 0.07 | 0.037 | ( | 0.046) | | 0.033 | 0.004 |
| 259 | 21.58 | 0.10 | 0.056 | | 0.046 | ( | 0.050) | 0.009 |
| 260 | 21.67 | 0.10 | 0.056 | | 0.046 | ( | 0.050) | 0.010 |
| 261 | 21.75 | 0.10 | 0.056 | | 0.046 | ( | 0.050) | 0.010 |
| 262 | 21.83 | 0.07 | 0.037 | ( | 0.046) | | 0.033 | 0.004 |
| 263 | 21.92 | 0.07 | 0.037 | ( | 0.045) | | 0.033 | 0.004 |
| 264 | 22.00 | 0.07 | 0.037 | ( | 0.045) | | 0.033 | 0.004 |
| 265 | 22.08 | 0.10 | 0.056 | | 0.045 | ( | 0.050) | 0.010 |
| 266 | 22.17 | 0.10 | 0.056 | | 0.045 | ( | 0.050) | 0.011 |
| 267 | 22.25 | 0.10 | 0.056 | | 0.045 | ( | 0.050) | 0.011 |
| 268 | 22.33 | 0.07 | 0.037 | ( | 0.045) | | 0.033 | 0.004 |
| 269 | 22.42 | 0.07 | 0.037 | ( | 0.045) | | 0.033 | 0.004 |
| 270 | 22.50 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 271 | 22.58 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 272 | 22.67 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 273 | 22.75 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 274 | 22.83 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 275 | 22.92 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 276 | 23.00 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 277 | 23.08 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 278 | 23.17 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 279 | 23.25 | 0.07 | 0.037 | ( | 0.043) | | 0.033 | 0.004 |
| 280 | 23.33 | 0.07 | 0.037 | ( | 0.043) | | 0.033 | 0.004 |
| 281 | 23.42 | 0.07 | 0.037 | ( | 0.043) | | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.037 | ( | 0.043) | | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.037 | ( | 0.043) | | 0.033 | 0.004 |
| 284 | 23.67 | 0.07 | 0.037 | ( | 0.043) | | 0.033 | 0.004 |
| 285 | 23.75 | 0.07 | 0.037 | ( | 0.043) | | 0.033 | 0.004 |
| 286 | 23.83 | 0.07 | 0.037 | ( | 0.043) | | 0.033 | 0.004 |

287 23.92 0.07 0.037 ( 0.043) 0.033 0.004
288 24.00 0.07 0.037 ( 0.043) 0.033 0.004
(Loss Rate Not Used)
Sum = 100.0 Sum = 35.0
Flood volume = Effective rainfall 2.92(In)
times area 4.5(Ac.)/[(In)/(Ft.)] = 1.1(Ac.Ft)
Total soil loss = 1.71(In)
Total soil loss = 0.643(Ac.Ft)
Total rainfall = 4.63(In)
Flood volume = 47618.6 Cubic Feet
Total soil loss = 28011.8 Cubic Feet

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Peak flow rate of this hydrograph = 2.522(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

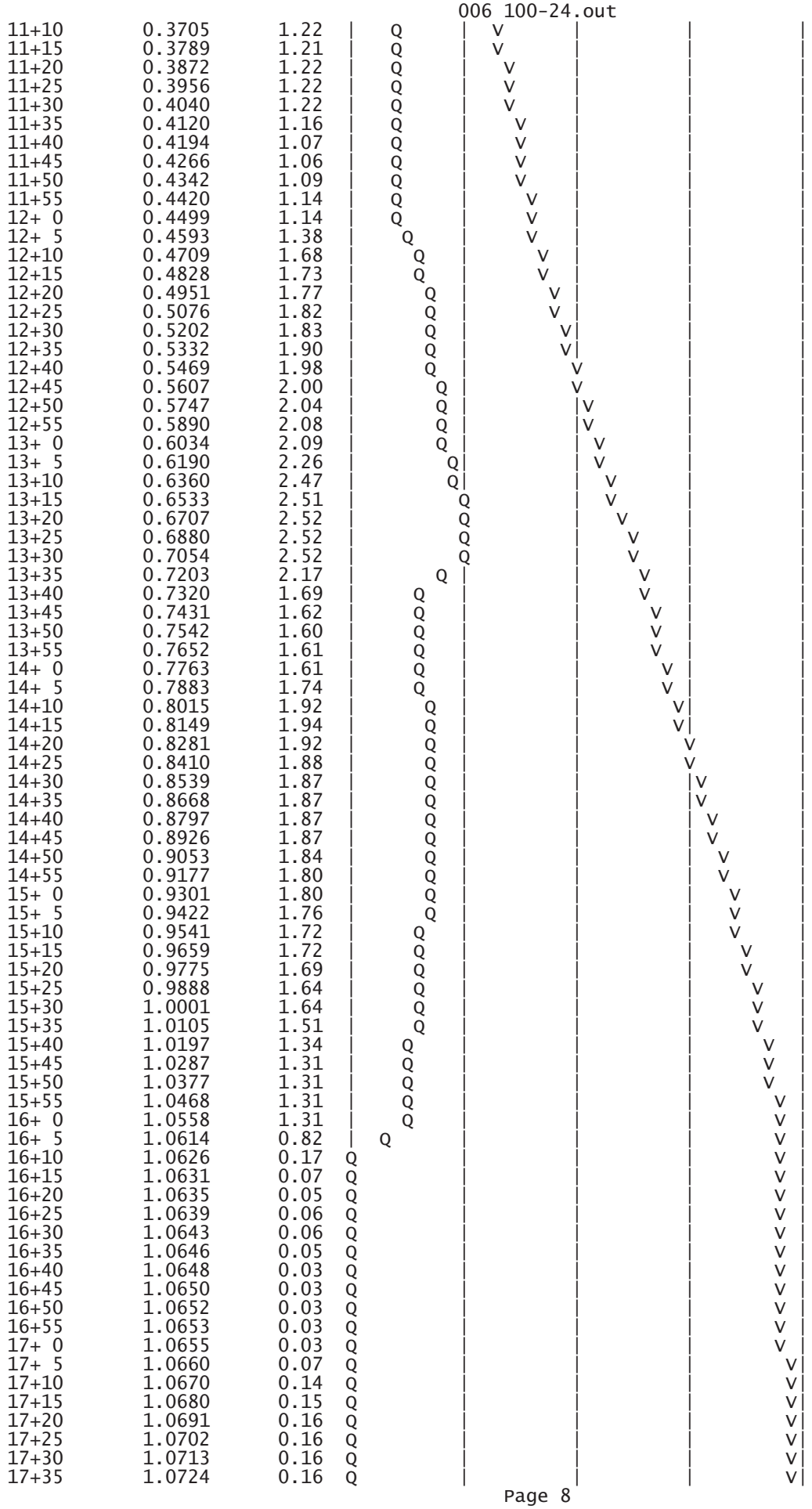
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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0000 | 0.01 | Q | | | | |
| 0+10 | 0.0001 | 0.02 | Q | | | | |
| 0+15 | 0.0003 | 0.02 | Q | | | | |
| 0+20 | 0.0004 | 0.02 | Q | | | | |
| 0+25 | 0.0006 | 0.02 | Q | | | | |
| 0+30 | 0.0007 | 0.03 | Q | | | | |
| 0+35 | 0.0009 | 0.03 | Q | | | | |
| 0+40 | 0.0011 | 0.03 | Q | | | | |
| 0+45 | 0.0013 | 0.03 | Q | | | | |
| 0+50 | 0.0015 | 0.03 | Q | | | | |
| 0+55 | 0.0017 | 0.03 | Q | | | | |
| 1+ 0 | 0.0019 | 0.03 | Q | | | | |
| 1+ 5 | 0.0021 | 0.03 | Q | | | | |
| 1+10 | 0.0023 | 0.03 | Q | | | | |
| 1+15 | 0.0025 | 0.03 | Q | | | | |
| 1+20 | 0.0027 | 0.03 | Q | | | | |
| 1+25 | 0.0028 | 0.03 | Q | | | | |
| 1+30 | 0.0030 | 0.03 | Q | | | | |
| 1+35 | 0.0032 | 0.03 | Q | | | | |
| 1+40 | 0.0033 | 0.03 | Q | | | | |
| 1+45 | 0.0035 | 0.03 | Q | | | | |
| 1+50 | 0.0037 | 0.03 | Q | | | | |
| 1+55 | 0.0039 | 0.03 | Q | | | | |
| 2+ 0 | 0.0042 | 0.03 | Q | | | | |
| 2+ 5 | 0.0044 | 0.03 | Q | | | | |
| 2+10 | 0.0046 | 0.03 | Q | | | | |
| 2+15 | 0.0049 | 0.03 | Q | | | | |
| 2+20 | 0.0051 | 0.03 | Q | | | | |
| 2+25 | 0.0053 | 0.03 | Q | | | | |
| 2+30 | 0.0056 | 0.03 | Q | | | | |
| 2+35 | 0.0058 | 0.04 | Q | | | | |
| 2+40 | 0.0061 | 0.04 | Q | | | | |
| 2+45 | 0.0064 | 0.04 | Q | | | | |
| 2+50 | 0.0067 | 0.04 | Q | | | | |
| 2+55 | 0.0070 | 0.04 | Q | | | | |
| 3+ 0 | 0.0073 | 0.04 | Q | | | | |
| 3+ 5 | 0.0075 | 0.04 | Q | | | | |
| 3+10 | 0.0078 | 0.04 | Q | | | | |
| 3+15 | 0.0081 | 0.04 | Q | | | | |
| 3+20 | 0.0084 | 0.04 | Q | | | | |
| 3+25 | 0.0087 | 0.04 | Q | | | | |
| 3+30 | 0.0090 | 0.04 | Q | | | | |
| 3+35 | 0.0093 | 0.04 | Q | | | | |
| 3+40 | 0.0096 | 0.04 | Q | | | | |
| 3+45 | 0.0099 | 0.04 | Q | | | | |
| 3+50 | 0.0102 | 0.05 | Q | | | | |
| 3+55 | 0.0105 | 0.05 | Q | | | | |
| 4+ 0 | 0.0109 | 0.05 | Q | | | | |
| 4+ 5 | 0.0112 | 0.05 | Q | | | | |
| 4+10 | 0.0116 | 0.05 | Q | | | | |
| 4+15 | 0.0119 | 0.05 | Q | | | | |
| 4+20 | 0.0123 | 0.05 | Q | | | | |
| 4+25 | 0.0127 | 0.06 | Q | | | | |
| 4+30 | 0.0131 | 0.06 | Q | | | | |
| 4+35 | 0.0135 | 0.06 | Q | | | | |

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 4+40       0.0139      0.06  Q          |           |           |           |
 4+45       0.0143      0.06  Q          |           |           |           |
 4+50       0.0149      0.08  Q          |           |           |           |
 4+55       0.0157      0.12  Q          |           |           |           |
 5+ 0       0.0166      0.13  Q          |           |           |           |
 5+ 5       0.0173      0.10  Q          |           |           |           |
 5+10       0.0177      0.06  Q          |           |           |           |
 5+15       0.0180      0.05  Q          |           |           |           |
 5+20       0.0184      0.05  Q          |           |           |           |
 5+25       0.0188      0.06  Q          |           |           |           |
 5+30       0.0192      0.06  Q          |           |           |           |
 5+35       0.0198      0.09  Q          |           |           |           |
 5+40       0.0208      0.14  Q          |           |           |           |
 5+45       0.0218      0.15  Q          |           |           |           |
 5+50       0.0229      0.15  Q          |           |           |           |
 5+55       0.0239      0.15  Q          |           |           |           |
 6+ 0       0.0250      0.16  Q          |           |           |           |
 6+ 5       0.0263      0.19  Q          |           |           |           |
 6+10       0.0280      0.24  QV         |           |           |           |
 6+15       0.0297      0.25  QV         |           |           |           |
 6+20       0.0314      0.25  QV         |           |           |           |
 6+25       0.0331      0.25  |Q         |           |           |           |
 6+30       0.0349      0.25  |Q         |           |           |           |
 6+35       0.0369      0.29  |Q         |           |           |           |
 6+40       0.0392      0.33  |Q         |           |           |           |
 6+45       0.0415      0.34  |Q         |           |           |           |
 6+50       0.0439      0.35  |Q         |           |           |           |
 6+55       0.0463      0.35  |Q         |           |           |           |
 7+ 0       0.0488      0.35  |Q         |           |           |           |
 7+ 5       0.0512      0.35  |Q         |           |           |           |
 7+10       0.0537      0.36  |Q         |           |           |           |
 7+15       0.0561      0.36  |QV        |           |           |           |
 7+20       0.0588      0.39  |QV        |           |           |           |
 7+25       0.0619      0.44  |QV        |           |           |           |
 7+30       0.0649      0.45  |QV        |           |           |           |
 7+35       0.0683      0.48  |QV        |           |           |           |
 7+40       0.0719      0.53  | Q        |           |           |           |
 7+45       0.0756      0.54  | Q        |           |           |           |
 7+50       0.0796      0.57  | Q        |           |           |           |
 7+55       0.0839      0.62  | QV       |           |           |           |
 8+ 0       0.0882      0.63  | QV       |           |           |           |
 8+ 5       0.0930      0.70  | QV       |           |           |           |
 8+10       0.0984      0.79  |  Q       |           |           |           |
 8+15       0.1039      0.80  |  Q       |           |           |           |
 8+20       0.1095      0.81  |  QV      |           |           |           |
 8+25       0.1151      0.81  |  QV      |           |           |           |
 8+30       0.1206      0.81  |  QV      |           |           |           |
 8+35       0.1265      0.85  |  QV      |           |           |           |
 8+40       0.1326      0.89  |  QV      |           |           |           |
 8+45       0.1388      0.90  |  Q V     |           |           |           |
 8+50       0.1452      0.94  |  Q V     |           |           |           |
 8+55       0.1520      0.98  |  Q V     |           |           |           |
 9+ 0       0.1588      0.99  |  Q V     |           |           |           |
 9+ 5       0.1661      1.06  |   Q V    |           |           |           |
 9+10       0.1740      1.15  |   Q V    |           |           |           |
 9+15       0.1820      1.16  |   Q V    |           |           |           |
 9+20       0.1903      1.20  |   Q V    |           |           |           |
 9+25       0.1989      1.25  |   Q  V   |           |           |           |
 9+30       0.2075      1.25  |    Q V   |           |           |           |
 9+35       0.2164      1.29  |    Q V   |           |           |           |
 9+40       0.2256      1.34  |    Q  V  |           |           |           |
 9+45       0.2349      1.34  |    Q  V  |           |           |           |
 9+50       0.2444      1.38  |    Q  V  |           |           |           |
 9+55       0.2542      1.43  |    Q   V |           |           |           |
10+ 0       0.2641      1.43  |    Q   V |           |           |           |
10+ 5       0.2724      1.21  |   Q    V |           |           |           |
10+10       0.2787      0.91  |  Q      V           |           |           |
10+15       0.2846      0.86  |  Q      V           |           |           |
10+20       0.2905      0.86  |  Q      V           |           |           |
10+25       0.2964      0.86  |  Q      V           |           |           |
10+30       0.3023      0.86  |  Q      |V          |           |           |
10+35       0.3094      1.02  |   Q     |V          |           |           |
10+40       0.3180      1.24  |   Q     |V          |           |           |
10+45       0.3268      1.28  |    Q    |V          |           |           |
10+50       0.3356      1.29  |    Q    | V         |           |           |
10+55       0.3445      1.29  |    Q    | V         |           |           |
11+ 0       0.3534      1.29  |    Q    | V         |           |           |
11+ 5       0.3621      1.26  |    Q    |  V        |           |           |
```



| | | | |
|---|---|---|---|
| 11+10 | 0.3705 | 1.22 | |
| 11+15 | 0.3789 | 1.21 | |
| 11+20 | 0.3872 | 1.22 | |
| 11+25 | 0.3956 | 1.22 | |
| 11+30 | 0.4040 | 1.22 | |
| 11+35 | 0.4120 | 1.16 | |
| 11+40 | 0.4194 | 1.07 | |
| 11+45 | 0.4266 | 1.06 | |
| 11+50 | 0.4342 | 1.09 | |
| 11+55 | 0.4420 | 1.14 | |
| 12+ 0 | 0.4499 | 1.14 | |
| 12+ 5 | 0.4593 | 1.38 | |
| 12+10 | 0.4709 | 1.68 | |
| 12+15 | 0.4828 | 1.73 | |
| 12+20 | 0.4951 | 1.77 | |
| 12+25 | 0.5076 | 1.82 | |
| 12+30 | 0.5202 | 1.83 | |
| 12+35 | 0.5332 | 1.90 | |
| 12+40 | 0.5469 | 1.98 | |
| 12+45 | 0.5607 | 2.00 | |
| 12+50 | 0.5747 | 2.04 | |
| 12+55 | 0.5890 | 2.08 | |
| 13+ 0 | 0.6034 | 2.09 | |
| 13+ 5 | 0.6190 | 2.26 | |
| 13+10 | 0.6360 | 2.47 | |
| 13+15 | 0.6533 | 2.51 | |
| 13+20 | 0.6707 | 2.52 | |
| 13+25 | 0.6880 | 2.52 | |
| 13+30 | 0.7054 | 2.52 | |
| 13+35 | 0.7203 | 2.17 | |
| 13+40 | 0.7320 | 1.69 | |
| 13+45 | 0.7431 | 1.62 | |
| 13+50 | 0.7542 | 1.60 | |
| 13+55 | 0.7652 | 1.61 | |
| 14+ 0 | 0.7763 | 1.61 | |
| 14+ 5 | 0.7883 | 1.74 | |
| 14+10 | 0.8015 | 1.92 | |
| 14+15 | 0.8149 | 1.94 | |
| 14+20 | 0.8281 | 1.92 | |
| 14+25 | 0.8410 | 1.88 | |
| 14+30 | 0.8539 | 1.87 | |
| 14+35 | 0.8668 | 1.87 | |
| 14+40 | 0.8797 | 1.87 | |
| 14+45 | 0.8926 | 1.87 | |
| 14+50 | 0.9053 | 1.84 | |
| 14+55 | 0.9177 | 1.80 | |
| 15+ 0 | 0.9301 | 1.80 | |
| 15+ 5 | 0.9422 | 1.76 | |
| 15+10 | 0.9541 | 1.72 | |
| 15+15 | 0.9659 | 1.72 | |
| 15+20 | 0.9775 | 1.69 | |
| 15+25 | 0.9888 | 1.64 | |
| 15+30 | 1.0001 | 1.64 | |
| 15+35 | 1.0105 | 1.51 | |
| 15+40 | 1.0197 | 1.34 | |
| 15+45 | 1.0287 | 1.31 | |
| 15+50 | 1.0377 | 1.31 | |
| 15+55 | 1.0468 | 1.31 | |
| 16+ 0 | 1.0558 | 1.31 | |
| 16+ 5 | 1.0614 | 0.82 | |
| 16+10 | 1.0626 | 0.17 | |
| 16+15 | 1.0631 | 0.07 | |
| 16+20 | 1.0635 | 0.05 | |
| 16+25 | 1.0639 | 0.06 | |
| 16+30 | 1.0643 | 0.06 | |
| 16+35 | 1.0646 | 0.05 | |
| 16+40 | 1.0648 | 0.03 | |
| 16+45 | 1.0650 | 0.03 | |
| 16+50 | 1.0652 | 0.03 | |
| 16+55 | 1.0653 | 0.03 | |
| 17+ 0 | 1.0655 | 0.03 | |
| 17+ 5 | 1.0660 | 0.07 | |
| 17+10 | 1.0670 | 0.14 | |
| 17+15 | 1.0680 | 0.15 | |
| 17+20 | 1.0691 | 0.16 | |
| 17+25 | 1.0702 | 0.16 | |
| 17+30 | 1.0713 | 0.16 | |
| 17+35 | 1.0724 | 0.16 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+40 | 1.0735 | 0.16 | Q | \| | \| | \| | V\| |
| 17+45 | 1.0746 | 0.16 | Q | \| | \| | \| | V\| |
| 17+50 | 1.0755 | 0.13 | Q | \| | \| | \| | V\| |
| 17+55 | 1.0761 | 0.09 | Q | \| | \| | \| | V\| |
| 18+ 0 | 1.0767 | 0.08 | Q | \| | \| | \| | V\| |
| 18+ 5 | 1.0773 | 0.08 | Q | \| | \| | \| | V\| |
| 18+10 | 1.0779 | 0.08 | Q | \| | \| | \| | V\| |
| 18+15 | 1.0784 | 0.09 | Q | \| | \| | \| | V\| |
| 18+20 | 1.0790 | 0.09 | Q | \| | \| | \| | V\| |
| 18+25 | 1.0796 | 0.09 | Q | \| | \| | \| | V\| |
| 18+30 | 1.0803 | 0.09 | Q | \| | \| | \| | V\| |
| 18+35 | 1.0807 | 0.06 | Q | \| | \| | \| | V\| |
| 18+40 | 1.0809 | 0.03 | Q | \| | \| | \| | V\| |
| 18+45 | 1.0811 | 0.03 | Q | \| | \| | \| | V\| |
| 18+50 | 1.0813 | 0.02 | Q | \| | \| | \| | V\| |
| 18+55 | 1.0814 | 0.02 | Q | \| | \| | \| | V\| |
| 19+ 0 | 1.0815 | 0.02 | Q | \| | \| | \| | V\| |
| 19+ 5 | 1.0816 | 0.02 | Q | \| | \| | \| | V\| |
| 19+10 | 1.0818 | 0.02 | Q | \| | \| | \| | V\| |
| 19+15 | 1.0820 | 0.03 | Q | \| | \| | \| | V\| |
| 19+20 | 1.0824 | 0.05 | Q | \| | \| | \| | V\| |
| 19+25 | 1.0830 | 0.09 | Q | \| | \| | \| | V\| |
| 19+30 | 1.0837 | 0.10 | Q | \| | \| | \| | V\| |
| 19+35 | 1.0842 | 0.07 | Q | \| | \| | \| | V\| |
| 19+40 | 1.0844 | 0.03 | Q | \| | \| | \| | V\| |
| 19+45 | 1.0846 | 0.03 | Q | \| | \| | \| | V\| |
| 19+50 | 1.0848 | 0.02 | Q | \| | \| | \| | V\| |
| 19+55 | 1.0849 | 0.02 | Q | \| | \| | \| | V\| |
| 20+ 0 | 1.0850 | 0.02 | Q | \| | \| | \| | V\| |
| 20+ 5 | 1.0852 | 0.02 | Q | \| | \| | \| | V\| |
| 20+10 | 1.0853 | 0.03 | Q | \| | \| | \| | V\| |
| 20+15 | 1.0855 | 0.03 | Q | \| | \| | \| | V\| |
| 20+20 | 1.0857 | 0.03 | Q | \| | \| | \| | V\| |
| 20+25 | 1.0859 | 0.03 | Q | \| | \| | \| | V\| |
| 20+30 | 1.0862 | 0.03 | Q | \| | \| | \| | V\| |
| 20+35 | 1.0864 | 0.03 | Q | \| | \| | \| | V\| |
| 20+40 | 1.0866 | 0.03 | Q | \| | \| | \| | V\| |
| 20+45 | 1.0868 | 0.03 | Q | \| | \| | \| | V\| |
| 20+50 | 1.0870 | 0.03 | Q | \| | \| | \| | V\| |
| 20+55 | 1.0872 | 0.02 | Q | \| | \| | \| | V\| |
| 21+ 0 | 1.0873 | 0.02 | Q | \| | \| | \| | V\| |
| 21+ 5 | 1.0874 | 0.03 | Q | \| | \| | \| | V\| |
| 21+10 | 1.0877 | 0.04 | Q | \| | \| | \| | V\| |
| 21+15 | 1.0880 | 0.04 | Q | \| | \| | \| | V\| |
| 21+20 | 1.0882 | 0.03 | Q | \| | \| | \| | V\| |
| 21+25 | 1.0883 | 0.02 | Q | \| | \| | \| | V\| |
| 21+30 | 1.0884 | 0.02 | Q | \| | \| | \| | V\| |
| 21+35 | 1.0886 | 0.03 | Q | \| | \| | \| | V\| |
| 21+40 | 1.0889 | 0.04 | Q | \| | \| | \| | V\| |
| 21+45 | 1.0892 | 0.04 | Q | \| | \| | \| | V\| |
| 21+50 | 1.0894 | 0.03 | Q | \| | \| | \| | V\| |
| 21+55 | 1.0896 | 0.02 | Q | \| | \| | \| | V\| |
| 22+ 0 | 1.0897 | 0.02 | Q | \| | \| | \| | V\| |
| 22+ 5 | 1.0899 | 0.03 | Q | \| | \| | \| | V\| |
| 22+10 | 1.0902 | 0.04 | Q | \| | \| | \| | V\| |
| 22+15 | 1.0905 | 0.05 | Q | \| | \| | \| | V\| |
| 22+20 | 1.0907 | 0.04 | Q | \| | \| | \| | V\| |
| 22+25 | 1.0909 | 0.02 | Q | \| | \| | \| | V\| |
| 22+30 | 1.0910 | 0.02 | Q | \| | \| | \| | V\| |
| 22+35 | 1.0911 | 0.02 | Q | \| | \| | \| | V\| |
| 22+40 | 1.0912 | 0.02 | Q | \| | \| | \| | V\| |
| 22+45 | 1.0914 | 0.02 | Q | \| | \| | \| | V\| |
| 22+50 | 1.0915 | 0.02 | Q | \| | \| | \| | V\| |
| 22+55 | 1.0916 | 0.02 | Q | \| | \| | \| | V\| |
| 23+ 0 | 1.0917 | 0.02 | Q | \| | \| | \| | V\| |
| 23+ 5 | 1.0918 | 0.02 | Q | \| | \| | \| | V\| |
| 23+10 | 1.0919 | 0.02 | Q | \| | \| | \| | V\| |
| 23+15 | 1.0920 | 0.02 | Q | \| | \| | \| | V\| |
| 23+20 | 1.0922 | 0.02 | Q | \| | \| | \| | V\| |
| 23+25 | 1.0923 | 0.02 | Q | \| | \| | \| | V\| |
| 23+30 | 1.0924 | 0.02 | Q | \| | \| | \| | V\| |
| 23+35 | 1.0925 | 0.02 | Q | \| | \| | \| | V\| |
| 23+40 | 1.0926 | 0.02 | Q | \| | \| | \| | V\| |
| 23+45 | 1.0927 | 0.02 | Q | \| | \| | \| | V\| |
| 23+50 | 1.0929 | 0.02 | Q | \| | \| | \| | V\| |
| 23+55 | 1.0930 | 0.02 | Q | \| | \| | \| | V\| |
| 24+ 0 | 1.0931 | 0.02 | Q | \| | \| | \| | V\| |
| 24+ 5 | 1.0932 | 0.01 | Q | \| | \| | \| | V\| |

```
   24+10       1.0932      0.00  Q         |         |         |        V|
   24+15       1.0932      0.00  Q         |         |         |        V|
-----------------------------------------------------------------------
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U n i t  H y d r o g r a p h  A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 7
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 102.60(Ac.) = 0.160 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 102.60(Ac.) = 0.160 Sq. Mi.
Length along longest watercourse = 5340.00(Ft.)
Length along longest watercourse measured to centroid = 3092.00(Ft.)
Length along longest watercourse = 1.011 Mi.
Length along longest watercourse measured to centroid = 0.586 Mi.
Difference in elevation = 680.00(Ft.)
Slope along watercourse = 672.3596 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.200 Hr.
Lag time = 11.99 Min.
25% of lag time = 3.00 Min.
40% of lag time = 4.80 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 102.60 | 0.50 | 51.30 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 102.60 | 1.20 | 123.12 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.91 %
Adjusted average point rain = 1.199(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 102.600 | 83.69 | 0.000 |

Total Area Entered = 102.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.7 | 93.2 | 0.088 | 0.000 | 0.088 | 1.000 | 0.088 |
| | | | | | Sum (F) = | 0.088 |

Area averaged mean soil loss (F) (In/Hr) = 0.088

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 41.709 | 3.320 | 3.432 |
| 2 | 0.167 | 83.418 | 12.824 | 13.260 |
| 3 | 0.250 | 125.127 | 33.673 | 34.819 |
| 4 | 0.333 | 166.836 | 20.584 | 21.284 |
| 5 | 0.417 | 208.545 | 9.658 | 9.986 |
| 6 | 0.500 | 250.253 | 6.392 | 6.609 |
| 7 | 0.583 | 291.962 | 4.521 | 4.675 |
| 8 | 0.667 | 333.671 | 3.222 | 3.332 |
| 9 | 0.750 | 375.380 | 2.162 | 2.236 |
| 10 | 0.833 | 417.089 | 1.383 | 1.430 |
| 11 | 0.917 | 458.798 | 0.615 | 0.636 |
| 12 | 1.000 | 500.507 | 0.443 | 0.458 |
| 13 | 1.083 | 542.216 | 0.332 | 0.343 |
| 14 | 1.167 | 583.925 | 0.278 | 0.287 |
| 15 | 1.250 | 625.634 | 0.301 | 0.311 |
| 16 | 1.333 | 667.343 | 0.172 | 0.178 |
| 17 | 1.417 | 709.052 | 0.121 | 0.125 |
| | | Sum = 100.000 | Sum= | 103.402 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.604 | 0.088 | ( 0.544) | 0.516 |
| 2 | 0.17 | 4.30 | 0.619 | 0.088 | ( 0.557) | 0.530 |
| 3 | 0.25 | 5.00 | 0.719 | 0.088 | ( 0.647) | 0.631 |
| 4 | 0.33 | 5.00 | 0.719 | 0.088 | ( 0.647) | 0.631 |
| 5 | 0.42 | 5.80 | 0.834 | 0.088 | ( 0.751) | 0.746 |
| 6 | 0.50 | 6.50 | 0.935 | 0.088 | ( 0.842) | 0.847 |
| 7 | 0.58 | 7.40 | 1.065 | 0.088 | ( 0.958) | 0.976 |
| 8 | 0.67 | 8.60 | 1.237 | 0.088 | ( 1.114) | 1.149 |
| 9 | 0.75 | 12.30 | 1.770 | 0.088 | ( 1.593) | 1.681 |
| 10 | 0.83 | 29.10 | 4.187 | 0.088 | ( 3.768) | 4.098 |
| 11 | 0.92 | 6.80 | 0.978 | 0.088 | ( 0.880) | 0.890 |
| 12 | 1.00 | 5.00 | 0.719 | 0.088 | ( 0.647) | 0.631 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 13.3 |

Flood volume = Effective rainfall 1.11(In)
times area 102.6(Ac.)/[(In)/(Ft.)] = 9.5(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.754(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 413654.3 Cubic Feet
Total soil loss = 32855.7 Cubic Feet

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Peak flow rate of this hydrograph = 219.826(CFS)

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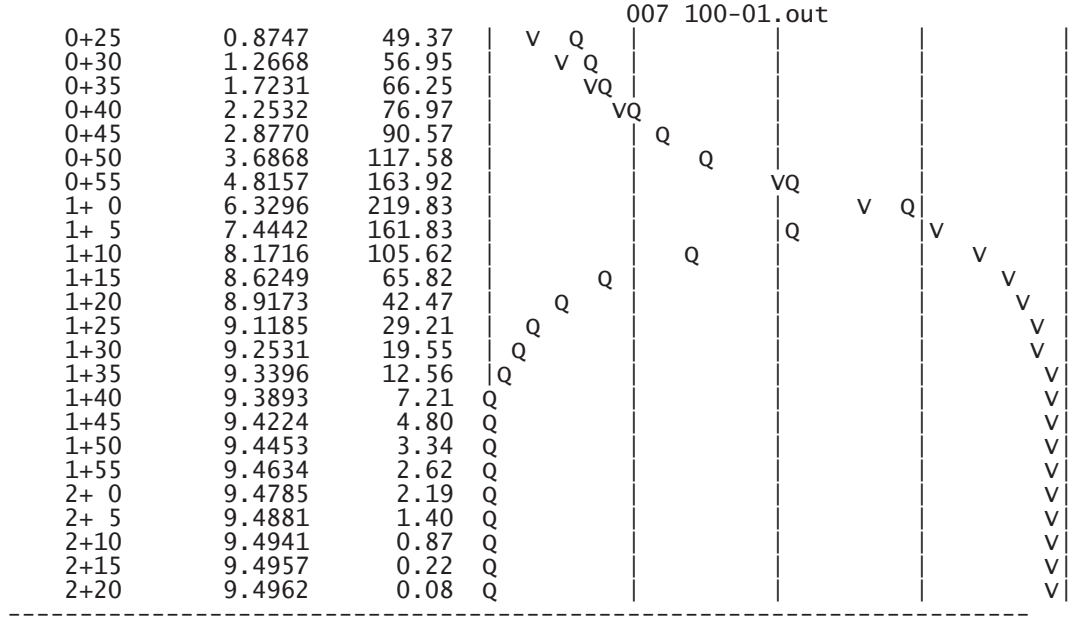
1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

---

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 75.0 | 150.0 | 225.0 | 300.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0122 | 1.77 | Q | | | | |
| 0+10 | 0.0719 | 8.67 | VQ | | | | |
| 0+15 | 0.2591 | 27.18 | \|V Q | | | | |
| 0+20 | 0.5346 | 40.01 | \| V Q | | | | |



| | | | |
|---|---|---|---|
| 0+25 | 0.8747 | 49.37 | V Q |
| 0+30 | 1.2668 | 56.95 | V Q |
| 0+35 | 1.7231 | 66.25 | VQ |
| 0+40 | 2.2532 | 76.97 | VQ |
| 0+45 | 2.8770 | 90.57 | Q |
| 0+50 | 3.6868 | 117.58 | Q |
| 0+55 | 4.8157 | 163.92 | VQ |
| 1+ 0 | 6.3296 | 219.83 | V Q |
| 1+ 5 | 7.4442 | 161.83 | Q V |
| 1+10 | 8.1716 | 105.62 | Q V |
| 1+15 | 8.6249 | 65.82 | Q V |
| 1+20 | 8.9173 | 42.47 | Q V |
| 1+25 | 9.1185 | 29.21 | Q V |
| 1+30 | 9.2531 | 19.55 | Q V |
| 1+35 | 9.3396 | 12.56 | Q V |
| 1+40 | 9.3893 | 7.21 | Q V |
| 1+45 | 9.4224 | 4.80 | Q V |
| 1+50 | 9.4453 | 3.34 | Q V |
| 1+55 | 9.4634 | 2.62 | Q V |
| 2+ 0 | 9.4785 | 2.19 | Q V |
| 2+ 5 | 9.4881 | 1.40 | Q V |
| 2+10 | 9.4941 | 0.87 | Q V |
| 2+15 | 9.4957 | 0.22 | Q V |
| 2+20 | 9.4962 | 0.08 | Q V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 7
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 102.60(Ac.) = 0.160 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 102.60(Ac.) = 0.160 Sq. Mi.
Length along longest watercourse = 5340.00(Ft.)
Length along longest watercourse measured to centroid = 3092.00(Ft.)
Length along longest watercourse = 1.011 Mi.
Length along longest watercourse measured to centroid = 0.586 Mi.
Difference in elevation = 680.00(Ft.)
Slope along watercourse = 672.3596 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.200 Hr.
Lag time = 11.99 Min.
25% of lag time = 3.00 Min.
40% of lag time = 4.80 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 102.60 | 0.81 | 83.11 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 102.60 | 1.81 | 185.71 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.810(In)
Area Averaged 100-Year Rainfall = 1.810(In)

Point rain (area averaged) = 1.810(In)
Areal adjustment factor = 99.96 %
Adjusted average point rain = 1.809(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 102.600 | 83.69 | 0.000 |

Total Area Entered = 102.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.7 | 93.2 | 0.088 | 0.000 | 0.088 | 1.000 | 0.088 |
| | | | | | Sum (F) = | 0.088 |

Area averaged mean soil loss (F) (In/Hr) = 0.088

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 41.709 | 3.320 | 3.432 |
| 2 | 0.167 | 83.418 | 12.824 | 13.260 |
| 3 | 0.250 | 125.127 | 33.673 | 34.819 |
| 4 | 0.333 | 166.836 | 20.584 | 21.284 |
| 5 | 0.417 | 208.545 | 9.658 | 9.986 |
| 6 | 0.500 | 250.253 | 6.392 | 6.609 |
| 7 | 0.583 | 291.962 | 4.521 | 4.675 |
| 8 | 0.667 | 333.671 | 3.222 | 3.332 |
| 9 | 0.750 | 375.380 | 2.162 | 2.236 |
| 10 | 0.833 | 417.089 | 1.383 | 1.430 |
| 11 | 0.917 | 458.798 | 0.615 | 0.636 |
| 12 | 1.000 | 500.507 | 0.443 | 0.458 |
| 13 | 1.083 | 542.216 | 0.332 | 0.343 |
| 14 | 1.167 | 583.925 | 0.278 | 0.287 |
| 15 | 1.250 | 625.634 | 0.301 | 0.311 |
| 16 | 1.333 | 667.343 | 0.172 | 0.178 |
| 17 | 1.417 | 709.052 | 0.121 | 0.125 |
| | | | Sum = 100.000 | Sum= 103.402 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.282 | 0.088 | ( 0.254) | 0.194 |
| 2 | 0.17 | 1.30 | 0.282 | 0.088 | ( 0.254) | 0.194 |
| 3 | 0.25 | 1.10 | 0.239 | 0.088 | ( 0.215) | 0.151 |
| 4 | 0.33 | 1.50 | 0.326 | 0.088 | ( 0.293) | 0.237 |
| 5 | 0.42 | 1.50 | 0.326 | 0.088 | ( 0.293) | 0.237 |
| 6 | 0.50 | 1.80 | 0.391 | 0.088 | ( 0.352) | 0.303 |
| 7 | 0.58 | 1.50 | 0.326 | 0.088 | ( 0.293) | 0.237 |
| 8 | 0.67 | 1.80 | 0.391 | 0.088 | ( 0.352) | 0.303 |
| 9 | 0.75 | 1.80 | 0.391 | 0.088 | ( 0.352) | 0.303 |
| 10 | 0.83 | 1.50 | 0.326 | 0.088 | ( 0.293) | 0.237 |
| 11 | 0.92 | 1.60 | 0.347 | 0.088 | ( 0.313) | 0.259 |
| 12 | 1.00 | 1.80 | 0.391 | 0.088 | ( 0.352) | 0.303 |
| 13 | 1.08 | 2.20 | 0.478 | 0.088 | ( 0.430) | 0.389 |
| 14 | 1.17 | 2.20 | 0.478 | 0.088 | ( 0.430) | 0.389 |
| 15 | 1.25 | 2.20 | 0.478 | 0.088 | ( 0.430) | 0.389 |
| 16 | 1.33 | 2.00 | 0.434 | 0.088 | ( 0.391) | 0.346 |
| 17 | 1.42 | 2.60 | 0.564 | 0.088 | ( 0.508) | 0.476 |
| 18 | 1.50 | 2.70 | 0.586 | 0.088 | ( 0.528) | 0.498 |
| 19 | 1.58 | 2.40 | 0.521 | 0.088 | ( 0.469) | 0.433 |
| 20 | 1.67 | 2.70 | 0.586 | 0.088 | ( 0.528) | 0.498 |
| 21 | 1.75 | 3.30 | 0.716 | 0.088 | ( 0.645) | 0.628 |
| 22 | 1.83 | 3.10 | 0.673 | 0.088 | ( 0.606) | 0.585 |
| 23 | 1.92 | 2.90 | 0.630 | 0.088 | ( 0.567) | 0.541 |
| 24 | 2.00 | 3.00 | 0.651 | 0.088 | ( 0.586) | 0.563 |
| 25 | 2.08 | 3.10 | 0.673 | 0.088 | ( 0.606) | 0.585 |
| 26 | 2.17 | 4.20 | 0.912 | 0.088 | ( 0.821) | 0.824 |
| 27 | 2.25 | 5.00 | 1.086 | 0.088 | ( 0.977) | 0.997 |
| 28 | 2.33 | 3.50 | 0.760 | 0.088 | ( 0.684) | 0.672 |
| 29 | 2.42 | 6.80 | 1.476 | 0.088 | ( 1.329) | 1.388 |
| 30 | 2.50 | 7.30 | 1.585 | 0.088 | ( 1.426) | 1.497 |
| 31 | 2.58 | 8.20 | 1.780 | 0.088 | ( 1.602) | 1.692 |
| 32 | 2.67 | 5.90 | 1.281 | 0.088 | ( 1.153) | 1.193 |
| 33 | 2.75 | 2.00 | 0.434 | 0.088 | ( 0.391) | 0.346 |
| 34 | 2.83 | 1.80 | 0.391 | 0.088 | ( 0.352) | 0.303 |
| 35 | 2.92 | 1.80 | 0.391 | 0.088 | ( 0.352) | 0.303 |
| 36 | 3.00 | 0.60 | 0.130 | 0.088 | ( 0.117) | 0.042 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 18.5 |

Flood volume = Effective rainfall 1.54(In)

```
 times area     102.6(Ac.)/[(In)/(Ft.)] =      13.2(Ac.Ft)
Total soil loss =      0.26(In)
Total soil loss =     2.263(Ac.Ft)
Total rainfall =      1.81(In)
Flood volume =      575243.0 Cubic Feet
Total soil loss =       98567.2 Cubic Feet
------------------------------------------------------------------------
 Peak flow rate of this hydrograph =    136.915(CFS)
------------------------------------------------------------------------
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                    3 - H O U R    S T O R M
                 R u n o f f      H y d r o g r a p h
------------------------------------------------------------------------
             Hydrograph in   5   Minute intervals ((CFS))

------------------------------------------------------------------------
```

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 50.0 | 100.0 | 150.0 | 200.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0046 | 0.67 | Q | | | | |
| 0+10 | 0.0269 | 3.24 | Q | | | | |
| 0+15 | 0.0947 | 9.85 | VQ | | | | |
| 0+20 | 0.1891 | 13.70 | V Q | | | | |
| 0+25 | 0.2944 | 15.28 | V Q | | | | |
| 0+30 | 0.4245 | 18.89 | V Q | | | | |
| 0+35 | 0.5750 | 21.85 | V Q | | | | |
| 0+40 | 0.7451 | 24.71 | V Q | | | | |
| 0+45 | 0.9207 | 25.50 | V Q | | | | |
| 0+50 | 1.1090 | 27.34 | V Q | | | | |
| 0+55 | 1.3021 | 28.04 | V Q | | | | |
| 1+ 0 | 1.4877 | 26.95 | VQ | | | | |
| 1+ 5 | 1.6785 | 27.70 | Q | | | | |
| 1+10 | 1.8886 | 30.50 | VQ | | | | |
| 1+15 | 2.1261 | 34.49 | Q | | | | |
| 1+20 | 2.3782 | 36.61 | Q | | | | |
| 1+25 | 2.6374 | 37.63 | Q | | | | |
| 1+30 | 2.9038 | 38.68 | QV | | | | |
| 1+35 | 3.1992 | 42.90 | QV | | | | |
| 1+40 | 3.5144 | 45.77 | QV | | | | |
| 1+45 | 3.8350 | 46.54 | Q V | | | | |
| 1+50 | 4.1795 | 50.03 | Q V | | | | |
| 1+55 | 4.5601 | 55.25 | Q V | | | | |
| 2+ 0 | 4.9507 | 56.72 | Q V | | | | |
| 2+ 5 | 5.3392 | 56.41 | Q V | | | | |
| 2+10 | 5.7394 | 58.11 | Q V | | | | |
| 2+15 | 6.1746 | 63.19 | Q V | | | | |
| 2+20 | 6.6804 | 73.45 | Q V | | | | |
| 2+25 | 7.2529 | 83.13 | Q V | | | | |
| 2+30 | 7.8589 | 87.98 | Q V | | | | |
| 2+35 | 8.6273 | 111.57 | Q V | | | | |
| 2+40 | 9.5269 | 130.62 | Q V | | | | |
| 2+45 | 10.4698 | 136.92 | Q V | | | | |
| 2+50 | 11.2809 | 117.77 | Q V | | | | |
| 2+55 | 11.8509 | 82.77 | Q V | | | | |
| 3+ 0 | 12.2726 | 61.23 | Q V | | | | |
| 3+ 5 | 12.6003 | 47.58 | Q V | | | | |
| 3+10 | 12.8169 | 31.45 | Q V | | | | |
| 3+15 | 12.9516 | 19.56 | Q V | | | | |
| 3+20 | 13.0385 | 12.61 | Q V | | | | |
| 3+25 | 13.0946 | 8.14 | Q V | | | | |
| 3+30 | 13.1312 | 5.31 | Q V | | | | |
| 3+35 | 13.1567 | 3.70 | Q V | | | | |
| 3+40 | 13.1744 | 2.57 | Q V | | | | |
| 3+45 | 13.1869 | 1.82 | Q V | | | | |
| 3+50 | 13.1954 | 1.23 | Q V | | | | |
| 3+55 | 13.2005 | 0.74 | Q V | | | | |
| 4+ 0 | 13.2033 | 0.41 | Q V | | | | |
| 4+ 5 | 13.2047 | 0.20 | Q V | | | | |
| 4+10 | 13.2054 | 0.10 | Q V | | | | |
| 4+15 | 13.2057 | 0.05 | Q V | | | | |
| 4+20 | 13.2058 | 0.01 | Q V | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX76100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 7
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 102.60(Ac.) = 0.160 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 102.60(Ac.) = 0.160 Sq. Mi.
Length along longest watercourse = 5340.00(Ft.)
Length along longest watercourse measured to centroid = 3092.00(Ft.)
Length along longest watercourse = 1.011 Mi.
Length along longest watercourse measured to centroid = 0.586 Mi.
Difference in elevation = 680.00(Ft.)
Slope along watercourse = 672.3596 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.200 Hr.
Lag time = 11.99 Min.
25% of lag time = 3.00 Min.
40% of lag time = 4.80 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 102.60 | 1.14 | 116.96 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 102.60 | 2.50 | 256.50 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.140(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 99.96 %
Adjusted average point rain = 2.499(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 102.600 | 83.69 | 0.000 |

Total Area Entered = 102.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.7 | 93.2 | 0.088 | 0.000 | 0.088 | 1.000 | 0.088 |
| | | | | | Sum (F) = | 0.088 |

Area averaged mean soil loss (F) (In/Hr) = 0.088

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 41.709 | 3.320 | 3.432 |
| 2 | 0.167 | 83.418 | 12.824 | 13.260 |
| 3 | 0.250 | 125.127 | 33.673 | 34.819 |
| 4 | 0.333 | 166.836 | 20.584 | 21.284 |
| 5 | 0.417 | 208.545 | 9.658 | 9.986 |
| 6 | 0.500 | 250.253 | 6.392 | 6.609 |
| 7 | 0.583 | 291.962 | 4.521 | 4.675 |
| 8 | 0.667 | 333.671 | 3.222 | 3.332 |
| 9 | 0.750 | 375.380 | 2.162 | 2.236 |
| 10 | 0.833 | 417.089 | 1.383 | 1.430 |
| 11 | 0.917 | 458.798 | 0.615 | 0.636 |
| 12 | 1.000 | 500.507 | 0.443 | 0.458 |
| 13 | 1.083 | 542.216 | 0.332 | 0.343 |
| 14 | 1.167 | 583.925 | 0.278 | 0.287 |
| 15 | 1.250 | 625.634 | 0.301 | 0.311 |
| 16 | 1.333 | 667.343 | 0.172 | 0.178 |
| 17 | 1.417 | 709.052 | 0.121 | 0.125 |
| | | Sum = | 100.000 Sum= | 103.402 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.088 | ( 0.135) | 0.062 |
| 2 | 0.17 | 0.60 | 0.180 | 0.088 | ( 0.162) | 0.092 |
| 3 | 0.25 | 0.60 | 0.180 | 0.088 | ( 0.162) | 0.092 |
| 4 | 0.33 | 0.60 | 0.180 | 0.088 | ( 0.162) | 0.092 |
| 5 | 0.42 | 0.60 | 0.180 | 0.088 | ( 0.162) | 0.092 |
| 6 | 0.50 | 0.70 | 0.210 | 0.088 | ( 0.189) | 0.122 |
| 7 | 0.58 | 0.70 | 0.210 | 0.088 | ( 0.189) | 0.122 |
| 8 | 0.67 | 0.70 | 0.210 | 0.088 | ( 0.189) | 0.122 |
| 9 | 0.75 | 0.70 | 0.210 | 0.088 | ( 0.189) | 0.122 |
| 10 | 0.83 | 0.70 | 0.210 | 0.088 | ( 0.189) | 0.122 |
| 11 | 0.92 | 0.70 | 0.210 | 0.088 | ( 0.189) | 0.122 |
| 12 | 1.00 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 13 | 1.08 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 14 | 1.17 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 15 | 1.25 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 16 | 1.33 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 17 | 1.42 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 18 | 1.50 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 19 | 1.58 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 20 | 1.67 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 21 | 1.75 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 22 | 1.83 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 23 | 1.92 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 24 | 2.00 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 25 | 2.08 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 26 | 2.17 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 27 | 2.25 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 28 | 2.33 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 29 | 2.42 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 30 | 2.50 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 31 | 2.58 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 32 | 2.67 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 33 | 2.75 | 1.00 | 0.300 | 0.088 | ( 0.270) | 0.212 |
| 34 | 2.83 | 1.00 | 0.300 | 0.088 | ( 0.270) | 0.212 |
| 35 | 2.92 | 1.00 | 0.300 | 0.088 | ( 0.270) | 0.212 |
| 36 | 3.00 | 1.00 | 0.300 | 0.088 | ( 0.270) | 0.212 |
| 37 | 3.08 | 1.00 | 0.300 | 0.088 | ( 0.270) | 0.212 |
| 38 | 3.17 | 1.10 | 0.330 | 0.088 | ( 0.297) | 0.242 |
| 39 | 3.25 | 1.10 | 0.330 | 0.088 | ( 0.297) | 0.242 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 40 | 3.33 | 1.10 | 0.330 | 0.088 | ( 0.297) | | 0.242 |
| 41 | 3.42 | 1.20 | 0.360 | 0.088 | ( 0.324) | | 0.272 |
| 42 | 3.50 | 1.30 | 0.390 | 0.088 | ( 0.351) | | 0.302 |
| 43 | 3.58 | 1.40 | 0.420 | 0.088 | ( 0.378) | | 0.332 |
| 44 | 3.67 | 1.40 | 0.420 | 0.088 | ( 0.378) | | 0.332 |
| 45 | 3.75 | 1.50 | 0.450 | 0.088 | ( 0.405) | | 0.362 |
| 46 | 3.83 | 1.50 | 0.450 | 0.088 | ( 0.405) | | 0.362 |
| 47 | 3.92 | 1.60 | 0.480 | 0.088 | ( 0.432) | | 0.392 |
| 48 | 4.00 | 1.60 | 0.480 | 0.088 | ( 0.432) | | 0.392 |
| 49 | 4.08 | 1.70 | 0.510 | 0.088 | ( 0.459) | | 0.422 |
| 50 | 4.17 | 1.80 | 0.540 | 0.088 | ( 0.486) | | 0.452 |
| 51 | 4.25 | 1.90 | 0.570 | 0.088 | ( 0.513) | | 0.482 |
| 52 | 4.33 | 2.00 | 0.600 | 0.088 | ( 0.540) | | 0.512 |
| 53 | 4.42 | 2.10 | 0.630 | 0.088 | ( 0.567) | | 0.542 |
| 54 | 4.50 | 2.10 | 0.630 | 0.088 | ( 0.567) | | 0.542 |
| 55 | 4.58 | 2.20 | 0.660 | 0.088 | ( 0.594) | | 0.572 |
| 56 | 4.67 | 2.30 | 0.690 | 0.088 | ( 0.621) | | 0.602 |
| 57 | 4.75 | 2.40 | 0.720 | 0.088 | ( 0.648) | | 0.632 |
| 58 | 4.83 | 2.40 | 0.720 | 0.088 | ( 0.648) | | 0.632 |
| 59 | 4.92 | 2.50 | 0.750 | 0.088 | ( 0.675) | | 0.662 |
| 60 | 5.00 | 2.60 | 0.780 | 0.088 | ( 0.702) | | 0.692 |
| 61 | 5.08 | 3.10 | 0.930 | 0.088 | ( 0.837) | | 0.841 |
| 62 | 5.17 | 3.60 | 1.080 | 0.088 | ( 0.972) | | 0.991 |
| 63 | 5.25 | 3.90 | 1.170 | 0.088 | ( 1.053) | | 1.081 |
| 64 | 5.33 | 4.20 | 1.260 | 0.088 | ( 1.134) | | 1.171 |
| 65 | 5.42 | 4.70 | 1.410 | 0.088 | ( 1.269) | | 1.321 |
| 66 | 5.50 | 5.60 | 1.679 | 0.088 | ( 1.511) | | 1.591 |
| 67 | 5.58 | 1.90 | 0.570 | 0.088 | ( 0.513) | | 0.482 |
| 68 | 5.67 | 0.90 | 0.270 | 0.088 | ( 0.243) | | 0.182 |
| 69 | 5.75 | 0.60 | 0.180 | 0.088 | ( 0.162) | | 0.092 |
| 70 | 5.83 | 0.50 | 0.150 | 0.088 | ( 0.135) | | 0.062 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.088) | 0.081 | | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.088) | 0.054 | | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.7

Flood volume = Effective rainfall 1.97(In)
times area 102.6(Ac.)/[(In)/(Ft.)] = 16.9(Ac.Ft)
Total soil loss = 0.53(In)
Total soil loss = 4.496(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 734919.7 Cubic Feet
Total soil loss = 195846.9 Cubic Feet

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Peak flow rate of this hydrograph = 121.071(CFS)

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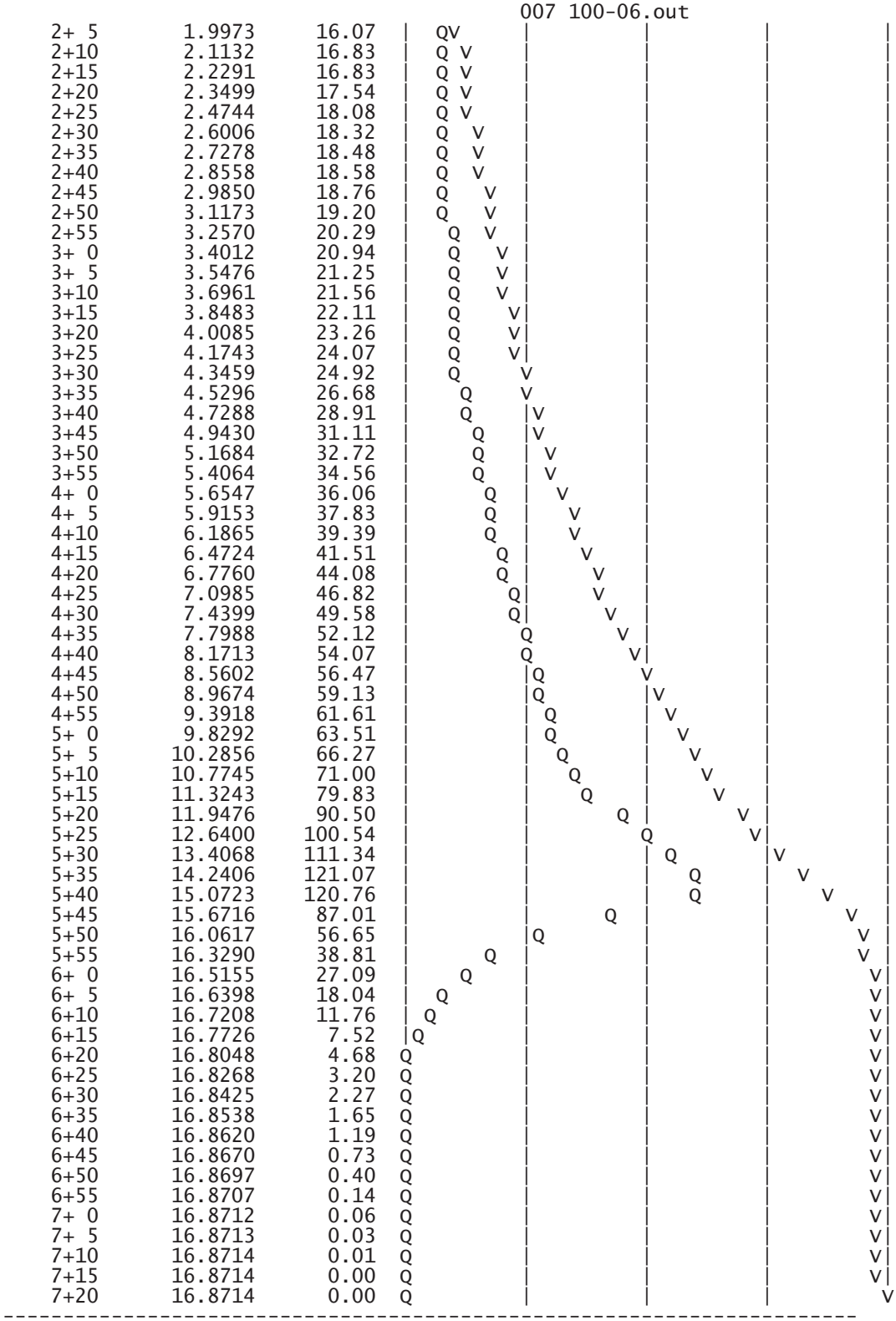
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

---

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 50.0 | 100.0 | 150.0 | 200.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0015 | 0.21 | Q | | | | |
| 0+10 | 0.0093 | 1.13 | Q | | | | |
| 0+15 | 0.0346 | 3.68 | Q | | | | |
| 0+20 | 0.0762 | 6.04 | VQ | | | | |
| 0+25 | 0.1265 | 7.30 | VQ | | | | |
| 0+30 | 0.1823 | 8.11 | VQ | | | | |
| 0+35 | 0.2443 | 8.99 | VQ | | | | |
| 0+40 | 0.3158 | 10.38 | V Q | | | | |
| 0+45 | 0.3933 | 11.26 | V Q | | | | |
| 0+50 | 0.4740 | 11.72 | \|VQ | | | | |
| 0+55 | 0.5566 | 12.00 | \|VQ | | | | |
| 1+ 0 | 0.6412 | 12.29 | \|VQ | | | | |
| 1+ 5 | 0.7295 | 12.82 | \|VQ | | | | |
| 1+10 | 0.8257 | 13.96 | \|VQ | | | | |
| 1+15 | 0.9267 | 14.67 | \| Q | | | | |
| 1+20 | 1.0300 | 15.01 | \| VQ | | | | |
| 1+25 | 1.1349 | 15.23 | \| VQ | | | | |
| 1+30 | 1.2409 | 15.39 | \| VQ | | | | |
| 1+35 | 1.3476 | 15.50 | \| Q | | | | |
| 1+40 | 1.4549 | 15.57 | \| Q | | | | |
| 1+45 | 1.5624 | 15.62 | \| Q | | | | |
| 1+50 | 1.6702 | 15.64 | \| Q | | | | |
| 1+55 | 1.7780 | 15.66 | \| QV | | | | |
| 2+ 0 | 1.8866 | 15.77 | \| QV | | | | |



| | | | |
|---|---|---|---|
| 2+ 5 | 1.9973 | 16.07 | QV |
| 2+10 | 2.1132 | 16.83 | Q V |
| 2+15 | 2.2291 | 16.83 | Q V |
| 2+20 | 2.3499 | 17.54 | Q V |
| 2+25 | 2.4744 | 18.08 | Q V |
| 2+30 | 2.6006 | 18.32 | Q V |
| 2+35 | 2.7278 | 18.48 | Q V |
| 2+40 | 2.8558 | 18.58 | Q V |
| 2+45 | 2.9850 | 18.76 | Q V |
| 2+50 | 3.1173 | 19.20 | Q V |
| 2+55 | 3.2570 | 20.29 | Q V |
| 3+ 0 | 3.4012 | 20.94 | Q V |
| 3+ 5 | 3.5476 | 21.25 | Q V |
| 3+10 | 3.6961 | 21.56 | Q V |
| 3+15 | 3.8483 | 22.11 | Q V |
| 3+20 | 4.0085 | 23.26 | Q V |
| 3+25 | 4.1743 | 24.07 | Q V |
| 3+30 | 4.3459 | 24.92 | Q V |
| 3+35 | 4.5296 | 26.68 | Q V |
| 3+40 | 4.7288 | 28.91 | Q V |
| 3+45 | 4.9430 | 31.11 | Q V |
| 3+50 | 5.1684 | 32.72 | Q V |
| 3+55 | 5.4064 | 34.56 | Q V |
| 4+ 0 | 5.6547 | 36.06 | Q V |
| 4+ 5 | 5.9153 | 37.83 | Q V |
| 4+10 | 6.1865 | 39.39 | Q V |
| 4+15 | 6.4724 | 41.51 | Q V |
| 4+20 | 6.7760 | 44.08 | Q V |
| 4+25 | 7.0985 | 46.82 | Q V |
| 4+30 | 7.4399 | 49.58 | Q V |
| 4+35 | 7.7988 | 52.12 | Q V |
| 4+40 | 8.1713 | 54.07 | Q V |
| 4+45 | 8.5602 | 56.47 | Q V |
| 4+50 | 8.9674 | 59.13 | Q V |
| 4+55 | 9.3918 | 61.61 | Q V |
| 5+ 0 | 9.8292 | 63.51 | Q V |
| 5+ 5 | 10.2856 | 66.27 | Q V |
| 5+10 | 10.7745 | 71.00 | Q V |
| 5+15 | 11.3243 | 79.83 | Q V |
| 5+20 | 11.9476 | 90.50 | Q V |
| 5+25 | 12.6400 | 100.54 | Q V |
| 5+30 | 13.4068 | 111.34 | Q V |
| 5+35 | 14.2406 | 121.07 | Q V |
| 5+40 | 15.0723 | 120.76 | Q V |
| 5+45 | 15.6716 | 87.01 | Q V |
| 5+50 | 16.0617 | 56.65 | Q V |
| 5+55 | 16.3290 | 38.81 | Q V |
| 6+ 0 | 16.5155 | 27.09 | Q V |
| 6+ 5 | 16.6398 | 18.04 | Q V |
| 6+10 | 16.7208 | 11.76 | Q V |
| 6+15 | 16.7726 | 7.52 | Q V |
| 6+20 | 16.8048 | 4.68 | Q V |
| 6+25 | 16.8268 | 3.20 | Q V |
| 6+30 | 16.8425 | 2.27 | Q V |
| 6+35 | 16.8538 | 1.65 | Q V |
| 6+40 | 16.8620 | 1.19 | Q V |
| 6+45 | 16.8670 | 0.73 | Q V |
| 6+50 | 16.8697 | 0.40 | Q V |
| 6+55 | 16.8707 | 0.14 | Q V |
| 7+ 0 | 16.8712 | 0.06 | Q V |
| 7+ 5 | 16.8713 | 0.03 | Q V |
| 7+10 | 16.8714 | 0.01 | Q V |
| 7+15 | 16.8714 | 0.00 | Q V |
| 7+20 | 16.8714 | 0.00 | Q V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX724100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 7
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 102.60(Ac.) = 0.160 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 102.60(Ac.) = 0.160 Sq. Mi.
Length along longest watercourse = 5340.00(Ft.)
Length along longest watercourse measured to centroid = 3092.00(Ft.)
Length along longest watercourse = 1.011 Mi.
Length along longest watercourse measured to centroid = 0.586 Mi.
Difference in elevation = 680.00(Ft.)
Slope along watercourse = 672.3596 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.200 Hr.
Lag time = 11.99 Min.
25% of lag time = 3.00 Min.
40% of lag time = 4.80 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 102.60 | 1.80 | 184.68 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 102.60 | 4.69 | 481.19 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.690(In)

Point rain (area averaged) = 4.690(In)
Areal adjustment factor = 99.98 %
Adjusted average point rain = 4.689(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 102.600 | 83.69 | 0.000 |

Total Area Entered = 102.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.7 | 93.2 | 0.088 | 0.000 | 0.088 | 1.000 | 0.088 |
| | | | | | Sum (F) = | 0.088 |

Area averaged mean soil loss (F) (In/Hr) = 0.088

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 41.709 | 3.320 | 3.432 |
| 2 | 0.167 | 83.418 | 12.824 | 13.260 |
| 3 | 0.250 | 125.127 | 33.673 | 34.819 |
| 4 | 0.333 | 166.836 | 20.584 | 21.284 |
| 5 | 0.417 | 208.545 | 9.658 | 9.986 |
| 6 | 0.500 | 250.253 | 6.392 | 6.609 |
| 7 | 0.583 | 291.962 | 4.521 | 4.675 |
| 8 | 0.667 | 333.671 | 3.222 | 3.332 |
| 9 | 0.750 | 375.380 | 2.162 | 2.236 |
| 10 | 0.833 | 417.089 | 1.383 | 1.430 |
| 11 | 0.917 | 458.798 | 0.615 | 0.636 |
| 12 | 1.000 | 500.507 | 0.443 | 0.458 |
| 13 | 1.083 | 542.216 | 0.332 | 0.343 |
| 14 | 1.167 | 583.925 | 0.278 | 0.287 |
| 15 | 1.250 | 625.634 | 0.301 | 0.311 |
| 16 | 1.333 | 667.343 | 0.172 | 0.178 |
| 17 | 1.417 | 709.052 | 0.121 | 0.125 |
| | | | Sum = 100.000 | Sum= 103.402 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.038 | ( 0.156) | 0.034 | 0.004 |
| 2 | 0.17 | 0.07 | 0.038 | ( 0.156) | 0.034 | 0.004 |
| 3 | 0.25 | 0.07 | 0.038 | ( 0.155) | 0.034 | 0.004 |
| 4 | 0.33 | 0.10 | 0.056 | ( 0.155) | 0.051 | 0.006 |
| 5 | 0.42 | 0.10 | 0.056 | ( 0.154) | 0.051 | 0.006 |
| 6 | 0.50 | 0.10 | 0.056 | ( 0.153) | 0.051 | 0.006 |
| 7 | 0.58 | 0.10 | 0.056 | ( 0.153) | 0.051 | 0.006 |
| 8 | 0.67 | 0.10 | 0.056 | ( 0.152) | 0.051 | 0.006 |
| 9 | 0.75 | 0.10 | 0.056 | ( 0.152) | 0.051 | 0.006 |
| 10 | 0.83 | 0.13 | 0.075 | ( 0.151) | 0.068 | 0.008 |
| 11 | 0.92 | 0.13 | 0.075 | ( 0.150) | 0.068 | 0.008 |
| 12 | 1.00 | 0.13 | 0.075 | ( 0.150) | 0.068 | 0.008 |
| 13 | 1.08 | 0.10 | 0.056 | ( 0.149) | 0.051 | 0.006 |
| 14 | 1.17 | 0.10 | 0.056 | ( 0.149) | 0.051 | 0.006 |
| 15 | 1.25 | 0.10 | 0.056 | ( 0.148) | 0.051 | 0.006 |
| 16 | 1.33 | 0.10 | 0.056 | ( 0.147) | 0.051 | 0.006 |
| 17 | 1.42 | 0.10 | 0.056 | ( 0.147) | 0.051 | 0.006 |
| 18 | 1.50 | 0.10 | 0.056 | ( 0.146) | 0.051 | 0.006 |
| 19 | 1.58 | 0.10 | 0.056 | ( 0.146) | 0.051 | 0.006 |
| 20 | 1.67 | 0.10 | 0.056 | ( 0.145) | 0.051 | 0.006 |
| 21 | 1.75 | 0.10 | 0.056 | ( 0.145) | 0.051 | 0.006 |
| 22 | 1.83 | 0.13 | 0.075 | ( 0.144) | 0.068 | 0.008 |
| 23 | 1.92 | 0.13 | 0.075 | ( 0.143) | 0.068 | 0.008 |
| 24 | 2.00 | 0.13 | 0.075 | ( 0.143) | 0.068 | 0.008 |
| 25 | 2.08 | 0.13 | 0.075 | ( 0.142) | 0.068 | 0.008 |
| 26 | 2.17 | 0.13 | 0.075 | ( 0.142) | 0.068 | 0.008 |
| 27 | 2.25 | 0.13 | 0.075 | ( 0.141) | 0.068 | 0.008 |
| 28 | 2.33 | 0.13 | 0.075 | ( 0.140) | 0.068 | 0.008 |
| 29 | 2.42 | 0.13 | 0.075 | ( 0.140) | 0.068 | 0.008 |
| 30 | 2.50 | 0.13 | 0.075 | ( 0.139) | 0.068 | 0.008 |
| 31 | 2.58 | 0.17 | 0.094 | ( 0.139) | 0.084 | 0.009 |
| 32 | 2.67 | 0.17 | 0.094 | ( 0.138) | 0.084 | 0.009 |
| 33 | 2.75 | 0.17 | 0.094 | ( 0.138) | 0.084 | 0.009 |
| 34 | 2.83 | 0.17 | 0.094 | ( 0.137) | 0.084 | 0.009 |
| 35 | 2.92 | 0.17 | 0.094 | ( 0.136) | 0.084 | 0.009 |
| 36 | 3.00 | 0.17 | 0.094 | ( 0.136) | 0.084 | 0.009 |
| 37 | 3.08 | 0.17 | 0.094 | ( 0.135) | 0.084 | 0.009 |
| 38 | 3.17 | 0.17 | 0.094 | ( 0.135) | 0.084 | 0.009 |
| 39 | 3.25 | 0.17 | 0.094 | ( 0.134) | 0.084 | 0.009 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 40 | 3.33 | 0.17 | 0.094 | ( | 0.134) | 0.084 | | 0.009 |
| 41 | 3.42 | 0.17 | 0.094 | ( | 0.133) | 0.084 | | 0.009 |
| 42 | 3.50 | 0.17 | 0.094 | ( | 0.133) | 0.084 | | 0.009 |
| 43 | 3.58 | 0.17 | 0.094 | ( | 0.132) | 0.084 | | 0.009 |
| 44 | 3.67 | 0.17 | 0.094 | ( | 0.131) | 0.084 | | 0.009 |
| 45 | 3.75 | 0.17 | 0.094 | ( | 0.131) | 0.084 | | 0.009 |
| 46 | 3.83 | 0.20 | 0.113 | ( | 0.130) | 0.101 | | 0.011 |
| 47 | 3.92 | 0.20 | 0.113 | ( | 0.130) | 0.101 | | 0.011 |
| 48 | 4.00 | 0.20 | 0.113 | ( | 0.129) | 0.101 | | 0.011 |
| 49 | 4.08 | 0.20 | 0.113 | ( | 0.129) | 0.101 | | 0.011 |
| 50 | 4.17 | 0.20 | 0.113 | ( | 0.128) | 0.101 | | 0.011 |
| 51 | 4.25 | 0.20 | 0.113 | ( | 0.128) | 0.101 | | 0.011 |
| 52 | 4.33 | 0.23 | 0.131 | ( | 0.127) | 0.118 | | 0.013 |
| 53 | 4.42 | 0.23 | 0.131 | ( | 0.127) | 0.118 | | 0.013 |
| 54 | 4.50 | 0.23 | 0.131 | ( | 0.126) | 0.118 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.131 | ( | 0.125) | 0.118 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.131 | ( | 0.125) | 0.118 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.131 | ( | 0.124) | 0.118 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.150 | | 0.124 | ( | 0.135) | 0.026 |
| 59 | 4.92 | 0.27 | 0.150 | | 0.123 | ( | 0.135) | 0.027 |
| 60 | 5.00 | 0.27 | 0.150 | | 0.123 | ( | 0.135) | 0.027 |
| 61 | 5.08 | 0.20 | 0.113 | ( | 0.122) | 0.101 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.113 | ( | 0.122) | 0.101 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.113 | ( | 0.121) | 0.101 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.131 | ( | 0.121) | 0.118 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.131 | ( | 0.120) | 0.118 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.131 | ( | 0.120) | 0.118 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.150 | | 0.119 | ( | 0.135) | 0.031 |
| 68 | 5.67 | 0.27 | 0.150 | | 0.119 | ( | 0.135) | 0.032 |
| 69 | 5.75 | 0.27 | 0.150 | | 0.118 | ( | 0.135) | 0.032 |
| 70 | 5.83 | 0.27 | 0.150 | | 0.117 | ( | 0.135) | 0.033 |
| 71 | 5.92 | 0.27 | 0.150 | | 0.117 | ( | 0.135) | 0.033 |
| 72 | 6.00 | 0.27 | 0.150 | | 0.116 | ( | 0.135) | 0.034 |
| 73 | 6.08 | 0.30 | 0.169 | | 0.116 | ( | 0.152) | 0.053 |
| 74 | 6.17 | 0.30 | 0.169 | | 0.115 | ( | 0.152) | 0.053 |
| 75 | 6.25 | 0.30 | 0.169 | | 0.115 | ( | 0.152) | 0.054 |
| 76 | 6.33 | 0.30 | 0.169 | | 0.114 | ( | 0.152) | 0.054 |
| 77 | 6.42 | 0.30 | 0.169 | | 0.114 | ( | 0.152) | 0.055 |
| 78 | 6.50 | 0.30 | 0.169 | | 0.113 | ( | 0.152) | 0.055 |
| 79 | 6.58 | 0.33 | 0.188 | | 0.113 | ( | 0.169) | 0.075 |
| 80 | 6.67 | 0.33 | 0.188 | | 0.112 | ( | 0.169) | 0.075 |
| 81 | 6.75 | 0.33 | 0.188 | | 0.112 | ( | 0.169) | 0.076 |
| 82 | 6.83 | 0.33 | 0.188 | | 0.111 | ( | 0.169) | 0.076 |
| 83 | 6.92 | 0.33 | 0.188 | | 0.111 | ( | 0.169) | 0.077 |
| 84 | 7.00 | 0.33 | 0.188 | | 0.110 | ( | 0.169) | 0.077 |
| 85 | 7.08 | 0.33 | 0.188 | | 0.110 | ( | 0.169) | 0.078 |
| 86 | 7.17 | 0.33 | 0.188 | | 0.109 | ( | 0.169) | 0.078 |
| 87 | 7.25 | 0.33 | 0.188 | | 0.109 | ( | 0.169) | 0.079 |
| 88 | 7.33 | 0.37 | 0.206 | | 0.108 | ( | 0.186) | 0.098 |
| 89 | 7.42 | 0.37 | 0.206 | | 0.108 | ( | 0.186) | 0.098 |
| 90 | 7.50 | 0.37 | 0.206 | | 0.107 | ( | 0.186) | 0.099 |
| 91 | 7.58 | 0.40 | 0.225 | | 0.107 | ( | 0.203) | 0.118 |
| 92 | 7.67 | 0.40 | 0.225 | | 0.106 | ( | 0.203) | 0.119 |
| 93 | 7.75 | 0.40 | 0.225 | | 0.106 | ( | 0.203) | 0.119 |
| 94 | 7.83 | 0.43 | 0.244 | | 0.105 | ( | 0.219) | 0.138 |
| 95 | 7.92 | 0.43 | 0.244 | | 0.105 | ( | 0.219) | 0.139 |
| 96 | 8.00 | 0.43 | 0.244 | | 0.104 | ( | 0.219) | 0.139 |
| 97 | 8.08 | 0.50 | 0.281 | | 0.104 | ( | 0.253) | 0.177 |
| 98 | 8.17 | 0.50 | 0.281 | | 0.103 | ( | 0.253) | 0.178 |
| 99 | 8.25 | 0.50 | 0.281 | | 0.103 | ( | 0.253) | 0.178 |
| 100 | 8.33 | 0.50 | 0.281 | | 0.102 | ( | 0.253) | 0.179 |
| 101 | 8.42 | 0.50 | 0.281 | | 0.102 | ( | 0.253) | 0.179 |
| 102 | 8.50 | 0.50 | 0.281 | | 0.102 | ( | 0.253) | 0.180 |
| 103 | 8.58 | 0.53 | 0.300 | | 0.101 | ( | 0.270) | 0.199 |
| 104 | 8.67 | 0.53 | 0.300 | | 0.101 | ( | 0.270) | 0.200 |
| 105 | 8.75 | 0.53 | 0.300 | | 0.100 | ( | 0.270) | 0.200 |
| 106 | 8.83 | 0.57 | 0.319 | | 0.100 | ( | 0.287) | 0.219 |
| 107 | 8.92 | 0.57 | 0.319 | | 0.099 | ( | 0.287) | 0.220 |
| 108 | 9.00 | 0.57 | 0.319 | | 0.099 | ( | 0.287) | 0.220 |
| 109 | 9.08 | 0.63 | 0.356 | | 0.098 | ( | 0.321) | 0.258 |
| 110 | 9.17 | 0.63 | 0.356 | | 0.098 | ( | 0.321) | 0.259 |
| 111 | 9.25 | 0.63 | 0.356 | | 0.097 | ( | 0.321) | 0.259 |
| 112 | 9.33 | 0.67 | 0.375 | | 0.097 | ( | 0.338) | 0.278 |
| 113 | 9.42 | 0.67 | 0.375 | | 0.096 | ( | 0.338) | 0.279 |
| 114 | 9.50 | 0.67 | 0.375 | | 0.096 | ( | 0.338) | 0.279 |
| 115 | 9.58 | 0.70 | 0.394 | | 0.095 | ( | 0.354) | 0.298 |
| 116 | 9.67 | 0.70 | 0.394 | | 0.095 | ( | 0.354) | 0.299 |
| 117 | 9.75 | 0.70 | 0.394 | | 0.095 | ( | 0.354) | 0.299 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 118 | 9.83 | 0.73 | 0.413 | 0.094 | ( 0.371) | 0.319 |
| 119 | 9.92 | 0.73 | 0.413 | 0.094 | ( 0.371) | 0.319 |
| 120 | 10.00 | 0.73 | 0.413 | 0.093 | ( 0.371) | 0.319 |
| 121 | 10.08 | 0.50 | 0.281 | 0.093 | ( 0.253) | 0.189 |
| 122 | 10.17 | 0.50 | 0.281 | 0.092 | ( 0.253) | 0.189 |
| 123 | 10.25 | 0.50 | 0.281 | 0.092 | ( 0.253) | 0.190 |
| 124 | 10.33 | 0.50 | 0.281 | 0.091 | ( 0.253) | 0.190 |
| 125 | 10.42 | 0.50 | 0.281 | 0.091 | ( 0.253) | 0.190 |
| 126 | 10.50 | 0.50 | 0.281 | 0.090 | ( 0.253) | 0.191 |
| 127 | 10.58 | 0.67 | 0.375 | 0.090 | ( 0.338) | 0.285 |
| 128 | 10.67 | 0.67 | 0.375 | 0.090 | ( 0.338) | 0.286 |
| 129 | 10.75 | 0.67 | 0.375 | 0.089 | ( 0.338) | 0.286 |
| 130 | 10.83 | 0.67 | 0.375 | 0.089 | ( 0.338) | 0.286 |
| 131 | 10.92 | 0.67 | 0.375 | 0.088 | ( 0.338) | 0.287 |
| 132 | 11.00 | 0.67 | 0.375 | 0.088 | ( 0.338) | 0.287 |
| 133 | 11.08 | 0.63 | 0.356 | 0.087 | ( 0.321) | 0.269 |
| 134 | 11.17 | 0.63 | 0.356 | 0.087 | ( 0.321) | 0.269 |
| 135 | 11.25 | 0.63 | 0.356 | 0.087 | ( 0.321) | 0.270 |
| 136 | 11.33 | 0.63 | 0.356 | 0.086 | ( 0.321) | 0.270 |
| 137 | 11.42 | 0.63 | 0.356 | 0.086 | ( 0.321) | 0.271 |
| 138 | 11.50 | 0.63 | 0.356 | 0.085 | ( 0.321) | 0.271 |
| 139 | 11.58 | 0.57 | 0.319 | 0.085 | ( 0.287) | 0.234 |
| 140 | 11.67 | 0.57 | 0.319 | 0.084 | ( 0.287) | 0.234 |
| 141 | 11.75 | 0.57 | 0.319 | 0.084 | ( 0.287) | 0.235 |
| 142 | 11.83 | 0.60 | 0.338 | 0.084 | ( 0.304) | 0.254 |
| 143 | 11.92 | 0.60 | 0.338 | 0.083 | ( 0.304) | 0.254 |
| 144 | 12.00 | 0.60 | 0.338 | 0.083 | ( 0.304) | 0.255 |
| 145 | 12.08 | 0.83 | 0.469 | 0.082 | ( 0.422) | 0.387 |
| 146 | 12.17 | 0.83 | 0.469 | 0.082 | ( 0.422) | 0.387 |
| 147 | 12.25 | 0.83 | 0.469 | 0.082 | ( 0.422) | 0.387 |
| 148 | 12.33 | 0.87 | 0.488 | 0.081 | ( 0.439) | 0.407 |
| 149 | 12.42 | 0.87 | 0.488 | 0.081 | ( 0.439) | 0.407 |
| 150 | 12.50 | 0.87 | 0.488 | 0.080 | ( 0.439) | 0.407 |
| 151 | 12.58 | 0.93 | 0.525 | 0.080 | ( 0.473) | 0.445 |
| 152 | 12.67 | 0.93 | 0.525 | 0.079 | ( 0.473) | 0.446 |
| 153 | 12.75 | 0.93 | 0.525 | 0.079 | ( 0.473) | 0.446 |
| 154 | 12.83 | 0.97 | 0.544 | 0.079 | ( 0.490) | 0.465 |
| 155 | 12.92 | 0.97 | 0.544 | 0.078 | ( 0.490) | 0.466 |
| 156 | 13.00 | 0.97 | 0.544 | 0.078 | ( 0.490) | 0.466 |
| 157 | 13.08 | 1.13 | 0.638 | 0.078 | ( 0.574) | 0.560 |
| 158 | 13.17 | 1.13 | 0.638 | 0.077 | ( 0.574) | 0.561 |
| 159 | 13.25 | 1.13 | 0.638 | 0.077 | ( 0.574) | 0.561 |
| 160 | 13.33 | 1.13 | 0.638 | 0.076 | ( 0.574) | 0.561 |
| 161 | 13.42 | 1.13 | 0.638 | 0.076 | ( 0.574) | 0.562 |
| 162 | 13.50 | 1.13 | 0.638 | 0.076 | ( 0.574) | 0.562 |
| 163 | 13.58 | 0.77 | 0.431 | 0.075 | ( 0.388) | 0.356 |
| 164 | 13.67 | 0.77 | 0.431 | 0.075 | ( 0.388) | 0.357 |
| 165 | 13.75 | 0.77 | 0.431 | 0.074 | ( 0.388) | 0.357 |
| 166 | 13.83 | 0.77 | 0.431 | 0.074 | ( 0.388) | 0.357 |
| 167 | 13.92 | 0.77 | 0.431 | 0.074 | ( 0.388) | 0.358 |
| 168 | 14.00 | 0.77 | 0.431 | 0.073 | ( 0.388) | 0.358 |
| 169 | 14.08 | 0.90 | 0.506 | 0.073 | ( 0.456) | 0.434 |
| 170 | 14.17 | 0.90 | 0.506 | 0.073 | ( 0.456) | 0.434 |
| 171 | 14.25 | 0.90 | 0.506 | 0.072 | ( 0.456) | 0.434 |
| 172 | 14.33 | 0.87 | 0.488 | 0.072 | ( 0.439) | 0.416 |
| 173 | 14.42 | 0.87 | 0.488 | 0.071 | ( 0.439) | 0.416 |
| 174 | 14.50 | 0.87 | 0.488 | 0.071 | ( 0.439) | 0.417 |
| 175 | 14.58 | 0.87 | 0.488 | 0.071 | ( 0.439) | 0.417 |
| 176 | 14.67 | 0.87 | 0.488 | 0.070 | ( 0.439) | 0.417 |
| 177 | 14.75 | 0.87 | 0.488 | 0.070 | ( 0.439) | 0.418 |
| 178 | 14.83 | 0.83 | 0.469 | 0.070 | ( 0.422) | 0.399 |
| 179 | 14.92 | 0.83 | 0.469 | 0.069 | ( 0.422) | 0.400 |
| 180 | 15.00 | 0.83 | 0.469 | 0.069 | ( 0.422) | 0.400 |
| 181 | 15.08 | 0.80 | 0.450 | 0.069 | ( 0.405) | 0.382 |
| 182 | 15.17 | 0.80 | 0.450 | 0.068 | ( 0.405) | 0.382 |
| 183 | 15.25 | 0.80 | 0.450 | 0.068 | ( 0.405) | 0.382 |
| 184 | 15.33 | 0.77 | 0.431 | 0.067 | ( 0.388) | 0.364 |
| 185 | 15.42 | 0.77 | 0.431 | 0.067 | ( 0.388) | 0.364 |
| 186 | 15.50 | 0.77 | 0.431 | 0.067 | ( 0.388) | 0.365 |
| 187 | 15.58 | 0.63 | 0.356 | 0.066 | ( 0.321) | 0.290 |
| 188 | 15.67 | 0.63 | 0.356 | 0.066 | ( 0.321) | 0.290 |
| 189 | 15.75 | 0.63 | 0.356 | 0.066 | ( 0.321) | 0.291 |
| 190 | 15.83 | 0.63 | 0.356 | 0.065 | ( 0.321) | 0.291 |
| 191 | 15.92 | 0.63 | 0.356 | 0.065 | ( 0.321) | 0.291 |
| 192 | 16.00 | 0.63 | 0.356 | 0.065 | ( 0.321) | 0.292 |
| 193 | 16.08 | 0.13 | 0.075 | 0.064 | ( 0.068) | 0.011 |
| 194 | 16.17 | 0.13 | 0.075 | 0.064 | ( 0.068) | 0.011 |
| 195 | 16.25 | 0.13 | 0.075 | 0.064 | ( 0.068) | 0.011 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 196 | 16.33 | 0.13 | 0.075 | 0.063 | ( 0.068) | 0.012 |
| 197 | 16.42 | 0.13 | 0.075 | 0.063 | ( 0.068) | 0.012 |
| 198 | 16.50 | 0.13 | 0.075 | 0.063 | ( 0.068) | 0.012 |
| 199 | 16.58 | 0.10 | 0.056 | ( 0.063) | 0.051 | 0.006 |
| 200 | 16.67 | 0.10 | 0.056 | ( 0.062) | 0.051 | 0.006 |
| 201 | 16.75 | 0.10 | 0.056 | ( 0.062) | 0.051 | 0.006 |
| 202 | 16.83 | 0.10 | 0.056 | ( 0.062) | 0.051 | 0.006 |
| 203 | 16.92 | 0.10 | 0.056 | ( 0.061) | 0.051 | 0.006 |
| 204 | 17.00 | 0.10 | 0.056 | ( 0.061) | 0.051 | 0.006 |
| 205 | 17.08 | 0.17 | 0.094 | 0.061 | ( 0.084) | 0.033 |
| 206 | 17.17 | 0.17 | 0.094 | 0.060 | ( 0.084) | 0.033 |
| 207 | 17.25 | 0.17 | 0.094 | 0.060 | ( 0.084) | 0.034 |
| 208 | 17.33 | 0.17 | 0.094 | 0.060 | ( 0.084) | 0.034 |
| 209 | 17.42 | 0.17 | 0.094 | 0.059 | ( 0.084) | 0.034 |
| 210 | 17.50 | 0.17 | 0.094 | 0.059 | ( 0.084) | 0.035 |
| 211 | 17.58 | 0.17 | 0.094 | 0.059 | ( 0.084) | 0.035 |
| 212 | 17.67 | 0.17 | 0.094 | 0.059 | ( 0.084) | 0.035 |
| 213 | 17.75 | 0.17 | 0.094 | 0.058 | ( 0.084) | 0.036 |
| 214 | 17.83 | 0.13 | 0.075 | 0.058 | ( 0.068) | 0.017 |
| 215 | 17.92 | 0.13 | 0.075 | 0.058 | ( 0.068) | 0.017 |
| 216 | 18.00 | 0.13 | 0.075 | 0.057 | ( 0.068) | 0.018 |
| 217 | 18.08 | 0.13 | 0.075 | 0.057 | ( 0.068) | 0.018 |
| 218 | 18.17 | 0.13 | 0.075 | 0.057 | ( 0.068) | 0.018 |
| 219 | 18.25 | 0.13 | 0.075 | 0.057 | ( 0.068) | 0.018 |
| 220 | 18.33 | 0.13 | 0.075 | 0.056 | ( 0.068) | 0.019 |
| 221 | 18.42 | 0.13 | 0.075 | 0.056 | ( 0.068) | 0.019 |
| 222 | 18.50 | 0.13 | 0.075 | 0.056 | ( 0.068) | 0.019 |
| 223 | 18.58 | 0.10 | 0.056 | ( 0.055) | 0.051 | 0.006 |
| 224 | 18.67 | 0.10 | 0.056 | ( 0.055) | 0.051 | 0.006 |
| 225 | 18.75 | 0.10 | 0.056 | ( 0.055) | 0.051 | 0.006 |
| 226 | 18.83 | 0.07 | 0.038 | ( 0.055) | 0.034 | 0.004 |
| 227 | 18.92 | 0.07 | 0.038 | ( 0.054) | 0.034 | 0.004 |
| 228 | 19.00 | 0.07 | 0.038 | ( 0.054) | 0.034 | 0.004 |
| 229 | 19.08 | 0.10 | 0.056 | ( 0.054) | 0.051 | 0.006 |
| 230 | 19.17 | 0.10 | 0.056 | ( 0.054) | 0.051 | 0.006 |
| 231 | 19.25 | 0.10 | 0.056 | ( 0.053) | 0.051 | 0.006 |
| 232 | 19.33 | 0.13 | 0.075 | 0.053 | ( 0.068) | 0.022 |
| 233 | 19.42 | 0.13 | 0.075 | 0.053 | ( 0.068) | 0.022 |
| 234 | 19.50 | 0.13 | 0.075 | 0.053 | ( 0.068) | 0.022 |
| 235 | 19.58 | 0.10 | 0.056 | ( 0.052) | 0.051 | 0.006 |
| 236 | 19.67 | 0.10 | 0.056 | ( 0.052) | 0.051 | 0.006 |
| 237 | 19.75 | 0.10 | 0.056 | ( 0.052) | 0.051 | 0.006 |
| 238 | 19.83 | 0.07 | 0.038 | ( 0.052) | 0.034 | 0.004 |
| 239 | 19.92 | 0.07 | 0.038 | ( 0.051) | 0.034 | 0.004 |
| 240 | 20.00 | 0.07 | 0.038 | ( 0.051) | 0.034 | 0.004 |
| 241 | 20.08 | 0.10 | 0.056 | ( 0.051) | 0.051 | 0.006 |
| 242 | 20.17 | 0.10 | 0.056 | ( 0.051) | 0.051 | 0.006 |
| 243 | 20.25 | 0.10 | 0.056 | 0.051 | ( 0.051) | 0.006 |
| 244 | 20.33 | 0.10 | 0.056 | 0.050 | ( 0.051) | 0.006 |
| 245 | 20.42 | 0.10 | 0.056 | 0.050 | ( 0.051) | 0.006 |
| 246 | 20.50 | 0.10 | 0.056 | 0.050 | ( 0.051) | 0.006 |
| 247 | 20.58 | 0.10 | 0.056 | 0.050 | ( 0.051) | 0.007 |
| 248 | 20.67 | 0.10 | 0.056 | 0.049 | ( 0.051) | 0.007 |
| 249 | 20.75 | 0.10 | 0.056 | 0.049 | ( 0.051) | 0.007 |
| 250 | 20.83 | 0.07 | 0.038 | ( 0.049) | 0.034 | 0.004 |
| 251 | 20.92 | 0.07 | 0.038 | ( 0.049) | 0.034 | 0.004 |
| 252 | 21.00 | 0.07 | 0.038 | ( 0.049) | 0.034 | 0.004 |
| 253 | 21.08 | 0.10 | 0.056 | 0.048 | ( 0.051) | 0.008 |
| 254 | 21.17 | 0.10 | 0.056 | 0.048 | ( 0.051) | 0.008 |
| 255 | 21.25 | 0.10 | 0.056 | 0.048 | ( 0.051) | 0.008 |
| 256 | 21.33 | 0.07 | 0.038 | ( 0.048) | 0.034 | 0.004 |
| 257 | 21.42 | 0.07 | 0.038 | ( 0.048) | 0.034 | 0.004 |
| 258 | 21.50 | 0.07 | 0.038 | ( 0.048) | 0.034 | 0.004 |
| 259 | 21.58 | 0.10 | 0.056 | 0.047 | ( 0.051) | 0.009 |
| 260 | 21.67 | 0.10 | 0.056 | 0.047 | ( 0.051) | 0.009 |
| 261 | 21.75 | 0.10 | 0.056 | 0.047 | ( 0.051) | 0.009 |
| 262 | 21.83 | 0.07 | 0.038 | ( 0.047) | 0.034 | 0.004 |
| 263 | 21.92 | 0.07 | 0.038 | ( 0.047) | 0.034 | 0.004 |
| 264 | 22.00 | 0.07 | 0.038 | ( 0.047) | 0.034 | 0.004 |
| 265 | 22.08 | 0.10 | 0.056 | 0.046 | ( 0.051) | 0.010 |
| 266 | 22.17 | 0.10 | 0.056 | 0.046 | ( 0.051) | 0.010 |
| 267 | 22.25 | 0.10 | 0.056 | 0.046 | ( 0.051) | 0.010 |
| 268 | 22.33 | 0.07 | 0.038 | ( 0.046) | 0.034 | 0.004 |
| 269 | 22.42 | 0.07 | 0.038 | ( 0.046) | 0.034 | 0.004 |
| 270 | 22.50 | 0.07 | 0.038 | ( 0.046) | 0.034 | 0.004 |
| 271 | 22.58 | 0.07 | 0.038 | ( 0.046) | 0.034 | 0.004 |
| 272 | 22.67 | 0.07 | 0.038 | ( 0.045) | 0.034 | 0.004 |
| 273 | 22.75 | 0.07 | 0.038 | ( 0.045) | 0.034 | 0.004 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 274 | 22.83 | 0.07 | 0.038 | ( | 0.045) | 0.034 | 0.004 |
| 275 | 22.92 | 0.07 | 0.038 | ( | 0.045) | 0.034 | 0.004 |
| 276 | 23.00 | 0.07 | 0.038 | ( | 0.045) | 0.034 | 0.004 |
| 277 | 23.08 | 0.07 | 0.038 | ( | 0.045) | 0.034 | 0.004 |
| 278 | 23.17 | 0.07 | 0.038 | ( | 0.045) | 0.034 | 0.004 |
| 279 | 23.25 | 0.07 | 0.038 | ( | 0.045) | 0.034 | 0.004 |
| 280 | 23.33 | 0.07 | 0.038 | ( | 0.045) | 0.034 | 0.004 |
| 281 | 23.42 | 0.07 | 0.038 | ( | 0.045) | 0.034 | 0.004 |
| 282 | 23.50 | 0.07 | 0.038 | ( | 0.044) | 0.034 | 0.004 |
| 283 | 23.58 | 0.07 | 0.038 | ( | 0.044) | 0.034 | 0.004 |
| 284 | 23.67 | 0.07 | 0.038 | ( | 0.044) | 0.034 | 0.004 |
| 285 | 23.75 | 0.07 | 0.038 | ( | 0.044) | 0.034 | 0.004 |
| 286 | 23.83 | 0.07 | 0.038 | ( | 0.044) | 0.034 | 0.004 |
| 287 | 23.92 | 0.07 | 0.038 | ( | 0.044) | 0.034 | 0.004 |
| 288 | 24.00 | 0.07 | 0.038 | ( | 0.044) | 0.034 | 0.004 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 35.2

Flood volume = Effective rainfall 2.93(In)
times area 102.6(Ac.)/[(In)/(Ft.)] = 25.1(Ac.Ft)
Total soil loss = 1.75(In)
Total soil loss = 15.000(Ac.Ft)
Total rainfall = 4.69(In)
Flood volume = 1092974.1 Cubic Feet
Total soil loss = 653410.1 Cubic Feet

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Peak flow rate of this hydrograph = 56.591(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

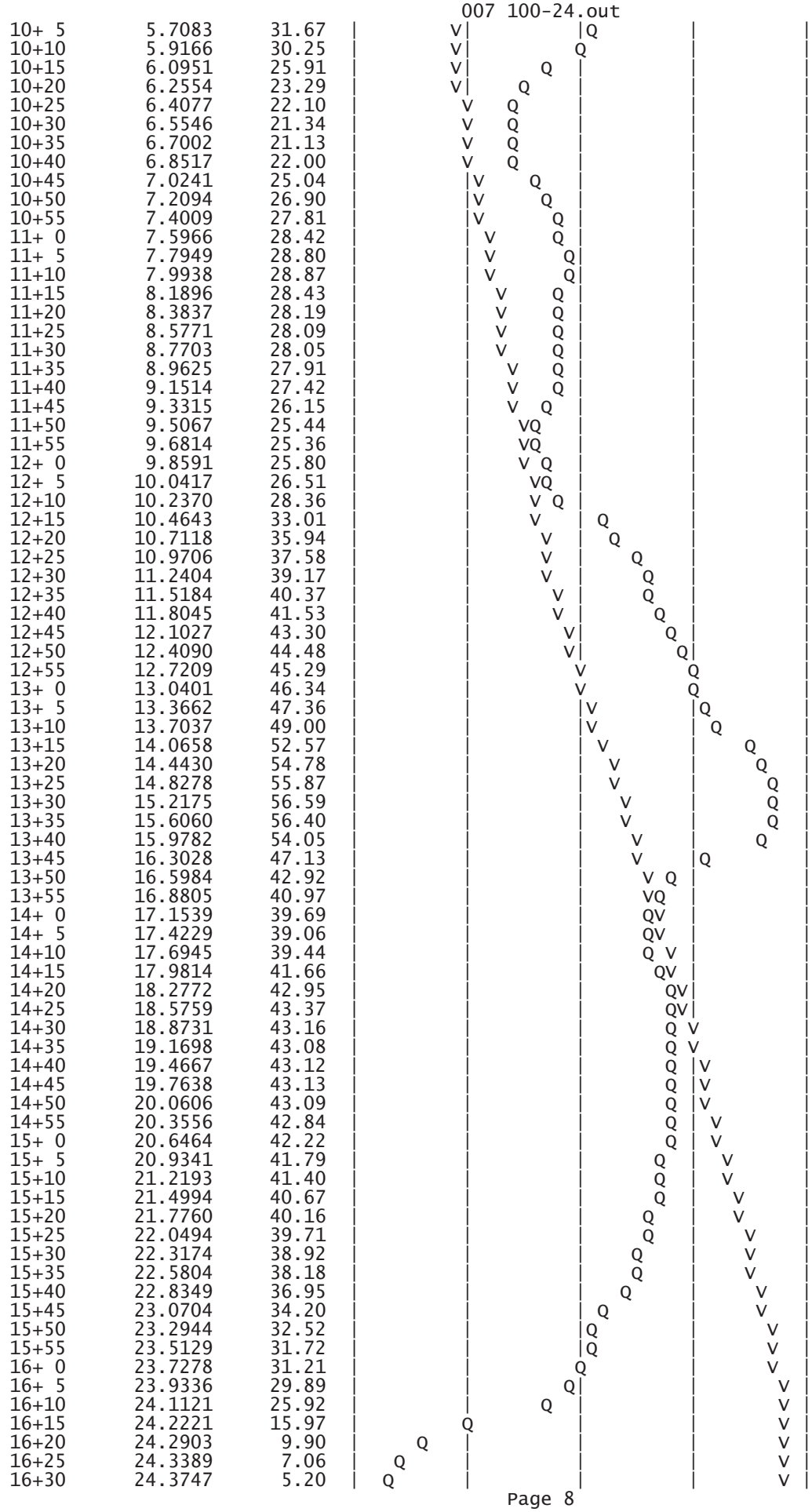
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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 15.0 | 30.0 | 45.0 | 60.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0001 | 0.01 | Q | | | | |
| 0+10 | 0.0005 | 0.06 | Q | | | | |
| 0+15 | 0.0019 | 0.19 | Q | | | | |
| 0+20 | 0.0038 | 0.28 | Q | | | | |
| 0+25 | 0.0061 | 0.34 | Q | | | | |
| 0+30 | 0.0091 | 0.43 | Q | | | | |
| 0+35 | 0.0125 | 0.49 | Q | | | | |
| 0+40 | 0.0161 | 0.52 | Q | | | | |
| 0+45 | 0.0198 | 0.54 | Q | | | | |
| 0+50 | 0.0237 | 0.56 | Q | | | | |
| 0+55 | 0.0278 | 0.60 | Q | | | | |
| 1+ 0 | 0.0324 | 0.67 | Q | | | | |
| 1+ 5 | 0.0372 | 0.70 | Q | | | | |
| 1+10 | 0.0420 | 0.70 | Q | | | | |
| 1+15 | 0.0465 | 0.65 | Q | | | | |
| 1+20 | 0.0508 | 0.62 | Q | | | | |
| 1+25 | 0.0550 | 0.61 | Q | | | | |
| 1+30 | 0.0591 | 0.60 | Q | | | | |
| 1+35 | 0.0632 | 0.60 | Q | | | | |
| 1+40 | 0.0673 | 0.59 | Q | | | | |
| 1+45 | 0.0713 | 0.59 | Q | | | | |
| 1+50 | 0.0754 | 0.59 | Q | | | | |
| 1+55 | 0.0796 | 0.62 | Q | | | | |
| 2+ 0 | 0.0843 | 0.68 | Q | | | | |
| 2+ 5 | 0.0893 | 0.72 | Q | | | | |
| 2+10 | 0.0944 | 0.74 | Q | | | | |
| 2+15 | 0.0995 | 0.75 | Q | | | | |
| 2+20 | 0.1048 | 0.76 | Q | | | | |
| 2+25 | 0.1100 | 0.76 | Q | | | | |
| 2+30 | 0.1153 | 0.77 | Q | | | | |
| 2+35 | 0.1207 | 0.78 | Q | | | | |
| 2+40 | 0.1262 | 0.80 | Q | | | | |
| 2+45 | 0.1322 | 0.87 | Q | | | | |
| 2+50 | 0.1385 | 0.91 | Q | | | | |
| 2+55 | 0.1449 | 0.93 | Q | | | | |
| 3+ 0 | 0.1514 | 0.94 | Q | | | | |
| 3+ 5 | 0.1580 | 0.95 | Q | | | | |
| 3+10 | 0.1646 | 0.96 | Q | | | | |
| 3+15 | 0.1712 | 0.96 | Q | | | | |
| 3+20 | 0.1778 | 0.97 | Q | | | | |
| 3+25 | 0.1845 | 0.97 | Q | | | | |
| 3+30 | 0.1912 | 0.97 | Q | | | | |

```
 3+35       0.1978      0.97  Q          |          |          |          |
 3+40       0.2045      0.97  Q          |          |          |          |
 3+45       0.2112      0.97  Q          |          |          |          |
 3+50       0.2179      0.98  Q          |          |          |          |
 3+55       0.2248      1.00  Q          |          |          |          |
 4+ 0       0.2322      1.07  Q          |          |          |          |
 4+ 5       0.2398      1.11  Q          |          |          |          |
 4+10       0.2475      1.13  Q          |          |          |          |
 4+15       0.2554      1.14  Q          |          |          |          |
 4+20       0.2633      1.15  Q          |          |          |          |
 4+25       0.2715      1.18  Q          |          |          |          |
 4+30       0.2801      1.25  Q          |          |          |          |
 4+35       0.2890      1.30  Q          |          |          |          |
 4+40       0.2981      1.32  Q          |          |          |          |
 4+45       0.3073      1.33  Q          |          |          |          |
 4+50       0.3168      1.38  Q          |          |          |          |
 4+55       0.3276      1.57  VQ         |          |          |          |
 5+ 0       0.3416      2.04  VQ         |          |          |          |
 5+ 5       0.3574      2.29  VQ         |          |          |          |
 5+10       0.3728      2.24  VQ         |          |          |          |
 5+15       0.3851      1.78  VQ         |          |          |          |
 5+20       0.3955      1.52  VQ         |          |          |          |
 5+25       0.4054      1.43  Q          |          |          |          |
 5+30       0.4152      1.43  Q          |          |          |          |
 5+35       0.4254      1.48  Q          |          |          |          |
 5+40       0.4371      1.69  VQ         |          |          |          |
 5+45       0.4529      2.31  VQ         |          |          |          |
 5+50       0.4716      2.70  VQ         |          |          |          |
 5+55       0.4917      2.92  VQ         |          |          |          |
 6+ 0       0.5129      3.08  V Q        |          |          |          |
 6+ 5       0.5355      3.28  V Q        |          |          |          |
 6+10       0.5605      3.63  V Q        |          |          |          |
 6+15       0.5906      4.37  V Q        |          |          |          |
 6+20       0.6240      4.85  V  Q       |          |          |          |
 6+25       0.6591      5.10  |V Q       |          |          |          |
 6+30       0.6955      5.28  |V Q       |          |          |          |
 6+35       0.7333      5.49  |V Q       |          |          |          |
 6+40       0.7737      5.86  |V Q       |          |          |          |
 6+45       0.8193      6.62  |V  Q      |          |          |          |
 6+50       0.8682      7.10  |V  Q      |          |          |          |
 6+55       0.9188      7.35  |V  Q      |          |          |          |
 7+ 0       0.9707      7.54  |V   Q     |          |          |          |
 7+ 5       1.0236      7.68  |V   Q     |          |          |          |
 7+10       1.0774      7.80  |V   Q     |          |          |          |
 7+15       1.1318      7.90  |V   Q     |          |          |          |
 7+20       1.1872      8.05  |V   Q     |          |          |          |
 7+25       1.2448      8.36  |V   Q     |          |          |          |
 7+30       1.3074      9.08  | V   Q    |          |          |          |
 7+35       1.3735      9.60  | V   Q    |          |          |          |
 7+40       1.4430     10.09  | V   Q    |          |          |          |
 7+45       1.5183     10.93  | V    Q   |          |          |          |
 7+50       1.5977     11.53  | V    Q   |          |          |          |
 7+55       1.6809     12.09  | V     Q  |          |          |          |
 8+ 0       1.7701     12.96  | V     Q  |          |          |          |
 8+ 5       1.8642     13.65  | V      Q |          |          |          |
 8+10       1.9637     14.46  |  V     Q |          |          |          |
 8+15       2.0739     15.99  |  V      Q|          |          |          |
 8+20       2.1907     16.96  |  V      |Q         |          |          |
 8+25       2.3110     17.47  |  V      |Q         |          |          |
 8+30       2.4337     17.82  |  V      |Q         |          |          |
 8+35       2.5587     18.15  |   V     | Q        |          |          |
 8+40       2.6867     18.59  |   V     | Q        |          |          |
 8+45       2.8202     19.39  |   V     | Q        |          |          |
 8+50       2.9577     19.97  |   V     |  Q       |          |          |
 8+55       3.0988     20.48  |   V     |  Q       |          |          |
 9+ 0       3.2457     21.33  |    V    |   Q      |          |          |
 9+ 5       3.3974     22.01  |    V    |   Q      |          |          |
 9+10       3.5545     22.82  |    V    |    Q     |          |          |
 9+15       3.7223     24.36  |    V    |     Q    |          |          |
 9+20       3.8972     25.39  |     V   |     Q    |          |          |
 9+25       4.0772     26.14  |     V   |      Q   |          |          |
 9+30       4.2641     27.14  |     V   |       Q  |          |          |
 9+35       4.4560     27.86  |      V  |       Q  |          |          |
 9+40       4.6522     28.49  |      V  |       Q  |          |          |
 9+45       4.8548     29.41  |      V  |        Q |          |          |
 9+50       5.0619     30.07  |       V |         Q|          |          |
 9+55       5.2730     30.65  |       V |         Q|          |          |
10+ 0       5.4902     31.54  |       V |          |Q         |          |
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| | | | |
|---|---|---|---|
| 10+ 5 | 5.7083 | 31.67 | |
| 10+10 | 5.9166 | 30.25 | |
| 10+15 | 6.0951 | 25.91 | |
| 10+20 | 6.2554 | 23.29 | |
| 10+25 | 6.4077 | 22.10 | |
| 10+30 | 6.5546 | 21.34 | |
| 10+35 | 6.7002 | 21.13 | |
| 10+40 | 6.8517 | 22.00 | |
| 10+45 | 7.0241 | 25.04 | |
| 10+50 | 7.2094 | 26.90 | |
| 10+55 | 7.4009 | 27.81 | |
| 11+ 0 | 7.5966 | 28.42 | |
| 11+ 5 | 7.7949 | 28.80 | |
| 11+10 | 7.9938 | 28.87 | |
| 11+15 | 8.1896 | 28.43 | |
| 11+20 | 8.3837 | 28.19 | |
| 11+25 | 8.5771 | 28.09 | |
| 11+30 | 8.7703 | 28.05 | |
| 11+35 | 8.9625 | 27.91 | |
| 11+40 | 9.1514 | 27.42 | |
| 11+45 | 9.3315 | 26.15 | |
| 11+50 | 9.5067 | 25.44 | |
| 11+55 | 9.6814 | 25.36 | |
| 12+ 0 | 9.8591 | 25.80 | |
| 12+ 5 | 10.0417 | 26.51 | |
| 12+10 | 10.2370 | 28.36 | |
| 12+15 | 10.4643 | 33.01 | |
| 12+20 | 10.7118 | 35.94 | |
| 12+25 | 10.9706 | 37.58 | |
| 12+30 | 11.2404 | 39.17 | |
| 12+35 | 11.5184 | 40.37 | |
| 12+40 | 11.8045 | 41.53 | |
| 12+45 | 12.1027 | 43.30 | |
| 12+50 | 12.4090 | 44.48 | |
| 12+55 | 12.7209 | 45.29 | |
| 13+ 0 | 13.0401 | 46.34 | |
| 13+ 5 | 13.3662 | 47.36 | |
| 13+10 | 13.7037 | 49.00 | |
| 13+15 | 14.0658 | 52.57 | |
| 13+20 | 14.4430 | 54.78 | |
| 13+25 | 14.8278 | 55.87 | |
| 13+30 | 15.2175 | 56.59 | |
| 13+35 | 15.6060 | 56.40 | |
| 13+40 | 15.9782 | 54.05 | |
| 13+45 | 16.3028 | 47.13 | |
| 13+50 | 16.5984 | 42.92 | |
| 13+55 | 16.8805 | 40.97 | |
| 14+ 0 | 17.1539 | 39.69 | |
| 14+ 5 | 17.4229 | 39.06 | |
| 14+10 | 17.6945 | 39.44 | |
| 14+15 | 17.9814 | 41.66 | |
| 14+20 | 18.2772 | 42.95 | |
| 14+25 | 18.5759 | 43.37 | |
| 14+30 | 18.8731 | 43.16 | |
| 14+35 | 19.1698 | 43.08 | |
| 14+40 | 19.4667 | 43.12 | |
| 14+45 | 19.7638 | 43.13 | |
| 14+50 | 20.0606 | 43.09 | |
| 14+55 | 20.3556 | 42.84 | |
| 15+ 0 | 20.6464 | 42.22 | |
| 15+ 5 | 20.9341 | 41.79 | |
| 15+10 | 21.2193 | 41.40 | |
| 15+15 | 21.4994 | 40.67 | |
| 15+20 | 21.7760 | 40.16 | |
| 15+25 | 22.0494 | 39.71 | |
| 15+30 | 22.3174 | 38.92 | |
| 15+35 | 22.5804 | 38.18 | |
| 15+40 | 22.8349 | 36.95 | |
| 15+45 | 23.0704 | 34.20 | |
| 15+50 | 23.2944 | 32.52 | |
| 15+55 | 23.5129 | 31.72 | |
| 16+ 0 | 23.7278 | 31.21 | |
| 16+ 5 | 23.9336 | 29.89 | |
| 16+10 | 24.1121 | 25.92 | |
| 16+15 | 24.2221 | 15.97 | |
| 16+20 | 24.2903 | 9.90 | |
| 16+25 | 24.3389 | 7.06 | |
| 16+30 | 24.3747 | 5.20 | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 16+35 | 24.4013 | 3.86 | \| Q | \| | \| | V \| |
| 16+40 | 24.4209 | 2.84 | \|Q | \| | \| | V \| |
| 16+45 | 24.4345 | 1.98 | \|Q | \| | \| | V \| |
| 16+50 | 24.4444 | 1.43 | Q | \| | \| | V \| |
| 16+55 | 24.4525 | 1.18 | Q | \| | \| | V \| |
| 17+ 0 | 24.4595 | 1.02 | Q | \| | \| | V \| |
| 17+ 5 | 24.4663 | 0.99 | Q | \| | \| | V\| |
| 17+10 | 24.4749 | 1.25 | Q | \| | \| | V\| |
| 17+15 | 24.4895 | 2.11 | \|Q | \| | \| | V\| |
| 17+20 | 24.5078 | 2.66 | \|Q | \| | \| | V\| |
| 17+25 | 24.5279 | 2.92 | \|Q | \| | \| | V\| |
| 17+30 | 24.5494 | 3.12 | \| Q | \| | \| | V\| |
| 17+35 | 24.5719 | 3.27 | \| Q | \| | \| | V\| |
| 17+40 | 24.5953 | 3.39 | \| Q | \| | \| | V\| |
| 17+45 | 24.6193 | 3.48 | \| Q | \| | \| | V\| |
| 17+50 | 24.6433 | 3.48 | \| Q | \| | \| | V\| |
| 17+55 | 24.6659 | 3.28 | \| Q | \| | \| | V\| |
| 18+ 0 | 24.6842 | 2.67 | \|Q | \| | \| | V\| |
| 18+ 5 | 24.7002 | 2.31 | \|Q | \| | \| | V\| |
| 18+10 | 24.7150 | 2.16 | \|Q | \| | \| | V\| |
| 18+15 | 24.7293 | 2.07 | \|Q | \| | \| | V\| |
| 18+20 | 24.7432 | 2.02 | \|Q | \| | \| | V\| |
| 18+25 | 24.7569 | 1.99 | \|Q | \| | \| | V\| |
| 18+30 | 24.7705 | 1.98 | \|Q | \| | \| | V\| |
| 18+35 | 24.7838 | 1.93 | \|Q | \| | \| | V\| |
| 18+40 | 24.7960 | 1.76 | \|Q | \| | \| | V\| |
| 18+45 | 24.8049 | 1.29 | Q | \| | \| | V\| |
| 18+50 | 24.8117 | 0.99 | Q | \| | \| | V\| |
| 18+55 | 24.8175 | 0.83 | Q | \| | \| | V\| |
| 19+ 0 | 24.8221 | 0.68 | Q | \| | \| | V\| |
| 19+ 5 | 24.8261 | 0.58 | Q | \| | \| | V\| |
| 19+10 | 24.8298 | 0.54 | Q | \| | \| | V\| |
| 19+15 | 24.8336 | 0.56 | Q | \| | \| | V\| |
| 19+20 | 24.8380 | 0.63 | Q | \| | \| | V\| |
| 19+25 | 24.8438 | 0.85 | Q | \| | \| | V\| |
| 19+30 | 24.8536 | 1.42 | Q | \| | \| | V\| |
| 19+35 | 24.8655 | 1.73 | \|Q | \| | \| | V\| |
| 19+40 | 24.8771 | 1.68 | \|Q | \| | \| | V\| |
| 19+45 | 24.8854 | 1.21 | Q | \| | \| | V\| |
| 19+50 | 24.8918 | 0.93 | Q | \| | \| | V\| |
| 19+55 | 24.8973 | 0.79 | Q | \| | \| | V\| |
| 20+ 0 | 24.9018 | 0.65 | Q | \| | \| | V\| |
| 20+ 5 | 24.9057 | 0.57 | Q | \| | \| | V\| |
| 20+10 | 24.9093 | 0.53 | Q | \| | \| | V\| |
| 20+15 | 24.9131 | 0.55 | Q | \| | \| | V\| |
| 20+20 | 24.9170 | 0.57 | Q | \| | \| | V\| |
| 20+25 | 24.9210 | 0.58 | Q | \| | \| | V\| |
| 20+30 | 24.9252 | 0.60 | Q | \| | \| | V\| |
| 20+35 | 24.9294 | 0.62 | Q | \| | \| | V\| |
| 20+40 | 24.9339 | 0.64 | Q | \| | \| | V\| |
| 20+45 | 24.9384 | 0.66 | Q | \| | \| | V\| |
| 20+50 | 24.9430 | 0.67 | Q | \| | \| | V\| |
| 20+55 | 24.9474 | 0.64 | Q | \| | \| | V\| |
| 21+ 0 | 24.9511 | 0.54 | Q | \| | \| | V\| |
| 21+ 5 | 24.9544 | 0.49 | Q | \| | \| | V\| |
| 21+10 | 24.9580 | 0.51 | Q | \| | \| | V\| |
| 21+15 | 24.9624 | 0.64 | Q | \| | \| | V\| |
| 21+20 | 24.9672 | 0.71 | Q | \| | \| | V\| |
| 21+25 | 24.9720 | 0.69 | Q | \| | \| | V\| |
| 21+30 | 24.9758 | 0.56 | Q | \| | \| | V\| |
| 21+35 | 24.9793 | 0.50 | Q | \| | \| | V\| |
| 21+40 | 24.9830 | 0.54 | Q | \| | \| | V\| |
| 21+45 | 24.9878 | 0.70 | Q | \| | \| | V\| |
| 21+50 | 24.9933 | 0.79 | Q | \| | \| | V\| |
| 21+55 | 24.9985 | 0.76 | Q | \| | \| | V\| |
| 22+ 0 | 25.0027 | 0.60 | Q | \| | \| | V\| |
| 22+ 5 | 25.0063 | 0.53 | Q | \| | \| | V\| |
| 22+10 | 25.0102 | 0.57 | Q | \| | \| | V\| |
| 22+15 | 25.0155 | 0.76 | Q | \| | \| | V\| |
| 22+20 | 25.0214 | 0.86 | Q | \| | \| | V\| |
| 22+25 | 25.0271 | 0.83 | Q | \| | \| | V\| |
| 22+30 | 25.0316 | 0.64 | Q | \| | \| | V\| |
| 22+35 | 25.0352 | 0.53 | Q | \| | \| | V\| |
| 22+40 | 25.0386 | 0.49 | Q | \| | \| | V\| |
| 22+45 | 25.0417 | 0.46 | Q | \| | \| | V\| |
| 22+50 | 25.0447 | 0.44 | Q | \| | \| | V\| |
| 22+55 | 25.0476 | 0.42 | Q | \| | \| | V\| |
| 23+ 0 | 25.0504 | 0.41 | Q | \| | \| | V\| |

```
   23+ 5      25.0531      0.40  Q          |           |           |         V|
   23+10      25.0559      0.39  Q          |           |           |         V|
   23+15      25.0586      0.39  Q          |           |           |         V|
   23+20      25.0613      0.39  Q          |           |           |         V|
   23+25      25.0640      0.39  Q          |           |           |         V|
   23+30      25.0667      0.39  Q          |           |           |         V|
   23+35      25.0693      0.39  Q          |           |           |         V|
   23+40      25.0720      0.39  Q          |           |           |         V|
   23+45      25.0747      0.39  Q          |           |           |         V|
   23+50      25.0774      0.39  Q          |           |           |         V|
   23+55      25.0800      0.39  Q          |           |           |         V|
   24+ 0      25.0827      0.39  Q          |           |           |         V|
   24+ 5      25.0853      0.38  Q          |           |           |         V|
   24+10      25.0875      0.33  Q          |           |           |         V|
   24+15      25.0889      0.19  Q          |           |           |         V|
   24+20      25.0897      0.11  Q          |           |           |         V|
   24+25      25.0902      0.08  Q          |           |           |         V|
   24+30      25.0906      0.05  Q          |           |           |         V|
   24+35      25.0908      0.04  Q          |           |           |         V|
   24+40      25.0909      0.02  Q          |           |           |         V|
   24+45      25.0910      0.01  Q          |           |           |         V|
   24+50      25.0911      0.01  Q          |           |           |         V|
   24+55      25.0912      0.01  Q          |           |           |         V|
   25+ 0      25.0912      0.00  Q          |           |           |         V|
   25+ 5      25.0912      0.00  Q          |           |           |         V|
   25+10      25.0912      0.00  Q          |           |           |         V|
   25+15      25.0912      0.00  Q          |           |           |         V|
   25+20      25.0912      0.00  Q          |           |           |          V
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 04/18/19 File: EX81100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 8
100-YEAR STORM EVENT
BY: JTS, DATE: 04-18-19

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Drainage Area = 103.40(Ac.) = 0.162 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 103.40(Ac.) = 0.162 Sq. Mi.
Length along longest watercourse = 3982.00(Ft.)
Length along longest watercourse measured to centroid = 1641.00(Ft.)
Length along longest watercourse = 0.754 Mi.
Length along longest watercourse measured to centroid = 0.311 Mi.
Difference in elevation = 652.00(Ft.)
Slope along watercourse = 864.5304 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.134 Hr.
Lag time = 8.04 Min.
25% of lag time = 2.01 Min.
40% of lag time = 3.21 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 103.40 | 0.50 | 51.70 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 103.40 | 1.20 | 124.08 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.91 %
Adjusted average point rain = 1.199(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 103.400 | 83.58 | 0.000 |

Total Area Entered = 103.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.6 | 93.1 | 0.089 | 0.000 | 0.089 | 1.000 | 0.089 |
| | | | | | Sum (F) = | 0.089 |

Area averaged mean soil loss (F) (In/Hr) = 0.089
Minimum soil loss rate ((In/Hr)) = 0.045

(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 62.223 | 5.912 | 6.161 |
| 2 | 0.167 | 124.446 | 33.917 | 35.344 |
| 3 | 0.250 | 186.668 | 32.931 | 34.317 |
| 4 | 0.333 | 248.891 | 12.032 | 12.539 |
| 5 | 0.417 | 311.114 | 6.903 | 7.194 |
| 6 | 0.500 | 373.337 | 4.071 | 4.242 |
| 7 | 0.583 | 435.560 | 2.095 | 2.183 |
| 8 | 0.667 | 497.783 | 0.802 | 0.835 |
| 9 | 0.750 | 560.005 | 0.511 | 0.533 |
| 10 | 0.833 | 622.228 | 0.438 | 0.457 |
| 11 | 0.917 | 684.451 | 0.281 | 0.293 |
| 12 | 1.000 | 746.674 | 0.106 | 0.110 |
| | | | Sum = 100.000 | Sum= 104.208 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.604 | 0.089 | ( 0.544) | 0.515 |
| 2 | 0.17 | 4.30 | 0.619 | 0.089 | ( 0.557) | 0.530 |
| 3 | 0.25 | 5.00 | 0.719 | 0.089 | ( 0.647) | 0.630 |
| 4 | 0.33 | 5.00 | 0.719 | 0.089 | ( 0.647) | 0.630 |
| 5 | 0.42 | 5.80 | 0.834 | 0.089 | ( 0.751) | 0.745 |
| 6 | 0.50 | 6.50 | 0.935 | 0.089 | ( 0.842) | 0.846 |
| 7 | 0.58 | 7.40 | 1.065 | 0.089 | ( 0.958) | 0.976 |
| 8 | 0.67 | 8.60 | 1.237 | 0.089 | ( 1.114) | 1.148 |
| 9 | 0.75 | 12.30 | 1.770 | 0.089 | ( 1.593) | 1.680 |
| 10 | 0.83 | 29.10 | 4.186 | 0.089 | ( 3.768) | 4.097 |
| 11 | 0.92 | 6.80 | 0.978 | 0.089 | ( 0.880) | 0.889 |
| 12 | 1.00 | 5.00 | 0.719 | 0.089 | ( 0.647) | 0.630 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 13.3 |

Flood volume = Effective rainfall 1.11(In)
times area 103.4(Ac.)/[(In)/(Ft.)] = 9.6(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.768(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 416554.4 Cubic Feet
Total soil loss = 33434.0 Cubic Feet

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Peak flow rate of this hydrograph = 235.974(CFS)

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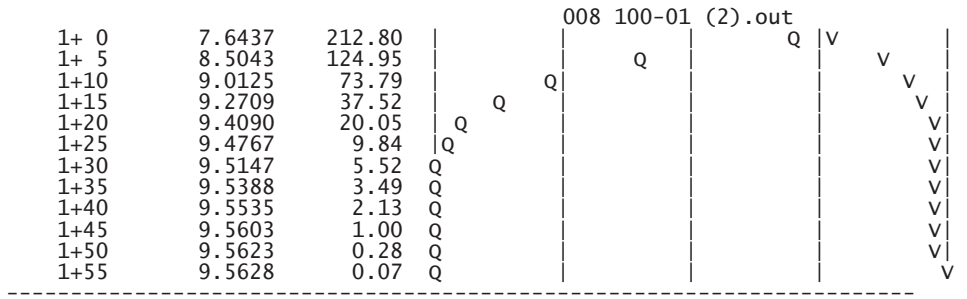
1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 75.0 | 150.0 | 225.0 | 300.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0219 | 3.18 | Q | | | | |
| 0+10 | 0.1698 | 21.48 | V Q | | | | |
| 0+15 | 0.4474 | 40.30 | V Q | | | | |
| 0+20 | 0.7973 | 50.82 | V Q | | | | |
| 0+25 | 1.2028 | 58.87 | V Q | | | | |
| 0+30 | 1.6650 | 67.12 | V Q | | | | |
| 0+35 | 2.1977 | 77.34 | VQ | | | | |
| 0+40 | 2.8090 | 88.77 | Q | | | | |
| 0+45 | 3.5336 | 105.20 | Q | | | | |
| 0+50 | 4.5530 | 148.02 | Q | | | | |
| 0+55 | 6.1781 | 235.97 | V | Q | | | |


008 100-01 (2).out
1+ 0 7.6437 212.80
1+ 5 8.5043 124.95
1+10 9.0125 73.79
1+15 9.2709 37.52
1+20 9.4090 20.05
1+25 9.4767 9.84
1+30 9.5147 5.52
1+35 9.5388 3.49
1+40 9.5535 2.13
1+45 9.5603 1.00
1+50 9.5623 0.28
1+55 9.5628 0.07

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 04/18/19 File: EX83100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 8
100-YEAR STORM EVENT
BY: JTS, DATE: 04-18-19

---

Drainage Area = 103.40(Ac.) = 0.162 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 103.40(Ac.) = 0.162 Sq. Mi.
Length along longest watercourse = 3982.00(Ft.)
Length along longest watercourse measured to centroid = 1641.00(Ft.)
Length along longest watercourse = 0.754 Mi.
Length along longest watercourse measured to centroid = 0.311 Mi.
Difference in elevation = 652.00(Ft.)
Slope along watercourse = 864.5304 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.134 Hr.
Lag time = 8.04 Min.
25% of lag time = 2.01 Min.
40% of lag time = 3.21 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 103.40 | 0.80 | 82.72 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 103.40 | 1.81 | 187.15 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.810(In)

Point rain (area averaged) = 1.810(In)
Areal adjustment factor = 99.95 %
Adjusted average point rain = 1.809(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 103.400 | 83.58 | 0.000 |

Total Area Entered = 103.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.6 | 93.1 | 0.089 | 0.000 | 0.089 | 1.000 | 0.089 |
| | | | | | Sum (F) = | 0.089 |

Area averaged mean soil loss (F) (In/Hr) = 0.089
Minimum soil loss rate ((In/Hr)) = 0.045

(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 62.223 | 5.912 | 6.161 |
| 2 | 0.167 | 124.446 | 33.917 | 35.344 |
| 3 | 0.250 | 186.668 | 32.931 | 34.317 |
| 4 | 0.333 | 248.891 | 12.032 | 12.539 |
| 5 | 0.417 | 311.114 | 6.903 | 7.194 |
| 6 | 0.500 | 373.337 | 4.071 | 4.242 |
| 7 | 0.583 | 435.560 | 2.095 | 2.183 |
| 8 | 0.667 | 497.783 | 0.802 | 0.835 |
| 9 | 0.750 | 560.005 | 0.511 | 0.533 |
| 10 | 0.833 | 622.228 | 0.438 | 0.457 |
| 11 | 0.917 | 684.451 | 0.281 | 0.293 |
| 12 | 1.000 | 746.674 | 0.106 | 0.110 |
| | | | Sum = 100.000 | Sum= 104.208 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.282 | 0.089 | ( 0.254) | 0.193 |
| 2 | 0.17 | 1.30 | 0.282 | 0.089 | ( 0.254) | 0.193 |
| 3 | 0.25 | 1.10 | 0.239 | 0.089 | ( 0.215) | 0.150 |
| 4 | 0.33 | 1.50 | 0.326 | 0.089 | ( 0.293) | 0.237 |
| 5 | 0.42 | 1.50 | 0.326 | 0.089 | ( 0.293) | 0.237 |
| 6 | 0.50 | 1.80 | 0.391 | 0.089 | ( 0.352) | 0.302 |
| 7 | 0.58 | 1.50 | 0.326 | 0.089 | ( 0.293) | 0.237 |
| 8 | 0.67 | 1.80 | 0.391 | 0.089 | ( 0.352) | 0.302 |
| 9 | 0.75 | 1.80 | 0.391 | 0.089 | ( 0.352) | 0.302 |
| 10 | 0.83 | 1.50 | 0.326 | 0.089 | ( 0.293) | 0.237 |
| 11 | 0.92 | 1.60 | 0.347 | 0.089 | ( 0.313) | 0.258 |
| 12 | 1.00 | 1.80 | 0.391 | 0.089 | ( 0.352) | 0.302 |
| 13 | 1.08 | 2.20 | 0.478 | 0.089 | ( 0.430) | 0.389 |
| 14 | 1.17 | 2.20 | 0.478 | 0.089 | ( 0.430) | 0.389 |
| 15 | 1.25 | 2.20 | 0.478 | 0.089 | ( 0.430) | 0.389 |
| 16 | 1.33 | 2.00 | 0.434 | 0.089 | ( 0.391) | 0.345 |
| 17 | 1.42 | 2.60 | 0.564 | 0.089 | ( 0.508) | 0.475 |
| 18 | 1.50 | 2.70 | 0.586 | 0.089 | ( 0.528) | 0.497 |
| 19 | 1.58 | 2.40 | 0.521 | 0.089 | ( 0.469) | 0.432 |
| 20 | 1.67 | 2.70 | 0.586 | 0.089 | ( 0.528) | 0.497 |
| 21 | 1.75 | 3.30 | 0.716 | 0.089 | ( 0.645) | 0.627 |
| 22 | 1.83 | 3.10 | 0.673 | 0.089 | ( 0.606) | 0.584 |
| 23 | 1.92 | 2.90 | 0.630 | 0.089 | ( 0.567) | 0.541 |
| 24 | 2.00 | 3.00 | 0.651 | 0.089 | ( 0.586) | 0.562 |
| 25 | 2.08 | 3.10 | 0.673 | 0.089 | ( 0.606) | 0.584 |
| 26 | 2.17 | 4.20 | 0.912 | 0.089 | ( 0.821) | 0.823 |
| 27 | 2.25 | 5.00 | 1.086 | 0.089 | ( 0.977) | 0.996 |
| 28 | 2.33 | 3.50 | 0.760 | 0.089 | ( 0.684) | 0.671 |
| 29 | 2.42 | 6.80 | 1.476 | 0.089 | ( 1.329) | 1.387 |
| 30 | 2.50 | 7.30 | 1.585 | 0.089 | ( 1.426) | 1.496 |
| 31 | 2.58 | 8.20 | 1.780 | 0.089 | ( 1.602) | 1.691 |
| 32 | 2.67 | 5.90 | 1.281 | 0.089 | ( 1.153) | 1.192 |
| 33 | 2.75 | 2.00 | 0.434 | 0.089 | ( 0.391) | 0.345 |
| 34 | 2.83 | 1.80 | 0.391 | 0.089 | ( 0.352) | 0.302 |
| 35 | 2.92 | 1.80 | 0.391 | 0.089 | ( 0.352) | 0.302 |
| 36 | 3.00 | 0.60 | 0.130 | 0.089 | ( 0.117) | 0.041 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | | Sum = 18.5 |

Flood volume = Effective rainfall 1.54(In)
times area 103.4(Ac.)/[(In)/(Ft.)] = 13.3(Ac.Ft)
Total soil loss = 0.27(In)
Total soil loss = 2.303(Ac.Ft)
Total rainfall = 1.81(In)
Flood volume = 578759.8 Cubic Feet
Total soil loss = 100301.9 Cubic Feet

Peak flow rate of this hydrograph = 148.039(CFS)

3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 50.0 | 100.0 | 150.0 | 200.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0082 | 1.19 | Q | | | | |
| 0+10 | 0.0634 | 8.02 | VQ | | | | |
| 0+15 | 0.1625 | 14.39 | V Q | | | | |
| 0+20 | 0.2714 | 15.81 | V Q | | | | |
| 0+25 | 0.4007 | 18.78 | V Q | | | | |
| 0+30 | 0.5552 | 22.44 | V Q | | | | |
| 0+35 | 0.7311 | 25.54 | V Q | | | | |
| 0+40 | 0.9135 | 26.47 | V Q | | | | |
| 0+45 | 1.1045 | 27.73 | V Q | | | | |
| 0+50 | 1.3074 | 29.46 | V Q | | | | |
| 0+55 | 1.5004 | 28.02 | VQ | | | | |
| 1+ 0 | 1.6878 | 27.21 | Q | | | | |
| 1+ 5 | 1.8904 | 29.42 | Q | | | | |
| 1+10 | 2.1240 | 33.93 | Q | | | | |
| 1+15 | 2.3816 | 37.39 | Q | | | | |
| 1+20 | 2.6468 | 38.50 | Q | | | | |
| 1+25 | 2.9125 | 38.59 | QV | | | | |
| 1+30 | 3.2038 | 42.30 | QV | | | | |
| 1+35 | 3.5262 | 46.81 | QV | | | | |
| 1+40 | 3.8503 | 47.06 | Q V | | | | |
| 1+45 | 4.1879 | 49.02 | Q V | | | | |
| 1+50 | 4.5698 | 55.45 | Q V | | | | |
| 1+55 | 4.9750 | 58.84 | Q V | | | | |
| 2+ 0 | 5.3738 | 57.91 | Q V | | | | |
| 2+ 5 | 5.7727 | 57.92 | Q V | | | | |
| 2+10 | 6.1911 | 60.74 | Q V | | | | |
| 2+15 | 6.6809 | 71.13 | Q V | | | | |
| 2+20 | 7.2577 | 83.75 | Q V | | | | |
| 2+25 | 7.8486 | 85.81 | Q V | | | | |
| 2+30 | 8.5696 | 104.68 | Q V | | | | |
| 2+35 | 9.4826 | 132.57 | Q V | | | | |
| 2+40 | 10.5021 | 148.04 | Q V | | | | |
| 2+45 | 11.4497 | 137.59 | Q V | | | | |
| 2+50 | 12.1114 | 96.08 | Q V | | | | |
| 2+55 | 12.5424 | 62.58 | Q V | | | | |
| 3+ 0 | 12.8655 | 46.91 | Q V | | | | |
| 3+ 5 | 13.0688 | 29.52 | Q V | | | | |
| 3+10 | 13.1693 | 14.59 | Q V | | | | |
| 3+15 | 13.2229 | 7.78 | Q V | | | | |
| 3+20 | 13.2540 | 4.52 | Q V | | | | |
| 3+25 | 13.2711 | 2.48 | Q V | | | | |
| 3+30 | 13.2793 | 1.20 | Q V | | | | |
| 3+35 | 13.2832 | 0.57 | Q V | | | | |
| 3+40 | 13.2852 | 0.29 | Q V | | | | |
| 3+45 | 13.2862 | 0.14 | Q V | | | | |
| 3+50 | 13.2865 | 0.05 | Q V | | | | |
| 3+55 | 13.2865 | 0.00 | Q V | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 04/18/19 File: EX86100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 8
100-YEAR STORM EVENT
BY: JTS, DATE: 04-18-19

---

Drainage Area = 103.40(Ac.) = 0.162 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 103.40(Ac.) = 0.162 Sq. Mi.
Length along longest watercourse = 3982.00(Ft.)
Length along longest watercourse measured to centroid = 1641.00(Ft.)
Length along longest watercourse = 0.754 Mi.
Length along longest watercourse measured to centroid = 0.311 Mi.
Difference in elevation = 652.00(Ft.)
Slope along watercourse = 864.5304 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.134 Hr.
Lag time = 8.04 Min.
25% of lag time = 2.01 Min.
40% of lag time = 3.21 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 103.40 | 1.13 | 116.84 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 103.40 | 2.50 | 258.50 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.130(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 99.96 %
Adjusted average point rain = 2.499(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 103.400 | 83.58 | 0.000 |

Total Area Entered = 103.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.6 | 93.1 | 0.089 | 0.000 | 0.089 | 1.000 | 0.089 |
| | | | | | Sum (F) = | 0.089 |

Area averaged mean soil loss (F) (In/Hr) = 0.089
Minimum soil loss rate ((In/Hr)) = 0.045

(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 62.223 | 5.912 | 6.161 |
| 2 | 0.167 | 124.446 | 33.917 | 35.344 |
| 3 | 0.250 | 186.668 | 32.931 | 34.317 |
| 4 | 0.333 | 248.891 | 12.032 | 12.539 |
| 5 | 0.417 | 311.114 | 6.903 | 7.194 |
| 6 | 0.500 | 373.337 | 4.071 | 4.242 |
| 7 | 0.583 | 435.560 | 2.095 | 2.183 |
| 8 | 0.667 | 497.783 | 0.802 | 0.835 |
| 9 | 0.750 | 560.005 | 0.511 | 0.533 |
| 10 | 0.833 | 622.228 | 0.438 | 0.457 |
| 11 | 0.917 | 684.451 | 0.281 | 0.293 |
| 12 | 1.000 | 746.674 | 0.106 | 0.110 |
| | | | Sum = 100.000 Sum= | 104.208 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.089 | ( | 0.135) | 0.061 |
| 2 | 0.17 | 0.60 | 0.180 | 0.089 | ( | 0.162) | 0.091 |
| 3 | 0.25 | 0.60 | 0.180 | 0.089 | ( | 0.162) | 0.091 |
| 4 | 0.33 | 0.60 | 0.180 | 0.089 | ( | 0.162) | 0.091 |
| 5 | 0.42 | 0.60 | 0.180 | 0.089 | ( | 0.162) | 0.091 |
| 6 | 0.50 | 0.70 | 0.210 | 0.089 | ( | 0.189) | 0.121 |
| 7 | 0.58 | 0.70 | 0.210 | 0.089 | ( | 0.189) | 0.121 |
| 8 | 0.67 | 0.70 | 0.210 | 0.089 | ( | 0.189) | 0.121 |
| 9 | 0.75 | 0.70 | 0.210 | 0.089 | ( | 0.189) | 0.121 |
| 10 | 0.83 | 0.70 | 0.210 | 0.089 | ( | 0.189) | 0.121 |
| 11 | 0.92 | 0.70 | 0.210 | 0.089 | ( | 0.189) | 0.121 |
| 12 | 1.00 | 0.80 | 0.240 | 0.089 | ( | 0.216) | 0.151 |
| 13 | 1.08 | 0.80 | 0.240 | 0.089 | ( | 0.216) | 0.151 |
| 14 | 1.17 | 0.80 | 0.240 | 0.089 | ( | 0.216) | 0.151 |
| 15 | 1.25 | 0.80 | 0.240 | 0.089 | ( | 0.216) | 0.151 |
| 16 | 1.33 | 0.80 | 0.240 | 0.089 | ( | 0.216) | 0.151 |
| 17 | 1.42 | 0.80 | 0.240 | 0.089 | ( | 0.216) | 0.151 |
| 18 | 1.50 | 0.80 | 0.240 | 0.089 | ( | 0.216) | 0.151 |
| 19 | 1.58 | 0.80 | 0.240 | 0.089 | ( | 0.216) | 0.151 |
| 20 | 1.67 | 0.80 | 0.240 | 0.089 | ( | 0.216) | 0.151 |
| 21 | 1.75 | 0.80 | 0.240 | 0.089 | ( | 0.216) | 0.151 |
| 22 | 1.83 | 0.80 | 0.240 | 0.089 | ( | 0.216) | 0.151 |
| 23 | 1.92 | 0.80 | 0.240 | 0.089 | ( | 0.216) | 0.151 |
| 24 | 2.00 | 0.90 | 0.270 | 0.089 | ( | 0.243) | 0.181 |
| 25 | 2.08 | 0.80 | 0.240 | 0.089 | ( | 0.216) | 0.151 |
| 26 | 2.17 | 0.90 | 0.270 | 0.089 | ( | 0.243) | 0.181 |
| 27 | 2.25 | 0.90 | 0.270 | 0.089 | ( | 0.243) | 0.181 |
| 28 | 2.33 | 0.90 | 0.270 | 0.089 | ( | 0.243) | 0.181 |
| 29 | 2.42 | 0.90 | 0.270 | 0.089 | ( | 0.243) | 0.181 |
| 30 | 2.50 | 0.90 | 0.270 | 0.089 | ( | 0.243) | 0.181 |
| 31 | 2.58 | 0.90 | 0.270 | 0.089 | ( | 0.243) | 0.181 |
| 32 | 2.67 | 0.90 | 0.270 | 0.089 | ( | 0.243) | 0.181 |
| 33 | 2.75 | 1.00 | 0.300 | 0.089 | ( | 0.270) | 0.211 |
| 34 | 2.83 | 1.00 | 0.300 | 0.089 | ( | 0.270) | 0.211 |
| 35 | 2.92 | 1.00 | 0.300 | 0.089 | ( | 0.270) | 0.211 |
| 36 | 3.00 | 1.00 | 0.300 | 0.089 | ( | 0.270) | 0.211 |
| 37 | 3.08 | 1.00 | 0.300 | 0.089 | ( | 0.270) | 0.211 |
| 38 | 3.17 | 1.10 | 0.330 | 0.089 | ( | 0.297) | 0.241 |
| 39 | 3.25 | 1.10 | 0.330 | 0.089 | ( | 0.297) | 0.241 |
| 40 | 3.33 | 1.10 | 0.330 | 0.089 | ( | 0.297) | 0.241 |
| 41 | 3.42 | 1.20 | 0.360 | 0.089 | ( | 0.324) | 0.271 |
| 42 | 3.50 | 1.30 | 0.390 | 0.089 | ( | 0.351) | 0.301 |
| 43 | 3.58 | 1.40 | 0.420 | 0.089 | ( | 0.378) | 0.331 |
| 44 | 3.67 | 1.40 | 0.420 | 0.089 | ( | 0.378) | 0.331 |
| 45 | 3.75 | 1.50 | 0.450 | 0.089 | ( | 0.405) | 0.361 |
| 46 | 3.83 | 1.50 | 0.450 | 0.089 | ( | 0.405) | 0.361 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 47 | 3.92 | 1.60 | 0.480 | 0.089 | ( 0.432) | 0.391 |
| 48 | 4.00 | 1.60 | 0.480 | 0.089 | ( 0.432) | 0.391 |
| 49 | 4.08 | 1.70 | 0.510 | 0.089 | ( 0.459) | 0.421 |
| 50 | 4.17 | 1.80 | 0.540 | 0.089 | ( 0.486) | 0.451 |
| 51 | 4.25 | 1.90 | 0.570 | 0.089 | ( 0.513) | 0.481 |
| 52 | 4.33 | 2.00 | 0.600 | 0.089 | ( 0.540) | 0.511 |
| 53 | 4.42 | 2.10 | 0.630 | 0.089 | ( 0.567) | 0.541 |
| 54 | 4.50 | 2.10 | 0.630 | 0.089 | ( 0.567) | 0.541 |
| 55 | 4.58 | 2.20 | 0.660 | 0.089 | ( 0.594) | 0.571 |
| 56 | 4.67 | 2.30 | 0.690 | 0.089 | ( 0.621) | 0.601 |
| 57 | 4.75 | 2.40 | 0.720 | 0.089 | ( 0.648) | 0.631 |
| 58 | 4.83 | 2.40 | 0.720 | 0.089 | ( 0.648) | 0.631 |
| 59 | 4.92 | 2.50 | 0.750 | 0.089 | ( 0.675) | 0.661 |
| 60 | 5.00 | 2.60 | 0.780 | 0.089 | ( 0.702) | 0.691 |
| 61 | 5.08 | 3.10 | 0.930 | 0.089 | ( 0.837) | 0.841 |
| 62 | 5.17 | 3.60 | 1.080 | 0.089 | ( 0.972) | 0.991 |
| 63 | 5.25 | 3.90 | 1.170 | 0.089 | ( 1.053) | 1.081 |
| 64 | 5.33 | 4.20 | 1.260 | 0.089 | ( 1.134) | 1.170 |
| 65 | 5.42 | 4.70 | 1.409 | 0.089 | ( 1.269) | 1.320 |
| 66 | 5.50 | 5.60 | 1.679 | 0.089 | ( 1.511) | 1.590 |
| 67 | 5.58 | 1.90 | 0.570 | 0.089 | ( 0.513) | 0.481 |
| 68 | 5.67 | 0.90 | 0.270 | 0.089 | ( 0.243) | 0.181 |
| 69 | 5.75 | 0.60 | 0.180 | 0.089 | ( 0.162) | 0.091 |
| 70 | 5.83 | 0.50 | 0.150 | 0.089 | ( 0.135) | 0.061 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.089) | 0.081 | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.089) | 0.054 | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.6

Flood volume = Effective rainfall 1.97(In)
times area 103.4(Ac.)/[(In)/(Ft.)] = 17.0(Ac.Ft)
Total soil loss = 0.53(In)
Total soil loss = 4.574(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 738768.9 Cubic Feet
Total soil loss = 199252.6 Cubic Feet

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Peak flow rate of this hydrograph = 134.507(CFS)

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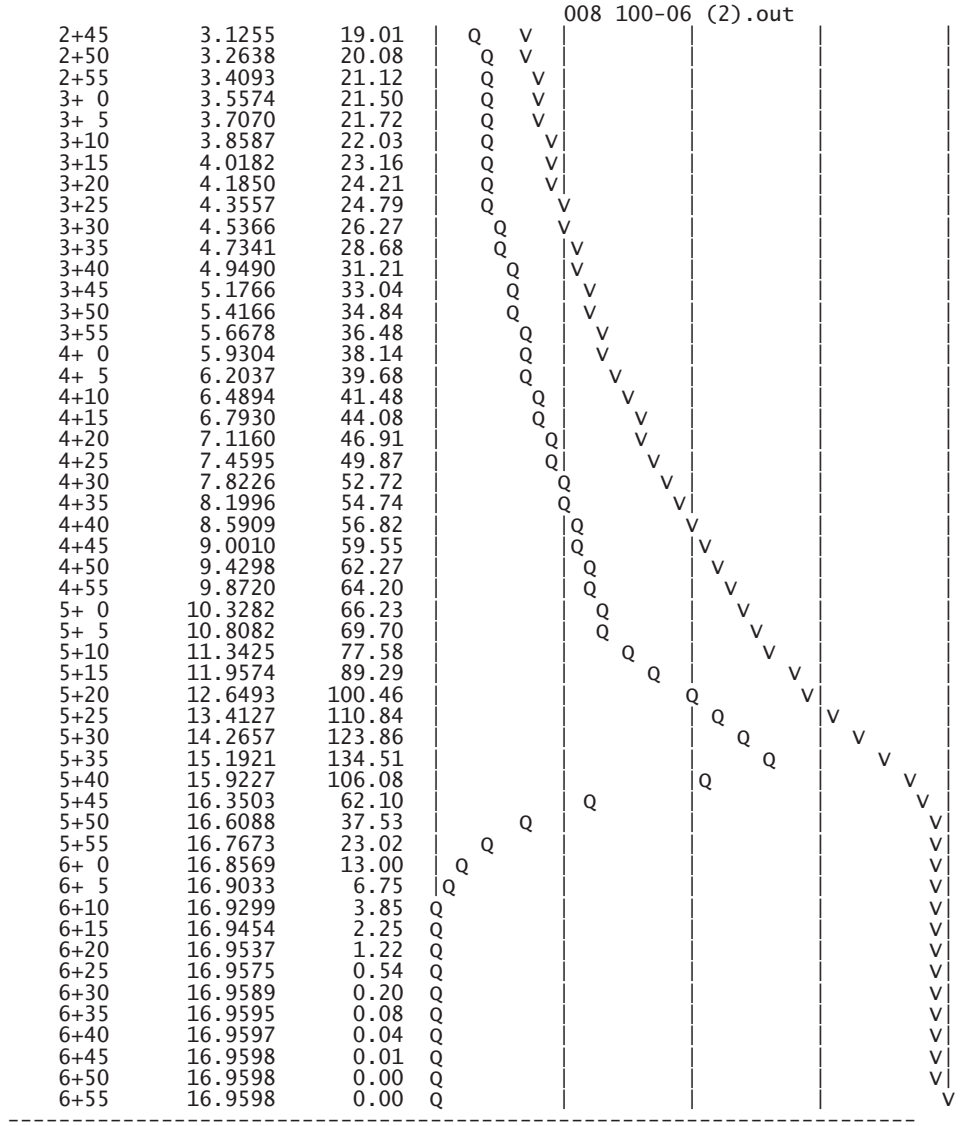
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 50.0 | 100.0 | 150.0 | 200.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0026 | 0.38 | Q | | | | |
| 0+10 | 0.0213 | 2.71 | Q | | | | |
| 0+15 | 0.0616 | 5.86 | VQ | | | | |
| 0+20 | 0.1144 | 7.66 | VQ | | | | |
| 0+25 | 0.1727 | 8.47 | VQ | | | | |
| 0+30 | 0.2356 | 9.13 | VQ | | | | |
| 0+35 | 0.3076 | 10.45 | V Q | | | | |
| 0+40 | 0.3874 | 11.60 | V Q | | | | |
| 0+45 | 0.4703 | 12.03 | VQ | | | | |
| 0+50 | 0.5549 | 12.29 | VQ | | | | |
| 0+55 | 0.6407 | 12.45 | VQ | | | | |
| 1+ 0 | 0.7282 | 12.71 | VQ | | | | |
| 1+ 5 | 0.8233 | 13.80 | VQ | | | | |
| 1+10 | 0.9256 | 14.85 | Q | | | | |
| 1+15 | 1.0305 | 15.24 | VQ | | | | |
| 1+20 | 1.1370 | 15.46 | VQ | | | | |
| 1+25 | 1.2444 | 15.59 | VQ | | | | |
| 1+30 | 1.3523 | 15.66 | Q | | | | |
| 1+35 | 1.4603 | 15.68 | Q | | | | |
| 1+40 | 1.5684 | 15.70 | Q | | | | |
| 1+45 | 1.6766 | 15.71 | Q | | | | |
| 1+50 | 1.7849 | 15.72 | QV | | | | |
| 1+55 | 1.8932 | 15.73 | QV | | | | |
| 2+ 0 | 2.0028 | 15.91 | QV | | | | |
| 2+ 5 | 2.1184 | 16.79 | QV | | | | |
| 2+10 | 2.2351 | 16.94 | Q V | | | | |
| 2+15 | 2.3546 | 17.35 | Q V | | | | |
| 2+20 | 2.4801 | 18.22 | Q V | | | | |
| 2+25 | 2.6075 | 18.51 | Q V | | | | |
| 2+30 | 2.7360 | 18.66 | Q V | | | | |
| 2+35 | 2.8651 | 18.75 | Q V | | | | |
| 2+40 | 2.9946 | 18.80 | Q V | | | | |



| | | | |
|---|---|---|---|
| 2+45 | 3.1255 | 19.01 | |
| 2+50 | 3.2638 | 20.08 | |
| 2+55 | 3.4093 | 21.12 | |
| 3+ 0 | 3.5574 | 21.50 | |
| 3+ 5 | 3.7070 | 21.72 | |
| 3+10 | 3.8587 | 22.03 | |
| 3+15 | 4.0182 | 23.16 | |
| 3+20 | 4.1850 | 24.21 | |
| 3+25 | 4.3557 | 24.79 | |
| 3+30 | 4.5366 | 26.27 | |
| 3+35 | 4.7341 | 28.68 | |
| 3+40 | 4.9490 | 31.21 | |
| 3+45 | 5.1766 | 33.04 | |
| 3+50 | 5.4166 | 34.84 | |
| 3+55 | 5.6678 | 36.48 | |
| 4+ 0 | 5.9304 | 38.14 | |
| 4+ 5 | 6.2037 | 39.68 | |
| 4+10 | 6.4894 | 41.48 | |
| 4+15 | 6.7930 | 44.08 | |
| 4+20 | 7.1160 | 46.91 | |
| 4+25 | 7.4595 | 49.87 | |
| 4+30 | 7.8226 | 52.72 | |
| 4+35 | 8.1996 | 54.74 | |
| 4+40 | 8.5909 | 56.82 | |
| 4+45 | 9.0010 | 59.55 | |
| 4+50 | 9.4298 | 62.27 | |
| 4+55 | 9.8720 | 64.20 | |
| 5+ 0 | 10.3282 | 66.23 | |
| 5+ 5 | 10.8082 | 69.70 | |
| 5+10 | 11.3425 | 77.58 | |
| 5+15 | 11.9574 | 89.29 | |
| 5+20 | 12.6493 | 100.46 | |
| 5+25 | 13.4127 | 110.84 | |
| 5+30 | 14.2657 | 123.86 | |
| 5+35 | 15.1921 | 134.51 | |
| 5+40 | 15.9227 | 106.08 | |
| 5+45 | 16.3503 | 62.10 | |
| 5+50 | 16.6088 | 37.53 | |
| 5+55 | 16.7673 | 23.02 | |
| 6+ 0 | 16.8569 | 13.00 | |
| 6+ 5 | 16.9033 | 6.75 | |
| 6+10 | 16.9299 | 3.85 | |
| 6+15 | 16.9454 | 2.25 | |
| 6+20 | 16.9537 | 1.22 | |
| 6+25 | 16.9575 | 0.54 | |
| 6+30 | 16.9589 | 0.20 | |
| 6+35 | 16.9595 | 0.08 | |
| 6+40 | 16.9597 | 0.04 | |
| 6+45 | 16.9598 | 0.01 | |
| 6+50 | 16.9598 | 0.00 | |
| 6+55 | 16.9598 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 04/18/19 File: EX824100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 8
100-YEAR STORM EVENT
BY: JTS, DATE: 04-18-19

---

Drainage Area = 103.40(Ac.) = 0.162 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 103.40(Ac.) = 0.162 Sq. Mi.
Length along longest watercourse = 3982.00(Ft.)
Length along longest watercourse measured to centroid = 1641.00(Ft.)
Length along longest watercourse = 0.754 Mi.
Length along longest watercourse measured to centroid = 0.311 Mi.
Difference in elevation = 652.00(Ft.)
Slope along watercourse = 864.5304 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.134 Hr.
Lag time = 8.04 Min.
25% of lag time = 2.01 Min.
40% of lag time = 3.21 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 103.40 | 1.80 | 186.12 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 103.40 | 4.63 | 478.74 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.630(In)

Point rain (area averaged) = 4.630(In)
Areal adjustment factor = 99.98 %
Adjusted average point rain = 4.629(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 103.400 | 83.58 | 0.000 |

Total Area Entered = 103.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.6 | 93.1 | 0.089 | 0.000 | 0.089 | 1.000 | 0.089 |
| | | | | | Sum (F) = | 0.089 |

Area averaged mean soil loss (F) (In/Hr) = 0.089
Minimum soil loss rate ((In/Hr)) = 0.045

(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 62.223 | 5.912 | 6.161 |
| 2 | 0.167 | 124.446 | 33.917 | 35.344 |
| 3 | 0.250 | 186.668 | 32.931 | 34.317 |
| 4 | 0.333 | 248.891 | 12.032 | 12.539 |
| 5 | 0.417 | 311.114 | 6.903 | 7.194 |
| 6 | 0.500 | 373.337 | 4.071 | 4.242 |
| 7 | 0.583 | 435.560 | 2.095 | 2.183 |
| 8 | 0.667 | 497.783 | 0.802 | 0.835 |
| 9 | 0.750 | 560.005 | 0.511 | 0.533 |
| 10 | 0.833 | 622.228 | 0.438 | 0.457 |
| 11 | 0.917 | 684.451 | 0.281 | 0.293 |
| 12 | 1.000 | 746.674 | 0.106 | 0.110 |
| | | | Sum = 100.000 Sum= | 104.208 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.037 | ( 0.158) | | 0.033 | 0.004 |
| 2 | 0.17 | 0.07 | 0.037 | ( 0.157) | | 0.033 | 0.004 |
| 3 | 0.25 | 0.07 | 0.037 | ( 0.157) | | 0.033 | 0.004 |
| 4 | 0.33 | 0.10 | 0.056 | ( 0.156) | | 0.050 | 0.006 |
| 5 | 0.42 | 0.10 | 0.056 | ( 0.155) | | 0.050 | 0.006 |
| 6 | 0.50 | 0.10 | 0.056 | ( 0.155) | | 0.050 | 0.006 |
| 7 | 0.58 | 0.10 | 0.056 | ( 0.154) | | 0.050 | 0.006 |
| 8 | 0.67 | 0.10 | 0.056 | ( 0.154) | | 0.050 | 0.006 |
| 9 | 0.75 | 0.10 | 0.056 | ( 0.153) | | 0.050 | 0.006 |
| 10 | 0.83 | 0.13 | 0.074 | ( 0.152) | | 0.067 | 0.007 |
| 11 | 0.92 | 0.13 | 0.074 | ( 0.152) | | 0.067 | 0.007 |
| 12 | 1.00 | 0.13 | 0.074 | ( 0.151) | | 0.067 | 0.007 |
| 13 | 1.08 | 0.10 | 0.056 | ( 0.151) | | 0.050 | 0.006 |
| 14 | 1.17 | 0.10 | 0.056 | ( 0.150) | | 0.050 | 0.006 |
| 15 | 1.25 | 0.10 | 0.056 | ( 0.149) | | 0.050 | 0.006 |
| 16 | 1.33 | 0.10 | 0.056 | ( 0.149) | | 0.050 | 0.006 |
| 17 | 1.42 | 0.10 | 0.056 | ( 0.148) | | 0.050 | 0.006 |
| 18 | 1.50 | 0.10 | 0.056 | ( 0.148) | | 0.050 | 0.006 |
| 19 | 1.58 | 0.10 | 0.056 | ( 0.147) | | 0.050 | 0.006 |
| 20 | 1.67 | 0.10 | 0.056 | ( 0.147) | | 0.050 | 0.006 |
| 21 | 1.75 | 0.10 | 0.056 | ( 0.146) | | 0.050 | 0.006 |
| 22 | 1.83 | 0.13 | 0.074 | ( 0.145) | | 0.067 | 0.007 |
| 23 | 1.92 | 0.13 | 0.074 | ( 0.145) | | 0.067 | 0.007 |
| 24 | 2.00 | 0.13 | 0.074 | ( 0.144) | | 0.067 | 0.007 |
| 25 | 2.08 | 0.13 | 0.074 | ( 0.144) | | 0.067 | 0.007 |
| 26 | 2.17 | 0.13 | 0.074 | ( 0.143) | | 0.067 | 0.007 |
| 27 | 2.25 | 0.13 | 0.074 | ( 0.142) | | 0.067 | 0.007 |
| 28 | 2.33 | 0.13 | 0.074 | ( 0.142) | | 0.067 | 0.007 |
| 29 | 2.42 | 0.13 | 0.074 | ( 0.141) | | 0.067 | 0.007 |
| 30 | 2.50 | 0.13 | 0.074 | ( 0.141) | | 0.067 | 0.007 |
| 31 | 2.58 | 0.17 | 0.093 | ( 0.140) | | 0.083 | 0.009 |
| 32 | 2.67 | 0.17 | 0.093 | ( 0.140) | | 0.083 | 0.009 |
| 33 | 2.75 | 0.17 | 0.093 | ( 0.139) | | 0.083 | 0.009 |
| 34 | 2.83 | 0.17 | 0.093 | ( 0.138) | | 0.083 | 0.009 |
| 35 | 2.92 | 0.17 | 0.093 | ( 0.138) | | 0.083 | 0.009 |
| 36 | 3.00 | 0.17 | 0.093 | ( 0.137) | | 0.083 | 0.009 |
| 37 | 3.08 | 0.17 | 0.093 | ( 0.137) | | 0.083 | 0.009 |
| 38 | 3.17 | 0.17 | 0.093 | ( 0.136) | | 0.083 | 0.009 |
| 39 | 3.25 | 0.17 | 0.093 | ( 0.136) | | 0.083 | 0.009 |
| 40 | 3.33 | 0.17 | 0.093 | ( 0.135) | | 0.083 | 0.009 |
| 41 | 3.42 | 0.17 | 0.093 | ( 0.134) | | 0.083 | 0.009 |
| 42 | 3.50 | 0.17 | 0.093 | ( 0.134) | | 0.083 | 0.009 |
| 43 | 3.58 | 0.17 | 0.093 | ( 0.133) | | 0.083 | 0.009 |
| 44 | 3.67 | 0.17 | 0.093 | ( 0.133) | | 0.083 | 0.009 |
| 45 | 3.75 | 0.17 | 0.093 | ( 0.132) | | 0.083 | 0.009 |
| 46 | 3.83 | 0.20 | 0.111 | ( 0.132) | | 0.100 | 0.011 |

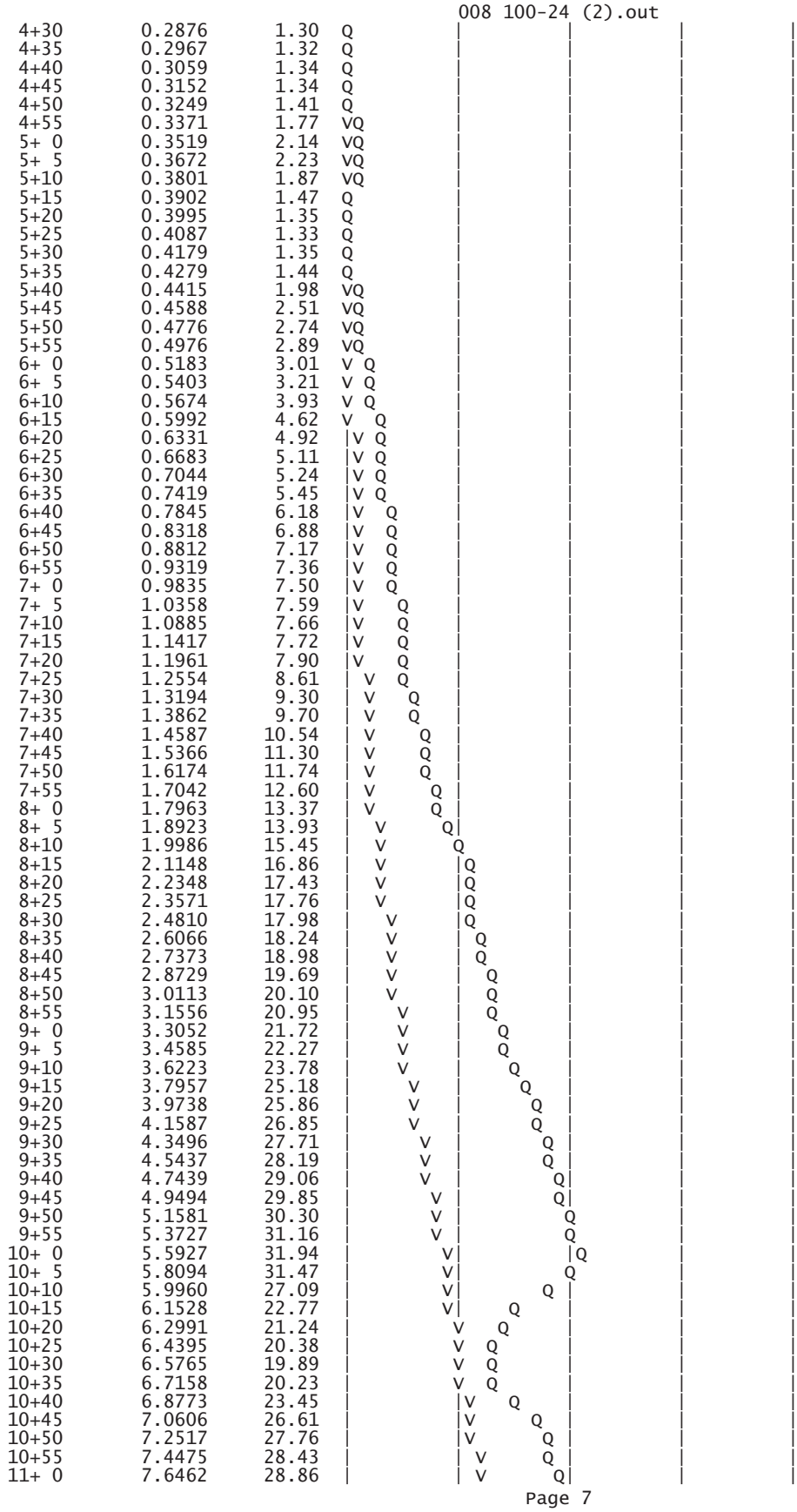
| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 47 | 3.92 | 0.20 | 0.111 | ( | 0.131) | 0.100 | | 0.011 |
| 48 | 4.00 | 0.20 | 0.111 | ( | 0.131) | 0.100 | | 0.011 |
| 49 | 4.08 | 0.20 | 0.111 | ( | 0.130) | 0.100 | | 0.011 |
| 50 | 4.17 | 0.20 | 0.111 | ( | 0.129) | 0.100 | | 0.011 |
| 51 | 4.25 | 0.20 | 0.111 | ( | 0.129) | 0.100 | | 0.011 |
| 52 | 4.33 | 0.23 | 0.130 | ( | 0.128) | 0.117 | | 0.013 |
| 53 | 4.42 | 0.23 | 0.130 | ( | 0.128) | 0.117 | | 0.013 |
| 54 | 4.50 | 0.23 | 0.130 | ( | 0.127) | 0.117 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.130 | ( | 0.127) | 0.117 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.130 | ( | 0.126) | 0.117 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.130 | ( | 0.126) | 0.117 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.148 | | 0.125 | ( | 0.133) | 0.023 |
| 59 | 4.92 | 0.27 | 0.148 | | 0.124 | ( | 0.133) | 0.024 |
| 60 | 5.00 | 0.27 | 0.148 | | 0.124 | ( | 0.133) | 0.024 |
| 61 | 5.08 | 0.20 | 0.111 | ( | 0.123) | 0.100 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.111 | ( | 0.123) | 0.100 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.111 | ( | 0.122) | 0.100 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.130 | ( | 0.122) | 0.117 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.130 | ( | 0.121) | 0.117 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.130 | ( | 0.121) | 0.117 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.148 | | 0.120 | ( | 0.133) | 0.028 |
| 68 | 5.67 | 0.27 | 0.148 | | 0.120 | ( | 0.133) | 0.028 |
| 69 | 5.75 | 0.27 | 0.148 | | 0.119 | ( | 0.133) | 0.029 |
| 70 | 5.83 | 0.27 | 0.148 | | 0.119 | ( | 0.133) | 0.030 |
| 71 | 5.92 | 0.27 | 0.148 | | 0.118 | ( | 0.133) | 0.030 |
| 72 | 6.00 | 0.27 | 0.148 | | 0.118 | ( | 0.133) | 0.031 |
| 73 | 6.08 | 0.30 | 0.167 | | 0.117 | ( | 0.150) | 0.050 |
| 74 | 6.17 | 0.30 | 0.167 | | 0.117 | ( | 0.150) | 0.050 |
| 75 | 6.25 | 0.30 | 0.167 | | 0.116 | ( | 0.150) | 0.051 |
| 76 | 6.33 | 0.30 | 0.167 | | 0.115 | ( | 0.150) | 0.051 |
| 77 | 6.42 | 0.30 | 0.167 | | 0.115 | ( | 0.150) | 0.052 |
| 78 | 6.50 | 0.30 | 0.167 | | 0.114 | ( | 0.150) | 0.052 |
| 79 | 6.58 | 0.33 | 0.185 | | 0.114 | ( | 0.167) | 0.071 |
| 80 | 6.67 | 0.33 | 0.185 | | 0.113 | ( | 0.167) | 0.072 |
| 81 | 6.75 | 0.33 | 0.185 | | 0.113 | ( | 0.167) | 0.072 |
| 82 | 6.83 | 0.33 | 0.185 | | 0.112 | ( | 0.167) | 0.073 |
| 83 | 6.92 | 0.33 | 0.185 | | 0.112 | ( | 0.167) | 0.073 |
| 84 | 7.00 | 0.33 | 0.185 | | 0.111 | ( | 0.167) | 0.074 |
| 85 | 7.08 | 0.33 | 0.185 | | 0.111 | ( | 0.167) | 0.074 |
| 86 | 7.17 | 0.33 | 0.185 | | 0.110 | ( | 0.167) | 0.075 |
| 87 | 7.25 | 0.33 | 0.185 | | 0.110 | ( | 0.167) | 0.075 |
| 88 | 7.33 | 0.37 | 0.204 | | 0.109 | ( | 0.183) | 0.094 |
| 89 | 7.42 | 0.37 | 0.204 | | 0.109 | ( | 0.183) | 0.095 |
| 90 | 7.50 | 0.37 | 0.204 | | 0.108 | ( | 0.183) | 0.095 |
| 91 | 7.58 | 0.40 | 0.222 | | 0.108 | ( | 0.200) | 0.114 |
| 92 | 7.67 | 0.40 | 0.222 | | 0.107 | ( | 0.200) | 0.115 |
| 93 | 7.75 | 0.40 | 0.222 | | 0.107 | ( | 0.200) | 0.115 |
| 94 | 7.83 | 0.43 | 0.241 | | 0.106 | ( | 0.217) | 0.134 |
| 95 | 7.92 | 0.43 | 0.241 | | 0.106 | ( | 0.217) | 0.135 |
| 96 | 8.00 | 0.43 | 0.241 | | 0.105 | ( | 0.217) | 0.135 |
| 97 | 8.08 | 0.50 | 0.278 | | 0.105 | ( | 0.250) | 0.173 |
| 98 | 8.17 | 0.50 | 0.278 | | 0.104 | ( | 0.250) | 0.173 |
| 99 | 8.25 | 0.50 | 0.278 | | 0.104 | ( | 0.250) | 0.174 |
| 100 | 8.33 | 0.50 | 0.278 | | 0.103 | ( | 0.250) | 0.174 |
| 101 | 8.42 | 0.50 | 0.278 | | 0.103 | ( | 0.250) | 0.175 |
| 102 | 8.50 | 0.50 | 0.278 | | 0.103 | ( | 0.250) | 0.175 |
| 103 | 8.58 | 0.53 | 0.296 | | 0.102 | ( | 0.267) | 0.194 |
| 104 | 8.67 | 0.53 | 0.296 | | 0.102 | ( | 0.267) | 0.195 |
| 105 | 8.75 | 0.53 | 0.296 | | 0.101 | ( | 0.267) | 0.195 |
| 106 | 8.83 | 0.57 | 0.315 | | 0.101 | ( | 0.283) | 0.214 |
| 107 | 8.92 | 0.57 | 0.315 | | 0.100 | ( | 0.283) | 0.215 |
| 108 | 9.00 | 0.57 | 0.315 | | 0.100 | ( | 0.283) | 0.215 |
| 109 | 9.08 | 0.63 | 0.352 | | 0.099 | ( | 0.317) | 0.253 |
| 110 | 9.17 | 0.63 | 0.352 | | 0.099 | ( | 0.317) | 0.253 |
| 111 | 9.25 | 0.63 | 0.352 | | 0.098 | ( | 0.317) | 0.254 |
| 112 | 9.33 | 0.67 | 0.370 | | 0.098 | ( | 0.333) | 0.273 |
| 113 | 9.42 | 0.67 | 0.370 | | 0.097 | ( | 0.333) | 0.273 |
| 114 | 9.50 | 0.67 | 0.370 | | 0.097 | ( | 0.333) | 0.274 |
| 115 | 9.58 | 0.70 | 0.389 | | 0.096 | ( | 0.350) | 0.292 |
| 116 | 9.67 | 0.70 | 0.389 | | 0.096 | ( | 0.350) | 0.293 |
| 117 | 9.75 | 0.70 | 0.389 | | 0.095 | ( | 0.350) | 0.293 |
| 118 | 9.83 | 0.73 | 0.407 | | 0.095 | ( | 0.367) | 0.312 |
| 119 | 9.92 | 0.73 | 0.407 | | 0.095 | ( | 0.367) | 0.313 |
| 120 | 10.00 | 0.73 | 0.407 | | 0.094 | ( | 0.367) | 0.313 |
| 121 | 10.08 | 0.50 | 0.278 | | 0.094 | ( | 0.250) | 0.184 |
| 122 | 10.17 | 0.50 | 0.278 | | 0.093 | ( | 0.250) | 0.185 |
| 123 | 10.25 | 0.50 | 0.278 | | 0.093 | ( | 0.250) | 0.185 |
| 124 | 10.33 | 0.50 | 0.278 | | 0.092 | ( | 0.250) | 0.185 |
| 125 | 10.42 | 0.50 | 0.278 | | 0.092 | ( | 0.250) | 0.186 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 126 | 10.50 | 0.50 | 0.278 | 0.091 | ( 0.250) | 0.186 |
| 127 | 10.58 | 0.67 | 0.370 | 0.091 | ( 0.333) | 0.279 |
| 128 | 10.67 | 0.67 | 0.370 | 0.090 | ( 0.333) | 0.280 |
| 129 | 10.75 | 0.67 | 0.370 | 0.090 | ( 0.333) | 0.280 |
| 130 | 10.83 | 0.67 | 0.370 | 0.090 | ( 0.333) | 0.281 |
| 131 | 10.92 | 0.67 | 0.370 | 0.089 | ( 0.333) | 0.281 |
| 132 | 11.00 | 0.67 | 0.370 | 0.089 | ( 0.333) | 0.282 |
| 133 | 11.08 | 0.63 | 0.352 | 0.088 | ( 0.317) | 0.264 |
| 134 | 11.17 | 0.63 | 0.352 | 0.088 | ( 0.317) | 0.264 |
| 135 | 11.25 | 0.63 | 0.352 | 0.087 | ( 0.317) | 0.264 |
| 136 | 11.33 | 0.63 | 0.352 | 0.087 | ( 0.317) | 0.265 |
| 137 | 11.42 | 0.63 | 0.352 | 0.087 | ( 0.317) | 0.265 |
| 138 | 11.50 | 0.63 | 0.352 | 0.086 | ( 0.317) | 0.266 |
| 139 | 11.58 | 0.57 | 0.315 | 0.086 | ( 0.283) | 0.229 |
| 140 | 11.67 | 0.57 | 0.315 | 0.085 | ( 0.283) | 0.230 |
| 141 | 11.75 | 0.57 | 0.315 | 0.085 | ( 0.283) | 0.230 |
| 142 | 11.83 | 0.60 | 0.333 | 0.084 | ( 0.300) | 0.249 |
| 143 | 11.92 | 0.60 | 0.333 | 0.084 | ( 0.300) | 0.249 |
| 144 | 12.00 | 0.60 | 0.333 | 0.084 | ( 0.300) | 0.250 |
| 145 | 12.08 | 0.83 | 0.463 | 0.083 | ( 0.417) | 0.380 |
| 146 | 12.17 | 0.83 | 0.463 | 0.083 | ( 0.417) | 0.380 |
| 147 | 12.25 | 0.83 | 0.463 | 0.082 | ( 0.417) | 0.381 |
| 148 | 12.33 | 0.87 | 0.481 | 0.082 | ( 0.433) | 0.400 |
| 149 | 12.42 | 0.87 | 0.481 | 0.081 | ( 0.433) | 0.400 |
| 150 | 12.50 | 0.87 | 0.481 | 0.081 | ( 0.433) | 0.400 |
| 151 | 12.58 | 0.93 | 0.518 | 0.081 | ( 0.467) | 0.438 |
| 152 | 12.67 | 0.93 | 0.518 | 0.080 | ( 0.467) | 0.438 |
| 153 | 12.75 | 0.93 | 0.518 | 0.080 | ( 0.467) | 0.439 |
| 154 | 12.83 | 0.97 | 0.537 | 0.079 | ( 0.483) | 0.458 |
| 155 | 12.92 | 0.97 | 0.537 | 0.079 | ( 0.483) | 0.458 |
| 156 | 13.00 | 0.97 | 0.537 | 0.079 | ( 0.483) | 0.458 |
| 157 | 13.08 | 1.13 | 0.630 | 0.078 | ( 0.567) | 0.551 |
| 158 | 13.17 | 1.13 | 0.630 | 0.078 | ( 0.567) | 0.552 |
| 159 | 13.25 | 1.13 | 0.630 | 0.077 | ( 0.567) | 0.552 |
| 160 | 13.33 | 1.13 | 0.630 | 0.077 | ( 0.567) | 0.552 |
| 161 | 13.42 | 1.13 | 0.630 | 0.077 | ( 0.567) | 0.553 |
| 162 | 13.50 | 1.13 | 0.630 | 0.076 | ( 0.567) | 0.553 |
| 163 | 13.58 | 0.77 | 0.426 | 0.076 | ( 0.383) | 0.350 |
| 164 | 13.67 | 0.77 | 0.426 | 0.076 | ( 0.383) | 0.350 |
| 165 | 13.75 | 0.77 | 0.426 | 0.075 | ( 0.383) | 0.351 |
| 166 | 13.83 | 0.77 | 0.426 | 0.075 | ( 0.383) | 0.351 |
| 167 | 13.92 | 0.77 | 0.426 | 0.074 | ( 0.383) | 0.352 |
| 168 | 14.00 | 0.77 | 0.426 | 0.074 | ( 0.383) | 0.352 |
| 169 | 14.08 | 0.90 | 0.500 | 0.074 | ( 0.450) | 0.426 |
| 170 | 14.17 | 0.90 | 0.500 | 0.073 | ( 0.450) | 0.427 |
| 171 | 14.25 | 0.90 | 0.500 | 0.073 | ( 0.450) | 0.427 |
| 172 | 14.33 | 0.87 | 0.481 | 0.072 | ( 0.433) | 0.409 |
| 173 | 14.42 | 0.87 | 0.481 | 0.072 | ( 0.433) | 0.409 |
| 174 | 14.50 | 0.87 | 0.481 | 0.072 | ( 0.433) | 0.410 |
| 175 | 14.58 | 0.87 | 0.481 | 0.071 | ( 0.433) | 0.410 |
| 176 | 14.67 | 0.87 | 0.481 | 0.071 | ( 0.433) | 0.410 |
| 177 | 14.75 | 0.87 | 0.481 | 0.071 | ( 0.433) | 0.411 |
| 178 | 14.83 | 0.83 | 0.463 | 0.070 | ( 0.417) | 0.393 |
| 179 | 14.92 | 0.83 | 0.463 | 0.070 | ( 0.417) | 0.393 |
| 180 | 15.00 | 0.83 | 0.463 | 0.070 | ( 0.417) | 0.393 |
| 181 | 15.08 | 0.80 | 0.444 | 0.069 | ( 0.400) | 0.375 |
| 182 | 15.17 | 0.80 | 0.444 | 0.069 | ( 0.400) | 0.376 |
| 183 | 15.25 | 0.80 | 0.444 | 0.069 | ( 0.400) | 0.376 |
| 184 | 15.33 | 0.77 | 0.426 | 0.068 | ( 0.383) | 0.358 |
| 185 | 15.42 | 0.77 | 0.426 | 0.068 | ( 0.383) | 0.358 |
| 186 | 15.50 | 0.77 | 0.426 | 0.067 | ( 0.383) | 0.358 |
| 187 | 15.58 | 0.63 | 0.352 | 0.067 | ( 0.317) | 0.285 |
| 188 | 15.67 | 0.63 | 0.352 | 0.067 | ( 0.317) | 0.285 |
| 189 | 15.75 | 0.63 | 0.352 | 0.066 | ( 0.317) | 0.285 |
| 190 | 15.83 | 0.63 | 0.352 | 0.066 | ( 0.317) | 0.286 |
| 191 | 15.92 | 0.63 | 0.352 | 0.066 | ( 0.317) | 0.286 |
| 192 | 16.00 | 0.63 | 0.352 | 0.065 | ( 0.317) | 0.286 |
| 193 | 16.08 | 0.13 | 0.074 | 0.065 | ( 0.067) | 0.009 |
| 194 | 16.17 | 0.13 | 0.074 | 0.065 | ( 0.067) | 0.009 |
| 195 | 16.25 | 0.13 | 0.074 | 0.064 | ( 0.067) | 0.010 |
| 196 | 16.33 | 0.13 | 0.074 | 0.064 | ( 0.067) | 0.010 |
| 197 | 16.42 | 0.13 | 0.074 | 0.064 | ( 0.067) | 0.010 |
| 198 | 16.50 | 0.13 | 0.074 | 0.063 | ( 0.067) | 0.011 |
| 199 | 16.58 | 0.10 | 0.056 | ( 0.063) | 0.050 | 0.006 |
| 200 | 16.67 | 0.10 | 0.056 | ( 0.063) | 0.050 | 0.006 |
| 201 | 16.75 | 0.10 | 0.056 | ( 0.062) | 0.050 | 0.006 |
| 202 | 16.83 | 0.10 | 0.056 | ( 0.062) | 0.050 | 0.006 |
| 203 | 16.92 | 0.10 | 0.056 | ( 0.062) | 0.050 | 0.006 |
| 204 | 17.00 | 0.10 | 0.056 | ( 0.062) | 0.050 | 0.006 |

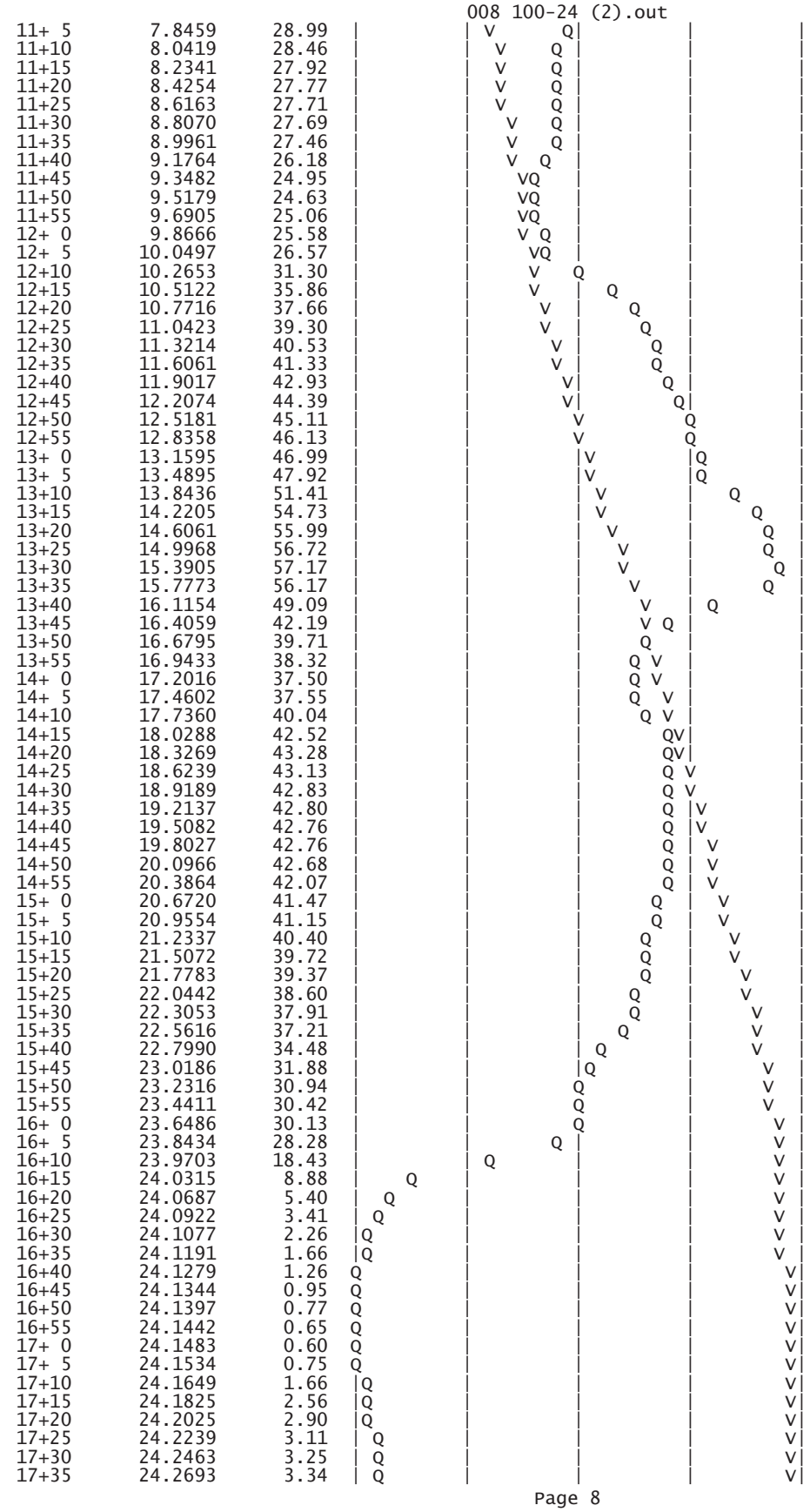
| | | | | | | |
|---|---|---|---|---|---|---|
| 205 | 17.08 | 0.17 | 0.093 | 0.061 | ( 0.083) | 0.031 |
| 206 | 17.17 | 0.17 | 0.093 | 0.061 | ( 0.083) | 0.032 |
| 207 | 17.25 | 0.17 | 0.093 | 0.061 | ( 0.083) | 0.032 |
| 208 | 17.33 | 0.17 | 0.093 | 0.060 | ( 0.083) | 0.032 |
| 209 | 17.42 | 0.17 | 0.093 | 0.060 | ( 0.083) | 0.033 |
| 210 | 17.50 | 0.17 | 0.093 | 0.060 | ( 0.083) | 0.033 |
| 211 | 17.58 | 0.17 | 0.093 | 0.059 | ( 0.083) | 0.033 |
| 212 | 17.67 | 0.17 | 0.093 | 0.059 | ( 0.083) | 0.033 |
| 213 | 17.75 | 0.17 | 0.093 | 0.059 | ( 0.083) | 0.034 |
| 214 | 17.83 | 0.13 | 0.074 | 0.059 | ( 0.067) | 0.016 |
| 215 | 17.92 | 0.13 | 0.074 | 0.058 | ( 0.067) | 0.016 |
| 216 | 18.00 | 0.13 | 0.074 | 0.058 | ( 0.067) | 0.016 |
| 217 | 18.08 | 0.13 | 0.074 | 0.058 | ( 0.067) | 0.016 |
| 218 | 18.17 | 0.13 | 0.074 | 0.057 | ( 0.067) | 0.017 |
| 219 | 18.25 | 0.13 | 0.074 | 0.057 | ( 0.067) | 0.017 |
| 220 | 18.33 | 0.13 | 0.074 | 0.057 | ( 0.067) | 0.017 |
| 221 | 18.42 | 0.13 | 0.074 | 0.057 | ( 0.067) | 0.018 |
| 222 | 18.50 | 0.13 | 0.074 | 0.056 | ( 0.067) | 0.018 |
| 223 | 18.58 | 0.10 | 0.056 | ( 0.056) | 0.050 | 0.006 |
| 224 | 18.67 | 0.10 | 0.056 | ( 0.056) | 0.050 | 0.006 |
| 225 | 18.75 | 0.10 | 0.056 | ( 0.055) | 0.050 | 0.006 |
| 226 | 18.83 | 0.07 | 0.037 | ( 0.055) | 0.033 | 0.004 |
| 227 | 18.92 | 0.07 | 0.037 | ( 0.055) | 0.033 | 0.004 |
| 228 | 19.00 | 0.07 | 0.037 | ( 0.055) | 0.033 | 0.004 |
| 229 | 19.08 | 0.10 | 0.056 | ( 0.054) | 0.050 | 0.006 |
| 230 | 19.17 | 0.10 | 0.056 | ( 0.054) | 0.050 | 0.006 |
| 231 | 19.25 | 0.10 | 0.056 | ( 0.054) | 0.050 | 0.006 |
| 232 | 19.33 | 0.13 | 0.074 | 0.054 | ( 0.067) | 0.020 |
| 233 | 19.42 | 0.13 | 0.074 | 0.053 | ( 0.067) | 0.021 |
| 234 | 19.50 | 0.13 | 0.074 | 0.053 | ( 0.067) | 0.021 |
| 235 | 19.58 | 0.10 | 0.056 | ( 0.053) | 0.050 | 0.006 |
| 236 | 19.67 | 0.10 | 0.056 | ( 0.053) | 0.050 | 0.006 |
| 237 | 19.75 | 0.10 | 0.056 | ( 0.052) | 0.050 | 0.006 |
| 238 | 19.83 | 0.07 | 0.037 | ( 0.052) | 0.033 | 0.004 |
| 239 | 19.92 | 0.07 | 0.037 | ( 0.052) | 0.033 | 0.004 |
| 240 | 20.00 | 0.07 | 0.037 | ( 0.052) | 0.033 | 0.004 |
| 241 | 20.08 | 0.10 | 0.056 | ( 0.051) | 0.050 | 0.006 |
| 242 | 20.17 | 0.10 | 0.056 | ( 0.051) | 0.050 | 0.006 |
| 243 | 20.25 | 0.10 | 0.056 | ( 0.051) | 0.050 | 0.006 |
| 244 | 20.33 | 0.10 | 0.056 | ( 0.051) | 0.050 | 0.006 |
| 245 | 20.42 | 0.10 | 0.056 | ( 0.051) | 0.050 | 0.006 |
| 246 | 20.50 | 0.10 | 0.056 | ( 0.050) | 0.050 | 0.006 |
| 247 | 20.58 | 0.10 | 0.056 | ( 0.050) | 0.050 | 0.006 |
| 248 | 20.67 | 0.10 | 0.056 | 0.050 | ( 0.050) | 0.006 |
| 249 | 20.75 | 0.10 | 0.056 | 0.050 | ( 0.050) | 0.006 |
| 250 | 20.83 | 0.07 | 0.037 | ( 0.050) | 0.033 | 0.004 |
| 251 | 20.92 | 0.07 | 0.037 | ( 0.049) | 0.033 | 0.004 |
| 252 | 21.00 | 0.07 | 0.037 | ( 0.049) | 0.033 | 0.004 |
| 253 | 21.08 | 0.10 | 0.056 | 0.049 | ( 0.050) | 0.007 |
| 254 | 21.17 | 0.10 | 0.056 | 0.049 | ( 0.050) | 0.007 |
| 255 | 21.25 | 0.10 | 0.056 | 0.049 | ( 0.050) | 0.007 |
| 256 | 21.33 | 0.07 | 0.037 | ( 0.048) | 0.033 | 0.004 |
| 257 | 21.42 | 0.07 | 0.037 | ( 0.048) | 0.033 | 0.004 |
| 258 | 21.50 | 0.07 | 0.037 | ( 0.048) | 0.033 | 0.004 |
| 259 | 21.58 | 0.10 | 0.056 | 0.048 | ( 0.050) | 0.008 |
| 260 | 21.67 | 0.10 | 0.056 | 0.048 | ( 0.050) | 0.008 |
| 261 | 21.75 | 0.10 | 0.056 | 0.048 | ( 0.050) | 0.008 |
| 262 | 21.83 | 0.07 | 0.037 | ( 0.047) | 0.033 | 0.004 |
| 263 | 21.92 | 0.07 | 0.037 | ( 0.047) | 0.033 | 0.004 |
| 264 | 22.00 | 0.07 | 0.037 | ( 0.047) | 0.033 | 0.004 |
| 265 | 22.08 | 0.10 | 0.056 | 0.047 | ( 0.050) | 0.009 |
| 266 | 22.17 | 0.10 | 0.056 | 0.047 | ( 0.050) | 0.009 |
| 267 | 22.25 | 0.10 | 0.056 | 0.047 | ( 0.050) | 0.009 |
| 268 | 22.33 | 0.07 | 0.037 | ( 0.046) | 0.033 | 0.004 |
| 269 | 22.42 | 0.07 | 0.037 | ( 0.046) | 0.033 | 0.004 |
| 270 | 22.50 | 0.07 | 0.037 | ( 0.046) | 0.033 | 0.004 |
| 271 | 22.58 | 0.07 | 0.037 | ( 0.046) | 0.033 | 0.004 |
| 272 | 22.67 | 0.07 | 0.037 | ( 0.046) | 0.033 | 0.004 |
| 273 | 22.75 | 0.07 | 0.037 | ( 0.046) | 0.033 | 0.004 |
| 274 | 22.83 | 0.07 | 0.037 | ( 0.046) | 0.033 | 0.004 |
| 275 | 22.92 | 0.07 | 0.037 | ( 0.046) | 0.033 | 0.004 |
| 276 | 23.00 | 0.07 | 0.037 | ( 0.045) | 0.033 | 0.004 |
| 277 | 23.08 | 0.07 | 0.037 | ( 0.045) | 0.033 | 0.004 |
| 278 | 23.17 | 0.07 | 0.037 | ( 0.045) | 0.033 | 0.004 |
| 279 | 23.25 | 0.07 | 0.037 | ( 0.045) | 0.033 | 0.004 |
| 280 | 23.33 | 0.07 | 0.037 | ( 0.045) | 0.033 | 0.004 |
| 281 | 23.42 | 0.07 | 0.037 | ( 0.045) | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.037 | ( 0.045) | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.037 | ( 0.045) | 0.033 | 0.004 |

```
284  23.67     0.07      0.037       (  0.045)       0.033        0.004
285  23.75     0.07      0.037       (  0.045)       0.033        0.004
286  23.83     0.07      0.037       (  0.045)       0.033        0.004
287  23.92     0.07      0.037       (  0.045)       0.033        0.004
288  24.00     0.07      0.037       (  0.045)       0.033        0.004
               (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    34.5
       Flood volume = Effective rainfall      2.87(In)
        times area     103.4(Ac.)/[(In)/(Ft.)] =      24.7(Ac.Ft)
       Total soil loss =      1.76(In)
       Total soil loss =    15.149(Ac.Ft)
       Total rainfall =      4.63(In)
       Flood volume =     1077592.5 Cubic Feet
       Total soil loss =      659890.0 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =     57.172(CFS)
       ---------------------------------------------------------------------
       +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
       ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

       ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0       15.0      30.0      45.0      60.0
 ----------------------------------------------------------------------------
   0+ 5       0.0002      0.02  Q          |         |         |         |
   0+10       0.0012      0.15  Q          |         |         |         |
   0+15       0.0032      0.28  Q          |         |         |         |
   0+20       0.0055      0.34  Q          |         |         |         |
   0+25       0.0085      0.43  Q          |         |         |         |
   0+30       0.0120      0.51  Q          |         |         |         |
   0+35       0.0157      0.54  Q          |         |         |         |
   0+40       0.0195      0.56  Q          |         |         |         |
   0+45       0.0234      0.57  Q          |         |         |         |
   0+50       0.0275      0.58  Q          |         |         |         |
   0+55       0.0320      0.65  Q          |         |         |         |
   1+ 0       0.0369      0.72  Q          |         |         |         |
   1+ 5       0.0420      0.73  Q          |         |         |         |
   1+10       0.0466      0.68  Q          |         |         |         |
   1+15       0.0509      0.62  Q          |         |         |         |
   1+20       0.0551      0.60  Q          |         |         |         |
   1+25       0.0592      0.59  Q          |         |         |         |
   1+30       0.0632      0.59  Q          |         |         |         |
   1+35       0.0672      0.58  Q          |         |         |         |
   1+40       0.0712      0.58  Q          |         |         |         |
   1+45       0.0752      0.58  Q          |         |         |         |
   1+50       0.0793      0.59  Q          |         |         |         |
   1+55       0.0838      0.66  Q          |         |         |         |
   2+ 0       0.0888      0.72  Q          |         |         |         |
   2+ 5       0.0939      0.74  Q          |         |         |         |
   2+10       0.0991      0.76  Q          |         |         |         |
   2+15       0.1044      0.76  Q          |         |         |         |
   2+20       0.1096      0.77  Q          |         |         |         |
   2+25       0.1149      0.77  Q          |         |         |         |
   2+30       0.1203      0.77  Q          |         |         |         |
   2+35       0.1256      0.78  Q          |         |         |         |
   2+40       0.1315      0.85  Q          |         |         |         |
   2+45       0.1378      0.91  Q          |         |         |         |
   2+50       0.1442      0.94  Q          |         |         |         |
   2+55       0.1508      0.95  Q          |         |         |         |
   3+ 0       0.1573      0.96  Q          |         |         |         |
   3+ 5       0.1640      0.96  Q          |         |         |         |
   3+10       0.1706      0.96  Q          |         |         |         |
   3+15       0.1772      0.96  Q          |         |         |         |
   3+20       0.1839      0.96  Q          |         |         |         |
   3+25       0.1905      0.97  Q          |         |         |         |
   3+30       0.1972      0.97  Q          |         |         |         |
   3+35       0.2038      0.97  Q          |         |         |         |
   3+40       0.2105      0.97  Q          |         |         |         |
   3+45       0.2171      0.97  Q          |         |         |         |
   3+50       0.2238      0.98  Q          |         |         |         |
   3+55       0.2310      1.04  Q          |         |         |         |
   4+ 0       0.2386      1.11  Q          |         |         |         |
   4+ 5       0.2464      1.13  Q          |         |         |         |
   4+10       0.2543      1.14  Q          |         |         |         |
   4+15       0.2622      1.15  Q          |         |         |         |
   4+20       0.2702      1.17  Q          |         |         |         |
   4+25       0.2787      1.23  Q          |         |         |         |
```



| | | | |
|---|---|---|---|
| 4+30 | 0.2876 | 1.30 | Q |
| 4+35 | 0.2967 | 1.32 | Q |
| 4+40 | 0.3059 | 1.34 | Q |
| 4+45 | 0.3152 | 1.34 | Q |
| 4+50 | 0.3249 | 1.41 | Q |
| 4+55 | 0.3371 | 1.77 | VQ |
| 5+ 0 | 0.3519 | 2.14 | VQ |
| 5+ 5 | 0.3672 | 2.23 | VQ |
| 5+10 | 0.3801 | 1.87 | VQ |
| 5+15 | 0.3902 | 1.47 | Q |
| 5+20 | 0.3995 | 1.35 | Q |
| 5+25 | 0.4087 | 1.33 | Q |
| 5+30 | 0.4179 | 1.35 | Q |
| 5+35 | 0.4279 | 1.44 | Q |
| 5+40 | 0.4415 | 1.98 | VQ |
| 5+45 | 0.4588 | 2.51 | VQ |
| 5+50 | 0.4776 | 2.74 | VQ |
| 5+55 | 0.4976 | 2.89 | VQ |
| 6+ 0 | 0.5183 | 3.01 | V Q |
| 6+ 5 | 0.5403 | 3.21 | V Q |
| 6+10 | 0.5674 | 3.93 | V Q |
| 6+15 | 0.5992 | 4.62 | V  Q |
| 6+20 | 0.6331 | 4.92 | \|V Q |
| 6+25 | 0.6683 | 5.11 | \|V Q |
| 6+30 | 0.7044 | 5.24 | \|V Q |
| 6+35 | 0.7419 | 5.45 | \|V Q |
| 6+40 | 0.7845 | 6.18 | \|V  Q |
| 6+45 | 0.8318 | 6.88 | \|V  Q |
| 6+50 | 0.8812 | 7.17 | \|V  Q |
| 6+55 | 0.9319 | 7.36 | \|V  Q |
| 7+ 0 | 0.9835 | 7.50 | \|V  Q |
| 7+ 5 | 1.0358 | 7.59 | \|V   Q |
| 7+10 | 1.0885 | 7.66 | \|V   Q |
| 7+15 | 1.1417 | 7.72 | \|V   Q |
| 7+20 | 1.1961 | 7.90 | \|V   Q |
| 7+25 | 1.2554 | 8.61 | \| V  Q |
| 7+30 | 1.3194 | 9.30 | \| V   Q |
| 7+35 | 1.3862 | 9.70 | \| V   Q |
| 7+40 | 1.4587 | 10.54 | \| V    Q |
| 7+45 | 1.5366 | 11.30 | \| V    Q |
| 7+50 | 1.6174 | 11.74 | \| V    Q |
| 7+55 | 1.7042 | 12.60 | \| V     Q |
| 8+ 0 | 1.7963 | 13.37 | \| V     Q |
| 8+ 5 | 1.8923 | 13.93 | \|  V     Q\| |
| 8+10 | 1.9986 | 15.45 | \|  V      Q |
| 8+15 | 2.1148 | 16.86 | \|  V      \|Q |
| 8+20 | 2.2348 | 17.43 | \|  V      \|Q |
| 8+25 | 2.3571 | 17.76 | \|  V      \|Q |
| 8+30 | 2.4810 | 17.98 | \|   V     \|Q |
| 8+35 | 2.6066 | 18.24 | \|   V     \| Q |
| 8+40 | 2.7373 | 18.98 | \|   V     \| Q |
| 8+45 | 2.8729 | 19.69 | \|   V     \|  Q |
| 8+50 | 3.0113 | 20.10 | \|   V     \|  Q |
| 8+55 | 3.1556 | 20.95 | \|    V    \|  Q |
| 9+ 0 | 3.3052 | 21.72 | \|    V    \|   Q |
| 9+ 5 | 3.4585 | 22.27 | \|    V    \|   Q |
| 9+10 | 3.6223 | 23.78 | \|    V    \|    Q |
| 9+15 | 3.7957 | 25.18 | \|     V   \|     Q |
| 9+20 | 3.9738 | 25.86 | \|     V   \|      Q |
| 9+25 | 4.1587 | 26.85 | \|     V   \|      Q |
| 9+30 | 4.3496 | 27.71 | \|      V  \|       Q |
| 9+35 | 4.5437 | 28.19 | \|      V  \|       Q |
| 9+40 | 4.7439 | 29.06 | \|      V  \|       Q\| |
| 9+45 | 4.9494 | 29.85 | \|       V \|       Q\| |
| 9+50 | 5.1581 | 30.30 | \|       V \|        Q |
| 9+55 | 5.3727 | 31.16 | \|       V \|        Q |
| 10+ 0 | 5.5927 | 31.94 | \|        V\|        \|Q |
| 10+ 5 | 5.8094 | 31.47 | \|        V\|        Q |
| 10+10 | 5.9960 | 27.09 | \|        V\|       Q  |
| 10+15 | 6.1528 | 22.77 | \|        V\|     Q    |
| 10+20 | 6.2991 | 21.24 | \|         V   Q     |
| 10+25 | 6.4395 | 20.38 | \|         V  Q      |
| 10+30 | 6.5765 | 19.89 | \|         V  Q      |
| 10+35 | 6.7158 | 20.23 | \|         V  Q      |
| 10+40 | 6.8773 | 23.45 | \|          \|V   Q    |
| 10+45 | 7.0606 | 26.61 | \|          \|V    Q   |
| 10+50 | 7.2517 | 27.76 | \|          \|V     Q  |
| 10+55 | 7.4475 | 28.43 | \|          \| V     Q  |
| 11+ 0 | 7.6462 | 28.86 | \|          \| V      Q\| |



| | | | |
|---|---|---|---|
| 11+ 5 | 7.8459 | 28.99 | |
| 11+10 | 8.0419 | 28.46 | |
| 11+15 | 8.2341 | 27.92 | |
| 11+20 | 8.4254 | 27.77 | |
| 11+25 | 8.6163 | 27.71 | |
| 11+30 | 8.8070 | 27.69 | |
| 11+35 | 8.9961 | 27.46 | |
| 11+40 | 9.1764 | 26.18 | |
| 11+45 | 9.3482 | 24.95 | |
| 11+50 | 9.5179 | 24.63 | |
| 11+55 | 9.6905 | 25.06 | |
| 12+ 0 | 9.8666 | 25.58 | |
| 12+ 5 | 10.0497 | 26.57 | |
| 12+10 | 10.2653 | 31.30 | |
| 12+15 | 10.5122 | 35.86 | |
| 12+20 | 10.7716 | 37.66 | |
| 12+25 | 11.0423 | 39.30 | |
| 12+30 | 11.3214 | 40.53 | |
| 12+35 | 11.6061 | 41.33 | |
| 12+40 | 11.9017 | 42.93 | |
| 12+45 | 12.2074 | 44.39 | |
| 12+50 | 12.5181 | 45.11 | |
| 12+55 | 12.8358 | 46.13 | |
| 13+ 0 | 13.1595 | 46.99 | |
| 13+ 5 | 13.4895 | 47.92 | |
| 13+10 | 13.8436 | 51.41 | |
| 13+15 | 14.2205 | 54.73 | |
| 13+20 | 14.6061 | 55.99 | |
| 13+25 | 14.9968 | 56.72 | |
| 13+30 | 15.3905 | 57.17 | |
| 13+35 | 15.7773 | 56.17 | |
| 13+40 | 16.1154 | 49.09 | |
| 13+45 | 16.4059 | 42.19 | |
| 13+50 | 16.6795 | 39.71 | |
| 13+55 | 16.9433 | 38.32 | |
| 14+ 0 | 17.2016 | 37.50 | |
| 14+ 5 | 17.4602 | 37.55 | |
| 14+10 | 17.7360 | 40.04 | |
| 14+15 | 18.0288 | 42.52 | |
| 14+20 | 18.3269 | 43.28 | |
| 14+25 | 18.6239 | 43.13 | |
| 14+30 | 18.9189 | 42.83 | |
| 14+35 | 19.2137 | 42.80 | |
| 14+40 | 19.5082 | 42.76 | |
| 14+45 | 19.8027 | 42.76 | |
| 14+50 | 20.0966 | 42.68 | |
| 14+55 | 20.3864 | 42.07 | |
| 15+ 0 | 20.6720 | 41.47 | |
| 15+ 5 | 20.9554 | 41.15 | |
| 15+10 | 21.2337 | 40.40 | |
| 15+15 | 21.5072 | 39.72 | |
| 15+20 | 21.7783 | 39.37 | |
| 15+25 | 22.0442 | 38.60 | |
| 15+30 | 22.3053 | 37.91 | |
| 15+35 | 22.5616 | 37.21 | |
| 15+40 | 22.7990 | 34.48 | |
| 15+45 | 23.0186 | 31.88 | |
| 15+50 | 23.2316 | 30.94 | |
| 15+55 | 23.4411 | 30.42 | |
| 16+ 0 | 23.6486 | 30.13 | |
| 16+ 5 | 23.8434 | 28.28 | |
| 16+10 | 23.9703 | 18.43 | |
| 16+15 | 24.0315 | 8.88 | |
| 16+20 | 24.0687 | 5.40 | |
| 16+25 | 24.0922 | 3.41 | |
| 16+30 | 24.1077 | 2.26 | |
| 16+35 | 24.1191 | 1.66 | |
| 16+40 | 24.1279 | 1.26 | |
| 16+45 | 24.1344 | 0.95 | |
| 16+50 | 24.1397 | 0.77 | |
| 16+55 | 24.1442 | 0.65 | |
| 17+ 0 | 24.1483 | 0.60 | |
| 17+ 5 | 24.1534 | 0.75 | |
| 17+10 | 24.1649 | 1.66 | |
| 17+15 | 24.1825 | 2.56 | |
| 17+20 | 24.2025 | 2.90 | |
| 17+25 | 24.2239 | 3.11 | |
| 17+30 | 24.2463 | 3.25 | |
| 17+35 | 24.2693 | 3.34 | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 17+40 | 24.2926 | 3.39 | \| Q | \| | \| | V\| |
| 17+45 | 24.3162 | 3.43 | \| Q | \| | \| | V\| |
| 17+50 | 24.3394 | 3.36 | \| Q | \| | \| | V\| |
| 17+55 | 24.3583 | 2.74 | \|Q | \| | \| | V\| |
| 18+ 0 | 24.3730 | 2.14 | \|Q | \| | \| | V\| |
| 18+ 5 | 24.3864 | 1.94 | \|Q | \| | \| | V\| |
| 18+10 | 24.3991 | 1.84 | \|Q | \| | \| | V\| |
| 18+15 | 24.4114 | 1.79 | \|Q | \| | \| | V\| |
| 18+20 | 24.4236 | 1.78 | \|Q | \| | \| | V\| |
| 18+25 | 24.4360 | 1.79 | \|Q | \| | \| | V\| |
| 18+30 | 24.4484 | 1.81 | \|Q | \| | \| | V\| |
| 18+35 | 24.4605 | 1.75 | \|Q | \| | \| | V\| |
| 18+40 | 24.4697 | 1.33 | Q | \| | \| | V\| |
| 18+45 | 24.4760 | 0.92 | Q | \| | \| | V\| |
| 18+50 | 24.4812 | 0.76 | Q | \| | \| | V\| |
| 18+55 | 24.4854 | 0.61 | Q | \| | \| | V\| |
| 19+ 0 | 24.4888 | 0.49 | Q | \| | \| | V\| |
| 19+ 5 | 24.4919 | 0.45 | Q | \| | \| | V\| |
| 19+10 | 24.4953 | 0.50 | Q | \| | \| | V\| |
| 19+15 | 24.4991 | 0.55 | Q | \| | \| | V\| |
| 19+20 | 24.5035 | 0.65 | Q | \| | \| | V\| |
| 19+25 | 24.5117 | 1.19 | Q | \| | \| | V\| |
| 19+30 | 24.5235 | 1.71 | \|Q | \| | \| | V\| |
| 19+35 | 24.5361 | 1.82 | \|Q | \| | \| | V\| |
| 19+40 | 24.5457 | 1.40 | Q | \| | \| | V\| |
| 19+45 | 24.5522 | 0.94 | Q | \| | \| | V\| |
| 19+50 | 24.5575 | 0.77 | Q | \| | \| | V\| |
| 19+55 | 24.5618 | 0.61 | Q | \| | \| | V\| |
| 20+ 0 | 24.5652 | 0.49 | Q | \| | \| | V\| |
| 20+ 5 | 24.5683 | 0.45 | Q | \| | \| | V\| |
| 20+10 | 24.5717 | 0.50 | Q | \| | \| | V\| |
| 20+15 | 24.5755 | 0.55 | Q | \| | \| | V\| |
| 20+20 | 24.5793 | 0.56 | Q | \| | \| | V\| |
| 20+25 | 24.5833 | 0.57 | Q | \| | \| | V\| |
| 20+30 | 24.5872 | 0.57 | Q | \| | \| | V\| |
| 20+35 | 24.5912 | 0.58 | Q | \| | \| | V\| |
| 20+40 | 24.5951 | 0.58 | Q | \| | \| | V\| |
| 20+45 | 24.5991 | 0.58 | Q | \| | \| | V\| |
| 20+50 | 24.6031 | 0.58 | Q | \| | \| | V\| |
| 20+55 | 24.6066 | 0.51 | Q | \| | \| | V\| |
| 21+ 0 | 24.6097 | 0.44 | Q | \| | \| | V\| |
| 21+ 5 | 24.6126 | 0.43 | Q | \| | \| | V\| |
| 21+10 | 24.6163 | 0.52 | Q | \| | \| | V\| |
| 21+15 | 24.6205 | 0.62 | Q | \| | \| | V\| |
| 21+20 | 24.6250 | 0.65 | Q | \| | \| | V\| |
| 21+25 | 24.6289 | 0.56 | Q | \| | \| | V\| |
| 21+30 | 24.6320 | 0.46 | Q | \| | \| | V\| |
| 21+35 | 24.6352 | 0.45 | Q | \| | \| | V\| |
| 21+40 | 24.6391 | 0.58 | Q | \| | \| | V\| |
| 21+45 | 24.6440 | 0.71 | Q | \| | \| | V\| |
| 21+50 | 24.6491 | 0.74 | Q | \| | \| | V\| |
| 21+55 | 24.6534 | 0.62 | Q | \| | \| | V\| |
| 22+ 0 | 24.6567 | 0.49 | Q | \| | \| | V\| |
| 22+ 5 | 24.6600 | 0.48 | Q | \| | \| | V\| |
| 22+10 | 24.6643 | 0.62 | Q | \| | \| | V\| |
| 22+15 | 24.6697 | 0.79 | Q | \| | \| | V\| |
| 22+20 | 24.6753 | 0.82 | Q | \| | \| | V\| |
| 22+25 | 24.6800 | 0.67 | Q | \| | \| | V\| |
| 22+30 | 24.6835 | 0.51 | Q | \| | \| | V\| |
| 22+35 | 24.6867 | 0.46 | Q | \| | \| | V\| |
| 22+40 | 24.6896 | 0.42 | Q | \| | \| | V\| |
| 22+45 | 24.6924 | 0.40 | Q | \| | \| | V\| |
| 22+50 | 24.6951 | 0.40 | Q | \| | \| | V\| |
| 22+55 | 24.6978 | 0.39 | Q | \| | \| | V\| |
| 23+ 0 | 24.7005 | 0.39 | Q | \| | \| | V\| |
| 23+ 5 | 24.7032 | 0.39 | Q | \| | \| | V\| |
| 23+10 | 24.7058 | 0.39 | Q | \| | \| | V\| |
| 23+15 | 24.7085 | 0.39 | Q | \| | \| | V\| |
| 23+20 | 24.7112 | 0.39 | Q | \| | \| | V\| |
| 23+25 | 24.7138 | 0.39 | Q | \| | \| | V\| |
| 23+30 | 24.7165 | 0.39 | Q | \| | \| | V\| |
| 23+35 | 24.7191 | 0.39 | Q | \| | \| | V\| |
| 23+40 | 24.7218 | 0.39 | Q | \| | \| | V\| |
| 23+45 | 24.7245 | 0.39 | Q | \| | \| | V\| |
| 23+50 | 24.7271 | 0.39 | Q | \| | \| | V\| |
| 23+55 | 24.7298 | 0.39 | Q | \| | \| | V\| |
| 24+ 0 | 24.7324 | 0.39 | Q | \| | \| | V\| |
| 24+ 5 | 24.7349 | 0.36 | Q | \| | \| | V\| |
| 24+10 | 24.7365 | 0.23 | Q | \| | \| | V\| |

```
   24+15      24.7373      0.11  Q          |          |          |        V|
   24+20      24.7377      0.06  Q          |          |          |        V|
   24+25      24.7379      0.03  Q          |          |          |        V|
   24+30      24.7380      0.02  Q          |          |          |        V|
   24+35      24.7380      0.01  Q          |          |          |        V|
   24+40      24.7381      0.01  Q          |          |          |        V|
   24+45      24.7381      0.00  Q          |          |          |        V|
   24+50      24.7381      0.00  Q          |          |          |        V|
   24+55      24.7381      0.00  Q          |          |          |        V|
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX91100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 9
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 1.50(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.50(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 435.00(Ft.)
Length along longest watercourse measured to centroid = 196.00(Ft.)
Length along longest watercourse = 0.082 Mi.
Length along longest watercourse measured to centroid = 0.037 Mi.
Difference in elevation = 260.00(Ft.)
Slope along watercourse = 3155.8621 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.020 Hr.
Lag time = 1.21 Min.
25% of lag time = 0.30 Min.
40% of lag time = 0.48 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.50 | 0.49 | 0.73 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.50 | 1.20 | 1.80 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.490(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 1.500 | 83.34 | 0.000 |

Total Area Entered = 1.50(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.3 | 93.0 | 0.091 | 0.000 | 0.091 | 1.000 | 0.091 |
| | | | | | Sum (F) = | 0.091 |

Area averaged mean soil loss (F) (In/Hr) = 0.091

Minimum soil loss rate ((In/Hr)) = 0.045
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

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| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 413.895 | 68.317 | 1.033 |
| 2 0.167 | 827.791 | 31.683 | 0.479 |
| | Sum = 100.000 | Sum= | 1.512 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 4.20 | 0.605 | 0.091 | ( 0.544) | 0.514 |
| 2 0.17 | 4.30 | 0.619 | 0.091 | ( 0.557) | 0.528 |
| 3 0.25 | 5.00 | 0.720 | 0.091 | ( 0.648) | 0.629 |
| 4 0.33 | 5.00 | 0.720 | 0.091 | ( 0.648) | 0.629 |
| 5 0.42 | 5.80 | 0.835 | 0.091 | ( 0.752) | 0.744 |
| 6 0.50 | 6.50 | 0.936 | 0.091 | ( 0.842) | 0.845 |
| 7 0.58 | 7.40 | 1.066 | 0.091 | ( 0.959) | 0.975 |
| 8 0.67 | 8.60 | 1.238 | 0.091 | ( 1.115) | 1.147 |
| 9 0.75 | 12.30 | 1.771 | 0.091 | ( 1.594) | 1.680 |
| 10 0.83 | 29.10 | 4.190 | 0.091 | ( 3.771) | 4.099 |
| 11 0.92 | 6.80 | 0.979 | 0.091 | ( 0.881) | 0.888 |
| 12 1.00 | 5.00 | 0.720 | 0.091 | ( 0.648) | 0.629 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 13.3 |

Flood volume = Effective rainfall 1.11(In)
times area 1.5(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.011(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 6038.7 Cubic Feet
Total soil loss = 495.2 Cubic Feet

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Peak flow rate of this hydrograph = 5.041(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0037 | 0.53 | VQ | | | | |
| 0+10 | 0.0091 | 0.79 | VQ | | | | |
| 0+15 | 0.0153 | 0.90 | QV | | | | |
| 0+20 | 0.0219 | 0.95 | Q V | | | | |
| 0+25 | 0.0293 | 1.07 | Q V | | | | |
| 0+30 | 0.0377 | 1.23 | Q V | | | | |
| 0+35 | 0.0475 | 1.41 | Q V | | | | |
| 0+40 | 0.0588 | 1.65 | Q V | | | | |
| 0+45 | 0.0746 | 2.29 | Q V | | | | |
| 0+50 | 0.1093 | 5.04 | Q V | | | | |
| 0+55 | 0.1291 | 2.88 | Q V | | | | |
| 1+ 0 | 0.1366 | 1.08 | Q V | | | | |
| 1+ 5 | 0.1386 | 0.30 | Q V | | | | |

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U n i t  H y d r o g r a p h  A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 9
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 1.50(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.50(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 435.00(Ft.)
Length along longest watercourse measured to centroid = 196.00(Ft.)
Length along longest watercourse = 0.082 Mi.
Length along longest watercourse measured to centroid = 0.037 Mi.
Difference in elevation = 260.00(Ft.)
Slope along watercourse = 3155.8621 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.020 Hr.
Lag time = 1.21 Min.
25% of lag time = 0.30 Min.
40% of lag time = 0.48 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.50 | 0.80 | 1.20 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.50 | 1.80 | 2.70 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 1.500 | 83.34 | 0.000 |

Total Area Entered = 1.50(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.3 | 93.0 | 0.091 | 0.000 | 0.091 | 1.000 | 0.091 |
| | | | | | Sum (F) = | 0.091 |

Area averaged mean soil loss (F) (In/Hr) = 0.091

Minimum soil loss rate ((In/Hr)) = 0.045
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 413.895 | 68.317 | 1.033 |
| 2 0.167 | 827.791 | 31.683 | 0.479 |
| | Sum = 100.000 | Sum= | 1.512 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 1.30 | 0.281 | 0.091 | ( 0.253) | 0.190 |
| 2 0.17 | 1.30 | 0.281 | 0.091 | ( 0.253) | 0.190 |
| 3 0.25 | 1.10 | 0.238 | 0.091 | ( 0.214) | 0.147 |
| 4 0.33 | 1.50 | 0.324 | 0.091 | ( 0.292) | 0.233 |
| 5 0.42 | 1.50 | 0.324 | 0.091 | ( 0.292) | 0.233 |
| 6 0.50 | 1.80 | 0.389 | 0.091 | ( 0.350) | 0.298 |
| 7 0.58 | 1.50 | 0.324 | 0.091 | ( 0.292) | 0.233 |
| 8 0.67 | 1.80 | 0.389 | 0.091 | ( 0.350) | 0.298 |
| 9 0.75 | 1.80 | 0.389 | 0.091 | ( 0.350) | 0.298 |
| 10 0.83 | 1.50 | 0.324 | 0.091 | ( 0.292) | 0.233 |
| 11 0.92 | 1.60 | 0.346 | 0.091 | ( 0.311) | 0.255 |
| 12 1.00 | 1.80 | 0.389 | 0.091 | ( 0.350) | 0.298 |
| 13 1.08 | 2.20 | 0.475 | 0.091 | ( 0.428) | 0.384 |
| 14 1.17 | 2.20 | 0.475 | 0.091 | ( 0.428) | 0.384 |
| 15 1.25 | 2.20 | 0.475 | 0.091 | ( 0.428) | 0.384 |
| 16 1.33 | 2.00 | 0.432 | 0.091 | ( 0.389) | 0.341 |
| 17 1.42 | 2.60 | 0.562 | 0.091 | ( 0.505) | 0.471 |
| 18 1.50 | 2.70 | 0.583 | 0.091 | ( 0.525) | 0.492 |
| 19 1.58 | 2.40 | 0.518 | 0.091 | ( 0.467) | 0.427 |
| 20 1.67 | 2.70 | 0.583 | 0.091 | ( 0.525) | 0.492 |
| 21 1.75 | 3.30 | 0.713 | 0.091 | ( 0.642) | 0.622 |
| 22 1.83 | 3.10 | 0.670 | 0.091 | ( 0.603) | 0.579 |
| 23 1.92 | 2.90 | 0.626 | 0.091 | ( 0.564) | 0.535 |
| 24 2.00 | 3.00 | 0.648 | 0.091 | ( 0.583) | 0.557 |
| 25 2.08 | 3.10 | 0.670 | 0.091 | ( 0.603) | 0.579 |
| 26 2.17 | 4.20 | 0.907 | 0.091 | ( 0.816) | 0.816 |
| 27 2.25 | 5.00 | 1.080 | 0.091 | ( 0.972) | 0.989 |
| 28 2.33 | 3.50 | 0.756 | 0.091 | ( 0.680) | 0.665 |
| 29 2.42 | 6.80 | 1.469 | 0.091 | ( 1.322) | 1.378 |
| 30 2.50 | 7.30 | 1.577 | 0.091 | ( 1.419) | 1.486 |
| 31 2.58 | 8.20 | 1.771 | 0.091 | ( 1.594) | 1.680 |
| 32 2.67 | 5.90 | 1.274 | 0.091 | ( 1.147) | 1.183 |
| 33 2.75 | 2.00 | 0.432 | 0.091 | ( 0.389) | 0.341 |
| 34 2.83 | 1.80 | 0.389 | 0.091 | ( 0.350) | 0.298 |
| 35 2.92 | 1.80 | 0.389 | 0.091 | ( 0.350) | 0.298 |
| 36 3.00 | 0.60 | 0.130 | 0.091 | ( 0.117) | 0.039 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 18.3 |

Flood volume = Effective rainfall 1.53(In)
times area 1.5(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 0.27(In)
Total soil loss = 0.034(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 8315.3 Cubic Feet
Total soil loss = 1485.6 Cubic Feet

Peak flow rate of this hydrograph = 2.448(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0014 | 0.20 | Q | | | | |
| 0+10 | 0.0033 | 0.29 | VQ | | | | |
| 0+15 | 0.0050 | 0.24 | QV | | | | |
| 0+20 | 0.0071 | 0.31 | \|Q | | | | |
| 0+25 | 0.0096 | 0.35 | \|QV | | | | |
| 0+30 | 0.0125 | 0.42 | \|QV | | | | |
| 0+35 | 0.0151 | 0.38 | \|Q V | | | | |
| 0+40 | 0.0180 | 0.42 | \|Q V | | | | |
| 0+45 | 0.0211 | 0.45 | \|Q V | | | | |
| 0+50 | 0.0237 | 0.38 | \|Q V | | | | |
| 0+55 | 0.0263 | 0.37 | \|Q V | | | | |
| 1+ 0 | 0.0293 | 0.43 | \|Q V | | | | |
| 1+ 5 | 0.0330 | 0.54 | \| Q V | | | | |
| 1+10 | 0.0370 | 0.58 | \| Q V | | | | |
| 1+15 | 0.0410 | 0.58 | \| Q V | | | | |
| 1+20 | 0.0447 | 0.54 | \| Q V\| | | | |
| 1+25 | 0.0492 | 0.65 | \| Q V | | | | |
| 1+30 | 0.0542 | 0.73 | \| Q \|V | | | | |
| 1+35 | 0.0589 | 0.68 | \| Q \| V | | | | |
| 1+40 | 0.0638 | 0.71 | \| Q \| V | | | | |
| 1+45 | 0.0699 | 0.88 | \| Q \| V | | | | |
| 1+50 | 0.0760 | 0.90 | \| Q \| V | | | | |
| 1+55 | 0.0817 | 0.83 | \| Q \| V \| | | | |
| 2+ 0 | 0.0875 | 0.83 | \| Q \| V \| | | | |
| 2+ 5 | 0.0934 | 0.86 | \| Q \| V\| | | | |
| 2+10 | 0.1011 | 1.12 | \| Q \|V | | | |
| 2+15 | 0.1109 | 1.41 | \| Q \| V | | | |
| 2+20 | 0.1189 | 1.16 | \| Q \| V | | | |
| 2+25 | 0.1309 | 1.74 | \| Q \| V \| | | | |
| 2+30 | 0.1460 | 2.20 | \| Q \| V | | | |
| 2+35 | 0.1629 | 2.45 | \| Q\| \| V | | | |
| 2+40 | 0.1768 | 2.03 | \| Q \| \| V | | | |
| 2+45 | 0.1832 | 0.92 | \| Q \| \| V \| | | | |
| 2+50 | 0.1864 | 0.47 | \|Q \| \| V| | | |
| 2+55 | 0.1895 | 0.45 | \|Q \| \| V| | | |
| 3+ 0 | 0.1908 | 0.18 | Q \| \| V| | | |
| 3+ 5 | 0.1909 | 0.02 | Q \| \| V| | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 9
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 1.50(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.50(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 435.00(Ft.)
Length along longest watercourse measured to centroid = 196.00(Ft.)
Length along longest watercourse = 0.082 Mi.
Length along longest watercourse measured to centroid = 0.037 Mi.
Difference in elevation = 260.00(Ft.)
Slope along watercourse = 3155.8621 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.020 Hr.
Lag time = 1.21 Min.
25% of lag time = 0.30 Min.
40% of lag time = 0.48 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.50 | 1.12 | 1.68 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.50 | 2.50 | 3.75 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.120(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 1.500 | 83.34 | 0.000 |

Total Area Entered = 1.50(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.3 | 93.0 | 0.091 | 0.000 | 0.091 | 1.000 | 0.091 |
| | | | | | Sum (F) = | 0.091 |

Area averaged mean soil loss (F) (In/Hr) = 0.091

Minimum soil loss rate ((In/Hr)) = 0.045
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 413.895 | 68.317 | 1.033 |
| 2 0.167 | 827.791 | 31.683 | 0.479 |
| | | Sum = 100.000 Sum= | 1.512 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.091 | ( 0.135) | 0.059 |
| 2 | 0.17 | 0.60 | 0.180 | 0.091 | ( 0.162) | 0.089 |
| 3 | 0.25 | 0.60 | 0.180 | 0.091 | ( 0.162) | 0.089 |
| 4 | 0.33 | 0.60 | 0.180 | 0.091 | ( 0.162) | 0.089 |
| 5 | 0.42 | 0.60 | 0.180 | 0.091 | ( 0.162) | 0.089 |
| 6 | 0.50 | 0.70 | 0.210 | 0.091 | ( 0.189) | 0.119 |
| 7 | 0.58 | 0.70 | 0.210 | 0.091 | ( 0.189) | 0.119 |
| 8 | 0.67 | 0.70 | 0.210 | 0.091 | ( 0.189) | 0.119 |
| 9 | 0.75 | 0.70 | 0.210 | 0.091 | ( 0.189) | 0.119 |
| 10 | 0.83 | 0.70 | 0.210 | 0.091 | ( 0.189) | 0.119 |
| 11 | 0.92 | 0.70 | 0.210 | 0.091 | ( 0.189) | 0.119 |
| 12 | 1.00 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 13 | 1.08 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 14 | 1.17 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 15 | 1.25 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 16 | 1.33 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 17 | 1.42 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 18 | 1.50 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 19 | 1.58 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 20 | 1.67 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 21 | 1.75 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 22 | 1.83 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 23 | 1.92 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 24 | 2.00 | 0.90 | 0.270 | 0.091 | ( 0.243) | 0.179 |
| 25 | 2.08 | 0.80 | 0.240 | 0.091 | ( 0.216) | 0.149 |
| 26 | 2.17 | 0.90 | 0.270 | 0.091 | ( 0.243) | 0.179 |
| 27 | 2.25 | 0.90 | 0.270 | 0.091 | ( 0.243) | 0.179 |
| 28 | 2.33 | 0.90 | 0.270 | 0.091 | ( 0.243) | 0.179 |
| 29 | 2.42 | 0.90 | 0.270 | 0.091 | ( 0.243) | 0.179 |
| 30 | 2.50 | 0.90 | 0.270 | 0.091 | ( 0.243) | 0.179 |
| 31 | 2.58 | 0.90 | 0.270 | 0.091 | ( 0.243) | 0.179 |
| 32 | 2.67 | 0.90 | 0.270 | 0.091 | ( 0.243) | 0.179 |
| 33 | 2.75 | 1.00 | 0.300 | 0.091 | ( 0.270) | 0.209 |
| 34 | 2.83 | 1.00 | 0.300 | 0.091 | ( 0.270) | 0.209 |
| 35 | 2.92 | 1.00 | 0.300 | 0.091 | ( 0.270) | 0.209 |
| 36 | 3.00 | 1.00 | 0.300 | 0.091 | ( 0.270) | 0.209 |
| 37 | 3.08 | 1.00 | 0.300 | 0.091 | ( 0.270) | 0.209 |
| 38 | 3.17 | 1.10 | 0.330 | 0.091 | ( 0.297) | 0.239 |
| 39 | 3.25 | 1.10 | 0.330 | 0.091 | ( 0.297) | 0.239 |
| 40 | 3.33 | 1.10 | 0.330 | 0.091 | ( 0.297) | 0.239 |
| 41 | 3.42 | 1.20 | 0.360 | 0.091 | ( 0.324) | 0.269 |
| 42 | 3.50 | 1.30 | 0.390 | 0.091 | ( 0.351) | 0.299 |
| 43 | 3.58 | 1.40 | 0.420 | 0.091 | ( 0.378) | 0.329 |
| 44 | 3.67 | 1.40 | 0.420 | 0.091 | ( 0.378) | 0.329 |
| 45 | 3.75 | 1.50 | 0.450 | 0.091 | ( 0.405) | 0.359 |
| 46 | 3.83 | 1.50 | 0.450 | 0.091 | ( 0.405) | 0.359 |
| 47 | 3.92 | 1.60 | 0.480 | 0.091 | ( 0.432) | 0.389 |
| 48 | 4.00 | 1.60 | 0.480 | 0.091 | ( 0.432) | 0.389 |
| 49 | 4.08 | 1.70 | 0.510 | 0.091 | ( 0.459) | 0.419 |
| 50 | 4.17 | 1.80 | 0.540 | 0.091 | ( 0.486) | 0.449 |
| 51 | 4.25 | 1.90 | 0.570 | 0.091 | ( 0.513) | 0.479 |
| 52 | 4.33 | 2.00 | 0.600 | 0.091 | ( 0.540) | 0.509 |
| 53 | 4.42 | 2.10 | 0.630 | 0.091 | ( 0.567) | 0.539 |
| 54 | 4.50 | 2.10 | 0.630 | 0.091 | ( 0.567) | 0.539 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 55 | 4.58 | 2.20 | 0.660 | 0.091 | ( 0.594) | | 0.569 |
| 56 | 4.67 | 2.30 | 0.690 | 0.091 | ( 0.621) | | 0.599 |
| 57 | 4.75 | 2.40 | 0.720 | 0.091 | ( 0.648) | | 0.629 |
| 58 | 4.83 | 2.40 | 0.720 | 0.091 | ( 0.648) | | 0.629 |
| 59 | 4.92 | 2.50 | 0.750 | 0.091 | ( 0.675) | | 0.659 |
| 60 | 5.00 | 2.60 | 0.780 | 0.091 | ( 0.702) | | 0.689 |
| 61 | 5.08 | 3.10 | 0.930 | 0.091 | ( 0.837) | | 0.839 |
| 62 | 5.17 | 3.60 | 1.080 | 0.091 | ( 0.972) | | 0.989 |
| 63 | 5.25 | 3.90 | 1.170 | 0.091 | ( 1.053) | | 1.079 |
| 64 | 5.33 | 4.20 | 1.260 | 0.091 | ( 1.134) | | 1.169 |
| 65 | 5.42 | 4.70 | 1.410 | 0.091 | ( 1.269) | | 1.319 |
| 66 | 5.50 | 5.60 | 1.680 | 0.091 | ( 1.512) | | 1.589 |
| 67 | 5.58 | 1.90 | 0.570 | 0.091 | ( 0.513) | | 0.479 |
| 68 | 5.67 | 0.90 | 0.270 | 0.091 | ( 0.243) | | 0.179 |
| 69 | 5.75 | 0.60 | 0.180 | 0.091 | ( 0.162) | | 0.089 |
| 70 | 5.83 | 0.50 | 0.150 | 0.091 | ( 0.135) | | 0.059 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.091) | 0.081 | | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.091) | 0.054 | | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.5

Flood volume = Effective rainfall 1.96(In)
times area 1.5(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 0.54(In)
Total soil loss = 0.068(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 10662.4 Cubic Feet
Total soil loss = 2950.0 Cubic Feet

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Peak flow rate of this hydrograph = 2.274(CFS)

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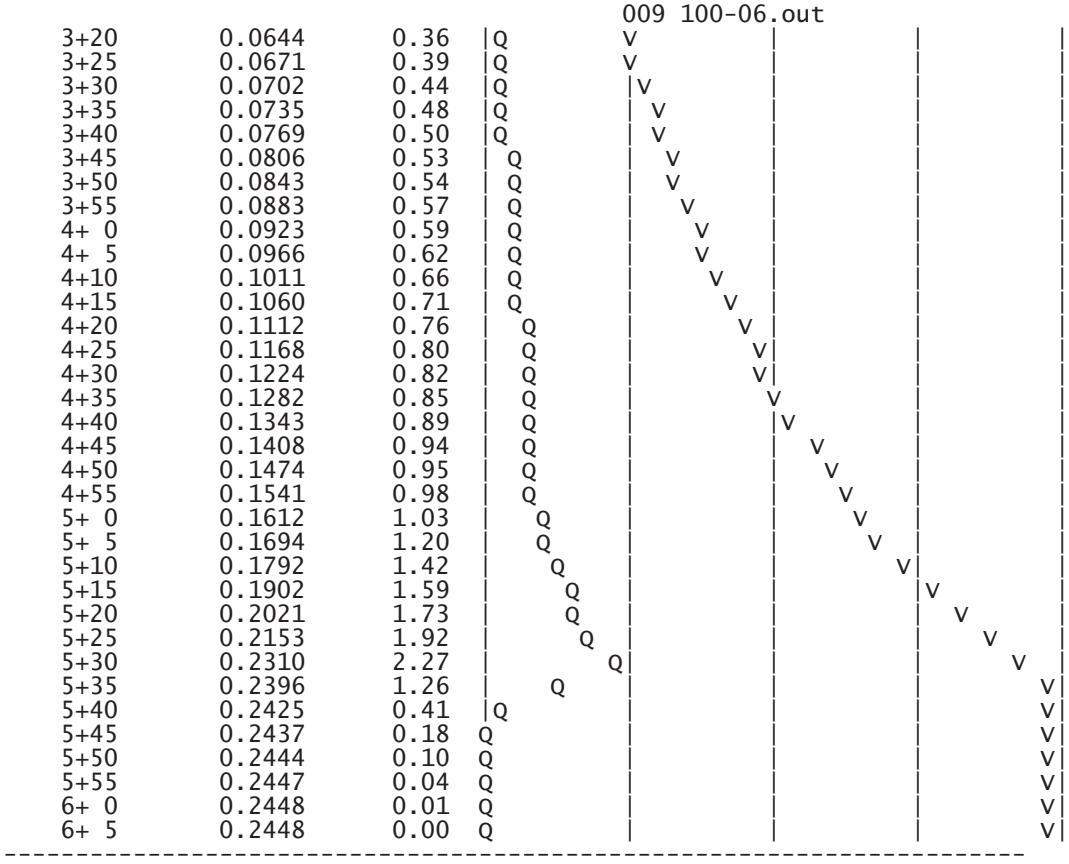
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0004 | 0.06 | Q | \| | \| | \| | \| |
| 0+10 | 0.0012 | 0.12 | Q | \| | \| | \| | \| |
| 0+15 | 0.0022 | 0.13 | Q | \| | \| | \| | \| |
| 0+20 | 0.0031 | 0.13 | Q | \| | \| | \| | \| |
| 0+25 | 0.0040 | 0.13 | Q | \| | \| | \| | \| |
| 0+30 | 0.0052 | 0.17 | Q | \| | \| | \| | \| |
| 0+35 | 0.0064 | 0.18 | QV | \| | \| | \| | \| |
| 0+40 | 0.0077 | 0.18 | QV | \| | \| | \| | \| |
| 0+45 | 0.0089 | 0.18 | QV | \| | \| | \| | \| |
| 0+50 | 0.0101 | 0.18 | QV | \| | \| | \| | \| |
| 0+55 | 0.0114 | 0.18 | QV | \| | \| | \| | \| |
| 1+ 0 | 0.0128 | 0.21 | Q V | \| | \| | \| | \| |
| 1+ 5 | 0.0144 | 0.23 | Q V | \| | \| | \| | \| |
| 1+10 | 0.0159 | 0.23 | Q V | \| | \| | \| | \| |
| 1+15 | 0.0175 | 0.23 | Q V | \| | \| | \| | \| |
| 1+20 | 0.0190 | 0.23 | Q V | \| | \| | \| | \| |
| 1+25 | 0.0206 | 0.23 | Q V | \| | \| | \| | \| |
| 1+30 | 0.0221 | 0.23 | Q V | \| | \| | \| | \| |
| 1+35 | 0.0237 | 0.23 | Q V | \| | \| | \| | \| |
| 1+40 | 0.0252 | 0.23 | Q V | \| | \| | \| | \| |
| 1+45 | 0.0268 | 0.23 | Q V | \| | \| | \| | \| |
| 1+50 | 0.0284 | 0.23 | Q V | \| | \| | \| | \| |
| 1+55 | 0.0299 | 0.23 | Q V | \| | \| | \| | \| |
| 2+ 0 | 0.0317 | 0.26 | \|Q V | \| | \| | \| | \| |
| 2+ 5 | 0.0333 | 0.24 | Q V | \| | \| | \| | \| |
| 2+10 | 0.0351 | 0.26 | \|Q V | \| | \| | \| | \| |
| 2+15 | 0.0370 | 0.27 | \|Q V | \| | \| | \| | \| |
| 2+20 | 0.0388 | 0.27 | \|Q V | \| | \| | \| | \| |
| 2+25 | 0.0407 | 0.27 | \|Q V | \| | \| | \| | \| |
| 2+30 | 0.0425 | 0.27 | \|Q V | \| | \| | \| | \| |
| 2+35 | 0.0444 | 0.27 | \|Q V | \| | \| | \| | \| |
| 2+40 | 0.0463 | 0.27 | \|Q V | \| | \| | \| | \| |
| 2+45 | 0.0484 | 0.30 | \|Q V | \| | \| | \| | \| |
| 2+50 | 0.0505 | 0.32 | \|Q V | \| | \| | \| | \| |
| 2+55 | 0.0527 | 0.32 | \|Q V | \| | \| | \| | \| |
| 3+ 0 | 0.0549 | 0.32 | \|Q V | \| | \| | \| | \| |
| 3+ 5 | 0.0571 | 0.32 | \|Q V\| | \| | \| | \| | \| |
| 3+10 | 0.0595 | 0.35 | \|Q V\| | \| | \| | \| | \| |
| 3+15 | 0.0620 | 0.36 | \|Q V | \| | \| | \| | \| |



| | | | |
|---|---|---|---|
| 3+20 | 0.0644 | 0.36 | |
| 3+25 | 0.0671 | 0.39 | |
| 3+30 | 0.0702 | 0.44 | |
| 3+35 | 0.0735 | 0.48 | |
| 3+40 | 0.0769 | 0.50 | |
| 3+45 | 0.0806 | 0.53 | |
| 3+50 | 0.0843 | 0.54 | |
| 3+55 | 0.0883 | 0.57 | |
| 4+ 0 | 0.0923 | 0.59 | |
| 4+ 5 | 0.0966 | 0.62 | |
| 4+10 | 0.1011 | 0.66 | |
| 4+15 | 0.1060 | 0.71 | |
| 4+20 | 0.1112 | 0.76 | |
| 4+25 | 0.1168 | 0.80 | |
| 4+30 | 0.1224 | 0.82 | |
| 4+35 | 0.1282 | 0.85 | |
| 4+40 | 0.1343 | 0.89 | |
| 4+45 | 0.1408 | 0.94 | |
| 4+50 | 0.1474 | 0.95 | |
| 4+55 | 0.1541 | 0.98 | |
| 5+ 0 | 0.1612 | 1.03 | |
| 5+ 5 | 0.1694 | 1.20 | |
| 5+10 | 0.1792 | 1.42 | |
| 5+15 | 0.1902 | 1.59 | |
| 5+20 | 0.2021 | 1.73 | |
| 5+25 | 0.2153 | 1.92 | |
| 5+30 | 0.2310 | 2.27 | |
| 5+35 | 0.2396 | 1.26 | |
| 5+40 | 0.2425 | 0.41 | |
| 5+45 | 0.2437 | 0.18 | |
| 5+50 | 0.2444 | 0.10 | |
| 5+55 | 0.2447 | 0.04 | |
| 6+ 0 | 0.2448 | 0.01 | |
| 6+ 5 | 0.2448 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX924100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 9
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 1.50(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.50(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 435.00(Ft.)
Length along longest watercourse measured to centroid = 196.00(Ft.)
Length along longest watercourse = 0.082 Mi.
Length along longest watercourse measured to centroid = 0.037 Mi.
Difference in elevation = 260.00(Ft.)
Slope along watercourse = 3155.8621 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.020 Hr.
Lag time = 1.21 Min.
25% of lag time = 0.30 Min.
40% of lag time = 0.48 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.50 | 1.80 | 2.70 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.50 | 4.55 | 6.82 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.550(In)

Point rain (area averaged) = 4.550(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.550(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 1.500 | 83.34 | 0.000 |

Total Area Entered = 1.50(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.3 | 93.0 | 0.091 | 0.000 | 0.091 | 1.000 | 0.091 |
| | | | | | Sum (F) = | 0.091 |

Area averaged mean soil loss (F) (In/Hr) = 0.091

Minimum soil loss rate ((In/Hr)) = 0.045
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 413.895 | 68.317 | 1.033 |
| 2 | 0.167 | 827.791 | 31.683 | 0.479 |
| | | | Sum = 100.000 Sum= | 1.512 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.036 | ( 0.161) | 0.033 | 0.004 |
| 2 | 0.17 | 0.07 | 0.036 | ( 0.161) | 0.033 | 0.004 |
| 3 | 0.25 | 0.07 | 0.036 | ( 0.160) | 0.033 | 0.004 |
| 4 | 0.33 | 0.10 | 0.055 | ( 0.159) | 0.049 | 0.005 |
| 5 | 0.42 | 0.10 | 0.055 | ( 0.159) | 0.049 | 0.005 |
| 6 | 0.50 | 0.10 | 0.055 | ( 0.158) | 0.049 | 0.005 |
| 7 | 0.58 | 0.10 | 0.055 | ( 0.158) | 0.049 | 0.005 |
| 8 | 0.67 | 0.10 | 0.055 | ( 0.157) | 0.049 | 0.005 |
| 9 | 0.75 | 0.10 | 0.055 | ( 0.156) | 0.049 | 0.005 |
| 10 | 0.83 | 0.13 | 0.073 | ( 0.156) | 0.066 | 0.007 |
| 11 | 0.92 | 0.13 | 0.073 | ( 0.155) | 0.066 | 0.007 |
| 12 | 1.00 | 0.13 | 0.073 | ( 0.154) | 0.066 | 0.007 |
| 13 | 1.08 | 0.10 | 0.055 | ( 0.154) | 0.049 | 0.005 |
| 14 | 1.17 | 0.10 | 0.055 | ( 0.153) | 0.049 | 0.005 |
| 15 | 1.25 | 0.10 | 0.055 | ( 0.153) | 0.049 | 0.005 |
| 16 | 1.33 | 0.10 | 0.055 | ( 0.152) | 0.049 | 0.005 |
| 17 | 1.42 | 0.10 | 0.055 | ( 0.151) | 0.049 | 0.005 |
| 18 | 1.50 | 0.10 | 0.055 | ( 0.151) | 0.049 | 0.005 |
| 19 | 1.58 | 0.10 | 0.055 | ( 0.150) | 0.049 | 0.005 |
| 20 | 1.67 | 0.10 | 0.055 | ( 0.150) | 0.049 | 0.005 |
| 21 | 1.75 | 0.10 | 0.055 | ( 0.149) | 0.049 | 0.005 |
| 22 | 1.83 | 0.13 | 0.073 | ( 0.148) | 0.066 | 0.007 |
| 23 | 1.92 | 0.13 | 0.073 | ( 0.148) | 0.066 | 0.007 |
| 24 | 2.00 | 0.13 | 0.073 | ( 0.147) | 0.066 | 0.007 |
| 25 | 2.08 | 0.13 | 0.073 | ( 0.147) | 0.066 | 0.007 |
| 26 | 2.17 | 0.13 | 0.073 | ( 0.146) | 0.066 | 0.007 |
| 27 | 2.25 | 0.13 | 0.073 | ( 0.145) | 0.066 | 0.007 |
| 28 | 2.33 | 0.13 | 0.073 | ( 0.145) | 0.066 | 0.007 |
| 29 | 2.42 | 0.13 | 0.073 | ( 0.144) | 0.066 | 0.007 |
| 30 | 2.50 | 0.13 | 0.073 | ( 0.144) | 0.066 | 0.007 |
| 31 | 2.58 | 0.17 | 0.091 | ( 0.143) | 0.082 | 0.009 |
| 32 | 2.67 | 0.17 | 0.091 | ( 0.142) | 0.082 | 0.009 |
| 33 | 2.75 | 0.17 | 0.091 | ( 0.142) | 0.082 | 0.009 |
| 34 | 2.83 | 0.17 | 0.091 | ( 0.141) | 0.082 | 0.009 |
| 35 | 2.92 | 0.17 | 0.091 | ( 0.141) | 0.082 | 0.009 |
| 36 | 3.00 | 0.17 | 0.091 | ( 0.140) | 0.082 | 0.009 |
| 37 | 3.08 | 0.17 | 0.091 | ( 0.140) | 0.082 | 0.009 |
| 38 | 3.17 | 0.17 | 0.091 | ( 0.139) | 0.082 | 0.009 |
| 39 | 3.25 | 0.17 | 0.091 | ( 0.138) | 0.082 | 0.009 |
| 40 | 3.33 | 0.17 | 0.091 | ( 0.138) | 0.082 | 0.009 |
| 41 | 3.42 | 0.17 | 0.091 | ( 0.137) | 0.082 | 0.009 |
| 42 | 3.50 | 0.17 | 0.091 | ( 0.137) | 0.082 | 0.009 |
| 43 | 3.58 | 0.17 | 0.091 | ( 0.136) | 0.082 | 0.009 |
| 44 | 3.67 | 0.17 | 0.091 | ( 0.136) | 0.082 | 0.009 |
| 45 | 3.75 | 0.17 | 0.091 | ( 0.135) | 0.082 | 0.009 |
| 46 | 3.83 | 0.20 | 0.109 | ( 0.134) | 0.098 | 0.011 |
| 47 | 3.92 | 0.20 | 0.109 | ( 0.134) | 0.098 | 0.011 |
| 48 | 4.00 | 0.20 | 0.109 | ( 0.133) | 0.098 | 0.011 |
| 49 | 4.08 | 0.20 | 0.109 | ( 0.133) | 0.098 | 0.011 |
| 50 | 4.17 | 0.20 | 0.109 | ( 0.132) | 0.098 | 0.011 |
| 51 | 4.25 | 0.20 | 0.109 | ( 0.132) | 0.098 | 0.011 |
| 52 | 4.33 | 0.23 | 0.127 | ( 0.131) | 0.115 | 0.013 |
| 53 | 4.42 | 0.23 | 0.127 | ( 0.130) | 0.115 | 0.013 |
| 54 | 4.50 | 0.23 | 0.127 | ( 0.130) | 0.115 | 0.013 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 55 | 4.58 | 0.23 | 0.127 | ( | 0.129) | 0.115 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.127 | ( | 0.129) | 0.115 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.127 | ( | 0.128) | 0.115 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.146 | | 0.128 | ( 0.131) | | 0.018 |
| 59 | 4.92 | 0.27 | 0.146 | | 0.127 | ( 0.131) | | 0.018 |
| 60 | 5.00 | 0.27 | 0.146 | | 0.127 | ( 0.131) | | 0.019 |
| 61 | 5.08 | 0.20 | 0.109 | ( | 0.126) | 0.098 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.109 | ( | 0.125) | 0.098 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.109 | ( | 0.125) | 0.098 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.127 | ( | 0.124) | 0.115 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.127 | ( | 0.124) | 0.115 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.127 | ( | 0.123) | 0.115 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.146 | | 0.123 | ( 0.131) | | 0.023 |
| 68 | 5.67 | 0.27 | 0.146 | | 0.122 | ( 0.131) | | 0.023 |
| 69 | 5.75 | 0.27 | 0.146 | | 0.122 | ( 0.131) | | 0.024 |
| 70 | 5.83 | 0.27 | 0.146 | | 0.121 | ( 0.131) | | 0.024 |
| 71 | 5.92 | 0.27 | 0.146 | | 0.121 | ( 0.131) | | 0.025 |
| 72 | 6.00 | 0.27 | 0.146 | | 0.120 | ( 0.131) | | 0.026 |
| 73 | 6.08 | 0.30 | 0.164 | | 0.120 | ( 0.147) | | 0.044 |
| 74 | 6.17 | 0.30 | 0.164 | | 0.119 | ( 0.147) | | 0.045 |
| 75 | 6.25 | 0.30 | 0.164 | | 0.118 | ( 0.147) | | 0.045 |
| 76 | 6.33 | 0.30 | 0.164 | | 0.118 | ( 0.147) | | 0.046 |
| 77 | 6.42 | 0.30 | 0.164 | | 0.117 | ( 0.147) | | 0.046 |
| 78 | 6.50 | 0.30 | 0.164 | | 0.117 | ( 0.147) | | 0.047 |
| 79 | 6.58 | 0.33 | 0.182 | | 0.116 | ( 0.164) | | 0.066 |
| 80 | 6.67 | 0.33 | 0.182 | | 0.116 | ( 0.164) | | 0.066 |
| 81 | 6.75 | 0.33 | 0.182 | | 0.115 | ( 0.164) | | 0.067 |
| 82 | 6.83 | 0.33 | 0.182 | | 0.115 | ( 0.164) | | 0.067 |
| 83 | 6.92 | 0.33 | 0.182 | | 0.114 | ( 0.164) | | 0.068 |
| 84 | 7.00 | 0.33 | 0.182 | | 0.114 | ( 0.164) | | 0.068 |
| 85 | 7.08 | 0.33 | 0.182 | | 0.113 | ( 0.164) | | 0.069 |
| 86 | 7.17 | 0.33 | 0.182 | | 0.113 | ( 0.164) | | 0.069 |
| 87 | 7.25 | 0.33 | 0.182 | | 0.112 | ( 0.164) | | 0.070 |
| 88 | 7.33 | 0.37 | 0.200 | | 0.112 | ( 0.180) | | 0.089 |
| 89 | 7.42 | 0.37 | 0.200 | | 0.111 | ( 0.180) | | 0.089 |
| 90 | 7.50 | 0.37 | 0.200 | | 0.111 | ( 0.180) | | 0.090 |
| 91 | 7.58 | 0.40 | 0.218 | | 0.110 | ( 0.197) | | 0.108 |
| 92 | 7.67 | 0.40 | 0.218 | | 0.110 | ( 0.197) | | 0.109 |
| 93 | 7.75 | 0.40 | 0.218 | | 0.109 | ( 0.197) | | 0.109 |
| 94 | 7.83 | 0.43 | 0.237 | | 0.109 | ( 0.213) | | 0.128 |
| 95 | 7.92 | 0.43 | 0.237 | | 0.108 | ( 0.213) | | 0.128 |
| 96 | 8.00 | 0.43 | 0.237 | | 0.108 | ( 0.213) | | 0.129 |
| 97 | 8.08 | 0.50 | 0.273 | | 0.107 | ( 0.246) | | 0.166 |
| 98 | 8.17 | 0.50 | 0.273 | | 0.107 | ( 0.246) | | 0.166 |
| 99 | 8.25 | 0.50 | 0.273 | | 0.106 | ( 0.246) | | 0.167 |
| 100 | 8.33 | 0.50 | 0.273 | | 0.106 | ( 0.246) | | 0.167 |
| 101 | 8.42 | 0.50 | 0.273 | | 0.105 | ( 0.246) | | 0.168 |
| 102 | 8.50 | 0.50 | 0.273 | | 0.105 | ( 0.246) | | 0.168 |
| 103 | 8.58 | 0.53 | 0.291 | | 0.104 | ( 0.262) | | 0.187 |
| 104 | 8.67 | 0.53 | 0.291 | | 0.104 | ( 0.262) | | 0.188 |
| 105 | 8.75 | 0.53 | 0.291 | | 0.103 | ( 0.262) | | 0.188 |
| 106 | 8.83 | 0.57 | 0.309 | | 0.103 | ( 0.278) | | 0.207 |
| 107 | 8.92 | 0.57 | 0.309 | | 0.102 | ( 0.278) | | 0.207 |
| 108 | 9.00 | 0.57 | 0.309 | | 0.102 | ( 0.278) | | 0.208 |
| 109 | 9.08 | 0.63 | 0.346 | | 0.101 | ( 0.311) | | 0.245 |
| 110 | 9.17 | 0.63 | 0.346 | | 0.101 | ( 0.311) | | 0.245 |
| 111 | 9.25 | 0.63 | 0.346 | | 0.100 | ( 0.311) | | 0.246 |
| 112 | 9.33 | 0.67 | 0.364 | | 0.100 | ( 0.328) | | 0.264 |
| 113 | 9.42 | 0.67 | 0.364 | | 0.099 | ( 0.328) | | 0.265 |
| 114 | 9.50 | 0.67 | 0.364 | | 0.099 | ( 0.328) | | 0.265 |
| 115 | 9.58 | 0.70 | 0.382 | | 0.098 | ( 0.344) | | 0.284 |
| 116 | 9.67 | 0.70 | 0.382 | | 0.098 | ( 0.344) | | 0.284 |
| 117 | 9.75 | 0.70 | 0.382 | | 0.097 | ( 0.344) | | 0.285 |
| 118 | 9.83 | 0.73 | 0.400 | | 0.097 | ( 0.360) | | 0.303 |
| 119 | 9.92 | 0.73 | 0.400 | | 0.097 | ( 0.360) | | 0.304 |
| 120 | 10.00 | 0.73 | 0.400 | | 0.096 | ( 0.360) | | 0.304 |
| 121 | 10.08 | 0.50 | 0.273 | | 0.096 | ( 0.246) | | 0.177 |
| 122 | 10.17 | 0.50 | 0.273 | | 0.095 | ( 0.246) | | 0.178 |
| 123 | 10.25 | 0.50 | 0.273 | | 0.095 | ( 0.246) | | 0.178 |
| 124 | 10.33 | 0.50 | 0.273 | | 0.094 | ( 0.246) | | 0.179 |
| 125 | 10.42 | 0.50 | 0.273 | | 0.094 | ( 0.246) | | 0.179 |
| 126 | 10.50 | 0.50 | 0.273 | | 0.093 | ( 0.246) | | 0.180 |
| 127 | 10.58 | 0.67 | 0.364 | | 0.093 | ( 0.328) | | 0.271 |
| 128 | 10.67 | 0.67 | 0.364 | | 0.092 | ( 0.328) | | 0.272 |
| 129 | 10.75 | 0.67 | 0.364 | | 0.092 | ( 0.328) | | 0.272 |
| 130 | 10.83 | 0.67 | 0.364 | | 0.091 | ( 0.328) | | 0.273 |
| 131 | 10.92 | 0.67 | 0.364 | | 0.091 | ( 0.328) | | 0.273 |
| 132 | 11.00 | 0.67 | 0.364 | | 0.091 | ( 0.328) | | 0.273 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 133 | 11.08 | 0.63 | 0.346 | 0.090 | ( 0.311) | 0.256 |
| 134 | 11.17 | 0.63 | 0.346 | 0.090 | ( 0.311) | 0.256 |
| 135 | 11.25 | 0.63 | 0.346 | 0.089 | ( 0.311) | 0.257 |
| 136 | 11.33 | 0.63 | 0.346 | 0.089 | ( 0.311) | 0.257 |
| 137 | 11.42 | 0.63 | 0.346 | 0.088 | ( 0.311) | 0.257 |
| 138 | 11.50 | 0.63 | 0.346 | 0.088 | ( 0.311) | 0.258 |
| 139 | 11.58 | 0.57 | 0.309 | 0.087 | ( 0.278) | 0.222 |
| 140 | 11.67 | 0.57 | 0.309 | 0.087 | ( 0.278) | 0.222 |
| 141 | 11.75 | 0.57 | 0.309 | 0.087 | ( 0.278) | 0.223 |
| 142 | 11.83 | 0.60 | 0.328 | 0.086 | ( 0.295) | 0.241 |
| 143 | 11.92 | 0.60 | 0.328 | 0.086 | ( 0.295) | 0.242 |
| 144 | 12.00 | 0.60 | 0.328 | 0.085 | ( 0.295) | 0.242 |
| 145 | 12.08 | 0.83 | 0.455 | 0.085 | ( 0.409) | 0.370 |
| 146 | 12.17 | 0.83 | 0.455 | 0.084 | ( 0.409) | 0.371 |
| 147 | 12.25 | 0.83 | 0.455 | 0.084 | ( 0.409) | 0.371 |
| 148 | 12.33 | 0.87 | 0.473 | 0.084 | ( 0.426) | 0.390 |
| 149 | 12.42 | 0.87 | 0.473 | 0.083 | ( 0.426) | 0.390 |
| 150 | 12.50 | 0.87 | 0.473 | 0.083 | ( 0.426) | 0.390 |
| 151 | 12.58 | 0.93 | 0.510 | 0.082 | ( 0.459) | 0.427 |
| 152 | 12.67 | 0.93 | 0.510 | 0.082 | ( 0.459) | 0.428 |
| 153 | 12.75 | 0.93 | 0.510 | 0.082 | ( 0.459) | 0.428 |
| 154 | 12.83 | 0.97 | 0.528 | 0.081 | ( 0.475) | 0.447 |
| 155 | 12.92 | 0.97 | 0.528 | 0.081 | ( 0.475) | 0.447 |
| 156 | 13.00 | 0.97 | 0.528 | 0.080 | ( 0.475) | 0.447 |
| 157 | 13.08 | 1.13 | 0.619 | 0.080 | ( 0.557) | 0.539 |
| 158 | 13.17 | 1.13 | 0.619 | 0.080 | ( 0.557) | 0.539 |
| 159 | 13.25 | 1.13 | 0.619 | 0.079 | ( 0.557) | 0.540 |
| 160 | 13.33 | 1.13 | 0.619 | 0.079 | ( 0.557) | 0.540 |
| 161 | 13.42 | 1.13 | 0.619 | 0.078 | ( 0.557) | 0.541 |
| 162 | 13.50 | 1.13 | 0.619 | 0.078 | ( 0.557) | 0.541 |
| 163 | 13.58 | 0.77 | 0.419 | 0.078 | ( 0.377) | 0.341 |
| 164 | 13.67 | 0.77 | 0.419 | 0.077 | ( 0.377) | 0.341 |
| 165 | 13.75 | 0.77 | 0.419 | 0.077 | ( 0.377) | 0.342 |
| 166 | 13.83 | 0.77 | 0.419 | 0.076 | ( 0.377) | 0.342 |
| 167 | 13.92 | 0.77 | 0.419 | 0.076 | ( 0.377) | 0.343 |
| 168 | 14.00 | 0.77 | 0.419 | 0.076 | ( 0.377) | 0.343 |
| 169 | 14.08 | 0.90 | 0.491 | 0.075 | ( 0.442) | 0.416 |
| 170 | 14.17 | 0.90 | 0.491 | 0.075 | ( 0.442) | 0.417 |
| 171 | 14.25 | 0.90 | 0.491 | 0.074 | ( 0.442) | 0.417 |
| 172 | 14.33 | 0.87 | 0.473 | 0.074 | ( 0.426) | 0.399 |
| 173 | 14.42 | 0.87 | 0.473 | 0.074 | ( 0.426) | 0.400 |
| 174 | 14.50 | 0.87 | 0.473 | 0.073 | ( 0.426) | 0.400 |
| 175 | 14.58 | 0.87 | 0.473 | 0.073 | ( 0.426) | 0.400 |
| 176 | 14.67 | 0.87 | 0.473 | 0.073 | ( 0.426) | 0.401 |
| 177 | 14.75 | 0.87 | 0.473 | 0.072 | ( 0.426) | 0.401 |
| 178 | 14.83 | 0.83 | 0.455 | 0.072 | ( 0.409) | 0.383 |
| 179 | 14.92 | 0.83 | 0.455 | 0.071 | ( 0.409) | 0.384 |
| 180 | 15.00 | 0.83 | 0.455 | 0.071 | ( 0.409) | 0.384 |
| 181 | 15.08 | 0.80 | 0.437 | 0.071 | ( 0.393) | 0.366 |
| 182 | 15.17 | 0.80 | 0.437 | 0.070 | ( 0.393) | 0.366 |
| 183 | 15.25 | 0.80 | 0.437 | 0.070 | ( 0.393) | 0.367 |
| 184 | 15.33 | 0.77 | 0.419 | 0.070 | ( 0.377) | 0.349 |
| 185 | 15.42 | 0.77 | 0.419 | 0.069 | ( 0.377) | 0.349 |
| 186 | 15.50 | 0.77 | 0.419 | 0.069 | ( 0.377) | 0.350 |
| 187 | 15.58 | 0.63 | 0.346 | 0.069 | ( 0.311) | 0.277 |
| 188 | 15.67 | 0.63 | 0.346 | 0.068 | ( 0.311) | 0.278 |
| 189 | 15.75 | 0.63 | 0.346 | 0.068 | ( 0.311) | 0.278 |
| 190 | 15.83 | 0.63 | 0.346 | 0.067 | ( 0.311) | 0.278 |
| 191 | 15.92 | 0.63 | 0.346 | 0.067 | ( 0.311) | 0.279 |
| 192 | 16.00 | 0.63 | 0.346 | 0.067 | ( 0.311) | 0.279 |
| 193 | 16.08 | 0.13 | 0.073 | ( 0.066) | 0.066 | 0.007 |
| 194 | 16.17 | 0.13 | 0.073 | ( 0.066) | 0.066 | 0.007 |
| 195 | 16.25 | 0.13 | 0.073 | ( 0.066) | 0.066 | 0.007 |
| 196 | 16.33 | 0.13 | 0.073 | 0.065 | ( 0.066) | 0.007 |
| 197 | 16.42 | 0.13 | 0.073 | 0.065 | ( 0.066) | 0.008 |
| 198 | 16.50 | 0.13 | 0.073 | 0.065 | ( 0.066) | 0.008 |
| 199 | 16.58 | 0.10 | 0.055 | ( 0.064) | 0.049 | 0.005 |
| 200 | 16.67 | 0.10 | 0.055 | ( 0.064) | 0.049 | 0.005 |
| 201 | 16.75 | 0.10 | 0.055 | ( 0.064) | 0.049 | 0.005 |
| 202 | 16.83 | 0.10 | 0.055 | ( 0.063) | 0.049 | 0.005 |
| 203 | 16.92 | 0.10 | 0.055 | ( 0.063) | 0.049 | 0.005 |
| 204 | 17.00 | 0.10 | 0.055 | ( 0.063) | 0.049 | 0.005 |
| 205 | 17.08 | 0.17 | 0.091 | 0.063 | ( 0.082) | 0.028 |
| 206 | 17.17 | 0.17 | 0.091 | 0.062 | ( 0.082) | 0.029 |
| 207 | 17.25 | 0.17 | 0.091 | 0.062 | ( 0.082) | 0.029 |
| 208 | 17.33 | 0.17 | 0.091 | 0.062 | ( 0.082) | 0.029 |
| 209 | 17.42 | 0.17 | 0.091 | 0.061 | ( 0.082) | 0.030 |
| 210 | 17.50 | 0.17 | 0.091 | 0.061 | ( 0.082) | 0.030 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 211 | 17.58 | 0.17 | 0.091 | | 0.061 | ( | 0.082) | 0.030 |
| 212 | 17.67 | 0.17 | 0.091 | | 0.060 | ( | 0.082) | 0.031 |
| 213 | 17.75 | 0.17 | 0.091 | | 0.060 | ( | 0.082) | 0.031 |
| 214 | 17.83 | 0.13 | 0.073 | | 0.060 | ( | 0.066) | 0.013 |
| 215 | 17.92 | 0.13 | 0.073 | | 0.059 | ( | 0.066) | 0.013 |
| 216 | 18.00 | 0.13 | 0.073 | | 0.059 | ( | 0.066) | 0.014 |
| 217 | 18.08 | 0.13 | 0.073 | | 0.059 | ( | 0.066) | 0.014 |
| 218 | 18.17 | 0.13 | 0.073 | | 0.059 | ( | 0.066) | 0.014 |
| 219 | 18.25 | 0.13 | 0.073 | | 0.058 | ( | 0.066) | 0.015 |
| 220 | 18.33 | 0.13 | 0.073 | | 0.058 | ( | 0.066) | 0.015 |
| 221 | 18.42 | 0.13 | 0.073 | | 0.058 | ( | 0.066) | 0.015 |
| 222 | 18.50 | 0.13 | 0.073 | | 0.057 | ( | 0.066) | 0.015 |
| 223 | 18.58 | 0.10 | 0.055 | ( | 0.057) | | 0.049 | 0.005 |
| 224 | 18.67 | 0.10 | 0.055 | ( | 0.057) | | 0.049 | 0.005 |
| 225 | 18.75 | 0.10 | 0.055 | ( | 0.057) | | 0.049 | 0.005 |
| 226 | 18.83 | 0.07 | 0.036 | ( | 0.056) | | 0.033 | 0.004 |
| 227 | 18.92 | 0.07 | 0.036 | ( | 0.056) | | 0.033 | 0.004 |
| 228 | 19.00 | 0.07 | 0.036 | ( | 0.056) | | 0.033 | 0.004 |
| 229 | 19.08 | 0.10 | 0.055 | ( | 0.056) | | 0.049 | 0.005 |
| 230 | 19.17 | 0.10 | 0.055 | ( | 0.055) | | 0.049 | 0.005 |
| 231 | 19.25 | 0.10 | 0.055 | ( | 0.055) | | 0.049 | 0.005 |
| 232 | 19.33 | 0.13 | 0.073 | | 0.055 | ( | 0.066) | 0.018 |
| 233 | 19.42 | 0.13 | 0.073 | | 0.055 | ( | 0.066) | 0.018 |
| 234 | 19.50 | 0.13 | 0.073 | | 0.054 | ( | 0.066) | 0.019 |
| 235 | 19.58 | 0.10 | 0.055 | ( | 0.054) | | 0.049 | 0.005 |
| 236 | 19.67 | 0.10 | 0.055 | ( | 0.054) | | 0.049 | 0.005 |
| 237 | 19.75 | 0.10 | 0.055 | ( | 0.054) | | 0.049 | 0.005 |
| 238 | 19.83 | 0.07 | 0.036 | ( | 0.053) | | 0.033 | 0.004 |
| 239 | 19.92 | 0.07 | 0.036 | ( | 0.053) | | 0.033 | 0.004 |
| 240 | 20.00 | 0.07 | 0.036 | ( | 0.053) | | 0.033 | 0.004 |
| 241 | 20.08 | 0.10 | 0.055 | ( | 0.053) | | 0.049 | 0.005 |
| 242 | 20.17 | 0.10 | 0.055 | ( | 0.052) | | 0.049 | 0.005 |
| 243 | 20.25 | 0.10 | 0.055 | ( | 0.052) | | 0.049 | 0.005 |
| 244 | 20.33 | 0.10 | 0.055 | ( | 0.052) | | 0.049 | 0.005 |
| 245 | 20.42 | 0.10 | 0.055 | ( | 0.052) | | 0.049 | 0.005 |
| 246 | 20.50 | 0.10 | 0.055 | ( | 0.051) | | 0.049 | 0.005 |
| 247 | 20.58 | 0.10 | 0.055 | ( | 0.051) | | 0.049 | 0.005 |
| 248 | 20.67 | 0.10 | 0.055 | ( | 0.051) | | 0.049 | 0.005 |
| 249 | 20.75 | 0.10 | 0.055 | ( | 0.051) | | 0.049 | 0.005 |
| 250 | 20.83 | 0.07 | 0.036 | ( | 0.051) | | 0.033 | 0.004 |
| 251 | 20.92 | 0.07 | 0.036 | ( | 0.050) | | 0.033 | 0.004 |
| 252 | 21.00 | 0.07 | 0.036 | ( | 0.050) | | 0.033 | 0.004 |
| 253 | 21.08 | 0.10 | 0.055 | ( | 0.050) | | 0.049 | 0.005 |
| 254 | 21.17 | 0.10 | 0.055 | ( | 0.050) | | 0.049 | 0.005 |
| 255 | 21.25 | 0.10 | 0.055 | ( | 0.050) | | 0.049 | 0.005 |
| 256 | 21.33 | 0.07 | 0.036 | ( | 0.049) | | 0.033 | 0.004 |
| 257 | 21.42 | 0.07 | 0.036 | ( | 0.049) | | 0.033 | 0.004 |
| 258 | 21.50 | 0.07 | 0.036 | ( | 0.049) | | 0.033 | 0.004 |
| 259 | 21.58 | 0.10 | 0.055 | | 0.049 | ( | 0.049) | 0.006 |
| 260 | 21.67 | 0.10 | 0.055 | | 0.049 | ( | 0.049) | 0.006 |
| 261 | 21.75 | 0.10 | 0.055 | | 0.049 | ( | 0.049) | 0.006 |
| 262 | 21.83 | 0.07 | 0.036 | ( | 0.048) | | 0.033 | 0.004 |
| 263 | 21.92 | 0.07 | 0.036 | ( | 0.048) | | 0.033 | 0.004 |
| 264 | 22.00 | 0.07 | 0.036 | ( | 0.048) | | 0.033 | 0.004 |
| 265 | 22.08 | 0.10 | 0.055 | | 0.048 | ( | 0.049) | 0.007 |
| 266 | 22.17 | 0.10 | 0.055 | | 0.048 | ( | 0.049) | 0.007 |
| 267 | 22.25 | 0.10 | 0.055 | | 0.048 | ( | 0.049) | 0.007 |
| 268 | 22.33 | 0.07 | 0.036 | ( | 0.047) | | 0.033 | 0.004 |
| 269 | 22.42 | 0.07 | 0.036 | ( | 0.047) | | 0.033 | 0.004 |
| 270 | 22.50 | 0.07 | 0.036 | ( | 0.047) | | 0.033 | 0.004 |
| 271 | 22.58 | 0.07 | 0.036 | ( | 0.047) | | 0.033 | 0.004 |
| 272 | 22.67 | 0.07 | 0.036 | ( | 0.047) | | 0.033 | 0.004 |
| 273 | 22.75 | 0.07 | 0.036 | ( | 0.047) | | 0.033 | 0.004 |
| 274 | 22.83 | 0.07 | 0.036 | ( | 0.047) | | 0.033 | 0.004 |
| 275 | 22.92 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 276 | 23.00 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 277 | 23.08 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 278 | 23.17 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 279 | 23.25 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 280 | 23.33 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 281 | 23.42 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 284 | 23.67 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 285 | 23.75 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 286 | 23.83 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 287 | 23.92 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 288 | 24.00 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |

(Loss Rate Not Used)
Sum = 100.0 Sum = 33.3
Flood volume = Effective rainfall 2.78(In)
times area 1.5(Ac.)/[(In)/(Ft.)] = 0.3(Ac.Ft)
Total soil loss = 1.77(In)
Total soil loss = 0.221(Ac.Ft)
Total rainfall = 4.55(In)
Flood volume = 15127.5 Cubic Feet
Total soil loss = 9647.1 Cubic Feet

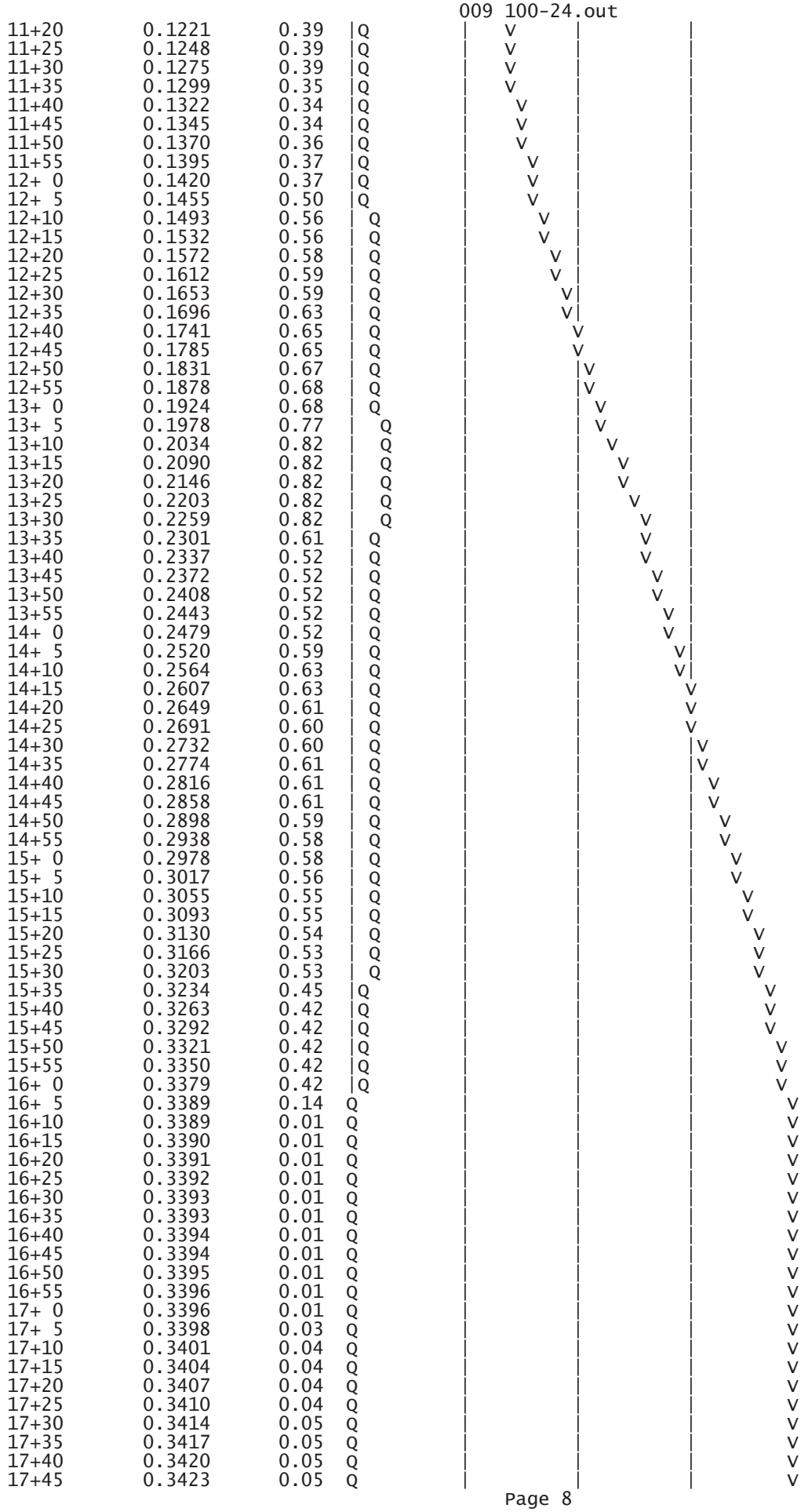
Peak flow rate of this hydrograph = 0.818(CFS)

24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0000 | 0.00 | Q | | | | |
| 0+10 | 0.0001 | 0.01 | Q | | | | |
| 0+15 | 0.0001 | 0.01 | Q | | | | |
| 0+20 | 0.0002 | 0.01 | Q | | | | |
| 0+25 | 0.0002 | 0.01 | Q | | | | |
| 0+30 | 0.0003 | 0.01 | Q | | | | |
| 0+35 | 0.0003 | 0.01 | Q | | | | |
| 0+40 | 0.0004 | 0.01 | Q | | | | |
| 0+45 | 0.0004 | 0.01 | Q | | | | |
| 0+50 | 0.0005 | 0.01 | Q | | | | |
| 0+55 | 0.0006 | 0.01 | Q | | | | |
| 1+ 0 | 0.0007 | 0.01 | Q | | | | |
| 1+ 5 | 0.0007 | 0.01 | Q | | | | |
| 1+10 | 0.0008 | 0.01 | Q | | | | |
| 1+15 | 0.0008 | 0.01 | Q | | | | |
| 1+20 | 0.0009 | 0.01 | Q | | | | |
| 1+25 | 0.0009 | 0.01 | Q | | | | |
| 1+30 | 0.0010 | 0.01 | Q | | | | |
| 1+35 | 0.0011 | 0.01 | Q | | | | |
| 1+40 | 0.0011 | 0.01 | Q | | | | |
| 1+45 | 0.0012 | 0.01 | Q | | | | |
| 1+50 | 0.0012 | 0.01 | Q | | | | |
| 1+55 | 0.0013 | 0.01 | Q | | | | |
| 2+ 0 | 0.0014 | 0.01 | Q | | | | |
| 2+ 5 | 0.0015 | 0.01 | Q | | | | |
| 2+10 | 0.0015 | 0.01 | Q | | | | |
| 2+15 | 0.0016 | 0.01 | Q | | | | |
| 2+20 | 0.0017 | 0.01 | Q | | | | |
| 2+25 | 0.0018 | 0.01 | Q | | | | |
| 2+30 | 0.0019 | 0.01 | Q | | | | |
| 2+35 | 0.0019 | 0.01 | Q | | | | |
| 2+40 | 0.0020 | 0.01 | Q | | | | |
| 2+45 | 0.0021 | 0.01 | Q | | | | |
| 2+50 | 0.0022 | 0.01 | Q | | | | |
| 2+55 | 0.0023 | 0.01 | Q | | | | |
| 3+ 0 | 0.0024 | 0.01 | Q | | | | |
| 3+ 5 | 0.0025 | 0.01 | Q | | | | |
| 3+10 | 0.0026 | 0.01 | Q | | | | |
| 3+15 | 0.0027 | 0.01 | Q | | | | |
| 3+20 | 0.0028 | 0.01 | Q | | | | |
| 3+25 | 0.0029 | 0.01 | Q | | | | |
| 3+30 | 0.0030 | 0.01 | Q | | | | |
| 3+35 | 0.0031 | 0.01 | Q | | | | |
| 3+40 | 0.0032 | 0.01 | Q | | | | |
| 3+45 | 0.0033 | 0.01 | Q | | | | |
| 3+50 | 0.0034 | 0.02 | Q | | | | |
| 3+55 | 0.0035 | 0.02 | Q | | | | |
| 4+ 0 | 0.0036 | 0.02 | Q | | | | |
| 4+ 5 | 0.0037 | 0.02 | Q | | | | |
| 4+10 | 0.0038 | 0.02 | Q | | | | |
| 4+15 | 0.0039 | 0.02 | Q | | | | |
| 4+20 | 0.0041 | 0.02 | Q | | | | |
| 4+25 | 0.0042 | 0.02 | Q | | | | |
| 4+30 | 0.0043 | 0.02 | Q | | | | |
| 4+35 | 0.0045 | 0.02 | Q | | | | |
| 4+40 | 0.0046 | 0.02 | Q | | | | |
| 4+45 | 0.0047 | 0.02 | Q | | | | |

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 4+50       0.0049      0.02  Q          |          |          |          |
 4+55       0.0051      0.03  Q          |          |          |          |
 5+ 0       0.0053      0.03  Q          |          |          |          |
 5+ 5       0.0054      0.02  Q          |          |          |          |
 5+10       0.0055      0.02  Q          |          |          |          |
 5+15       0.0057      0.02  Q          |          |          |          |
 5+20       0.0058      0.02  Q          |          |          |          |
 5+25       0.0059      0.02  Q          |          |          |          |
 5+30       0.0061      0.02  Q          |          |          |          |
 5+35       0.0063      0.03  Q          |          |          |          |
 5+40       0.0065      0.04  Q          |          |          |          |
 5+45       0.0067      0.04  Q          |          |          |          |
 5+50       0.0070      0.04  Q          |          |          |          |
 5+55       0.0073      0.04  Q          |          |          |          |
 6+ 0       0.0075      0.04  Q          |          |          |          |
 6+ 5       0.0079      0.06  Q          |          |          |          |
 6+10       0.0084      0.07  Q          |          |          |          |
 6+15       0.0089      0.07  QV         |          |          |          |
 6+20       0.0093      0.07  QV         |          |          |          |
 6+25       0.0098      0.07  QV         |          |          |          |
 6+30       0.0103      0.07  QV         |          |          |          |
 6+35       0.0109      0.09  QV         |          |          |          |
 6+40       0.0116      0.10  QV         |          |          |          |
 6+45       0.0123      0.10  QV         |          |          |          |
 6+50       0.0130      0.10  QV         |          |          |          |
 6+55       0.0137      0.10  QV         |          |          |          |
 7+ 0       0.0144      0.10  QV         |          |          |          |
 7+ 5       0.0151      0.10  QV         |          |          |          |
 7+10       0.0159      0.10  QV         |          |          |          |
 7+15       0.0166      0.11  QV         |          |          |          |
 7+20       0.0174      0.12  Q V        |          |          |          |
 7+25       0.0184      0.13  Q V        |          |          |          |
 7+30       0.0193      0.14  Q V        |          |          |          |
 7+35       0.0204      0.15  Q V        |          |          |          |
 7+40       0.0215      0.16  Q V        |          |          |          |
 7+45       0.0226      0.17  Q V        |          |          |          |
 7+50       0.0239      0.18  Q V        |          |          |          |
 7+55       0.0252      0.19  Q V        |          |          |          |
 8+ 0       0.0266      0.19  Q  V       |          |          |          |
 8+ 5       0.0282      0.23  Q  V       |          |          |          |
 8+10       0.0299      0.25  |Q V       |          |          |          |
 8+15       0.0317      0.25  |Q V       |          |          |          |
 8+20       0.0334      0.25  |Q V       |          |          |          |
 8+25       0.0351      0.25  |Q  V      |          |          |          |
 8+30       0.0369      0.25  |Q  V      |          |          |          |
 8+35       0.0388      0.27  |Q  V      |          |          |          |
 8+40       0.0407      0.28  |Q  V      |          |          |          |
 8+45       0.0427      0.28  |Q  V      |          |          |          |
 8+50       0.0448      0.30  |Q   V     |          |          |          |
 8+55       0.0469      0.31  |Q   V     |          |          |          |
 9+ 0       0.0491      0.31  |Q   V     |          |          |          |
 9+ 5       0.0515      0.35  |Q   V     |          |          |          |
 9+10       0.0541      0.37  |Q    V    |          |          |          |
 9+15       0.0566      0.37  |Q    V    |          |          |          |
 9+20       0.0593      0.39  |Q    V    |          |          |          |
 9+25       0.0621      0.40  |Q     V   |          |          |          |
 9+30       0.0648      0.40  |Q     V   |          |          |          |
 9+35       0.0677      0.42  |Q     V   |          |          |          |
 9+40       0.0707      0.43  |Q      V  |          |          |          |
 9+45       0.0737      0.43  |Q      V  |          |          |          |
 9+50       0.0768      0.45  |Q      V  |          |          |          |
 9+55       0.0799      0.46  |Q       V |          |          |          |
10+ 0       0.0831      0.46  |Q       V |          |          |          |
10+ 5       0.0854      0.33  |Q       V |          |          |          |
10+10       0.0872      0.27  |Q        V          |          |          |
10+15       0.0891      0.27  |Q        V          |          |          |
10+20       0.0909      0.27  |Q        V          |          |          |
10+25       0.0928      0.27  |Q        V          |          |          |
10+30       0.0947      0.27  |Q        V          |          |          |
10+35       0.0972      0.37  |Q        |V         |          |          |
10+40       0.1000      0.41  |Q        |V         |          |          |
10+45       0.1028      0.41  |Q        |V         |          |          |
10+50       0.1057      0.41  |Q        | V        |          |          |
10+55       0.1085      0.41  |Q        | V        |          |          |
11+ 0       0.1114      0.41  |Q        | V        |          |          |
11+ 5       0.1141      0.40  |Q        |  V       |          |          |
11+10       0.1168      0.39  |Q        |  V       |          |          |
11+15       0.1194      0.39  |Q        |  V       |          |          |
```



| | | | |
|---|---|---|---|
| 11+20 | 0.1221 | 0.39 | Q |
| 11+25 | 0.1248 | 0.39 | Q |
| 11+30 | 0.1275 | 0.39 | Q |
| 11+35 | 0.1299 | 0.35 | Q |
| 11+40 | 0.1322 | 0.34 | Q |
| 11+45 | 0.1345 | 0.34 | Q |
| 11+50 | 0.1370 | 0.36 | Q |
| 11+55 | 0.1395 | 0.37 | Q |
| 12+ 0 | 0.1420 | 0.37 | Q |
| 12+ 5 | 0.1455 | 0.50 | Q |
| 12+10 | 0.1493 | 0.56 | Q |
| 12+15 | 0.1532 | 0.56 | Q |
| 12+20 | 0.1572 | 0.58 | Q |
| 12+25 | 0.1612 | 0.59 | Q |
| 12+30 | 0.1653 | 0.59 | Q |
| 12+35 | 0.1696 | 0.63 | Q |
| 12+40 | 0.1741 | 0.65 | Q |
| 12+45 | 0.1785 | 0.65 | Q |
| 12+50 | 0.1831 | 0.67 | Q |
| 12+55 | 0.1878 | 0.68 | Q |
| 13+ 0 | 0.1924 | 0.68 | Q |
| 13+ 5 | 0.1978 | 0.77 | Q |
| 13+10 | 0.2034 | 0.82 | Q |
| 13+15 | 0.2090 | 0.82 | Q |
| 13+20 | 0.2146 | 0.82 | Q |
| 13+25 | 0.2203 | 0.82 | Q |
| 13+30 | 0.2259 | 0.82 | Q |
| 13+35 | 0.2301 | 0.61 | Q |
| 13+40 | 0.2337 | 0.52 | Q |
| 13+45 | 0.2372 | 0.52 | Q |
| 13+50 | 0.2408 | 0.52 | Q |
| 13+55 | 0.2443 | 0.52 | Q |
| 14+ 0 | 0.2479 | 0.52 | Q |
| 14+ 5 | 0.2520 | 0.59 | Q |
| 14+10 | 0.2564 | 0.63 | Q |
| 14+15 | 0.2607 | 0.63 | Q |
| 14+20 | 0.2649 | 0.61 | Q |
| 14+25 | 0.2691 | 0.60 | Q |
| 14+30 | 0.2732 | 0.60 | Q |
| 14+35 | 0.2774 | 0.61 | Q |
| 14+40 | 0.2816 | 0.61 | Q |
| 14+45 | 0.2858 | 0.61 | Q |
| 14+50 | 0.2898 | 0.59 | Q |
| 14+55 | 0.2938 | 0.58 | Q |
| 15+ 0 | 0.2978 | 0.58 | Q |
| 15+ 5 | 0.3017 | 0.56 | Q |
| 15+10 | 0.3055 | 0.55 | Q |
| 15+15 | 0.3093 | 0.55 | Q |
| 15+20 | 0.3130 | 0.54 | Q |
| 15+25 | 0.3166 | 0.53 | Q |
| 15+30 | 0.3203 | 0.53 | Q |
| 15+35 | 0.3234 | 0.45 | Q |
| 15+40 | 0.3263 | 0.42 | Q |
| 15+45 | 0.3292 | 0.42 | Q |
| 15+50 | 0.3321 | 0.42 | Q |
| 15+55 | 0.3350 | 0.42 | Q |
| 16+ 0 | 0.3379 | 0.42 | Q |
| 16+ 5 | 0.3389 | 0.14 | Q |
| 16+10 | 0.3389 | 0.01 | Q |
| 16+15 | 0.3390 | 0.01 | Q |
| 16+20 | 0.3391 | 0.01 | Q |
| 16+25 | 0.3392 | 0.01 | Q |
| 16+30 | 0.3393 | 0.01 | Q |
| 16+35 | 0.3393 | 0.01 | Q |
| 16+40 | 0.3394 | 0.01 | Q |
| 16+45 | 0.3394 | 0.01 | Q |
| 16+50 | 0.3395 | 0.01 | Q |
| 16+55 | 0.3396 | 0.01 | Q |
| 17+ 0 | 0.3396 | 0.01 | Q |
| 17+ 5 | 0.3398 | 0.03 | Q |
| 17+10 | 0.3401 | 0.04 | Q |
| 17+15 | 0.3404 | 0.04 | Q |
| 17+20 | 0.3407 | 0.04 | Q |
| 17+25 | 0.3410 | 0.04 | Q |
| 17+30 | 0.3414 | 0.05 | Q |
| 17+35 | 0.3417 | 0.05 | Q |
| 17+40 | 0.3420 | 0.05 | Q |
| 17+45 | 0.3423 | 0.05 | Q |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+50 | 0.3425 | 0.03 | Q | \| | \| | \| | V\| |
| 17+55 | 0.3426 | 0.02 | Q | \| | \| | \| | V\| |
| 18+ 0 | 0.3428 | 0.02 | Q | \| | \| | \| | V\| |
| 18+ 5 | 0.3429 | 0.02 | Q | \| | \| | \| | V\| |
| 18+10 | 0.3431 | 0.02 | Q | \| | \| | \| | V\| |
| 18+15 | 0.3432 | 0.02 | Q | \| | \| | \| | V\| |
| 18+20 | 0.3434 | 0.02 | Q | \| | \| | \| | V\| |
| 18+25 | 0.3435 | 0.02 | Q | \| | \| | \| | V\| |
| 18+30 | 0.3437 | 0.02 | Q | \| | \| | \| | V\| |
| 18+35 | 0.3438 | 0.01 | Q | \| | \| | \| | V\| |
| 18+40 | 0.3438 | 0.01 | Q | \| | \| | \| | V\| |
| 18+45 | 0.3439 | 0.01 | Q | \| | \| | \| | V\| |
| 18+50 | 0.3439 | 0.01 | Q | \| | \| | \| | V\| |
| 18+55 | 0.3440 | 0.01 | Q | \| | \| | \| | V\| |
| 19+ 0 | 0.3440 | 0.01 | Q | \| | \| | \| | V\| |
| 19+ 5 | 0.3441 | 0.01 | Q | \| | \| | \| | V\| |
| 19+10 | 0.3441 | 0.01 | Q | \| | \| | \| | V\| |
| 19+15 | 0.3442 | 0.01 | Q | \| | \| | \| | V\| |
| 19+20 | 0.3443 | 0.02 | Q | \| | \| | \| | V\| |
| 19+25 | 0.3445 | 0.03 | Q | \| | \| | \| | V\| |
| 19+30 | 0.3447 | 0.03 | Q | \| | \| | \| | V\| |
| 19+35 | 0.3448 | 0.01 | Q | \| | \| | \| | V\| |
| 19+40 | 0.3449 | 0.01 | Q | \| | \| | \| | V\| |
| 19+45 | 0.3449 | 0.01 | Q | \| | \| | \| | V\| |
| 19+50 | 0.3450 | 0.01 | Q | \| | \| | \| | V\| |
| 19+55 | 0.3450 | 0.01 | Q | \| | \| | \| | V\| |
| 20+ 0 | 0.3450 | 0.01 | Q | \| | \| | \| | V\| |
| 20+ 5 | 0.3451 | 0.01 | Q | \| | \| | \| | V\| |
| 20+10 | 0.3452 | 0.01 | Q | \| | \| | \| | V\| |
| 20+15 | 0.3452 | 0.01 | Q | \| | \| | \| | V\| |
| 20+20 | 0.3453 | 0.01 | Q | \| | \| | \| | V\| |
| 20+25 | 0.3453 | 0.01 | Q | \| | \| | \| | V\| |
| 20+30 | 0.3454 | 0.01 | Q | \| | \| | \| | V\| |
| 20+35 | 0.3454 | 0.01 | Q | \| | \| | \| | V\| |
| 20+40 | 0.3455 | 0.01 | Q | \| | \| | \| | V\| |
| 20+45 | 0.3456 | 0.01 | Q | \| | \| | \| | V\| |
| 20+50 | 0.3456 | 0.01 | Q | \| | \| | \| | V\| |
| 20+55 | 0.3456 | 0.01 | Q | \| | \| | \| | V\| |
| 21+ 0 | 0.3457 | 0.01 | Q | \| | \| | \| | V\| |
| 21+ 5 | 0.3457 | 0.01 | Q | \| | \| | \| | V\| |
| 21+10 | 0.3458 | 0.01 | Q | \| | \| | \| | V\| |
| 21+15 | 0.3458 | 0.01 | Q | \| | \| | \| | V\| |
| 21+20 | 0.3459 | 0.01 | Q | \| | \| | \| | V\| |
| 21+25 | 0.3459 | 0.01 | Q | \| | \| | \| | V\| |
| 21+30 | 0.3460 | 0.01 | Q | \| | \| | \| | V\| |
| 21+35 | 0.3460 | 0.01 | Q | \| | \| | \| | V\| |
| 21+40 | 0.3461 | 0.01 | Q | \| | \| | \| | V\| |
| 21+45 | 0.3461 | 0.01 | Q | \| | \| | \| | V\| |
| 21+50 | 0.3462 | 0.01 | Q | \| | \| | \| | V\| |
| 21+55 | 0.3462 | 0.01 | Q | \| | \| | \| | V\| |
| 22+ 0 | 0.3463 | 0.01 | Q | \| | \| | \| | V\| |
| 22+ 5 | 0.3463 | 0.01 | Q | \| | \| | \| | V\| |
| 22+10 | 0.3464 | 0.01 | Q | \| | \| | \| | V\| |
| 22+15 | 0.3465 | 0.01 | Q | \| | \| | \| | V\| |
| 22+20 | 0.3465 | 0.01 | Q | \| | \| | \| | V\| |
| 22+25 | 0.3465 | 0.01 | Q | \| | \| | \| | V\| |
| 22+30 | 0.3466 | 0.01 | Q | \| | \| | \| | V\| |
| 22+35 | 0.3466 | 0.01 | Q | \| | \| | \| | V\| |
| 22+40 | 0.3467 | 0.01 | Q | \| | \| | \| | V\| |
| 22+45 | 0.3467 | 0.01 | Q | \| | \| | \| | V\| |
| 22+50 | 0.3467 | 0.01 | Q | \| | \| | \| | V\| |
| 22+55 | 0.3468 | 0.01 | Q | \| | \| | \| | V\| |
| 23+ 0 | 0.3468 | 0.01 | Q | \| | \| | \| | V\| |
| 23+ 5 | 0.3469 | 0.01 | Q | \| | \| | \| | V\| |
| 23+10 | 0.3469 | 0.01 | Q | \| | \| | \| | V\| |
| 23+15 | 0.3469 | 0.01 | Q | \| | \| | \| | V\| |
| 23+20 | 0.3470 | 0.01 | Q | \| | \| | \| | V\| |
| 23+25 | 0.3470 | 0.01 | Q | \| | \| | \| | V\| |
| 23+30 | 0.3470 | 0.01 | Q | \| | \| | \| | V\| |
| 23+35 | 0.3471 | 0.01 | Q | \| | \| | \| | V\| |
| 23+40 | 0.3471 | 0.01 | Q | \| | \| | \| | V\| |
| 23+45 | 0.3472 | 0.01 | Q | \| | \| | \| | V\| |
| 23+50 | 0.3472 | 0.01 | Q | \| | \| | \| | V\| |
| 23+55 | 0.3472 | 0.01 | Q | \| | \| | \| | V\| |
| 24+ 0 | 0.3473 | 0.01 | Q | \| | \| | \| | V\| |
| 24+ 5 | 0.3473 | 0.00 | Q | \| | \| | \| | V\| |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX101100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 10
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 2.60(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.60(Ac.) = 0.004 Sq. Mi.
Length along longest watercourse = 639.00(Ft.)
Length along longest watercourse measured to centroid = 308.00(Ft.)
Length along longest watercourse = 0.121 Mi.
Length along longest watercourse measured to centroid = 0.058 Mi.
Difference in elevation = 330.00(Ft.)
Slope along watercourse = 2726.7606 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.028 Hr.
Lag time = 1.71 Min.
25% of lag time = 0.43 Min.
40% of lag time = 0.68 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.60 | 0.49 | 1.27 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.60 | 1.20 | 3.12 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.490(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2.600 | 83.98 | 0.000 |

Total Area Entered = 2.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

---

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 292.937 | 56.857 | 1.490 |
| 2 | 0.167 | 585.874 | 40.882 | 1.071 |
| 3 | 0.250 | 878.812 | 2.261 | 0.059 |
| | | | Sum = 100.000 Sum= | 2.620 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.086 | ( 0.544) | 0.519 |
| 2 | 0.17 | 4.30 | 0.619 | 0.086 | ( 0.557) | 0.533 |
| 3 | 0.25 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 4 | 0.33 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 5 | 0.42 | 5.80 | 0.835 | 0.086 | ( 0.752) | 0.749 |
| 6 | 0.50 | 6.50 | 0.936 | 0.086 | ( 0.842) | 0.850 |
| 7 | 0.58 | 7.40 | 1.066 | 0.086 | ( 0.959) | 0.980 |
| 8 | 0.67 | 8.60 | 1.238 | 0.086 | ( 1.115) | 1.152 |
| 9 | 0.75 | 12.30 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 10 | 0.83 | 29.10 | 4.190 | 0.086 | ( 3.771) | 4.104 |
| 11 | 0.92 | 6.80 | 0.979 | 0.086 | ( 0.881) | 0.893 |
| 12 | 1.00 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 13.4 |

Flood volume = Effective rainfall 1.11(In)
times area 2.6(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.019(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 10514.1 Cubic Feet
Total soil loss = 811.3 Cubic Feet

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Peak flow rate of this hydrograph = 7.992(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0053 | 0.77 | V Q | | | | |
| 0+10 | 0.0146 | 1.35 | V Q | | | | |
| 0+15 | 0.0253 | 1.55 | V Q | | | | |
| 0+20 | 0.0367 | 1.66 | Q | | | | |
| 0+25 | 0.0493 | 1.83 | QV | | | | |
| 0+30 | 0.0638 | 2.11 | Q V | | | | |
| 0+35 | 0.0805 | 2.42 | Q V | | | | |
| 0+40 | 0.0999 | 2.82 | Q V | | | | |
| 0+45 | 0.1261 | 3.81 | Q V | | | | |
| 0+50 | 0.1811 | 7.99 | VQ | | | | |
| 0+55 | 0.2213 | 5.83 | Q V | | | | |
| 1+ 0 | 0.2361 | 2.15 | Q V | | | | |
| 1+ 5 | 0.2411 | 0.73 | Q V | | | | |
| 1+10 | 0.2414 | 0.04 | Q V | | | | |

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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX103100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 10
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 2.60(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.60(Ac.) = 0.004 Sq. Mi.
Length along longest watercourse = 639.00(Ft.)
Length along longest watercourse measured to centroid = 308.00(Ft.)
Length along longest watercourse = 0.121 Mi.
Length along longest watercourse measured to centroid = 0.058 Mi.
Difference in elevation = 330.00(Ft.)
Slope along watercourse = 2726.7606 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.028 Hr.
Lag time = 1.71 Min.
25% of lag time = 0.43 Min.
40% of lag time = 0.68 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.60 | 0.80 | 2.08 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.60 | 1.80 | 4.68 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2.600 | 83.98 | 0.000 |

Total Area Entered = 2.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 292.937 | 56.857 | 1.490 |
| 2 0.167 | 585.874 | 40.882 | 1.071 |
| 3 0.250 | 878.812 | 2.261 | 0.059 |
| | Sum = 100.000 | Sum= | 2.620 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 1.30 | 0.281 | 0.086 | ( 0.253) | 0.195 |
| 2 0.17 | 1.30 | 0.281 | 0.086 | ( 0.253) | 0.195 |
| 3 0.25 | 1.10 | 0.238 | 0.086 | ( 0.214) | 0.152 |
| 4 0.33 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 5 0.42 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 6 0.50 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 7 0.58 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 8 0.67 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 9 0.75 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 10 0.83 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 11 0.92 | 1.60 | 0.346 | 0.086 | ( 0.311) | 0.260 |
| 12 1.00 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 13 1.08 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 14 1.17 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 15 1.25 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 16 1.33 | 2.00 | 0.432 | 0.086 | ( 0.389) | 0.346 |
| 17 1.42 | 2.60 | 0.562 | 0.086 | ( 0.505) | 0.476 |
| 18 1.50 | 2.70 | 0.583 | 0.086 | ( 0.525) | 0.497 |
| 19 1.58 | 2.40 | 0.518 | 0.086 | ( 0.467) | 0.432 |
| 20 1.67 | 2.70 | 0.583 | 0.086 | ( 0.525) | 0.497 |
| 21 1.75 | 3.30 | 0.713 | 0.086 | ( 0.642) | 0.627 |
| 22 1.83 | 3.10 | 0.670 | 0.086 | ( 0.603) | 0.584 |
| 23 1.92 | 2.90 | 0.626 | 0.086 | ( 0.564) | 0.540 |
| 24 2.00 | 3.00 | 0.648 | 0.086 | ( 0.583) | 0.562 |
| 25 2.08 | 3.10 | 0.670 | 0.086 | ( 0.603) | 0.584 |
| 26 2.17 | 4.20 | 0.907 | 0.086 | ( 0.816) | 0.821 |
| 27 2.25 | 5.00 | 1.080 | 0.086 | ( 0.972) | 0.994 |
| 28 2.33 | 3.50 | 0.756 | 0.086 | ( 0.680) | 0.670 |
| 29 2.42 | 6.80 | 1.469 | 0.086 | ( 1.322) | 1.383 |
| 30 2.50 | 7.30 | 1.577 | 0.086 | ( 1.419) | 1.491 |
| 31 2.58 | 8.20 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 32 2.67 | 5.90 | 1.274 | 0.086 | ( 1.147) | 1.188 |
| 33 2.75 | 2.00 | 0.432 | 0.086 | ( 0.389) | 0.346 |
| 34 2.83 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 35 2.92 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 36 3.00 | 0.60 | 0.130 | 0.086 | ( 0.117) | 0.044 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 18.5 |

Flood volume = Effective rainfall 1.54(In)
times area 2.6(Ac.)/[(In)/(Ft.)] = 0.3(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.056(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 14554.4 Cubic Feet
Total soil loss = 2433.8 Cubic Feet

Peak flow rate of this hydrograph = 4.192(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0020 | 0.29 | VQ | | | | |
| 0+10 | 0.0054 | 0.50 | VQ | | | | |
| 0+15 | 0.0085 | 0.45 | \|Q | | | | |
| 0+20 | 0.0122 | 0.53 | \|VQ | | | | |
| 0+25 | 0.0164 | 0.62 | \|VQ | | | | |
| 0+30 | 0.0214 | 0.72 | \| Q | | | | |
| 0+35 | 0.0262 | 0.69 | \| QV | | | | |
| 0+40 | 0.0311 | 0.72 | \| QV | | | | |
| 0+45 | 0.0366 | 0.79 | \| QV | | | | |
| 0+50 | 0.0414 | 0.70 | \| Q V | | | | |
| 0+55 | 0.0459 | 0.66 | \| Q V | | | | |
| 1+ 0 | 0.0511 | 0.74 | \| Q V | | | | |
| 1+ 5 | 0.0574 | 0.92 | \| Q V | | | | |
| 1+10 | 0.0644 | 1.02 | \| Q V | | | | |
| 1+15 | 0.0714 | 1.02 | \| Q V | | | | |
| 1+20 | 0.0780 | 0.96 | \| Q V | | | | |
| 1+25 | 0.0856 | 1.10 | \| Q V | | | | |
| 1+30 | 0.0944 | 1.27 | \| Q V | | | | |
| 1+35 | 0.1027 | 1.21 | \| Q V | | | | |
| 1+40 | 0.1112 | 1.23 | \| Q V | | | | |
| 1+45 | 0.1214 | 1.49 | \| Q V | | | | |
| 1+50 | 0.1323 | 1.57 | \| Q V | | | | |
| 1+55 | 0.1424 | 1.47 | \| Q V | | | | |
| 2+ 0 | 0.1524 | 1.45 | \| Q V | | | | |
| 2+ 5 | 0.1627 | 1.50 | \| Q V | | | | |
| 2+10 | 0.1757 | 1.88 | \| Q V | | | | |
| 2+15 | 0.1922 | 2.40 | \| Q V | | | | |
| 2+20 | 0.2068 | 2.11 | \| Q V | | | | |
| 2+25 | 0.2263 | 2.84 | \| Q V | | | | |
| 2+30 | 0.2521 | 3.74 | \| Q V | | | | |
| 2+35 | 0.2810 | 4.19 | \| Q V | | | | |
| 2+40 | 0.3062 | 3.67 | \| Q V | | | | |
| 2+45 | 0.3192 | 1.89 | \| Q V | | | | |
| 2+50 | 0.3254 | 0.89 | \| Q V | | | | |
| 2+55 | 0.3309 | 0.80 | \| Q V | | | | |
| 3+ 0 | 0.3337 | 0.41 | \|Q V | | | | |
| 3+ 5 | 0.3341 | 0.06 | Q V | | | | |
| 3+10 | 0.3341 | 0.00 | Q V | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX106100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 10
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 2.60(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.60(Ac.) = 0.004 Sq. Mi.
Length along longest watercourse = 639.00(Ft.)
Length along longest watercourse measured to centroid = 308.00(Ft.)
Length along longest watercourse = 0.121 Mi.
Length along longest watercourse measured to centroid = 0.058 Mi.
Difference in elevation = 330.00(Ft.)
Slope along watercourse = 2726.7606 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.028 Hr.
Lag time = 1.71 Min.
25% of lag time = 0.43 Min.
40% of lag time = 0.68 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.60 | 1.12 | 2.91 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.60 | 2.50 | 6.50 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.120(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2.600 | 83.98 | 0.000 |

Total Area Entered = 2.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 292.937 | 56.857 | 1.490 |
| 2 0.167 | 585.874 | 40.882 | 1.071 |
| 3 0.250 | 878.812 | 2.261 | 0.059 |
| | | Sum = 100.000 Sum= | 2.620 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.086 | ( 0.135) | 0.064 |
| 2 | 0.17 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 3 | 0.25 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 4 | 0.33 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 5 | 0.42 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 6 | 0.50 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 7 | 0.58 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 8 | 0.67 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 9 | 0.75 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 10 | 0.83 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 11 | 0.92 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 12 | 1.00 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 13 | 1.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 14 | 1.17 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 15 | 1.25 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 16 | 1.33 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 17 | 1.42 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 18 | 1.50 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 19 | 1.58 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 20 | 1.67 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 21 | 1.75 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 22 | 1.83 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 23 | 1.92 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 24 | 2.00 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 25 | 2.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 26 | 2.17 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 27 | 2.25 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 28 | 2.33 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 29 | 2.42 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 30 | 2.50 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 31 | 2.58 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 32 | 2.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 33 | 2.75 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 34 | 2.83 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 35 | 2.92 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 36 | 3.00 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 37 | 3.08 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 38 | 3.17 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 39 | 3.25 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 40 | 3.33 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 41 | 3.42 | 1.20 | 0.360 | 0.086 | ( 0.324) | 0.274 |
| 42 | 3.50 | 1.30 | 0.390 | 0.086 | ( 0.351) | 0.304 |
| 43 | 3.58 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 44 | 3.67 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 45 | 3.75 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 46 | 3.83 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 47 | 3.92 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 48 | 4.00 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 49 | 4.08 | 1.70 | 0.510 | 0.086 | ( 0.459) | 0.424 |
| 50 | 4.17 | 1.80 | 0.540 | 0.086 | ( 0.486) | 0.454 |
| 51 | 4.25 | 1.90 | 0.570 | 0.086 | ( 0.513) | 0.484 |
| 52 | 4.33 | 2.00 | 0.600 | 0.086 | ( 0.540) | 0.514 |
| 53 | 4.42 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 54 | 4.50 | 2.10 | 0.630 | 0.086 | ( 0.567) | | 0.544 |
| 55 | 4.58 | 2.20 | 0.660 | 0.086 | ( 0.594) | | 0.574 |
| 56 | 4.67 | 2.30 | 0.690 | 0.086 | ( 0.621) | | 0.604 |
| 57 | 4.75 | 2.40 | 0.720 | 0.086 | ( 0.648) | | 0.634 |
| 58 | 4.83 | 2.40 | 0.720 | 0.086 | ( 0.648) | | 0.634 |
| 59 | 4.92 | 2.50 | 0.750 | 0.086 | ( 0.675) | | 0.664 |
| 60 | 5.00 | 2.60 | 0.780 | 0.086 | ( 0.702) | | 0.694 |
| 61 | 5.08 | 3.10 | 0.930 | 0.086 | ( 0.837) | | 0.844 |
| 62 | 5.17 | 3.60 | 1.080 | 0.086 | ( 0.972) | | 0.994 |
| 63 | 5.25 | 3.90 | 1.170 | 0.086 | ( 1.053) | | 1.084 |
| 64 | 5.33 | 4.20 | 1.260 | 0.086 | ( 1.134) | | 1.174 |
| 65 | 5.42 | 4.70 | 1.410 | 0.086 | ( 1.269) | | 1.324 |
| 66 | 5.50 | 5.60 | 1.680 | 0.086 | ( 1.512) | | 1.594 |
| 67 | 5.58 | 1.90 | 0.570 | 0.086 | ( 0.513) | | 0.484 |
| 68 | 5.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | | 0.184 |
| 69 | 5.75 | 0.60 | 0.180 | 0.086 | ( 0.162) | | 0.094 |
| 70 | 5.83 | 0.50 | 0.150 | 0.086 | ( 0.135) | | 0.064 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.086) | 0.081 | | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.086) | 0.054 | | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.8

Flood volume = Effective rainfall 1.99(In)
times area 2.6(Ac.)/[(In)/(Ft.)] = 0.4(Ac.Ft)
Total soil loss = 0.51(In)
Total soil loss = 0.111(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 18756.3 Cubic Feet
Total soil loss = 4838.5 Cubic Feet

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Peak flow rate of this hydrograph = 3.865(CFS)

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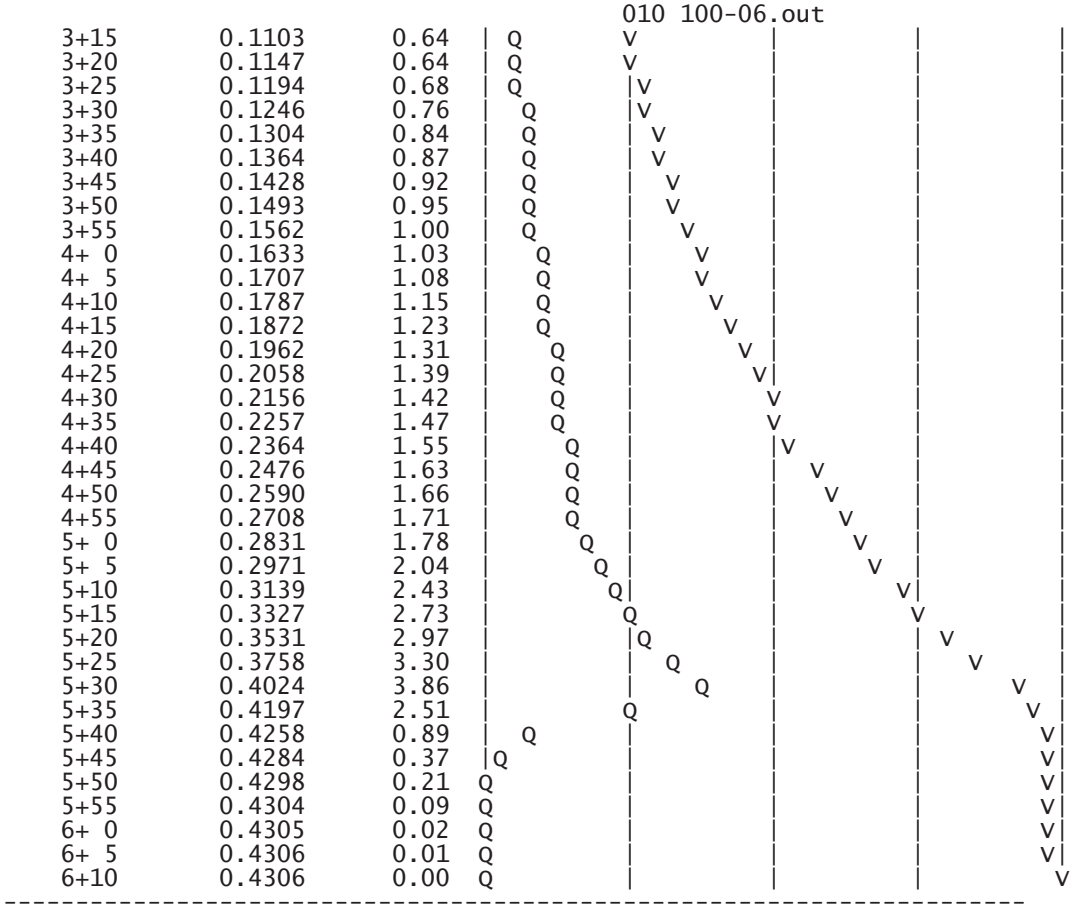
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0007 | 0.10 | Q | \| | \| | \| | \| |
| 0+10 | 0.0021 | 0.21 | Q | \| | \| | \| | \| |
| 0+15 | 0.0038 | 0.24 | Q | \| | \| | \| | \| |
| 0+20 | 0.0055 | 0.25 | Q | \| | \| | \| | \| |
| 0+25 | 0.0072 | 0.25 | Q | \| | \| | \| | \| |
| 0+30 | 0.0092 | 0.29 | VQ | \| | \| | \| | \| |
| 0+35 | 0.0114 | 0.32 | \|Q | \| | \| | \| | \| |
| 0+40 | 0.0137 | 0.33 | \|Q | \| | \| | \| | \| |
| 0+45 | 0.0159 | 0.33 | \|Q | \| | \| | \| | \| |
| 0+50 | 0.0181 | 0.33 | \|Q | \| | \| | \| | \| |
| 0+55 | 0.0204 | 0.33 | \|Q | \| | \| | \| | \| |
| 1+ 0 | 0.0229 | 0.37 | \|QV | \| | \| | \| | \| |
| 1+ 5 | 0.0257 | 0.40 | \|QV | \| | \| | \| | \| |
| 1+10 | 0.0285 | 0.40 | \|QV | \| | \| | \| | \| |
| 1+15 | 0.0312 | 0.40 | \|QV | \| | \| | \| | \| |
| 1+20 | 0.0340 | 0.40 | \|Q V | \| | \| | \| | \| |
| 1+25 | 0.0368 | 0.40 | \|Q V | \| | \| | \| | \| |
| 1+30 | 0.0396 | 0.40 | \|Q V | \| | \| | \| | \| |
| 1+35 | 0.0424 | 0.40 | \|Q V | \| | \| | \| | \| |
| 1+40 | 0.0452 | 0.40 | \|Q V | \| | \| | \| | \| |
| 1+45 | 0.0479 | 0.40 | \|Q V | \| | \| | \| | \| |
| 1+50 | 0.0507 | 0.40 | \|Q V | \| | \| | \| | \| |
| 1+55 | 0.0535 | 0.40 | \|Q V | \| | \| | \| | \| |
| 2+ 0 | 0.0566 | 0.45 | \|Q V | \| | \| | \| | \| |
| 2+ 5 | 0.0596 | 0.44 | \|Q V | \| | \| | \| | \| |
| 2+10 | 0.0627 | 0.45 | \|Q V | \| | \| | \| | \| |
| 2+15 | 0.0660 | 0.48 | \|Q V | \| | \| | \| | \| |
| 2+20 | 0.0693 | 0.48 | \|Q V | \| | \| | \| | \| |
| 2+25 | 0.0726 | 0.48 | \|Q V | \| | \| | \| | \| |
| 2+30 | 0.0760 | 0.48 | \|Q V | \| | \| | \| | \| |
| 2+35 | 0.0793 | 0.48 | \|Q V | \| | \| | \| | \| |
| 2+40 | 0.0826 | 0.48 | \|Q V | \| | \| | \| | \| |
| 2+45 | 0.0862 | 0.53 | \| Q V | \| | \| | \| | \| |
| 2+50 | 0.0901 | 0.56 | \| Q V | \| | \| | \| | \| |
| 2+55 | 0.0940 | 0.56 | \| Q V | \| | \| | \| | \| |
| 3+ 0 | 0.0978 | 0.56 | \| Q V\| | \| | \| | \| | \| |
| 3+ 5 | 0.1017 | 0.56 | \| Q V\| | \| | \| | \| | \| |
| 3+10 | 0.1059 | 0.61 | \| Q V\| | \| | \| | \| | \| |



| | | | |
|---|---|---|---|
| 3+15 | 0.1103 | 0.64 | |
| 3+20 | 0.1147 | 0.64 | |
| 3+25 | 0.1194 | 0.68 | |
| 3+30 | 0.1246 | 0.76 | |
| 3+35 | 0.1304 | 0.84 | |
| 3+40 | 0.1364 | 0.87 | |
| 3+45 | 0.1428 | 0.92 | |
| 3+50 | 0.1493 | 0.95 | |
| 3+55 | 0.1562 | 1.00 | |
| 4+ 0 | 0.1633 | 1.03 | |
| 4+ 5 | 0.1707 | 1.08 | |
| 4+10 | 0.1787 | 1.15 | |
| 4+15 | 0.1872 | 1.23 | |
| 4+20 | 0.1962 | 1.31 | |
| 4+25 | 0.2058 | 1.39 | |
| 4+30 | 0.2156 | 1.42 | |
| 4+35 | 0.2257 | 1.47 | |
| 4+40 | 0.2364 | 1.55 | |
| 4+45 | 0.2476 | 1.63 | |
| 4+50 | 0.2590 | 1.66 | |
| 4+55 | 0.2708 | 1.71 | |
| 5+ 0 | 0.2831 | 1.78 | |
| 5+ 5 | 0.2971 | 2.04 | |
| 5+10 | 0.3139 | 2.43 | |
| 5+15 | 0.3327 | 2.73 | |
| 5+20 | 0.3531 | 2.97 | |
| 5+25 | 0.3758 | 3.30 | |
| 5+30 | 0.4024 | 3.86 | |
| 5+35 | 0.4197 | 2.51 | |
| 5+40 | 0.4258 | 0.89 | |
| 5+45 | 0.4284 | 0.37 | |
| 5+50 | 0.4298 | 0.21 | |
| 5+55 | 0.4304 | 0.09 | |
| 6+ 0 | 0.4305 | 0.02 | |
| 6+ 5 | 0.4306 | 0.01 | |
| 6+10 | 0.4306 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX1024100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 10
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 2.60(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.60(Ac.) = 0.004 Sq. Mi.
Length along longest watercourse = 639.00(Ft.)
Length along longest watercourse measured to centroid = 308.00(Ft.)
Length along longest watercourse = 0.121 Mi.
Length along longest watercourse measured to centroid = 0.058 Mi.
Difference in elevation = 330.00(Ft.)
Slope along watercourse = 2726.7606 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.028 Hr.
Lag time = 1.71 Min.
25% of lag time = 0.43 Min.
40% of lag time = 0.68 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.60 | 1.80 | 4.68 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.60 | 4.55 | 11.83 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.550(In)

Point rain (area averaged) = 4.550(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.550(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2.600 | 83.98 | 0.000 |

Total Area Entered = 2.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 292.937 | 56.857 | 1.490 |
| 2 | 0.167 | 585.874 | 40.882 | 1.071 |
| 3 | 0.250 | 878.812 | 2.261 | 0.059 |
| | | | Sum = 100.000 Sum= | 2.620 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.036 | ( 0.152) | 0.033 | 0.004 |
| 2 | 0.17 | 0.07 | 0.036 | ( 0.152) | 0.033 | 0.004 |
| 3 | 0.25 | 0.07 | 0.036 | ( 0.151) | 0.033 | 0.004 |
| 4 | 0.33 | 0.10 | 0.055 | ( 0.151) | 0.049 | 0.005 |
| 5 | 0.42 | 0.10 | 0.055 | ( 0.150) | 0.049 | 0.005 |
| 6 | 0.50 | 0.10 | 0.055 | ( 0.149) | 0.049 | 0.005 |
| 7 | 0.58 | 0.10 | 0.055 | ( 0.149) | 0.049 | 0.005 |
| 8 | 0.67 | 0.10 | 0.055 | ( 0.148) | 0.049 | 0.005 |
| 9 | 0.75 | 0.10 | 0.055 | ( 0.148) | 0.049 | 0.005 |
| 10 | 0.83 | 0.13 | 0.073 | ( 0.147) | 0.066 | 0.007 |
| 11 | 0.92 | 0.13 | 0.073 | ( 0.147) | 0.066 | 0.007 |
| 12 | 1.00 | 0.13 | 0.073 | ( 0.146) | 0.066 | 0.007 |
| 13 | 1.08 | 0.10 | 0.055 | ( 0.145) | 0.049 | 0.005 |
| 14 | 1.17 | 0.10 | 0.055 | ( 0.145) | 0.049 | 0.005 |
| 15 | 1.25 | 0.10 | 0.055 | ( 0.144) | 0.049 | 0.005 |
| 16 | 1.33 | 0.10 | 0.055 | ( 0.144) | 0.049 | 0.005 |
| 17 | 1.42 | 0.10 | 0.055 | ( 0.143) | 0.049 | 0.005 |
| 18 | 1.50 | 0.10 | 0.055 | ( 0.143) | 0.049 | 0.005 |
| 19 | 1.58 | 0.10 | 0.055 | ( 0.142) | 0.049 | 0.005 |
| 20 | 1.67 | 0.10 | 0.055 | ( 0.141) | 0.049 | 0.005 |
| 21 | 1.75 | 0.10 | 0.055 | ( 0.141) | 0.049 | 0.005 |
| 22 | 1.83 | 0.13 | 0.073 | ( 0.140) | 0.066 | 0.007 |
| 23 | 1.92 | 0.13 | 0.073 | ( 0.140) | 0.066 | 0.007 |
| 24 | 2.00 | 0.13 | 0.073 | ( 0.139) | 0.066 | 0.007 |
| 25 | 2.08 | 0.13 | 0.073 | ( 0.139) | 0.066 | 0.007 |
| 26 | 2.17 | 0.13 | 0.073 | ( 0.138) | 0.066 | 0.007 |
| 27 | 2.25 | 0.13 | 0.073 | ( 0.137) | 0.066 | 0.007 |
| 28 | 2.33 | 0.13 | 0.073 | ( 0.137) | 0.066 | 0.007 |
| 29 | 2.42 | 0.13 | 0.073 | ( 0.136) | 0.066 | 0.007 |
| 30 | 2.50 | 0.13 | 0.073 | ( 0.136) | 0.066 | 0.007 |
| 31 | 2.58 | 0.17 | 0.091 | ( 0.135) | 0.082 | 0.009 |
| 32 | 2.67 | 0.17 | 0.091 | ( 0.135) | 0.082 | 0.009 |
| 33 | 2.75 | 0.17 | 0.091 | ( 0.134) | 0.082 | 0.009 |
| 34 | 2.83 | 0.17 | 0.091 | ( 0.134) | 0.082 | 0.009 |
| 35 | 2.92 | 0.17 | 0.091 | ( 0.133) | 0.082 | 0.009 |
| 36 | 3.00 | 0.17 | 0.091 | ( 0.132) | 0.082 | 0.009 |
| 37 | 3.08 | 0.17 | 0.091 | ( 0.132) | 0.082 | 0.009 |
| 38 | 3.17 | 0.17 | 0.091 | ( 0.131) | 0.082 | 0.009 |
| 39 | 3.25 | 0.17 | 0.091 | ( 0.131) | 0.082 | 0.009 |
| 40 | 3.33 | 0.17 | 0.091 | ( 0.130) | 0.082 | 0.009 |
| 41 | 3.42 | 0.17 | 0.091 | ( 0.130) | 0.082 | 0.009 |
| 42 | 3.50 | 0.17 | 0.091 | ( 0.129) | 0.082 | 0.009 |
| 43 | 3.58 | 0.17 | 0.091 | ( 0.129) | 0.082 | 0.009 |
| 44 | 3.67 | 0.17 | 0.091 | ( 0.128) | 0.082 | 0.009 |
| 45 | 3.75 | 0.17 | 0.091 | ( 0.128) | 0.082 | 0.009 |
| 46 | 3.83 | 0.20 | 0.109 | ( 0.127) | 0.098 | 0.011 |
| 47 | 3.92 | 0.20 | 0.109 | ( 0.126) | 0.098 | 0.011 |
| 48 | 4.00 | 0.20 | 0.109 | ( 0.126) | 0.098 | 0.011 |
| 49 | 4.08 | 0.20 | 0.109 | ( 0.125) | 0.098 | 0.011 |
| 50 | 4.17 | 0.20 | 0.109 | ( 0.125) | 0.098 | 0.011 |
| 51 | 4.25 | 0.20 | 0.109 | ( 0.124) | 0.098 | 0.011 |
| 52 | 4.33 | 0.23 | 0.127 | ( 0.124) | 0.115 | 0.013 |
| 53 | 4.42 | 0.23 | 0.127 | ( 0.123) | 0.115 | 0.013 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 54 | 4.50 | 0.23 | 0.127 | ( | 0.123) | | 0.115 | 0.013 |
| 55 | 4.58 | 0.23 | 0.127 | ( | 0.122) | | 0.115 | 0.013 |
| 56 | 4.67 | 0.23 | 0.127 | ( | 0.122) | | 0.115 | 0.013 |
| 57 | 4.75 | 0.23 | 0.127 | ( | 0.121) | | 0.115 | 0.013 |
| 58 | 4.83 | 0.27 | 0.146 | | 0.121 | ( | 0.131) | 0.025 |
| 59 | 4.92 | 0.27 | 0.146 | | 0.120 | ( | 0.131) | 0.025 |
| 60 | 5.00 | 0.27 | 0.146 | | 0.120 | ( | 0.131) | 0.026 |
| 61 | 5.08 | 0.20 | 0.109 | ( | 0.119) | | 0.098 | 0.011 |
| 62 | 5.17 | 0.20 | 0.109 | ( | 0.119) | | 0.098 | 0.011 |
| 63 | 5.25 | 0.20 | 0.109 | ( | 0.118) | | 0.098 | 0.011 |
| 64 | 5.33 | 0.23 | 0.127 | ( | 0.118) | | 0.115 | 0.013 |
| 65 | 5.42 | 0.23 | 0.127 | ( | 0.117) | | 0.115 | 0.013 |
| 66 | 5.50 | 0.23 | 0.127 | ( | 0.117) | | 0.115 | 0.013 |
| 67 | 5.58 | 0.27 | 0.146 | | 0.116 | ( | 0.131) | 0.030 |
| 68 | 5.67 | 0.27 | 0.146 | | 0.115 | ( | 0.131) | 0.030 |
| 69 | 5.75 | 0.27 | 0.146 | | 0.115 | ( | 0.131) | 0.031 |
| 70 | 5.83 | 0.27 | 0.146 | | 0.114 | ( | 0.131) | 0.031 |
| 71 | 5.92 | 0.27 | 0.146 | | 0.114 | ( | 0.131) | 0.032 |
| 72 | 6.00 | 0.27 | 0.146 | | 0.113 | ( | 0.131) | 0.032 |
| 73 | 6.08 | 0.30 | 0.164 | | 0.113 | ( | 0.147) | 0.051 |
| 74 | 6.17 | 0.30 | 0.164 | | 0.112 | ( | 0.147) | 0.051 |
| 75 | 6.25 | 0.30 | 0.164 | | 0.112 | ( | 0.147) | 0.052 |
| 76 | 6.33 | 0.30 | 0.164 | | 0.111 | ( | 0.147) | 0.052 |
| 77 | 6.42 | 0.30 | 0.164 | | 0.111 | ( | 0.147) | 0.053 |
| 78 | 6.50 | 0.30 | 0.164 | | 0.110 | ( | 0.147) | 0.053 |
| 79 | 6.58 | 0.33 | 0.182 | | 0.110 | ( | 0.164) | 0.072 |
| 80 | 6.67 | 0.33 | 0.182 | | 0.109 | ( | 0.164) | 0.073 |
| 81 | 6.75 | 0.33 | 0.182 | | 0.109 | ( | 0.164) | 0.073 |
| 82 | 6.83 | 0.33 | 0.182 | | 0.108 | ( | 0.164) | 0.074 |
| 83 | 6.92 | 0.33 | 0.182 | | 0.108 | ( | 0.164) | 0.074 |
| 84 | 7.00 | 0.33 | 0.182 | | 0.107 | ( | 0.164) | 0.075 |
| 85 | 7.08 | 0.33 | 0.182 | | 0.107 | ( | 0.164) | 0.075 |
| 86 | 7.17 | 0.33 | 0.182 | | 0.107 | ( | 0.164) | 0.075 |
| 87 | 7.25 | 0.33 | 0.182 | | 0.106 | ( | 0.164) | 0.076 |
| 88 | 7.33 | 0.37 | 0.200 | | 0.106 | ( | 0.180) | 0.095 |
| 89 | 7.42 | 0.37 | 0.200 | | 0.105 | ( | 0.180) | 0.095 |
| 90 | 7.50 | 0.37 | 0.200 | | 0.105 | ( | 0.180) | 0.096 |
| 91 | 7.58 | 0.40 | 0.218 | | 0.104 | ( | 0.197) | 0.114 |
| 92 | 7.67 | 0.40 | 0.218 | | 0.104 | ( | 0.197) | 0.115 |
| 93 | 7.75 | 0.40 | 0.218 | | 0.103 | ( | 0.197) | 0.115 |
| 94 | 7.83 | 0.43 | 0.237 | | 0.103 | ( | 0.213) | 0.134 |
| 95 | 7.92 | 0.43 | 0.237 | | 0.102 | ( | 0.213) | 0.134 |
| 96 | 8.00 | 0.43 | 0.237 | | 0.102 | ( | 0.213) | 0.135 |
| 97 | 8.08 | 0.50 | 0.273 | | 0.101 | ( | 0.246) | 0.172 |
| 98 | 8.17 | 0.50 | 0.273 | | 0.101 | ( | 0.246) | 0.172 |
| 99 | 8.25 | 0.50 | 0.273 | | 0.100 | ( | 0.246) | 0.173 |
| 100 | 8.33 | 0.50 | 0.273 | | 0.100 | ( | 0.246) | 0.173 |
| 101 | 8.42 | 0.50 | 0.273 | | 0.099 | ( | 0.246) | 0.174 |
| 102 | 8.50 | 0.50 | 0.273 | | 0.099 | ( | 0.246) | 0.174 |
| 103 | 8.58 | 0.53 | 0.291 | | 0.098 | ( | 0.262) | 0.193 |
| 104 | 8.67 | 0.53 | 0.291 | | 0.098 | ( | 0.262) | 0.193 |
| 105 | 8.75 | 0.53 | 0.291 | | 0.098 | ( | 0.262) | 0.194 |
| 106 | 8.83 | 0.57 | 0.309 | | 0.097 | ( | 0.278) | 0.212 |
| 107 | 8.92 | 0.57 | 0.309 | | 0.097 | ( | 0.278) | 0.213 |
| 108 | 9.00 | 0.57 | 0.309 | | 0.096 | ( | 0.278) | 0.213 |
| 109 | 9.08 | 0.63 | 0.346 | | 0.096 | ( | 0.311) | 0.250 |
| 110 | 9.17 | 0.63 | 0.346 | | 0.095 | ( | 0.311) | 0.251 |
| 111 | 9.25 | 0.63 | 0.346 | | 0.095 | ( | 0.311) | 0.251 |
| 112 | 9.33 | 0.67 | 0.364 | | 0.094 | ( | 0.328) | 0.270 |
| 113 | 9.42 | 0.67 | 0.364 | | 0.094 | ( | 0.328) | 0.270 |
| 114 | 9.50 | 0.67 | 0.364 | | 0.093 | ( | 0.328) | 0.271 |
| 115 | 9.58 | 0.70 | 0.382 | | 0.093 | ( | 0.344) | 0.289 |
| 116 | 9.67 | 0.70 | 0.382 | | 0.093 | ( | 0.344) | 0.290 |
| 117 | 9.75 | 0.70 | 0.382 | | 0.092 | ( | 0.344) | 0.290 |
| 118 | 9.83 | 0.73 | 0.400 | | 0.092 | ( | 0.360) | 0.309 |
| 119 | 9.92 | 0.73 | 0.400 | | 0.091 | ( | 0.360) | 0.309 |
| 120 | 10.00 | 0.73 | 0.400 | | 0.091 | ( | 0.360) | 0.310 |
| 121 | 10.08 | 0.50 | 0.273 | | 0.090 | ( | 0.246) | 0.183 |
| 122 | 10.17 | 0.50 | 0.273 | | 0.090 | ( | 0.246) | 0.183 |
| 123 | 10.25 | 0.50 | 0.273 | | 0.089 | ( | 0.246) | 0.184 |
| 124 | 10.33 | 0.50 | 0.273 | | 0.089 | ( | 0.246) | 0.184 |
| 125 | 10.42 | 0.50 | 0.273 | | 0.089 | ( | 0.246) | 0.184 |
| 126 | 10.50 | 0.50 | 0.273 | | 0.088 | ( | 0.246) | 0.185 |
| 127 | 10.58 | 0.67 | 0.364 | | 0.088 | ( | 0.328) | 0.276 |
| 128 | 10.67 | 0.67 | 0.364 | | 0.087 | ( | 0.328) | 0.277 |
| 129 | 10.75 | 0.67 | 0.364 | | 0.087 | ( | 0.328) | 0.277 |
| 130 | 10.83 | 0.67 | 0.364 | | 0.086 | ( | 0.328) | 0.278 |
| 131 | 10.92 | 0.67 | 0.364 | | 0.086 | ( | 0.328) | 0.278 |

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|---|---|---|---|---|---|---|
| 132 | 11.00 | 0.67 | 0.364 | 0.086 | ( 0.328) | 0.278 |
| 133 | 11.08 | 0.63 | 0.346 | 0.085 | ( 0.311) | 0.261 |
| 134 | 11.17 | 0.63 | 0.346 | 0.085 | ( 0.311) | 0.261 |
| 135 | 11.25 | 0.63 | 0.346 | 0.084 | ( 0.311) | 0.261 |
| 136 | 11.33 | 0.63 | 0.346 | 0.084 | ( 0.311) | 0.262 |
| 137 | 11.42 | 0.63 | 0.346 | 0.084 | ( 0.311) | 0.262 |
| 138 | 11.50 | 0.63 | 0.346 | 0.083 | ( 0.311) | 0.263 |
| 139 | 11.58 | 0.57 | 0.309 | 0.083 | ( 0.278) | 0.227 |
| 140 | 11.67 | 0.57 | 0.309 | 0.082 | ( 0.278) | 0.227 |
| 141 | 11.75 | 0.57 | 0.309 | 0.082 | ( 0.278) | 0.228 |
| 142 | 11.83 | 0.60 | 0.328 | 0.081 | ( 0.295) | 0.246 |
| 143 | 11.92 | 0.60 | 0.328 | 0.081 | ( 0.295) | 0.247 |
| 144 | 12.00 | 0.60 | 0.328 | 0.081 | ( 0.295) | 0.247 |
| 145 | 12.08 | 0.83 | 0.455 | 0.080 | ( 0.409) | 0.375 |
| 146 | 12.17 | 0.83 | 0.455 | 0.080 | ( 0.409) | 0.375 |
| 147 | 12.25 | 0.83 | 0.455 | 0.079 | ( 0.409) | 0.376 |
| 148 | 12.33 | 0.87 | 0.473 | 0.079 | ( 0.426) | 0.394 |
| 149 | 12.42 | 0.87 | 0.473 | 0.079 | ( 0.426) | 0.395 |
| 150 | 12.50 | 0.87 | 0.473 | 0.078 | ( 0.426) | 0.395 |
| 151 | 12.58 | 0.93 | 0.510 | 0.078 | ( 0.459) | 0.432 |
| 152 | 12.67 | 0.93 | 0.510 | 0.077 | ( 0.459) | 0.432 |
| 153 | 12.75 | 0.93 | 0.510 | 0.077 | ( 0.459) | 0.433 |
| 154 | 12.83 | 0.97 | 0.528 | 0.077 | ( 0.475) | 0.451 |
| 155 | 12.92 | 0.97 | 0.528 | 0.076 | ( 0.475) | 0.452 |
| 156 | 13.00 | 0.97 | 0.528 | 0.076 | ( 0.475) | 0.452 |
| 157 | 13.08 | 1.13 | 0.619 | 0.076 | ( 0.557) | 0.543 |
| 158 | 13.17 | 1.13 | 0.619 | 0.075 | ( 0.557) | 0.544 |
| 159 | 13.25 | 1.13 | 0.619 | 0.075 | ( 0.557) | 0.544 |
| 160 | 13.33 | 1.13 | 0.619 | 0.074 | ( 0.557) | 0.544 |
| 161 | 13.42 | 1.13 | 0.619 | 0.074 | ( 0.557) | 0.545 |
| 162 | 13.50 | 1.13 | 0.619 | 0.074 | ( 0.557) | 0.545 |
| 163 | 13.58 | 0.77 | 0.419 | 0.073 | ( 0.377) | 0.345 |
| 164 | 13.67 | 0.77 | 0.419 | 0.073 | ( 0.377) | 0.346 |
| 165 | 13.75 | 0.77 | 0.419 | 0.073 | ( 0.377) | 0.346 |
| 166 | 13.83 | 0.77 | 0.419 | 0.072 | ( 0.377) | 0.346 |
| 167 | 13.92 | 0.77 | 0.419 | 0.072 | ( 0.377) | 0.347 |
| 168 | 14.00 | 0.77 | 0.419 | 0.071 | ( 0.377) | 0.347 |
| 169 | 14.08 | 0.90 | 0.491 | 0.071 | ( 0.442) | 0.420 |
| 170 | 14.17 | 0.90 | 0.491 | 0.071 | ( 0.442) | 0.421 |
| 171 | 14.25 | 0.90 | 0.491 | 0.070 | ( 0.442) | 0.421 |
| 172 | 14.33 | 0.87 | 0.473 | 0.070 | ( 0.426) | 0.403 |
| 173 | 14.42 | 0.87 | 0.473 | 0.070 | ( 0.426) | 0.404 |
| 174 | 14.50 | 0.87 | 0.473 | 0.069 | ( 0.426) | 0.404 |
| 175 | 14.58 | 0.87 | 0.473 | 0.069 | ( 0.426) | 0.404 |
| 176 | 14.67 | 0.87 | 0.473 | 0.069 | ( 0.426) | 0.405 |
| 177 | 14.75 | 0.87 | 0.473 | 0.068 | ( 0.426) | 0.405 |
| 178 | 14.83 | 0.83 | 0.455 | 0.068 | ( 0.409) | 0.387 |
| 179 | 14.92 | 0.83 | 0.455 | 0.067 | ( 0.409) | 0.388 |
| 180 | 15.00 | 0.83 | 0.455 | 0.067 | ( 0.409) | 0.388 |
| 181 | 15.08 | 0.80 | 0.437 | 0.067 | ( 0.393) | 0.370 |
| 182 | 15.17 | 0.80 | 0.437 | 0.066 | ( 0.393) | 0.370 |
| 183 | 15.25 | 0.80 | 0.437 | 0.066 | ( 0.393) | 0.371 |
| 184 | 15.33 | 0.77 | 0.419 | 0.066 | ( 0.377) | 0.353 |
| 185 | 15.42 | 0.77 | 0.419 | 0.065 | ( 0.377) | 0.353 |
| 186 | 15.50 | 0.77 | 0.419 | 0.065 | ( 0.377) | 0.354 |
| 187 | 15.58 | 0.63 | 0.346 | 0.065 | ( 0.311) | 0.281 |
| 188 | 15.67 | 0.63 | 0.346 | 0.064 | ( 0.311) | 0.281 |
| 189 | 15.75 | 0.63 | 0.346 | 0.064 | ( 0.311) | 0.282 |
| 190 | 15.83 | 0.63 | 0.346 | 0.064 | ( 0.311) | 0.282 |
| 191 | 15.92 | 0.63 | 0.346 | 0.063 | ( 0.311) | 0.282 |
| 192 | 16.00 | 0.63 | 0.346 | 0.063 | ( 0.311) | 0.283 |
| 193 | 16.08 | 0.13 | 0.073 | 0.063 | ( 0.066) | 0.010 |
| 194 | 16.17 | 0.13 | 0.073 | 0.062 | ( 0.066) | 0.010 |
| 195 | 16.25 | 0.13 | 0.073 | 0.062 | ( 0.066) | 0.011 |
| 196 | 16.33 | 0.13 | 0.073 | 0.062 | ( 0.066) | 0.011 |
| 197 | 16.42 | 0.13 | 0.073 | 0.062 | ( 0.066) | 0.011 |
| 198 | 16.50 | 0.13 | 0.073 | 0.061 | ( 0.066) | 0.012 |
| 199 | 16.58 | 0.10 | 0.055 | ( 0.061) | 0.049 | 0.005 |
| 200 | 16.67 | 0.10 | 0.055 | ( 0.061) | 0.049 | 0.005 |
| 201 | 16.75 | 0.10 | 0.055 | ( 0.060) | 0.049 | 0.005 |
| 202 | 16.83 | 0.10 | 0.055 | ( 0.060) | 0.049 | 0.005 |
| 203 | 16.92 | 0.10 | 0.055 | ( 0.060) | 0.049 | 0.005 |
| 204 | 17.00 | 0.10 | 0.055 | ( 0.059) | 0.049 | 0.005 |
| 205 | 17.08 | 0.17 | 0.091 | 0.059 | ( 0.082) | 0.032 |
| 206 | 17.17 | 0.17 | 0.091 | 0.059 | ( 0.082) | 0.032 |
| 207 | 17.25 | 0.17 | 0.091 | 0.058 | ( 0.082) | 0.033 |
| 208 | 17.33 | 0.17 | 0.091 | 0.058 | ( 0.082) | 0.033 |
| 209 | 17.42 | 0.17 | 0.091 | 0.058 | ( 0.082) | 0.033 |

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|---|---|---|---|---|---|---|---|---|
| 210 | 17.50 | 0.17 | 0.091 | | 0.058 | ( | 0.082) | 0.033 |
| 211 | 17.58 | 0.17 | 0.091 | | 0.057 | ( | 0.082) | 0.034 |
| 212 | 17.67 | 0.17 | 0.091 | | 0.057 | ( | 0.082) | 0.034 |
| 213 | 17.75 | 0.17 | 0.091 | | 0.057 | ( | 0.082) | 0.034 |
| 214 | 17.83 | 0.13 | 0.073 | | 0.056 | ( | 0.066) | 0.016 |
| 215 | 17.92 | 0.13 | 0.073 | | 0.056 | ( | 0.066) | 0.017 |
| 216 | 18.00 | 0.13 | 0.073 | | 0.056 | ( | 0.066) | 0.017 |
| 217 | 18.08 | 0.13 | 0.073 | | 0.056 | ( | 0.066) | 0.017 |
| 218 | 18.17 | 0.13 | 0.073 | | 0.055 | ( | 0.066) | 0.017 |
| 219 | 18.25 | 0.13 | 0.073 | | 0.055 | ( | 0.066) | 0.018 |
| 220 | 18.33 | 0.13 | 0.073 | | 0.055 | ( | 0.066) | 0.018 |
| 221 | 18.42 | 0.13 | 0.073 | | 0.055 | ( | 0.066) | 0.018 |
| 222 | 18.50 | 0.13 | 0.073 | | 0.054 | ( | 0.066) | 0.019 |
| 223 | 18.58 | 0.10 | 0.055 | ( | 0.054) | | 0.049 | 0.005 |
| 224 | 18.67 | 0.10 | 0.055 | ( | 0.054) | | 0.049 | 0.005 |
| 225 | 18.75 | 0.10 | 0.055 | ( | 0.054) | | 0.049 | 0.005 |
| 226 | 18.83 | 0.07 | 0.036 | ( | 0.053) | | 0.033 | 0.004 |
| 227 | 18.92 | 0.07 | 0.036 | ( | 0.053) | | 0.033 | 0.004 |
| 228 | 19.00 | 0.07 | 0.036 | ( | 0.053) | | 0.033 | 0.004 |
| 229 | 19.08 | 0.10 | 0.055 | ( | 0.052) | | 0.049 | 0.005 |
| 230 | 19.17 | 0.10 | 0.055 | ( | 0.052) | | 0.049 | 0.005 |
| 231 | 19.25 | 0.10 | 0.055 | ( | 0.052) | | 0.049 | 0.005 |
| 232 | 19.33 | 0.13 | 0.073 | | 0.052 | ( | 0.066) | 0.021 |
| 233 | 19.42 | 0.13 | 0.073 | | 0.052 | ( | 0.066) | 0.021 |
| 234 | 19.50 | 0.13 | 0.073 | | 0.051 | ( | 0.066) | 0.022 |
| 235 | 19.58 | 0.10 | 0.055 | ( | 0.051) | | 0.049 | 0.005 |
| 236 | 19.67 | 0.10 | 0.055 | ( | 0.051) | | 0.049 | 0.005 |
| 237 | 19.75 | 0.10 | 0.055 | ( | 0.051) | | 0.049 | 0.005 |
| 238 | 19.83 | 0.07 | 0.036 | ( | 0.050) | | 0.033 | 0.004 |
| 239 | 19.92 | 0.07 | 0.036 | ( | 0.050) | | 0.033 | 0.004 |
| 240 | 20.00 | 0.07 | 0.036 | ( | 0.050) | | 0.033 | 0.004 |
| 241 | 20.08 | 0.10 | 0.055 | ( | 0.050) | | 0.049 | 0.005 |
| 242 | 20.17 | 0.10 | 0.055 | ( | 0.049) | | 0.049 | 0.005 |
| 243 | 20.25 | 0.10 | 0.055 | ( | 0.049) | | 0.049 | 0.005 |
| 244 | 20.33 | 0.10 | 0.055 | | 0.049 | ( | 0.049) | 0.006 |
| 245 | 20.42 | 0.10 | 0.055 | | 0.049 | ( | 0.049) | 0.006 |
| 246 | 20.50 | 0.10 | 0.055 | | 0.049 | ( | 0.049) | 0.006 |
| 247 | 20.58 | 0.10 | 0.055 | | 0.048 | ( | 0.049) | 0.006 |
| 248 | 20.67 | 0.10 | 0.055 | | 0.048 | ( | 0.049) | 0.006 |
| 249 | 20.75 | 0.10 | 0.055 | | 0.048 | ( | 0.049) | 0.007 |
| 250 | 20.83 | 0.07 | 0.036 | ( | 0.048) | | 0.033 | 0.004 |
| 251 | 20.92 | 0.07 | 0.036 | ( | 0.048) | | 0.033 | 0.004 |
| 252 | 21.00 | 0.07 | 0.036 | ( | 0.047) | | 0.033 | 0.004 |
| 253 | 21.08 | 0.10 | 0.055 | | 0.047 | ( | 0.049) | 0.007 |
| 254 | 21.17 | 0.10 | 0.055 | | 0.047 | ( | 0.049) | 0.008 |
| 255 | 21.25 | 0.10 | 0.055 | | 0.047 | ( | 0.049) | 0.008 |
| 256 | 21.33 | 0.07 | 0.036 | ( | 0.047) | | 0.033 | 0.004 |
| 257 | 21.42 | 0.07 | 0.036 | ( | 0.047) | | 0.033 | 0.004 |
| 258 | 21.50 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 259 | 21.58 | 0.10 | 0.055 | | 0.046 | ( | 0.049) | 0.008 |
| 260 | 21.67 | 0.10 | 0.055 | | 0.046 | ( | 0.049) | 0.009 |
| 261 | 21.75 | 0.10 | 0.055 | | 0.046 | ( | 0.049) | 0.009 |
| 262 | 21.83 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 263 | 21.92 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 264 | 22.00 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 265 | 22.08 | 0.10 | 0.055 | | 0.045 | ( | 0.049) | 0.009 |
| 266 | 22.17 | 0.10 | 0.055 | | 0.045 | ( | 0.049) | 0.010 |
| 267 | 22.25 | 0.10 | 0.055 | | 0.045 | ( | 0.049) | 0.010 |
| 268 | 22.33 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 269 | 22.42 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 270 | 22.50 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 271 | 22.58 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 272 | 22.67 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 273 | 22.75 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 274 | 22.83 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 275 | 22.92 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 276 | 23.00 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 277 | 23.08 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 278 | 23.17 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 279 | 23.25 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 280 | 23.33 | 0.07 | 0.036 | ( | 0.043) | | 0.033 | 0.004 |
| 281 | 23.42 | 0.07 | 0.036 | ( | 0.043) | | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.036 | ( | 0.043) | | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.036 | ( | 0.043) | | 0.033 | 0.004 |
| 284 | 23.67 | 0.07 | 0.036 | ( | 0.043) | | 0.033 | 0.004 |
| 285 | 23.75 | 0.07 | 0.036 | ( | 0.043) | | 0.033 | 0.004 |
| 286 | 23.83 | 0.07 | 0.036 | ( | 0.043) | | 0.033 | 0.004 |
| 287 | 23.92 | 0.07 | 0.036 | ( | 0.043) | | 0.033 | 0.004 |

288 24.00 0.07 0.036 ( 0.043) 0.033 0.004
(Loss Rate Not Used)
Sum = 100.0 Sum = 34.1
Flood volume = Effective rainfall 2.84(In)
times area 2.6(Ac.)/[(In)/(Ft.)] = 0.6(Ac.Ft)
Total soil loss = 1.71(In)
Total soil loss = 0.370(Ac.Ft)
Total rainfall = 4.55(In)
Flood volume = 26831.3 Cubic Feet
Total soil loss = 16111.4 Cubic Feet

Peak flow rate of this hydrograph = 1.429(CFS)

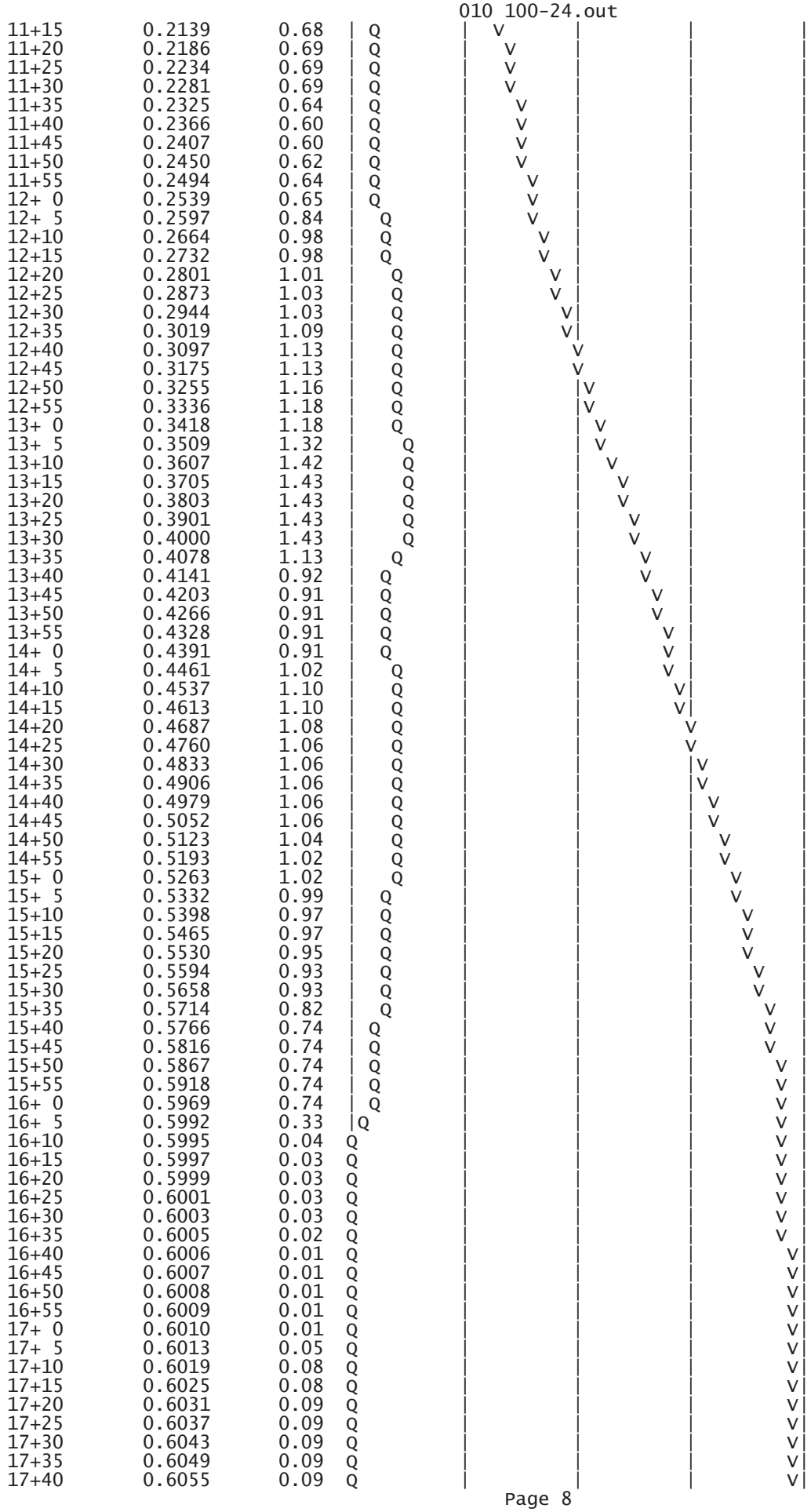
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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0000 | 0.01 | Q | | | | |
| 0+10 | 0.0001 | 0.01 | Q | | | | |
| 0+15 | 0.0002 | 0.01 | Q | | | | |
| 0+20 | 0.0003 | 0.01 | Q | | | | |
| 0+25 | 0.0003 | 0.01 | Q | | | | |
| 0+30 | 0.0004 | 0.01 | Q | | | | |
| 0+35 | 0.0005 | 0.01 | Q | | | | |
| 0+40 | 0.0006 | 0.01 | Q | | | | |
| 0+45 | 0.0007 | 0.01 | Q | | | | |
| 0+50 | 0.0009 | 0.02 | Q | | | | |
| 0+55 | 0.0010 | 0.02 | Q | | | | |
| 1+ 0 | 0.0011 | 0.02 | Q | | | | |
| 1+ 5 | 0.0012 | 0.02 | Q | | | | |
| 1+10 | 0.0013 | 0.01 | Q | | | | |
| 1+15 | 0.0014 | 0.01 | Q | | | | |
| 1+20 | 0.0015 | 0.01 | Q | | | | |
| 1+25 | 0.0016 | 0.01 | Q | | | | |
| 1+30 | 0.0017 | 0.01 | Q | | | | |
| 1+35 | 0.0018 | 0.01 | Q | | | | |
| 1+40 | 0.0019 | 0.01 | Q | | | | |
| 1+45 | 0.0020 | 0.01 | Q | | | | |
| 1+50 | 0.0021 | 0.02 | Q | | | | |
| 1+55 | 0.0023 | 0.02 | Q | | | | |
| 2+ 0 | 0.0024 | 0.02 | Q | | | | |
| 2+ 5 | 0.0025 | 0.02 | Q | | | | |
| 2+10 | 0.0027 | 0.02 | Q | | | | |
| 2+15 | 0.0028 | 0.02 | Q | | | | |
| 2+20 | 0.0029 | 0.02 | Q | | | | |
| 2+25 | 0.0031 | 0.02 | Q | | | | |
| 2+30 | 0.0032 | 0.02 | Q | | | | |
| 2+35 | 0.0033 | 0.02 | Q | | | | |
| 2+40 | 0.0035 | 0.02 | Q | | | | |
| 2+45 | 0.0037 | 0.02 | Q | | | | |
| 2+50 | 0.0038 | 0.02 | Q | | | | |
| 2+55 | 0.0040 | 0.02 | Q | | | | |
| 3+ 0 | 0.0042 | 0.02 | Q | | | | |
| 3+ 5 | 0.0043 | 0.02 | Q | | | | |
| 3+10 | 0.0045 | 0.02 | Q | | | | |
| 3+15 | 0.0047 | 0.02 | Q | | | | |
| 3+20 | 0.0048 | 0.02 | Q | | | | |
| 3+25 | 0.0050 | 0.02 | Q | | | | |
| 3+30 | 0.0052 | 0.02 | Q | | | | |
| 3+35 | 0.0053 | 0.02 | Q | | | | |
| 3+40 | 0.0055 | 0.02 | Q | | | | |
| 3+45 | 0.0056 | 0.02 | Q | | | | |
| 3+50 | 0.0058 | 0.03 | Q | | | | |
| 3+55 | 0.0060 | 0.03 | Q | | | | |
| 4+ 0 | 0.0062 | 0.03 | Q | | | | |
| 4+ 5 | 0.0064 | 0.03 | Q | | | | |
| 4+10 | 0.0066 | 0.03 | Q | | | | |
| 4+15 | 0.0068 | 0.03 | Q | | | | |
| 4+20 | 0.0070 | 0.03 | Q | | | | |
| 4+25 | 0.0073 | 0.03 | Q | | | | |
| 4+30 | 0.0075 | 0.03 | Q | | | | |
| 4+35 | 0.0077 | 0.03 | Q | | | | |
| 4+40 | 0.0079 | 0.03 | Q | | | | |

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 4+45       0.0082      0.03  Q          |          |          |          |
 4+50       0.0085      0.05  Q          |          |          |          |
 4+55       0.0090      0.07  Q          |          |          |          |
 5+ 0       0.0094      0.07  Q          |          |          |          |
 5+ 5       0.0098      0.05  Q          |          |          |          |
 5+10       0.0100      0.03  Q          |          |          |          |
 5+15       0.0102      0.03  Q          |          |          |          |
 5+20       0.0104      0.03  Q          |          |          |          |
 5+25       0.0106      0.03  Q          |          |          |          |
 5+30       0.0108      0.03  Q          |          |          |          |
 5+35       0.0112      0.06  Q          |          |          |          |
 5+40       0.0118      0.08  Q          |          |          |          |
 5+45       0.0123      0.08  Q          |          |          |          |
 5+50       0.0129      0.08  Q          |          |          |          |
 5+55       0.0134      0.08  Q          |          |          |          |
 6+ 0       0.0140      0.08  Q          |          |          |          |
 6+ 5       0.0148      0.11  Q          |          |          |          |
 6+10       0.0157      0.13  QV         |          |          |          |
 6+15       0.0166      0.14  QV         |          |          |          |
 6+20       0.0176      0.14  QV         |          |          |          |
 6+25       0.0185      0.14  QV         |          |          |          |
 6+30       0.0195      0.14  QV         |          |          |          |
 6+35       0.0206      0.17  QV         |          |          |          |
 6+40       0.0219      0.19  QV         |          |          |          |
 6+45       0.0233      0.19  QV         |          |          |          |
 6+50       0.0246      0.19  QV         |          |          |          |
 6+55       0.0259      0.19  QV         |          |          |          |
 7+ 0       0.0273      0.19  QV         |          |          |          |
 7+ 5       0.0286      0.20  QV         |          |          |          |
 7+10       0.0300      0.20  QV         |          |          |          |
 7+15       0.0313      0.20  Q V        |          |          |          |
 7+20       0.0329      0.23  Q V        |          |          |          |
 7+25       0.0346      0.25  Q V        |          |          |          |
 7+30       0.0363      0.25  |QV        |          |          |          |
 7+35       0.0382      0.28  |QV        |          |          |          |
 7+40       0.0403      0.30  |QV        |          |          |          |
 7+45       0.0424      0.30  |QV        |          |          |          |
 7+50       0.0447      0.33  |QV        |          |          |          |
 7+55       0.0471      0.35  |Q V       |          |          |          |
 8+ 0       0.0495      0.35  |Q V       |          |          |          |
 8+ 5       0.0523      0.41  |Q V       |          |          |          |
 8+10       0.0554      0.45  |Q V       |          |          |          |
 8+15       0.0585      0.45  |Q V       |          |          |          |
 8+20       0.0616      0.45  |Q  V      |          |          |          |
 8+25       0.0648      0.45  |Q  V      |          |          |          |
 8+30       0.0679      0.46  |Q  V      |          |          |          |
 8+35       0.0712      0.48  |Q  V      |          |          |          |
 8+40       0.0747      0.50  | Q V      |          |          |          |
 8+45       0.0782      0.51  | Q  V     |          |          |          |
 8+50       0.0819      0.54  | Q  V     |          |          |          |
 8+55       0.0857      0.56  | Q  V     |          |          |          |
 9+ 0       0.0896      0.56  | Q  V     |          |          |          |
 9+ 5       0.0938      0.61  | Q   V    |          |          |          |
 9+10       0.0983      0.65  | Q   V    |          |          |          |
 9+15       0.1028      0.66  | Q   V    |          |          |          |
 9+20       0.1076      0.69  | Q   V    |          |          |          |
 9+25       0.1124      0.71  | Q    V   |          |          |          |
 9+30       0.1173      0.71  | Q    V   |          |          |          |
 9+35       0.1224      0.74  | Q    V   |          |          |          |
 9+40       0.1276      0.76  |  Q    V  |          |          |          |
 9+45       0.1328      0.76  |  Q    V  |          |          |          |
 9+50       0.1383      0.79  |  Q    V  |          |          |          |
 9+55       0.1438      0.81  |  Q     V |          |          |          |
10+ 0       0.1494      0.81  |  Q     V |          |          |          |
10+ 5       0.1537      0.62  | Q      V |          |          |          |
10+10       0.1571      0.49  |Q       V |          |          |          |
10+15       0.1604      0.48  |Q       V |          |          |          |
10+20       0.1637      0.48  |Q       V |          |          |          |
10+25       0.1670      0.48  |Q       V |          |          |          |
10+30       0.1704      0.48  |Q       |V          |          |          |
10+35       0.1746      0.62  | Q      |V          |          |          |
10+40       0.1796      0.72  | Q      |V          |          |          |
10+45       0.1846      0.73  | Q      |V          |          |          |
10+50       0.1896      0.73  | Q      | V         |          |          |
10+55       0.1946      0.73  | Q      | V         |          |          |
11+ 0       0.1996      0.73  | Q      | V         |          |          |
11+ 5       0.2045      0.70  | Q      |  V        |          |          |
11+10       0.2092      0.68  | Q      |  V        |          |          |
```



| | | | |
|---|---|---|---|
| 11+15 | 0.2139 | 0.68 | Q V |
| 11+20 | 0.2186 | 0.69 | Q V |
| 11+25 | 0.2234 | 0.69 | Q V |
| 11+30 | 0.2281 | 0.69 | Q V |
| 11+35 | 0.2325 | 0.64 | Q V |
| 11+40 | 0.2366 | 0.60 | Q V |
| 11+45 | 0.2407 | 0.60 | Q V |
| 11+50 | 0.2450 | 0.62 | Q V |
| 11+55 | 0.2494 | 0.64 | Q V |
| 12+ 0 | 0.2539 | 0.65 | Q V |
| 12+ 5 | 0.2597 | 0.84 | Q V |
| 12+10 | 0.2664 | 0.98 | Q V |
| 12+15 | 0.2732 | 0.98 | Q V |
| 12+20 | 0.2801 | 1.01 | Q V |
| 12+25 | 0.2873 | 1.03 | Q V |
| 12+30 | 0.2944 | 1.03 | Q V |
| 12+35 | 0.3019 | 1.09 | Q V |
| 12+40 | 0.3097 | 1.13 | Q V |
| 12+45 | 0.3175 | 1.13 | Q V |
| 12+50 | 0.3255 | 1.16 | Q V |
| 12+55 | 0.3336 | 1.18 | Q V |
| 13+ 0 | 0.3418 | 1.18 | Q V |
| 13+ 5 | 0.3509 | 1.32 | Q V |
| 13+10 | 0.3607 | 1.42 | Q V |
| 13+15 | 0.3705 | 1.43 | Q V |
| 13+20 | 0.3803 | 1.43 | Q V |
| 13+25 | 0.3901 | 1.43 | Q V |
| 13+30 | 0.4000 | 1.43 | Q V |
| 13+35 | 0.4078 | 1.13 | Q V |
| 13+40 | 0.4141 | 0.92 | Q V |
| 13+45 | 0.4203 | 0.91 | Q V |
| 13+50 | 0.4266 | 0.91 | Q V |
| 13+55 | 0.4328 | 0.91 | Q V |
| 14+ 0 | 0.4391 | 0.91 | Q V |
| 14+ 5 | 0.4461 | 1.02 | Q V |
| 14+10 | 0.4537 | 1.10 | Q V |
| 14+15 | 0.4613 | 1.10 | Q V |
| 14+20 | 0.4687 | 1.08 | Q V |
| 14+25 | 0.4760 | 1.06 | Q V |
| 14+30 | 0.4833 | 1.06 | Q V |
| 14+35 | 0.4906 | 1.06 | Q V |
| 14+40 | 0.4979 | 1.06 | Q V |
| 14+45 | 0.5052 | 1.06 | Q V |
| 14+50 | 0.5123 | 1.04 | Q V |
| 14+55 | 0.5193 | 1.02 | Q V |
| 15+ 0 | 0.5263 | 1.02 | Q V |
| 15+ 5 | 0.5332 | 0.99 | Q V |
| 15+10 | 0.5398 | 0.97 | Q V |
| 15+15 | 0.5465 | 0.97 | Q V |
| 15+20 | 0.5530 | 0.95 | Q V |
| 15+25 | 0.5594 | 0.93 | Q V |
| 15+30 | 0.5658 | 0.93 | Q V |
| 15+35 | 0.5714 | 0.82 | Q V |
| 15+40 | 0.5766 | 0.74 | Q V |
| 15+45 | 0.5816 | 0.74 | Q V |
| 15+50 | 0.5867 | 0.74 | Q V |
| 15+55 | 0.5918 | 0.74 | Q V |
| 16+ 0 | 0.5969 | 0.74 | Q V |
| 16+ 5 | 0.5992 | 0.33 | Q V |
| 16+10 | 0.5995 | 0.04 | Q V |
| 16+15 | 0.5997 | 0.03 | Q V |
| 16+20 | 0.5999 | 0.03 | Q V |
| 16+25 | 0.6001 | 0.03 | Q V |
| 16+30 | 0.6003 | 0.03 | Q V |
| 16+35 | 0.6005 | 0.02 | Q V |
| 16+40 | 0.6006 | 0.01 | Q V |
| 16+45 | 0.6007 | 0.01 | Q V |
| 16+50 | 0.6008 | 0.01 | Q V |
| 16+55 | 0.6009 | 0.01 | Q V |
| 17+ 0 | 0.6010 | 0.01 | Q V |
| 17+ 5 | 0.6013 | 0.05 | Q V |
| 17+10 | 0.6019 | 0.08 | Q V |
| 17+15 | 0.6025 | 0.08 | Q V |
| 17+20 | 0.6031 | 0.09 | Q V |
| 17+25 | 0.6037 | 0.09 | Q V |
| 17+30 | 0.6043 | 0.09 | Q V |
| 17+35 | 0.6049 | 0.09 | Q V |
| 17+40 | 0.6055 | 0.09 | Q V |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+45 | 0.6061 | 0.09 | Q | \| | \| | \| | V\| |
| 17+50 | 0.6065 | 0.06 | Q | \| | \| | \| | V\| |
| 17+55 | 0.6068 | 0.04 | Q | \| | \| | \| | V\| |
| 18+ 0 | 0.6071 | 0.04 | Q | \| | \| | \| | V\| |
| 18+ 5 | 0.6075 | 0.04 | Q | \| | \| | \| | V\| |
| 18+10 | 0.6078 | 0.05 | Q | \| | \| | \| | V\| |
| 18+15 | 0.6081 | 0.05 | Q | \| | \| | \| | V\| |
| 18+20 | 0.6084 | 0.05 | Q | \| | \| | \| | V\| |
| 18+25 | 0.6087 | 0.05 | Q | \| | \| | \| | V\| |
| 18+30 | 0.6091 | 0.05 | Q | \| | \| | \| | V\| |
| 18+35 | 0.6093 | 0.03 | Q | \| | \| | \| | V\| |
| 18+40 | 0.6094 | 0.02 | Q | \| | \| | \| | V\| |
| 18+45 | 0.6095 | 0.01 | Q | \| | \| | \| | V\| |
| 18+50 | 0.6095 | 0.01 | Q | \| | \| | \| | V\| |
| 18+55 | 0.6096 | 0.01 | Q | \| | \| | \| | V\| |
| 19+ 0 | 0.6097 | 0.01 | Q | \| | \| | \| | V\| |
| 19+ 5 | 0.6098 | 0.01 | Q | \| | \| | \| | V\| |
| 19+10 | 0.6099 | 0.01 | Q | \| | \| | \| | V\| |
| 19+15 | 0.6100 | 0.01 | Q | \| | \| | \| | V\| |
| 19+20 | 0.6102 | 0.04 | Q | \| | \| | \| | V\| |
| 19+25 | 0.6106 | 0.05 | Q | \| | \| | \| | V\| |
| 19+30 | 0.6110 | 0.06 | Q | \| | \| | \| | V\| |
| 19+35 | 0.6112 | 0.03 | Q | \| | \| | \| | V\| |
| 19+40 | 0.6113 | 0.02 | Q | \| | \| | \| | V\| |
| 19+45 | 0.6114 | 0.01 | Q | \| | \| | \| | V\| |
| 19+50 | 0.6115 | 0.01 | Q | \| | \| | \| | V\| |
| 19+55 | 0.6116 | 0.01 | Q | \| | \| | \| | V\| |
| 20+ 0 | 0.6116 | 0.01 | Q | \| | \| | \| | V\| |
| 20+ 5 | 0.6117 | 0.01 | Q | \| | \| | \| | V\| |
| 20+10 | 0.6118 | 0.01 | Q | \| | \| | \| | V\| |
| 20+15 | 0.6119 | 0.01 | Q | \| | \| | \| | V\| |
| 20+20 | 0.6120 | 0.01 | Q | \| | \| | \| | V\| |
| 20+25 | 0.6121 | 0.01 | Q | \| | \| | \| | V\| |
| 20+30 | 0.6122 | 0.02 | Q | \| | \| | \| | V\| |
| 20+35 | 0.6123 | 0.02 | Q | \| | \| | \| | V\| |
| 20+40 | 0.6124 | 0.02 | Q | \| | \| | \| | V\| |
| 20+45 | 0.6125 | 0.02 | Q | \| | \| | \| | V\| |
| 20+50 | 0.6126 | 0.01 | Q | \| | \| | \| | V\| |
| 20+55 | 0.6127 | 0.01 | Q | \| | \| | \| | V\| |
| 21+ 0 | 0.6128 | 0.01 | Q | \| | \| | \| | V\| |
| 21+ 5 | 0.6129 | 0.02 | Q | \| | \| | \| | V\| |
| 21+10 | 0.6130 | 0.02 | Q | \| | \| | \| | V\| |
| 21+15 | 0.6131 | 0.02 | Q | \| | \| | \| | V\| |
| 21+20 | 0.6132 | 0.01 | Q | \| | \| | \| | V\| |
| 21+25 | 0.6133 | 0.01 | Q | \| | \| | \| | V\| |
| 21+30 | 0.6134 | 0.01 | Q | \| | \| | \| | V\| |
| 21+35 | 0.6135 | 0.02 | Q | \| | \| | \| | V\| |
| 21+40 | 0.6136 | 0.02 | Q | \| | \| | \| | V\| |
| 21+45 | 0.6138 | 0.02 | Q | \| | \| | \| | V\| |
| 21+50 | 0.6139 | 0.02 | Q | \| | \| | \| | V\| |
| 21+55 | 0.6140 | 0.01 | Q | \| | \| | \| | V\| |
| 22+ 0 | 0.6140 | 0.01 | Q | \| | \| | \| | V\| |
| 22+ 5 | 0.6142 | 0.02 | Q | \| | \| | \| | V\| |
| 22+10 | 0.6143 | 0.02 | Q | \| | \| | \| | V\| |
| 22+15 | 0.6145 | 0.03 | Q | \| | \| | \| | V\| |
| 22+20 | 0.6146 | 0.02 | Q | \| | \| | \| | V\| |
| 22+25 | 0.6147 | 0.01 | Q | \| | \| | \| | V\| |
| 22+30 | 0.6147 | 0.01 | Q | \| | \| | \| | V\| |
| 22+35 | 0.6148 | 0.01 | Q | \| | \| | \| | V\| |
| 22+40 | 0.6149 | 0.01 | Q | \| | \| | \| | V\| |
| 22+45 | 0.6149 | 0.01 | Q | \| | \| | \| | V\| |
| 22+50 | 0.6150 | 0.01 | Q | \| | \| | \| | V\| |
| 22+55 | 0.6151 | 0.01 | Q | \| | \| | \| | V\| |
| 23+ 0 | 0.6151 | 0.01 | Q | \| | \| | \| | V\| |
| 23+ 5 | 0.6152 | 0.01 | Q | \| | \| | \| | V\| |
| 23+10 | 0.6153 | 0.01 | Q | \| | \| | \| | V\| |
| 23+15 | 0.6153 | 0.01 | Q | \| | \| | \| | V\| |
| 23+20 | 0.6154 | 0.01 | Q | \| | \| | \| | V\| |
| 23+25 | 0.6155 | 0.01 | Q | \| | \| | \| | V\| |
| 23+30 | 0.6155 | 0.01 | Q | \| | \| | \| | V\| |
| 23+35 | 0.6156 | 0.01 | Q | \| | \| | \| | V\| |
| 23+40 | 0.6157 | 0.01 | Q | \| | \| | \| | V\| |
| 23+45 | 0.6157 | 0.01 | Q | \| | \| | \| | V\| |
| 23+50 | 0.6158 | 0.01 | Q | \| | \| | \| | V\| |
| 23+55 | 0.6159 | 0.01 | Q | \| | \| | \| | V\| |
| 24+ 0 | 0.6159 | 0.01 | Q | \| | \| | \| | V\| |
| 24+ 5 | 0.6160 | 0.00 | Q | \| | \| | \| | V\| |
| 24+10 | 0.6160 | 0.00 | Q | \| | \| | \| | V\| |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX111100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 11
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 0.80(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.80(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 288.00(Ft.)
Length along longest watercourse measured to centroid = 83.00(Ft.)
Length along longest watercourse = 0.055 Mi.
Length along longest watercourse measured to centroid = 0.016 Mi.
Difference in elevation = 120.00(Ft.)
Slope along watercourse = 2200.0000 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.013 Hr.
Lag time = 0.80 Min.
25% of lag time = 0.20 Min.
40% of lag time = 0.32 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.80 | 0.49 | 0.39 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.80 | 1.20 | 0.96 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.490(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.800 | 84.00 | 0.000 |

Total Area Entered = 0.80(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

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| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 626.589 | 78.755 | 0.635 |
| 2 0.167 | 1253.178 | 21.245 | 0.171 |
| | | Sum = 100.000 Sum= | 0.806 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 4.20 | 0.605 | 0.086 | ( 0.544) | 0.519 |
| 2 0.17 | 4.30 | 0.619 | 0.086 | ( 0.557) | 0.533 |
| 3 0.25 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 4 0.33 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 5 0.42 | 5.80 | 0.835 | 0.086 | ( 0.752) | 0.749 |
| 6 0.50 | 6.50 | 0.936 | 0.086 | ( 0.842) | 0.850 |
| 7 0.58 | 7.40 | 1.066 | 0.086 | ( 0.959) | 0.980 |
| 8 0.67 | 8.60 | 1.238 | 0.086 | ( 1.115) | 1.153 |
| 9 0.75 | 12.30 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 10 0.83 | 29.10 | 4.190 | 0.086 | ( 3.771) | 4.105 |
| 11 0.92 | 6.80 | 0.979 | 0.086 | ( 0.881) | 0.893 |
| 12 1.00 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 13.4 |

Flood volume = Effective rainfall 1.11(In)
times area 0.8(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.006(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 3235.6 Cubic Feet
Total soil loss = 249.2 Cubic Feet

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Peak flow rate of this hydrograph = 2.896(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0023 | 0.33 | Q | | | | |
| 0+10 | 0.0052 | 0.43 | QV | | | | |
| 0+15 | 0.0086 | 0.49 | Q V | | | | |
| 0+20 | 0.0121 | 0.51 | Q V | | | | |
| 0+25 | 0.0162 | 0.58 | Q V | | | | |
| 0+30 | 0.0208 | 0.67 | Q V | | | | |
| 0+35 | 0.0261 | 0.77 | Q V | | | | |
| 0+40 | 0.0323 | 0.90 | Q V | | | | |
| 0+45 | 0.0410 | 1.27 | Q V | | | | |
| 0+50 | 0.0609 | 2.90 | Q V | | | | |
| 0+55 | 0.0697 | 1.27 | Q V | | | | |
| 1+ 0 | 0.0735 | 0.56 | Q V | | | | |
| 1+ 5 | 0.0743 | 0.11 | Q V | | | | |

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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX113100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 11
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.80(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.80(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 288.00(Ft.)
Length along longest watercourse measured to centroid = 83.00(Ft.)
Length along longest watercourse = 0.055 Mi.
Length along longest watercourse measured to centroid = 0.016 Mi.
Difference in elevation = 120.00(Ft.)
Slope along watercourse = 2200.0000 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.013 Hr.
Lag time = 0.80 Min.
25% of lag time = 0.20 Min.
40% of lag time = 0.32 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.80 | 0.80 | 0.64 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.80 | 1.80 | 1.44 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.800 | 84.00 | 0.000 |

Total Area Entered = 0.80(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 626.589 | 78.755 | 0.635 |
| 2 0.167 | 1253.178 | 21.245 | 0.171 |
| | | Sum = 100.000 Sum= | 0.806 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 1.30 | 0.281 | 0.086 | ( 0.253) | 0.195 |
| 2 0.17 | 1.30 | 0.281 | 0.086 | ( 0.253) | 0.195 |
| 3 0.25 | 1.10 | 0.238 | 0.086 | ( 0.214) | 0.152 |
| 4 0.33 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 5 0.42 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 6 0.50 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 7 0.58 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 8 0.67 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 9 0.75 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 10 0.83 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 11 0.92 | 1.60 | 0.346 | 0.086 | ( 0.311) | 0.260 |
| 12 1.00 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 13 1.08 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 14 1.17 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 15 1.25 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 16 1.33 | 2.00 | 0.432 | 0.086 | ( 0.389) | 0.346 |
| 17 1.42 | 2.60 | 0.562 | 0.086 | ( 0.505) | 0.476 |
| 18 1.50 | 2.70 | 0.583 | 0.086 | ( 0.525) | 0.497 |
| 19 1.58 | 2.40 | 0.518 | 0.086 | ( 0.467) | 0.433 |
| 20 1.67 | 2.70 | 0.583 | 0.086 | ( 0.525) | 0.497 |
| 21 1.75 | 3.30 | 0.713 | 0.086 | ( 0.642) | 0.627 |
| 22 1.83 | 3.10 | 0.670 | 0.086 | ( 0.603) | 0.584 |
| 23 1.92 | 2.90 | 0.626 | 0.086 | ( 0.564) | 0.541 |
| 24 2.00 | 3.00 | 0.648 | 0.086 | ( 0.583) | 0.562 |
| 25 2.08 | 3.10 | 0.670 | 0.086 | ( 0.603) | 0.584 |
| 26 2.17 | 4.20 | 0.907 | 0.086 | ( 0.816) | 0.821 |
| 27 2.25 | 5.00 | 1.080 | 0.086 | ( 0.972) | 0.994 |
| 28 2.33 | 3.50 | 0.756 | 0.086 | ( 0.680) | 0.670 |
| 29 2.42 | 6.80 | 1.469 | 0.086 | ( 1.322) | 1.383 |
| 30 2.50 | 7.30 | 1.577 | 0.086 | ( 1.419) | 1.491 |
| 31 2.58 | 8.20 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 32 2.67 | 5.90 | 1.274 | 0.086 | ( 1.147) | 1.189 |
| 33 2.75 | 2.00 | 0.432 | 0.086 | ( 0.389) | 0.346 |
| 34 2.83 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 35 2.92 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 36 3.00 | 0.60 | 0.130 | 0.086 | ( 0.117) | 0.044 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 18.5 |

Flood volume = Effective rainfall 1.54(In)
times area 0.8(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.017(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 4479.7 Cubic Feet
Total soil loss = 747.5 Cubic Feet

Peak flow rate of this hydrograph = 1.326(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0009 | 0.12 | Q | | | | |
| 0+10 | 0.0019 | 0.16 | Q | | | | |
| 0+15 | 0.0028 | 0.13 | QV | | | | |
| 0+20 | 0.0041 | 0.18 | QV | | | | |
| 0+25 | 0.0054 | 0.19 | Q V | | | | |
| 0+30 | 0.0070 | 0.23 | Q V | | | | |
| 0+35 | 0.0084 | 0.20 | Q V | | | | |
| 0+40 | 0.0100 | 0.23 | Q V | | | | |
| 0+45 | 0.0117 | 0.24 | Q V | | | | |
| 0+50 | 0.0131 | 0.20 | Q V | | | | |
| 0+55 | 0.0145 | 0.21 | Q V | | | | |
| 1+ 0 | 0.0161 | 0.24 | Q V | | | | |
| 1+ 5 | 0.0182 | 0.30 | \|Q V | | | | |
| 1+10 | 0.0203 | 0.31 | \|Q V | | | | |
| 1+15 | 0.0225 | 0.31 | \|Q V | | | | |
| 1+20 | 0.0245 | 0.29 | \|Q V | | | | |
| 1+25 | 0.0270 | 0.36 | \|Q V | | | | |
| 1+30 | 0.0297 | 0.40 | \|Q V | | | | |
| 1+35 | 0.0322 | 0.36 | \|Q V | | | | |
| 1+40 | 0.0349 | 0.39 | \|Q V | | | | |
| 1+45 | 0.0382 | 0.48 | \|Q V | | | | |
| 1+50 | 0.0415 | 0.48 | \|Q V | | | | |
| 1+55 | 0.0446 | 0.44 | \|Q V | | | | |
| 2+ 0 | 0.0477 | 0.45 | \|Q V | | | | |
| 2+ 5 | 0.0509 | 0.47 | \|Q V | | | | |
| 2+10 | 0.0552 | 0.62 | \| Q V | | | | |
| 2+15 | 0.0605 | 0.77 | \| Q V | | | | |
| 2+20 | 0.0646 | 0.60 | \| Q V | | | | |
| 2+25 | 0.0714 | 0.99 | \| Q V | | | | |
| 2+30 | 0.0796 | 1.18 | \| Q V | | | | |
| 2+35 | 0.0887 | 1.33 | \| Q V | | | | |
| 2+40 | 0.0959 | 1.04 | \| Q V | | | | |
| 2+45 | 0.0988 | 0.42 | \|Q V | | | | |
| 2+50 | 0.1006 | 0.25 | \|Q V | | | | |
| 2+55 | 0.1022 | 0.24 | Q V | | | | |
| 3+ 0 | 0.1028 | 0.08 | Q V | | | | |
| 3+ 5 | 0.1028 | 0.01 | Q V | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX116100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 11
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.80(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.80(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 288.00(Ft.)
Length along longest watercourse measured to centroid = 83.00(Ft.)
Length along longest watercourse = 0.055 Mi.
Length along longest watercourse measured to centroid = 0.016 Mi.
Difference in elevation = 120.00(Ft.)
Slope along watercourse = 2200.0000 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.013 Hr.
Lag time = 0.80 Min.
25% of lag time = 0.20 Min.
40% of lag time = 0.32 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.80 | 1.12 | 0.90 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.80 | 2.50 | 2.00 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.120(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.800 | 84.00 | 0.000 |

Total Area Entered = 0.80(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 626.589 | 78.755 | 0.635 |
| 2 0.167 | 1253.178 | 21.245 | 0.171 |
| | | Sum = 100.000 | Sum= 0.806 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 0.50 | 0.150 | 0.086 | ( 0.135) | 0.064 |
| 2 0.17 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 3 0.25 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 4 0.33 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 5 0.42 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 6 0.50 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 7 0.58 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 8 0.67 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 9 0.75 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 10 0.83 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 11 0.92 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 12 1.00 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 13 1.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 14 1.17 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 15 1.25 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 16 1.33 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 17 1.42 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 18 1.50 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 19 1.58 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 20 1.67 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 21 1.75 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 22 1.83 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 23 1.92 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 24 2.00 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 25 2.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 26 2.17 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 27 2.25 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 28 2.33 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 29 2.42 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 30 2.50 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 31 2.58 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 32 2.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 33 2.75 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 34 2.83 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 35 2.92 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 36 3.00 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 37 3.08 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 38 3.17 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 39 3.25 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 40 3.33 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 41 3.42 | 1.20 | 0.360 | 0.086 | ( 0.324) | 0.274 |
| 42 3.50 | 1.30 | 0.390 | 0.086 | ( 0.351) | 0.304 |
| 43 3.58 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 44 3.67 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 45 3.75 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 46 3.83 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 47 3.92 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 48 4.00 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 49 4.08 | 1.70 | 0.510 | 0.086 | ( 0.459) | 0.424 |
| 50 4.17 | 1.80 | 0.540 | 0.086 | ( 0.486) | 0.454 |
| 51 4.25 | 1.90 | 0.570 | 0.086 | ( 0.513) | 0.484 |
| 52 4.33 | 2.00 | 0.600 | 0.086 | ( 0.540) | 0.514 |
| 53 4.42 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 |
| 54 4.50 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 55 | 4.58 | 2.20 | 0.660 | 0.086 | ( 0.594) | | 0.574 |
| 56 | 4.67 | 2.30 | 0.690 | 0.086 | ( 0.621) | | 0.604 |
| 57 | 4.75 | 2.40 | 0.720 | 0.086 | ( 0.648) | | 0.634 |
| 58 | 4.83 | 2.40 | 0.720 | 0.086 | ( 0.648) | | 0.634 |
| 59 | 4.92 | 2.50 | 0.750 | 0.086 | ( 0.675) | | 0.664 |
| 60 | 5.00 | 2.60 | 0.780 | 0.086 | ( 0.702) | | 0.694 |
| 61 | 5.08 | 3.10 | 0.930 | 0.086 | ( 0.837) | | 0.844 |
| 62 | 5.17 | 3.60 | 1.080 | 0.086 | ( 0.972) | | 0.994 |
| 63 | 5.25 | 3.90 | 1.170 | 0.086 | ( 1.053) | | 1.084 |
| 64 | 5.33 | 4.20 | 1.260 | 0.086 | ( 1.134) | | 1.174 |
| 65 | 5.42 | 4.70 | 1.410 | 0.086 | ( 1.269) | | 1.324 |
| 66 | 5.50 | 5.60 | 1.680 | 0.086 | ( 1.512) | | 1.594 |
| 67 | 5.58 | 1.90 | 0.570 | 0.086 | ( 0.513) | | 0.484 |
| 68 | 5.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | | 0.184 |
| 69 | 5.75 | 0.60 | 0.180 | 0.086 | ( 0.162) | | 0.094 |
| 70 | 5.83 | 0.50 | 0.150 | 0.086 | ( 0.135) | | 0.064 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.086) | 0.081 | | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.086) | 0.054 | | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.9

Flood volume = Effective rainfall 1.99(In)
times area 0.8(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.51(In)
Total soil loss = 0.034(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 5773.9 Cubic Feet
Total soil loss = 1486.1 Cubic Feet

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Peak flow rate of this hydrograph = 1.240(CFS)

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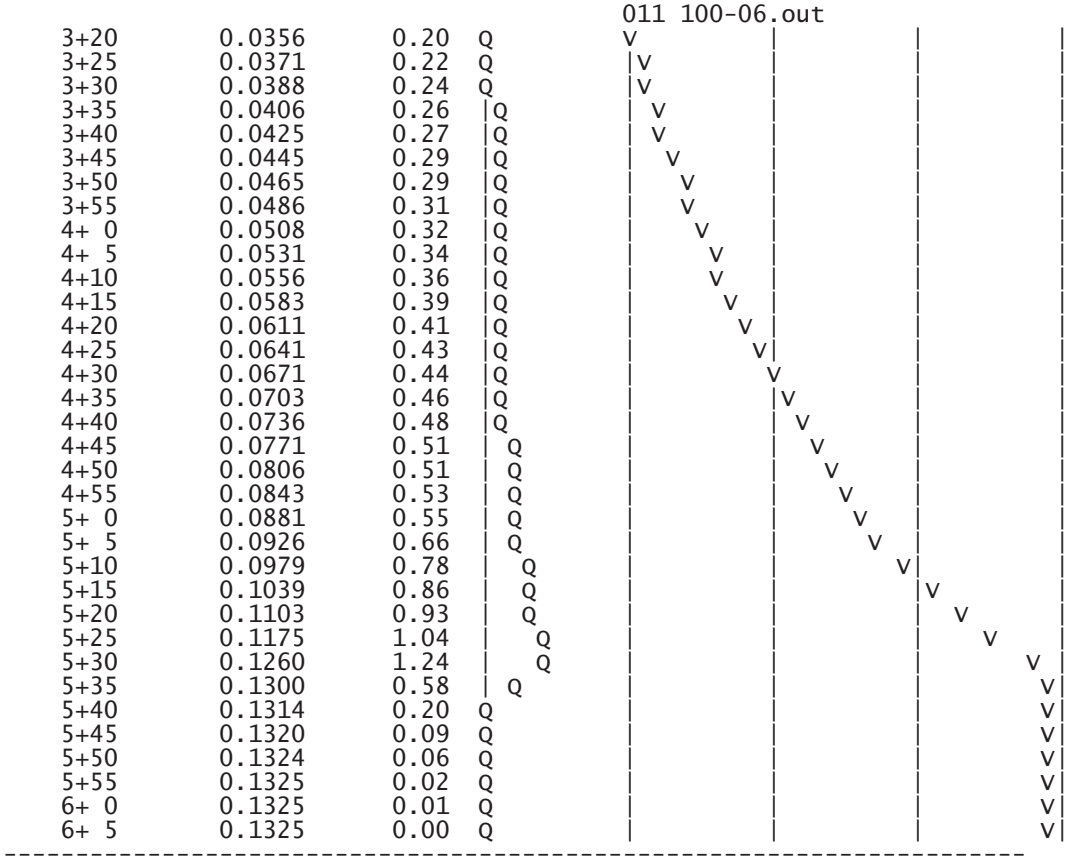
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0003 | 0.04 | Q | | | | |
| 0+10 | 0.0008 | 0.07 | Q | | | | |
| 0+15 | 0.0013 | 0.08 | Q | | | | |
| 0+20 | 0.0018 | 0.08 | Q | | | | |
| 0+25 | 0.0023 | 0.08 | Q | | | | |
| 0+30 | 0.0030 | 0.10 | Q | | | | |
| 0+35 | 0.0037 | 0.10 | QV | | | | |
| 0+40 | 0.0044 | 0.10 | QV | | | | |
| 0+45 | 0.0051 | 0.10 | QV | | | | |
| 0+50 | 0.0058 | 0.10 | QV | | | | |
| 0+55 | 0.0064 | 0.10 | QV | | | | |
| 1+ 0 | 0.0073 | 0.12 | Q V | | | | |
| 1+ 5 | 0.0081 | 0.12 | Q V | | | | |
| 1+10 | 0.0090 | 0.12 | Q V | | | | |
| 1+15 | 0.0098 | 0.12 | Q V | | | | |
| 1+20 | 0.0107 | 0.12 | Q V | | | | |
| 1+25 | 0.0115 | 0.12 | Q V | | | | |
| 1+30 | 0.0124 | 0.12 | Q V | | | | |
| 1+35 | 0.0133 | 0.12 | Q V | | | | |
| 1+40 | 0.0141 | 0.12 | Q V | | | | |
| 1+45 | 0.0150 | 0.12 | Q V | | | | |
| 1+50 | 0.0158 | 0.12 | Q V | | | | |
| 1+55 | 0.0167 | 0.12 | Q V | | | | |
| 2+ 0 | 0.0177 | 0.14 | Q V | | | | |
| 2+ 5 | 0.0186 | 0.13 | Q V | | | | |
| 2+10 | 0.0196 | 0.14 | Q V | | | | |
| 2+15 | 0.0206 | 0.15 | Q V | | | | |
| 2+20 | 0.0216 | 0.15 | Q V | | | | |
| 2+25 | 0.0226 | 0.15 | Q V | | | | |
| 2+30 | 0.0236 | 0.15 | Q V | | | | |
| 2+35 | 0.0247 | 0.15 | Q V | | | | |
| 2+40 | 0.0257 | 0.15 | Q V | | | | |
| 2+45 | 0.0269 | 0.17 | Q V | | | | |
| 2+50 | 0.0280 | 0.17 | Q V | | | | |
| 2+55 | 0.0292 | 0.17 | Q V | | | | |
| 3+ 0 | 0.0304 | 0.17 | Q V | | | | |
| 3+ 5 | 0.0316 | 0.17 | Q V | | | | |
| 3+10 | 0.0329 | 0.19 | Q V | | | | |
| 3+15 | 0.0343 | 0.20 | Q V | | | | |



| | | | |
|---|---|---|---|
| 3+20 | 0.0356 | 0.20 | Q |
| 3+25 | 0.0371 | 0.22 | Q |
| 3+30 | 0.0388 | 0.24 | Q |
| 3+35 | 0.0406 | 0.26 | Q |
| 3+40 | 0.0425 | 0.27 | Q |
| 3+45 | 0.0445 | 0.29 | Q |
| 3+50 | 0.0465 | 0.29 | Q |
| 3+55 | 0.0486 | 0.31 | Q |
| 4+ 0 | 0.0508 | 0.32 | Q |
| 4+ 5 | 0.0531 | 0.34 | Q |
| 4+10 | 0.0556 | 0.36 | Q |
| 4+15 | 0.0583 | 0.39 | Q |
| 4+20 | 0.0611 | 0.41 | Q |
| 4+25 | 0.0641 | 0.43 | Q |
| 4+30 | 0.0671 | 0.44 | Q |
| 4+35 | 0.0703 | 0.46 | Q |
| 4+40 | 0.0736 | 0.48 | Q |
| 4+45 | 0.0771 | 0.51 | Q |
| 4+50 | 0.0806 | 0.51 | Q |
| 4+55 | 0.0843 | 0.53 | Q |
| 5+ 0 | 0.0881 | 0.55 | Q |
| 5+ 5 | 0.0926 | 0.66 | Q |
| 5+10 | 0.0979 | 0.78 | Q |
| 5+15 | 0.1039 | 0.86 | Q |
| 5+20 | 0.1103 | 0.93 | Q |
| 5+25 | 0.1175 | 1.04 | Q |
| 5+30 | 0.1260 | 1.24 | Q |
| 5+35 | 0.1300 | 0.58 | Q |
| 5+40 | 0.1314 | 0.20 | Q |
| 5+45 | 0.1320 | 0.09 | Q |
| 5+50 | 0.1324 | 0.06 | Q |
| 5+55 | 0.1325 | 0.02 | Q |
| 6+ 0 | 0.1325 | 0.01 | Q |
| 6+ 5 | 0.1325 | 0.00 | Q |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX1124100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 11
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 0.80(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.80(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 288.00(Ft.)
Length along longest watercourse measured to centroid = 83.00(Ft.)
Length along longest watercourse = 0.055 Mi.
Length along longest watercourse measured to centroid = 0.016 Mi.
Difference in elevation = 120.00(Ft.)
Slope along watercourse = 2200.0000 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.013 Hr.
Lag time = 0.80 Min.
25% of lag time = 0.20 Min.
40% of lag time = 0.32 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.80 | 1.80 | 1.44 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.80 | 4.53 | 3.62 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.530(In)

Point rain (area averaged) = 4.530(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.530(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.800 | 84.00 | 0.000 |

Total Area Entered = 0.80(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 626.589 | 78.755 | 0.635 |
| 2 0.167 | 1253.178 | 21.245 | 0.171 |
| | | Sum = 100.000 | Sum= 0.806 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.036 | ( 0.152) | 0.033 | 0.004 |
| 2 | 0.17 | 0.07 | 0.036 | ( 0.152) | 0.033 | 0.004 |
| 3 | 0.25 | 0.07 | 0.036 | ( 0.151) | 0.033 | 0.004 |
| 4 | 0.33 | 0.10 | 0.054 | ( 0.150) | 0.049 | 0.005 |
| 5 | 0.42 | 0.10 | 0.054 | ( 0.150) | 0.049 | 0.005 |
| 6 | 0.50 | 0.10 | 0.054 | ( 0.149) | 0.049 | 0.005 |
| 7 | 0.58 | 0.10 | 0.054 | ( 0.149) | 0.049 | 0.005 |
| 8 | 0.67 | 0.10 | 0.054 | ( 0.148) | 0.049 | 0.005 |
| 9 | 0.75 | 0.10 | 0.054 | ( 0.147) | 0.049 | 0.005 |
| 10 | 0.83 | 0.13 | 0.072 | ( 0.147) | 0.065 | 0.007 |
| 11 | 0.92 | 0.13 | 0.072 | ( 0.146) | 0.065 | 0.007 |
| 12 | 1.00 | 0.13 | 0.072 | ( 0.146) | 0.065 | 0.007 |
| 13 | 1.08 | 0.10 | 0.054 | ( 0.145) | 0.049 | 0.005 |
| 14 | 1.17 | 0.10 | 0.054 | ( 0.145) | 0.049 | 0.005 |
| 15 | 1.25 | 0.10 | 0.054 | ( 0.144) | 0.049 | 0.005 |
| 16 | 1.33 | 0.10 | 0.054 | ( 0.143) | 0.049 | 0.005 |
| 17 | 1.42 | 0.10 | 0.054 | ( 0.143) | 0.049 | 0.005 |
| 18 | 1.50 | 0.10 | 0.054 | ( 0.142) | 0.049 | 0.005 |
| 19 | 1.58 | 0.10 | 0.054 | ( 0.142) | 0.049 | 0.005 |
| 20 | 1.67 | 0.10 | 0.054 | ( 0.141) | 0.049 | 0.005 |
| 21 | 1.75 | 0.10 | 0.054 | ( 0.141) | 0.049 | 0.005 |
| 22 | 1.83 | 0.13 | 0.072 | ( 0.140) | 0.065 | 0.007 |
| 23 | 1.92 | 0.13 | 0.072 | ( 0.139) | 0.065 | 0.007 |
| 24 | 2.00 | 0.13 | 0.072 | ( 0.139) | 0.065 | 0.007 |
| 25 | 2.08 | 0.13 | 0.072 | ( 0.138) | 0.065 | 0.007 |
| 26 | 2.17 | 0.13 | 0.072 | ( 0.138) | 0.065 | 0.007 |
| 27 | 2.25 | 0.13 | 0.072 | ( 0.137) | 0.065 | 0.007 |
| 28 | 2.33 | 0.13 | 0.072 | ( 0.137) | 0.065 | 0.007 |
| 29 | 2.42 | 0.13 | 0.072 | ( 0.136) | 0.065 | 0.007 |
| 30 | 2.50 | 0.13 | 0.072 | ( 0.136) | 0.065 | 0.007 |
| 31 | 2.58 | 0.17 | 0.091 | ( 0.135) | 0.082 | 0.009 |
| 32 | 2.67 | 0.17 | 0.091 | ( 0.134) | 0.082 | 0.009 |
| 33 | 2.75 | 0.17 | 0.091 | ( 0.134) | 0.082 | 0.009 |
| 34 | 2.83 | 0.17 | 0.091 | ( 0.133) | 0.082 | 0.009 |
| 35 | 2.92 | 0.17 | 0.091 | ( 0.133) | 0.082 | 0.009 |
| 36 | 3.00 | 0.17 | 0.091 | ( 0.132) | 0.082 | 0.009 |
| 37 | 3.08 | 0.17 | 0.091 | ( 0.132) | 0.082 | 0.009 |
| 38 | 3.17 | 0.17 | 0.091 | ( 0.131) | 0.082 | 0.009 |
| 39 | 3.25 | 0.17 | 0.091 | ( 0.131) | 0.082 | 0.009 |
| 40 | 3.33 | 0.17 | 0.091 | ( 0.130) | 0.082 | 0.009 |
| 41 | 3.42 | 0.17 | 0.091 | ( 0.129) | 0.082 | 0.009 |
| 42 | 3.50 | 0.17 | 0.091 | ( 0.129) | 0.082 | 0.009 |
| 43 | 3.58 | 0.17 | 0.091 | ( 0.128) | 0.082 | 0.009 |
| 44 | 3.67 | 0.17 | 0.091 | ( 0.128) | 0.082 | 0.009 |
| 45 | 3.75 | 0.17 | 0.091 | ( 0.127) | 0.082 | 0.009 |
| 46 | 3.83 | 0.20 | 0.109 | ( 0.127) | 0.098 | 0.011 |
| 47 | 3.92 | 0.20 | 0.109 | ( 0.126) | 0.098 | 0.011 |
| 48 | 4.00 | 0.20 | 0.109 | ( 0.126) | 0.098 | 0.011 |
| 49 | 4.08 | 0.20 | 0.109 | ( 0.125) | 0.098 | 0.011 |
| 50 | 4.17 | 0.20 | 0.109 | ( 0.125) | 0.098 | 0.011 |
| 51 | 4.25 | 0.20 | 0.109 | ( 0.124) | 0.098 | 0.011 |
| 52 | 4.33 | 0.23 | 0.127 | ( 0.124) | 0.114 | 0.013 |
| 53 | 4.42 | 0.23 | 0.127 | ( 0.123) | 0.114 | 0.013 |
| 54 | 4.50 | 0.23 | 0.127 | ( 0.123) | 0.114 | 0.013 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 55 | 4.58 | 0.23 | 0.127 | ( | 0.122) | 0.114 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.127 | ( | 0.121) | 0.114 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.127 | ( | 0.121) | 0.114 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.145 | | 0.120 | ( 0.130) | | 0.025 |
| 59 | 4.92 | 0.27 | 0.145 | | 0.120 | ( 0.130) | | 0.025 |
| 60 | 5.00 | 0.27 | 0.145 | | 0.119 | ( 0.130) | | 0.026 |
| 61 | 5.08 | 0.20 | 0.109 | ( | 0.119) | 0.098 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.109 | ( | 0.118) | 0.098 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.109 | ( | 0.118) | 0.098 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.127 | ( | 0.117) | 0.114 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.127 | ( | 0.117) | 0.114 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.127 | ( | 0.116) | 0.114 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.145 | | 0.116 | ( 0.130) | | 0.029 |
| 68 | 5.67 | 0.27 | 0.145 | | 0.115 | ( 0.130) | | 0.030 |
| 69 | 5.75 | 0.27 | 0.145 | | 0.115 | ( 0.130) | | 0.030 |
| 70 | 5.83 | 0.27 | 0.145 | | 0.114 | ( 0.130) | | 0.031 |
| 71 | 5.92 | 0.27 | 0.145 | | 0.114 | ( 0.130) | | 0.031 |
| 72 | 6.00 | 0.27 | 0.145 | | 0.113 | ( 0.130) | | 0.032 |
| 73 | 6.08 | 0.30 | 0.163 | | 0.113 | ( 0.147) | | 0.050 |
| 74 | 6.17 | 0.30 | 0.163 | | 0.112 | ( 0.147) | | 0.051 |
| 75 | 6.25 | 0.30 | 0.163 | | 0.112 | ( 0.147) | | 0.051 |
| 76 | 6.33 | 0.30 | 0.163 | | 0.111 | ( 0.147) | | 0.052 |
| 77 | 6.42 | 0.30 | 0.163 | | 0.111 | ( 0.147) | | 0.052 |
| 78 | 6.50 | 0.30 | 0.163 | | 0.110 | ( 0.147) | | 0.053 |
| 79 | 6.58 | 0.33 | 0.181 | | 0.110 | ( 0.163) | | 0.071 |
| 80 | 6.67 | 0.33 | 0.181 | | 0.109 | ( 0.163) | | 0.072 |
| 81 | 6.75 | 0.33 | 0.181 | | 0.109 | ( 0.163) | | 0.072 |
| 82 | 6.83 | 0.33 | 0.181 | | 0.108 | ( 0.163) | | 0.073 |
| 83 | 6.92 | 0.33 | 0.181 | | 0.108 | ( 0.163) | | 0.073 |
| 84 | 7.00 | 0.33 | 0.181 | | 0.107 | ( 0.163) | | 0.074 |
| 85 | 7.08 | 0.33 | 0.181 | | 0.107 | ( 0.163) | | 0.074 |
| 86 | 7.17 | 0.33 | 0.181 | | 0.106 | ( 0.163) | | 0.075 |
| 87 | 7.25 | 0.33 | 0.181 | | 0.106 | ( 0.163) | | 0.075 |
| 88 | 7.33 | 0.37 | 0.199 | | 0.105 | ( 0.179) | | 0.094 |
| 89 | 7.42 | 0.37 | 0.199 | | 0.105 | ( 0.179) | | 0.094 |
| 90 | 7.50 | 0.37 | 0.199 | | 0.104 | ( 0.179) | | 0.095 |
| 91 | 7.58 | 0.40 | 0.217 | | 0.104 | ( 0.196) | | 0.114 |
| 92 | 7.67 | 0.40 | 0.217 | | 0.103 | ( 0.196) | | 0.114 |
| 93 | 7.75 | 0.40 | 0.217 | | 0.103 | ( 0.196) | | 0.114 |
| 94 | 7.83 | 0.43 | 0.236 | | 0.102 | ( 0.212) | | 0.133 |
| 95 | 7.92 | 0.43 | 0.236 | | 0.102 | ( 0.212) | | 0.134 |
| 96 | 8.00 | 0.43 | 0.236 | | 0.102 | ( 0.212) | | 0.134 |
| 97 | 8.08 | 0.50 | 0.272 | | 0.101 | ( 0.245) | | 0.171 |
| 98 | 8.17 | 0.50 | 0.272 | | 0.101 | ( 0.245) | | 0.171 |
| 99 | 8.25 | 0.50 | 0.272 | | 0.100 | ( 0.245) | | 0.172 |
| 100 | 8.33 | 0.50 | 0.272 | | 0.100 | ( 0.245) | | 0.172 |
| 101 | 8.42 | 0.50 | 0.272 | | 0.099 | ( 0.245) | | 0.173 |
| 102 | 8.50 | 0.50 | 0.272 | | 0.099 | ( 0.245) | | 0.173 |
| 103 | 8.58 | 0.53 | 0.290 | | 0.098 | ( 0.261) | | 0.192 |
| 104 | 8.67 | 0.53 | 0.290 | | 0.098 | ( 0.261) | | 0.192 |
| 105 | 8.75 | 0.53 | 0.290 | | 0.097 | ( 0.261) | | 0.193 |
| 106 | 8.83 | 0.57 | 0.308 | | 0.097 | ( 0.277) | | 0.211 |
| 107 | 8.92 | 0.57 | 0.308 | | 0.096 | ( 0.277) | | 0.212 |
| 108 | 9.00 | 0.57 | 0.308 | | 0.096 | ( 0.277) | | 0.212 |
| 109 | 9.08 | 0.63 | 0.344 | | 0.096 | ( 0.310) | | 0.249 |
| 110 | 9.17 | 0.63 | 0.344 | | 0.095 | ( 0.310) | | 0.249 |
| 111 | 9.25 | 0.63 | 0.344 | | 0.095 | ( 0.310) | | 0.250 |
| 112 | 9.33 | 0.67 | 0.362 | | 0.094 | ( 0.326) | | 0.268 |
| 113 | 9.42 | 0.67 | 0.362 | | 0.094 | ( 0.326) | | 0.269 |
| 114 | 9.50 | 0.67 | 0.362 | | 0.093 | ( 0.326) | | 0.269 |
| 115 | 9.58 | 0.70 | 0.381 | | 0.093 | ( 0.342) | | 0.288 |
| 116 | 9.67 | 0.70 | 0.381 | | 0.092 | ( 0.342) | | 0.288 |
| 117 | 9.75 | 0.70 | 0.381 | | 0.092 | ( 0.342) | | 0.289 |
| 118 | 9.83 | 0.73 | 0.399 | | 0.091 | ( 0.359) | | 0.307 |
| 119 | 9.92 | 0.73 | 0.399 | | 0.091 | ( 0.359) | | 0.308 |
| 120 | 10.00 | 0.73 | 0.399 | | 0.091 | ( 0.359) | | 0.308 |
| 121 | 10.08 | 0.50 | 0.272 | | 0.090 | ( 0.245) | | 0.182 |
| 122 | 10.17 | 0.50 | 0.272 | | 0.090 | ( 0.245) | | 0.182 |
| 123 | 10.25 | 0.50 | 0.272 | | 0.089 | ( 0.245) | | 0.183 |
| 124 | 10.33 | 0.50 | 0.272 | | 0.089 | ( 0.245) | | 0.183 |
| 125 | 10.42 | 0.50 | 0.272 | | 0.088 | ( 0.245) | | 0.183 |
| 126 | 10.50 | 0.50 | 0.272 | | 0.088 | ( 0.245) | | 0.184 |
| 127 | 10.58 | 0.67 | 0.362 | | 0.088 | ( 0.326) | | 0.275 |
| 128 | 10.67 | 0.67 | 0.362 | | 0.087 | ( 0.326) | | 0.275 |
| 129 | 10.75 | 0.67 | 0.362 | | 0.087 | ( 0.326) | | 0.276 |
| 130 | 10.83 | 0.67 | 0.362 | | 0.086 | ( 0.326) | | 0.276 |
| 131 | 10.92 | 0.67 | 0.362 | | 0.086 | ( 0.326) | | 0.277 |
| 132 | 11.00 | 0.67 | 0.362 | | 0.085 | ( 0.326) | | 0.277 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 133 | 11.08 | 0.63 | 0.344 | 0.085 | ( 0.310) | 0.259 |
| 134 | 11.17 | 0.63 | 0.344 | 0.085 | ( 0.310) | 0.260 |
| 135 | 11.25 | 0.63 | 0.344 | 0.084 | ( 0.310) | 0.260 |
| 136 | 11.33 | 0.63 | 0.344 | 0.084 | ( 0.310) | 0.261 |
| 137 | 11.42 | 0.63 | 0.344 | 0.083 | ( 0.310) | 0.261 |
| 138 | 11.50 | 0.63 | 0.344 | 0.083 | ( 0.310) | 0.261 |
| 139 | 11.58 | 0.57 | 0.308 | 0.083 | ( 0.277) | 0.226 |
| 140 | 11.67 | 0.57 | 0.308 | 0.082 | ( 0.277) | 0.226 |
| 141 | 11.75 | 0.57 | 0.308 | 0.082 | ( 0.277) | 0.226 |
| 142 | 11.83 | 0.60 | 0.326 | 0.081 | ( 0.294) | 0.245 |
| 143 | 11.92 | 0.60 | 0.326 | 0.081 | ( 0.294) | 0.245 |
| 144 | 12.00 | 0.60 | 0.326 | 0.080 | ( 0.294) | 0.246 |
| 145 | 12.08 | 0.83 | 0.453 | 0.080 | ( 0.408) | 0.373 |
| 146 | 12.17 | 0.83 | 0.453 | 0.080 | ( 0.408) | 0.373 |
| 147 | 12.25 | 0.83 | 0.453 | 0.079 | ( 0.408) | 0.374 |
| 148 | 12.33 | 0.87 | 0.471 | 0.079 | ( 0.424) | 0.392 |
| 149 | 12.42 | 0.87 | 0.471 | 0.078 | ( 0.424) | 0.393 |
| 150 | 12.50 | 0.87 | 0.471 | 0.078 | ( 0.424) | 0.393 |
| 151 | 12.58 | 0.93 | 0.507 | 0.078 | ( 0.457) | 0.430 |
| 152 | 12.67 | 0.93 | 0.507 | 0.077 | ( 0.457) | 0.430 |
| 153 | 12.75 | 0.93 | 0.507 | 0.077 | ( 0.457) | 0.430 |
| 154 | 12.83 | 0.97 | 0.525 | 0.077 | ( 0.473) | 0.449 |
| 155 | 12.92 | 0.97 | 0.525 | 0.076 | ( 0.473) | 0.449 |
| 156 | 13.00 | 0.97 | 0.525 | 0.076 | ( 0.473) | 0.450 |
| 157 | 13.08 | 1.13 | 0.616 | 0.075 | ( 0.554) | 0.541 |
| 158 | 13.17 | 1.13 | 0.616 | 0.075 | ( 0.554) | 0.541 |
| 159 | 13.25 | 1.13 | 0.616 | 0.075 | ( 0.554) | 0.541 |
| 160 | 13.33 | 1.13 | 0.616 | 0.074 | ( 0.554) | 0.542 |
| 161 | 13.42 | 1.13 | 0.616 | 0.074 | ( 0.554) | 0.542 |
| 162 | 13.50 | 1.13 | 0.616 | 0.073 | ( 0.554) | 0.543 |
| 163 | 13.58 | 0.77 | 0.417 | 0.073 | ( 0.375) | 0.344 |
| 164 | 13.67 | 0.77 | 0.417 | 0.073 | ( 0.375) | 0.344 |
| 165 | 13.75 | 0.77 | 0.417 | 0.072 | ( 0.375) | 0.344 |
| 166 | 13.83 | 0.77 | 0.417 | 0.072 | ( 0.375) | 0.345 |
| 167 | 13.92 | 0.77 | 0.417 | 0.072 | ( 0.375) | 0.345 |
| 168 | 14.00 | 0.77 | 0.417 | 0.071 | ( 0.375) | 0.345 |
| 169 | 14.08 | 0.90 | 0.489 | 0.071 | ( 0.440) | 0.418 |
| 170 | 14.17 | 0.90 | 0.489 | 0.071 | ( 0.440) | 0.419 |
| 171 | 14.25 | 0.90 | 0.489 | 0.070 | ( 0.440) | 0.419 |
| 172 | 14.33 | 0.87 | 0.471 | 0.070 | ( 0.424) | 0.401 |
| 173 | 14.42 | 0.87 | 0.471 | 0.069 | ( 0.424) | 0.402 |
| 174 | 14.50 | 0.87 | 0.471 | 0.069 | ( 0.424) | 0.402 |
| 175 | 14.58 | 0.87 | 0.471 | 0.069 | ( 0.424) | 0.402 |
| 176 | 14.67 | 0.87 | 0.471 | 0.068 | ( 0.424) | 0.403 |
| 177 | 14.75 | 0.87 | 0.471 | 0.068 | ( 0.424) | 0.403 |
| 178 | 14.83 | 0.83 | 0.453 | 0.068 | ( 0.408) | 0.385 |
| 179 | 14.92 | 0.83 | 0.453 | 0.067 | ( 0.408) | 0.386 |
| 180 | 15.00 | 0.83 | 0.453 | 0.067 | ( 0.408) | 0.386 |
| 181 | 15.08 | 0.80 | 0.435 | 0.067 | ( 0.391) | 0.368 |
| 182 | 15.17 | 0.80 | 0.435 | 0.066 | ( 0.391) | 0.369 |
| 183 | 15.25 | 0.80 | 0.435 | 0.066 | ( 0.391) | 0.369 |
| 184 | 15.33 | 0.77 | 0.417 | 0.066 | ( 0.375) | 0.351 |
| 185 | 15.42 | 0.77 | 0.417 | 0.065 | ( 0.375) | 0.351 |
| 186 | 15.50 | 0.77 | 0.417 | 0.065 | ( 0.375) | 0.352 |
| 187 | 15.58 | 0.63 | 0.344 | 0.065 | ( 0.310) | 0.280 |
| 188 | 15.67 | 0.63 | 0.344 | 0.064 | ( 0.310) | 0.280 |
| 189 | 15.75 | 0.63 | 0.344 | 0.064 | ( 0.310) | 0.280 |
| 190 | 15.83 | 0.63 | 0.344 | 0.064 | ( 0.310) | 0.281 |
| 191 | 15.92 | 0.63 | 0.344 | 0.063 | ( 0.310) | 0.281 |
| 192 | 16.00 | 0.63 | 0.344 | 0.063 | ( 0.310) | 0.281 |
| 193 | 16.08 | 0.13 | 0.072 | 0.063 | ( 0.065) | 0.010 |
| 194 | 16.17 | 0.13 | 0.072 | 0.062 | ( 0.065) | 0.010 |
| 195 | 16.25 | 0.13 | 0.072 | 0.062 | ( 0.065) | 0.010 |
| 196 | 16.33 | 0.13 | 0.072 | 0.062 | ( 0.065) | 0.011 |
| 197 | 16.42 | 0.13 | 0.072 | 0.061 | ( 0.065) | 0.011 |
| 198 | 16.50 | 0.13 | 0.072 | 0.061 | ( 0.065) | 0.011 |
| 199 | 16.58 | 0.10 | 0.054 | ( 0.061) | 0.049 | 0.005 |
| 200 | 16.67 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 201 | 16.75 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 202 | 16.83 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 203 | 16.92 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 204 | 17.00 | 0.10 | 0.054 | ( 0.059) | 0.049 | 0.005 |
| 205 | 17.08 | 0.17 | 0.091 | 0.059 | ( 0.082) | 0.032 |
| 206 | 17.17 | 0.17 | 0.091 | 0.059 | ( 0.082) | 0.032 |
| 207 | 17.25 | 0.17 | 0.091 | 0.058 | ( 0.082) | 0.032 |
| 208 | 17.33 | 0.17 | 0.091 | 0.058 | ( 0.082) | 0.033 |
| 209 | 17.42 | 0.17 | 0.091 | 0.058 | ( 0.082) | 0.033 |
| 210 | 17.50 | 0.17 | 0.091 | 0.058 | ( 0.082) | 0.033 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 211 | 17.58 | 0.17 | 0.091 | 0.057 | ( 0.082) | 0.033 |
| 212 | 17.67 | 0.17 | 0.091 | 0.057 | ( 0.082) | 0.034 |
| 213 | 17.75 | 0.17 | 0.091 | 0.057 | ( 0.082) | 0.034 |
| 214 | 17.83 | 0.13 | 0.072 | 0.056 | ( 0.065) | 0.016 |
| 215 | 17.92 | 0.13 | 0.072 | 0.056 | ( 0.065) | 0.016 |
| 216 | 18.00 | 0.13 | 0.072 | 0.056 | ( 0.065) | 0.017 |
| 217 | 18.08 | 0.13 | 0.072 | 0.056 | ( 0.065) | 0.017 |
| 218 | 18.17 | 0.13 | 0.072 | 0.055 | ( 0.065) | 0.017 |
| 219 | 18.25 | 0.13 | 0.072 | 0.055 | ( 0.065) | 0.017 |
| 220 | 18.33 | 0.13 | 0.072 | 0.055 | ( 0.065) | 0.018 |
| 221 | 18.42 | 0.13 | 0.072 | 0.054 | ( 0.065) | 0.018 |
| 222 | 18.50 | 0.13 | 0.072 | 0.054 | ( 0.065) | 0.018 |
| 223 | 18.58 | 0.10 | 0.054 | ( 0.054) | 0.049 | 0.005 |
| 224 | 18.67 | 0.10 | 0.054 | ( 0.054) | 0.049 | 0.005 |
| 225 | 18.75 | 0.10 | 0.054 | ( 0.053) | 0.049 | 0.005 |
| 226 | 18.83 | 0.07 | 0.036 | ( 0.053) | 0.033 | 0.004 |
| 227 | 18.92 | 0.07 | 0.036 | ( 0.053) | 0.033 | 0.004 |
| 228 | 19.00 | 0.07 | 0.036 | ( 0.053) | 0.033 | 0.004 |
| 229 | 19.08 | 0.10 | 0.054 | ( 0.052) | 0.049 | 0.005 |
| 230 | 19.17 | 0.10 | 0.054 | ( 0.052) | 0.049 | 0.005 |
| 231 | 19.25 | 0.10 | 0.054 | ( 0.052) | 0.049 | 0.005 |
| 232 | 19.33 | 0.13 | 0.072 | 0.052 | ( 0.065) | 0.021 |
| 233 | 19.42 | 0.13 | 0.072 | 0.051 | ( 0.065) | 0.021 |
| 234 | 19.50 | 0.13 | 0.072 | 0.051 | ( 0.065) | 0.021 |
| 235 | 19.58 | 0.10 | 0.054 | ( 0.051) | 0.049 | 0.005 |
| 236 | 19.67 | 0.10 | 0.054 | ( 0.051) | 0.049 | 0.005 |
| 237 | 19.75 | 0.10 | 0.054 | ( 0.050) | 0.049 | 0.005 |
| 238 | 19.83 | 0.07 | 0.036 | ( 0.050) | 0.033 | 0.004 |
| 239 | 19.92 | 0.07 | 0.036 | ( 0.050) | 0.033 | 0.004 |
| 240 | 20.00 | 0.07 | 0.036 | ( 0.050) | 0.033 | 0.004 |
| 241 | 20.08 | 0.10 | 0.054 | ( 0.050) | 0.049 | 0.005 |
| 242 | 20.17 | 0.10 | 0.054 | ( 0.049) | 0.049 | 0.005 |
| 243 | 20.25 | 0.10 | 0.054 | ( 0.049) | 0.049 | 0.005 |
| 244 | 20.33 | 0.10 | 0.054 | ( 0.049) | 0.049 | 0.005 |
| 245 | 20.42 | 0.10 | 0.054 | 0.049 | ( 0.049) | 0.006 |
| 246 | 20.50 | 0.10 | 0.054 | 0.049 | ( 0.049) | 0.006 |
| 247 | 20.58 | 0.10 | 0.054 | 0.048 | ( 0.049) | 0.006 |
| 248 | 20.67 | 0.10 | 0.054 | 0.048 | ( 0.049) | 0.006 |
| 249 | 20.75 | 0.10 | 0.054 | 0.048 | ( 0.049) | 0.006 |
| 250 | 20.83 | 0.07 | 0.036 | ( 0.048) | 0.033 | 0.004 |
| 251 | 20.92 | 0.07 | 0.036 | ( 0.048) | 0.033 | 0.004 |
| 252 | 21.00 | 0.07 | 0.036 | ( 0.047) | 0.033 | 0.004 |
| 253 | 21.08 | 0.10 | 0.054 | 0.047 | ( 0.049) | 0.007 |
| 254 | 21.17 | 0.10 | 0.054 | 0.047 | ( 0.049) | 0.007 |
| 255 | 21.25 | 0.10 | 0.054 | 0.047 | ( 0.049) | 0.008 |
| 256 | 21.33 | 0.07 | 0.036 | ( 0.047) | 0.033 | 0.004 |
| 257 | 21.42 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 258 | 21.50 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 259 | 21.58 | 0.10 | 0.054 | 0.046 | ( 0.049) | 0.008 |
| 260 | 21.67 | 0.10 | 0.054 | 0.046 | ( 0.049) | 0.008 |
| 261 | 21.75 | 0.10 | 0.054 | 0.046 | ( 0.049) | 0.009 |
| 262 | 21.83 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 263 | 21.92 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 264 | 22.00 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 265 | 22.08 | 0.10 | 0.054 | 0.045 | ( 0.049) | 0.009 |
| 266 | 22.17 | 0.10 | 0.054 | 0.045 | ( 0.049) | 0.009 |
| 267 | 22.25 | 0.10 | 0.054 | 0.045 | ( 0.049) | 0.009 |
| 268 | 22.33 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 269 | 22.42 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 270 | 22.50 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 271 | 22.58 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 272 | 22.67 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 273 | 22.75 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 274 | 22.83 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 275 | 22.92 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 276 | 23.00 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 277 | 23.08 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 278 | 23.17 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 279 | 23.25 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 280 | 23.33 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 281 | 23.42 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 284 | 23.67 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 285 | 23.75 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 286 | 23.83 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 287 | 23.92 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 288 | 24.00 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |

(Loss Rate Not Used)
Sum = 100.0 Sum = 33.9
Flood volume = Effective rainfall 2.83(In)
times area 0.8(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 1.70(In)
Total soil loss = 0.114(Ac.Ft)
Total rainfall = 4.53(In)
Flood volume = 8211.0 Cubic Feet
Total soil loss = 4944.1 Cubic Feet

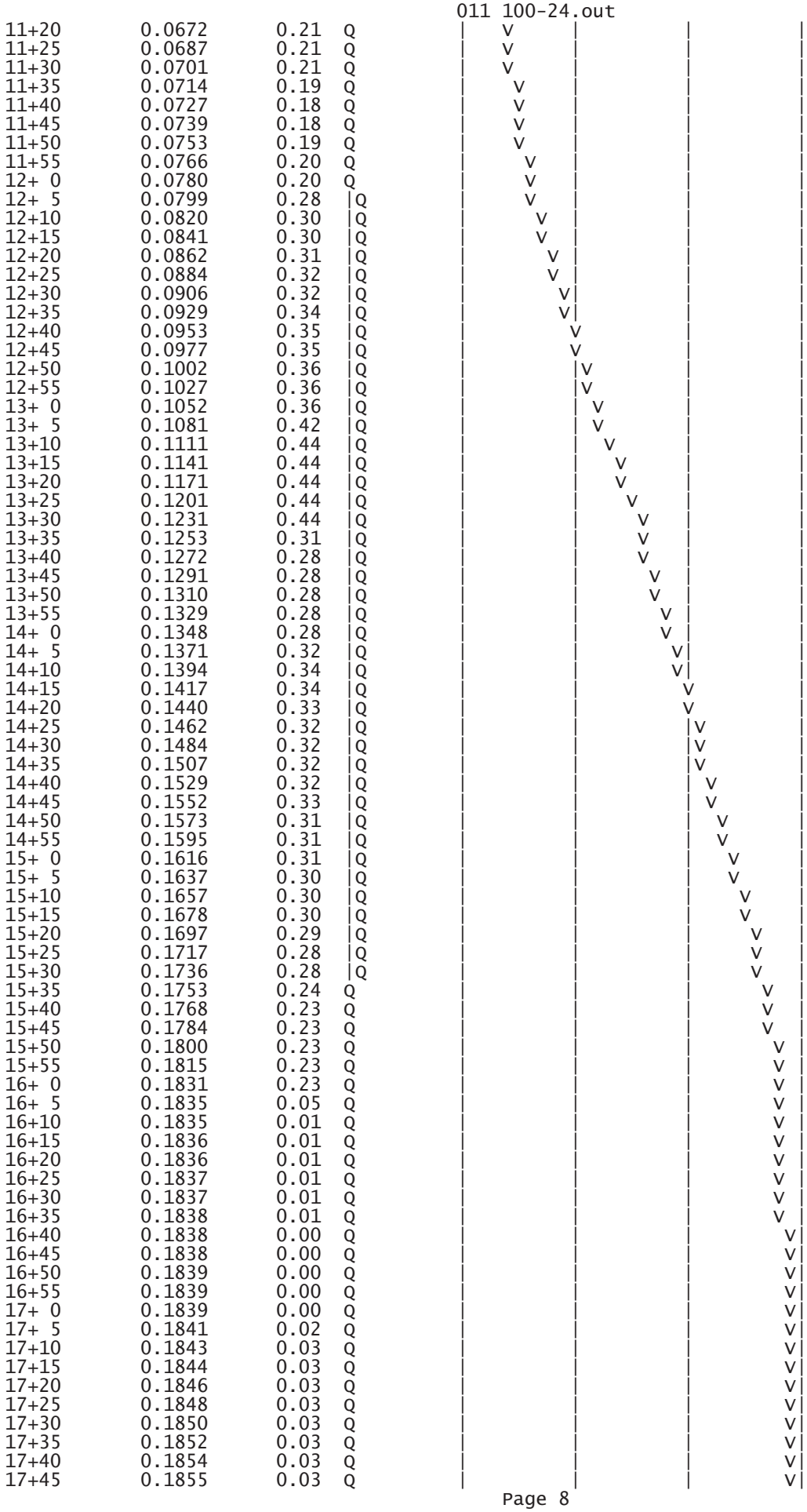
Peak flow rate of this hydrograph = 0.438(CFS)

24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0000 | 0.00 | Q | | | | |
| 0+10 | 0.0000 | 0.00 | Q | | | | |
| 0+15 | 0.0001 | 0.00 | Q | | | | |
| 0+20 | 0.0001 | 0.00 | Q | | | | |
| 0+25 | 0.0001 | 0.00 | Q | | | | |
| 0+30 | 0.0001 | 0.00 | Q | | | | |
| 0+35 | 0.0002 | 0.00 | Q | | | | |
| 0+40 | 0.0002 | 0.00 | Q | | | | |
| 0+45 | 0.0002 | 0.00 | Q | | | | |
| 0+50 | 0.0003 | 0.01 | Q | | | | |
| 0+55 | 0.0003 | 0.01 | Q | | | | |
| 1+ 0 | 0.0004 | 0.01 | Q | | | | |
| 1+ 5 | 0.0004 | 0.00 | Q | | | | |
| 1+10 | 0.0004 | 0.00 | Q | | | | |
| 1+15 | 0.0004 | 0.00 | Q | | | | |
| 1+20 | 0.0005 | 0.00 | Q | | | | |
| 1+25 | 0.0005 | 0.00 | Q | | | | |
| 1+30 | 0.0005 | 0.00 | Q | | | | |
| 1+35 | 0.0006 | 0.00 | Q | | | | |
| 1+40 | 0.0006 | 0.00 | Q | | | | |
| 1+45 | 0.0006 | 0.00 | Q | | | | |
| 1+50 | 0.0007 | 0.01 | Q | | | | |
| 1+55 | 0.0007 | 0.01 | Q | | | | |
| 2+ 0 | 0.0007 | 0.01 | Q | | | | |
| 2+ 5 | 0.0008 | 0.01 | Q | | | | |
| 2+10 | 0.0008 | 0.01 | Q | | | | |
| 2+15 | 0.0009 | 0.01 | Q | | | | |
| 2+20 | 0.0009 | 0.01 | Q | | | | |
| 2+25 | 0.0009 | 0.01 | Q | | | | |
| 2+30 | 0.0010 | 0.01 | Q | | | | |
| 2+35 | 0.0010 | 0.01 | Q | | | | |
| 2+40 | 0.0011 | 0.01 | Q | | | | |
| 2+45 | 0.0011 | 0.01 | Q | | | | |
| 2+50 | 0.0012 | 0.01 | Q | | | | |
| 2+55 | 0.0012 | 0.01 | Q | | | | |
| 3+ 0 | 0.0013 | 0.01 | Q | | | | |
| 3+ 5 | 0.0013 | 0.01 | Q | | | | |
| 3+10 | 0.0014 | 0.01 | Q | | | | |
| 3+15 | 0.0014 | 0.01 | Q | | | | |
| 3+20 | 0.0015 | 0.01 | Q | | | | |
| 3+25 | 0.0015 | 0.01 | Q | | | | |
| 3+30 | 0.0016 | 0.01 | Q | | | | |
| 3+35 | 0.0016 | 0.01 | Q | | | | |
| 3+40 | 0.0017 | 0.01 | Q | | | | |
| 3+45 | 0.0017 | 0.01 | Q | | | | |
| 3+50 | 0.0018 | 0.01 | Q | | | | |
| 3+55 | 0.0019 | 0.01 | Q | | | | |
| 4+ 0 | 0.0019 | 0.01 | Q | | | | |
| 4+ 5 | 0.0020 | 0.01 | Q | | | | |
| 4+10 | 0.0020 | 0.01 | Q | | | | |
| 4+15 | 0.0021 | 0.01 | Q | | | | |
| 4+20 | 0.0022 | 0.01 | Q | | | | |
| 4+25 | 0.0022 | 0.01 | Q | | | | |
| 4+30 | 0.0023 | 0.01 | Q | | | | |
| 4+35 | 0.0024 | 0.01 | Q | | | | |
| 4+40 | 0.0025 | 0.01 | Q | | | | |
| 4+45 | 0.0025 | 0.01 | Q | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 4+50 | 0.0026 | 0.02 | Q | \| | \| | \| | \| |
| 4+55 | 0.0028 | 0.02 | Q | \| | \| | \| | \| |
| 5+ 0 | 0.0029 | 0.02 | Q | \| | \| | \| | \| |
| 5+ 5 | 0.0030 | 0.01 | Q | \| | \| | \| | \| |
| 5+10 | 0.0031 | 0.01 | Q | \| | \| | \| | \| |
| 5+15 | 0.0031 | 0.01 | Q | \| | \| | \| | \| |
| 5+20 | 0.0032 | 0.01 | Q | \| | \| | \| | \| |
| 5+25 | 0.0033 | 0.01 | Q | \| | \| | \| | \| |
| 5+30 | 0.0033 | 0.01 | Q | \| | \| | \| | \| |
| 5+35 | 0.0035 | 0.02 | Q | \| | \| | \| | \| |
| 5+40 | 0.0036 | 0.02 | Q | \| | \| | \| | \| |
| 5+45 | 0.0038 | 0.02 | Q | \| | \| | \| | \| |
| 5+50 | 0.0040 | 0.02 | Q | \| | \| | \| | \| |
| 5+55 | 0.0041 | 0.03 | Q | \| | \| | \| | \| |
| 6+ 0 | 0.0043 | 0.03 | Q | \| | \| | \| | \| |
| 6+ 5 | 0.0046 | 0.04 | Q | \| | \| | \| | \| |
| 6+10 | 0.0049 | 0.04 | QV | \| | \| | \| | \| |
| 6+15 | 0.0051 | 0.04 | QV | \| | \| | \| | \| |
| 6+20 | 0.0054 | 0.04 | QV | \| | \| | \| | \| |
| 6+25 | 0.0057 | 0.04 | QV | \| | \| | \| | \| |
| 6+30 | 0.0060 | 0.04 | QV | \| | \| | \| | \| |
| 6+35 | 0.0064 | 0.05 | QV | \| | \| | \| | \| |
| 6+40 | 0.0068 | 0.06 | QV | \| | \| | \| | \| |
| 6+45 | 0.0072 | 0.06 | QV | \| | \| | \| | \| |
| 6+50 | 0.0076 | 0.06 | QV | \| | \| | \| | \| |
| 6+55 | 0.0080 | 0.06 | QV | \| | \| | \| | \| |
| 7+ 0 | 0.0084 | 0.06 | QV | \| | \| | \| | \| |
| 7+ 5 | 0.0088 | 0.06 | QV | \| | \| | \| | \| |
| 7+10 | 0.0092 | 0.06 | QV | \| | \| | \| | \| |
| 7+15 | 0.0097 | 0.06 | Q V | \| | \| | \| | \| |
| 7+20 | 0.0102 | 0.07 | Q V | \| | \| | \| | \| |
| 7+25 | 0.0107 | 0.08 | Q V | \| | \| | \| | \| |
| 7+30 | 0.0112 | 0.08 | Q V | \| | \| | \| | \| |
| 7+35 | 0.0118 | 0.09 | Q V | \| | \| | \| | \| |
| 7+40 | 0.0125 | 0.09 | Q V | \| | \| | \| | \| |
| 7+45 | 0.0131 | 0.09 | Q V | \| | \| | \| | \| |
| 7+50 | 0.0138 | 0.10 | Q V | \| | \| | \| | \| |
| 7+55 | 0.0145 | 0.11 | Q  V | \| | \| | \| | \| |
| 8+ 0 | 0.0153 | 0.11 | Q  V | \| | \| | \| | \| |
| 8+ 5 | 0.0162 | 0.13 | Q  V | \| | \| | \| | \| |
| 8+10 | 0.0171 | 0.14 | Q  V | \| | \| | \| | \| |
| 8+15 | 0.0181 | 0.14 | Q  V | \| | \| | \| | \| |
| 8+20 | 0.0191 | 0.14 | Q   V | \| | \| | \| | \| |
| 8+25 | 0.0200 | 0.14 | Q   V | \| | \| | \| | \| |
| 8+30 | 0.0210 | 0.14 | Q   V | \| | \| | \| | \| |
| 8+35 | 0.0220 | 0.15 | Q   V | \| | \| | \| | \| |
| 8+40 | 0.0231 | 0.15 | Q   V | \| | \| | \| | \| |
| 8+45 | 0.0242 | 0.16 | Q    V | \| | \| | \| | \| |
| 8+50 | 0.0253 | 0.17 | Q    V | \| | \| | \| | \| |
| 8+55 | 0.0265 | 0.17 | Q    V | \| | \| | \| | \| |
| 9+ 0 | 0.0277 | 0.17 | Q    V | \| | \| | \| | \| |
| 9+ 5 | 0.0290 | 0.19 | Q     V | \| | \| | \| | \| |
| 9+10 | 0.0304 | 0.20 | Q     V | \| | \| | \| | \| |
| 9+15 | 0.0318 | 0.20 | Q     V | \| | \| | \| | \| |
| 9+20 | 0.0332 | 0.21 | Q      V | \| | \| | \| | \| |
| 9+25 | 0.0347 | 0.22 | Q      V | \| | \| | \| | \| |
| 9+30 | 0.0362 | 0.22 | Q      V | \| | \| | \| | \| |
| 9+35 | 0.0378 | 0.23 | Q       V | \| | \| | \| | \| |
| 9+40 | 0.0394 | 0.23 | Q       V | \| | \| | \| | \| |
| 9+45 | 0.0410 | 0.23 | Q       V | \| | \| | \| | \| |
| 9+50 | 0.0427 | 0.24 | Q        V\| | \| | \| | \| |
| 9+55 | 0.0444 | 0.25 | Q        V\| | \| | \| | \| |
| 10+ 0 | 0.0461 | 0.25 | Q        V\| | \| | \| | \| |
| 10+ 5 | 0.0473 | 0.17 | Q         V | \| | \| | \| |
| 10+10 | 0.0483 | 0.15 | Q         V | \| | \| | \| |
| 10+15 | 0.0493 | 0.15 | Q         V | \| | \| | \| |
| 10+20 | 0.0503 | 0.15 | Q         V | \| | \| | \| |
| 10+25 | 0.0513 | 0.15 | Q         V | \| | \| | \| |
| 10+30 | 0.0523 | 0.15 | Q         \|V | \| | \| | \| |
| 10+35 | 0.0538 | 0.21 | Q         \|V | \| | \| | \| |
| 10+40 | 0.0553 | 0.22 | Q         \|V | \| | \| | \| |
| 10+45 | 0.0568 | 0.22 | Q         \| V | \| | \| | \| |
| 10+50 | 0.0584 | 0.22 | Q         \| V | \| | \| | \| |
| 10+55 | 0.0599 | 0.22 | Q         \| V | \| | \| | \| |
| 11+ 0 | 0.0614 | 0.22 | Q         \|  V | \| | \| | \| |
| 11+ 5 | 0.0629 | 0.21 | Q         \|  V | \| | \| | \| |
| 11+10 | 0.0643 | 0.21 | Q         \|  V | \| | \| | \| |
| 11+15 | 0.0658 | 0.21 | Q         \|  V | \| | \| | \| |



| | | | | |
|---|---|---|---|---|
| 11+20 | 0.0672 | 0.21 | Q | |
| 11+25 | 0.0687 | 0.21 | Q | |
| 11+30 | 0.0701 | 0.21 | Q | |
| 11+35 | 0.0714 | 0.19 | Q | |
| 11+40 | 0.0727 | 0.18 | Q | |
| 11+45 | 0.0739 | 0.18 | Q | |
| 11+50 | 0.0753 | 0.19 | Q | |
| 11+55 | 0.0766 | 0.20 | Q | |
| 12+ 0 | 0.0780 | 0.20 | Q | |
| 12+ 5 | 0.0799 | 0.28 | \|Q | |
| 12+10 | 0.0820 | 0.30 | \|Q | |
| 12+15 | 0.0841 | 0.30 | \|Q | |
| 12+20 | 0.0862 | 0.31 | \|Q | |
| 12+25 | 0.0884 | 0.32 | \|Q | |
| 12+30 | 0.0906 | 0.32 | \|Q | |
| 12+35 | 0.0929 | 0.34 | \|Q | |
| 12+40 | 0.0953 | 0.35 | \|Q | |
| 12+45 | 0.0977 | 0.35 | \|Q | |
| 12+50 | 0.1002 | 0.36 | \|Q | |
| 12+55 | 0.1027 | 0.36 | \|Q | |
| 13+ 0 | 0.1052 | 0.36 | \|Q | |
| 13+ 5 | 0.1081 | 0.42 | \|Q | |
| 13+10 | 0.1111 | 0.44 | \|Q | |
| 13+15 | 0.1141 | 0.44 | \|Q | |
| 13+20 | 0.1171 | 0.44 | \|Q | |
| 13+25 | 0.1201 | 0.44 | \|Q | |
| 13+30 | 0.1231 | 0.44 | \|Q | |
| 13+35 | 0.1253 | 0.31 | \|Q | |
| 13+40 | 0.1272 | 0.28 | \|Q | |
| 13+45 | 0.1291 | 0.28 | \|Q | |
| 13+50 | 0.1310 | 0.28 | \|Q | |
| 13+55 | 0.1329 | 0.28 | \|Q | |
| 14+ 0 | 0.1348 | 0.28 | \|Q | |
| 14+ 5 | 0.1371 | 0.32 | \|Q | |
| 14+10 | 0.1394 | 0.34 | \|Q | |
| 14+15 | 0.1417 | 0.34 | \|Q | |
| 14+20 | 0.1440 | 0.33 | \|Q | |
| 14+25 | 0.1462 | 0.32 | \|Q | |
| 14+30 | 0.1484 | 0.32 | \|Q | |
| 14+35 | 0.1507 | 0.32 | \|Q | |
| 14+40 | 0.1529 | 0.32 | \|Q | |
| 14+45 | 0.1552 | 0.33 | \|Q | |
| 14+50 | 0.1573 | 0.31 | \|Q | |
| 14+55 | 0.1595 | 0.31 | \|Q | |
| 15+ 0 | 0.1616 | 0.31 | \|Q | |
| 15+ 5 | 0.1637 | 0.30 | \|Q | |
| 15+10 | 0.1657 | 0.30 | \|Q | |
| 15+15 | 0.1678 | 0.30 | \|Q | |
| 15+20 | 0.1697 | 0.29 | \|Q | |
| 15+25 | 0.1717 | 0.28 | \|Q | |
| 15+30 | 0.1736 | 0.28 | \|Q | |
| 15+35 | 0.1753 | 0.24 | Q | |
| 15+40 | 0.1768 | 0.23 | Q | |
| 15+45 | 0.1784 | 0.23 | Q | |
| 15+50 | 0.1800 | 0.23 | Q | |
| 15+55 | 0.1815 | 0.23 | Q | |
| 16+ 0 | 0.1831 | 0.23 | Q | |
| 16+ 5 | 0.1835 | 0.05 | Q | |
| 16+10 | 0.1835 | 0.01 | Q | |
| 16+15 | 0.1836 | 0.01 | Q | |
| 16+20 | 0.1836 | 0.01 | Q | |
| 16+25 | 0.1837 | 0.01 | Q | |
| 16+30 | 0.1837 | 0.01 | Q | |
| 16+35 | 0.1838 | 0.01 | Q | |
| 16+40 | 0.1838 | 0.00 | Q | |
| 16+45 | 0.1838 | 0.00 | Q | |
| 16+50 | 0.1839 | 0.00 | Q | |
| 16+55 | 0.1839 | 0.00 | Q | |
| 17+ 0 | 0.1839 | 0.00 | Q | |
| 17+ 5 | 0.1841 | 0.02 | Q | |
| 17+10 | 0.1843 | 0.03 | Q | |
| 17+15 | 0.1844 | 0.03 | Q | |
| 17+20 | 0.1846 | 0.03 | Q | |
| 17+25 | 0.1848 | 0.03 | Q | |
| 17+30 | 0.1850 | 0.03 | Q | |
| 17+35 | 0.1852 | 0.03 | Q | |
| 17+40 | 0.1854 | 0.03 | Q | |
| 17+45 | 0.1855 | 0.03 | Q | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+50 | 0.1857 | 0.02 | Q | \| | \| | \| | V\| |
| 17+55 | 0.1857 | 0.01 | Q | \| | \| | \| | V\| |
| 18+ 0 | 0.1858 | 0.01 | Q | \| | \| | \| | V\| |
| 18+ 5 | 0.1859 | 0.01 | Q | \| | \| | \| | V\| |
| 18+10 | 0.1860 | 0.01 | Q | \| | \| | \| | V\| |
| 18+15 | 0.1861 | 0.01 | Q | \| | \| | \| | V\| |
| 18+20 | 0.1862 | 0.01 | Q | \| | \| | \| | V\| |
| 18+25 | 0.1863 | 0.01 | Q | \| | \| | \| | V\| |
| 18+30 | 0.1864 | 0.01 | Q | \| | \| | \| | V\| |
| 18+35 | 0.1865 | 0.01 | Q | \| | \| | \| | V\| |
| 18+40 | 0.1865 | 0.00 | Q | \| | \| | \| | V\| |
| 18+45 | 0.1865 | 0.00 | Q | \| | \| | \| | V\| |
| 18+50 | 0.1866 | 0.00 | Q | \| | \| | \| | V\| |
| 18+55 | 0.1866 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 0 | 0.1866 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 5 | 0.1866 | 0.00 | Q | \| | \| | \| | V\| |
| 19+10 | 0.1866 | 0.00 | Q | \| | \| | \| | V\| |
| 19+15 | 0.1867 | 0.00 | Q | \| | \| | \| | V\| |
| 19+20 | 0.1868 | 0.01 | Q | \| | \| | \| | V\| |
| 19+25 | 0.1869 | 0.02 | Q | \| | \| | \| | V\| |
| 19+30 | 0.1870 | 0.02 | Q | \| | \| | \| | V\| |
| 19+35 | 0.1871 | 0.01 | Q | \| | \| | \| | V\| |
| 19+40 | 0.1871 | 0.00 | Q | \| | \| | \| | V\| |
| 19+45 | 0.1871 | 0.00 | Q | \| | \| | \| | V\| |
| 19+50 | 0.1871 | 0.00 | Q | \| | \| | \| | V\| |
| 19+55 | 0.1872 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 0 | 0.1872 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 5 | 0.1872 | 0.00 | Q | \| | \| | \| | V\| |
| 20+10 | 0.1872 | 0.00 | Q | \| | \| | \| | V\| |
| 20+15 | 0.1873 | 0.00 | Q | \| | \| | \| | V\| |
| 20+20 | 0.1873 | 0.00 | Q | \| | \| | \| | V\| |
| 20+25 | 0.1873 | 0.00 | Q | \| | \| | \| | V\| |
| 20+30 | 0.1874 | 0.00 | Q | \| | \| | \| | V\| |
| 20+35 | 0.1874 | 0.00 | Q | \| | \| | \| | V\| |
| 20+40 | 0.1874 | 0.00 | Q | \| | \| | \| | V\| |
| 20+45 | 0.1875 | 0.01 | Q | \| | \| | \| | V\| |
| 20+50 | 0.1875 | 0.00 | Q | \| | \| | \| | V\| |
| 20+55 | 0.1875 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 0 | 0.1875 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 5 | 0.1876 | 0.01 | Q | \| | \| | \| | V\| |
| 21+10 | 0.1876 | 0.01 | Q | \| | \| | \| | V\| |
| 21+15 | 0.1877 | 0.01 | Q | \| | \| | \| | V\| |
| 21+20 | 0.1877 | 0.00 | Q | \| | \| | \| | V\| |
| 21+25 | 0.1877 | 0.00 | Q | \| | \| | \| | V\| |
| 21+30 | 0.1877 | 0.00 | Q | \| | \| | \| | V\| |
| 21+35 | 0.1878 | 0.01 | Q | \| | \| | \| | V\| |
| 21+40 | 0.1878 | 0.01 | Q | \| | \| | \| | V\| |
| 21+45 | 0.1878 | 0.01 | Q | \| | \| | \| | V\| |
| 21+50 | 0.1879 | 0.00 | Q | \| | \| | \| | V\| |
| 21+55 | 0.1879 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 0 | 0.1879 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 5 | 0.1880 | 0.01 | Q | \| | \| | \| | V\| |
| 22+10 | 0.1880 | 0.01 | Q | \| | \| | \| | V\| |
| 22+15 | 0.1881 | 0.01 | Q | \| | \| | \| | V\| |
| 22+20 | 0.1881 | 0.00 | Q | \| | \| | \| | V\| |
| 22+25 | 0.1881 | 0.00 | Q | \| | \| | \| | V\| |
| 22+30 | 0.1881 | 0.00 | Q | \| | \| | \| | V\| |
| 22+35 | 0.1882 | 0.00 | Q | \| | \| | \| | V\| |
| 22+40 | 0.1882 | 0.00 | Q | \| | \| | \| | V\| |
| 22+45 | 0.1882 | 0.00 | Q | \| | \| | \| | V\| |
| 22+50 | 0.1882 | 0.00 | Q | \| | \| | \| | V\| |
| 22+55 | 0.1882 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 0 | 0.1883 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 5 | 0.1883 | 0.00 | Q | \| | \| | \| | V\| |
| 23+10 | 0.1883 | 0.00 | Q | \| | \| | \| | V\| |
| 23+15 | 0.1883 | 0.00 | Q | \| | \| | \| | V\| |
| 23+20 | 0.1883 | 0.00 | Q | \| | \| | \| | V\| |
| 23+25 | 0.1884 | 0.00 | Q | \| | \| | \| | V\| |
| 23+30 | 0.1884 | 0.00 | Q | \| | \| | \| | V\| |
| 23+35 | 0.1884 | 0.00 | Q | \| | \| | \| | V\| |
| 23+40 | 0.1884 | 0.00 | Q | \| | \| | \| | V\| |
| 23+45 | 0.1884 | 0.00 | Q | \| | \| | \| | V\| |
| 23+50 | 0.1885 | 0.00 | Q | \| | \| | \| | V\| |
| 23+55 | 0.1885 | 0.00 | Q | \| | \| | \| | V\| |
| 24+ 0 | 0.1885 | 0.00 | Q | \| | \| | \| | V\| |
| 24+ 5 | 0.1885 | 0.00 | Q | \| | \| | \| | V\| |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX121100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 12
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 0.10(Ac.) = 0.000 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.10(Ac.) = 0.000 Sq. Mi.
Length along longest watercourse = 87.00(Ft.)
Length along longest watercourse measured to centroid = 41.00(Ft.)
Length along longest watercourse = 0.016 Mi.
Length along longest watercourse measured to centroid = 0.008 Mi.
Difference in elevation = 28.00(Ft.)
Slope along watercourse = 1699.3103 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.007 Hr.
Lag time = 0.41 Min.
25% of lag time = 0.10 Min.
40% of lag time = 0.16 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.10 | 0.49 | 0.05 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.10 | 1.20 | 0.12 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.490(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.100 | 84.00 | 0.000 |

Total Area Entered = 0.10(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

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| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 1229.187 | 100.000 | 0.101 |
| | | Sum = 100.000 Sum= | 0.101 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.086 | ( 0.544) | 0.519 |
| 2 | 0.17 | 4.30 | 0.619 | 0.086 | ( 0.557) | 0.533 |
| 3 | 0.25 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 4 | 0.33 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 5 | 0.42 | 5.80 | 0.835 | 0.086 | ( 0.752) | 0.749 |
| 6 | 0.50 | 6.50 | 0.936 | 0.086 | ( 0.842) | 0.850 |
| 7 | 0.58 | 7.40 | 1.066 | 0.086 | ( 0.959) | 0.980 |
| 8 | 0.67 | 8.60 | 1.238 | 0.086 | ( 1.115) | 1.153 |
| 9 | 0.75 | 12.30 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 10 | 0.83 | 29.10 | 4.190 | 0.086 | ( 3.771) | 4.105 |
| 11 | 0.92 | 6.80 | 0.979 | 0.086 | ( 0.881) | 0.893 |
| 12 | 1.00 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| | (Loss Rate Not Used) | | | | | |
| Sum = | 100.0 | | | | Sum = | 13.4 |

Flood volume = Effective rainfall 1.11(In)
times area 0.1(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.001(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 404.5 Cubic Feet
Total soil loss = 31.1 Cubic Feet

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Peak flow rate of this hydrograph = 0.414(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0004 | 0.05 | QV | | | | |
| 0+10 | 0.0007 | 0.05 | Q V | | | | |
| 0+15 | 0.0012 | 0.06 | Q V | | | | |
| 0+20 | 0.0016 | 0.06 | Q V | | | | |
| 0+25 | 0.0021 | 0.08 | Q V | | | | |
| 0+30 | 0.0027 | 0.09 | Q V | | | | |
| 0+35 | 0.0034 | 0.10 | Q V | | | | |
| 0+40 | 0.0042 | 0.12 | Q V | | | | |
| 0+45 | 0.0054 | 0.17 | Q V | | | | |
| 0+50 | 0.0082 | 0.41 | Q V | | | | |
| 0+55 | 0.0088 | 0.09 | Q V | | | | |
| 1+ 0 | 0.0093 | 0.06 | Q V | | | | |

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U n i t  H y d r o g r a p h  A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 12
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.10(Ac.) = 0.000 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.10(Ac.) = 0.000 Sq. Mi.
Length along longest watercourse = 87.00(Ft.)
Length along longest watercourse measured to centroid = 41.00(Ft.)
Length along longest watercourse = 0.016 Mi.
Length along longest watercourse measured to centroid = 0.008 Mi.
Difference in elevation = 28.00(Ft.)
Slope along watercourse = 1699.3103 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.007 Hr.
Lag time = 0.41 Min.
25% of lag time = 0.10 Min.
40% of lag time = 0.16 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.10 | 0.80 | 0.08 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.10 | 1.80 | 0.18 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.100 | 84.00 | 0.000 |

Total Area Entered = 0.10(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 1229.187 | 100.000 | 0.101 |
| | | Sum = 100.000 Sum= | 0.101 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.281 | 0.086 ( 0.253) | 0.195 |
| 2 | 0.17 | 1.30 | 0.281 | 0.086 ( 0.253) | 0.195 |
| 3 | 0.25 | 1.10 | 0.238 | 0.086 ( 0.214) | 0.152 |
| 4 | 0.33 | 1.50 | 0.324 | 0.086 ( 0.292) | 0.238 |
| 5 | 0.42 | 1.50 | 0.324 | 0.086 ( 0.292) | 0.238 |
| 6 | 0.50 | 1.80 | 0.389 | 0.086 ( 0.350) | 0.303 |
| 7 | 0.58 | 1.50 | 0.324 | 0.086 ( 0.292) | 0.238 |
| 8 | 0.67 | 1.80 | 0.389 | 0.086 ( 0.350) | 0.303 |
| 9 | 0.75 | 1.80 | 0.389 | 0.086 ( 0.350) | 0.303 |
| 10 | 0.83 | 1.50 | 0.324 | 0.086 ( 0.292) | 0.238 |
| 11 | 0.92 | 1.60 | 0.346 | 0.086 ( 0.311) | 0.260 |
| 12 | 1.00 | 1.80 | 0.389 | 0.086 ( 0.350) | 0.303 |
| 13 | 1.08 | 2.20 | 0.475 | 0.086 ( 0.428) | 0.389 |
| 14 | 1.17 | 2.20 | 0.475 | 0.086 ( 0.428) | 0.389 |
| 15 | 1.25 | 2.20 | 0.475 | 0.086 ( 0.428) | 0.389 |
| 16 | 1.33 | 2.00 | 0.432 | 0.086 ( 0.389) | 0.346 |
| 17 | 1.42 | 2.60 | 0.562 | 0.086 ( 0.505) | 0.476 |
| 18 | 1.50 | 2.70 | 0.583 | 0.086 ( 0.525) | 0.497 |
| 19 | 1.58 | 2.40 | 0.518 | 0.086 ( 0.467) | 0.433 |
| 20 | 1.67 | 2.70 | 0.583 | 0.086 ( 0.525) | 0.497 |
| 21 | 1.75 | 3.30 | 0.713 | 0.086 ( 0.642) | 0.627 |
| 22 | 1.83 | 3.10 | 0.670 | 0.086 ( 0.603) | 0.584 |
| 23 | 1.92 | 2.90 | 0.626 | 0.086 ( 0.564) | 0.541 |
| 24 | 2.00 | 3.00 | 0.648 | 0.086 ( 0.583) | 0.562 |
| 25 | 2.08 | 3.10 | 0.670 | 0.086 ( 0.603) | 0.584 |
| 26 | 2.17 | 4.20 | 0.907 | 0.086 ( 0.816) | 0.821 |
| 27 | 2.25 | 5.00 | 1.080 | 0.086 ( 0.972) | 0.994 |
| 28 | 2.33 | 3.50 | 0.756 | 0.086 ( 0.680) | 0.670 |
| 29 | 2.42 | 6.80 | 1.469 | 0.086 ( 1.322) | 1.383 |
| 30 | 2.50 | 7.30 | 1.577 | 0.086 ( 1.419) | 1.491 |
| 31 | 2.58 | 8.20 | 1.771 | 0.086 ( 1.594) | 1.685 |
| 32 | 2.67 | 5.90 | 1.274 | 0.086 ( 1.147) | 1.189 |
| 33 | 2.75 | 2.00 | 0.432 | 0.086 ( 0.389) | 0.346 |
| 34 | 2.83 | 1.80 | 0.389 | 0.086 ( 0.350) | 0.303 |
| 35 | 2.92 | 1.80 | 0.389 | 0.086 ( 0.350) | 0.303 |
| 36 | 3.00 | 0.60 | 0.130 | 0.086 ( 0.117) | 0.044 |
| | | (Loss Rate Not Used) | | | |
| Sum = | 100.0 | | | Sum = | 18.5 |

Flood volume = Effective rainfall 1.54(In)
times area 0.1(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.002(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 560.0 Cubic Feet
Total soil loss = 93.4 Cubic Feet

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Peak flow rate of this hydrograph = 0.170(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 2.5 5.0 7.5 10.0 |
|---|---|---|---|
| 0+ 5 | 0.0001 | 0.02 | Q \| \| \| \| |
| 0+10 | 0.0003 | 0.02 | Q \| \| \| \| |
| 0+15 | 0.0004 | 0.02 | QV \| \| \| \| |
| 0+20 | 0.0005 | 0.02 | QV \| \| \| \| |
| 0+25 | 0.0007 | 0.02 | Q V \| \| \| \| |
| 0+30 | 0.0009 | 0.03 | Q V \| \| \| \| |
| 0+35 | 0.0011 | 0.02 | Q V \| \| \| \| |
| 0+40 | 0.0013 | 0.03 | Q V \| \| \| \| |
| 0+45 | 0.0015 | 0.03 | Q V \| \| \| \| |
| 0+50 | 0.0017 | 0.02 | Q V \| \| \| \| |
| 0+55 | 0.0018 | 0.03 | Q V \| \| \| \| |
| 1+ 0 | 0.0021 | 0.03 | Q V \| \| \| \| |
| 1+ 5 | 0.0023 | 0.04 | Q V \| \| \| \| |
| 1+10 | 0.0026 | 0.04 | Q V \| \| \| \| |
| 1+15 | 0.0029 | 0.04 | Q V \| \| \| \| |
| 1+20 | 0.0031 | 0.03 | Q V\| \| \| \| |
| 1+25 | 0.0034 | 0.05 | Q V \| \| \| |
| 1+30 | 0.0038 | 0.05 | Q \|V \| \| \| |
| 1+35 | 0.0041 | 0.04 | Q \| V \| \| \| |
| 1+40 | 0.0044 | 0.05 | Q \| V \| \| \| |
| 1+45 | 0.0049 | 0.06 | Q \| V \| \| \| |
| 1+50 | 0.0053 | 0.06 | Q \| V \| \| \| |
| 1+55 | 0.0056 | 0.05 | Q \| V \| \| \| |
| 2+ 0 | 0.0060 | 0.06 | Q \| V \| \| \| |
| 2+ 5 | 0.0064 | 0.06 | Q \| V \| \| \| |
| 2+10 | 0.0070 | 0.08 | Q \| \|V \| \| \| |
| 2+15 | 0.0077 | 0.10 | Q \| \| V \| \| \| |
| 2+20 | 0.0082 | 0.07 | Q \| \| V \| \| \| |
| 2+25 | 0.0091 | 0.14 | Q \| \| \| V \| \| |
| 2+30 | 0.0102 | 0.15 | Q \| \| \| \|V \| |
| 2+35 | 0.0113 | 0.17 | Q \| \| \| \| V \| |
| 2+40 | 0.0122 | 0.12 | Q \| \| \| \| V \| |
| 2+45 | 0.0124 | 0.03 | Q \| \| \| \| V \| |
| 2+50 | 0.0126 | 0.03 | Q \| \| \| \| V\| |
| 2+55 | 0.0128 | 0.03 | Q \| \| \| \| V\| |
| 3+ 0 | 0.0129 | 0.00 | Q \| \| \| \| V\| |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX126100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 12
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.10(Ac.) = 0.000 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.10(Ac.) = 0.000 Sq. Mi.
Length along longest watercourse = 87.00(Ft.)
Length along longest watercourse measured to centroid = 41.00(Ft.)
Length along longest watercourse = 0.016 Mi.
Length along longest watercourse measured to centroid = 0.008 Mi.
Difference in elevation = 28.00(Ft.)
Slope along watercourse = 1699.3103 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.007 Hr.
Lag time = 0.41 Min.
25% of lag time = 0.10 Min.
40% of lag time = 0.16 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.10 | 1.12 | 0.11 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.10 | 2.50 | 0.25 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.120(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.100 | 84.00 | 0.000 |

Total Area Entered = 0.10(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 1229.187 | 100.000 | 0.101 |
| | | Sum = 100.000 | Sum= 0.101 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.086 | ( 0.135) | 0.064 |
| 2 | 0.17 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 3 | 0.25 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 4 | 0.33 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 5 | 0.42 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 6 | 0.50 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 7 | 0.58 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 8 | 0.67 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 9 | 0.75 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 10 | 0.83 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 11 | 0.92 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 12 | 1.00 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 13 | 1.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 14 | 1.17 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 15 | 1.25 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 16 | 1.33 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 17 | 1.42 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 18 | 1.50 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 19 | 1.58 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 20 | 1.67 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 21 | 1.75 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 22 | 1.83 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 23 | 1.92 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 24 | 2.00 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 25 | 2.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 26 | 2.17 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 27 | 2.25 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 28 | 2.33 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 29 | 2.42 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 30 | 2.50 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 31 | 2.58 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 32 | 2.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 33 | 2.75 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 34 | 2.83 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 35 | 2.92 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 36 | 3.00 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 37 | 3.08 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 38 | 3.17 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 39 | 3.25 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 40 | 3.33 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 41 | 3.42 | 1.20 | 0.360 | 0.086 | ( 0.324) | 0.274 |
| 42 | 3.50 | 1.30 | 0.390 | 0.086 | ( 0.351) | 0.304 |
| 43 | 3.58 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 44 | 3.67 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 45 | 3.75 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 46 | 3.83 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 47 | 3.92 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 48 | 4.00 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 49 | 4.08 | 1.70 | 0.510 | 0.086 | ( 0.459) | 0.424 |
| 50 | 4.17 | 1.80 | 0.540 | 0.086 | ( 0.486) | 0.454 |
| 51 | 4.25 | 1.90 | 0.570 | 0.086 | ( 0.513) | 0.484 |
| 52 | 4.33 | 2.00 | 0.600 | 0.086 | ( 0.540) | 0.514 |
| 53 | 4.42 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 |
| 54 | 4.50 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 |
| 55 | 4.58 | 2.20 | 0.660 | 0.086 | ( 0.594) | 0.574 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 56 | 4.67 | 2.30 | 0.690 | 0.086 | ( 0.621) | | 0.604 |
| 57 | 4.75 | 2.40 | 0.720 | 0.086 | ( 0.648) | | 0.634 |
| 58 | 4.83 | 2.40 | 0.720 | 0.086 | ( 0.648) | | 0.634 |
| 59 | 4.92 | 2.50 | 0.750 | 0.086 | ( 0.675) | | 0.664 |
| 60 | 5.00 | 2.60 | 0.780 | 0.086 | ( 0.702) | | 0.694 |
| 61 | 5.08 | 3.10 | 0.930 | 0.086 | ( 0.837) | | 0.844 |
| 62 | 5.17 | 3.60 | 1.080 | 0.086 | ( 0.972) | | 0.994 |
| 63 | 5.25 | 3.90 | 1.170 | 0.086 | ( 1.053) | | 1.084 |
| 64 | 5.33 | 4.20 | 1.260 | 0.086 | ( 1.134) | | 1.174 |
| 65 | 5.42 | 4.70 | 1.410 | 0.086 | ( 1.269) | | 1.324 |
| 66 | 5.50 | 5.60 | 1.680 | 0.086 | ( 1.512) | | 1.594 |
| 67 | 5.58 | 1.90 | 0.570 | 0.086 | ( 0.513) | | 0.484 |
| 68 | 5.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | | 0.184 |
| 69 | 5.75 | 0.60 | 0.180 | 0.086 | ( 0.162) | | 0.094 |
| 70 | 5.83 | 0.50 | 0.150 | 0.086 | ( 0.135) | | 0.064 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.086) | 0.081 | | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.086) | 0.054 | | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.9

Flood volume = Effective rainfall 1.99(In)
times area 0.1(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.51(In)
Total soil loss = 0.004(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 721.7 Cubic Feet
Total soil loss = 185.8 Cubic Feet

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Peak flow rate of this hydrograph = 0.161(CFS)

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6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0000 | 0.01 | Q | \| | \| | \| | \| |
| 0+10 | 0.0001 | 0.01 | Q | \| | \| | \| | \| |
| 0+15 | 0.0002 | 0.01 | Q | \| | \| | \| | \| |
| 0+20 | 0.0002 | 0.01 | Q | \| | \| | \| | \| |
| 0+25 | 0.0003 | 0.01 | Q | \| | \| | \| | \| |
| 0+30 | 0.0004 | 0.01 | Q | \| | \| | \| | \| |
| 0+35 | 0.0005 | 0.01 | QV | \| | \| | \| | \| |
| 0+40 | 0.0006 | 0.01 | QV | \| | \| | \| | \| |
| 0+45 | 0.0007 | 0.01 | QV | \| | \| | \| | \| |
| 0+50 | 0.0007 | 0.01 | QV | \| | \| | \| | \| |
| 0+55 | 0.0008 | 0.01 | QV | \| | \| | \| | \| |
| 1+ 0 | 0.0009 | 0.02 | Q V | \| | \| | \| | \| |
| 1+ 5 | 0.0010 | 0.02 | Q V | \| | \| | \| | \| |
| 1+10 | 0.0011 | 0.02 | Q V | \| | \| | \| | \| |
| 1+15 | 0.0013 | 0.02 | Q V | \| | \| | \| | \| |
| 1+20 | 0.0014 | 0.02 | Q V | \| | \| | \| | \| |
| 1+25 | 0.0015 | 0.02 | Q V | \| | \| | \| | \| |
| 1+30 | 0.0016 | 0.02 | Q V | \| | \| | \| | \| |
| 1+35 | 0.0017 | 0.02 | Q V | \| | \| | \| | \| |
| 1+40 | 0.0018 | 0.02 | Q V | \| | \| | \| | \| |
| 1+45 | 0.0019 | 0.02 | Q V | \| | \| | \| | \| |
| 1+50 | 0.0020 | 0.02 | Q V | \| | \| | \| | \| |
| 1+55 | 0.0021 | 0.02 | Q V | \| | \| | \| | \| |
| 2+ 0 | 0.0022 | 0.02 | Q V | \| | \| | \| | \| |
| 2+ 5 | 0.0023 | 0.02 | Q V | \| | \| | \| | \| |
| 2+10 | 0.0025 | 0.02 | Q V | \| | \| | \| | \| |
| 2+15 | 0.0026 | 0.02 | Q V | \| | \| | \| | \| |
| 2+20 | 0.0027 | 0.02 | Q V | \| | \| | \| | \| |
| 2+25 | 0.0029 | 0.02 | Q V | \| | \| | \| | \| |
| 2+30 | 0.0030 | 0.02 | Q V | \| | \| | \| | \| |
| 2+35 | 0.0031 | 0.02 | Q V | \| | \| | \| | \| |
| 2+40 | 0.0032 | 0.02 | Q V | \| | \| | \| | \| |
| 2+45 | 0.0034 | 0.02 | Q V | \| | \| | \| | \| |
| 2+50 | 0.0035 | 0.02 | Q V | \| | \| | \| | \| |
| 2+55 | 0.0037 | 0.02 | Q V | \| | \| | \| | \| |
| 3+ 0 | 0.0038 | 0.02 | Q V | \| | \| | \| | \| |
| 3+ 5 | 0.0040 | 0.02 | Q V | \| | \| | \| | \| |
| 3+10 | 0.0042 | 0.02 | Q V | \| | \| | \| | \| |
| 3+15 | 0.0043 | 0.02 | Q V | \| | \| | \| | \| |
| 3+20 | 0.0045 | 0.02 | Q V | \| | \| | \| | \| |

```
    3+25       0.0047      0.03  Q          |V        |         |          |
    3+30       0.0049      0.03  Q          |V        |         |          |
    3+35       0.0051      0.03  Q          | V       |         |          |
    3+40       0.0054      0.03  Q          | V       |         |          |
    3+45       0.0056      0.04  Q          |  V      |         |          |
    3+50       0.0059      0.04  Q          |   V     |         |          |
    3+55       0.0061      0.04  Q          |   V     |         |          |
    4+ 0       0.0064      0.04  Q          |    V    |         |          |
    4+ 5       0.0067      0.04  Q          |     V   |         |          |
    4+10       0.0070      0.05  Q          |     V   |         |          |
    4+15       0.0074      0.05  Q          |      V  |         |          |
    4+20       0.0077      0.05  Q          |       V |         |          |
    4+25       0.0081      0.05  Q          |        V|         |          |
    4+30       0.0085      0.05  Q          |         V         |          |
    4+35       0.0089      0.06  Q          |         |V        |          |
    4+40       0.0093      0.06  Q          |         | V       |          |
    4+45       0.0097      0.06  Q          |         |  V      |          |
    4+50       0.0102      0.06  Q          |         |   V     |          |
    4+55       0.0106      0.07  Q          |         |    V    |          |
    5+ 0       0.0111      0.07  Q          |         |     V   |          |
    5+ 5       0.0117      0.09  Q          |         |      V  |          |
    5+10       0.0124      0.10  Q          |         |       V |          |
    5+15       0.0131      0.11  Q          |         |        V|          |
    5+20       0.0140      0.12  Q          |         |         |V         |
    5+25       0.0149      0.13  Q          |         |         |  V       |
    5+30       0.0160      0.16  Q          |         |         |    V     |
    5+35       0.0163      0.05  Q          |         |         |     V    |
    5+40       0.0164      0.02  Q          |         |         |     V    |
    5+45       0.0165      0.01  Q          |         |         |     V    |
    5+50       0.0166      0.01  Q          |         |         |     V    |
    5+55       0.0166      0.00  Q          |         |         |     V    |
    6+ 0       0.0166      0.00  Q          |         |         |      V
-------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX1224100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 12
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.10(Ac.) = 0.000 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.10(Ac.) = 0.000 Sq. Mi.
Length along longest watercourse = 87.00(Ft.)
Length along longest watercourse measured to centroid = 41.00(Ft.)
Length along longest watercourse = 0.016 Mi.
Length along longest watercourse measured to centroid = 0.008 Mi.
Difference in elevation = 28.00(Ft.)
Slope along watercourse = 1699.3103 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.007 Hr.
Lag time = 0.41 Min.
25% of lag time = 0.10 Min.
40% of lag time = 0.16 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.10 | 1.80 | 0.18 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.10 | 4.52 | 0.45 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.520(In)

Point rain (area averaged) = 4.520(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.520(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.100 | 84.00 | 0.000 |

Total Area Entered = 0.10(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 1229.187 | 100.000 | 0.101 |
| | | Sum = 100.000 | Sum= 0.101 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.036 | ( 0.152) | 0.033 | 0.004 |
| 2 | 0.17 | 0.07 | 0.036 | ( 0.152) | 0.033 | 0.004 |
| 3 | 0.25 | 0.07 | 0.036 | ( 0.151) | 0.033 | 0.004 |
| 4 | 0.33 | 0.10 | 0.054 | ( 0.150) | 0.049 | 0.005 |
| 5 | 0.42 | 0.10 | 0.054 | ( 0.150) | 0.049 | 0.005 |
| 6 | 0.50 | 0.10 | 0.054 | ( 0.149) | 0.049 | 0.005 |
| 7 | 0.58 | 0.10 | 0.054 | ( 0.149) | 0.049 | 0.005 |
| 8 | 0.67 | 0.10 | 0.054 | ( 0.148) | 0.049 | 0.005 |
| 9 | 0.75 | 0.10 | 0.054 | ( 0.147) | 0.049 | 0.005 |
| 10 | 0.83 | 0.13 | 0.072 | ( 0.147) | 0.065 | 0.007 |
| 11 | 0.92 | 0.13 | 0.072 | ( 0.146) | 0.065 | 0.007 |
| 12 | 1.00 | 0.13 | 0.072 | ( 0.146) | 0.065 | 0.007 |
| 13 | 1.08 | 0.10 | 0.054 | ( 0.145) | 0.049 | 0.005 |
| 14 | 1.17 | 0.10 | 0.054 | ( 0.145) | 0.049 | 0.005 |
| 15 | 1.25 | 0.10 | 0.054 | ( 0.144) | 0.049 | 0.005 |
| 16 | 1.33 | 0.10 | 0.054 | ( 0.143) | 0.049 | 0.005 |
| 17 | 1.42 | 0.10 | 0.054 | ( 0.143) | 0.049 | 0.005 |
| 18 | 1.50 | 0.10 | 0.054 | ( 0.142) | 0.049 | 0.005 |
| 19 | 1.58 | 0.10 | 0.054 | ( 0.142) | 0.049 | 0.005 |
| 20 | 1.67 | 0.10 | 0.054 | ( 0.141) | 0.049 | 0.005 |
| 21 | 1.75 | 0.10 | 0.054 | ( 0.141) | 0.049 | 0.005 |
| 22 | 1.83 | 0.13 | 0.072 | ( 0.140) | 0.065 | 0.007 |
| 23 | 1.92 | 0.13 | 0.072 | ( 0.139) | 0.065 | 0.007 |
| 24 | 2.00 | 0.13 | 0.072 | ( 0.139) | 0.065 | 0.007 |
| 25 | 2.08 | 0.13 | 0.072 | ( 0.138) | 0.065 | 0.007 |
| 26 | 2.17 | 0.13 | 0.072 | ( 0.138) | 0.065 | 0.007 |
| 27 | 2.25 | 0.13 | 0.072 | ( 0.137) | 0.065 | 0.007 |
| 28 | 2.33 | 0.13 | 0.072 | ( 0.137) | 0.065 | 0.007 |
| 29 | 2.42 | 0.13 | 0.072 | ( 0.136) | 0.065 | 0.007 |
| 30 | 2.50 | 0.13 | 0.072 | ( 0.136) | 0.065 | 0.007 |
| 31 | 2.58 | 0.17 | 0.090 | ( 0.135) | 0.081 | 0.009 |
| 32 | 2.67 | 0.17 | 0.090 | ( 0.134) | 0.081 | 0.009 |
| 33 | 2.75 | 0.17 | 0.090 | ( 0.134) | 0.081 | 0.009 |
| 34 | 2.83 | 0.17 | 0.090 | ( 0.133) | 0.081 | 0.009 |
| 35 | 2.92 | 0.17 | 0.090 | ( 0.133) | 0.081 | 0.009 |
| 36 | 3.00 | 0.17 | 0.090 | ( 0.132) | 0.081 | 0.009 |
| 37 | 3.08 | 0.17 | 0.090 | ( 0.132) | 0.081 | 0.009 |
| 38 | 3.17 | 0.17 | 0.090 | ( 0.131) | 0.081 | 0.009 |
| 39 | 3.25 | 0.17 | 0.090 | ( 0.131) | 0.081 | 0.009 |
| 40 | 3.33 | 0.17 | 0.090 | ( 0.130) | 0.081 | 0.009 |
| 41 | 3.42 | 0.17 | 0.090 | ( 0.129) | 0.081 | 0.009 |
| 42 | 3.50 | 0.17 | 0.090 | ( 0.129) | 0.081 | 0.009 |
| 43 | 3.58 | 0.17 | 0.090 | ( 0.128) | 0.081 | 0.009 |
| 44 | 3.67 | 0.17 | 0.090 | ( 0.128) | 0.081 | 0.009 |
| 45 | 3.75 | 0.17 | 0.090 | ( 0.127) | 0.081 | 0.009 |
| 46 | 3.83 | 0.20 | 0.108 | ( 0.127) | 0.098 | 0.011 |
| 47 | 3.92 | 0.20 | 0.108 | ( 0.126) | 0.098 | 0.011 |
| 48 | 4.00 | 0.20 | 0.108 | ( 0.126) | 0.098 | 0.011 |
| 49 | 4.08 | 0.20 | 0.108 | ( 0.125) | 0.098 | 0.011 |
| 50 | 4.17 | 0.20 | 0.108 | ( 0.125) | 0.098 | 0.011 |
| 51 | 4.25 | 0.20 | 0.108 | ( 0.124) | 0.098 | 0.011 |
| 52 | 4.33 | 0.23 | 0.127 | ( 0.124) | 0.114 | 0.013 |
| 53 | 4.42 | 0.23 | 0.127 | ( 0.123) | 0.114 | 0.013 |
| 54 | 4.50 | 0.23 | 0.127 | ( 0.123) | 0.114 | 0.013 |
| 55 | 4.58 | 0.23 | 0.127 | ( 0.122) | 0.114 | 0.013 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 56 | 4.67 | 0.23 | 0.127 | ( | 0.121) | 0.114 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.127 | ( | 0.121) | 0.114 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.145 | | 0.120 | ( 0.130) | | 0.024 |
| 59 | 4.92 | 0.27 | 0.145 | | 0.120 | ( 0.130) | | 0.025 |
| 60 | 5.00 | 0.27 | 0.145 | | 0.119 | ( 0.130) | | 0.025 |
| 61 | 5.08 | 0.20 | 0.108 | ( | 0.119) | 0.098 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.108 | ( | 0.118) | 0.098 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.108 | ( | 0.118) | 0.098 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.127 | ( | 0.117) | 0.114 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.127 | ( | 0.117) | 0.114 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.127 | ( | 0.116) | 0.114 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.145 | | 0.116 | ( 0.130) | | 0.029 |
| 68 | 5.67 | 0.27 | 0.145 | | 0.115 | ( 0.130) | | 0.029 |
| 69 | 5.75 | 0.27 | 0.145 | | 0.115 | ( 0.130) | | 0.030 |
| 70 | 5.83 | 0.27 | 0.145 | | 0.114 | ( 0.130) | | 0.030 |
| 71 | 5.92 | 0.27 | 0.145 | | 0.114 | ( 0.130) | | 0.031 |
| 72 | 6.00 | 0.27 | 0.145 | | 0.113 | ( 0.130) | | 0.031 |
| 73 | 6.08 | 0.30 | 0.163 | | 0.113 | ( 0.146) | | 0.050 |
| 74 | 6.17 | 0.30 | 0.163 | | 0.112 | ( 0.146) | | 0.050 |
| 75 | 6.25 | 0.30 | 0.163 | | 0.112 | ( 0.146) | | 0.051 |
| 76 | 6.33 | 0.30 | 0.163 | | 0.111 | ( 0.146) | | 0.051 |
| 77 | 6.42 | 0.30 | 0.163 | | 0.111 | ( 0.146) | | 0.052 |
| 78 | 6.50 | 0.30 | 0.163 | | 0.110 | ( 0.146) | | 0.052 |
| 79 | 6.58 | 0.33 | 0.181 | | 0.110 | ( 0.163) | | 0.071 |
| 80 | 6.67 | 0.33 | 0.181 | | 0.109 | ( 0.163) | | 0.072 |
| 81 | 6.75 | 0.33 | 0.181 | | 0.109 | ( 0.163) | | 0.072 |
| 82 | 6.83 | 0.33 | 0.181 | | 0.108 | ( 0.163) | | 0.073 |
| 83 | 6.92 | 0.33 | 0.181 | | 0.108 | ( 0.163) | | 0.073 |
| 84 | 7.00 | 0.33 | 0.181 | | 0.107 | ( 0.163) | | 0.073 |
| 85 | 7.08 | 0.33 | 0.181 | | 0.107 | ( 0.163) | | 0.074 |
| 86 | 7.17 | 0.33 | 0.181 | | 0.106 | ( 0.163) | | 0.074 |
| 87 | 7.25 | 0.33 | 0.181 | | 0.106 | ( 0.163) | | 0.075 |
| 88 | 7.33 | 0.37 | 0.199 | | 0.105 | ( 0.179) | | 0.094 |
| 89 | 7.42 | 0.37 | 0.199 | | 0.105 | ( 0.179) | | 0.094 |
| 90 | 7.50 | 0.37 | 0.199 | | 0.104 | ( 0.179) | | 0.094 |
| 91 | 7.58 | 0.40 | 0.217 | | 0.104 | ( 0.195) | | 0.113 |
| 92 | 7.67 | 0.40 | 0.217 | | 0.103 | ( 0.195) | | 0.114 |
| 93 | 7.75 | 0.40 | 0.217 | | 0.103 | ( 0.195) | | 0.114 |
| 94 | 7.83 | 0.43 | 0.235 | | 0.102 | ( 0.212) | | 0.133 |
| 95 | 7.92 | 0.43 | 0.235 | | 0.102 | ( 0.212) | | 0.133 |
| 96 | 8.00 | 0.43 | 0.235 | | 0.102 | ( 0.212) | | 0.133 |
| 97 | 8.08 | 0.50 | 0.271 | | 0.101 | ( 0.244) | | 0.170 |
| 98 | 8.17 | 0.50 | 0.271 | | 0.101 | ( 0.244) | | 0.171 |
| 99 | 8.25 | 0.50 | 0.271 | | 0.100 | ( 0.244) | | 0.171 |
| 100 | 8.33 | 0.50 | 0.271 | | 0.100 | ( 0.244) | | 0.172 |
| 101 | 8.42 | 0.50 | 0.271 | | 0.099 | ( 0.244) | | 0.172 |
| 102 | 8.50 | 0.50 | 0.271 | | 0.099 | ( 0.244) | | 0.172 |
| 103 | 8.58 | 0.53 | 0.289 | | 0.098 | ( 0.260) | | 0.191 |
| 104 | 8.67 | 0.53 | 0.289 | | 0.098 | ( 0.260) | | 0.191 |
| 105 | 8.75 | 0.53 | 0.289 | | 0.097 | ( 0.260) | | 0.192 |
| 106 | 8.83 | 0.57 | 0.307 | | 0.097 | ( 0.277) | | 0.210 |
| 107 | 8.92 | 0.57 | 0.307 | | 0.096 | ( 0.277) | | 0.211 |
| 108 | 9.00 | 0.57 | 0.307 | | 0.096 | ( 0.277) | | 0.211 |
| 109 | 9.08 | 0.63 | 0.344 | | 0.096 | ( 0.309) | | 0.248 |
| 110 | 9.17 | 0.63 | 0.344 | | 0.095 | ( 0.309) | | 0.248 |
| 111 | 9.25 | 0.63 | 0.344 | | 0.095 | ( 0.309) | | 0.249 |
| 112 | 9.33 | 0.67 | 0.362 | | 0.094 | ( 0.325) | | 0.267 |
| 113 | 9.42 | 0.67 | 0.362 | | 0.094 | ( 0.325) | | 0.268 |
| 114 | 9.50 | 0.67 | 0.362 | | 0.093 | ( 0.325) | | 0.268 |
| 115 | 9.58 | 0.70 | 0.380 | | 0.093 | ( 0.342) | | 0.287 |
| 116 | 9.67 | 0.70 | 0.380 | | 0.092 | ( 0.342) | | 0.287 |
| 117 | 9.75 | 0.70 | 0.380 | | 0.092 | ( 0.342) | | 0.288 |
| 118 | 9.83 | 0.73 | 0.398 | | 0.091 | ( 0.358) | | 0.306 |
| 119 | 9.92 | 0.73 | 0.398 | | 0.091 | ( 0.358) | | 0.307 |
| 120 | 10.00 | 0.73 | 0.398 | | 0.091 | ( 0.358) | | 0.307 |
| 121 | 10.08 | 0.50 | 0.271 | | 0.090 | ( 0.244) | | 0.181 |
| 122 | 10.17 | 0.50 | 0.271 | | 0.090 | ( 0.244) | | 0.181 |
| 123 | 10.25 | 0.50 | 0.271 | | 0.089 | ( 0.244) | | 0.182 |
| 124 | 10.33 | 0.50 | 0.271 | | 0.089 | ( 0.244) | | 0.182 |
| 125 | 10.42 | 0.50 | 0.271 | | 0.088 | ( 0.244) | | 0.183 |
| 126 | 10.50 | 0.50 | 0.271 | | 0.088 | ( 0.244) | | 0.183 |
| 127 | 10.58 | 0.67 | 0.362 | | 0.088 | ( 0.325) | | 0.274 |
| 128 | 10.67 | 0.67 | 0.362 | | 0.087 | ( 0.325) | | 0.274 |
| 129 | 10.75 | 0.67 | 0.362 | | 0.087 | ( 0.325) | | 0.275 |
| 130 | 10.83 | 0.67 | 0.362 | | 0.086 | ( 0.325) | | 0.275 |
| 131 | 10.92 | 0.67 | 0.362 | | 0.086 | ( 0.325) | | 0.276 |
| 132 | 11.00 | 0.67 | 0.362 | | 0.085 | ( 0.325) | | 0.276 |
| 133 | 11.08 | 0.63 | 0.344 | | 0.085 | ( 0.309) | | 0.258 |

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|---|---|---|---|---|---|---|---|---|
| 134 | 11.17 | 0.63 | 0.344 | | 0.085 | ( 0.309) | | 0.259 |
| 135 | 11.25 | 0.63 | 0.344 | | 0.084 | ( 0.309) | | 0.259 |
| 136 | 11.33 | 0.63 | 0.344 | | 0.084 | ( 0.309) | | 0.260 |
| 137 | 11.42 | 0.63 | 0.344 | | 0.083 | ( 0.309) | | 0.260 |
| 138 | 11.50 | 0.63 | 0.344 | | 0.083 | ( 0.309) | | 0.261 |
| 139 | 11.58 | 0.57 | 0.307 | | 0.083 | ( 0.277) | | 0.225 |
| 140 | 11.67 | 0.57 | 0.307 | | 0.082 | ( 0.277) | | 0.225 |
| 141 | 11.75 | 0.57 | 0.307 | | 0.082 | ( 0.277) | | 0.226 |
| 142 | 11.83 | 0.60 | 0.325 | | 0.081 | ( 0.293) | | 0.244 |
| 143 | 11.92 | 0.60 | 0.325 | | 0.081 | ( 0.293) | | 0.245 |
| 144 | 12.00 | 0.60 | 0.325 | | 0.080 | ( 0.293) | | 0.245 |
| 145 | 12.08 | 0.83 | 0.452 | | 0.080 | ( 0.407) | | 0.372 |
| 146 | 12.17 | 0.83 | 0.452 | | 0.080 | ( 0.407) | | 0.372 |
| 147 | 12.25 | 0.83 | 0.452 | | 0.079 | ( 0.407) | | 0.373 |
| 148 | 12.33 | 0.87 | 0.470 | | 0.079 | ( 0.423) | | 0.391 |
| 149 | 12.42 | 0.87 | 0.470 | | 0.078 | ( 0.423) | | 0.392 |
| 150 | 12.50 | 0.87 | 0.470 | | 0.078 | ( 0.423) | | 0.392 |
| 151 | 12.58 | 0.93 | 0.506 | | 0.078 | ( 0.456) | | 0.429 |
| 152 | 12.67 | 0.93 | 0.506 | | 0.077 | ( 0.456) | | 0.429 |
| 153 | 12.75 | 0.93 | 0.506 | | 0.077 | ( 0.456) | | 0.429 |
| 154 | 12.83 | 0.97 | 0.524 | | 0.077 | ( 0.472) | | 0.448 |
| 155 | 12.92 | 0.97 | 0.524 | | 0.076 | ( 0.472) | | 0.448 |
| 156 | 13.00 | 0.97 | 0.524 | | 0.076 | ( 0.472) | | 0.449 |
| 157 | 13.08 | 1.13 | 0.615 | | 0.075 | ( 0.553) | | 0.539 |
| 158 | 13.17 | 1.13 | 0.615 | | 0.075 | ( 0.553) | | 0.540 |
| 159 | 13.25 | 1.13 | 0.615 | | 0.075 | ( 0.553) | | 0.540 |
| 160 | 13.33 | 1.13 | 0.615 | | 0.074 | ( 0.553) | | 0.540 |
| 161 | 13.42 | 1.13 | 0.615 | | 0.074 | ( 0.553) | | 0.541 |
| 162 | 13.50 | 1.13 | 0.615 | | 0.073 | ( 0.553) | | 0.541 |
| 163 | 13.58 | 0.77 | 0.416 | | 0.073 | ( 0.374) | | 0.343 |
| 164 | 13.67 | 0.77 | 0.416 | | 0.073 | ( 0.374) | | 0.343 |
| 165 | 13.75 | 0.77 | 0.416 | | 0.072 | ( 0.374) | | 0.343 |
| 166 | 13.83 | 0.77 | 0.416 | | 0.072 | ( 0.374) | | 0.344 |
| 167 | 13.92 | 0.77 | 0.416 | | 0.072 | ( 0.374) | | 0.344 |
| 168 | 14.00 | 0.77 | 0.416 | | 0.071 | ( 0.374) | | 0.345 |
| 169 | 14.08 | 0.90 | 0.488 | | 0.071 | ( 0.439) | | 0.417 |
| 170 | 14.17 | 0.90 | 0.488 | | 0.071 | ( 0.439) | | 0.418 |
| 171 | 14.25 | 0.90 | 0.488 | | 0.070 | ( 0.439) | | 0.418 |
| 172 | 14.33 | 0.87 | 0.470 | | 0.070 | ( 0.423) | | 0.400 |
| 173 | 14.42 | 0.87 | 0.470 | | 0.069 | ( 0.423) | | 0.401 |
| 174 | 14.50 | 0.87 | 0.470 | | 0.069 | ( 0.423) | | 0.401 |
| 175 | 14.58 | 0.87 | 0.470 | | 0.069 | ( 0.423) | | 0.401 |
| 176 | 14.67 | 0.87 | 0.470 | | 0.068 | ( 0.423) | | 0.402 |
| 177 | 14.75 | 0.87 | 0.470 | | 0.068 | ( 0.423) | | 0.402 |
| 178 | 14.83 | 0.83 | 0.452 | | 0.068 | ( 0.407) | | 0.384 |
| 179 | 14.92 | 0.83 | 0.452 | | 0.067 | ( 0.407) | | 0.385 |
| 180 | 15.00 | 0.83 | 0.452 | | 0.067 | ( 0.407) | | 0.385 |
| 181 | 15.08 | 0.80 | 0.434 | | 0.067 | ( 0.391) | | 0.367 |
| 182 | 15.17 | 0.80 | 0.434 | | 0.066 | ( 0.391) | | 0.368 |
| 183 | 15.25 | 0.80 | 0.434 | | 0.066 | ( 0.391) | | 0.368 |
| 184 | 15.33 | 0.77 | 0.416 | | 0.066 | ( 0.374) | | 0.350 |
| 185 | 15.42 | 0.77 | 0.416 | | 0.065 | ( 0.374) | | 0.351 |
| 186 | 15.50 | 0.77 | 0.416 | | 0.065 | ( 0.374) | | 0.351 |
| 187 | 15.58 | 0.63 | 0.344 | | 0.065 | ( 0.309) | | 0.279 |
| 188 | 15.67 | 0.63 | 0.344 | | 0.064 | ( 0.309) | | 0.279 |
| 189 | 15.75 | 0.63 | 0.344 | | 0.064 | ( 0.309) | | 0.280 |
| 190 | 15.83 | 0.63 | 0.344 | | 0.064 | ( 0.309) | | 0.280 |
| 191 | 15.92 | 0.63 | 0.344 | | 0.063 | ( 0.309) | | 0.280 |
| 192 | 16.00 | 0.63 | 0.344 | | 0.063 | ( 0.309) | | 0.281 |
| 193 | 16.08 | 0.13 | 0.072 | | 0.063 | ( 0.065) | | 0.010 |
| 194 | 16.17 | 0.13 | 0.072 | | 0.062 | ( 0.065) | | 0.010 |
| 195 | 16.25 | 0.13 | 0.072 | | 0.062 | ( 0.065) | | 0.010 |
| 196 | 16.33 | 0.13 | 0.072 | | 0.062 | ( 0.065) | | 0.011 |
| 197 | 16.42 | 0.13 | 0.072 | | 0.061 | ( 0.065) | | 0.011 |
| 198 | 16.50 | 0.13 | 0.072 | | 0.061 | ( 0.065) | | 0.011 |
| 199 | 16.58 | 0.10 | 0.054 | ( | 0.061) | 0.049 | | 0.005 |
| 200 | 16.67 | 0.10 | 0.054 | ( | 0.060) | 0.049 | | 0.005 |
| 201 | 16.75 | 0.10 | 0.054 | ( | 0.060) | 0.049 | | 0.005 |
| 202 | 16.83 | 0.10 | 0.054 | ( | 0.060) | 0.049 | | 0.005 |
| 203 | 16.92 | 0.10 | 0.054 | ( | 0.060) | 0.049 | | 0.005 |
| 204 | 17.00 | 0.10 | 0.054 | ( | 0.059) | 0.049 | | 0.005 |
| 205 | 17.08 | 0.17 | 0.090 | | 0.059 | ( 0.081) | | 0.031 |
| 206 | 17.17 | 0.17 | 0.090 | | 0.059 | ( 0.081) | | 0.032 |
| 207 | 17.25 | 0.17 | 0.090 | | 0.058 | ( 0.081) | | 0.032 |
| 208 | 17.33 | 0.17 | 0.090 | | 0.058 | ( 0.081) | | 0.032 |
| 209 | 17.42 | 0.17 | 0.090 | | 0.058 | ( 0.081) | | 0.033 |
| 210 | 17.50 | 0.17 | 0.090 | | 0.058 | ( 0.081) | | 0.033 |
| 211 | 17.58 | 0.17 | 0.090 | | 0.057 | ( 0.081) | | 0.033 |

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| 212 | 17.67 | 0.17 | 0.090 | 0.057 | ( 0.081) | 0.033 |
| 213 | 17.75 | 0.17 | 0.090 | 0.057 | ( 0.081) | 0.034 |
| 214 | 17.83 | 0.13 | 0.072 | 0.056 | ( 0.065) | 0.016 |
| 215 | 17.92 | 0.13 | 0.072 | 0.056 | ( 0.065) | 0.016 |
| 216 | 18.00 | 0.13 | 0.072 | 0.056 | ( 0.065) | 0.017 |
| 217 | 18.08 | 0.13 | 0.072 | 0.056 | ( 0.065) | 0.017 |
| 218 | 18.17 | 0.13 | 0.072 | 0.055 | ( 0.065) | 0.017 |
| 219 | 18.25 | 0.13 | 0.072 | 0.055 | ( 0.065) | 0.017 |
| 220 | 18.33 | 0.13 | 0.072 | 0.055 | ( 0.065) | 0.018 |
| 221 | 18.42 | 0.13 | 0.072 | 0.054 | ( 0.065) | 0.018 |
| 222 | 18.50 | 0.13 | 0.072 | 0.054 | ( 0.065) | 0.018 |
| 223 | 18.58 | 0.10 | 0.054 | ( 0.054) | 0.049 | 0.005 |
| 224 | 18.67 | 0.10 | 0.054 | ( 0.054) | 0.049 | 0.005 |
| 225 | 18.75 | 0.10 | 0.054 | ( 0.053) | 0.049 | 0.005 |
| 226 | 18.83 | 0.07 | 0.036 | ( 0.053) | 0.033 | 0.004 |
| 227 | 18.92 | 0.07 | 0.036 | ( 0.053) | 0.033 | 0.004 |
| 228 | 19.00 | 0.07 | 0.036 | ( 0.053) | 0.033 | 0.004 |
| 229 | 19.08 | 0.10 | 0.054 | ( 0.052) | 0.049 | 0.005 |
| 230 | 19.17 | 0.10 | 0.054 | ( 0.052) | 0.049 | 0.005 |
| 231 | 19.25 | 0.10 | 0.054 | ( 0.052) | 0.049 | 0.005 |
| 232 | 19.33 | 0.13 | 0.072 | 0.052 | ( 0.065) | 0.021 |
| 233 | 19.42 | 0.13 | 0.072 | 0.051 | ( 0.065) | 0.021 |
| 234 | 19.50 | 0.13 | 0.072 | 0.051 | ( 0.065) | 0.021 |
| 235 | 19.58 | 0.10 | 0.054 | ( 0.051) | 0.049 | 0.005 |
| 236 | 19.67 | 0.10 | 0.054 | ( 0.051) | 0.049 | 0.005 |
| 237 | 19.75 | 0.10 | 0.054 | ( 0.050) | 0.049 | 0.005 |
| 238 | 19.83 | 0.07 | 0.036 | ( 0.050) | 0.033 | 0.004 |
| 239 | 19.92 | 0.07 | 0.036 | ( 0.050) | 0.033 | 0.004 |
| 240 | 20.00 | 0.07 | 0.036 | ( 0.050) | 0.033 | 0.004 |
| 241 | 20.08 | 0.10 | 0.054 | ( 0.050) | 0.049 | 0.005 |
| 242 | 20.17 | 0.10 | 0.054 | ( 0.049) | 0.049 | 0.005 |
| 243 | 20.25 | 0.10 | 0.054 | ( 0.049) | 0.049 | 0.005 |
| 244 | 20.33 | 0.10 | 0.054 | ( 0.049) | 0.049 | 0.005 |
| 245 | 20.42 | 0.10 | 0.054 | 0.049 | ( 0.049) | 0.005 |
| 246 | 20.50 | 0.10 | 0.054 | 0.049 | ( 0.049) | 0.006 |
| 247 | 20.58 | 0.10 | 0.054 | 0.048 | ( 0.049) | 0.006 |
| 248 | 20.67 | 0.10 | 0.054 | 0.048 | ( 0.049) | 0.006 |
| 249 | 20.75 | 0.10 | 0.054 | 0.048 | ( 0.049) | 0.006 |
| 250 | 20.83 | 0.07 | 0.036 | ( 0.048) | 0.033 | 0.004 |
| 251 | 20.92 | 0.07 | 0.036 | ( 0.048) | 0.033 | 0.004 |
| 252 | 21.00 | 0.07 | 0.036 | ( 0.047) | 0.033 | 0.004 |
| 253 | 21.08 | 0.10 | 0.054 | 0.047 | ( 0.049) | 0.007 |
| 254 | 21.17 | 0.10 | 0.054 | 0.047 | ( 0.049) | 0.007 |
| 255 | 21.25 | 0.10 | 0.054 | 0.047 | ( 0.049) | 0.007 |
| 256 | 21.33 | 0.07 | 0.036 | ( 0.047) | 0.033 | 0.004 |
| 257 | 21.42 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 258 | 21.50 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 259 | 21.58 | 0.10 | 0.054 | 0.046 | ( 0.049) | 0.008 |
| 260 | 21.67 | 0.10 | 0.054 | 0.046 | ( 0.049) | 0.008 |
| 261 | 21.75 | 0.10 | 0.054 | 0.046 | ( 0.049) | 0.008 |
| 262 | 21.83 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 263 | 21.92 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 264 | 22.00 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 265 | 22.08 | 0.10 | 0.054 | 0.045 | ( 0.049) | 0.009 |
| 266 | 22.17 | 0.10 | 0.054 | 0.045 | ( 0.049) | 0.009 |
| 267 | 22.25 | 0.10 | 0.054 | 0.045 | ( 0.049) | 0.009 |
| 268 | 22.33 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 269 | 22.42 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 270 | 22.50 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 271 | 22.58 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 272 | 22.67 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 273 | 22.75 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 274 | 22.83 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 275 | 22.92 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 276 | 23.00 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 277 | 23.08 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 278 | 23.17 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 279 | 23.25 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 280 | 23.33 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 281 | 23.42 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 284 | 23.67 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 285 | 23.75 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 286 | 23.83 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 287 | 23.92 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 288 | 24.00 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 33.8

Flood volume = Effective rainfall 2.82(In)
times area 0.1(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 1.70(In)
Total soil loss = 0.014(Ac.Ft)
Total rainfall = 4.52(In)
Flood volume = 1023.2 Cubic Feet
Total soil loss = 617.6 Cubic Feet

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Peak flow rate of this hydrograph = 0.055(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0000 | 0.00 | Q | | | | |
| 0+10 | 0.0000 | 0.00 | Q | | | | |
| 0+15 | 0.0000 | 0.00 | Q | | | | |
| 0+20 | 0.0000 | 0.00 | Q | | | | |
| 0+25 | 0.0000 | 0.00 | Q | | | | |
| 0+30 | 0.0000 | 0.00 | Q | | | | |
| 0+35 | 0.0000 | 0.00 | Q | | | | |
| 0+40 | 0.0000 | 0.00 | Q | | | | |
| 0+45 | 0.0000 | 0.00 | Q | | | | |
| 0+50 | 0.0000 | 0.00 | Q | | | | |
| 0+55 | 0.0000 | 0.00 | Q | | | | |
| 1+ 0 | 0.0000 | 0.00 | Q | | | | |
| 1+ 5 | 0.0000 | 0.00 | Q | | | | |
| 1+10 | 0.0001 | 0.00 | Q | | | | |
| 1+15 | 0.0001 | 0.00 | Q | | | | |
| 1+20 | 0.0001 | 0.00 | Q | | | | |
| 1+25 | 0.0001 | 0.00 | Q | | | | |
| 1+30 | 0.0001 | 0.00 | Q | | | | |
| 1+35 | 0.0001 | 0.00 | Q | | | | |
| 1+40 | 0.0001 | 0.00 | Q | | | | |
| 1+45 | 0.0001 | 0.00 | Q | | | | |
| 1+50 | 0.0001 | 0.00 | Q | | | | |
| 1+55 | 0.0001 | 0.00 | Q | | | | |
| 2+ 0 | 0.0001 | 0.00 | Q | | | | |
| 2+ 5 | 0.0001 | 0.00 | Q | | | | |
| 2+10 | 0.0001 | 0.00 | Q | | | | |
| 2+15 | 0.0001 | 0.00 | Q | | | | |
| 2+20 | 0.0001 | 0.00 | Q | | | | |
| 2+25 | 0.0001 | 0.00 | Q | | | | |
| 2+30 | 0.0001 | 0.00 | Q | | | | |
| 2+35 | 0.0001 | 0.00 | Q | | | | |
| 2+40 | 0.0001 | 0.00 | Q | | | | |
| 2+45 | 0.0001 | 0.00 | Q | | | | |
| 2+50 | 0.0001 | 0.00 | Q | | | | |
| 2+55 | 0.0002 | 0.00 | Q | | | | |
| 3+ 0 | 0.0002 | 0.00 | Q | | | | |
| 3+ 5 | 0.0002 | 0.00 | Q | | | | |
| 3+10 | 0.0002 | 0.00 | Q | | | | |
| 3+15 | 0.0002 | 0.00 | Q | | | | |
| 3+20 | 0.0002 | 0.00 | Q | | | | |
| 3+25 | 0.0002 | 0.00 | Q | | | | |
| 3+30 | 0.0002 | 0.00 | Q | | | | |
| 3+35 | 0.0002 | 0.00 | Q | | | | |
| 3+40 | 0.0002 | 0.00 | Q | | | | |
| 3+45 | 0.0002 | 0.00 | Q | | | | |
| 3+50 | 0.0002 | 0.00 | Q | | | | |
| 3+55 | 0.0002 | 0.00 | Q | | | | |
| 4+ 0 | 0.0002 | 0.00 | Q | | | | |
| 4+ 5 | 0.0002 | 0.00 | Q | | | | |
| 4+10 | 0.0003 | 0.00 | Q | | | | |
| 4+15 | 0.0003 | 0.00 | Q | | | | |
| 4+20 | 0.0003 | 0.00 | Q | | | | |
| 4+25 | 0.0003 | 0.00 | Q | | | | |
| 4+30 | 0.0003 | 0.00 | Q | | | | |
| 4+35 | 0.0003 | 0.00 | Q | | | | |
| 4+40 | 0.0003 | 0.00 | Q | | | | |
| 4+45 | 0.0003 | 0.00 | Q | | | | |
| 4+50 | 0.0003 | 0.00 | Q | | | | |

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 4+55       0.0004      0.00  Q          |          |          |          |
 5+ 0       0.0004      0.00  Q          |          |          |          |
 5+ 5       0.0004      0.00  Q          |          |          |          |
 5+10       0.0004      0.00  Q          |          |          |          |
 5+15       0.0004      0.00  Q          |          |          |          |
 5+20       0.0004      0.00  Q          |          |          |          |
 5+25       0.0004      0.00  Q          |          |          |          |
 5+30       0.0004      0.00  Q          |          |          |          |
 5+35       0.0004      0.00  Q          |          |          |          |
 5+40       0.0005      0.00  Q          |          |          |          |
 5+45       0.0005      0.00  Q          |          |          |          |
 5+50       0.0005      0.00  Q          |          |          |          |
 5+55       0.0005      0.00  Q          |          |          |          |
 6+ 0       0.0005      0.00  Q          |          |          |          |
 6+ 5       0.0006      0.01  Q          |          |          |          |
 6+10       0.0006      0.01  QV         |          |          |          |
 6+15       0.0006      0.01  QV         |          |          |          |
 6+20       0.0007      0.01  QV         |          |          |          |
 6+25       0.0007      0.01  QV         |          |          |          |
 6+30       0.0008      0.01  QV         |          |          |          |
 6+35       0.0008      0.01  QV         |          |          |          |
 6+40       0.0009      0.01  QV         |          |          |          |
 6+45       0.0009      0.01  QV         |          |          |          |
 6+50       0.0010      0.01  QV         |          |          |          |
 6+55       0.0010      0.01  QV         |          |          |          |
 7+ 0       0.0011      0.01  QV         |          |          |          |
 7+ 5       0.0011      0.01  QV         |          |          |          |
 7+10       0.0012      0.01  QV         |          |          |          |
 7+15       0.0012      0.01  Q V        |          |          |          |
 7+20       0.0013      0.01  Q V        |          |          |          |
 7+25       0.0013      0.01  Q V        |          |          |          |
 7+30       0.0014      0.01  Q V        |          |          |          |
 7+35       0.0015      0.01  Q V        |          |          |          |
 7+40       0.0016      0.01  Q V        |          |          |          |
 7+45       0.0016      0.01  Q V        |          |          |          |
 7+50       0.0017      0.01  Q V        |          |          |          |
 7+55       0.0018      0.01  Q  V       |          |          |          |
 8+ 0       0.0019      0.01  Q  V       |          |          |          |
 8+ 5       0.0020      0.02  Q  V       |          |          |          |
 8+10       0.0022      0.02  Q  V       |          |          |          |
 8+15       0.0023      0.02  Q  V       |          |          |          |
 8+20       0.0024      0.02  Q   V      |          |          |          |
 8+25       0.0025      0.02  Q   V      |          |          |          |
 8+30       0.0026      0.02  Q   V      |          |          |          |
 8+35       0.0028      0.02  Q   V      |          |          |          |
 8+40       0.0029      0.02  Q   V      |          |          |          |
 8+45       0.0030      0.02  Q    V     |          |          |          |
 8+50       0.0032      0.02  Q    V     |          |          |          |
 8+55       0.0033      0.02  Q    V     |          |          |          |
 9+ 0       0.0035      0.02  Q    V     |          |          |          |
 9+ 5       0.0036      0.03  Q     V    |          |          |          |
 9+10       0.0038      0.03  Q     V    |          |          |          |
 9+15       0.0040      0.03  Q     V    |          |          |          |
 9+20       0.0042      0.03  Q      V   |          |          |          |
 9+25       0.0044      0.03  Q      V   |          |          |          |
 9+30       0.0045      0.03  Q      V   |          |          |          |
 9+35       0.0047      0.03  Q       V  |          |          |          |
 9+40       0.0049      0.03  Q       V  |          |          |          |
 9+45       0.0051      0.03  Q       V  |          |          |          |
 9+50       0.0054      0.03  Q        V |          |          |          |
 9+55       0.0056      0.03  Q        V |          |          |          |
10+ 0       0.0058      0.03  Q        V |          |          |          |
10+ 5       0.0059      0.02  Q         V          |          |          |
10+10       0.0060      0.02  Q         V          |          |          |
10+15       0.0062      0.02  Q         V          |          |          |
10+20       0.0063      0.02  Q         V          |          |          |
10+25       0.0064      0.02  Q         V          |          |          |
10+30       0.0065      0.02  Q         |V         |          |          |
10+35       0.0067      0.03  Q         |V         |          |          |
10+40       0.0069      0.03  Q         |V         |          |          |
10+45       0.0071      0.03  Q         | V        |          |          |
10+50       0.0073      0.03  Q         | V        |          |          |
10+55       0.0075      0.03  Q         | V        |          |          |
11+ 0       0.0077      0.03  Q         |  V       |          |          |
11+ 5       0.0079      0.03  Q         |  V       |          |          |
11+10       0.0081      0.03  Q         |  V       |          |          |
11+15       0.0082      0.03  Q         |   V      |          |          |
11+20       0.0084      0.03  Q         |   V      |          |          |
```

| | | | | |
|---|---|---|---|---|
| 11+25 | 0.0086 | 0.03 | Q | \| V \| \| \| |
| 11+30 | 0.0088 | 0.03 | Q | \| V \| \| \| |
| 11+35 | 0.0089 | 0.02 | Q | \| V \| \| \| |
| 11+40 | 0.0091 | 0.02 | Q | \| V \| \| \| |
| 11+45 | 0.0092 | 0.02 | Q | \| V \| \| \| |
| 11+50 | 0.0094 | 0.02 | Q | \| V \| \| \| |
| 11+55 | 0.0096 | 0.02 | Q | \| V \| \| \| |
| 12+ 0 | 0.0098 | 0.02 | Q | \| V \| \| \| |
| 12+ 5 | 0.0100 | 0.04 | Q | \| V \| \| \| |
| 12+10 | 0.0103 | 0.04 | Q | \| V \| \| \| |
| 12+15 | 0.0105 | 0.04 | Q | \| V \| \| \| |
| 12+20 | 0.0108 | 0.04 | Q | \| V \| \| \| |
| 12+25 | 0.0111 | 0.04 | Q | \| V \| \| \| |
| 12+30 | 0.0113 | 0.04 | Q | \| V\| \| \| |
| 12+35 | 0.0116 | 0.04 | Q | \| V\| \| \| |
| 12+40 | 0.0119 | 0.04 | Q | \| V \| \| |
| 12+45 | 0.0122 | 0.04 | Q | \| V \| \| |
| 12+50 | 0.0125 | 0.05 | Q | \| \|V \| \| |
| 12+55 | 0.0129 | 0.05 | Q | \| \|V \| \| |
| 13+ 0 | 0.0132 | 0.05 | Q | \| \| V \| \| |
| 13+ 5 | 0.0135 | 0.05 | Q | \| \| V \| \| |
| 13+10 | 0.0139 | 0.05 | Q | \| \| V \| \| |
| 13+15 | 0.0143 | 0.05 | Q | \| \| V \| \| |
| 13+20 | 0.0147 | 0.05 | Q | \| \| V \| \| |
| 13+25 | 0.0150 | 0.05 | Q | \| \| V \| \| |
| 13+30 | 0.0154 | 0.05 | Q | \| \| V \| \| |
| 13+35 | 0.0157 | 0.03 | Q | \| \| V \| \| |
| 13+40 | 0.0159 | 0.03 | Q | \| \| V \| \| |
| 13+45 | 0.0161 | 0.03 | Q | \| \| V \| \| |
| 13+50 | 0.0164 | 0.03 | Q | \| \| V \| \| |
| 13+55 | 0.0166 | 0.03 | Q | \| \| V \| \| |
| 14+ 0 | 0.0169 | 0.03 | Q | \| \| V \| \| |
| 14+ 5 | 0.0171 | 0.04 | Q | \| \| V\| \| |
| 14+10 | 0.0174 | 0.04 | Q | \| \| V\| \| |
| 14+15 | 0.0177 | 0.04 | Q | \| \| V \| |
| 14+20 | 0.0180 | 0.04 | Q | \| \| V \| |
| 14+25 | 0.0183 | 0.04 | Q | \| \| \|V \| |
| 14+30 | 0.0186 | 0.04 | Q | \| \| \|V \| |
| 14+35 | 0.0188 | 0.04 | Q | \| \| V \| |
| 14+40 | 0.0191 | 0.04 | Q | \| \| V \| |
| 14+45 | 0.0194 | 0.04 | Q | \| \| V \| |
| 14+50 | 0.0197 | 0.04 | Q | \| \| V \| |
| 14+55 | 0.0199 | 0.04 | Q | \| \| V \| |
| 15+ 0 | 0.0202 | 0.04 | Q | \| \| V \| |
| 15+ 5 | 0.0205 | 0.04 | Q | \| \| V \| |
| 15+10 | 0.0207 | 0.04 | Q | \| \| V \| |
| 15+15 | 0.0210 | 0.04 | Q | \| \| V \| |
| 15+20 | 0.0212 | 0.04 | Q | \| \| V \| |
| 15+25 | 0.0214 | 0.04 | Q | \| \| V \| |
| 15+30 | 0.0217 | 0.04 | Q | \| \| V \| |
| 15+35 | 0.0219 | 0.03 | Q | \| \| V \| |
| 15+40 | 0.0221 | 0.03 | Q | \| \| V \| |
| 15+45 | 0.0223 | 0.03 | Q | \| \| V \| |
| 15+50 | 0.0225 | 0.03 | Q | \| \| V \| |
| 15+55 | 0.0227 | 0.03 | Q | \| \| V \| |
| 16+ 0 | 0.0229 | 0.03 | Q | \| \| V \| |
| 16+ 5 | 0.0229 | 0.00 | Q | \| \| V \| |
| 16+10 | 0.0229 | 0.00 | Q | \| \| V \| |
| 16+15 | 0.0229 | 0.00 | Q | \| \| V \| |
| 16+20 | 0.0229 | 0.00 | Q | \| \| V \| |
| 16+25 | 0.0229 | 0.00 | Q | \| \| V \| |
| 16+30 | 0.0229 | 0.00 | Q | \| \| V \| |
| 16+35 | 0.0229 | 0.00 | Q | \| \| V\| |
| 16+40 | 0.0229 | 0.00 | Q | \| \| V\| |
| 16+45 | 0.0229 | 0.00 | Q | \| \| V\| |
| 16+50 | 0.0229 | 0.00 | Q | \| \| V\| |
| 16+55 | 0.0229 | 0.00 | Q | \| \| V\| |
| 17+ 0 | 0.0229 | 0.00 | Q | \| \| V\| |
| 17+ 5 | 0.0229 | 0.00 | Q | \| \| V\| |
| 17+10 | 0.0230 | 0.00 | Q | \| \| V\| |
| 17+15 | 0.0230 | 0.00 | Q | \| \| V\| |
| 17+20 | 0.0230 | 0.00 | Q | \| \| V\| |
| 17+25 | 0.0230 | 0.00 | Q | \| \| V\| |
| 17+30 | 0.0231 | 0.00 | Q | \| \| V\| |
| 17+35 | 0.0231 | 0.00 | Q | \| \| V\| |
| 17+40 | 0.0231 | 0.00 | Q | \| \| V\| |
| 17+45 | 0.0231 | 0.00 | Q | \| \| V\| |
| 17+50 | 0.0231 | 0.00 | Q | \| \| V\| |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+55 | 0.0232 | 0.00 | Q | \| | \| | \| | V\| |
| 18+ 0 | 0.0232 | 0.00 | Q | \| | \| | \| | V\| |
| 18+ 5 | 0.0232 | 0.00 | Q | \| | \| | \| | V\| |
| 18+10 | 0.0232 | 0.00 | Q | \| | \| | \| | V\| |
| 18+15 | 0.0232 | 0.00 | Q | \| | \| | \| | V\| |
| 18+20 | 0.0232 | 0.00 | Q | \| | \| | \| | V\| |
| 18+25 | 0.0232 | 0.00 | Q | \| | \| | \| | V\| |
| 18+30 | 0.0232 | 0.00 | Q | \| | \| | \| | V\| |
| 18+35 | 0.0232 | 0.00 | Q | \| | \| | \| | V\| |
| 18+40 | 0.0232 | 0.00 | Q | \| | \| | \| | V\| |
| 18+45 | 0.0232 | 0.00 | Q | \| | \| | \| | V\| |
| 18+50 | 0.0232 | 0.00 | Q | \| | \| | \| | V\| |
| 18+55 | 0.0233 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 0 | 0.0233 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 5 | 0.0233 | 0.00 | Q | \| | \| | \| | V\| |
| 19+10 | 0.0233 | 0.00 | Q | \| | \| | \| | V\| |
| 19+15 | 0.0233 | 0.00 | Q | \| | \| | \| | V\| |
| 19+20 | 0.0233 | 0.00 | Q | \| | \| | \| | V\| |
| 19+25 | 0.0233 | 0.00 | Q | \| | \| | \| | V\| |
| 19+30 | 0.0233 | 0.00 | Q | \| | \| | \| | V\| |
| 19+35 | 0.0233 | 0.00 | Q | \| | \| | \| | V\| |
| 19+40 | 0.0233 | 0.00 | Q | \| | \| | \| | V\| |
| 19+45 | 0.0233 | 0.00 | Q | \| | \| | \| | V\| |
| 19+50 | 0.0233 | 0.00 | Q | \| | \| | \| | V\| |
| 19+55 | 0.0233 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 0 | 0.0233 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 5 | 0.0233 | 0.00 | Q | \| | \| | \| | V\| |
| 20+10 | 0.0233 | 0.00 | Q | \| | \| | \| | V\| |
| 20+15 | 0.0233 | 0.00 | Q | \| | \| | \| | V\| |
| 20+20 | 0.0233 | 0.00 | Q | \| | \| | \| | V\| |
| 20+25 | 0.0233 | 0.00 | Q | \| | \| | \| | V\| |
| 20+30 | 0.0233 | 0.00 | Q | \| | \| | \| | V\| |
| 20+35 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 20+40 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 20+45 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 20+50 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 20+55 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 0 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 5 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 21+10 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 21+15 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 21+20 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 21+25 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 21+30 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 21+35 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 21+40 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 21+45 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 21+50 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 21+55 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 0 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 5 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 22+10 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 22+15 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 22+20 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 22+25 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 22+30 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 22+35 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 22+40 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 22+45 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 22+50 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 22+55 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 0 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 5 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 23+10 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 23+15 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 23+20 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 23+25 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 23+30 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 23+35 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 23+40 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 23+45 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 23+50 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 23+55 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 24+ 0 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX131100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 13
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 6.90(Ac.) = 0.011 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 6.90(Ac.) = 0.011 Sq. Mi.
Length along longest watercourse = 1106.00(Ft.)
Length along longest watercourse measured to centroid = 604.00(Ft.)
Length along longest watercourse = 0.209 Mi.
Length along longest watercourse measured to centroid = 0.114 Mi.
Difference in elevation = 388.00(Ft.)
Slope along watercourse = 1852.2966 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.049 Hr.
Lag time = 2.92 Min.
25% of lag time = 0.73 Min.
40% of lag time = 1.17 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.90 | 0.49 | 3.38 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.90 | 1.20 | 8.28 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.490(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 6.900 | 84.00 | 0.000 |

Total Area Entered = 6.90(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 171.074 | 35.947 | 2.500 |
| 2 0.167 | 342.149 | 52.639 | 3.660 |
| 3 0.250 | 513.223 | 9.425 | 0.655 |
| 4 0.333 | 684.298 | 1.597 | 0.111 |
| 5 0.417 | 855.372 | 0.392 | 0.027 |
| | Sum = | 100.000 Sum= | 6.954 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 4.20 | 0.605 | 0.086 | ( 0.544) | 0.519 |
| 2 0.17 | 4.30 | 0.619 | 0.086 | ( 0.557) | 0.533 |
| 3 0.25 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 4 0.33 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 5 0.42 | 5.80 | 0.835 | 0.086 | ( 0.752) | 0.749 |
| 6 0.50 | 6.50 | 0.936 | 0.086 | ( 0.842) | 0.850 |
| 7 0.58 | 7.40 | 1.066 | 0.086 | ( 0.959) | 0.980 |
| 8 0.67 | 8.60 | 1.238 | 0.086 | ( 1.114) | 1.153 |
| 9 0.75 | 12.30 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 10 0.83 | 29.10 | 4.190 | 0.086 | ( 3.771) | 4.104 |
| 11 0.92 | 6.80 | 0.979 | 0.086 | ( 0.881) | 0.893 |
| 12 1.00 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 13.4 |

Flood volume = Effective rainfall 1.11(In)
times area 6.9(Ac.)/[(In)/(Ft.)] = 0.6(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.049(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 27905.5 Cubic Feet
Total soil loss = 2149.0 Cubic Feet

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Peak flow rate of this hydrograph = 18.526(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 5.0 10.0 15.0 20.0 |
|---|---|---|---|
| 0+ 5 | 0.0089 | 1.30 | V Q |
| 0+10 | 0.0312 | 3.23 | \|V Q \| |
| 0+15 | 0.0579 | 3.88 | \| V Q \| |
| 0+20 | 0.0877 | 4.32 | \| V Q \| |
| 0+25 | 0.1199 | 4.69 | \| V Q\| |
| 0+30 | 0.1569 | 5.37 | \| VQ \| |
| 0+35 | 0.1992 | 6.14 | \| Q \| |
| 0+40 | 0.2483 | 7.13 | \| QV \| |
| 0+45 | 0.3116 | 9.19 | \| QV\| |
| 0+50 | 0.4310 | 17.32 | \| V \| Q \| |
| 0+55 | 0.5585 | 18.53 | \| V Q \| |
| 1+ 0 | 0.6120 | 7.77 | \| Q \| V \| |
| 1+ 5 | 0.6355 | 3.41 | \| Q \| V\| |
| 1+10 | 0.6398 | 0.63 | \|Q \| V\| |
| 1+15 | 0.6405 | 0.09 | Q \| V\| |
| 1+20 | 0.6406 | 0.02 | Q \| V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 13
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 6.90(Ac.) = 0.011 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 6.90(Ac.) = 0.011 Sq. Mi.
Length along longest watercourse = 1106.00(Ft.)
Length along longest watercourse measured to centroid = 604.00(Ft.)
Length along longest watercourse = 0.209 Mi.
Length along longest watercourse measured to centroid = 0.114 Mi.
Difference in elevation = 388.00(Ft.)
Slope along watercourse = 1852.2966 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.049 Hr.
Lag time = 2.92 Min.
25% of lag time = 0.73 Min.
40% of lag time = 1.17 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.90 | 0.80 | 5.52 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.90 | 1.80 | 12.42 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 6.900 | 84.00 | 0.000 |

Total Area Entered = 6.90(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 171.074 | 35.947 | 2.500 |
| 2 | 0.167 | 342.149 | 52.639 | 3.660 |
| 3 | 0.250 | 513.223 | 9.425 | 0.655 |
| 4 | 0.333 | 684.298 | 1.597 | 0.111 |
| 5 | 0.417 | 855.372 | 0.392 | 0.027 |
| | | | Sum = 100.000 Sum= | 6.954 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.281 | 0.086 | ( 0.253) | 0.195 |
| 2 | 0.17 | 1.30 | 0.281 | 0.086 | ( 0.253) | 0.195 |
| 3 | 0.25 | 1.10 | 0.238 | 0.086 | ( 0.214) | 0.152 |
| 4 | 0.33 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 5 | 0.42 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 6 | 0.50 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 7 | 0.58 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 8 | 0.67 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 9 | 0.75 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 10 | 0.83 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 11 | 0.92 | 1.60 | 0.346 | 0.086 | ( 0.311) | 0.260 |
| 12 | 1.00 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 13 | 1.08 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 14 | 1.17 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 15 | 1.25 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 16 | 1.33 | 2.00 | 0.432 | 0.086 | ( 0.389) | 0.346 |
| 17 | 1.42 | 2.60 | 0.562 | 0.086 | ( 0.505) | 0.476 |
| 18 | 1.50 | 2.70 | 0.583 | 0.086 | ( 0.525) | 0.497 |
| 19 | 1.58 | 2.40 | 0.518 | 0.086 | ( 0.467) | 0.433 |
| 20 | 1.67 | 2.70 | 0.583 | 0.086 | ( 0.525) | 0.497 |
| 21 | 1.75 | 3.30 | 0.713 | 0.086 | ( 0.642) | 0.627 |
| 22 | 1.83 | 3.10 | 0.670 | 0.086 | ( 0.603) | 0.584 |
| 23 | 1.92 | 2.90 | 0.626 | 0.086 | ( 0.564) | 0.541 |
| 24 | 2.00 | 3.00 | 0.648 | 0.086 | ( 0.583) | 0.562 |
| 25 | 2.08 | 3.10 | 0.670 | 0.086 | ( 0.603) | 0.584 |
| 26 | 2.17 | 4.20 | 0.907 | 0.086 | ( 0.816) | 0.821 |
| 27 | 2.25 | 5.00 | 1.080 | 0.086 | ( 0.972) | 0.994 |
| 28 | 2.33 | 3.50 | 0.756 | 0.086 | ( 0.680) | 0.670 |
| 29 | 2.42 | 6.80 | 1.469 | 0.086 | ( 1.322) | 1.383 |
| 30 | 2.50 | 7.30 | 1.577 | 0.086 | ( 1.419) | 1.491 |
| 31 | 2.58 | 8.20 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 32 | 2.67 | 5.90 | 1.274 | 0.086 | ( 1.147) | 1.189 |
| 33 | 2.75 | 2.00 | 0.432 | 0.086 | ( 0.389) | 0.346 |
| 34 | 2.83 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 35 | 2.92 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 36 | 3.00 | 0.60 | 0.130 | 0.086 | ( 0.117) | 0.044 |
| | | (Loss Rate Not Used) | | | |
| Sum = | | 100.0 | | | Sum = 18.5 |

Flood volume = Effective rainfall 1.54(In)
times area 6.9(Ac.)/[(In)/(Ft.)] = 0.9(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.148(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 38636.1 Cubic Feet
Total soil loss = 6447.1 Cubic Feet

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Peak flow rate of this hydrograph = 10.684(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 5.0 | 10.0 | 15.0 | 20.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0034 | 0.49 | Q | | | | |
| 0+10 | 0.0116 | 1.20 | V Q | | | | |
| 0+15 | 0.0200 | 1.22 | V Q | | | | |
| 0+20 | 0.0290 | 1.30 | \|VQ | | | | |
| 0+25 | 0.0400 | 1.59 | \|V Q | | | | |
| 0+30 | 0.0524 | 1.81 | \| VQ | | | | |
| 0+35 | 0.0655 | 1.89 | \| VQ | | | | |
| 0+40 | 0.0783 | 1.86 | \| Q | | | | |
| 0+45 | 0.0925 | 2.06 | \| Q | | | | |
| 0+50 | 0.1059 | 1.94 | \| QV | | | | |
| 0+55 | 0.1180 | 1.76 | \| Q V | | | | |
| 1+ 0 | 0.1311 | 1.91 | \| Q V | | | | |
| 1+ 5 | 0.1469 | 2.29 | \| Q V | | | | |
| 1+10 | 0.1650 | 2.63 | \| Q V | | | | |
| 1+15 | 0.1836 | 2.70 | \| Q V | | | | |
| 1+20 | 0.2015 | 2.60 | \| Q V | | | | |
| 1+25 | 0.2206 | 2.77 | \| Q V | | | | |
| 1+30 | 0.2431 | 3.27 | \| Q V | | | | |
| 1+35 | 0.2655 | 3.26 | \| Q \|V | | | | |
| 1+40 | 0.2877 | 3.22 | \| Q \| V | | | | |
| 1+45 | 0.3135 | 3.74 | \| Q \| V | | | | |
| 1+50 | 0.3420 | 4.14 | \| Q \| V | | | | |
| 1+55 | 0.3693 | 3.97 | \| Q \| V | | | | |
| 2+ 0 | 0.3959 | 3.85 | \| Q \| V | | | | |
| 2+ 5 | 0.4231 | 3.96 | \| Q \| V | | | | |
| 2+10 | 0.4550 | 4.64 | \| Q \| V | | | | |
| 2+15 | 0.4960 | 5.95 | \| \|Q \| V | | | | |
| 2+20 | 0.5369 | 5.94 | \| \|Q \| V | | | | |
| 2+25 | 0.5829 | 6.67 | \| \| Q \| V | | | | |
| 2+30 | 0.6474 | 9.37 | \| \| Q \| V | | | | |
| 2+35 | 0.7210 | 10.68 | \| \| \|Q \| V | | | | |
| 2+40 | 0.7919 | 10.29 | \| \| Q \| V | | | | |
| 2+45 | 0.8368 | 6.53 | \| \| Q \| V | | | | |
| 2+50 | 0.8577 | 3.03 | \| Q \| V | | | | |
| 2+55 | 0.8734 | 2.27 | \| Q \| V | | | | |
| 3+ 0 | 0.8836 | 1.49 | \| Q \| V | | | | |
| 3+ 5 | 0.8864 | 0.40 | Q \| V | | | | |
| 3+10 | 0.8869 | 0.07 | Q \| V | | | | |
| 3+15 | 0.8870 | 0.01 | Q \| V | | | | |
| 3+20 | 0.8870 | 0.00 | Q \| V | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX136100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 13
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 6.90(Ac.) = 0.011 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 6.90(Ac.) = 0.011 Sq. Mi.
Length along longest watercourse = 1106.00(Ft.)
Length along longest watercourse measured to centroid = 604.00(Ft.)
Length along longest watercourse = 0.209 Mi.
Length along longest watercourse measured to centroid = 0.114 Mi.
Difference in elevation = 388.00(Ft.)
Slope along watercourse = 1852.2966 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.049 Hr.
Lag time = 2.92 Min.
25% of lag time = 0.73 Min.
40% of lag time = 1.17 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.90 | 1.12 | 7.73 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.90 | 2.50 | 17.25 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.120(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 6.900 | 84.00 | 0.000 |

Total Area Entered = 6.90(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 171.074 | 35.947 | 2.500 |
| 2 | 0.167 | 342.149 | 52.639 | 3.660 |
| 3 | 0.250 | 513.223 | 9.425 | 0.655 |
| 4 | 0.333 | 684.298 | 1.597 | 0.111 |
| 5 | 0.417 | 855.372 | 0.392 | 0.027 |
| | | | Sum = 100.000 Sum= | 6.954 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.086 | ( 0.135) | 0.064 |
| 2 | 0.17 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 3 | 0.25 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 4 | 0.33 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 5 | 0.42 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 6 | 0.50 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 7 | 0.58 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 8 | 0.67 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 9 | 0.75 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 10 | 0.83 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 11 | 0.92 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 12 | 1.00 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 13 | 1.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 14 | 1.17 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 15 | 1.25 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 16 | 1.33 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 17 | 1.42 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 18 | 1.50 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 19 | 1.58 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 20 | 1.67 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 21 | 1.75 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 22 | 1.83 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 23 | 1.92 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 24 | 2.00 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 25 | 2.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 26 | 2.17 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 27 | 2.25 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 28 | 2.33 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 29 | 2.42 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 30 | 2.50 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 31 | 2.58 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 32 | 2.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 33 | 2.75 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 34 | 2.83 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 35 | 2.92 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 36 | 3.00 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 37 | 3.08 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 38 | 3.17 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 39 | 3.25 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 40 | 3.33 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 41 | 3.42 | 1.20 | 0.360 | 0.086 | ( 0.324) | 0.274 |
| 42 | 3.50 | 1.30 | 0.390 | 0.086 | ( 0.351) | 0.304 |
| 43 | 3.58 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 44 | 3.67 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 45 | 3.75 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 46 | 3.83 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 47 | 3.92 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 48 | 4.00 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 49 | 4.08 | 1.70 | 0.510 | 0.086 | ( 0.459) | 0.424 |
| 50 | 4.17 | 1.80 | 0.540 | 0.086 | ( 0.486) | 0.454 |
| 51 | 4.25 | 1.90 | 0.570 | 0.086 | ( 0.513) | 0.484 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 52 | 4.33 | 2.00 | 0.600 | 0.086 | ( 0.540) | | 0.514 |
| 53 | 4.42 | 2.10 | 0.630 | 0.086 | ( 0.567) | | 0.544 |
| 54 | 4.50 | 2.10 | 0.630 | 0.086 | ( 0.567) | | 0.544 |
| 55 | 4.58 | 2.20 | 0.660 | 0.086 | ( 0.594) | | 0.574 |
| 56 | 4.67 | 2.30 | 0.690 | 0.086 | ( 0.621) | | 0.604 |
| 57 | 4.75 | 2.40 | 0.720 | 0.086 | ( 0.648) | | 0.634 |
| 58 | 4.83 | 2.40 | 0.720 | 0.086 | ( 0.648) | | 0.634 |
| 59 | 4.92 | 2.50 | 0.750 | 0.086 | ( 0.675) | | 0.664 |
| 60 | 5.00 | 2.60 | 0.780 | 0.086 | ( 0.702) | | 0.694 |
| 61 | 5.08 | 3.10 | 0.930 | 0.086 | ( 0.837) | | 0.844 |
| 62 | 5.17 | 3.60 | 1.080 | 0.086 | ( 0.972) | | 0.994 |
| 63 | 5.25 | 3.90 | 1.170 | 0.086 | ( 1.053) | | 1.084 |
| 64 | 5.33 | 4.20 | 1.260 | 0.086 | ( 1.134) | | 1.174 |
| 65 | 5.42 | 4.70 | 1.410 | 0.086 | ( 1.269) | | 1.324 |
| 66 | 5.50 | 5.60 | 1.680 | 0.086 | ( 1.512) | | 1.594 |
| 67 | 5.58 | 1.90 | 0.570 | 0.086 | ( 0.513) | | 0.484 |
| 68 | 5.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | | 0.184 |
| 69 | 5.75 | 0.60 | 0.180 | 0.086 | ( 0.162) | | 0.094 |
| 70 | 5.83 | 0.50 | 0.150 | 0.086 | ( 0.135) | | 0.064 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.086) | 0.081 | | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.086) | 0.054 | | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.9

Flood volume = Effective rainfall 1.99(In)
times area 6.9(Ac.)/[(In)/(Ft.)] = 1.1(Ac.Ft)
Total soil loss = 0.51(In)
Total soil loss = 0.294(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 49798.2 Cubic Feet
Total soil loss = 12817.8 Cubic Feet

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Peak flow rate of this hydrograph = 9.754(CFS)

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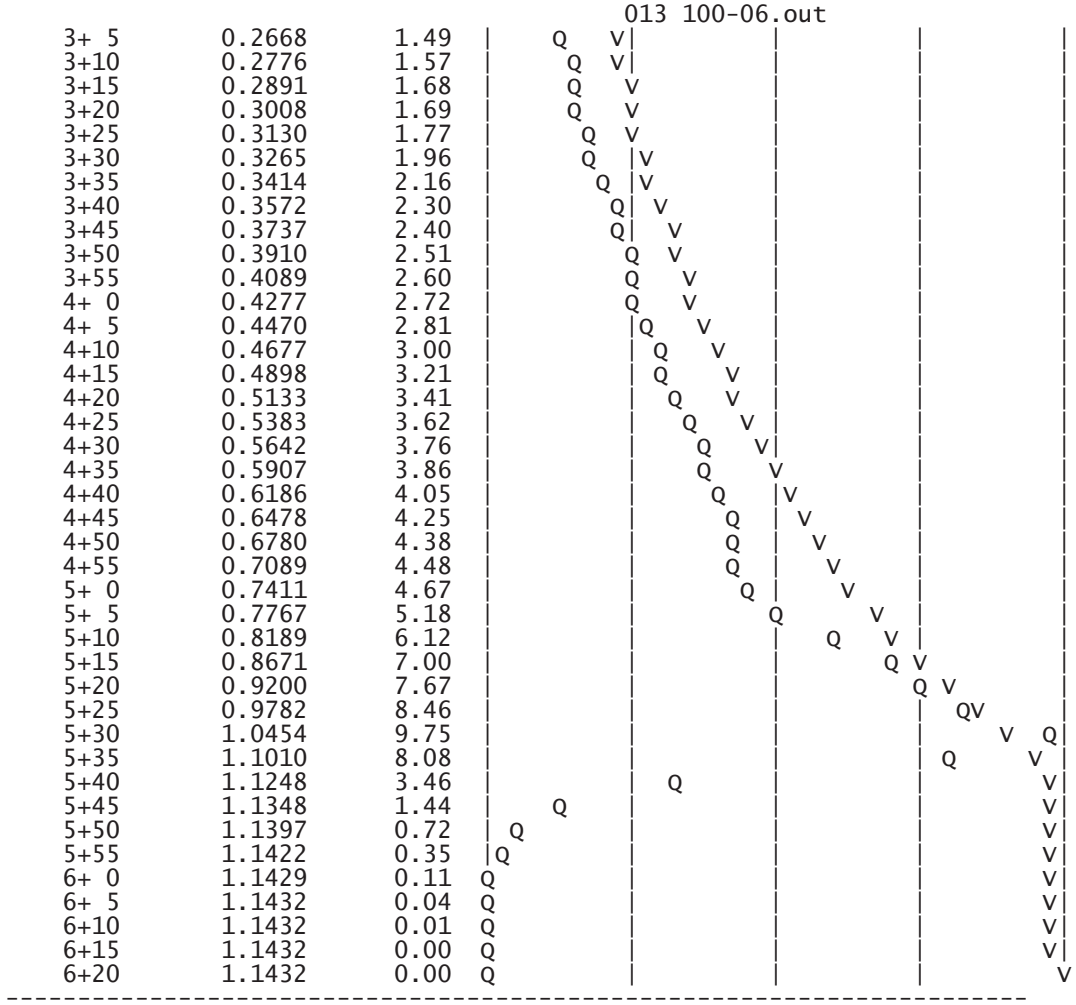
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0011 | 0.16 | Q | | | | |
| 0+10 | 0.0043 | 0.47 | VQ | | | | |
| 0+15 | 0.0086 | 0.62 | V Q | | | | |
| 0+20 | 0.0131 | 0.65 | V Q | | | | |
| 0+25 | 0.0176 | 0.65 | V Q | | | | |
| 0+30 | 0.0226 | 0.73 | V Q | | | | |
| 0+35 | 0.0284 | 0.84 | V Q | | | | |
| 0+40 | 0.0344 | 0.86 | V Q | | | | |
| 0+45 | 0.0403 | 0.86 | V Q | | | | |
| 0+50 | 0.0463 | 0.86 | V Q | | | | |
| 0+55 | 0.0522 | 0.86 | V Q | | | | |
| 1+ 0 | 0.0587 | 0.94 | VQ | | | | |
| 1+ 5 | 0.0659 | 1.05 | V Q | | | | |
| 1+10 | 0.0733 | 1.07 | V Q | | | | |
| 1+15 | 0.0806 | 1.07 | V Q | | | | |
| 1+20 | 0.0880 | 1.07 | VQ | | | | |
| 1+25 | 0.0954 | 1.07 | VQ | | | | |
| 1+30 | 0.1028 | 1.07 | VQ | | | | |
| 1+35 | 0.1102 | 1.07 | VQ | | | | |
| 1+40 | 0.1176 | 1.07 | Q | | | | |
| 1+45 | 0.1250 | 1.07 | Q | | | | |
| 1+50 | 0.1324 | 1.07 | Q | | | | |
| 1+55 | 0.1397 | 1.07 | Q | | | | |
| 2+ 0 | 0.1477 | 1.15 | QV | | | | |
| 2+ 5 | 0.1558 | 1.18 | QV | | | | |
| 2+10 | 0.1638 | 1.17 | QV | | | | |
| 2+15 | 0.1725 | 1.26 | QV | | | | |
| 2+20 | 0.1813 | 1.28 | QV | | | | |
| 2+25 | 0.1901 | 1.28 | QV | | | | |
| 2+30 | 0.1990 | 1.28 | QV | | | | |
| 2+35 | 0.2078 | 1.28 | Q V | | | | |
| 2+40 | 0.2166 | 1.28 | Q V | | | | |
| 2+45 | 0.2260 | 1.36 | Q V | | | | |
| 2+50 | 0.2361 | 1.47 | Q V | | | | |
| 2+55 | 0.2463 | 1.49 | Q V | | | | |
| 3+ 0 | 0.2566 | 1.49 | Q V | | | | |



| | | | |
|---|---|---|---|
| 3+ 5 | 0.2668 | 1.49 | |
| 3+10 | 0.2776 | 1.57 | |
| 3+15 | 0.2891 | 1.68 | |
| 3+20 | 0.3008 | 1.69 | |
| 3+25 | 0.3130 | 1.77 | |
| 3+30 | 0.3265 | 1.96 | |
| 3+35 | 0.3414 | 2.16 | |
| 3+40 | 0.3572 | 2.30 | |
| 3+45 | 0.3737 | 2.40 | |
| 3+50 | 0.3910 | 2.51 | |
| 3+55 | 0.4089 | 2.60 | |
| 4+ 0 | 0.4277 | 2.72 | |
| 4+ 5 | 0.4470 | 2.81 | |
| 4+10 | 0.4677 | 3.00 | |
| 4+15 | 0.4898 | 3.21 | |
| 4+20 | 0.5133 | 3.41 | |
| 4+25 | 0.5383 | 3.62 | |
| 4+30 | 0.5642 | 3.76 | |
| 4+35 | 0.5907 | 3.86 | |
| 4+40 | 0.6186 | 4.05 | |
| 4+45 | 0.6478 | 4.25 | |
| 4+50 | 0.6780 | 4.38 | |
| 4+55 | 0.7089 | 4.48 | |
| 5+ 0 | 0.7411 | 4.67 | |
| 5+ 5 | 0.7767 | 5.18 | |
| 5+10 | 0.8189 | 6.12 | |
| 5+15 | 0.8671 | 7.00 | |
| 5+20 | 0.9200 | 7.67 | |
| 5+25 | 0.9782 | 8.46 | |
| 5+30 | 1.0454 | 9.75 | |
| 5+35 | 1.1010 | 8.08 | |
| 5+40 | 1.1248 | 3.46 | |
| 5+45 | 1.1348 | 1.44 | |
| 5+50 | 1.1397 | 0.72 | |
| 5+55 | 1.1422 | 0.35 | |
| 6+ 0 | 1.1429 | 0.11 | |
| 6+ 5 | 1.1432 | 0.04 | |
| 6+10 | 1.1432 | 0.01 | |
| 6+15 | 1.1432 | 0.00 | |
| 6+20 | 1.1432 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX1324100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 13
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 6.90(Ac.) = 0.011 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 6.90(Ac.) = 0.011 Sq. Mi.
Length along longest watercourse = 1106.00(Ft.)
Length along longest watercourse measured to centroid = 604.00(Ft.)
Length along longest watercourse = 0.209 Mi.
Length along longest watercourse measured to centroid = 0.114 Mi.
Difference in elevation = 388.00(Ft.)
Slope along watercourse = 1852.2966 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.049 Hr.
Lag time = 2.92 Min.
25% of lag time = 0.73 Min.
40% of lag time = 1.17 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.90 | 1.80 | 12.42 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.90 | 4.54 | 31.33 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.540(In)

Point rain (area averaged) = 4.540(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.540(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 6.900 | 84.00 | 0.000 |

Total Area Entered = 6.90(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 171.074 | 35.947 | 2.500 |
| 2 | 0.167 | 342.149 | 52.639 | 3.660 |
| 3 | 0.250 | 513.223 | 9.425 | 0.655 |
| 4 | 0.333 | 684.298 | 1.597 | 0.111 |
| 5 | 0.417 | 855.372 | 0.392 | 0.027 |
| | | | Sum = 100.000 Sum= | 6.954 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.036 | ( 0.152) | 0.033 | 0.004 |
| 2 | 0.17 | 0.07 | 0.036 | ( 0.152) | 0.033 | 0.004 |
| 3 | 0.25 | 0.07 | 0.036 | ( 0.151) | 0.033 | 0.004 |
| 4 | 0.33 | 0.10 | 0.054 | ( 0.150) | 0.049 | 0.005 |
| 5 | 0.42 | 0.10 | 0.054 | ( 0.150) | 0.049 | 0.005 |
| 6 | 0.50 | 0.10 | 0.054 | ( 0.149) | 0.049 | 0.005 |
| 7 | 0.58 | 0.10 | 0.054 | ( 0.149) | 0.049 | 0.005 |
| 8 | 0.67 | 0.10 | 0.054 | ( 0.148) | 0.049 | 0.005 |
| 9 | 0.75 | 0.10 | 0.054 | ( 0.147) | 0.049 | 0.005 |
| 10 | 0.83 | 0.13 | 0.073 | ( 0.147) | 0.065 | 0.007 |
| 11 | 0.92 | 0.13 | 0.073 | ( 0.146) | 0.065 | 0.007 |
| 12 | 1.00 | 0.13 | 0.073 | ( 0.146) | 0.065 | 0.007 |
| 13 | 1.08 | 0.10 | 0.054 | ( 0.145) | 0.049 | 0.005 |
| 14 | 1.17 | 0.10 | 0.054 | ( 0.145) | 0.049 | 0.005 |
| 15 | 1.25 | 0.10 | 0.054 | ( 0.144) | 0.049 | 0.005 |
| 16 | 1.33 | 0.10 | 0.054 | ( 0.143) | 0.049 | 0.005 |
| 17 | 1.42 | 0.10 | 0.054 | ( 0.143) | 0.049 | 0.005 |
| 18 | 1.50 | 0.10 | 0.054 | ( 0.142) | 0.049 | 0.005 |
| 19 | 1.58 | 0.10 | 0.054 | ( 0.142) | 0.049 | 0.005 |
| 20 | 1.67 | 0.10 | 0.054 | ( 0.141) | 0.049 | 0.005 |
| 21 | 1.75 | 0.10 | 0.054 | ( 0.141) | 0.049 | 0.005 |
| 22 | 1.83 | 0.13 | 0.073 | ( 0.140) | 0.065 | 0.007 |
| 23 | 1.92 | 0.13 | 0.073 | ( 0.139) | 0.065 | 0.007 |
| 24 | 2.00 | 0.13 | 0.073 | ( 0.139) | 0.065 | 0.007 |
| 25 | 2.08 | 0.13 | 0.073 | ( 0.138) | 0.065 | 0.007 |
| 26 | 2.17 | 0.13 | 0.073 | ( 0.138) | 0.065 | 0.007 |
| 27 | 2.25 | 0.13 | 0.073 | ( 0.137) | 0.065 | 0.007 |
| 28 | 2.33 | 0.13 | 0.073 | ( 0.137) | 0.065 | 0.007 |
| 29 | 2.42 | 0.13 | 0.073 | ( 0.136) | 0.065 | 0.007 |
| 30 | 2.50 | 0.13 | 0.073 | ( 0.136) | 0.065 | 0.007 |
| 31 | 2.58 | 0.17 | 0.091 | ( 0.135) | 0.082 | 0.009 |
| 32 | 2.67 | 0.17 | 0.091 | ( 0.134) | 0.082 | 0.009 |
| 33 | 2.75 | 0.17 | 0.091 | ( 0.134) | 0.082 | 0.009 |
| 34 | 2.83 | 0.17 | 0.091 | ( 0.133) | 0.082 | 0.009 |
| 35 | 2.92 | 0.17 | 0.091 | ( 0.133) | 0.082 | 0.009 |
| 36 | 3.00 | 0.17 | 0.091 | ( 0.132) | 0.082 | 0.009 |
| 37 | 3.08 | 0.17 | 0.091 | ( 0.132) | 0.082 | 0.009 |
| 38 | 3.17 | 0.17 | 0.091 | ( 0.131) | 0.082 | 0.009 |
| 39 | 3.25 | 0.17 | 0.091 | ( 0.131) | 0.082 | 0.009 |
| 40 | 3.33 | 0.17 | 0.091 | ( 0.130) | 0.082 | 0.009 |
| 41 | 3.42 | 0.17 | 0.091 | ( 0.129) | 0.082 | 0.009 |
| 42 | 3.50 | 0.17 | 0.091 | ( 0.129) | 0.082 | 0.009 |
| 43 | 3.58 | 0.17 | 0.091 | ( 0.128) | 0.082 | 0.009 |
| 44 | 3.67 | 0.17 | 0.091 | ( 0.128) | 0.082 | 0.009 |
| 45 | 3.75 | 0.17 | 0.091 | ( 0.127) | 0.082 | 0.009 |
| 46 | 3.83 | 0.20 | 0.109 | ( 0.127) | 0.098 | 0.011 |
| 47 | 3.92 | 0.20 | 0.109 | ( 0.126) | 0.098 | 0.011 |
| 48 | 4.00 | 0.20 | 0.109 | ( 0.126) | 0.098 | 0.011 |
| 49 | 4.08 | 0.20 | 0.109 | ( 0.125) | 0.098 | 0.011 |
| 50 | 4.17 | 0.20 | 0.109 | ( 0.125) | 0.098 | 0.011 |
| 51 | 4.25 | 0.20 | 0.109 | ( 0.124) | 0.098 | 0.011 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 52 | 4.33 | 0.23 | 0.127 | ( | 0.124) | 0.114 | | 0.013 |
| 53 | 4.42 | 0.23 | 0.127 | ( | 0.123) | 0.114 | | 0.013 |
| 54 | 4.50 | 0.23 | 0.127 | ( | 0.123) | 0.114 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.127 | ( | 0.122) | 0.114 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.127 | ( | 0.121) | 0.114 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.127 | ( | 0.121) | 0.114 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.145 | | 0.120 | ( 0.131) | | 0.025 |
| 59 | 4.92 | 0.27 | 0.145 | | 0.120 | ( 0.131) | | 0.025 |
| 60 | 5.00 | 0.27 | 0.145 | | 0.119 | ( 0.131) | | 0.026 |
| 61 | 5.08 | 0.20 | 0.109 | ( | 0.119) | 0.098 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.109 | ( | 0.118) | 0.098 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.109 | ( | 0.118) | 0.098 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.127 | ( | 0.117) | 0.114 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.127 | ( | 0.117) | 0.114 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.127 | ( | 0.116) | 0.114 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.145 | | 0.116 | ( 0.131) | | 0.029 |
| 68 | 5.67 | 0.27 | 0.145 | | 0.115 | ( 0.131) | | 0.030 |
| 69 | 5.75 | 0.27 | 0.145 | | 0.115 | ( 0.131) | | 0.031 |
| 70 | 5.83 | 0.27 | 0.145 | | 0.114 | ( 0.131) | | 0.031 |
| 71 | 5.92 | 0.27 | 0.145 | | 0.114 | ( 0.131) | | 0.032 |
| 72 | 6.00 | 0.27 | 0.145 | | 0.113 | ( 0.131) | | 0.032 |
| 73 | 6.08 | 0.30 | 0.163 | | 0.113 | ( 0.147) | | 0.051 |
| 74 | 6.17 | 0.30 | 0.163 | | 0.112 | ( 0.147) | | 0.051 |
| 75 | 6.25 | 0.30 | 0.163 | | 0.112 | ( 0.147) | | 0.052 |
| 76 | 6.33 | 0.30 | 0.163 | | 0.111 | ( 0.147) | | 0.052 |
| 77 | 6.42 | 0.30 | 0.163 | | 0.111 | ( 0.147) | | 0.053 |
| 78 | 6.50 | 0.30 | 0.163 | | 0.110 | ( 0.147) | | 0.053 |
| 79 | 6.58 | 0.33 | 0.182 | | 0.110 | ( 0.163) | | 0.072 |
| 80 | 6.67 | 0.33 | 0.182 | | 0.109 | ( 0.163) | | 0.072 |
| 81 | 6.75 | 0.33 | 0.182 | | 0.109 | ( 0.163) | | 0.073 |
| 82 | 6.83 | 0.33 | 0.182 | | 0.108 | ( 0.163) | | 0.073 |
| 83 | 6.92 | 0.33 | 0.182 | | 0.108 | ( 0.163) | | 0.074 |
| 84 | 7.00 | 0.33 | 0.182 | | 0.107 | ( 0.163) | | 0.074 |
| 85 | 7.08 | 0.33 | 0.182 | | 0.107 | ( 0.163) | | 0.075 |
| 86 | 7.17 | 0.33 | 0.182 | | 0.106 | ( 0.163) | | 0.075 |
| 87 | 7.25 | 0.33 | 0.182 | | 0.106 | ( 0.163) | | 0.076 |
| 88 | 7.33 | 0.37 | 0.200 | | 0.105 | ( 0.180) | | 0.094 |
| 89 | 7.42 | 0.37 | 0.200 | | 0.105 | ( 0.180) | | 0.095 |
| 90 | 7.50 | 0.37 | 0.200 | | 0.104 | ( 0.180) | | 0.095 |
| 91 | 7.58 | 0.40 | 0.218 | | 0.104 | ( 0.196) | | 0.114 |
| 92 | 7.67 | 0.40 | 0.218 | | 0.103 | ( 0.196) | | 0.114 |
| 93 | 7.75 | 0.40 | 0.218 | | 0.103 | ( 0.196) | | 0.115 |
| 94 | 7.83 | 0.43 | 0.236 | | 0.102 | ( 0.212) | | 0.134 |
| 95 | 7.92 | 0.43 | 0.236 | | 0.102 | ( 0.212) | | 0.134 |
| 96 | 8.00 | 0.43 | 0.236 | | 0.102 | ( 0.212) | | 0.135 |
| 97 | 8.08 | 0.50 | 0.272 | | 0.101 | ( 0.245) | | 0.171 |
| 98 | 8.17 | 0.50 | 0.272 | | 0.101 | ( 0.245) | | 0.172 |
| 99 | 8.25 | 0.50 | 0.272 | | 0.100 | ( 0.245) | | 0.172 |
| 100 | 8.33 | 0.50 | 0.272 | | 0.100 | ( 0.245) | | 0.173 |
| 101 | 8.42 | 0.50 | 0.272 | | 0.099 | ( 0.245) | | 0.173 |
| 102 | 8.50 | 0.50 | 0.272 | | 0.099 | ( 0.245) | | 0.174 |
| 103 | 8.58 | 0.53 | 0.291 | | 0.098 | ( 0.262) | | 0.192 |
| 104 | 8.67 | 0.53 | 0.291 | | 0.098 | ( 0.262) | | 0.193 |
| 105 | 8.75 | 0.53 | 0.291 | | 0.097 | ( 0.262) | | 0.193 |
| 106 | 8.83 | 0.57 | 0.309 | | 0.097 | ( 0.278) | | 0.212 |
| 107 | 8.92 | 0.57 | 0.309 | | 0.096 | ( 0.278) | | 0.212 |
| 108 | 9.00 | 0.57 | 0.309 | | 0.096 | ( 0.278) | | 0.213 |
| 109 | 9.08 | 0.63 | 0.345 | | 0.096 | ( 0.311) | | 0.250 |
| 110 | 9.17 | 0.63 | 0.345 | | 0.095 | ( 0.311) | | 0.250 |
| 111 | 9.25 | 0.63 | 0.345 | | 0.095 | ( 0.311) | | 0.250 |
| 112 | 9.33 | 0.67 | 0.363 | | 0.094 | ( 0.327) | | 0.269 |
| 113 | 9.42 | 0.67 | 0.363 | | 0.094 | ( 0.327) | | 0.269 |
| 114 | 9.50 | 0.67 | 0.363 | | 0.093 | ( 0.327) | | 0.270 |
| 115 | 9.58 | 0.70 | 0.381 | | 0.093 | ( 0.343) | | 0.289 |
| 116 | 9.67 | 0.70 | 0.381 | | 0.092 | ( 0.343) | | 0.289 |
| 117 | 9.75 | 0.70 | 0.381 | | 0.092 | ( 0.343) | | 0.289 |
| 118 | 9.83 | 0.73 | 0.400 | | 0.091 | ( 0.360) | | 0.308 |
| 119 | 9.92 | 0.73 | 0.400 | | 0.091 | ( 0.360) | | 0.308 |
| 120 | 10.00 | 0.73 | 0.400 | | 0.091 | ( 0.360) | | 0.309 |
| 121 | 10.08 | 0.50 | 0.272 | | 0.090 | ( 0.245) | | 0.182 |
| 122 | 10.17 | 0.50 | 0.272 | | 0.090 | ( 0.245) | | 0.183 |
| 123 | 10.25 | 0.50 | 0.272 | | 0.089 | ( 0.245) | | 0.183 |
| 124 | 10.33 | 0.50 | 0.272 | | 0.089 | ( 0.245) | | 0.184 |
| 125 | 10.42 | 0.50 | 0.272 | | 0.088 | ( 0.245) | | 0.184 |
| 126 | 10.50 | 0.50 | 0.272 | | 0.088 | ( 0.245) | | 0.184 |
| 127 | 10.58 | 0.67 | 0.363 | | 0.088 | ( 0.327) | | 0.276 |
| 128 | 10.67 | 0.67 | 0.363 | | 0.087 | ( 0.327) | | 0.276 |
| 129 | 10.75 | 0.67 | 0.363 | | 0.087 | ( 0.327) | | 0.276 |

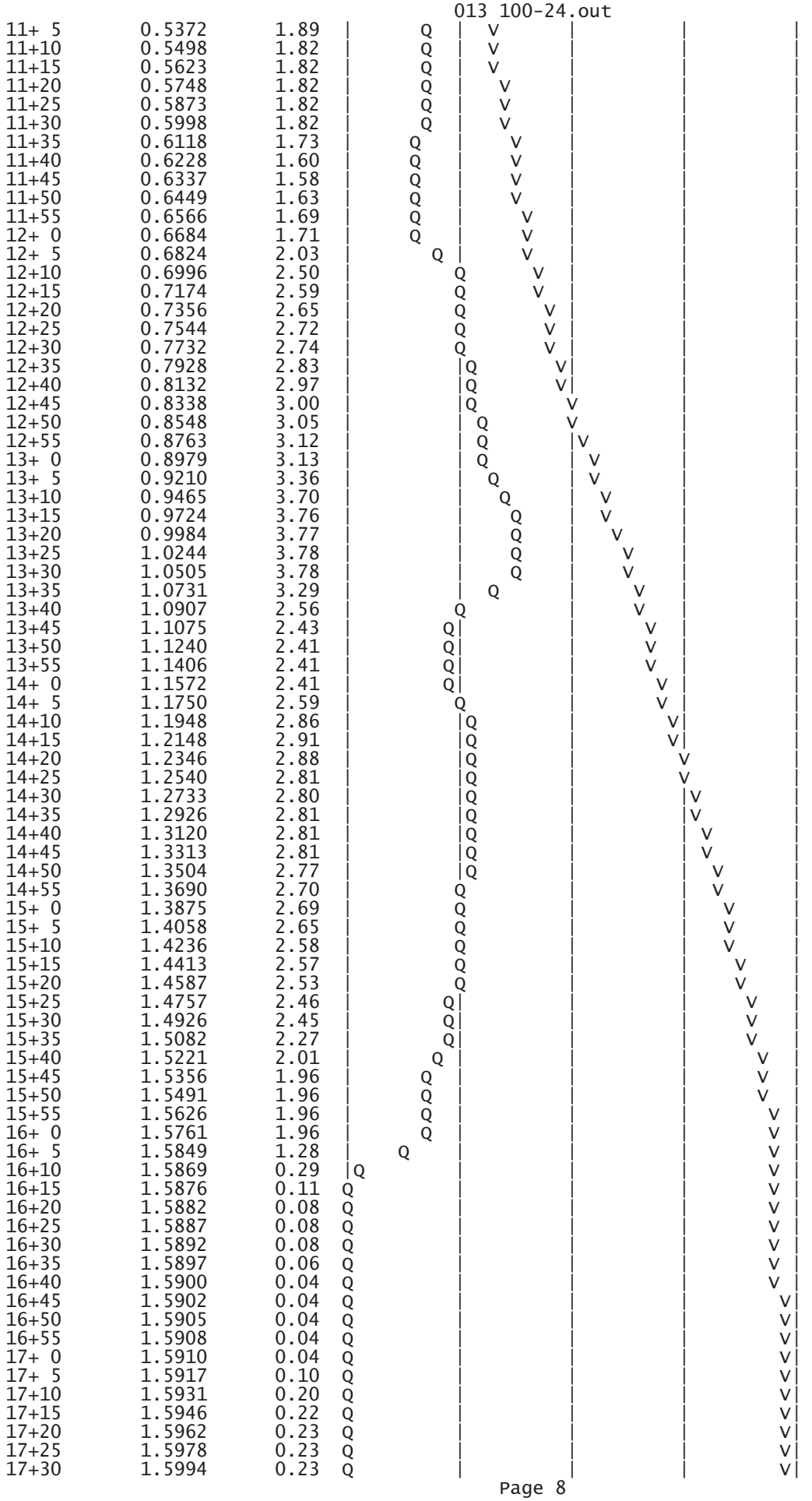
| | | | | | | |
|---|---|---|---|---|---|---|
| 130 | 10.83 | 0.67 | 0.363 | 0.086 | ( 0.327) | 0.277 |
| 131 | 10.92 | 0.67 | 0.363 | 0.086 | ( 0.327) | 0.277 |
| 132 | 11.00 | 0.67 | 0.363 | 0.085 | ( 0.327) | 0.278 |
| 133 | 11.08 | 0.63 | 0.345 | 0.085 | ( 0.311) | 0.260 |
| 134 | 11.17 | 0.63 | 0.345 | 0.085 | ( 0.311) | 0.260 |
| 135 | 11.25 | 0.63 | 0.345 | 0.084 | ( 0.311) | 0.261 |
| 136 | 11.33 | 0.63 | 0.345 | 0.084 | ( 0.311) | 0.261 |
| 137 | 11.42 | 0.63 | 0.345 | 0.083 | ( 0.311) | 0.262 |
| 138 | 11.50 | 0.63 | 0.345 | 0.083 | ( 0.311) | 0.262 |
| 139 | 11.58 | 0.57 | 0.309 | 0.083 | ( 0.278) | 0.226 |
| 140 | 11.67 | 0.57 | 0.309 | 0.082 | ( 0.278) | 0.227 |
| 141 | 11.75 | 0.57 | 0.309 | 0.082 | ( 0.278) | 0.227 |
| 142 | 11.83 | 0.60 | 0.327 | 0.081 | ( 0.294) | 0.246 |
| 143 | 11.92 | 0.60 | 0.327 | 0.081 | ( 0.294) | 0.246 |
| 144 | 12.00 | 0.60 | 0.327 | 0.080 | ( 0.294) | 0.246 |
| 145 | 12.08 | 0.83 | 0.454 | 0.080 | ( 0.409) | 0.374 |
| 146 | 12.17 | 0.83 | 0.454 | 0.080 | ( 0.409) | 0.374 |
| 147 | 12.25 | 0.83 | 0.454 | 0.079 | ( 0.409) | 0.375 |
| 148 | 12.33 | 0.87 | 0.472 | 0.079 | ( 0.425) | 0.393 |
| 149 | 12.42 | 0.87 | 0.472 | 0.078 | ( 0.425) | 0.394 |
| 150 | 12.50 | 0.87 | 0.472 | 0.078 | ( 0.425) | 0.394 |
| 151 | 12.58 | 0.93 | 0.508 | 0.078 | ( 0.458) | 0.431 |
| 152 | 12.67 | 0.93 | 0.508 | 0.077 | ( 0.458) | 0.431 |
| 153 | 12.75 | 0.93 | 0.508 | 0.077 | ( 0.458) | 0.432 |
| 154 | 12.83 | 0.97 | 0.527 | 0.077 | ( 0.474) | 0.450 |
| 155 | 12.92 | 0.97 | 0.527 | 0.076 | ( 0.474) | 0.450 |
| 156 | 13.00 | 0.97 | 0.527 | 0.076 | ( 0.474) | 0.451 |
| 157 | 13.08 | 1.13 | 0.617 | 0.075 | ( 0.556) | 0.542 |
| 158 | 13.17 | 1.13 | 0.617 | 0.075 | ( 0.556) | 0.542 |
| 159 | 13.25 | 1.13 | 0.617 | 0.075 | ( 0.556) | 0.543 |
| 160 | 13.33 | 1.13 | 0.617 | 0.074 | ( 0.556) | 0.543 |
| 161 | 13.42 | 1.13 | 0.617 | 0.074 | ( 0.556) | 0.544 |
| 162 | 13.50 | 1.13 | 0.617 | 0.073 | ( 0.556) | 0.544 |
| 163 | 13.58 | 0.77 | 0.418 | 0.073 | ( 0.376) | 0.345 |
| 164 | 13.67 | 0.77 | 0.418 | 0.073 | ( 0.376) | 0.345 |
| 165 | 13.75 | 0.77 | 0.418 | 0.072 | ( 0.376) | 0.345 |
| 166 | 13.83 | 0.77 | 0.418 | 0.072 | ( 0.376) | 0.346 |
| 167 | 13.92 | 0.77 | 0.418 | 0.072 | ( 0.376) | 0.346 |
| 168 | 14.00 | 0.77 | 0.418 | 0.071 | ( 0.376) | 0.346 |
| 169 | 14.08 | 0.90 | 0.490 | 0.071 | ( 0.441) | 0.419 |
| 170 | 14.17 | 0.90 | 0.490 | 0.071 | ( 0.441) | 0.420 |
| 171 | 14.25 | 0.90 | 0.490 | 0.070 | ( 0.441) | 0.420 |
| 172 | 14.33 | 0.87 | 0.472 | 0.070 | ( 0.425) | 0.402 |
| 173 | 14.42 | 0.87 | 0.472 | 0.069 | ( 0.425) | 0.403 |
| 174 | 14.50 | 0.87 | 0.472 | 0.069 | ( 0.425) | 0.403 |
| 175 | 14.58 | 0.87 | 0.472 | 0.069 | ( 0.425) | 0.403 |
| 176 | 14.67 | 0.87 | 0.472 | 0.068 | ( 0.425) | 0.404 |
| 177 | 14.75 | 0.87 | 0.472 | 0.068 | ( 0.425) | 0.404 |
| 178 | 14.83 | 0.83 | 0.454 | 0.068 | ( 0.409) | 0.386 |
| 179 | 14.92 | 0.83 | 0.454 | 0.067 | ( 0.409) | 0.387 |
| 180 | 15.00 | 0.83 | 0.454 | 0.067 | ( 0.409) | 0.387 |
| 181 | 15.08 | 0.80 | 0.436 | 0.067 | ( 0.392) | 0.369 |
| 182 | 15.17 | 0.80 | 0.436 | 0.066 | ( 0.392) | 0.370 |
| 183 | 15.25 | 0.80 | 0.436 | 0.066 | ( 0.392) | 0.370 |
| 184 | 15.33 | 0.77 | 0.418 | 0.066 | ( 0.376) | 0.352 |
| 185 | 15.42 | 0.77 | 0.418 | 0.065 | ( 0.376) | 0.352 |
| 186 | 15.50 | 0.77 | 0.418 | 0.065 | ( 0.376) | 0.353 |
| 187 | 15.58 | 0.63 | 0.345 | 0.065 | ( 0.311) | 0.280 |
| 188 | 15.67 | 0.63 | 0.345 | 0.064 | ( 0.311) | 0.281 |
| 189 | 15.75 | 0.63 | 0.345 | 0.064 | ( 0.311) | 0.281 |
| 190 | 15.83 | 0.63 | 0.345 | 0.064 | ( 0.311) | 0.281 |
| 191 | 15.92 | 0.63 | 0.345 | 0.063 | ( 0.311) | 0.282 |
| 192 | 16.00 | 0.63 | 0.345 | 0.063 | ( 0.311) | 0.282 |
| 193 | 16.08 | 0.13 | 0.073 | 0.063 | ( 0.065) | 0.010 |
| 194 | 16.17 | 0.13 | 0.073 | 0.062 | ( 0.065) | 0.010 |
| 195 | 16.25 | 0.13 | 0.073 | 0.062 | ( 0.065) | 0.011 |
| 196 | 16.33 | 0.13 | 0.073 | 0.062 | ( 0.065) | 0.011 |
| 197 | 16.42 | 0.13 | 0.073 | 0.061 | ( 0.065) | 0.011 |
| 198 | 16.50 | 0.13 | 0.073 | 0.061 | ( 0.065) | 0.012 |
| 199 | 16.58 | 0.10 | 0.054 | ( 0.061) | 0.049 | 0.005 |
| 200 | 16.67 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 201 | 16.75 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 202 | 16.83 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 203 | 16.92 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 204 | 17.00 | 0.10 | 0.054 | ( 0.059) | 0.049 | 0.005 |
| 205 | 17.08 | 0.17 | 0.091 | 0.059 | ( 0.082) | 0.032 |
| 206 | 17.17 | 0.17 | 0.091 | 0.059 | ( 0.082) | 0.032 |
| 207 | 17.25 | 0.17 | 0.091 | 0.058 | ( 0.082) | 0.032 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 208 | 17.33 | 0.17 | 0.091 | | 0.058 | ( | 0.082) | 0.033 |
| 209 | 17.42 | 0.17 | 0.091 | | 0.058 | ( | 0.082) | 0.033 |
| 210 | 17.50 | 0.17 | 0.091 | | 0.058 | ( | 0.082) | 0.033 |
| 211 | 17.58 | 0.17 | 0.091 | | 0.057 | ( | 0.082) | 0.034 |
| 212 | 17.67 | 0.17 | 0.091 | | 0.057 | ( | 0.082) | 0.034 |
| 213 | 17.75 | 0.17 | 0.091 | | 0.057 | ( | 0.082) | 0.034 |
| 214 | 17.83 | 0.13 | 0.073 | | 0.056 | ( | 0.065) | 0.016 |
| 215 | 17.92 | 0.13 | 0.073 | | 0.056 | ( | 0.065) | 0.017 |
| 216 | 18.00 | 0.13 | 0.073 | | 0.056 | ( | 0.065) | 0.017 |
| 217 | 18.08 | 0.13 | 0.073 | | 0.056 | ( | 0.065) | 0.017 |
| 218 | 18.17 | 0.13 | 0.073 | | 0.055 | ( | 0.065) | 0.017 |
| 219 | 18.25 | 0.13 | 0.073 | | 0.055 | ( | 0.065) | 0.018 |
| 220 | 18.33 | 0.13 | 0.073 | | 0.055 | ( | 0.065) | 0.018 |
| 221 | 18.42 | 0.13 | 0.073 | | 0.054 | ( | 0.065) | 0.018 |
| 222 | 18.50 | 0.13 | 0.073 | | 0.054 | ( | 0.065) | 0.018 |
| 223 | 18.58 | 0.10 | 0.054 | ( | 0.054) | | 0.049 | 0.005 |
| 224 | 18.67 | 0.10 | 0.054 | ( | 0.054) | | 0.049 | 0.005 |
| 225 | 18.75 | 0.10 | 0.054 | ( | 0.053) | | 0.049 | 0.005 |
| 226 | 18.83 | 0.07 | 0.036 | ( | 0.053) | | 0.033 | 0.004 |
| 227 | 18.92 | 0.07 | 0.036 | ( | 0.053) | | 0.033 | 0.004 |
| 228 | 19.00 | 0.07 | 0.036 | ( | 0.053) | | 0.033 | 0.004 |
| 229 | 19.08 | 0.10 | 0.054 | ( | 0.052) | | 0.049 | 0.005 |
| 230 | 19.17 | 0.10 | 0.054 | ( | 0.052) | | 0.049 | 0.005 |
| 231 | 19.25 | 0.10 | 0.054 | ( | 0.052) | | 0.049 | 0.005 |
| 232 | 19.33 | 0.13 | 0.073 | | 0.052 | ( | 0.065) | 0.021 |
| 233 | 19.42 | 0.13 | 0.073 | | 0.051 | ( | 0.065) | 0.021 |
| 234 | 19.50 | 0.13 | 0.073 | | 0.051 | ( | 0.065) | 0.021 |
| 235 | 19.58 | 0.10 | 0.054 | ( | 0.051) | | 0.049 | 0.005 |
| 236 | 19.67 | 0.10 | 0.054 | ( | 0.051) | | 0.049 | 0.005 |
| 237 | 19.75 | 0.10 | 0.054 | ( | 0.050) | | 0.049 | 0.005 |
| 238 | 19.83 | 0.07 | 0.036 | ( | 0.050) | | 0.033 | 0.004 |
| 239 | 19.92 | 0.07 | 0.036 | ( | 0.050) | | 0.033 | 0.004 |
| 240 | 20.00 | 0.07 | 0.036 | ( | 0.050) | | 0.033 | 0.004 |
| 241 | 20.08 | 0.10 | 0.054 | ( | 0.050) | | 0.049 | 0.005 |
| 242 | 20.17 | 0.10 | 0.054 | ( | 0.049) | | 0.049 | 0.005 |
| 243 | 20.25 | 0.10 | 0.054 | ( | 0.049) | | 0.049 | 0.005 |
| 244 | 20.33 | 0.10 | 0.054 | | 0.049 | ( | 0.049) | 0.006 |
| 245 | 20.42 | 0.10 | 0.054 | | 0.049 | ( | 0.049) | 0.006 |
| 246 | 20.50 | 0.10 | 0.054 | | 0.049 | ( | 0.049) | 0.006 |
| 247 | 20.58 | 0.10 | 0.054 | | 0.048 | ( | 0.049) | 0.006 |
| 248 | 20.67 | 0.10 | 0.054 | | 0.048 | ( | 0.049) | 0.006 |
| 249 | 20.75 | 0.10 | 0.054 | | 0.048 | ( | 0.049) | 0.007 |
| 250 | 20.83 | 0.07 | 0.036 | ( | 0.048) | | 0.033 | 0.004 |
| 251 | 20.92 | 0.07 | 0.036 | ( | 0.048) | | 0.033 | 0.004 |
| 252 | 21.00 | 0.07 | 0.036 | ( | 0.047) | | 0.033 | 0.004 |
| 253 | 21.08 | 0.10 | 0.054 | | 0.047 | ( | 0.049) | 0.007 |
| 254 | 21.17 | 0.10 | 0.054 | | 0.047 | ( | 0.049) | 0.007 |
| 255 | 21.25 | 0.10 | 0.054 | | 0.047 | ( | 0.049) | 0.008 |
| 256 | 21.33 | 0.07 | 0.036 | ( | 0.047) | | 0.033 | 0.004 |
| 257 | 21.42 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 258 | 21.50 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 259 | 21.58 | 0.10 | 0.054 | | 0.046 | ( | 0.049) | 0.008 |
| 260 | 21.67 | 0.10 | 0.054 | | 0.046 | ( | 0.049) | 0.009 |
| 261 | 21.75 | 0.10 | 0.054 | | 0.046 | ( | 0.049) | 0.009 |
| 262 | 21.83 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 263 | 21.92 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 264 | 22.00 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 265 | 22.08 | 0.10 | 0.054 | | 0.045 | ( | 0.049) | 0.009 |
| 266 | 22.17 | 0.10 | 0.054 | | 0.045 | ( | 0.049) | 0.009 |
| 267 | 22.25 | 0.10 | 0.054 | | 0.045 | ( | 0.049) | 0.010 |
| 268 | 22.33 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 269 | 22.42 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 270 | 22.50 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 271 | 22.58 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 272 | 22.67 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 273 | 22.75 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 274 | 22.83 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 275 | 22.92 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 276 | 23.00 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 277 | 23.08 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 278 | 23.17 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 279 | 23.25 | 0.07 | 0.036 | ( | 0.043) | | 0.033 | 0.004 |
| 280 | 23.33 | 0.07 | 0.036 | ( | 0.043) | | 0.033 | 0.004 |
| 281 | 23.42 | 0.07 | 0.036 | ( | 0.043) | | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.036 | ( | 0.043) | | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.036 | ( | 0.043) | | 0.033 | 0.004 |
| 284 | 23.67 | 0.07 | 0.036 | ( | 0.043) | | 0.033 | 0.004 |
| 285 | 23.75 | 0.07 | 0.036 | ( | 0.043) | | 0.033 | 0.004 |

```
286  23.83     0.07      0.036       (  0.043)       0.033        0.004
287  23.92     0.07      0.036       (  0.043)       0.033        0.004
288  24.00     0.07      0.036       (  0.043)       0.033        0.004
              (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    34.0
       Flood volume = Effective rainfall      2.84(In)
        times area       6.9(Ac.)/[(In)/(Ft.)] =       1.6(Ac.Ft)
       Total soil loss =      1.70(In)
       Total soil loss =     0.980(Ac.Ft)
       Total rainfall =      4.54(In)
       Flood volume =       71037.9 Cubic Feet
       Total soil loss =       42674.0 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =      3.782(CFS)
       ---------------------------------------------------------------------
       +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
       ---------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))

       ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5       10.0
 ----------------------------------------------------------------------------
   0+ 5       0.0001      0.01  Q          |         |         |         |
   0+10       0.0002      0.02  Q          |         |         |         |
   0+15       0.0004      0.02  Q          |         |         |         |
   0+20       0.0006      0.03  Q          |         |         |         |
   0+25       0.0008      0.04  Q          |         |         |         |
   0+30       0.0011      0.04  Q          |         |         |         |
   0+35       0.0014      0.04  Q          |         |         |         |
   0+40       0.0016      0.04  Q          |         |         |         |
   0+45       0.0019      0.04  Q          |         |         |         |
   0+50       0.0022      0.04  Q          |         |         |         |
   0+55       0.0025      0.05  Q          |         |         |         |
   1+ 0       0.0029      0.05  Q          |         |         |         |
   1+ 5       0.0032      0.05  Q          |         |         |         |
   1+10       0.0034      0.04  Q          |         |         |         |
   1+15       0.0037      0.04  Q          |         |         |         |
   1+20       0.0040      0.04  Q          |         |         |         |
   1+25       0.0042      0.04  Q          |         |         |         |
   1+30       0.0045      0.04  Q          |         |         |         |
   1+35       0.0048      0.04  Q          |         |         |         |
   1+40       0.0050      0.04  Q          |         |         |         |
   1+45       0.0053      0.04  Q          |         |         |         |
   1+50       0.0056      0.04  Q          |         |         |         |
   1+55       0.0059      0.05  Q          |         |         |         |
   2+ 0       0.0063      0.05  Q          |         |         |         |
   2+ 5       0.0066      0.05  Q          |         |         |         |
   2+10       0.0070      0.05  Q          |         |         |         |
   2+15       0.0073      0.05  Q          |         |         |         |
   2+20       0.0076      0.05  Q          |         |         |         |
   2+25       0.0080      0.05  Q          |         |         |         |
   2+30       0.0083      0.05  Q          |         |         |         |
   2+35       0.0087      0.06  Q          |         |         |         |
   2+40       0.0091      0.06  Q          |         |         |         |
   2+45       0.0096      0.06  Q          |         |         |         |
   2+50       0.0100      0.06  Q          |         |         |         |
   2+55       0.0105      0.06  Q          |         |         |         |
   3+ 0       0.0109      0.06  Q          |         |         |         |
   3+ 5       0.0113      0.06  Q          |         |         |         |
   3+10       0.0118      0.06  Q          |         |         |         |
   3+15       0.0122      0.06  Q          |         |         |         |
   3+20       0.0126      0.06  Q          |         |         |         |
   3+25       0.0131      0.06  Q          |         |         |         |
   3+30       0.0135      0.06  Q          |         |         |         |
   3+35       0.0139      0.06  Q          |         |         |         |
   3+40       0.0144      0.06  Q          |         |         |         |
   3+45       0.0148      0.06  Q          |         |         |         |
   3+50       0.0153      0.07  Q          |         |         |         |
   3+55       0.0158      0.07  Q          |         |         |         |
   4+ 0       0.0163      0.08  Q          |         |         |         |
   4+ 5       0.0168      0.08  Q          |         |         |         |
   4+10       0.0173      0.08  Q          |         |         |         |
   4+15       0.0179      0.08  Q          |         |         |         |
   4+20       0.0184      0.08  Q          |         |         |         |
   4+25       0.0190      0.09  Q          |         |         |         |
   4+30       0.0196      0.09  Q          |         |         |         |
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 4+35       0.0202      0.09  Q          |          |          |          |
 4+40       0.0208      0.09  Q          |          |          |          |
 4+45       0.0215      0.09  Q          |          |          |          |
 4+50       0.0223      0.12  Q          |          |          |          |
 4+55       0.0234      0.16  Q          |          |          |          |
 5+ 0       0.0246      0.18  Q          |          |          |          |
 5+ 5       0.0256      0.14  Q          |          |          |          |
 5+10       0.0262      0.09  Q          |          |          |          |
 5+15       0.0267      0.08  Q          |          |          |          |
 5+20       0.0273      0.08  Q          |          |          |          |
 5+25       0.0279      0.09  Q          |          |          |          |
 5+30       0.0285      0.09  Q          |          |          |          |
 5+35       0.0294      0.13  Q          |          |          |          |
 5+40       0.0307      0.19  Q          |          |          |          |
 5+45       0.0321      0.21  Q          |          |          |          |
 5+50       0.0336      0.21  Q          |          |          |          |
 5+55       0.0351      0.22  Q          |          |          |          |
 6+ 0       0.0366      0.22  Q          |          |          |          |
 6+ 5       0.0385      0.27  VQ         |          |          |          |
 6+10       0.0408      0.34  |Q         |          |          |          |
 6+15       0.0432      0.35  |Q         |          |          |          |
 6+20       0.0457      0.36  |Q         |          |          |          |
 6+25       0.0482      0.36  |Q         |          |          |          |
 6+30       0.0508      0.37  |Q         |          |          |          |
 6+35       0.0536      0.42  |Q         |          |          |          |
 6+40       0.0570      0.49  |Q         |          |          |          |
 6+45       0.0604      0.50  |VQ        |          |          |          |
 6+50       0.0639      0.51  |VQ        |          |          |          |
 6+55       0.0674      0.51  |VQ        |          |          |          |
 7+ 0       0.0710      0.51  |VQ        |          |          |          |
 7+ 5       0.0745      0.52  |VQ        |          |          |          |
 7+10       0.0781      0.52  |VQ        |          |          |          |
 7+15       0.0817      0.52  | Q        |          |          |          |
 7+20       0.0857      0.57  | Q        |          |          |          |
 7+25       0.0901      0.64  | Q        |          |          |          |
 7+30       0.0947      0.66  | Q        |          |          |          |
 7+35       0.0995      0.71  | Q        |          |          |          |
 7+40       0.1049      0.78  | VQ       |          |          |          |
 7+45       0.1104      0.79  | VQ       |          |          |          |
 7+50       0.1162      0.85  | VQ       |          |          |          |
 7+55       0.1225      0.92  |  Q       |          |          |          |
 8+ 0       0.1289      0.93  |  Q       |          |          |          |
 8+ 5       0.1360      1.03  |  VQ      |          |          |          |
 8+10       0.1440      1.16  |  VQ      |          |          |          |
 8+15       0.1522      1.19  |  VQ      |          |          |          |
 8+20       0.1605      1.20  |  VQ      |          |          |          |
 8+25       0.1688      1.20  |   Q      |          |          |          |
 8+30       0.1771      1.21  |   Q      |          |          |          |
 8+35       0.1857      1.25  |   VQ     |          |          |          |
 8+40       0.1948      1.32  |   VQ     |          |          |          |
 8+45       0.2040      1.34  |    Q     |          |          |          |
 8+50       0.2136      1.39  |    Q     |          |          |          |
 8+55       0.2237      1.46  |    Q     |          |          |          |
 9+ 0       0.2338      1.48  |    Q     |          |          |          |
 9+ 5       0.2446      1.57  |     Q    |          |          |          |
 9+10       0.2564      1.71  |     Q    |          |          |          |
 9+15       0.2684      1.73  |     Q    |          |          |          |
 9+20       0.2807      1.79  |     VQ   |          |          |          |
 9+25       0.2935      1.86  |      Q   |          |          |          |
 9+30       0.3064      1.87  |      Q   |          |          |          |
 9+35       0.3196      1.92  |      Q   |          |          |          |
 9+40       0.3333      1.99  |      QV  |          |          |          |
 9+45       0.3472      2.01  |       Q  |          |          |          |
 9+50       0.3614      2.06  |       Q  |          |          |          |
 9+55       0.3760      2.13  |       QV |          |          |          |
10+ 0       0.3908      2.14  |       QV |          |          |          |
10+ 5       0.4034      1.83  |      Q V |          |          |          |
10+10       0.4128      1.37  |    Q     V          |          |          |
10+15       0.4217      1.29  |    Q     V          |          |          |
10+20       0.4305      1.28  |    Q     V          |          |          |
10+25       0.4393      1.28  |    Q     V          |          |          |
10+30       0.4481      1.28  |    Q     V          |          |          |
10+35       0.4585      1.51  |     Q    |V         |          |          |
10+40       0.4713      1.85  |      Q   |V         |          |          |
10+45       0.4844      1.91  |      Q   |V         |          |          |
10+50       0.4976      1.92  |      Q   | V        |          |          |
10+55       0.5109      1.93  |      Q   | V        |          |          |
11+ 0       0.5242      1.93  |      Q   | V        |          |          |
```


11+ 5 0.5372 1.89
11+10 0.5498 1.82
11+15 0.5623 1.82
11+20 0.5748 1.82
11+25 0.5873 1.82
11+30 0.5998 1.82
11+35 0.6118 1.73
11+40 0.6228 1.60
11+45 0.6337 1.58
11+50 0.6449 1.63
11+55 0.6566 1.69
12+ 0 0.6684 1.71
12+ 5 0.6824 2.03
12+10 0.6996 2.50
12+15 0.7174 2.59
12+20 0.7356 2.65
12+25 0.7544 2.72
12+30 0.7732 2.74
12+35 0.7928 2.83
12+40 0.8132 2.97
12+45 0.8338 3.00
12+50 0.8548 3.05
12+55 0.8763 3.12
13+ 0 0.8979 3.13
13+ 5 0.9210 3.36
13+10 0.9465 3.70
13+15 0.9724 3.76
13+20 0.9984 3.77
13+25 1.0244 3.78
13+30 1.0505 3.78
13+35 1.0731 3.29
13+40 1.0907 2.56
13+45 1.1075 2.43
13+50 1.1240 2.41
13+55 1.1406 2.41
14+ 0 1.1572 2.41
14+ 5 1.1750 2.59
14+10 1.1948 2.86
14+15 1.2148 2.91
14+20 1.2346 2.88
14+25 1.2540 2.81
14+30 1.2733 2.80
14+35 1.2926 2.81
14+40 1.3120 2.81
14+45 1.3313 2.81
14+50 1.3504 2.77
14+55 1.3690 2.70
15+ 0 1.3875 2.69
15+ 5 1.4058 2.65
15+10 1.4236 2.58
15+15 1.4413 2.57
15+20 1.4587 2.53
15+25 1.4757 2.46
15+30 1.4926 2.45
15+35 1.5082 2.27
15+40 1.5221 2.01
15+45 1.5356 1.96
15+50 1.5491 1.96
15+55 1.5626 1.96
16+ 0 1.5761 1.96
16+ 5 1.5849 1.28
16+10 1.5869 0.29
16+15 1.5876 0.11
16+20 1.5882 0.08
16+25 1.5887 0.08
16+30 1.5892 0.08
16+35 1.5897 0.06
16+40 1.5900 0.04
16+45 1.5902 0.04
16+50 1.5905 0.04
16+55 1.5908 0.04
17+ 0 1.5910 0.04
17+ 5 1.5917 0.10
17+10 1.5931 0.20
17+15 1.5946 0.22
17+20 1.5962 0.23
17+25 1.5978 0.23
17+30 1.5994 0.23

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+35 | 1.6010 | 0.23 | Q | \| | \| | \| | V\| |
| 17+40 | 1.6026 | 0.23 | Q | \| | \| | \| | V\| |
| 17+45 | 1.6042 | 0.24 | Q | \| | \| | \| | V\| |
| 17+50 | 1.6055 | 0.19 | Q | \| | \| | \| | V\| |
| 17+55 | 1.6064 | 0.13 | Q | \| | \| | \| | V\| |
| 18+ 0 | 1.6072 | 0.12 | Q | \| | \| | \| | V\| |
| 18+ 5 | 1.6080 | 0.12 | Q | \| | \| | \| | V\| |
| 18+10 | 1.6089 | 0.12 | Q | \| | \| | \| | V\| |
| 18+15 | 1.6097 | 0.12 | Q | \| | \| | \| | V\| |
| 18+20 | 1.6105 | 0.12 | Q | \| | \| | \| | V\| |
| 18+25 | 1.6114 | 0.13 | Q | \| | \| | \| | V\| |
| 18+30 | 1.6123 | 0.13 | Q | \| | \| | \| | V\| |
| 18+35 | 1.6129 | 0.10 | Q | \| | \| | \| | V\| |
| 18+40 | 1.6133 | 0.05 | Q | \| | \| | \| | V\| |
| 18+45 | 1.6135 | 0.04 | Q | \| | \| | \| | V\| |
| 18+50 | 1.6138 | 0.03 | Q | \| | \| | \| | V\| |
| 18+55 | 1.6139 | 0.03 | Q | \| | \| | \| | V\| |
| 19+ 0 | 1.6141 | 0.03 | Q | \| | \| | \| | V\| |
| 19+ 5 | 1.6143 | 0.03 | Q | \| | \| | \| | V\| |
| 19+10 | 1.6146 | 0.04 | Q | \| | \| | \| | V\| |
| 19+15 | 1.6148 | 0.04 | Q | \| | \| | \| | V\| |
| 19+20 | 1.6154 | 0.08 | Q | \| | \| | \| | V\| |
| 19+25 | 1.6163 | 0.13 | Q | \| | \| | \| | V\| |
| 19+30 | 1.6173 | 0.15 | Q | \| | \| | \| | V\| |
| 19+35 | 1.6180 | 0.11 | Q | \| | \| | \| | V\| |
| 19+40 | 1.6184 | 0.05 | Q | \| | \| | \| | V\| |
| 19+45 | 1.6187 | 0.04 | Q | \| | \| | \| | V\| |
| 19+50 | 1.6189 | 0.03 | Q | \| | \| | \| | V\| |
| 19+55 | 1.6191 | 0.03 | Q | \| | \| | \| | V\| |
| 20+ 0 | 1.6193 | 0.03 | Q | \| | \| | \| | V\| |
| 20+ 5 | 1.6195 | 0.03 | Q | \| | \| | \| | V\| |
| 20+10 | 1.6197 | 0.04 | Q | \| | \| | \| | V\| |
| 20+15 | 1.6200 | 0.04 | Q | \| | \| | \| | V\| |
| 20+20 | 1.6202 | 0.04 | Q | \| | \| | \| | V\| |
| 20+25 | 1.6205 | 0.04 | Q | \| | \| | \| | V\| |
| 20+30 | 1.6208 | 0.04 | Q | \| | \| | \| | V\| |
| 20+35 | 1.6211 | 0.04 | Q | \| | \| | \| | V\| |
| 20+40 | 1.6214 | 0.04 | Q | \| | \| | \| | V\| |
| 20+45 | 1.6217 | 0.04 | Q | \| | \| | \| | V\| |
| 20+50 | 1.6219 | 0.04 | Q | \| | \| | \| | V\| |
| 20+55 | 1.6221 | 0.03 | Q | \| | \| | \| | V\| |
| 21+ 0 | 1.6223 | 0.03 | Q | \| | \| | \| | V\| |
| 21+ 5 | 1.6225 | 0.03 | Q | \| | \| | \| | V\| |
| 21+10 | 1.6229 | 0.05 | Q | \| | \| | \| | V\| |
| 21+15 | 1.6232 | 0.05 | Q | \| | \| | \| | V\| |
| 21+20 | 1.6235 | 0.04 | Q | \| | \| | \| | V\| |
| 21+25 | 1.6237 | 0.03 | Q | \| | \| | \| | V\| |
| 21+30 | 1.6239 | 0.03 | Q | \| | \| | \| | V\| |
| 21+35 | 1.6242 | 0.04 | Q | \| | \| | \| | V\| |
| 21+40 | 1.6245 | 0.05 | Q | \| | \| | \| | V\| |
| 21+45 | 1.6249 | 0.06 | Q | \| | \| | \| | V\| |
| 21+50 | 1.6253 | 0.05 | Q | \| | \| | \| | V\| |
| 21+55 | 1.6255 | 0.03 | Q | \| | \| | \| | V\| |
| 22+ 0 | 1.6257 | 0.03 | Q | \| | \| | \| | V\| |
| 22+ 5 | 1.6259 | 0.04 | Q | \| | \| | \| | V\| |
| 22+10 | 1.6263 | 0.06 | Q | \| | \| | \| | V\| |
| 22+15 | 1.6268 | 0.07 | Q | \| | \| | \| | V\| |
| 22+20 | 1.6271 | 0.05 | Q | \| | \| | \| | V\| |
| 22+25 | 1.6274 | 0.03 | Q | \| | \| | \| | V\| |
| 22+30 | 1.6275 | 0.03 | Q | \| | \| | \| | V\| |
| 22+35 | 1.6277 | 0.03 | Q | \| | \| | \| | V\| |
| 22+40 | 1.6279 | 0.03 | Q | \| | \| | \| | V\| |
| 22+45 | 1.6281 | 0.03 | Q | \| | \| | \| | V\| |
| 22+50 | 1.6282 | 0.03 | Q | \| | \| | \| | V\| |
| 22+55 | 1.6284 | 0.03 | Q | \| | \| | \| | V\| |
| 23+ 0 | 1.6286 | 0.03 | Q | \| | \| | \| | V\| |
| 23+ 5 | 1.6288 | 0.03 | Q | \| | \| | \| | V\| |
| 23+10 | 1.6289 | 0.03 | Q | \| | \| | \| | V\| |
| 23+15 | 1.6291 | 0.03 | Q | \| | \| | \| | V\| |
| 23+20 | 1.6293 | 0.03 | Q | \| | \| | \| | V\| |
| 23+25 | 1.6295 | 0.03 | Q | \| | \| | \| | V\| |
| 23+30 | 1.6296 | 0.03 | Q | \| | \| | \| | V\| |
| 23+35 | 1.6298 | 0.03 | Q | \| | \| | \| | V\| |
| 23+40 | 1.6300 | 0.03 | Q | \| | \| | \| | V\| |
| 23+45 | 1.6301 | 0.03 | Q | \| | \| | \| | V\| |
| 23+50 | 1.6303 | 0.03 | Q | \| | \| | \| | V\| |
| 23+55 | 1.6305 | 0.03 | Q | \| | \| | \| | V\| |
| 24+ 0 | 1.6307 | 0.03 | Q | \| | \| | \| | V\| |

```
   24+ 5       1.6308      0.02  Q         |          |          |         V|
   24+10       1.6308      0.00  Q         |          |          |         V|
   24+15       1.6308      0.00  Q         |          |          |         V|
   24+20       1.6308      0.00  Q         |          |          |          V
-------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX141100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 14
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 0.60(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.60(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 304.00(Ft.)
Length along longest watercourse measured to centroid = 158.00(Ft.)
Length along longest watercourse = 0.058 Mi.
Length along longest watercourse measured to centroid = 0.030 Mi.
Difference in elevation = 78.00(Ft.)
Slope along watercourse = 1354.7368 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.019 Hr.
Lag time = 1.14 Min.
25% of lag time = 0.29 Min.
40% of lag time = 0.46 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 0.49 | 0.29 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 1.20 | 0.72 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.490(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.600 | 84.00 | 0.000 |

Total Area Entered = 0.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

Slope of intensity-duration curve for a 1 hour storm =0.5000

---

U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

---

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 438.341 | 69.984 | 0.423 |
| 2 0.167 | 876.682 | 30.016 | 0.182 |
| | Sum = 100.000 | Sum= | 0.605 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 4.20 | 0.605 | 0.086 | ( 0.544) | 0.519 |
| 2 0.17 | 4.30 | 0.619 | 0.086 | ( 0.557) | 0.533 |
| 3 0.25 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 4 0.33 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 5 0.42 | 5.80 | 0.835 | 0.086 | ( 0.752) | 0.749 |
| 6 0.50 | 6.50 | 0.936 | 0.086 | ( 0.842) | 0.850 |
| 7 0.58 | 7.40 | 1.066 | 0.086 | ( 0.959) | 0.980 |
| 8 0.67 | 8.60 | 1.238 | 0.086 | ( 1.115) | 1.153 |
| 9 0.75 | 12.30 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 10 0.83 | 29.10 | 4.190 | 0.086 | ( 3.771) | 4.105 |
| 11 0.92 | 6.80 | 0.979 | 0.086 | ( 0.881) | 0.893 |
| 12 1.00 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 13.4 |

Flood volume = Effective rainfall 1.11(In)
times area 0.6(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.004(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 2426.7 Cubic Feet
Total soil loss = 186.9 Cubic Feet

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Peak flow rate of this hydrograph = 2.044(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0015 | 0.22 | QV | | | | |
| 0+10 | 0.0037 | 0.32 | \|QV | | | | |
| 0+15 | 0.0062 | 0.37 | \|Q V | | | | |
| 0+20 | 0.0089 | 0.38 | \|Q V | | | | |
| 0+25 | 0.0119 | 0.43 | \|Q V | | | | |
| 0+30 | 0.0153 | 0.50 | \|Q V | | | | |
| 0+35 | 0.0192 | 0.57 | \| Q \| V | | | | |
| 0+40 | 0.0238 | 0.67 | \| Q \| V | | | | |
| 0+45 | 0.0301 | 0.92 | \| Q \| V | | | | |
| 0+50 | 0.0442 | 2.04 | \| Q \| V | | | | |
| 0+55 | 0.0519 | 1.12 | \| Q \| V | | | | |
| 1+ 0 | 0.0549 | 0.43 | \|Q \| V | | | | |
| 1+ 5 | 0.0557 | 0.12 | Q \| V | | | | |

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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX143100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 14
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.60(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.60(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 304.00(Ft.)
Length along longest watercourse measured to centroid = 158.00(Ft.)
Length along longest watercourse = 0.058 Mi.
Length along longest watercourse measured to centroid = 0.030 Mi.
Difference in elevation = 78.00(Ft.)
Slope along watercourse = 1354.7368 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.019 Hr.
Lag time = 1.14 Min.
25% of lag time = 0.29 Min.
40% of lag time = 0.46 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 0.80 | 0.48 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 1.80 | 1.08 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.600 | 84.00 | 0.000 |

Total Area Entered = 0.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 438.341 | 69.984 | 0.423 |
| 2 0.167 | 876.682 | 30.016 | 0.182 |
| | Sum = 100.000 | Sum= | 0.605 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 1.30 | 0.281 | 0.086 | ( 0.253) | 0.195 |
| 2 0.17 | 1.30 | 0.281 | 0.086 | ( 0.253) | 0.195 |
| 3 0.25 | 1.10 | 0.238 | 0.086 | ( 0.214) | 0.152 |
| 4 0.33 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 5 0.42 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 6 0.50 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 7 0.58 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 8 0.67 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 9 0.75 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 10 0.83 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 11 0.92 | 1.60 | 0.346 | 0.086 | ( 0.311) | 0.260 |
| 12 1.00 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 13 1.08 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 14 1.17 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 15 1.25 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 16 1.33 | 2.00 | 0.432 | 0.086 | ( 0.389) | 0.346 |
| 17 1.42 | 2.60 | 0.562 | 0.086 | ( 0.505) | 0.476 |
| 18 1.50 | 2.70 | 0.583 | 0.086 | ( 0.525) | 0.497 |
| 19 1.58 | 2.40 | 0.518 | 0.086 | ( 0.467) | 0.433 |
| 20 1.67 | 2.70 | 0.583 | 0.086 | ( 0.525) | 0.497 |
| 21 1.75 | 3.30 | 0.713 | 0.086 | ( 0.642) | 0.627 |
| 22 1.83 | 3.10 | 0.670 | 0.086 | ( 0.603) | 0.584 |
| 23 1.92 | 2.90 | 0.626 | 0.086 | ( 0.564) | 0.541 |
| 24 2.00 | 3.00 | 0.648 | 0.086 | ( 0.583) | 0.562 |
| 25 2.08 | 3.10 | 0.670 | 0.086 | ( 0.603) | 0.584 |
| 26 2.17 | 4.20 | 0.907 | 0.086 | ( 0.816) | 0.821 |
| 27 2.25 | 5.00 | 1.080 | 0.086 | ( 0.972) | 0.994 |
| 28 2.33 | 3.50 | 0.756 | 0.086 | ( 0.680) | 0.670 |
| 29 2.42 | 6.80 | 1.469 | 0.086 | ( 1.322) | 1.383 |
| 30 2.50 | 7.30 | 1.577 | 0.086 | ( 1.419) | 1.491 |
| 31 2.58 | 8.20 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 32 2.67 | 5.90 | 1.274 | 0.086 | ( 1.147) | 1.189 |
| 33 2.75 | 2.00 | 0.432 | 0.086 | ( 0.389) | 0.346 |
| 34 2.83 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 35 2.92 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 36 3.00 | 0.60 | 0.130 | 0.086 | ( 0.117) | 0.044 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 18.5 |

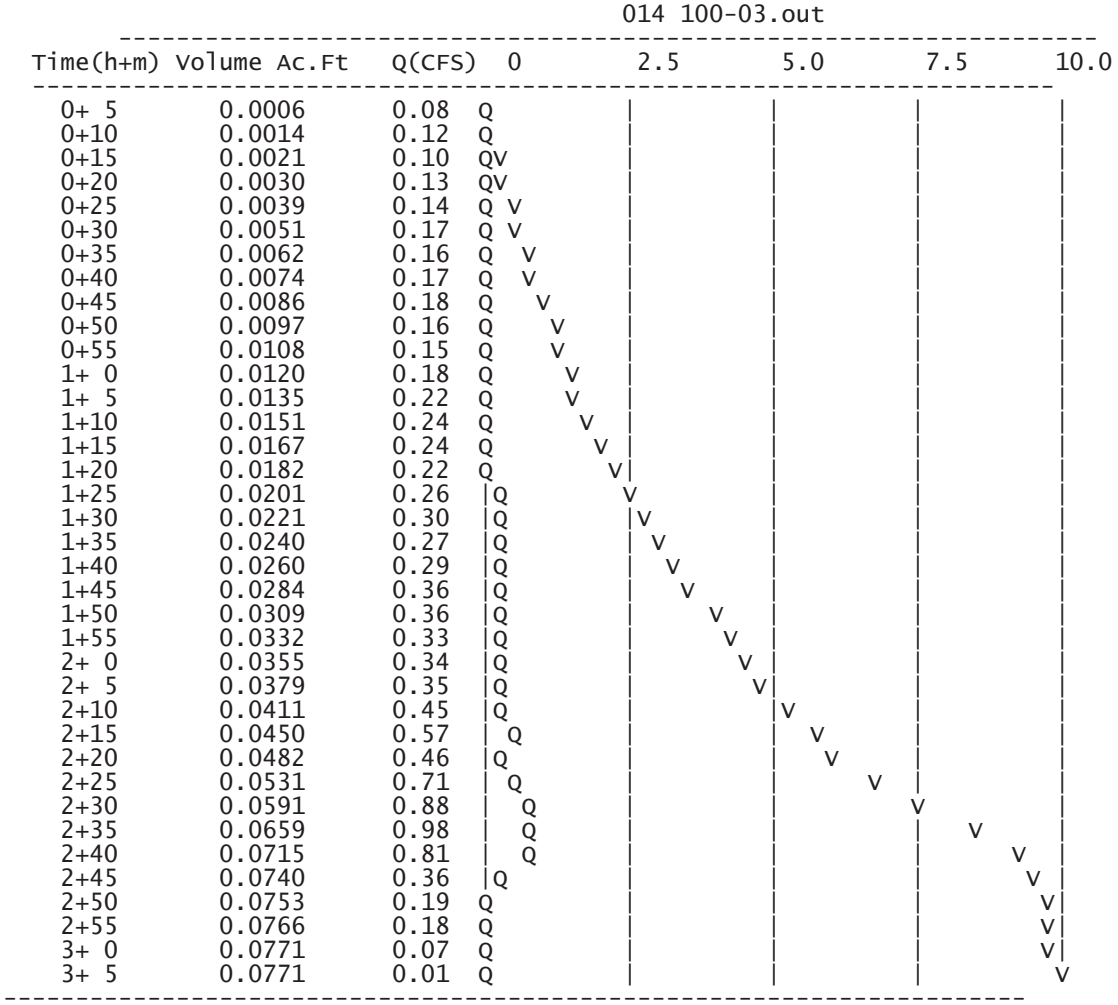
Flood volume = Effective rainfall 1.54(In)
times area 0.6(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.013(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 3359.8 Cubic Feet
Total soil loss = 560.6 Cubic Feet

Peak flow rate of this hydrograph = 0.984(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))


Time(h+m) Volume Ac.Ft Q(CFS) 0 2.5 5.0 7.5 10.0
0+ 5 0.0006 0.08
0+10 0.0014 0.12
0+15 0.0021 0.10
0+20 0.0030 0.13
0+25 0.0039 0.14
0+30 0.0051 0.17
0+35 0.0062 0.16
0+40 0.0074 0.17
0+45 0.0086 0.18
0+50 0.0097 0.16
0+55 0.0108 0.15
1+ 0 0.0120 0.18
1+ 5 0.0135 0.22
1+10 0.0151 0.24
1+15 0.0167 0.24
1+20 0.0182 0.22
1+25 0.0201 0.26
1+30 0.0221 0.30
1+35 0.0240 0.27
1+40 0.0260 0.29
1+45 0.0284 0.36
1+50 0.0309 0.36
1+55 0.0332 0.33
2+ 0 0.0355 0.34
2+ 5 0.0379 0.35
2+10 0.0411 0.45
2+15 0.0450 0.57
2+20 0.0482 0.46
2+25 0.0531 0.71
2+30 0.0591 0.88
2+35 0.0659 0.98
2+40 0.0715 0.81
2+45 0.0740 0.36
2+50 0.0753 0.19
2+55 0.0766 0.18
3+ 0 0.0771 0.07
3+ 5 0.0771 0.01

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX146100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 14
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.60(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.60(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 304.00(Ft.)
Length along longest watercourse measured to centroid = 158.00(Ft.)
Length along longest watercourse = 0.058 Mi.
Length along longest watercourse measured to centroid = 0.030 Mi.
Difference in elevation = 78.00(Ft.)
Slope along watercourse = 1354.7368 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.019 Hr.
Lag time = 1.14 Min.
25% of lag time = 0.29 Min.
40% of lag time = 0.46 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 1.12 | 0.67 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 2.50 | 1.50 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.120(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.600 | 84.00 | 0.000 |

Total Area Entered = 0.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 438.341 | 69.984 | 0.423 |
| 2 0.167 | 876.682 | 30.016 | 0.182 |
| | | Sum = 100.000 Sum= | 0.605 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 0.50 | 0.150 | 0.086 | ( 0.135) | 0.064 |
| 2 0.17 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 3 0.25 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 4 0.33 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 5 0.42 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 6 0.50 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 7 0.58 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 8 0.67 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 9 0.75 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 10 0.83 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 11 0.92 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 12 1.00 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 13 1.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 14 1.17 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 15 1.25 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 16 1.33 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 17 1.42 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 18 1.50 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 19 1.58 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 20 1.67 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 21 1.75 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 22 1.83 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 23 1.92 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 24 2.00 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 25 2.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 26 2.17 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 27 2.25 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 28 2.33 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 29 2.42 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 30 2.50 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 31 2.58 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 32 2.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 33 2.75 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 34 2.83 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 35 2.92 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 36 3.00 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 37 3.08 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 38 3.17 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 39 3.25 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 40 3.33 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 41 3.42 | 1.20 | 0.360 | 0.086 | ( 0.324) | 0.274 |
| 42 3.50 | 1.30 | 0.390 | 0.086 | ( 0.351) | 0.304 |
| 43 3.58 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 44 3.67 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 45 3.75 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 46 3.83 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 47 3.92 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 48 4.00 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 49 4.08 | 1.70 | 0.510 | 0.086 | ( 0.459) | 0.424 |
| 50 4.17 | 1.80 | 0.540 | 0.086 | ( 0.486) | 0.454 |
| 51 4.25 | 1.90 | 0.570 | 0.086 | ( 0.513) | 0.484 |
| 52 4.33 | 2.00 | 0.600 | 0.086 | ( 0.540) | 0.514 |
| 53 4.42 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 |
| 54 4.50 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 55 | 4.58 | 2.20 | 0.660 | 0.086 | ( 0.594) | | 0.574 |
| 56 | 4.67 | 2.30 | 0.690 | 0.086 | ( 0.621) | | 0.604 |
| 57 | 4.75 | 2.40 | 0.720 | 0.086 | ( 0.648) | | 0.634 |
| 58 | 4.83 | 2.40 | 0.720 | 0.086 | ( 0.648) | | 0.634 |
| 59 | 4.92 | 2.50 | 0.750 | 0.086 | ( 0.675) | | 0.664 |
| 60 | 5.00 | 2.60 | 0.780 | 0.086 | ( 0.702) | | 0.694 |
| 61 | 5.08 | 3.10 | 0.930 | 0.086 | ( 0.837) | | 0.844 |
| 62 | 5.17 | 3.60 | 1.080 | 0.086 | ( 0.972) | | 0.994 |
| 63 | 5.25 | 3.90 | 1.170 | 0.086 | ( 1.053) | | 1.084 |
| 64 | 5.33 | 4.20 | 1.260 | 0.086 | ( 1.134) | | 1.174 |
| 65 | 5.42 | 4.70 | 1.410 | 0.086 | ( 1.269) | | 1.324 |
| 66 | 5.50 | 5.60 | 1.680 | 0.086 | ( 1.512) | | 1.594 |
| 67 | 5.58 | 1.90 | 0.570 | 0.086 | ( 0.513) | | 0.484 |
| 68 | 5.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | | 0.184 |
| 69 | 5.75 | 0.60 | 0.180 | 0.086 | ( 0.162) | | 0.094 |
| 70 | 5.83 | 0.50 | 0.150 | 0.086 | ( 0.135) | | 0.064 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.086) | 0.081 | | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.086) | 0.054 | | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.9

Flood volume = Effective rainfall 1.99(In)
times area 0.6(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.51(In)
Total soil loss = 0.026(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 4330.4 Cubic Feet
Total soil loss = 1114.6 Cubic Feet

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Peak flow rate of this hydrograph = 0.915(CFS)

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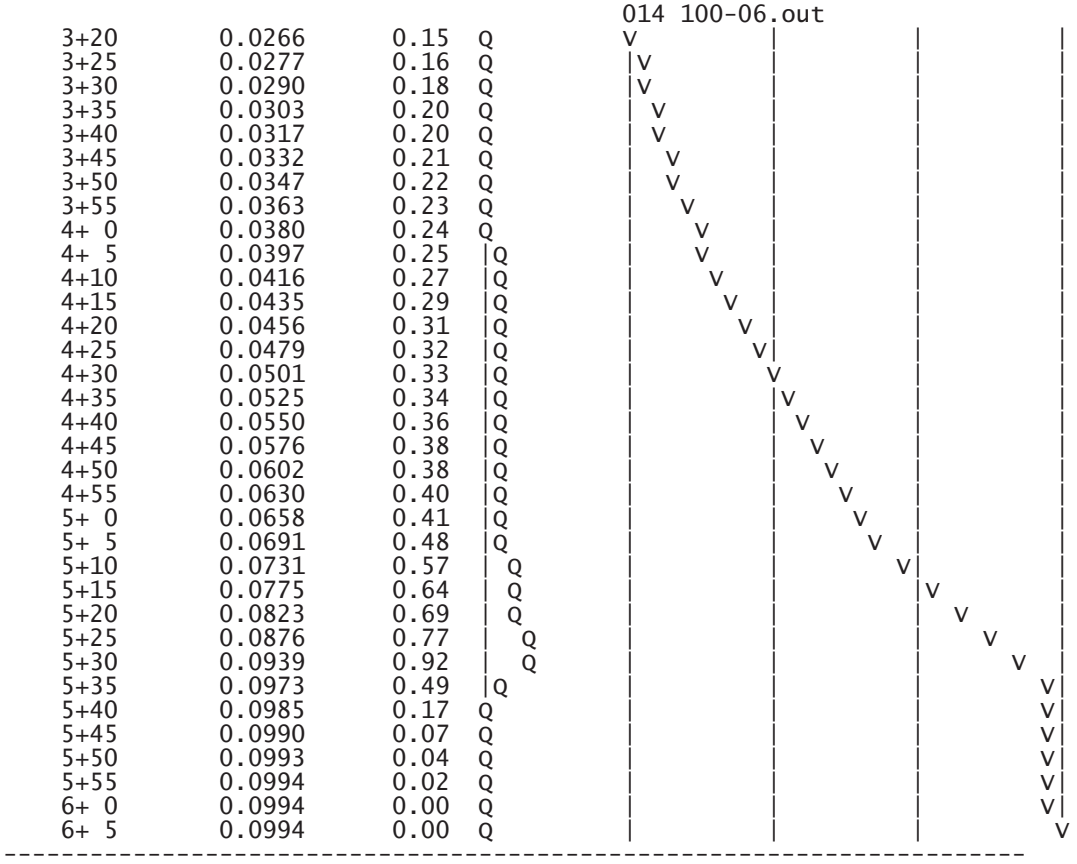
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0002 | 0.03 | Q | | | | |
| 0+10 | 0.0005 | 0.05 | Q | | | | |
| 0+15 | 0.0009 | 0.06 | Q | | | | |
| 0+20 | 0.0013 | 0.06 | Q | | | | |
| 0+25 | 0.0017 | 0.06 | Q | | | | |
| 0+30 | 0.0022 | 0.07 | Q | | | | |
| 0+35 | 0.0027 | 0.08 | QV | | | | |
| 0+40 | 0.0032 | 0.08 | QV | | | | |
| 0+45 | 0.0038 | 0.08 | QV | | | | |
| 0+50 | 0.0043 | 0.08 | QV | | | | |
| 0+55 | 0.0048 | 0.08 | QV | | | | |
| 1+ 0 | 0.0054 | 0.09 | Q V | | | | |
| 1+ 5 | 0.0060 | 0.09 | Q V | | | | |
| 1+10 | 0.0067 | 0.09 | Q V | | | | |
| 1+15 | 0.0073 | 0.09 | Q V | | | | |
| 1+20 | 0.0080 | 0.09 | Q V | | | | |
| 1+25 | 0.0086 | 0.09 | Q V | | | | |
| 1+30 | 0.0092 | 0.09 | Q V | | | | |
| 1+35 | 0.0099 | 0.09 | Q V | | | | |
| 1+40 | 0.0105 | 0.09 | Q V | | | | |
| 1+45 | 0.0112 | 0.09 | Q V | | | | |
| 1+50 | 0.0118 | 0.09 | Q V | | | | |
| 1+55 | 0.0125 | 0.09 | Q V | | | | |
| 2+ 0 | 0.0132 | 0.11 | Q V | | | | |
| 2+ 5 | 0.0139 | 0.10 | Q V | | | | |
| 2+10 | 0.0146 | 0.11 | Q V | | | | |
| 2+15 | 0.0154 | 0.11 | Q V | | | | |
| 2+20 | 0.0161 | 0.11 | Q V | | | | |
| 2+25 | 0.0169 | 0.11 | Q V | | | | |
| 2+30 | 0.0177 | 0.11 | Q V | | | | |
| 2+35 | 0.0184 | 0.11 | Q V | | | | |
| 2+40 | 0.0192 | 0.11 | Q V | | | | |
| 2+45 | 0.0201 | 0.12 | Q V | | | | |
| 2+50 | 0.0210 | 0.13 | Q V | | | | |
| 2+55 | 0.0218 | 0.13 | Q V | | | | |
| 3+ 0 | 0.0227 | 0.13 | Q V | | | | |
| 3+ 5 | 0.0236 | 0.13 | Q V | | | | |
| 3+10 | 0.0246 | 0.14 | Q V | | | | |
| 3+15 | 0.0256 | 0.15 | Q V | | | | |



| | | | |
|---|---|---|---|
| 3+20 | 0.0266 | 0.15 | Q |
| 3+25 | 0.0277 | 0.16 | Q |
| 3+30 | 0.0290 | 0.18 | Q |
| 3+35 | 0.0303 | 0.20 | Q |
| 3+40 | 0.0317 | 0.20 | Q |
| 3+45 | 0.0332 | 0.21 | Q |
| 3+50 | 0.0347 | 0.22 | Q |
| 3+55 | 0.0363 | 0.23 | Q |
| 4+ 0 | 0.0380 | 0.24 | Q |
| 4+ 5 | 0.0397 | 0.25 | Q |
| 4+10 | 0.0416 | 0.27 | Q |
| 4+15 | 0.0435 | 0.29 | Q |
| 4+20 | 0.0456 | 0.31 | Q |
| 4+25 | 0.0479 | 0.32 | Q |
| 4+30 | 0.0501 | 0.33 | Q |
| 4+35 | 0.0525 | 0.34 | Q |
| 4+40 | 0.0550 | 0.36 | Q |
| 4+45 | 0.0576 | 0.38 | Q |
| 4+50 | 0.0602 | 0.38 | Q |
| 4+55 | 0.0630 | 0.40 | Q |
| 5+ 0 | 0.0658 | 0.41 | Q |
| 5+ 5 | 0.0691 | 0.48 | Q |
| 5+10 | 0.0731 | 0.57 | Q |
| 5+15 | 0.0775 | 0.64 | Q |
| 5+20 | 0.0823 | 0.69 | Q |
| 5+25 | 0.0876 | 0.77 | Q |
| 5+30 | 0.0939 | 0.92 | Q |
| 5+35 | 0.0973 | 0.49 | Q |
| 5+40 | 0.0985 | 0.17 | Q |
| 5+45 | 0.0990 | 0.07 | Q |
| 5+50 | 0.0993 | 0.04 | Q |
| 5+55 | 0.0994 | 0.02 | Q |
| 6+ 0 | 0.0994 | 0.00 | Q |
| 6+ 5 | 0.0994 | 0.00 | Q |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX1424100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 14
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.60(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.60(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 304.00(Ft.)
Length along longest watercourse measured to centroid = 158.00(Ft.)
Length along longest watercourse = 0.058 Mi.
Length along longest watercourse measured to centroid = 0.030 Mi.
Difference in elevation = 78.00(Ft.)
Slope along watercourse = 1354.7368 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.019 Hr.
Lag time = 1.14 Min.
25% of lag time = 0.29 Min.
40% of lag time = 0.46 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 1.80 | 1.08 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 4.50 | 2.70 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.500(In)

Point rain (area averaged) = 4.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.600 | 84.00 | 0.000 |

Total Area Entered = 0.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 438.341 | 69.984 | 0.423 |
| 2 | 0.167 | 876.682 | 30.016 | 0.182 |
| | | | Sum = 100.000 Sum= | 0.605 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.036 | ( 0.152) | 0.032 | 0.004 |
| 2 | 0.17 | 0.07 | 0.036 | ( 0.152) | 0.032 | 0.004 |
| 3 | 0.25 | 0.07 | 0.036 | ( 0.151) | 0.032 | 0.004 |
| 4 | 0.33 | 0.10 | 0.054 | ( 0.150) | 0.049 | 0.005 |
| 5 | 0.42 | 0.10 | 0.054 | ( 0.150) | 0.049 | 0.005 |
| 6 | 0.50 | 0.10 | 0.054 | ( 0.149) | 0.049 | 0.005 |
| 7 | 0.58 | 0.10 | 0.054 | ( 0.149) | 0.049 | 0.005 |
| 8 | 0.67 | 0.10 | 0.054 | ( 0.148) | 0.049 | 0.005 |
| 9 | 0.75 | 0.10 | 0.054 | ( 0.147) | 0.049 | 0.005 |
| 10 | 0.83 | 0.13 | 0.072 | ( 0.147) | 0.065 | 0.007 |
| 11 | 0.92 | 0.13 | 0.072 | ( 0.146) | 0.065 | 0.007 |
| 12 | 1.00 | 0.13 | 0.072 | ( 0.146) | 0.065 | 0.007 |
| 13 | 1.08 | 0.10 | 0.054 | ( 0.145) | 0.049 | 0.005 |
| 14 | 1.17 | 0.10 | 0.054 | ( 0.145) | 0.049 | 0.005 |
| 15 | 1.25 | 0.10 | 0.054 | ( 0.144) | 0.049 | 0.005 |
| 16 | 1.33 | 0.10 | 0.054 | ( 0.143) | 0.049 | 0.005 |
| 17 | 1.42 | 0.10 | 0.054 | ( 0.143) | 0.049 | 0.005 |
| 18 | 1.50 | 0.10 | 0.054 | ( 0.142) | 0.049 | 0.005 |
| 19 | 1.58 | 0.10 | 0.054 | ( 0.142) | 0.049 | 0.005 |
| 20 | 1.67 | 0.10 | 0.054 | ( 0.141) | 0.049 | 0.005 |
| 21 | 1.75 | 0.10 | 0.054 | ( 0.141) | 0.049 | 0.005 |
| 22 | 1.83 | 0.13 | 0.072 | ( 0.140) | 0.065 | 0.007 |
| 23 | 1.92 | 0.13 | 0.072 | ( 0.139) | 0.065 | 0.007 |
| 24 | 2.00 | 0.13 | 0.072 | ( 0.139) | 0.065 | 0.007 |
| 25 | 2.08 | 0.13 | 0.072 | ( 0.138) | 0.065 | 0.007 |
| 26 | 2.17 | 0.13 | 0.072 | ( 0.138) | 0.065 | 0.007 |
| 27 | 2.25 | 0.13 | 0.072 | ( 0.137) | 0.065 | 0.007 |
| 28 | 2.33 | 0.13 | 0.072 | ( 0.137) | 0.065 | 0.007 |
| 29 | 2.42 | 0.13 | 0.072 | ( 0.136) | 0.065 | 0.007 |
| 30 | 2.50 | 0.13 | 0.072 | ( 0.136) | 0.065 | 0.007 |
| 31 | 2.58 | 0.17 | 0.090 | ( 0.135) | 0.081 | 0.009 |
| 32 | 2.67 | 0.17 | 0.090 | ( 0.134) | 0.081 | 0.009 |
| 33 | 2.75 | 0.17 | 0.090 | ( 0.134) | 0.081 | 0.009 |
| 34 | 2.83 | 0.17 | 0.090 | ( 0.133) | 0.081 | 0.009 |
| 35 | 2.92 | 0.17 | 0.090 | ( 0.133) | 0.081 | 0.009 |
| 36 | 3.00 | 0.17 | 0.090 | ( 0.132) | 0.081 | 0.009 |
| 37 | 3.08 | 0.17 | 0.090 | ( 0.132) | 0.081 | 0.009 |
| 38 | 3.17 | 0.17 | 0.090 | ( 0.131) | 0.081 | 0.009 |
| 39 | 3.25 | 0.17 | 0.090 | ( 0.131) | 0.081 | 0.009 |
| 40 | 3.33 | 0.17 | 0.090 | ( 0.130) | 0.081 | 0.009 |
| 41 | 3.42 | 0.17 | 0.090 | ( 0.129) | 0.081 | 0.009 |
| 42 | 3.50 | 0.17 | 0.090 | ( 0.129) | 0.081 | 0.009 |
| 43 | 3.58 | 0.17 | 0.090 | ( 0.128) | 0.081 | 0.009 |
| 44 | 3.67 | 0.17 | 0.090 | ( 0.128) | 0.081 | 0.009 |
| 45 | 3.75 | 0.17 | 0.090 | ( 0.127) | 0.081 | 0.009 |
| 46 | 3.83 | 0.20 | 0.108 | ( 0.127) | 0.097 | 0.011 |
| 47 | 3.92 | 0.20 | 0.108 | ( 0.126) | 0.097 | 0.011 |
| 48 | 4.00 | 0.20 | 0.108 | ( 0.126) | 0.097 | 0.011 |
| 49 | 4.08 | 0.20 | 0.108 | ( 0.125) | 0.097 | 0.011 |
| 50 | 4.17 | 0.20 | 0.108 | ( 0.125) | 0.097 | 0.011 |
| 51 | 4.25 | 0.20 | 0.108 | ( 0.124) | 0.097 | 0.011 |
| 52 | 4.33 | 0.23 | 0.126 | ( 0.124) | 0.113 | 0.013 |
| 53 | 4.42 | 0.23 | 0.126 | ( 0.123) | 0.113 | 0.013 |
| 54 | 4.50 | 0.23 | 0.126 | ( 0.123) | 0.113 | 0.013 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 55 | 4.58 | 0.23 | 0.126 | ( | 0.122) | 0.113 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.126 | ( | 0.121) | 0.113 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.126 | ( | 0.121) | 0.113 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.144 | | 0.120 | ( 0.130) | | 0.024 |
| 59 | 4.92 | 0.27 | 0.144 | | 0.120 | ( 0.130) | | 0.024 |
| 60 | 5.00 | 0.27 | 0.144 | | 0.119 | ( 0.130) | | 0.025 |
| 61 | 5.08 | 0.20 | 0.108 | ( | 0.119) | 0.097 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.108 | ( | 0.118) | 0.097 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.108 | ( | 0.118) | 0.097 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.126 | ( | 0.117) | 0.113 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.126 | ( | 0.117) | 0.113 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.126 | ( | 0.116) | 0.113 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.144 | | 0.116 | ( 0.130) | | 0.028 |
| 68 | 5.67 | 0.27 | 0.144 | | 0.115 | ( 0.130) | | 0.029 |
| 69 | 5.75 | 0.27 | 0.144 | | 0.115 | ( 0.130) | | 0.029 |
| 70 | 5.83 | 0.27 | 0.144 | | 0.114 | ( 0.130) | | 0.030 |
| 71 | 5.92 | 0.27 | 0.144 | | 0.114 | ( 0.130) | | 0.030 |
| 72 | 6.00 | 0.27 | 0.144 | | 0.113 | ( 0.130) | | 0.031 |
| 73 | 6.08 | 0.30 | 0.162 | | 0.113 | ( 0.146) | | 0.049 |
| 74 | 6.17 | 0.30 | 0.162 | | 0.112 | ( 0.146) | | 0.050 |
| 75 | 6.25 | 0.30 | 0.162 | | 0.112 | ( 0.146) | | 0.050 |
| 76 | 6.33 | 0.30 | 0.162 | | 0.111 | ( 0.146) | | 0.051 |
| 77 | 6.42 | 0.30 | 0.162 | | 0.111 | ( 0.146) | | 0.051 |
| 78 | 6.50 | 0.30 | 0.162 | | 0.110 | ( 0.146) | | 0.052 |
| 79 | 6.58 | 0.33 | 0.180 | | 0.110 | ( 0.162) | | 0.070 |
| 80 | 6.67 | 0.33 | 0.180 | | 0.109 | ( 0.162) | | 0.071 |
| 81 | 6.75 | 0.33 | 0.180 | | 0.109 | ( 0.162) | | 0.071 |
| 82 | 6.83 | 0.33 | 0.180 | | 0.108 | ( 0.162) | | 0.072 |
| 83 | 6.92 | 0.33 | 0.180 | | 0.108 | ( 0.162) | | 0.072 |
| 84 | 7.00 | 0.33 | 0.180 | | 0.107 | ( 0.162) | | 0.073 |
| 85 | 7.08 | 0.33 | 0.180 | | 0.107 | ( 0.162) | | 0.073 |
| 86 | 7.17 | 0.33 | 0.180 | | 0.106 | ( 0.162) | | 0.074 |
| 87 | 7.25 | 0.33 | 0.180 | | 0.106 | ( 0.162) | | 0.074 |
| 88 | 7.33 | 0.37 | 0.198 | | 0.105 | ( 0.178) | | 0.093 |
| 89 | 7.42 | 0.37 | 0.198 | | 0.105 | ( 0.178) | | 0.093 |
| 90 | 7.50 | 0.37 | 0.198 | | 0.104 | ( 0.178) | | 0.094 |
| 91 | 7.58 | 0.40 | 0.216 | | 0.104 | ( 0.194) | | 0.112 |
| 92 | 7.67 | 0.40 | 0.216 | | 0.103 | ( 0.194) | | 0.113 |
| 93 | 7.75 | 0.40 | 0.216 | | 0.103 | ( 0.194) | | 0.113 |
| 94 | 7.83 | 0.43 | 0.234 | | 0.102 | ( 0.211) | | 0.132 |
| 95 | 7.92 | 0.43 | 0.234 | | 0.102 | ( 0.211) | | 0.132 |
| 96 | 8.00 | 0.43 | 0.234 | | 0.102 | ( 0.211) | | 0.132 |
| 97 | 8.08 | 0.50 | 0.270 | | 0.101 | ( 0.243) | | 0.169 |
| 98 | 8.17 | 0.50 | 0.270 | | 0.101 | ( 0.243) | | 0.169 |
| 99 | 8.25 | 0.50 | 0.270 | | 0.100 | ( 0.243) | | 0.170 |
| 100 | 8.33 | 0.50 | 0.270 | | 0.100 | ( 0.243) | | 0.170 |
| 101 | 8.42 | 0.50 | 0.270 | | 0.099 | ( 0.243) | | 0.171 |
| 102 | 8.50 | 0.50 | 0.270 | | 0.099 | ( 0.243) | | 0.171 |
| 103 | 8.58 | 0.53 | 0.288 | | 0.098 | ( 0.259) | | 0.190 |
| 104 | 8.67 | 0.53 | 0.288 | | 0.098 | ( 0.259) | | 0.190 |
| 105 | 8.75 | 0.53 | 0.288 | | 0.097 | ( 0.259) | | 0.191 |
| 106 | 8.83 | 0.57 | 0.306 | | 0.097 | ( 0.275) | | 0.209 |
| 107 | 8.92 | 0.57 | 0.306 | | 0.096 | ( 0.275) | | 0.210 |
| 108 | 9.00 | 0.57 | 0.306 | | 0.096 | ( 0.275) | | 0.210 |
| 109 | 9.08 | 0.63 | 0.342 | | 0.096 | ( 0.308) | | 0.246 |
| 110 | 9.17 | 0.63 | 0.342 | | 0.095 | ( 0.308) | | 0.247 |
| 111 | 9.25 | 0.63 | 0.342 | | 0.095 | ( 0.308) | | 0.247 |
| 112 | 9.33 | 0.67 | 0.360 | | 0.094 | ( 0.324) | | 0.266 |
| 113 | 9.42 | 0.67 | 0.360 | | 0.094 | ( 0.324) | | 0.266 |
| 114 | 9.50 | 0.67 | 0.360 | | 0.093 | ( 0.324) | | 0.267 |
| 115 | 9.58 | 0.70 | 0.378 | | 0.093 | ( 0.340) | | 0.285 |
| 116 | 9.67 | 0.70 | 0.378 | | 0.092 | ( 0.340) | | 0.286 |
| 117 | 9.75 | 0.70 | 0.378 | | 0.092 | ( 0.340) | | 0.286 |
| 118 | 9.83 | 0.73 | 0.396 | | 0.091 | ( 0.356) | | 0.305 |
| 119 | 9.92 | 0.73 | 0.396 | | 0.091 | ( 0.356) | | 0.305 |
| 120 | 10.00 | 0.73 | 0.396 | | 0.091 | ( 0.356) | | 0.305 |
| 121 | 10.08 | 0.50 | 0.270 | | 0.090 | ( 0.243) | | 0.180 |
| 122 | 10.17 | 0.50 | 0.270 | | 0.090 | ( 0.243) | | 0.180 |
| 123 | 10.25 | 0.50 | 0.270 | | 0.089 | ( 0.243) | | 0.181 |
| 124 | 10.33 | 0.50 | 0.270 | | 0.089 | ( 0.243) | | 0.181 |
| 125 | 10.42 | 0.50 | 0.270 | | 0.088 | ( 0.243) | | 0.182 |
| 126 | 10.50 | 0.50 | 0.270 | | 0.088 | ( 0.243) | | 0.182 |
| 127 | 10.58 | 0.67 | 0.360 | | 0.088 | ( 0.324) | | 0.272 |
| 128 | 10.67 | 0.67 | 0.360 | | 0.087 | ( 0.324) | | 0.273 |
| 129 | 10.75 | 0.67 | 0.360 | | 0.087 | ( 0.324) | | 0.273 |
| 130 | 10.83 | 0.67 | 0.360 | | 0.086 | ( 0.324) | | 0.274 |
| 131 | 10.92 | 0.67 | 0.360 | | 0.086 | ( 0.324) | | 0.274 |
| 132 | 11.00 | 0.67 | 0.360 | | 0.085 | ( 0.324) | | 0.275 |

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|---|---|---|---|---|---|---|
| 133 | 11.08 | 0.63 | 0.342 | 0.085 | ( 0.308) | 0.257 |
| 134 | 11.17 | 0.63 | 0.342 | 0.085 | ( 0.308) | 0.257 |
| 135 | 11.25 | 0.63 | 0.342 | 0.084 | ( 0.308) | 0.258 |
| 136 | 11.33 | 0.63 | 0.342 | 0.084 | ( 0.308) | 0.258 |
| 137 | 11.42 | 0.63 | 0.342 | 0.083 | ( 0.308) | 0.259 |
| 138 | 11.50 | 0.63 | 0.342 | 0.083 | ( 0.308) | 0.259 |
| 139 | 11.58 | 0.57 | 0.306 | 0.083 | ( 0.275) | 0.223 |
| 140 | 11.67 | 0.57 | 0.306 | 0.082 | ( 0.275) | 0.224 |
| 141 | 11.75 | 0.57 | 0.306 | 0.082 | ( 0.275) | 0.224 |
| 142 | 11.83 | 0.60 | 0.324 | 0.081 | ( 0.292) | 0.243 |
| 143 | 11.92 | 0.60 | 0.324 | 0.081 | ( 0.292) | 0.243 |
| 144 | 12.00 | 0.60 | 0.324 | 0.080 | ( 0.292) | 0.244 |
| 145 | 12.08 | 0.83 | 0.450 | 0.080 | ( 0.405) | 0.370 |
| 146 | 12.17 | 0.83 | 0.450 | 0.080 | ( 0.405) | 0.370 |
| 147 | 12.25 | 0.83 | 0.450 | 0.079 | ( 0.405) | 0.371 |
| 148 | 12.33 | 0.87 | 0.468 | 0.079 | ( 0.421) | 0.389 |
| 149 | 12.42 | 0.87 | 0.468 | 0.078 | ( 0.421) | 0.390 |
| 150 | 12.50 | 0.87 | 0.468 | 0.078 | ( 0.421) | 0.390 |
| 151 | 12.58 | 0.93 | 0.504 | 0.078 | ( 0.454) | 0.426 |
| 152 | 12.67 | 0.93 | 0.504 | 0.077 | ( 0.454) | 0.427 |
| 153 | 12.75 | 0.93 | 0.504 | 0.077 | ( 0.454) | 0.427 |
| 154 | 12.83 | 0.97 | 0.522 | 0.077 | ( 0.470) | 0.445 |
| 155 | 12.92 | 0.97 | 0.522 | 0.076 | ( 0.470) | 0.446 |
| 156 | 13.00 | 0.97 | 0.522 | 0.076 | ( 0.470) | 0.446 |
| 157 | 13.08 | 1.13 | 0.612 | 0.075 | ( 0.551) | 0.537 |
| 158 | 13.17 | 1.13 | 0.612 | 0.075 | ( 0.551) | 0.537 |
| 159 | 13.25 | 1.13 | 0.612 | 0.075 | ( 0.551) | 0.537 |
| 160 | 13.33 | 1.13 | 0.612 | 0.074 | ( 0.551) | 0.538 |
| 161 | 13.42 | 1.13 | 0.612 | 0.074 | ( 0.551) | 0.538 |
| 162 | 13.50 | 1.13 | 0.612 | 0.073 | ( 0.551) | 0.539 |
| 163 | 13.58 | 0.77 | 0.414 | 0.073 | ( 0.373) | 0.341 |
| 164 | 13.67 | 0.77 | 0.414 | 0.073 | ( 0.373) | 0.341 |
| 165 | 13.75 | 0.77 | 0.414 | 0.072 | ( 0.373) | 0.342 |
| 166 | 13.83 | 0.77 | 0.414 | 0.072 | ( 0.373) | 0.342 |
| 167 | 13.92 | 0.77 | 0.414 | 0.072 | ( 0.373) | 0.342 |
| 168 | 14.00 | 0.77 | 0.414 | 0.071 | ( 0.373) | 0.343 |
| 169 | 14.08 | 0.90 | 0.486 | 0.071 | ( 0.437) | 0.415 |
| 170 | 14.17 | 0.90 | 0.486 | 0.071 | ( 0.437) | 0.415 |
| 171 | 14.25 | 0.90 | 0.486 | 0.070 | ( 0.437) | 0.416 |
| 172 | 14.33 | 0.87 | 0.468 | 0.070 | ( 0.421) | 0.398 |
| 173 | 14.42 | 0.87 | 0.468 | 0.069 | ( 0.421) | 0.399 |
| 174 | 14.50 | 0.87 | 0.468 | 0.069 | ( 0.421) | 0.399 |
| 175 | 14.58 | 0.87 | 0.468 | 0.069 | ( 0.421) | 0.399 |
| 176 | 14.67 | 0.87 | 0.468 | 0.068 | ( 0.421) | 0.400 |
| 177 | 14.75 | 0.87 | 0.468 | 0.068 | ( 0.421) | 0.400 |
| 178 | 14.83 | 0.83 | 0.450 | 0.068 | ( 0.405) | 0.382 |
| 179 | 14.92 | 0.83 | 0.450 | 0.067 | ( 0.405) | 0.383 |
| 180 | 15.00 | 0.83 | 0.450 | 0.067 | ( 0.405) | 0.383 |
| 181 | 15.08 | 0.80 | 0.432 | 0.067 | ( 0.389) | 0.365 |
| 182 | 15.17 | 0.80 | 0.432 | 0.066 | ( 0.389) | 0.366 |
| 183 | 15.25 | 0.80 | 0.432 | 0.066 | ( 0.389) | 0.366 |
| 184 | 15.33 | 0.77 | 0.414 | 0.066 | ( 0.373) | 0.348 |
| 185 | 15.42 | 0.77 | 0.414 | 0.065 | ( 0.373) | 0.349 |
| 186 | 15.50 | 0.77 | 0.414 | 0.065 | ( 0.373) | 0.349 |
| 187 | 15.58 | 0.63 | 0.342 | 0.065 | ( 0.308) | 0.277 |
| 188 | 15.67 | 0.63 | 0.342 | 0.064 | ( 0.308) | 0.278 |
| 189 | 15.75 | 0.63 | 0.342 | 0.064 | ( 0.308) | 0.278 |
| 190 | 15.83 | 0.63 | 0.342 | 0.064 | ( 0.308) | 0.278 |
| 191 | 15.92 | 0.63 | 0.342 | 0.063 | ( 0.308) | 0.279 |
| 192 | 16.00 | 0.63 | 0.342 | 0.063 | ( 0.308) | 0.279 |
| 193 | 16.08 | 0.13 | 0.072 | 0.063 | ( 0.065) | 0.009 |
| 194 | 16.17 | 0.13 | 0.072 | 0.062 | ( 0.065) | 0.010 |
| 195 | 16.25 | 0.13 | 0.072 | 0.062 | ( 0.065) | 0.010 |
| 196 | 16.33 | 0.13 | 0.072 | 0.062 | ( 0.065) | 0.010 |
| 197 | 16.42 | 0.13 | 0.072 | 0.061 | ( 0.065) | 0.011 |
| 198 | 16.50 | 0.13 | 0.072 | 0.061 | ( 0.065) | 0.011 |
| 199 | 16.58 | 0.10 | 0.054 | ( 0.061) | 0.049 | 0.005 |
| 200 | 16.67 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 201 | 16.75 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 202 | 16.83 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 203 | 16.92 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 204 | 17.00 | 0.10 | 0.054 | ( 0.059) | 0.049 | 0.005 |
| 205 | 17.08 | 0.17 | 0.090 | 0.059 | ( 0.081) | 0.031 |
| 206 | 17.17 | 0.17 | 0.090 | 0.059 | ( 0.081) | 0.031 |
| 207 | 17.25 | 0.17 | 0.090 | 0.058 | ( 0.081) | 0.032 |
| 208 | 17.33 | 0.17 | 0.090 | 0.058 | ( 0.081) | 0.032 |
| 209 | 17.42 | 0.17 | 0.090 | 0.058 | ( 0.081) | 0.032 |
| 210 | 17.50 | 0.17 | 0.090 | 0.058 | ( 0.081) | 0.032 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 211 | 17.58 | 0.17 | 0.090 | | 0.057 | ( | 0.081) | 0.033 |
| 212 | 17.67 | 0.17 | 0.090 | | 0.057 | ( | 0.081) | 0.033 |
| 213 | 17.75 | 0.17 | 0.090 | | 0.057 | ( | 0.081) | 0.033 |
| 214 | 17.83 | 0.13 | 0.072 | | 0.056 | ( | 0.065) | 0.016 |
| 215 | 17.92 | 0.13 | 0.072 | | 0.056 | ( | 0.065) | 0.016 |
| 216 | 18.00 | 0.13 | 0.072 | | 0.056 | ( | 0.065) | 0.016 |
| 217 | 18.08 | 0.13 | 0.072 | | 0.056 | ( | 0.065) | 0.016 |
| 218 | 18.17 | 0.13 | 0.072 | | 0.055 | ( | 0.065) | 0.017 |
| 219 | 18.25 | 0.13 | 0.072 | | 0.055 | ( | 0.065) | 0.017 |
| 220 | 18.33 | 0.13 | 0.072 | | 0.055 | ( | 0.065) | 0.017 |
| 221 | 18.42 | 0.13 | 0.072 | | 0.054 | ( | 0.065) | 0.018 |
| 222 | 18.50 | 0.13 | 0.072 | | 0.054 | ( | 0.065) | 0.018 |
| 223 | 18.58 | 0.10 | 0.054 | ( | 0.054) | | 0.049 | 0.005 |
| 224 | 18.67 | 0.10 | 0.054 | ( | 0.054) | | 0.049 | 0.005 |
| 225 | 18.75 | 0.10 | 0.054 | ( | 0.053) | | 0.049 | 0.005 |
| 226 | 18.83 | 0.07 | 0.036 | ( | 0.053) | | 0.032 | 0.004 |
| 227 | 18.92 | 0.07 | 0.036 | ( | 0.053) | | 0.032 | 0.004 |
| 228 | 19.00 | 0.07 | 0.036 | ( | 0.053) | | 0.032 | 0.004 |
| 229 | 19.08 | 0.10 | 0.054 | ( | 0.052) | | 0.049 | 0.005 |
| 230 | 19.17 | 0.10 | 0.054 | ( | 0.052) | | 0.049 | 0.005 |
| 231 | 19.25 | 0.10 | 0.054 | ( | 0.052) | | 0.049 | 0.005 |
| 232 | 19.33 | 0.13 | 0.072 | | 0.052 | ( | 0.065) | 0.020 |
| 233 | 19.42 | 0.13 | 0.072 | | 0.051 | ( | 0.065) | 0.021 |
| 234 | 19.50 | 0.13 | 0.072 | | 0.051 | ( | 0.065) | 0.021 |
| 235 | 19.58 | 0.10 | 0.054 | ( | 0.051) | | 0.049 | 0.005 |
| 236 | 19.67 | 0.10 | 0.054 | ( | 0.051) | | 0.049 | 0.005 |
| 237 | 19.75 | 0.10 | 0.054 | ( | 0.050) | | 0.049 | 0.005 |
| 238 | 19.83 | 0.07 | 0.036 | ( | 0.050) | | 0.032 | 0.004 |
| 239 | 19.92 | 0.07 | 0.036 | ( | 0.050) | | 0.032 | 0.004 |
| 240 | 20.00 | 0.07 | 0.036 | ( | 0.050) | | 0.032 | 0.004 |
| 241 | 20.08 | 0.10 | 0.054 | ( | 0.050) | | 0.049 | 0.005 |
| 242 | 20.17 | 0.10 | 0.054 | ( | 0.049) | | 0.049 | 0.005 |
| 243 | 20.25 | 0.10 | 0.054 | ( | 0.049) | | 0.049 | 0.005 |
| 244 | 20.33 | 0.10 | 0.054 | ( | 0.049) | | 0.049 | 0.005 |
| 245 | 20.42 | 0.10 | 0.054 | ( | 0.049) | | 0.049 | 0.005 |
| 246 | 20.50 | 0.10 | 0.054 | | 0.049 | ( | 0.049) | 0.005 |
| 247 | 20.58 | 0.10 | 0.054 | | 0.048 | ( | 0.049) | 0.006 |
| 248 | 20.67 | 0.10 | 0.054 | | 0.048 | ( | 0.049) | 0.006 |
| 249 | 20.75 | 0.10 | 0.054 | | 0.048 | ( | 0.049) | 0.006 |
| 250 | 20.83 | 0.07 | 0.036 | ( | 0.048) | | 0.032 | 0.004 |
| 251 | 20.92 | 0.07 | 0.036 | ( | 0.048) | | 0.032 | 0.004 |
| 252 | 21.00 | 0.07 | 0.036 | ( | 0.047) | | 0.032 | 0.004 |
| 253 | 21.08 | 0.10 | 0.054 | | 0.047 | ( | 0.049) | 0.007 |
| 254 | 21.17 | 0.10 | 0.054 | | 0.047 | ( | 0.049) | 0.007 |
| 255 | 21.25 | 0.10 | 0.054 | | 0.047 | ( | 0.049) | 0.007 |
| 256 | 21.33 | 0.07 | 0.036 | ( | 0.047) | | 0.032 | 0.004 |
| 257 | 21.42 | 0.07 | 0.036 | ( | 0.046) | | 0.032 | 0.004 |
| 258 | 21.50 | 0.07 | 0.036 | ( | 0.046) | | 0.032 | 0.004 |
| 259 | 21.58 | 0.10 | 0.054 | | 0.046 | ( | 0.049) | 0.008 |
| 260 | 21.67 | 0.10 | 0.054 | | 0.046 | ( | 0.049) | 0.008 |
| 261 | 21.75 | 0.10 | 0.054 | | 0.046 | ( | 0.049) | 0.008 |
| 262 | 21.83 | 0.07 | 0.036 | ( | 0.046) | | 0.032 | 0.004 |
| 263 | 21.92 | 0.07 | 0.036 | ( | 0.045) | | 0.032 | 0.004 |
| 264 | 22.00 | 0.07 | 0.036 | ( | 0.045) | | 0.032 | 0.004 |
| 265 | 22.08 | 0.10 | 0.054 | | 0.045 | ( | 0.049) | 0.009 |
| 266 | 22.17 | 0.10 | 0.054 | | 0.045 | ( | 0.049) | 0.009 |
| 267 | 22.25 | 0.10 | 0.054 | | 0.045 | ( | 0.049) | 0.009 |
| 268 | 22.33 | 0.07 | 0.036 | ( | 0.045) | | 0.032 | 0.004 |
| 269 | 22.42 | 0.07 | 0.036 | ( | 0.045) | | 0.032 | 0.004 |
| 270 | 22.50 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 271 | 22.58 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 272 | 22.67 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 273 | 22.75 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 274 | 22.83 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 275 | 22.92 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 276 | 23.00 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 277 | 23.08 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 278 | 23.17 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 279 | 23.25 | 0.07 | 0.036 | ( | 0.043) | | 0.032 | 0.004 |
| 280 | 23.33 | 0.07 | 0.036 | ( | 0.043) | | 0.032 | 0.004 |
| 281 | 23.42 | 0.07 | 0.036 | ( | 0.043) | | 0.032 | 0.004 |
| 282 | 23.50 | 0.07 | 0.036 | ( | 0.043) | | 0.032 | 0.004 |
| 283 | 23.58 | 0.07 | 0.036 | ( | 0.043) | | 0.032 | 0.004 |
| 284 | 23.67 | 0.07 | 0.036 | ( | 0.043) | | 0.032 | 0.004 |
| 285 | 23.75 | 0.07 | 0.036 | ( | 0.043) | | 0.032 | 0.004 |
| 286 | 23.83 | 0.07 | 0.036 | ( | 0.043) | | 0.032 | 0.004 |
| 287 | 23.92 | 0.07 | 0.036 | ( | 0.043) | | 0.032 | 0.004 |
| 288 | 24.00 | 0.07 | 0.036 | ( | 0.043) | | 0.032 | 0.004 |

(Loss Rate Not Used)
Sum = 100.0 Sum = 33.6
Flood volume = Effective rainfall 2.80(In)
times area 0.6(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 1.70(In)
Total soil loss = 0.085(Ac.Ft)
Total rainfall = 4.50(In)
Flood volume = 6101.2 Cubic Feet
Total soil loss = 3699.8 Cubic Feet

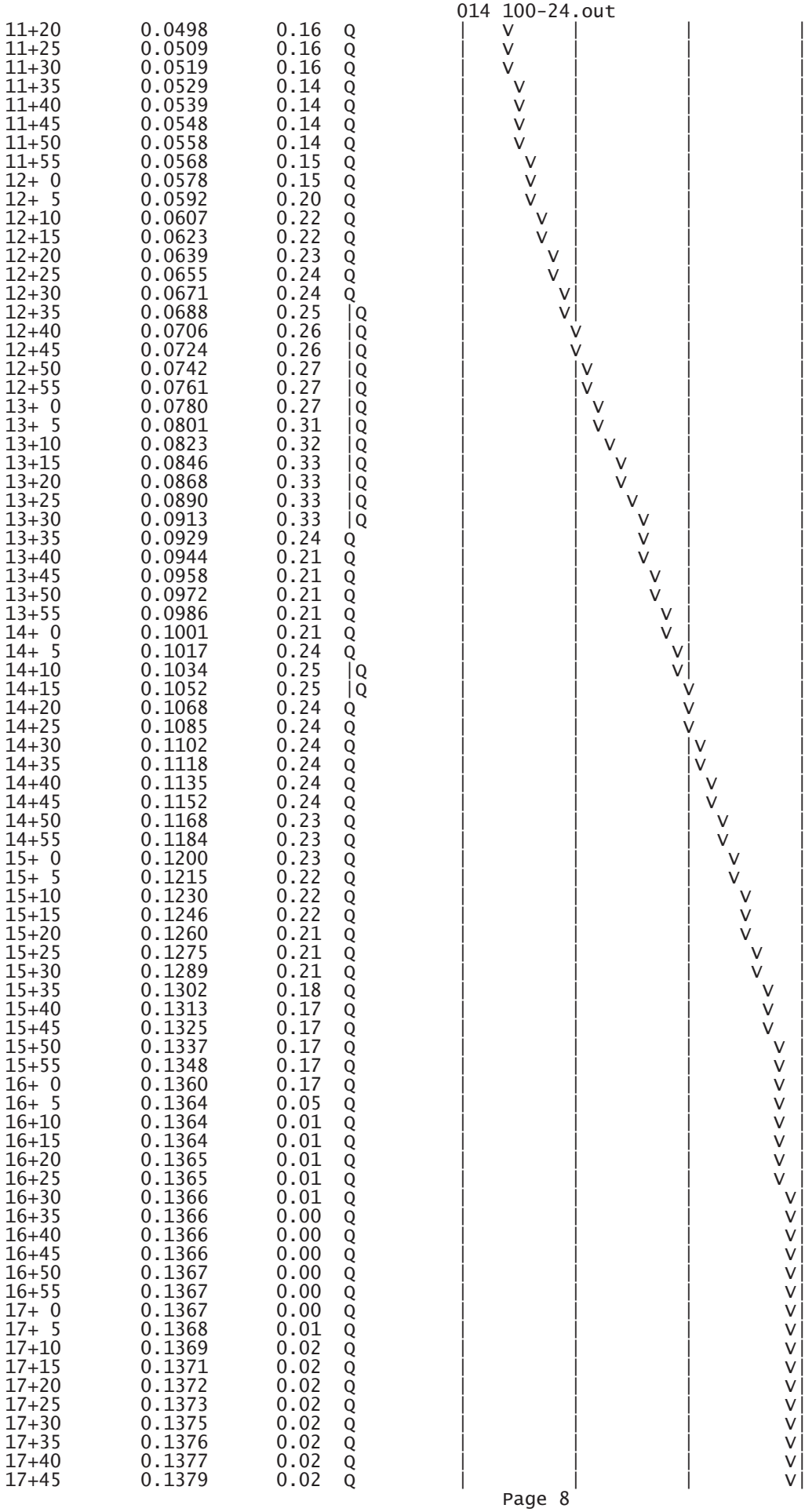
Peak flow rate of this hydrograph = 0.326(CFS)

24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0000 | 0.00 | Q | | | | |
| 0+10 | 0.0000 | 0.00 | Q | | | | |
| 0+15 | 0.0000 | 0.00 | Q | | | | |
| 0+20 | 0.0001 | 0.00 | Q | | | | |
| 0+25 | 0.0001 | 0.00 | Q | | | | |
| 0+30 | 0.0001 | 0.00 | Q | | | | |
| 0+35 | 0.0001 | 0.00 | Q | | | | |
| 0+40 | 0.0002 | 0.00 | Q | | | | |
| 0+45 | 0.0002 | 0.00 | Q | | | | |
| 0+50 | 0.0002 | 0.00 | Q | | | | |
| 0+55 | 0.0002 | 0.00 | Q | | | | |
| 1+ 0 | 0.0003 | 0.00 | Q | | | | |
| 1+ 5 | 0.0003 | 0.00 | Q | | | | |
| 1+10 | 0.0003 | 0.00 | Q | | | | |
| 1+15 | 0.0003 | 0.00 | Q | | | | |
| 1+20 | 0.0004 | 0.00 | Q | | | | |
| 1+25 | 0.0004 | 0.00 | Q | | | | |
| 1+30 | 0.0004 | 0.00 | Q | | | | |
| 1+35 | 0.0004 | 0.00 | Q | | | | |
| 1+40 | 0.0004 | 0.00 | Q | | | | |
| 1+45 | 0.0005 | 0.00 | Q | | | | |
| 1+50 | 0.0005 | 0.00 | Q | | | | |
| 1+55 | 0.0005 | 0.00 | Q | | | | |
| 2+ 0 | 0.0006 | 0.00 | Q | | | | |
| 2+ 5 | 0.0006 | 0.00 | Q | | | | |
| 2+10 | 0.0006 | 0.00 | Q | | | | |
| 2+15 | 0.0006 | 0.00 | Q | | | | |
| 2+20 | 0.0007 | 0.00 | Q | | | | |
| 2+25 | 0.0007 | 0.00 | Q | | | | |
| 2+30 | 0.0007 | 0.00 | Q | | | | |
| 2+35 | 0.0008 | 0.01 | Q | | | | |
| 2+40 | 0.0008 | 0.01 | Q | | | | |
| 2+45 | 0.0008 | 0.01 | Q | | | | |
| 2+50 | 0.0009 | 0.01 | Q | | | | |
| 2+55 | 0.0009 | 0.01 | Q | | | | |
| 3+ 0 | 0.0010 | 0.01 | Q | | | | |
| 3+ 5 | 0.0010 | 0.01 | Q | | | | |
| 3+10 | 0.0010 | 0.01 | Q | | | | |
| 3+15 | 0.0011 | 0.01 | Q | | | | |
| 3+20 | 0.0011 | 0.01 | Q | | | | |
| 3+25 | 0.0011 | 0.01 | Q | | | | |
| 3+30 | 0.0012 | 0.01 | Q | | | | |
| 3+35 | 0.0012 | 0.01 | Q | | | | |
| 3+40 | 0.0013 | 0.01 | Q | | | | |
| 3+45 | 0.0013 | 0.01 | Q | | | | |
| 3+50 | 0.0013 | 0.01 | Q | | | | |
| 3+55 | 0.0014 | 0.01 | Q | | | | |
| 4+ 0 | 0.0014 | 0.01 | Q | | | | |
| 4+ 5 | 0.0015 | 0.01 | Q | | | | |
| 4+10 | 0.0015 | 0.01 | Q | | | | |
| 4+15 | 0.0016 | 0.01 | Q | | | | |
| 4+20 | 0.0016 | 0.01 | Q | | | | |
| 4+25 | 0.0017 | 0.01 | Q | | | | |
| 4+30 | 0.0017 | 0.01 | Q | | | | |
| 4+35 | 0.0018 | 0.01 | Q | | | | |
| 4+40 | 0.0018 | 0.01 | Q | | | | |
| 4+45 | 0.0019 | 0.01 | Q | | | | |

```
 4+50       0.0020      0.01  Q          |          |          |          |
 4+55       0.0021      0.01  Q          |          |          |          |
 5+ 0       0.0022      0.01  Q          |          |          |          |
 5+ 5       0.0022      0.01  Q          |          |          |          |
 5+10       0.0023      0.01  Q          |          |          |          |
 5+15       0.0023      0.01  Q          |          |          |          |
 5+20       0.0024      0.01  Q          |          |          |          |
 5+25       0.0024      0.01  Q          |          |          |          |
 5+30       0.0025      0.01  Q          |          |          |          |
 5+35       0.0026      0.01  Q          |          |          |          |
 5+40       0.0027      0.02  Q          |          |          |          |
 5+45       0.0028      0.02  Q          |          |          |          |
 5+50       0.0029      0.02  Q          |          |          |          |
 5+55       0.0031      0.02  Q          |          |          |          |
 6+ 0       0.0032      0.02  Q          |          |          |          |
 6+ 5       0.0034      0.03  Q          |          |          |          |
 6+10       0.0036      0.03  QV         |          |          |          |
 6+15       0.0038      0.03  QV         |          |          |          |
 6+20       0.0040      0.03  QV         |          |          |          |
 6+25       0.0042      0.03  QV         |          |          |          |
 6+30       0.0044      0.03  QV         |          |          |          |
 6+35       0.0047      0.04  QV         |          |          |          |
 6+40       0.0050      0.04  QV         |          |          |          |
 6+45       0.0053      0.04  QV         |          |          |          |
 6+50       0.0056      0.04  QV         |          |          |          |
 6+55       0.0059      0.04  QV         |          |          |          |
 7+ 0       0.0062      0.04  QV         |          |          |          |
 7+ 5       0.0065      0.04  QV         |          |          |          |
 7+10       0.0068      0.04  QV         |          |          |          |
 7+15       0.0071      0.04  Q V        |          |          |          |
 7+20       0.0075      0.05  Q V        |          |          |          |
 7+25       0.0078      0.06  Q V        |          |          |          |
 7+30       0.0082      0.06  Q V        |          |          |          |
 7+35       0.0087      0.06  Q V        |          |          |          |
 7+40       0.0091      0.07  Q V        |          |          |          |
 7+45       0.0096      0.07  Q V        |          |          |          |
 7+50       0.0101      0.08  Q V        |          |          |          |
 7+55       0.0107      0.08  Q  V       |          |          |          |
 8+ 0       0.0112      0.08  Q  V       |          |          |          |
 8+ 5       0.0119      0.10  Q  V       |          |          |          |
 8+10       0.0126      0.10  Q  V       |          |          |          |
 8+15       0.0133      0.10  Q  V       |          |          |          |
 8+20       0.0140      0.10  Q   V      |          |          |          |
 8+25       0.0147      0.10  Q   V      |          |          |          |
 8+30       0.0154      0.10  Q   V      |          |          |          |
 8+35       0.0162      0.11  Q   V      |          |          |          |
 8+40       0.0170      0.11  Q   V      |          |          |          |
 8+45       0.0178      0.12  Q    V     |          |          |          |
 8+50       0.0187      0.12  Q    V     |          |          |          |
 8+55       0.0195      0.13  Q    V     |          |          |          |
 9+ 0       0.0204      0.13  Q    V     |          |          |          |
 9+ 5       0.0214      0.14  Q     V    |          |          |          |
 9+10       0.0224      0.15  Q     V    |          |          |          |
 9+15       0.0234      0.15  Q     V    |          |          |          |
 9+20       0.0245      0.16  Q      V   |          |          |          |
 9+25       0.0256      0.16  Q      V   |          |          |          |
 9+30       0.0267      0.16  Q      V   |          |          |          |
 9+35       0.0279      0.17  Q      V   |          |          |          |
 9+40       0.0291      0.17  Q       V  |          |          |          |
 9+45       0.0303      0.17  Q       V  |          |          |          |
 9+50       0.0315      0.18  Q        V |          |          |          |
 9+55       0.0328      0.18  Q        V |          |          |          |
10+ 0       0.0341      0.18  Q        V |          |          |          |
10+ 5       0.0350      0.13  Q        V |          |          |          |
10+10       0.0357      0.11  Q         V          |          |          |
10+15       0.0365      0.11  Q         V          |          |          |
10+20       0.0372      0.11  Q         V          |          |          |
10+25       0.0380      0.11  Q         V          |          |          |
10+30       0.0388      0.11  Q         |V         |          |          |
10+35       0.0398      0.15  Q         |V         |          |          |
10+40       0.0409      0.17  Q         |V         |          |          |
10+45       0.0421      0.17  Q         | V        |          |          |
10+50       0.0432      0.17  Q         | V        |          |          |
10+55       0.0443      0.17  Q         | V        |          |          |
11+ 0       0.0455      0.17  Q         | V        |          |          |
11+ 5       0.0466      0.16  Q         |  V       |          |          |
11+10       0.0476      0.16  Q         |  V       |          |          |
11+15       0.0487      0.16  Q         |  V       |          |          |
```



| | | | | |
|---|---|---|---|---|
| 11+20 | 0.0498 | 0.16 | Q | V |
| 11+25 | 0.0509 | 0.16 | Q | V |
| 11+30 | 0.0519 | 0.16 | Q | V |
| 11+35 | 0.0529 | 0.14 | Q | V |
| 11+40 | 0.0539 | 0.14 | Q | V |
| 11+45 | 0.0548 | 0.14 | Q | V |
| 11+50 | 0.0558 | 0.14 | Q | V |
| 11+55 | 0.0568 | 0.15 | Q | V |
| 12+ 0 | 0.0578 | 0.15 | Q | V |
| 12+ 5 | 0.0592 | 0.20 | Q | V |
| 12+10 | 0.0607 | 0.22 | Q | V |
| 12+15 | 0.0623 | 0.22 | Q | V |
| 12+20 | 0.0639 | 0.23 | Q | V |
| 12+25 | 0.0655 | 0.24 | Q | V |
| 12+30 | 0.0671 | 0.24 | Q | V |
| 12+35 | 0.0688 | 0.25 | \|Q | V |
| 12+40 | 0.0706 | 0.26 | \|Q | V |
| 12+45 | 0.0724 | 0.26 | \|Q | V |
| 12+50 | 0.0742 | 0.27 | \|Q | V |
| 12+55 | 0.0761 | 0.27 | \|Q | V |
| 13+ 0 | 0.0780 | 0.27 | \|Q | V |
| 13+ 5 | 0.0801 | 0.31 | \|Q | V |
| 13+10 | 0.0823 | 0.32 | \|Q | V |
| 13+15 | 0.0846 | 0.33 | \|Q | V |
| 13+20 | 0.0868 | 0.33 | \|Q | V |
| 13+25 | 0.0890 | 0.33 | \|Q | V |
| 13+30 | 0.0913 | 0.33 | \|Q | V |
| 13+35 | 0.0929 | 0.24 | Q | V |
| 13+40 | 0.0944 | 0.21 | Q | V |
| 13+45 | 0.0958 | 0.21 | Q | V |
| 13+50 | 0.0972 | 0.21 | Q | V |
| 13+55 | 0.0986 | 0.21 | Q | V |
| 14+ 0 | 0.1001 | 0.21 | Q | V |
| 14+ 5 | 0.1017 | 0.24 | Q | V |
| 14+10 | 0.1034 | 0.25 | \|Q | V |
| 14+15 | 0.1052 | 0.25 | \|Q | V |
| 14+20 | 0.1068 | 0.24 | Q | V |
| 14+25 | 0.1085 | 0.24 | Q | V |
| 14+30 | 0.1102 | 0.24 | Q | V |
| 14+35 | 0.1118 | 0.24 | Q | V |
| 14+40 | 0.1135 | 0.24 | Q | V |
| 14+45 | 0.1152 | 0.24 | Q | V |
| 14+50 | 0.1168 | 0.23 | Q | V |
| 14+55 | 0.1184 | 0.23 | Q | V |
| 15+ 0 | 0.1200 | 0.23 | Q | V |
| 15+ 5 | 0.1215 | 0.22 | Q | V |
| 15+10 | 0.1230 | 0.22 | Q | V |
| 15+15 | 0.1246 | 0.22 | Q | V |
| 15+20 | 0.1260 | 0.21 | Q | V |
| 15+25 | 0.1275 | 0.21 | Q | V |
| 15+30 | 0.1289 | 0.21 | Q | V |
| 15+35 | 0.1302 | 0.18 | Q | V |
| 15+40 | 0.1313 | 0.17 | Q | V |
| 15+45 | 0.1325 | 0.17 | Q | V |
| 15+50 | 0.1337 | 0.17 | Q | V |
| 15+55 | 0.1348 | 0.17 | Q | V |
| 16+ 0 | 0.1360 | 0.17 | Q | V |
| 16+ 5 | 0.1364 | 0.05 | Q | V |
| 16+10 | 0.1364 | 0.01 | Q | V |
| 16+15 | 0.1364 | 0.01 | Q | V |
| 16+20 | 0.1365 | 0.01 | Q | V |
| 16+25 | 0.1365 | 0.01 | Q | V |
| 16+30 | 0.1366 | 0.01 | Q | V\| |
| 16+35 | 0.1366 | 0.00 | Q | V\| |
| 16+40 | 0.1366 | 0.00 | Q | V\| |
| 16+45 | 0.1366 | 0.00 | Q | V\| |
| 16+50 | 0.1367 | 0.00 | Q | V\| |
| 16+55 | 0.1367 | 0.00 | Q | V\| |
| 17+ 0 | 0.1367 | 0.00 | Q | V\| |
| 17+ 5 | 0.1368 | 0.01 | Q | V\| |
| 17+10 | 0.1369 | 0.02 | Q | V\| |
| 17+15 | 0.1371 | 0.02 | Q | V\| |
| 17+20 | 0.1372 | 0.02 | Q | V\| |
| 17+25 | 0.1373 | 0.02 | Q | V\| |
| 17+30 | 0.1375 | 0.02 | Q | V\| |
| 17+35 | 0.1376 | 0.02 | Q | V\| |
| 17+40 | 0.1377 | 0.02 | Q | V\| |
| 17+45 | 0.1379 | 0.02 | Q | V\| |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+50 | 0.1380 | 0.01 | Q | \| | \| | \| | V\| |
| 17+55 | 0.1380 | 0.01 | Q | \| | \| | \| | V\| |
| 18+ 0 | 0.1381 | 0.01 | Q | \| | \| | \| | V\| |
| 18+ 5 | 0.1382 | 0.01 | Q | \| | \| | \| | V\| |
| 18+10 | 0.1382 | 0.01 | Q | \| | \| | \| | V\| |
| 18+15 | 0.1383 | 0.01 | Q | \| | \| | \| | V\| |
| 18+20 | 0.1384 | 0.01 | Q | \| | \| | \| | V\| |
| 18+25 | 0.1385 | 0.01 | Q | \| | \| | \| | V\| |
| 18+30 | 0.1385 | 0.01 | Q | \| | \| | \| | V\| |
| 18+35 | 0.1386 | 0.01 | Q | \| | \| | \| | V\| |
| 18+40 | 0.1386 | 0.00 | Q | \| | \| | \| | V\| |
| 18+45 | 0.1386 | 0.00 | Q | \| | \| | \| | V\| |
| 18+50 | 0.1386 | 0.00 | Q | \| | \| | \| | V\| |
| 18+55 | 0.1386 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 0 | 0.1387 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 5 | 0.1387 | 0.00 | Q | \| | \| | \| | V\| |
| 19+10 | 0.1387 | 0.00 | Q | \| | \| | \| | V\| |
| 19+15 | 0.1387 | 0.00 | Q | \| | \| | \| | V\| |
| 19+20 | 0.1388 | 0.01 | Q | \| | \| | \| | V\| |
| 19+25 | 0.1389 | 0.01 | Q | \| | \| | \| | V\| |
| 19+30 | 0.1390 | 0.01 | Q | \| | \| | \| | V\| |
| 19+35 | 0.1390 | 0.01 | Q | \| | \| | \| | V\| |
| 19+40 | 0.1390 | 0.00 | Q | \| | \| | \| | V\| |
| 19+45 | 0.1391 | 0.00 | Q | \| | \| | \| | V\| |
| 19+50 | 0.1391 | 0.00 | Q | \| | \| | \| | V\| |
| 19+55 | 0.1391 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 0 | 0.1391 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 5 | 0.1391 | 0.00 | Q | \| | \| | \| | V\| |
| 20+10 | 0.1391 | 0.00 | Q | \| | \| | \| | V\| |
| 20+15 | 0.1392 | 0.00 | Q | \| | \| | \| | V\| |
| 20+20 | 0.1392 | 0.00 | Q | \| | \| | \| | V\| |
| 20+25 | 0.1392 | 0.00 | Q | \| | \| | \| | V\| |
| 20+30 | 0.1392 | 0.00 | Q | \| | \| | \| | V\| |
| 20+35 | 0.1393 | 0.00 | Q | \| | \| | \| | V\| |
| 20+40 | 0.1393 | 0.00 | Q | \| | \| | \| | V\| |
| 20+45 | 0.1393 | 0.00 | Q | \| | \| | \| | V\| |
| 20+50 | 0.1393 | 0.00 | Q | \| | \| | \| | V\| |
| 20+55 | 0.1393 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 0 | 0.1394 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 5 | 0.1394 | 0.00 | Q | \| | \| | \| | V\| |
| 21+10 | 0.1394 | 0.00 | Q | \| | \| | \| | V\| |
| 21+15 | 0.1394 | 0.00 | Q | \| | \| | \| | V\| |
| 21+20 | 0.1395 | 0.00 | Q | \| | \| | \| | V\| |
| 21+25 | 0.1395 | 0.00 | Q | \| | \| | \| | V\| |
| 21+30 | 0.1395 | 0.00 | Q | \| | \| | \| | V\| |
| 21+35 | 0.1395 | 0.00 | Q | \| | \| | \| | V\| |
| 21+40 | 0.1395 | 0.00 | Q | \| | \| | \| | V\| |
| 21+45 | 0.1396 | 0.00 | Q | \| | \| | \| | V\| |
| 21+50 | 0.1396 | 0.00 | Q | \| | \| | \| | V\| |
| 21+55 | 0.1396 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 0 | 0.1396 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 5 | 0.1397 | 0.00 | Q | \| | \| | \| | V\| |
| 22+10 | 0.1397 | 0.01 | Q | \| | \| | \| | V\| |
| 22+15 | 0.1397 | 0.01 | Q | \| | \| | \| | V\| |
| 22+20 | 0.1398 | 0.00 | Q | \| | \| | \| | V\| |
| 22+25 | 0.1398 | 0.00 | Q | \| | \| | \| | V\| |
| 22+30 | 0.1398 | 0.00 | Q | \| | \| | \| | V\| |
| 22+35 | 0.1398 | 0.00 | Q | \| | \| | \| | V\| |
| 22+40 | 0.1398 | 0.00 | Q | \| | \| | \| | V\| |
| 22+45 | 0.1398 | 0.00 | Q | \| | \| | \| | V\| |
| 22+50 | 0.1398 | 0.00 | Q | \| | \| | \| | V\| |
| 22+55 | 0.1399 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 0 | 0.1399 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 5 | 0.1399 | 0.00 | Q | \| | \| | \| | V\| |
| 23+10 | 0.1399 | 0.00 | Q | \| | \| | \| | V\| |
| 23+15 | 0.1399 | 0.00 | Q | \| | \| | \| | V\| |
| 23+20 | 0.1399 | 0.00 | Q | \| | \| | \| | V\| |
| 23+25 | 0.1400 | 0.00 | Q | \| | \| | \| | V\| |
| 23+30 | 0.1400 | 0.00 | Q | \| | \| | \| | V\| |
| 23+35 | 0.1400 | 0.00 | Q | \| | \| | \| | V\| |
| 23+40 | 0.1400 | 0.00 | Q | \| | \| | \| | V\| |
| 23+45 | 0.1400 | 0.00 | Q | \| | \| | \| | V\| |
| 23+50 | 0.1400 | 0.00 | Q | \| | \| | \| | V\| |
| 23+55 | 0.1400 | 0.00 | Q | \| | \| | \| | V\| |
| 24+ 0 | 0.1401 | 0.00 | Q | \| | \| | \| | V\| |
| 24+ 5 | 0.1401 | 0.00 | Q | \| | \| | \| | V |

U n i t  H y d r o g r a p h  A n a l y s i s

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014, Version 9.0
Study date 12/21/17 File: EX151100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 15
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 13.70(Ac.) = 0.021 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 13.70(Ac.) = 0.021 Sq. Mi.
Length along longest watercourse = 1459.00(Ft.)
Length along longest watercourse measured to centroid = 942.00(Ft.)
Length along longest watercourse = 0.276 Mi.
Length along longest watercourse measured to centroid = 0.178 Mi.
Difference in elevation = 408.00(Ft.)
Slope along watercourse = 1476.5182 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.067 Hr.
Lag time = 4.01 Min.
25% of lag time = 1.00 Min.
40% of lag time = 1.61 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 13.70 | 0.49 | 6.71 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 13.70 | 1.20 | 16.44 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.490(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 13.700 | 84.00 | 0.000 |

Total Area Entered = 13.70(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 124.571 | 22.912 | 3.163 |
| 2 | 0.167 | 249.142 | 55.901 | 7.718 |
| 3 | 0.250 | 373.712 | 14.939 | 2.063 |
| 4 | 0.333 | 498.283 | 4.517 | 0.624 |
| 5 | 0.417 | 622.854 | 1.129 | 0.156 |
| 6 | 0.500 | 747.425 | 0.602 | 0.083 |
| | | Sum = 100.000 | Sum= | 13.807 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.086 | ( 0.544) | 0.519 |
| 2 | 0.17 | 4.30 | 0.619 | 0.086 | ( 0.557) | 0.533 |
| 3 | 0.25 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 4 | 0.33 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 5 | 0.42 | 5.80 | 0.835 | 0.086 | ( 0.752) | 0.749 |
| 6 | 0.50 | 6.50 | 0.936 | 0.086 | ( 0.842) | 0.850 |
| 7 | 0.58 | 7.40 | 1.065 | 0.086 | ( 0.959) | 0.980 |
| 8 | 0.67 | 8.60 | 1.238 | 0.086 | ( 1.114) | 1.152 |
| 9 | 0.75 | 12.30 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 10 | 0.83 | 29.10 | 4.190 | 0.086 | ( 3.771) | 4.104 |
| 11 | 0.92 | 6.80 | 0.979 | 0.086 | ( 0.881) | 0.893 |
| 12 | 1.00 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 13.4 |

Flood volume = Effective rainfall 1.11(In)
times area 13.7(Ac.)/[(In)/(Ft.)] = 1.3(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.098(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 55402.9 Cubic Feet
Total soil loss = 4266.9 Cubic Feet

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Peak flow rate of this hydrograph = 38.940(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 10.0 20.0 30.0 40.0 |
|---|---|---|---|
| 0+ 5 | 0.0113 | 1.64 | VQ |
| 0+10 | 0.0505 | 5.70 | V Q |
| 0+15 | 0.1001 | 7.20 | V Q |
| 0+20 | 0.1575 | 8.33 | V Q |
| 0+25 | 0.2194 | 8.99 | V Q |
| 0+30 | 0.2904 | 10.31 | VQ |
| 0+35 | 0.3713 | 11.75 | Q |
| 0+40 | 0.4649 | 13.59 | QV |
| 0+45 | 0.5816 | 16.95 | Q V |
| 0+50 | 0.7826 | 29.19 | V Q |
| 0+55 | 1.0508 | 38.94 | V Q |
| 1+ 0 | 1.1795 | 18.69 | Q V |
| 1+ 5 | 1.2461 | 9.66 | Q V |
| 1+10 | 1.2643 | 2.65 | Q V |
| 1+15 | 1.2703 | 0.88 | Q V |

```
    1+20       1.2715      0.17  Q          |          |          |        V|
    1+25       1.2719      0.05  Q          |          |          |         V
-------------------------------------------------------------------------------
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX153100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 15
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 13.70(Ac.) = 0.021 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 13.70(Ac.) = 0.021 Sq. Mi.
Length along longest watercourse = 1459.00(Ft.)
Length along longest watercourse measured to centroid = 942.00(Ft.)
Length along longest watercourse = 0.276 Mi.
Length along longest watercourse measured to centroid = 0.178 Mi.
Difference in elevation = 408.00(Ft.)
Slope along watercourse = 1476.5182 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.067 Hr.
Lag time = 4.01 Min.
25% of lag time = 1.00 Min.
40% of lag time = 1.61 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 13.70 | 0.80 | 10.96 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 13.70 | 1.80 | 24.66 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 13.700 | 84.00 | 0.000 |

Total Area Entered = 13.70(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 124.571 | 22.912 | 3.163 |
| 2 | 0.167 | 249.142 | 55.901 | 7.718 |
| 3 | 0.250 | 373.712 | 14.939 | 2.063 |
| 4 | 0.333 | 498.283 | 4.517 | 0.624 |
| 5 | 0.417 | 622.854 | 1.129 | 0.156 |
| 6 | 0.500 | 747.425 | 0.602 | 0.083 |
| | | | Sum = 100.000 | Sum= 13.807 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.281 | 0.086 | ( | 0.253) | 0.195 |
| 2 | 0.17 | 1.30 | 0.281 | 0.086 | ( | 0.253) | 0.195 |
| 3 | 0.25 | 1.10 | 0.238 | 0.086 | ( | 0.214) | 0.152 |
| 4 | 0.33 | 1.50 | 0.324 | 0.086 | ( | 0.292) | 0.238 |
| 5 | 0.42 | 1.50 | 0.324 | 0.086 | ( | 0.292) | 0.238 |
| 6 | 0.50 | 1.80 | 0.389 | 0.086 | ( | 0.350) | 0.303 |
| 7 | 0.58 | 1.50 | 0.324 | 0.086 | ( | 0.292) | 0.238 |
| 8 | 0.67 | 1.80 | 0.389 | 0.086 | ( | 0.350) | 0.303 |
| 9 | 0.75 | 1.80 | 0.389 | 0.086 | ( | 0.350) | 0.303 |
| 10 | 0.83 | 1.50 | 0.324 | 0.086 | ( | 0.292) | 0.238 |
| 11 | 0.92 | 1.60 | 0.346 | 0.086 | ( | 0.311) | 0.260 |
| 12 | 1.00 | 1.80 | 0.389 | 0.086 | ( | 0.350) | 0.303 |
| 13 | 1.08 | 2.20 | 0.475 | 0.086 | ( | 0.428) | 0.389 |
| 14 | 1.17 | 2.20 | 0.475 | 0.086 | ( | 0.428) | 0.389 |
| 15 | 1.25 | 2.20 | 0.475 | 0.086 | ( | 0.428) | 0.389 |
| 16 | 1.33 | 2.00 | 0.432 | 0.086 | ( | 0.389) | 0.346 |
| 17 | 1.42 | 2.60 | 0.562 | 0.086 | ( | 0.505) | 0.476 |
| 18 | 1.50 | 2.70 | 0.583 | 0.086 | ( | 0.525) | 0.497 |
| 19 | 1.58 | 2.40 | 0.518 | 0.086 | ( | 0.467) | 0.433 |
| 20 | 1.67 | 2.70 | 0.583 | 0.086 | ( | 0.525) | 0.497 |
| 21 | 1.75 | 3.30 | 0.713 | 0.086 | ( | 0.641) | 0.627 |
| 22 | 1.83 | 3.10 | 0.670 | 0.086 | ( | 0.603) | 0.584 |
| 23 | 1.92 | 2.90 | 0.626 | 0.086 | ( | 0.564) | 0.541 |
| 24 | 2.00 | 3.00 | 0.648 | 0.086 | ( | 0.583) | 0.562 |
| 25 | 2.08 | 3.10 | 0.670 | 0.086 | ( | 0.603) | 0.584 |
| 26 | 2.17 | 4.20 | 0.907 | 0.086 | ( | 0.816) | 0.821 |
| 27 | 2.25 | 5.00 | 1.080 | 0.086 | ( | 0.972) | 0.994 |
| 28 | 2.33 | 3.50 | 0.756 | 0.086 | ( | 0.680) | 0.670 |
| 29 | 2.42 | 6.80 | 1.469 | 0.086 | ( | 1.322) | 1.383 |
| 30 | 2.50 | 7.30 | 1.577 | 0.086 | ( | 1.419) | 1.491 |
| 31 | 2.58 | 8.20 | 1.771 | 0.086 | ( | 1.594) | 1.685 |
| 32 | 2.67 | 5.90 | 1.274 | 0.086 | ( | 1.147) | 1.189 |
| 33 | 2.75 | 2.00 | 0.432 | 0.086 | ( | 0.389) | 0.346 |
| 34 | 2.83 | 1.80 | 0.389 | 0.086 | ( | 0.350) | 0.303 |
| 35 | 2.92 | 1.80 | 0.389 | 0.086 | ( | 0.350) | 0.303 |
| 36 | 3.00 | 0.60 | 0.130 | 0.086 | ( | 0.117) | 0.044 |
| | | (Loss Rate Not Used) | | | | | |
| Sum = | | 100.0 | | | | Sum = | 18.5 |

Flood volume = Effective rainfall 1.54(In)
times area 13.7(Ac.)/[(In)/(Ft.)] = 1.8(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.294(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 76709.7 Cubic Feet
Total soil loss = 12800.8 Cubic Feet

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Peak flow rate of this hydrograph = 20.903(CFS)

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3 - H O U R S T O R M

R u n o f f  H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 7.5 15.0 22.5 30.0 |
|---|---|---|---|
| 0+ 5 | 0.0043 | 0.62 | Q |
| 0+10 | 0.0189 | 2.12 | V Q |
| 0+15 | 0.0353 | 2.39 | V Q |
| 0+20 | 0.0522 | 2.45 | V Q |
| 0+25 | 0.0733 | 3.06 | V Q |
| 0+30 | 0.0969 | 3.43 | V Q |
| 0+35 | 0.1229 | 3.77 | V Q |
| 0+40 | 0.1478 | 3.62 | VQ |
| 0+45 | 0.1756 | 4.04 | V Q |
| 0+50 | 0.2027 | 3.93 | VQ |
| 0+55 | 0.2271 | 3.54 | QV |
| 1+ 0 | 0.2527 | 3.71 | QV |
| 1+ 5 | 0.2825 | 4.33 | QV |
| 1+10 | 0.3175 | 5.09 | QV |
| 1+15 | 0.3540 | 5.29 | QV |
| 1+20 | 0.3899 | 5.22 | Q V |
| 1+25 | 0.4265 | 5.31 | Q V |
| 1+30 | 0.4699 | 6.30 | Q V |
| 1+35 | 0.5146 | 6.50 | Q V |
| 1+40 | 0.5582 | 6.32 | Q V |
| 1+45 | 0.6073 | 7.13 | Q V |
| 1+50 | 0.6631 | 8.10 | Q V |
| 1+55 | 0.7177 | 7.93 | Q V |
| 2+ 0 | 0.7705 | 7.66 | Q V |
| 2+ 5 | 0.8243 | 7.81 | Q V |
| 2+10 | 0.8845 | 8.75 | Q V |
| 2+15 | 0.9615 | 11.18 | Q V |
| 2+20 | 1.0441 | 11.99 | Q V |
| 2+25 | 1.1285 | 12.25 | Q V |
| 2+30 | 1.2495 | 17.58 | Q V |
| 2+35 | 1.3896 | 20.34 | Q V |
| 2+40 | 1.5336 | 20.90 | Q V |
| 2+45 | 1.6366 | 14.95 | Q V |
| 2+50 | 1.6881 | 7.48 | Q V |
| 2+55 | 1.7235 | 5.14 | Q V |
| 3+ 0 | 1.7486 | 3.65 | Q V |
| 3+ 5 | 1.7576 | 1.31 | Q V |
| 3+10 | 1.7601 | 0.36 | Q V |
| 3+15 | 1.7608 | 0.10 | Q V |
| 3+20 | 1.7610 | 0.03 | Q V |
| 3+25 | 1.7610 | 0.00 | Q V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX156100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 15
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 13.70(Ac.) = 0.021 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 13.70(Ac.) = 0.021 Sq. Mi.
Length along longest watercourse = 1459.00(Ft.)
Length along longest watercourse measured to centroid = 942.00(Ft.)
Length along longest watercourse = 0.276 Mi.
Length along longest watercourse measured to centroid = 0.178 Mi.
Difference in elevation = 408.00(Ft.)
Slope along watercourse = 1476.5182 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.067 Hr.
Lag time = 4.01 Min.
25% of lag time = 1.00 Min.
40% of lag time = 1.61 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 13.70 | 1.13 | 15.48 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 13.70 | 2.50 | 34.25 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.130(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 13.700 | 84.00 | 0.000 |

Total Area Entered = 13.70(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 124.571 | 22.912 | 3.163 |
| 2 | 0.167 | 249.142 | 55.901 | 7.718 |
| 3 | 0.250 | 373.712 | 14.939 | 2.063 |
| 4 | 0.333 | 498.283 | 4.517 | 0.624 |
| 5 | 0.417 | 622.854 | 1.129 | 0.156 |
| 6 | 0.500 | 747.425 | 0.602 | 0.083 |
| | | | Sum = 100.000 | Sum= 13.807 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.086 | ( | 0.135) | 0.064 |
| 2 | 0.17 | 0.60 | 0.180 | 0.086 | ( | 0.162) | 0.094 |
| 3 | 0.25 | 0.60 | 0.180 | 0.086 | ( | 0.162) | 0.094 |
| 4 | 0.33 | 0.60 | 0.180 | 0.086 | ( | 0.162) | 0.094 |
| 5 | 0.42 | 0.60 | 0.180 | 0.086 | ( | 0.162) | 0.094 |
| 6 | 0.50 | 0.70 | 0.210 | 0.086 | ( | 0.189) | 0.124 |
| 7 | 0.58 | 0.70 | 0.210 | 0.086 | ( | 0.189) | 0.124 |
| 8 | 0.67 | 0.70 | 0.210 | 0.086 | ( | 0.189) | 0.124 |
| 9 | 0.75 | 0.70 | 0.210 | 0.086 | ( | 0.189) | 0.124 |
| 10 | 0.83 | 0.70 | 0.210 | 0.086 | ( | 0.189) | 0.124 |
| 11 | 0.92 | 0.70 | 0.210 | 0.086 | ( | 0.189) | 0.124 |
| 12 | 1.00 | 0.80 | 0.240 | 0.086 | ( | 0.216) | 0.154 |
| 13 | 1.08 | 0.80 | 0.240 | 0.086 | ( | 0.216) | 0.154 |
| 14 | 1.17 | 0.80 | 0.240 | 0.086 | ( | 0.216) | 0.154 |
| 15 | 1.25 | 0.80 | 0.240 | 0.086 | ( | 0.216) | 0.154 |
| 16 | 1.33 | 0.80 | 0.240 | 0.086 | ( | 0.216) | 0.154 |
| 17 | 1.42 | 0.80 | 0.240 | 0.086 | ( | 0.216) | 0.154 |
| 18 | 1.50 | 0.80 | 0.240 | 0.086 | ( | 0.216) | 0.154 |
| 19 | 1.58 | 0.80 | 0.240 | 0.086 | ( | 0.216) | 0.154 |
| 20 | 1.67 | 0.80 | 0.240 | 0.086 | ( | 0.216) | 0.154 |
| 21 | 1.75 | 0.80 | 0.240 | 0.086 | ( | 0.216) | 0.154 |
| 22 | 1.83 | 0.80 | 0.240 | 0.086 | ( | 0.216) | 0.154 |
| 23 | 1.92 | 0.80 | 0.240 | 0.086 | ( | 0.216) | 0.154 |
| 24 | 2.00 | 0.90 | 0.270 | 0.086 | ( | 0.243) | 0.184 |
| 25 | 2.08 | 0.80 | 0.240 | 0.086 | ( | 0.216) | 0.154 |
| 26 | 2.17 | 0.90 | 0.270 | 0.086 | ( | 0.243) | 0.184 |
| 27 | 2.25 | 0.90 | 0.270 | 0.086 | ( | 0.243) | 0.184 |
| 28 | 2.33 | 0.90 | 0.270 | 0.086 | ( | 0.243) | 0.184 |
| 29 | 2.42 | 0.90 | 0.270 | 0.086 | ( | 0.243) | 0.184 |
| 30 | 2.50 | 0.90 | 0.270 | 0.086 | ( | 0.243) | 0.184 |
| 31 | 2.58 | 0.90 | 0.270 | 0.086 | ( | 0.243) | 0.184 |
| 32 | 2.67 | 0.90 | 0.270 | 0.086 | ( | 0.243) | 0.184 |
| 33 | 2.75 | 1.00 | 0.300 | 0.086 | ( | 0.270) | 0.214 |
| 34 | 2.83 | 1.00 | 0.300 | 0.086 | ( | 0.270) | 0.214 |
| 35 | 2.92 | 1.00 | 0.300 | 0.086 | ( | 0.270) | 0.214 |
| 36 | 3.00 | 1.00 | 0.300 | 0.086 | ( | 0.270) | 0.214 |
| 37 | 3.08 | 1.00 | 0.300 | 0.086 | ( | 0.270) | 0.214 |
| 38 | 3.17 | 1.10 | 0.330 | 0.086 | ( | 0.297) | 0.244 |
| 39 | 3.25 | 1.10 | 0.330 | 0.086 | ( | 0.297) | 0.244 |
| 40 | 3.33 | 1.10 | 0.330 | 0.086 | ( | 0.297) | 0.244 |
| 41 | 3.42 | 1.20 | 0.360 | 0.086 | ( | 0.324) | 0.274 |
| 42 | 3.50 | 1.30 | 0.390 | 0.086 | ( | 0.351) | 0.304 |
| 43 | 3.58 | 1.40 | 0.420 | 0.086 | ( | 0.378) | 0.334 |
| 44 | 3.67 | 1.40 | 0.420 | 0.086 | ( | 0.378) | 0.334 |
| 45 | 3.75 | 1.50 | 0.450 | 0.086 | ( | 0.405) | 0.364 |
| 46 | 3.83 | 1.50 | 0.450 | 0.086 | ( | 0.405) | 0.364 |
| 47 | 3.92 | 1.60 | 0.480 | 0.086 | ( | 0.432) | 0.394 |
| 48 | 4.00 | 1.60 | 0.480 | 0.086 | ( | 0.432) | 0.394 |
| 49 | 4.08 | 1.70 | 0.510 | 0.086 | ( | 0.459) | 0.424 |
| 50 | 4.17 | 1.80 | 0.540 | 0.086 | ( | 0.486) | 0.454 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 51 | 4.25 | 1.90 | 0.570 | 0.086 | ( 0.513) | 0.484 | |
| 52 | 4.33 | 2.00 | 0.600 | 0.086 | ( 0.540) | 0.514 | |
| 53 | 4.42 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 | |
| 54 | 4.50 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 | |
| 55 | 4.58 | 2.20 | 0.660 | 0.086 | ( 0.594) | 0.574 | |
| 56 | 4.67 | 2.30 | 0.690 | 0.086 | ( 0.621) | 0.604 | |
| 57 | 4.75 | 2.40 | 0.720 | 0.086 | ( 0.648) | 0.634 | |
| 58 | 4.83 | 2.40 | 0.720 | 0.086 | ( 0.648) | 0.634 | |
| 59 | 4.92 | 2.50 | 0.750 | 0.086 | ( 0.675) | 0.664 | |
| 60 | 5.00 | 2.60 | 0.780 | 0.086 | ( 0.702) | 0.694 | |
| 61 | 5.08 | 3.10 | 0.930 | 0.086 | ( 0.837) | 0.844 | |
| 62 | 5.17 | 3.60 | 1.080 | 0.086 | ( 0.972) | 0.994 | |
| 63 | 5.25 | 3.90 | 1.170 | 0.086 | ( 1.053) | 1.084 | |
| 64 | 5.33 | 4.20 | 1.260 | 0.086 | ( 1.134) | 1.174 | |
| 65 | 5.42 | 4.70 | 1.410 | 0.086 | ( 1.269) | 1.324 | |
| 66 | 5.50 | 5.60 | 1.680 | 0.086 | ( 1.512) | 1.594 | |
| 67 | 5.58 | 1.90 | 0.570 | 0.086 | ( 0.513) | 0.484 | |
| 68 | 5.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 | |
| 69 | 5.75 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 | |
| 70 | 5.83 | 0.50 | 0.150 | 0.086 | ( 0.135) | 0.064 | |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.086) | 0.081 | 0.009 | |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.086) | 0.054 | 0.006 | |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.9

Flood volume = Effective rainfall 1.99(In)
times area 13.7(Ac.)/[(In)/(Ft.)] = 2.3(Ac.Ft)
Total soil loss = 0.51(In)
Total soil loss = 0.584(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 98871.8 Cubic Feet
Total soil loss = 25449.8 Cubic Feet

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Peak flow rate of this hydrograph = 18.596(CFS)

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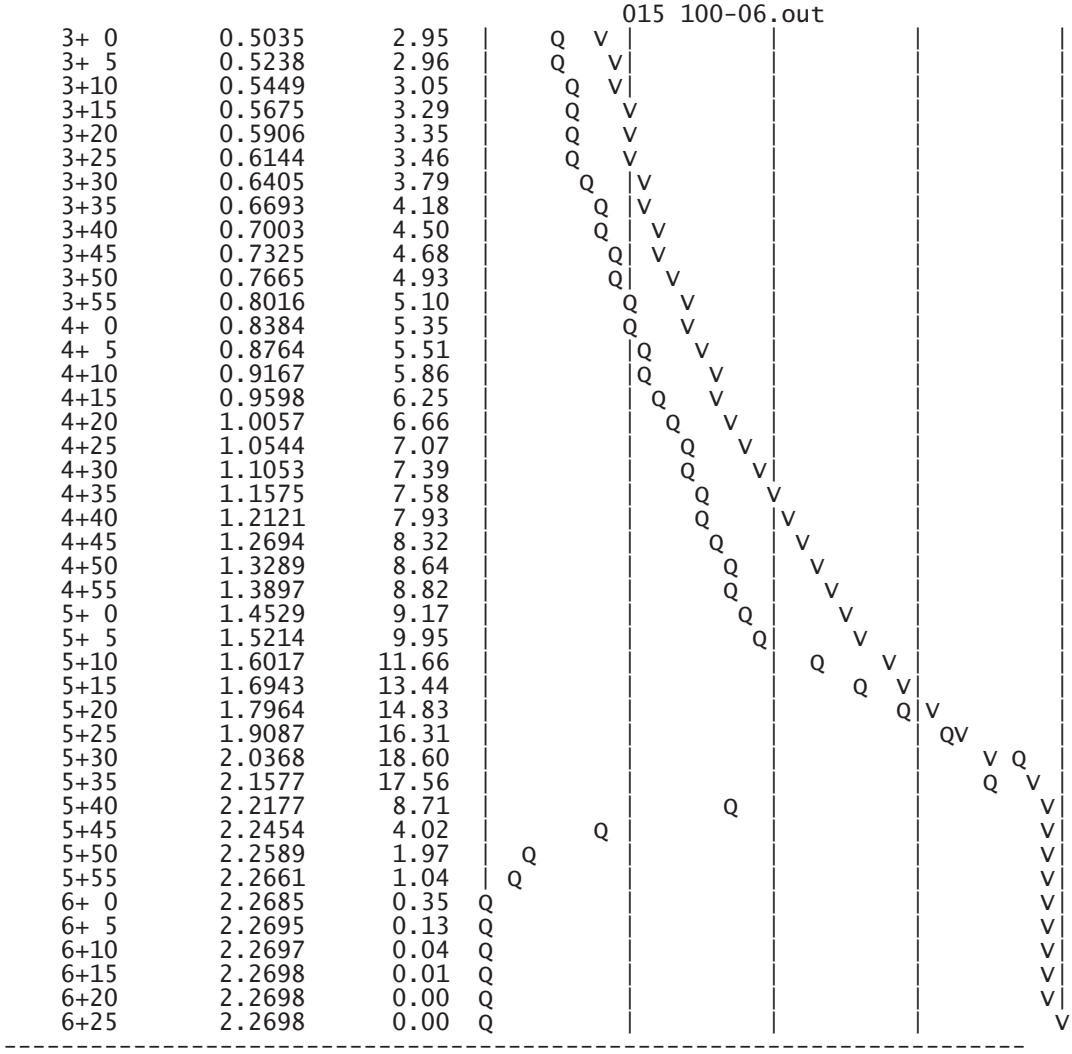
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 5.0 | 10.0 | 15.0 | 20.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0014 | 0.20 | Q | | | | |
| 0+10 | 0.0069 | 0.79 | VQ | | | | |
| 0+15 | 0.0148 | 1.16 | V Q | | | | |
| 0+20 | 0.0235 | 1.26 | V Q | | | | |
| 0+25 | 0.0324 | 1.29 | V Q | | | | |
| 0+30 | 0.0420 | 1.39 | V Q | | | | |
| 0+35 | 0.0532 | 1.63 | V Q | | | | |
| 0+40 | 0.0648 | 1.69 | \|V Q | | | | |
| 0+45 | 0.0766 | 1.71 | \|V Q | | | | |
| 0+50 | 0.0884 | 1.71 | \|V Q | | | | |
| 0+55 | 0.1002 | 1.72 | \|V Q | | | | |
| 1+ 0 | 0.1127 | 1.81 | \|V Q | | | | |
| 1+ 5 | 0.1268 | 2.04 | \| V Q | | | | |
| 1+10 | 0.1412 | 2.10 | \| V Q | | | | |
| 1+15 | 0.1559 | 2.12 | \| V Q | | | | |
| 1+20 | 0.1705 | 2.13 | \| VQ | | | | |
| 1+25 | 0.1852 | 2.13 | \| VQ | | | | |
| 1+30 | 0.1999 | 2.13 | \| VQ | | | | |
| 1+35 | 0.2145 | 2.13 | \| VQ | | | | |
| 1+40 | 0.2292 | 2.13 | \| Q | | | | |
| 1+45 | 0.2439 | 2.13 | \| Q | | | | |
| 1+50 | 0.2585 | 2.13 | \| Q | | | | |
| 1+55 | 0.2732 | 2.13 | \| Q | | | | |
| 2+ 0 | 0.2885 | 2.22 | \| QV | | | | |
| 2+ 5 | 0.3048 | 2.36 | \| QV | | | | |
| 2+10 | 0.3205 | 2.29 | \| QV | | | | |
| 2+15 | 0.3376 | 2.48 | \| QV | | | | |
| 2+20 | 0.3550 | 2.52 | \| QV | | | | |
| 2+25 | 0.3725 | 2.54 | \| QV | | | | |
| 2+30 | 0.3900 | 2.54 | \| QV | | | | |
| 2+35 | 0.4075 | 2.54 | \| Q V | | | | |
| 2+40 | 0.4250 | 2.54 | \| Q V | | | | |
| 2+45 | 0.4432 | 2.64 | \| Q V | | | | |
| 2+50 | 0.4630 | 2.87 | \| Q V | | | | |
| 2+55 | 0.4832 | 2.93 | \| Q V | | | | |



| | | | |
|---|---|---|---|
| 3+ 0 | 0.5035 | 2.95 | |
| 3+ 5 | 0.5238 | 2.96 | |
| 3+10 | 0.5449 | 3.05 | |
| 3+15 | 0.5675 | 3.29 | |
| 3+20 | 0.5906 | 3.35 | |
| 3+25 | 0.6144 | 3.46 | |
| 3+30 | 0.6405 | 3.79 | |
| 3+35 | 0.6693 | 4.18 | |
| 3+40 | 0.7003 | 4.50 | |
| 3+45 | 0.7325 | 4.68 | |
| 3+50 | 0.7665 | 4.93 | |
| 3+55 | 0.8016 | 5.10 | |
| 4+ 0 | 0.8384 | 5.35 | |
| 4+ 5 | 0.8764 | 5.51 | |
| 4+10 | 0.9167 | 5.86 | |
| 4+15 | 0.9598 | 6.25 | |
| 4+20 | 1.0057 | 6.66 | |
| 4+25 | 1.0544 | 7.07 | |
| 4+30 | 1.1053 | 7.39 | |
| 4+35 | 1.1575 | 7.58 | |
| 4+40 | 1.2121 | 7.93 | |
| 4+45 | 1.2694 | 8.32 | |
| 4+50 | 1.3289 | 8.64 | |
| 4+55 | 1.3897 | 8.82 | |
| 5+ 0 | 1.4529 | 9.17 | |
| 5+ 5 | 1.5214 | 9.95 | |
| 5+10 | 1.6017 | 11.66 | |
| 5+15 | 1.6943 | 13.44 | |
| 5+20 | 1.7964 | 14.83 | |
| 5+25 | 1.9087 | 16.31 | |
| 5+30 | 2.0368 | 18.60 | |
| 5+35 | 2.1577 | 17.56 | |
| 5+40 | 2.2177 | 8.71 | |
| 5+45 | 2.2454 | 4.02 | |
| 5+50 | 2.2589 | 1.97 | |
| 5+55 | 2.2661 | 1.04 | |
| 6+ 0 | 2.2685 | 0.35 | |
| 6+ 5 | 2.2695 | 0.13 | |
| 6+10 | 2.2697 | 0.04 | |
| 6+15 | 2.2698 | 0.01 | |
| 6+20 | 2.2698 | 0.00 | |
| 6+25 | 2.2698 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX1524100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 15
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 13.70(Ac.) = 0.021 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 13.70(Ac.) = 0.021 Sq. Mi.
Length along longest watercourse = 1459.00(Ft.)
Length along longest watercourse measured to centroid = 942.00(Ft.)
Length along longest watercourse = 0.276 Mi.
Length along longest watercourse measured to centroid = 0.178 Mi.
Difference in elevation = 408.00(Ft.)
Slope along watercourse = 1476.5182 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.067 Hr.
Lag time = 4.01 Min.
25% of lag time = 1.00 Min.
40% of lag time = 1.61 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 13.70 | 1.80 | 24.66 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 13.70 | 4.54 | 62.20 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.540(In)

Point rain (area averaged) = 4.540(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.540(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 13.700 | 84.00 | 0.000 |

Total Area Entered = 13.70(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 124.571 | 22.912 | 3.163 |
| 2 | 0.167 | 249.142 | 55.901 | 7.718 |
| 3 | 0.250 | 373.712 | 14.939 | 2.063 |
| 4 | 0.333 | 498.283 | 4.517 | 0.624 |
| 5 | 0.417 | 622.854 | 1.129 | 0.156 |
| 6 | 0.500 | 747.425 | 0.602 | 0.083 |
| | | | Sum = 100.000 | Sum= 13.807 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.036 | ( 0.152) | 0.033 | 0.004 |
| 2 | 0.17 | 0.07 | 0.036 | ( 0.152) | 0.033 | 0.004 |
| 3 | 0.25 | 0.07 | 0.036 | ( 0.151) | 0.033 | 0.004 |
| 4 | 0.33 | 0.10 | 0.054 | ( 0.150) | 0.049 | 0.005 |
| 5 | 0.42 | 0.10 | 0.054 | ( 0.150) | 0.049 | 0.005 |
| 6 | 0.50 | 0.10 | 0.054 | ( 0.149) | 0.049 | 0.005 |
| 7 | 0.58 | 0.10 | 0.054 | ( 0.149) | 0.049 | 0.005 |
| 8 | 0.67 | 0.10 | 0.054 | ( 0.148) | 0.049 | 0.005 |
| 9 | 0.75 | 0.10 | 0.054 | ( 0.147) | 0.049 | 0.005 |
| 10 | 0.83 | 0.13 | 0.073 | ( 0.147) | 0.065 | 0.007 |
| 11 | 0.92 | 0.13 | 0.073 | ( 0.146) | 0.065 | 0.007 |
| 12 | 1.00 | 0.13 | 0.073 | ( 0.146) | 0.065 | 0.007 |
| 13 | 1.08 | 0.10 | 0.054 | ( 0.145) | 0.049 | 0.005 |
| 14 | 1.17 | 0.10 | 0.054 | ( 0.145) | 0.049 | 0.005 |
| 15 | 1.25 | 0.10 | 0.054 | ( 0.144) | 0.049 | 0.005 |
| 16 | 1.33 | 0.10 | 0.054 | ( 0.143) | 0.049 | 0.005 |
| 17 | 1.42 | 0.10 | 0.054 | ( 0.143) | 0.049 | 0.005 |
| 18 | 1.50 | 0.10 | 0.054 | ( 0.142) | 0.049 | 0.005 |
| 19 | 1.58 | 0.10 | 0.054 | ( 0.142) | 0.049 | 0.005 |
| 20 | 1.67 | 0.10 | 0.054 | ( 0.141) | 0.049 | 0.005 |
| 21 | 1.75 | 0.10 | 0.054 | ( 0.141) | 0.049 | 0.005 |
| 22 | 1.83 | 0.13 | 0.073 | ( 0.140) | 0.065 | 0.007 |
| 23 | 1.92 | 0.13 | 0.073 | ( 0.139) | 0.065 | 0.007 |
| 24 | 2.00 | 0.13 | 0.073 | ( 0.139) | 0.065 | 0.007 |
| 25 | 2.08 | 0.13 | 0.073 | ( 0.138) | 0.065 | 0.007 |
| 26 | 2.17 | 0.13 | 0.073 | ( 0.138) | 0.065 | 0.007 |
| 27 | 2.25 | 0.13 | 0.073 | ( 0.137) | 0.065 | 0.007 |
| 28 | 2.33 | 0.13 | 0.073 | ( 0.137) | 0.065 | 0.007 |
| 29 | 2.42 | 0.13 | 0.073 | ( 0.136) | 0.065 | 0.007 |
| 30 | 2.50 | 0.13 | 0.073 | ( 0.136) | 0.065 | 0.007 |
| 31 | 2.58 | 0.17 | 0.091 | ( 0.135) | 0.082 | 0.009 |
| 32 | 2.67 | 0.17 | 0.091 | ( 0.134) | 0.082 | 0.009 |
| 33 | 2.75 | 0.17 | 0.091 | ( 0.134) | 0.082 | 0.009 |
| 34 | 2.83 | 0.17 | 0.091 | ( 0.133) | 0.082 | 0.009 |
| 35 | 2.92 | 0.17 | 0.091 | ( 0.133) | 0.082 | 0.009 |
| 36 | 3.00 | 0.17 | 0.091 | ( 0.132) | 0.082 | 0.009 |
| 37 | 3.08 | 0.17 | 0.091 | ( 0.132) | 0.082 | 0.009 |
| 38 | 3.17 | 0.17 | 0.091 | ( 0.131) | 0.082 | 0.009 |
| 39 | 3.25 | 0.17 | 0.091 | ( 0.131) | 0.082 | 0.009 |
| 40 | 3.33 | 0.17 | 0.091 | ( 0.130) | 0.082 | 0.009 |
| 41 | 3.42 | 0.17 | 0.091 | ( 0.129) | 0.082 | 0.009 |
| 42 | 3.50 | 0.17 | 0.091 | ( 0.129) | 0.082 | 0.009 |
| 43 | 3.58 | 0.17 | 0.091 | ( 0.128) | 0.082 | 0.009 |
| 44 | 3.67 | 0.17 | 0.091 | ( 0.128) | 0.082 | 0.009 |
| 45 | 3.75 | 0.17 | 0.091 | ( 0.127) | 0.082 | 0.009 |
| 46 | 3.83 | 0.20 | 0.109 | ( 0.127) | 0.098 | 0.011 |
| 47 | 3.92 | 0.20 | 0.109 | ( 0.126) | 0.098 | 0.011 |
| 48 | 4.00 | 0.20 | 0.109 | ( 0.126) | 0.098 | 0.011 |
| 49 | 4.08 | 0.20 | 0.109 | ( 0.125) | 0.098 | 0.011 |
| 50 | 4.17 | 0.20 | 0.109 | ( 0.125) | 0.098 | 0.011 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 51 | 4.25 | 0.20 | 0.109 | ( | 0.124) | 0.098 | | 0.011 |
| 52 | 4.33 | 0.23 | 0.127 | ( | 0.124) | 0.114 | | 0.013 |
| 53 | 4.42 | 0.23 | 0.127 | ( | 0.123) | 0.114 | | 0.013 |
| 54 | 4.50 | 0.23 | 0.127 | ( | 0.123) | 0.114 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.127 | ( | 0.122) | 0.114 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.127 | ( | 0.121) | 0.114 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.127 | ( | 0.121) | 0.114 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.145 | | 0.120 | ( | 0.131) | 0.025 |
| 59 | 4.92 | 0.27 | 0.145 | | 0.120 | ( | 0.131) | 0.025 |
| 60 | 5.00 | 0.27 | 0.145 | | 0.119 | ( | 0.131) | 0.026 |
| 61 | 5.08 | 0.20 | 0.109 | ( | 0.119) | 0.098 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.109 | ( | 0.118) | 0.098 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.109 | ( | 0.118) | 0.098 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.127 | ( | 0.117) | 0.114 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.127 | ( | 0.117) | 0.114 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.127 | ( | 0.116) | 0.114 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.145 | | 0.116 | ( | 0.131) | 0.029 |
| 68 | 5.67 | 0.27 | 0.145 | | 0.115 | ( | 0.131) | 0.030 |
| 69 | 5.75 | 0.27 | 0.145 | | 0.115 | ( | 0.131) | 0.031 |
| 70 | 5.83 | 0.27 | 0.145 | | 0.114 | ( | 0.131) | 0.031 |
| 71 | 5.92 | 0.27 | 0.145 | | 0.114 | ( | 0.131) | 0.032 |
| 72 | 6.00 | 0.27 | 0.145 | | 0.113 | ( | 0.131) | 0.032 |
| 73 | 6.08 | 0.30 | 0.163 | | 0.113 | ( | 0.147) | 0.051 |
| 74 | 6.17 | 0.30 | 0.163 | | 0.112 | ( | 0.147) | 0.051 |
| 75 | 6.25 | 0.30 | 0.163 | | 0.112 | ( | 0.147) | 0.052 |
| 76 | 6.33 | 0.30 | 0.163 | | 0.111 | ( | 0.147) | 0.052 |
| 77 | 6.42 | 0.30 | 0.163 | | 0.111 | ( | 0.147) | 0.053 |
| 78 | 6.50 | 0.30 | 0.163 | | 0.110 | ( | 0.147) | 0.053 |
| 79 | 6.58 | 0.33 | 0.182 | | 0.110 | ( | 0.163) | 0.072 |
| 80 | 6.67 | 0.33 | 0.182 | | 0.109 | ( | 0.163) | 0.072 |
| 81 | 6.75 | 0.33 | 0.182 | | 0.109 | ( | 0.163) | 0.073 |
| 82 | 6.83 | 0.33 | 0.182 | | 0.108 | ( | 0.163) | 0.073 |
| 83 | 6.92 | 0.33 | 0.182 | | 0.108 | ( | 0.163) | 0.074 |
| 84 | 7.00 | 0.33 | 0.182 | | 0.107 | ( | 0.163) | 0.074 |
| 85 | 7.08 | 0.33 | 0.182 | | 0.107 | ( | 0.163) | 0.075 |
| 86 | 7.17 | 0.33 | 0.182 | | 0.106 | ( | 0.163) | 0.075 |
| 87 | 7.25 | 0.33 | 0.182 | | 0.106 | ( | 0.163) | 0.076 |
| 88 | 7.33 | 0.37 | 0.200 | | 0.105 | ( | 0.180) | 0.094 |
| 89 | 7.42 | 0.37 | 0.200 | | 0.105 | ( | 0.180) | 0.095 |
| 90 | 7.50 | 0.37 | 0.200 | | 0.104 | ( | 0.180) | 0.095 |
| 91 | 7.58 | 0.40 | 0.218 | | 0.104 | ( | 0.196) | 0.114 |
| 92 | 7.67 | 0.40 | 0.218 | | 0.103 | ( | 0.196) | 0.114 |
| 93 | 7.75 | 0.40 | 0.218 | | 0.103 | ( | 0.196) | 0.115 |
| 94 | 7.83 | 0.43 | 0.236 | | 0.102 | ( | 0.212) | 0.134 |
| 95 | 7.92 | 0.43 | 0.236 | | 0.102 | ( | 0.212) | 0.134 |
| 96 | 8.00 | 0.43 | 0.236 | | 0.102 | ( | 0.212) | 0.135 |
| 97 | 8.08 | 0.50 | 0.272 | | 0.101 | ( | 0.245) | 0.171 |
| 98 | 8.17 | 0.50 | 0.272 | | 0.101 | ( | 0.245) | 0.172 |
| 99 | 8.25 | 0.50 | 0.272 | | 0.100 | ( | 0.245) | 0.172 |
| 100 | 8.33 | 0.50 | 0.272 | | 0.100 | ( | 0.245) | 0.173 |
| 101 | 8.42 | 0.50 | 0.272 | | 0.099 | ( | 0.245) | 0.173 |
| 102 | 8.50 | 0.50 | 0.272 | | 0.099 | ( | 0.245) | 0.174 |
| 103 | 8.58 | 0.53 | 0.291 | | 0.098 | ( | 0.261) | 0.192 |
| 104 | 8.67 | 0.53 | 0.291 | | 0.098 | ( | 0.261) | 0.193 |
| 105 | 8.75 | 0.53 | 0.291 | | 0.097 | ( | 0.261) | 0.193 |
| 106 | 8.83 | 0.57 | 0.309 | | 0.097 | ( | 0.278) | 0.212 |
| 107 | 8.92 | 0.57 | 0.309 | | 0.096 | ( | 0.278) | 0.212 |
| 108 | 9.00 | 0.57 | 0.309 | | 0.096 | ( | 0.278) | 0.213 |
| 109 | 9.08 | 0.63 | 0.345 | | 0.096 | ( | 0.311) | 0.250 |
| 110 | 9.17 | 0.63 | 0.345 | | 0.095 | ( | 0.311) | 0.250 |
| 111 | 9.25 | 0.63 | 0.345 | | 0.095 | ( | 0.311) | 0.250 |
| 112 | 9.33 | 0.67 | 0.363 | | 0.094 | ( | 0.327) | 0.269 |
| 113 | 9.42 | 0.67 | 0.363 | | 0.094 | ( | 0.327) | 0.269 |
| 114 | 9.50 | 0.67 | 0.363 | | 0.093 | ( | 0.327) | 0.270 |
| 115 | 9.58 | 0.70 | 0.381 | | 0.093 | ( | 0.343) | 0.289 |
| 116 | 9.67 | 0.70 | 0.381 | | 0.092 | ( | 0.343) | 0.289 |
| 117 | 9.75 | 0.70 | 0.381 | | 0.092 | ( | 0.343) | 0.289 |
| 118 | 9.83 | 0.73 | 0.400 | | 0.091 | ( | 0.360) | 0.308 |
| 119 | 9.92 | 0.73 | 0.400 | | 0.091 | ( | 0.360) | 0.308 |
| 120 | 10.00 | 0.73 | 0.400 | | 0.091 | ( | 0.360) | 0.309 |
| 121 | 10.08 | 0.50 | 0.272 | | 0.090 | ( | 0.245) | 0.182 |
| 122 | 10.17 | 0.50 | 0.272 | | 0.090 | ( | 0.245) | 0.183 |
| 123 | 10.25 | 0.50 | 0.272 | | 0.089 | ( | 0.245) | 0.183 |
| 124 | 10.33 | 0.50 | 0.272 | | 0.089 | ( | 0.245) | 0.184 |
| 125 | 10.42 | 0.50 | 0.272 | | 0.088 | ( | 0.245) | 0.184 |
| 126 | 10.50 | 0.50 | 0.272 | | 0.088 | ( | 0.245) | 0.184 |
| 127 | 10.58 | 0.67 | 0.363 | | 0.088 | ( | 0.327) | 0.276 |
| 128 | 10.67 | 0.67 | 0.363 | | 0.087 | ( | 0.327) | 0.276 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 129 | 10.75 | 0.67 | 0.363 | 0.087 | ( 0.327) | 0.276 |
| 130 | 10.83 | 0.67 | 0.363 | 0.086 | ( 0.327) | 0.277 |
| 131 | 10.92 | 0.67 | 0.363 | 0.086 | ( 0.327) | 0.277 |
| 132 | 11.00 | 0.67 | 0.363 | 0.085 | ( 0.327) | 0.278 |
| 133 | 11.08 | 0.63 | 0.345 | 0.085 | ( 0.311) | 0.260 |
| 134 | 11.17 | 0.63 | 0.345 | 0.085 | ( 0.311) | 0.260 |
| 135 | 11.25 | 0.63 | 0.345 | 0.084 | ( 0.311) | 0.261 |
| 136 | 11.33 | 0.63 | 0.345 | 0.084 | ( 0.311) | 0.261 |
| 137 | 11.42 | 0.63 | 0.345 | 0.083 | ( 0.311) | 0.262 |
| 138 | 11.50 | 0.63 | 0.345 | 0.083 | ( 0.311) | 0.262 |
| 139 | 11.58 | 0.57 | 0.309 | 0.083 | ( 0.278) | 0.226 |
| 140 | 11.67 | 0.57 | 0.309 | 0.082 | ( 0.278) | 0.227 |
| 141 | 11.75 | 0.57 | 0.309 | 0.082 | ( 0.278) | 0.227 |
| 142 | 11.83 | 0.60 | 0.327 | 0.081 | ( 0.294) | 0.246 |
| 143 | 11.92 | 0.60 | 0.327 | 0.081 | ( 0.294) | 0.246 |
| 144 | 12.00 | 0.60 | 0.327 | 0.080 | ( 0.294) | 0.246 |
| 145 | 12.08 | 0.83 | 0.454 | 0.080 | ( 0.409) | 0.374 |
| 146 | 12.17 | 0.83 | 0.454 | 0.080 | ( 0.409) | 0.374 |
| 147 | 12.25 | 0.83 | 0.454 | 0.079 | ( 0.409) | 0.375 |
| 148 | 12.33 | 0.87 | 0.472 | 0.079 | ( 0.425) | 0.393 |
| 149 | 12.42 | 0.87 | 0.472 | 0.078 | ( 0.425) | 0.394 |
| 150 | 12.50 | 0.87 | 0.472 | 0.078 | ( 0.425) | 0.394 |
| 151 | 12.58 | 0.93 | 0.508 | 0.078 | ( 0.458) | 0.431 |
| 152 | 12.67 | 0.93 | 0.508 | 0.077 | ( 0.458) | 0.431 |
| 153 | 12.75 | 0.93 | 0.508 | 0.077 | ( 0.458) | 0.432 |
| 154 | 12.83 | 0.97 | 0.527 | 0.077 | ( 0.474) | 0.450 |
| 155 | 12.92 | 0.97 | 0.527 | 0.076 | ( 0.474) | 0.450 |
| 156 | 13.00 | 0.97 | 0.527 | 0.076 | ( 0.474) | 0.451 |
| 157 | 13.08 | 1.13 | 0.617 | 0.075 | ( 0.556) | 0.542 |
| 158 | 13.17 | 1.13 | 0.617 | 0.075 | ( 0.556) | 0.542 |
| 159 | 13.25 | 1.13 | 0.617 | 0.075 | ( 0.556) | 0.543 |
| 160 | 13.33 | 1.13 | 0.617 | 0.074 | ( 0.556) | 0.543 |
| 161 | 13.42 | 1.13 | 0.617 | 0.074 | ( 0.556) | 0.544 |
| 162 | 13.50 | 1.13 | 0.617 | 0.073 | ( 0.556) | 0.544 |
| 163 | 13.58 | 0.77 | 0.418 | 0.073 | ( 0.376) | 0.345 |
| 164 | 13.67 | 0.77 | 0.418 | 0.073 | ( 0.376) | 0.345 |
| 165 | 13.75 | 0.77 | 0.418 | 0.072 | ( 0.376) | 0.345 |
| 166 | 13.83 | 0.77 | 0.418 | 0.072 | ( 0.376) | 0.346 |
| 167 | 13.92 | 0.77 | 0.418 | 0.072 | ( 0.376) | 0.346 |
| 168 | 14.00 | 0.77 | 0.418 | 0.071 | ( 0.376) | 0.346 |
| 169 | 14.08 | 0.90 | 0.490 | 0.071 | ( 0.441) | 0.419 |
| 170 | 14.17 | 0.90 | 0.490 | 0.071 | ( 0.441) | 0.420 |
| 171 | 14.25 | 0.90 | 0.490 | 0.070 | ( 0.441) | 0.420 |
| 172 | 14.33 | 0.87 | 0.472 | 0.070 | ( 0.425) | 0.402 |
| 173 | 14.42 | 0.87 | 0.472 | 0.069 | ( 0.425) | 0.403 |
| 174 | 14.50 | 0.87 | 0.472 | 0.069 | ( 0.425) | 0.403 |
| 175 | 14.58 | 0.87 | 0.472 | 0.069 | ( 0.425) | 0.403 |
| 176 | 14.67 | 0.87 | 0.472 | 0.068 | ( 0.425) | 0.404 |
| 177 | 14.75 | 0.87 | 0.472 | 0.068 | ( 0.425) | 0.404 |
| 178 | 14.83 | 0.83 | 0.454 | 0.068 | ( 0.409) | 0.386 |
| 179 | 14.92 | 0.83 | 0.454 | 0.067 | ( 0.409) | 0.387 |
| 180 | 15.00 | 0.83 | 0.454 | 0.067 | ( 0.409) | 0.387 |
| 181 | 15.08 | 0.80 | 0.436 | 0.067 | ( 0.392) | 0.369 |
| 182 | 15.17 | 0.80 | 0.436 | 0.066 | ( 0.392) | 0.370 |
| 183 | 15.25 | 0.80 | 0.436 | 0.066 | ( 0.392) | 0.370 |
| 184 | 15.33 | 0.77 | 0.418 | 0.066 | ( 0.376) | 0.352 |
| 185 | 15.42 | 0.77 | 0.418 | 0.065 | ( 0.376) | 0.352 |
| 186 | 15.50 | 0.77 | 0.418 | 0.065 | ( 0.376) | 0.353 |
| 187 | 15.58 | 0.63 | 0.345 | 0.065 | ( 0.311) | 0.280 |
| 188 | 15.67 | 0.63 | 0.345 | 0.064 | ( 0.311) | 0.281 |
| 189 | 15.75 | 0.63 | 0.345 | 0.064 | ( 0.311) | 0.281 |
| 190 | 15.83 | 0.63 | 0.345 | 0.064 | ( 0.311) | 0.281 |
| 191 | 15.92 | 0.63 | 0.345 | 0.063 | ( 0.311) | 0.282 |
| 192 | 16.00 | 0.63 | 0.345 | 0.063 | ( 0.311) | 0.282 |
| 193 | 16.08 | 0.13 | 0.073 | 0.063 | ( 0.065) | 0.010 |
| 194 | 16.17 | 0.13 | 0.073 | 0.062 | ( 0.065) | 0.010 |
| 195 | 16.25 | 0.13 | 0.073 | 0.062 | ( 0.065) | 0.011 |
| 196 | 16.33 | 0.13 | 0.073 | 0.062 | ( 0.065) | 0.011 |
| 197 | 16.42 | 0.13 | 0.073 | 0.061 | ( 0.065) | 0.011 |
| 198 | 16.50 | 0.13 | 0.073 | 0.061 | ( 0.065) | 0.012 |
| 199 | 16.58 | 0.10 | 0.054 | ( 0.061) | 0.049 | 0.005 |
| 200 | 16.67 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 201 | 16.75 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 202 | 16.83 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 203 | 16.92 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 204 | 17.00 | 0.10 | 0.054 | ( 0.059) | 0.049 | 0.005 |
| 205 | 17.08 | 0.17 | 0.091 | 0.059 | ( 0.082) | 0.032 |
| 206 | 17.17 | 0.17 | 0.091 | 0.059 | ( 0.082) | 0.032 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 207 | 17.25 | 0.17 | 0.091 | | 0.058 | ( | 0.082) | 0.032 |
| 208 | 17.33 | 0.17 | 0.091 | | 0.058 | ( | 0.082) | 0.033 |
| 209 | 17.42 | 0.17 | 0.091 | | 0.058 | ( | 0.082) | 0.033 |
| 210 | 17.50 | 0.17 | 0.091 | | 0.058 | ( | 0.082) | 0.033 |
| 211 | 17.58 | 0.17 | 0.091 | | 0.057 | ( | 0.082) | 0.034 |
| 212 | 17.67 | 0.17 | 0.091 | | 0.057 | ( | 0.082) | 0.034 |
| 213 | 17.75 | 0.17 | 0.091 | | 0.057 | ( | 0.082) | 0.034 |
| 214 | 17.83 | 0.13 | 0.073 | | 0.056 | ( | 0.065) | 0.016 |
| 215 | 17.92 | 0.13 | 0.073 | | 0.056 | ( | 0.065) | 0.017 |
| 216 | 18.00 | 0.13 | 0.073 | | 0.056 | ( | 0.065) | 0.017 |
| 217 | 18.08 | 0.13 | 0.073 | | 0.056 | ( | 0.065) | 0.017 |
| 218 | 18.17 | 0.13 | 0.073 | | 0.055 | ( | 0.065) | 0.017 |
| 219 | 18.25 | 0.13 | 0.073 | | 0.055 | ( | 0.065) | 0.018 |
| 220 | 18.33 | 0.13 | 0.073 | | 0.055 | ( | 0.065) | 0.018 |
| 221 | 18.42 | 0.13 | 0.073 | | 0.054 | ( | 0.065) | 0.018 |
| 222 | 18.50 | 0.13 | 0.073 | | 0.054 | ( | 0.065) | 0.018 |
| 223 | 18.58 | 0.10 | 0.054 | ( | 0.054) | | 0.049 | 0.005 |
| 224 | 18.67 | 0.10 | 0.054 | ( | 0.054) | | 0.049 | 0.005 |
| 225 | 18.75 | 0.10 | 0.054 | ( | 0.053) | | 0.049 | 0.005 |
| 226 | 18.83 | 0.07 | 0.036 | ( | 0.053) | | 0.033 | 0.004 |
| 227 | 18.92 | 0.07 | 0.036 | ( | 0.053) | | 0.033 | 0.004 |
| 228 | 19.00 | 0.07 | 0.036 | ( | 0.053) | | 0.033 | 0.004 |
| 229 | 19.08 | 0.10 | 0.054 | ( | 0.052) | | 0.049 | 0.005 |
| 230 | 19.17 | 0.10 | 0.054 | ( | 0.052) | | 0.049 | 0.005 |
| 231 | 19.25 | 0.10 | 0.054 | ( | 0.052) | | 0.049 | 0.005 |
| 232 | 19.33 | 0.13 | 0.073 | | 0.052 | ( | 0.065) | 0.021 |
| 233 | 19.42 | 0.13 | 0.073 | | 0.051 | ( | 0.065) | 0.021 |
| 234 | 19.50 | 0.13 | 0.073 | | 0.051 | ( | 0.065) | 0.021 |
| 235 | 19.58 | 0.10 | 0.054 | ( | 0.051) | | 0.049 | 0.005 |
| 236 | 19.67 | 0.10 | 0.054 | ( | 0.051) | | 0.049 | 0.005 |
| 237 | 19.75 | 0.10 | 0.054 | ( | 0.050) | | 0.049 | 0.005 |
| 238 | 19.83 | 0.07 | 0.036 | ( | 0.050) | | 0.033 | 0.004 |
| 239 | 19.92 | 0.07 | 0.036 | ( | 0.050) | | 0.033 | 0.004 |
| 240 | 20.00 | 0.07 | 0.036 | ( | 0.050) | | 0.033 | 0.004 |
| 241 | 20.08 | 0.10 | 0.054 | ( | 0.050) | | 0.049 | 0.005 |
| 242 | 20.17 | 0.10 | 0.054 | ( | 0.049) | | 0.049 | 0.005 |
| 243 | 20.25 | 0.10 | 0.054 | ( | 0.049) | | 0.049 | 0.005 |
| 244 | 20.33 | 0.10 | 0.054 | | 0.049 | ( | 0.049) | 0.006 |
| 245 | 20.42 | 0.10 | 0.054 | | 0.049 | ( | 0.049) | 0.006 |
| 246 | 20.50 | 0.10 | 0.054 | | 0.049 | ( | 0.049) | 0.006 |
| 247 | 20.58 | 0.10 | 0.054 | | 0.048 | ( | 0.049) | 0.006 |
| 248 | 20.67 | 0.10 | 0.054 | | 0.048 | ( | 0.049) | 0.006 |
| 249 | 20.75 | 0.10 | 0.054 | | 0.048 | ( | 0.049) | 0.007 |
| 250 | 20.83 | 0.07 | 0.036 | ( | 0.048) | | 0.033 | 0.004 |
| 251 | 20.92 | 0.07 | 0.036 | ( | 0.048) | | 0.033 | 0.004 |
| 252 | 21.00 | 0.07 | 0.036 | ( | 0.047) | | 0.033 | 0.004 |
| 253 | 21.08 | 0.10 | 0.054 | | 0.047 | ( | 0.049) | 0.007 |
| 254 | 21.17 | 0.10 | 0.054 | | 0.047 | ( | 0.049) | 0.007 |
| 255 | 21.25 | 0.10 | 0.054 | | 0.047 | ( | 0.049) | 0.008 |
| 256 | 21.33 | 0.07 | 0.036 | ( | 0.047) | | 0.033 | 0.004 |
| 257 | 21.42 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 258 | 21.50 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 259 | 21.58 | 0.10 | 0.054 | | 0.046 | ( | 0.049) | 0.008 |
| 260 | 21.67 | 0.10 | 0.054 | | 0.046 | ( | 0.049) | 0.009 |
| 261 | 21.75 | 0.10 | 0.054 | | 0.046 | ( | 0.049) | 0.009 |
| 262 | 21.83 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 263 | 21.92 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 264 | 22.00 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 265 | 22.08 | 0.10 | 0.054 | | 0.045 | ( | 0.049) | 0.009 |
| 266 | 22.17 | 0.10 | 0.054 | | 0.045 | ( | 0.049) | 0.009 |
| 267 | 22.25 | 0.10 | 0.054 | | 0.045 | ( | 0.049) | 0.010 |
| 268 | 22.33 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 269 | 22.42 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 270 | 22.50 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 271 | 22.58 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 272 | 22.67 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 273 | 22.75 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 274 | 22.83 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 275 | 22.92 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 276 | 23.00 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 277 | 23.08 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 278 | 23.17 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 279 | 23.25 | 0.07 | 0.036 | ( | 0.043) | | 0.033 | 0.004 |
| 280 | 23.33 | 0.07 | 0.036 | ( | 0.043) | | 0.033 | 0.004 |
| 281 | 23.42 | 0.07 | 0.036 | ( | 0.043) | | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.036 | ( | 0.043) | | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.036 | ( | 0.043) | | 0.033 | 0.004 |
| 284 | 23.67 | 0.07 | 0.036 | ( | 0.043) | | 0.033 | 0.004 |

285 23.75 0.07 0.036 ( 0.043) 0.033 0.004
286 23.83 0.07 0.036 ( 0.043) 0.033 0.004
287 23.92 0.07 0.036 ( 0.043) 0.033 0.004
288 24.00 0.07 0.036 ( 0.043) 0.033 0.004
(Loss Rate Not Used)
Sum = 100.0 Sum = 34.0
Flood volume = Effective rainfall 2.84(In)
times area 13.7(Ac.)/[(In)/(Ft.)] = 3.2(Ac.Ft)
Total soil loss = 1.70(In)
Total soil loss = 1.945(Ac.Ft)
Total rainfall = 4.54(In)
Flood volume = 141043.6 Cubic Feet
Total soil loss = 84729.1 Cubic Feet

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Peak flow rate of this hydrograph = 7.508(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

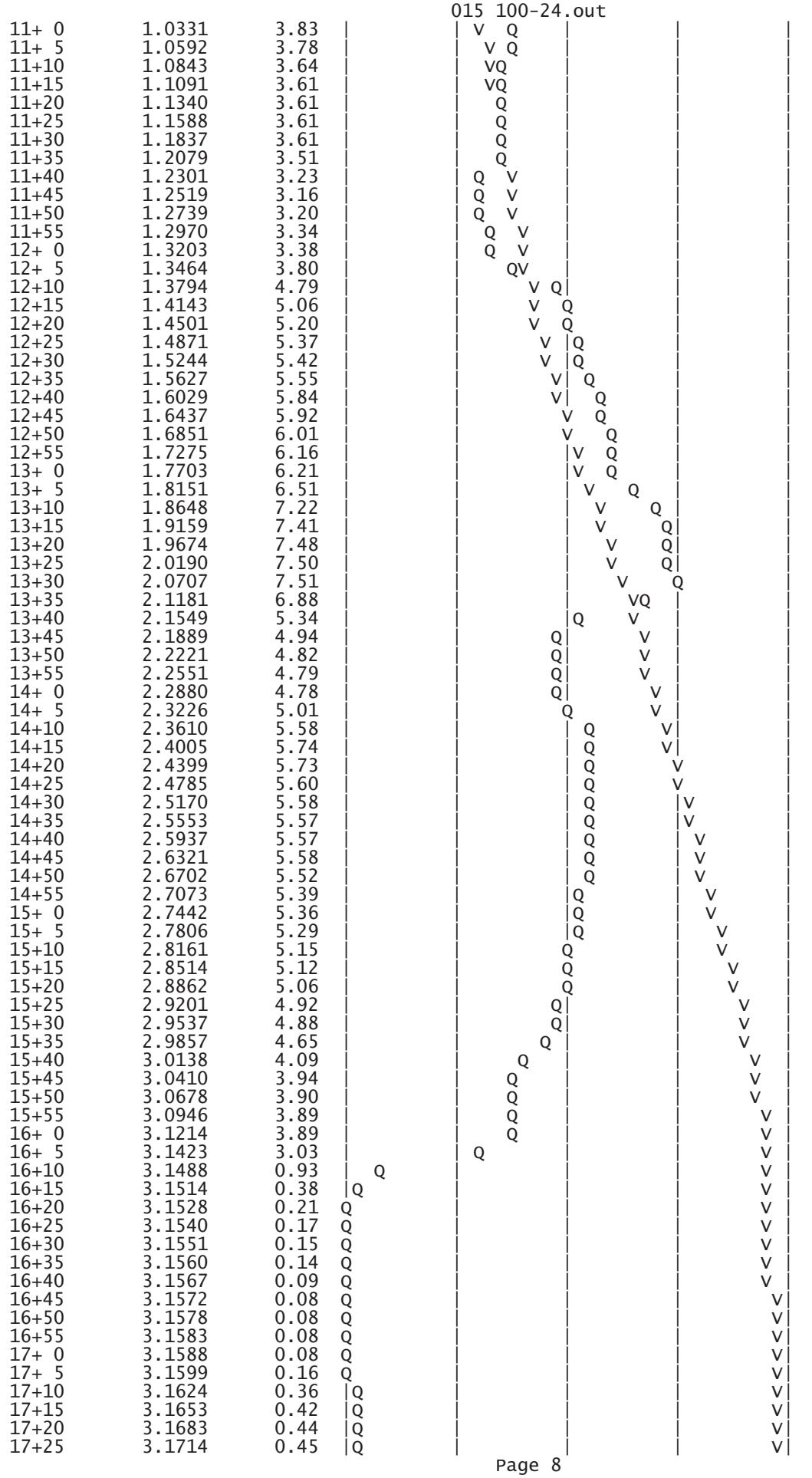
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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0001 | 0.01 | Q | | | | |
| 0+10 | 0.0004 | 0.04 | Q | | | | |
| 0+15 | 0.0007 | 0.05 | Q | | | | |
| 0+20 | 0.0011 | 0.06 | Q | | | | |
| 0+25 | 0.0015 | 0.07 | Q | | | | |
| 0+30 | 0.0020 | 0.07 | Q | | | | |
| 0+35 | 0.0026 | 0.07 | Q | | | | |
| 0+40 | 0.0031 | 0.08 | Q | | | | |
| 0+45 | 0.0036 | 0.08 | Q | | | | |
| 0+50 | 0.0042 | 0.08 | Q | | | | |
| 0+55 | 0.0048 | 0.10 | Q | | | | |
| 1+ 0 | 0.0055 | 0.10 | Q | | | | |
| 1+ 5 | 0.0061 | 0.09 | Q | | | | |
| 1+10 | 0.0067 | 0.08 | Q | | | | |
| 1+15 | 0.0072 | 0.08 | Q | | | | |
| 1+20 | 0.0077 | 0.08 | Q | | | | |
| 1+25 | 0.0083 | 0.08 | Q | | | | |
| 1+30 | 0.0088 | 0.08 | Q | | | | |
| 1+35 | 0.0093 | 0.08 | Q | | | | |
| 1+40 | 0.0098 | 0.08 | Q | | | | |
| 1+45 | 0.0103 | 0.08 | Q | | | | |
| 1+50 | 0.0109 | 0.08 | Q | | | | |
| 1+55 | 0.0115 | 0.10 | Q | | | | |
| 2+ 0 | 0.0122 | 0.10 | Q | | | | |
| 2+ 5 | 0.0129 | 0.10 | Q | | | | |
| 2+10 | 0.0136 | 0.10 | Q | | | | |
| 2+15 | 0.0143 | 0.10 | Q | | | | |
| 2+20 | 0.0150 | 0.10 | Q | | | | |
| 2+25 | 0.0157 | 0.10 | Q | | | | |
| 2+30 | 0.0164 | 0.10 | Q | | | | |
| 2+35 | 0.0171 | 0.11 | Q | | | | |
| 2+40 | 0.0179 | 0.12 | Q | | | | |
| 2+45 | 0.0188 | 0.12 | Q | | | | |
| 2+50 | 0.0196 | 0.12 | Q | | | | |
| 2+55 | 0.0205 | 0.13 | Q | | | | |
| 3+ 0 | 0.0214 | 0.13 | Q | | | | |
| 3+ 5 | 0.0222 | 0.13 | Q | | | | |
| 3+10 | 0.0231 | 0.13 | Q | | | | |
| 3+15 | 0.0240 | 0.13 | Q | | | | |
| 3+20 | 0.0248 | 0.13 | Q | | | | |
| 3+25 | 0.0257 | 0.13 | Q | | | | |
| 3+30 | 0.0265 | 0.13 | Q | | | | |
| 3+35 | 0.0274 | 0.13 | Q | | | | |
| 3+40 | 0.0283 | 0.13 | Q | | | | |
| 3+45 | 0.0291 | 0.13 | Q | | | | |
| 3+50 | 0.0300 | 0.13 | Q | | | | |
| 3+55 | 0.0310 | 0.15 | Q | | | | |
| 4+ 0 | 0.0321 | 0.15 | Q | | | | |
| 4+ 5 | 0.0331 | 0.15 | Q | | | | |
| 4+10 | 0.0341 | 0.15 | Q | | | | |
| 4+15 | 0.0352 | 0.15 | Q | | | | |
| 4+20 | 0.0362 | 0.16 | Q | | | | |
| 4+25 | 0.0374 | 0.17 | Q | | | | |

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 4+30       0.0386      0.17  Q          |          |          |          |
 4+35       0.0398      0.18  Q          |          |          |          |
 4+40       0.0410      0.18  Q          |          |          |          |
 4+45       0.0422      0.18  Q          |          |          |          |
 4+50       0.0437      0.21  Q          |          |          |          |
 4+55       0.0458      0.31  VQ         |          |          |          |
 5+ 0       0.0482      0.34  VQ         |          |          |          |
 5+ 5       0.0503      0.31  VQ         |          |          |          |
 5+10       0.0516      0.19  Q          |          |          |          |
 5+15       0.0527      0.16  Q          |          |          |          |
 5+20       0.0538      0.16  Q          |          |          |          |
 5+25       0.0550      0.17  Q          |          |          |          |
 5+30       0.0562      0.17  Q          |          |          |          |
 5+35       0.0578      0.23  Q          |          |          |          |
 5+40       0.0603      0.36  VQ         |          |          |          |
 5+45       0.0630      0.40  VQ         |          |          |          |
 5+50       0.0659      0.42  VQ         |          |          |          |
 5+55       0.0688      0.43  VQ         |          |          |          |
 6+ 0       0.0718      0.43  VQ         |          |          |          |
 6+ 5       0.0753      0.50  VQ         |          |          |          |
 6+10       0.0797      0.65  V Q        |          |          |          |
 6+15       0.0845      0.69  |VQ        |          |          |          |
 6+20       0.0894      0.71  |VQ        |          |          |          |
 6+25       0.0943      0.72  |VQ        |          |          |          |
 6+30       0.0993      0.73  |VQ        |          |          |          |
 6+35       0.1048      0.79  |V Q       |          |          |          |
 6+40       0.1112      0.94  |V Q       |          |          |          |
 6+45       0.1180      0.98  |V Q       |          |          |          |
 6+50       0.1249      1.00  |V  Q      |          |          |          |
 6+55       0.1319      1.01  |V  Q      |          |          |          |
 7+ 0       0.1389      1.02  |V  Q      |          |          |          |
 7+ 5       0.1460      1.03  |V  Q      |          |          |          |
 7+10       0.1531      1.03  |V  Q      |          |          |          |
 7+15       0.1602      1.04  |V  Q      |          |          |          |
 7+20       0.1678      1.10  | V Q      |          |          |          |
 7+25       0.1764      1.25  | V  Q     |          |          |          |
 7+30       0.1854      1.29  | V  Q     |          |          |          |
 7+35       0.1948      1.37  | V  Q     |          |          |          |
 7+40       0.2053      1.52  | V   Q    |          |          |          |
 7+45       0.2160      1.57  | V   Q    |          |          |          |
 7+50       0.2273      1.64  | V   Q    |          |          |          |
 7+55       0.2397      1.79  | V    Q   |          |          |          |
 8+ 0       0.2523      1.84  |  V   Q   |          |          |          |
 8+ 5       0.2659      1.97  |  V   Q   |          |          |          |
 8+10       0.2814      2.26  |  V     Q|          |          |          |
 8+15       0.2975      2.34  |  V     Q|          |          |          |
 8+20       0.3139      2.37  |  V     Q|          |          |          |
 8+25       0.3303      2.38  |   V    Q|          |          |          |
 8+30       0.3468      2.39  |   V    Q|          |          |          |
 8+35       0.3637      2.46  |   V    Q|          |          |          |
 8+40       0.3816      2.60  |   V     Q          |          |          |
 8+45       0.3998      2.65  |   V     Q          |          |          |
 8+50       0.4186      2.72  |    V    Q          |          |          |
 8+55       0.4383      2.87  |    V    |Q         |          |          |
 9+ 0       0.4584      2.92  |    V    |Q         |          |          |
 9+ 5       0.4794      3.05  |    V    | Q        |          |          |
 9+10       0.5024      3.34  |     V   |  Q       |          |          |
 9+15       0.5260      3.42  |     V   |  Q       |          |          |
 9+20       0.5501      3.51  |     V   |   Q      |          |          |
 9+25       0.5753      3.66  |      V  |   Q      |          |          |
 9+30       0.6009      3.71  |      V  |   Q      |          |          |
 9+35       0.6269      3.78  |      V  |    Q     |          |          |
 9+40       0.6540      3.93  |       V |    Q     |          |          |
 9+45       0.6814      3.98  |       V |    Q     |          |          |
 9+50       0.7093      4.05  |       V |     Q    |          |          |
 9+55       0.7382      4.20  |        V|     Q    |          |          |
10+ 0       0.7674      4.25  |        V|     Q    |          |          |
10+ 5       0.7940      3.86  |        V|    Q     |          |          |
10+10       0.8139      2.89  |         VQ         |          |          |
10+15       0.8320      2.63  |         Q          |          |          |
10+20       0.8496      2.56  |         Q          |          |          |
10+25       0.8672      2.55  |         Q          |          |          |
10+30       0.8847      2.54  |         Q          |          |          |
10+35       0.9042      2.83  |         |Q         |          |          |
10+40       0.9286      3.54  |         |V  Q      |          |          |
10+45       0.9543      3.73  |         |V  Q      |          |          |
10+50       0.9805      3.80  |         | V  Q     |          |          |
10+55       1.0067      3.82  |         | V  Q     |          |          |
```



| | | | |
|---|---|---|---|
| 11+ 0 | 1.0331 | 3.83 | |
| 11+ 5 | 1.0592 | 3.78 | |
| 11+10 | 1.0843 | 3.64 | |
| 11+15 | 1.1091 | 3.61 | |
| 11+20 | 1.1340 | 3.61 | |
| 11+25 | 1.1588 | 3.61 | |
| 11+30 | 1.1837 | 3.61 | |
| 11+35 | 1.2079 | 3.51 | |
| 11+40 | 1.2301 | 3.23 | |
| 11+45 | 1.2519 | 3.16 | |
| 11+50 | 1.2739 | 3.20 | |
| 11+55 | 1.2970 | 3.34 | |
| 12+ 0 | 1.3203 | 3.38 | |
| 12+ 5 | 1.3464 | 3.80 | |
| 12+10 | 1.3794 | 4.79 | |
| 12+15 | 1.4143 | 5.06 | |
| 12+20 | 1.4501 | 5.20 | |
| 12+25 | 1.4871 | 5.37 | |
| 12+30 | 1.5244 | 5.42 | |
| 12+35 | 1.5627 | 5.55 | |
| 12+40 | 1.6029 | 5.84 | |
| 12+45 | 1.6437 | 5.92 | |
| 12+50 | 1.6851 | 6.01 | |
| 12+55 | 1.7275 | 6.16 | |
| 13+ 0 | 1.7703 | 6.21 | |
| 13+ 5 | 1.8151 | 6.51 | |
| 13+10 | 1.8648 | 7.22 | |
| 13+15 | 1.9159 | 7.41 | |
| 13+20 | 1.9674 | 7.48 | |
| 13+25 | 2.0190 | 7.50 | |
| 13+30 | 2.0707 | 7.51 | |
| 13+35 | 2.1181 | 6.88 | |
| 13+40 | 2.1549 | 5.34 | |
| 13+45 | 2.1889 | 4.94 | |
| 13+50 | 2.2221 | 4.82 | |
| 13+55 | 2.2551 | 4.79 | |
| 14+ 0 | 2.2880 | 4.78 | |
| 14+ 5 | 2.3226 | 5.01 | |
| 14+10 | 2.3610 | 5.58 | |
| 14+15 | 2.4005 | 5.74 | |
| 14+20 | 2.4399 | 5.73 | |
| 14+25 | 2.4785 | 5.60 | |
| 14+30 | 2.5170 | 5.58 | |
| 14+35 | 2.5553 | 5.57 | |
| 14+40 | 2.5937 | 5.57 | |
| 14+45 | 2.6321 | 5.58 | |
| 14+50 | 2.6702 | 5.52 | |
| 14+55 | 2.7073 | 5.39 | |
| 15+ 0 | 2.7442 | 5.36 | |
| 15+ 5 | 2.7806 | 5.29 | |
| 15+10 | 2.8161 | 5.15 | |
| 15+15 | 2.8514 | 5.12 | |
| 15+20 | 2.8862 | 5.06 | |
| 15+25 | 2.9201 | 4.92 | |
| 15+30 | 2.9537 | 4.88 | |
| 15+35 | 2.9857 | 4.65 | |
| 15+40 | 3.0138 | 4.09 | |
| 15+45 | 3.0410 | 3.94 | |
| 15+50 | 3.0678 | 3.90 | |
| 15+55 | 3.0946 | 3.89 | |
| 16+ 0 | 3.1214 | 3.89 | |
| 16+ 5 | 3.1423 | 3.03 | |
| 16+10 | 3.1488 | 0.93 | |
| 16+15 | 3.1514 | 0.38 | |
| 16+20 | 3.1528 | 0.21 | |
| 16+25 | 3.1540 | 0.17 | |
| 16+30 | 3.1551 | 0.15 | |
| 16+35 | 3.1560 | 0.14 | |
| 16+40 | 3.1567 | 0.09 | |
| 16+45 | 3.1572 | 0.08 | |
| 16+50 | 3.1578 | 0.08 | |
| 16+55 | 3.1583 | 0.08 | |
| 17+ 0 | 3.1588 | 0.08 | |
| 17+ 5 | 3.1599 | 0.16 | |
| 17+10 | 3.1624 | 0.36 | |
| 17+15 | 3.1653 | 0.42 | |
| 17+20 | 3.1683 | 0.44 | |
| 17+25 | 3.1714 | 0.45 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+30 | 3.1746 | 0.46 | \|Q | \| | \| | \| | V\| |
| 17+35 | 3.1777 | 0.46 | \|Q | \| | \| | \| | V\| |
| 17+40 | 3.1809 | 0.46 | \|Q | \| | \| | \| | V\| |
| 17+45 | 3.1841 | 0.47 | \|Q | \| | \| | \| | V\| |
| 17+50 | 3.1870 | 0.41 | \|Q | \| | \| | \| | V\| |
| 17+55 | 3.1889 | 0.28 | \|Q | \| | \| | \| | V\| |
| 18+ 0 | 3.1906 | 0.24 | Q | \| | \| | \| | V\| |
| 18+ 5 | 3.1922 | 0.24 | Q | \| | \| | \| | V\| |
| 18+10 | 3.1939 | 0.24 | Q | \| | \| | \| | V\| |
| 18+15 | 3.1955 | 0.24 | Q | \| | \| | \| | V\| |
| 18+20 | 3.1972 | 0.24 | Q | \| | \| | \| | V\| |
| 18+25 | 3.1989 | 0.25 | Q | \| | \| | \| | V\| |
| 18+30 | 3.2006 | 0.25 | \|Q | \| | \| | \| | V\| |
| 18+35 | 3.2021 | 0.21 | Q | \| | \| | \| | V\| |
| 18+40 | 3.2029 | 0.11 | Q | \| | \| | \| | V\| |
| 18+45 | 3.2034 | 0.09 | Q | \| | \| | \| | V\| |
| 18+50 | 3.2039 | 0.07 | Q | \| | \| | \| | V\| |
| 18+55 | 3.2043 | 0.06 | Q | \| | \| | \| | V\| |
| 19+ 0 | 3.2047 | 0.05 | Q | \| | \| | \| | V\| |
| 19+ 5 | 3.2051 | 0.06 | Q | \| | \| | \| | V\| |
| 19+10 | 3.2056 | 0.07 | Q | \| | \| | \| | V\| |
| 19+15 | 3.2061 | 0.07 | Q | \| | \| | \| | V\| |
| 19+20 | 3.2069 | 0.12 | Q | \| | \| | \| | V\| |
| 19+25 | 3.2086 | 0.24 | Q | \| | \| | \| | V\| |
| 19+30 | 3.2105 | 0.28 | \|Q | \| | \| | \| | V\| |
| 19+35 | 3.2122 | 0.24 | Q | \| | \| | \| | V\| |
| 19+40 | 3.2130 | 0.12 | Q | \| | \| | \| | V\| |
| 19+45 | 3.2136 | 0.09 | Q | \| | \| | \| | V\| |
| 19+50 | 3.2141 | 0.07 | Q | \| | \| | \| | V\| |
| 19+55 | 3.2145 | 0.06 | Q | \| | \| | \| | V\| |
| 20+ 0 | 3.2149 | 0.05 | Q | \| | \| | \| | V\| |
| 20+ 5 | 3.2153 | 0.06 | Q | \| | \| | \| | V\| |
| 20+10 | 3.2158 | 0.07 | Q | \| | \| | \| | V\| |
| 20+15 | 3.2163 | 0.07 | Q | \| | \| | \| | V\| |
| 20+20 | 3.2168 | 0.08 | Q | \| | \| | \| | V\| |
| 20+25 | 3.2173 | 0.08 | Q | \| | \| | \| | V\| |
| 20+30 | 3.2179 | 0.08 | Q | \| | \| | \| | V\| |
| 20+35 | 3.2184 | 0.08 | Q | \| | \| | \| | V\| |
| 20+40 | 3.2190 | 0.08 | Q | \| | \| | \| | V\| |
| 20+45 | 3.2196 | 0.09 | Q | \| | \| | \| | V\| |
| 20+50 | 3.2202 | 0.08 | Q | \| | \| | \| | V\| |
| 20+55 | 3.2206 | 0.06 | Q | \| | \| | \| | V\| |
| 21+ 0 | 3.2209 | 0.05 | Q | \| | \| | \| | V\| |
| 21+ 5 | 3.2214 | 0.06 | Q | \| | \| | \| | V\| |
| 21+10 | 3.2220 | 0.09 | Q | \| | \| | \| | V\| |
| 21+15 | 3.2227 | 0.10 | Q | \| | \| | \| | V\| |
| 21+20 | 3.2233 | 0.09 | Q | \| | \| | \| | V\| |
| 21+25 | 3.2237 | 0.06 | Q | \| | \| | \| | V\| |
| 21+30 | 3.2241 | 0.05 | Q | \| | \| | \| | V\| |
| 21+35 | 3.2246 | 0.07 | Q | \| | \| | \| | V\| |
| 21+40 | 3.2253 | 0.10 | Q | \| | \| | \| | V\| |
| 21+45 | 3.2261 | 0.11 | Q | \| | \| | \| | V\| |
| 21+50 | 3.2268 | 0.10 | Q | \| | \| | \| | V\| |
| 21+55 | 3.2272 | 0.06 | Q | \| | \| | \| | V\| |
| 22+ 0 | 3.2276 | 0.05 | Q | \| | \| | \| | V\| |
| 22+ 5 | 3.2281 | 0.07 | Q | \| | \| | \| | V\| |
| 22+10 | 3.2288 | 0.11 | Q | \| | \| | \| | V\| |
| 22+15 | 3.2297 | 0.13 | Q | \| | \| | \| | V\| |
| 22+20 | 3.2305 | 0.11 | Q | \| | \| | \| | V\| |
| 22+25 | 3.2309 | 0.07 | Q | \| | \| | \| | V\| |
| 22+30 | 3.2313 | 0.06 | Q | \| | \| | \| | V\| |
| 22+35 | 3.2317 | 0.05 | Q | \| | \| | \| | V\| |
| 22+40 | 3.2320 | 0.05 | Q | \| | \| | \| | V\| |
| 22+45 | 3.2324 | 0.05 | Q | \| | \| | \| | V\| |
| 22+50 | 3.2327 | 0.05 | Q | \| | \| | \| | V\| |
| 22+55 | 3.2331 | 0.05 | Q | \| | \| | \| | V\| |
| 23+ 0 | 3.2334 | 0.05 | Q | \| | \| | \| | V\| |
| 23+ 5 | 3.2337 | 0.05 | Q | \| | \| | \| | V\| |
| 23+10 | 3.2341 | 0.05 | Q | \| | \| | \| | V\| |
| 23+15 | 3.2344 | 0.05 | Q | \| | \| | \| | V\| |
| 23+20 | 3.2348 | 0.05 | Q | \| | \| | \| | V\| |
| 23+25 | 3.2351 | 0.05 | Q | \| | \| | \| | V\| |
| 23+30 | 3.2355 | 0.05 | Q | \| | \| | \| | V\| |
| 23+35 | 3.2358 | 0.05 | Q | \| | \| | \| | V\| |
| 23+40 | 3.2362 | 0.05 | Q | \| | \| | \| | V\| |
| 23+45 | 3.2365 | 0.05 | Q | \| | \| | \| | V\| |
| 23+50 | 3.2369 | 0.05 | Q | \| | \| | \| | V\| |
| 23+55 | 3.2372 | 0.05 | Q | \| | \| | \| | V\| |

```
   24+ 0       3.2375      0.05  Q         |          |          |        V|
   24+ 5       3.2378      0.04  Q         |          |          |        V|
   24+10       3.2379      0.01  Q         |          |          |        V|
   24+15       3.2379      0.00  Q         |          |          |        V|
   24+20       3.2379      0.00  Q         |          |          |        V|
   24+25       3.2379      0.00  Q         |          |          |        V|
-------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX161100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 16
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 21.50(Ac.) = 0.034 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.50(Ac.) = 0.034 Sq. Mi.
Length along longest watercourse = 2099.00(Ft.)
Length along longest watercourse measured to centroid = 758.00(Ft.)
Length along longest watercourse = 0.398 Mi.
Length along longest watercourse measured to centroid = 0.144 Mi.
Difference in elevation = 498.00(Ft.)
Slope along watercourse = 1252.7108 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.073 Hr.
Lag time = 4.38 Min.
25% of lag time = 1.09 Min.
40% of lag time = 1.75 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 21.50 | 0.49 | 10.54 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 21.50 | 1.20 | 25.80 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.490(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.98 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 21.500 | 83.92 | 0.000 |

Total Area Entered = 21.50(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.9 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

Slope of intensity-duration curve for a 1 hour storm =0.5000

---

U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

---

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 114.207 | 19.436 | 4.211 |
| 2 | 0.167 | 228.415 | 56.176 | 12.172 |
| 3 | 0.250 | 342.622 | 16.280 | 3.528 |
| 4 | 0.333 | 456.829 | 5.717 | 1.239 |
| 5 | 0.417 | 571.037 | 1.446 | 0.313 |
| 6 | 0.500 | 685.244 | 0.732 | 0.159 |
| 7 | 0.583 | 799.451 | 0.213 | 0.046 |
| | | Sum = 100.000 | Sum= | 21.668 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.086 | ( 0.544) | 0.518 |
| 2 | 0.17 | 4.30 | 0.619 | 0.086 | ( 0.557) | 0.533 |
| 3 | 0.25 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.633 |
| 4 | 0.33 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.633 |
| 5 | 0.42 | 5.80 | 0.835 | 0.086 | ( 0.752) | 0.749 |
| 6 | 0.50 | 6.50 | 0.936 | 0.086 | ( 0.842) | 0.849 |
| 7 | 0.58 | 7.40 | 1.065 | 0.086 | ( 0.959) | 0.979 |
| 8 | 0.67 | 8.60 | 1.238 | 0.086 | ( 1.114) | 1.152 |
| 9 | 0.75 | 12.30 | 1.771 | 0.086 | ( 1.594) | 1.684 |
| 10 | 0.83 | 29.10 | 4.190 | 0.086 | ( 3.771) | 4.103 |
| 11 | 0.92 | 6.80 | 0.979 | 0.086 | ( 0.881) | 0.893 |
| 12 | 1.00 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.633 |
| | | (Loss Rate Not Used) | | | |
| Sum = | | 100.0 | | | Sum = 13.4 |

Flood volume = Effective rainfall 1.11(In)
times area 21.5(Ac.)/[(In)/(Ft.)] = 2.0(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.155(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 86890.8 Cubic Feet
Total soil loss = 6745.0 Cubic Feet

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Peak flow rate of this hydrograph = 61.580(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 17.5 | 35.0 | 52.5 | 70.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0150 | 2.18 | VQ | | | | |
| 0+10 | 0.0740 | 8.56 | V Q | | | | |
| 0+15 | 0.1496 | 10.99 | V Q | | | | |
| 0+20 | 0.2385 | 12.91 | V Q | | | | |
| 0+25 | 0.3344 | 13.93 | VQ | | | | |
| 0+30 | 0.4444 | 15.97 | VQ | | | | |
| 0+35 | 0.5697 | 18.20 | QV | | | | |
| 0+40 | 0.7145 | 21.02 | Q V | | | | |
| 0+45 | 0.8936 | 26.00 | Q V | | | | |
| 0+50 | 1.1931 | 43.50 | VQ | | | | |
| 0+55 | 1.6172 | 61.58 | V Q | | | | |
| 1+ 0 | 1.8284 | 30.66 | Q | | | V | |
| 1+ 5 | 1.9435 | 16.71 | Q | | | V | |
| 1+10 | 1.9776 | 4.95 | Q | | | V | |

```
    1+15       1.9899      1.79  |Q        |          |          |        V|
    1+20       1.9936      0.53  Q         |          |          |        V|
    1+25       1.9945      0.14  Q         |          |          |        V|
    1+30       1.9947      0.03  Q         |          |          |         V
-------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX163100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 16
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 21.50(Ac.) = 0.034 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.50(Ac.) = 0.034 Sq. Mi.
Length along longest watercourse = 2099.00(Ft.)
Length along longest watercourse measured to centroid = 758.00(Ft.)
Length along longest watercourse = 0.398 Mi.
Length along longest watercourse measured to centroid = 0.144 Mi.
Difference in elevation = 498.00(Ft.)
Slope along watercourse = 1252.7108 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.073 Hr.
Lag time = 4.38 Min.
25% of lag time = 1.09 Min.
40% of lag time = 1.75 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 21.50 | 0.80 | 17.20 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 21.50 | 1.80 | 38.70 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 21.500 | 83.92 | 0.000 |

Total Area Entered = 21.50(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.9 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 114.207 | 19.436 | 4.211 |
| 2 | 0.167 | 228.415 | 56.176 | 12.172 |
| 3 | 0.250 | 342.622 | 16.280 | 3.528 |
| 4 | 0.333 | 456.829 | 5.717 | 1.239 |
| 5 | 0.417 | 571.037 | 1.446 | 0.313 |
| 6 | 0.500 | 685.244 | 0.732 | 0.159 |
| 7 | 0.583 | 799.451 | 0.213 | 0.046 |
| | | | Sum = 100.000 | Sum= 21.668 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.281 | 0.086 | ( 0.253) | 0.194 |
| 2 | 0.17 | 1.30 | 0.281 | 0.086 | ( 0.253) | 0.194 |
| 3 | 0.25 | 1.10 | 0.238 | 0.086 | ( 0.214) | 0.151 |
| 4 | 0.33 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 5 | 0.42 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 6 | 0.50 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.302 |
| 7 | 0.58 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 8 | 0.67 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.302 |
| 9 | 0.75 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.302 |
| 10 | 0.83 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 11 | 0.92 | 1.60 | 0.346 | 0.086 | ( 0.311) | 0.259 |
| 12 | 1.00 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.302 |
| 13 | 1.08 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 14 | 1.17 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 15 | 1.25 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 16 | 1.33 | 2.00 | 0.432 | 0.086 | ( 0.389) | 0.346 |
| 17 | 1.42 | 2.60 | 0.562 | 0.086 | ( 0.505) | 0.475 |
| 18 | 1.50 | 2.70 | 0.583 | 0.086 | ( 0.525) | 0.497 |
| 19 | 1.58 | 2.40 | 0.518 | 0.086 | ( 0.467) | 0.432 |
| 20 | 1.67 | 2.70 | 0.583 | 0.086 | ( 0.525) | 0.497 |
| 21 | 1.75 | 3.30 | 0.713 | 0.086 | ( 0.641) | 0.626 |
| 22 | 1.83 | 3.10 | 0.670 | 0.086 | ( 0.603) | 0.583 |
| 23 | 1.92 | 2.90 | 0.626 | 0.086 | ( 0.564) | 0.540 |
| 24 | 2.00 | 3.00 | 0.648 | 0.086 | ( 0.583) | 0.562 |
| 25 | 2.08 | 3.10 | 0.670 | 0.086 | ( 0.603) | 0.583 |
| 26 | 2.17 | 4.20 | 0.907 | 0.086 | ( 0.816) | 0.821 |
| 27 | 2.25 | 5.00 | 1.080 | 0.086 | ( 0.972) | 0.993 |
| 28 | 2.33 | 3.50 | 0.756 | 0.086 | ( 0.680) | 0.670 |
| 29 | 2.42 | 6.80 | 1.469 | 0.086 | ( 1.322) | 1.382 |
| 30 | 2.50 | 7.30 | 1.577 | 0.086 | ( 1.419) | 1.490 |
| 31 | 2.58 | 8.20 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 32 | 2.67 | 5.90 | 1.274 | 0.086 | ( 1.147) | 1.188 |
| 33 | 2.75 | 2.00 | 0.432 | 0.086 | ( 0.389) | 0.346 |
| 34 | 2.83 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.302 |
| 35 | 2.92 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.302 |
| 36 | 3.00 | 0.60 | 0.130 | 0.086 | ( 0.117) | 0.043 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 18.5 |

Flood volume = Effective rainfall 1.54(In)
times area 21.5(Ac.)/[(In)/(Ft.)] = 2.8(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.465(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 120232.9 Cubic Feet
Total soil loss = 20234.9 Cubic Feet

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Peak flow rate of this hydrograph = 32.899(CFS)

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3 - H O U R  S T O R M
R u n o f f  H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 10.0 | 20.0 | 30.0 | 40.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0056 | 0.82 | Q | | | | |
| 0+10 | 0.0276 | 3.19 | V Q | | | | |
| 0+15 | 0.0530 | 3.69 | V Q | | | | |
| 0+20 | 0.0789 | 3.77 | V Q | | | | |
| 0+25 | 0.1115 | 4.73 | V Q | | | | |
| 0+30 | 0.1479 | 5.28 | V Q | | | | |
| 0+35 | 0.1886 | 5.90 | V Q | | | | |
| 0+40 | 0.2274 | 5.64 | V Q | | | | |
| 0+45 | 0.2707 | 6.29 | V Q | | | | |
| 0+50 | 0.3133 | 6.19 | V Q | | | | |
| 0+55 | 0.3516 | 5.56 | Q | | | | |
| 1+ 0 | 0.3915 | 5.79 | Q | | | | |
| 1+ 5 | 0.4375 | 6.68 | Q | | | | |
| 1+10 | 0.4919 | 7.90 | Q | | | | |
| 1+15 | 0.5487 | 8.25 | VQ | | | | |
| 1+20 | 0.6051 | 8.19 | Q | | | | |
| 1+25 | 0.6619 | 8.25 | QV | | | | |
| 1+30 | 0.7292 | 9.78 | QV | | | | |
| 1+35 | 0.7993 | 10.18 | QV | | | | |
| 1+40 | 0.8674 | 9.88 | Q V | | | | |
| 1+45 | 0.9435 | 11.05 | Q V | | | | |
| 1+50 | 1.0304 | 12.62 | Q V | | | | |
| 1+55 | 1.1161 | 12.44 | Q V | | | | |
| 2+ 0 | 1.1989 | 12.02 | Q V | | | | |
| 2+ 5 | 1.2830 | 12.22 | Q V | | | | |
| 2+10 | 1.3761 | 13.52 | Q V | | | | |
| 2+15 | 1.4947 | 17.23 | Q V | | | | |
| 2+20 | 1.6244 | 18.83 | Q V | | | | |
| 2+25 | 1.7539 | 18.80 | Q V | | | | |
| 2+30 | 1.9404 | 27.08 | QV | | | | |
| 2+35 | 2.1568 | 31.42 | Q | | | | |
| 2+40 | 2.3834 | 32.90 | Q V | | | | |
| 2+45 | 2.5507 | 24.30 | Q | V | | | |
| 2+50 | 2.6367 | 12.48 | Q | V | | | |
| 2+55 | 2.6951 | 8.48 | Q | V | | | |
| 3+ 0 | 2.7369 | 6.07 | Q | V | | | |
| 3+ 5 | 2.7530 | 2.34 | Q | V | | | |
| 3+10 | 2.7580 | 0.73 | Q | V | | | |
| 3+15 | 2.7595 | 0.21 | Q | V | | | |
| 3+20 | 2.7600 | 0.08 | Q | V | | | |
| 3+25 | 2.7602 | 0.02 | Q | V | | | |
| 3+30 | 2.7602 | 0.00 | Q | V | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX166100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 16
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 21.50(Ac.) = 0.034 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.50(Ac.) = 0.034 Sq. Mi.
Length along longest watercourse = 2099.00(Ft.)
Length along longest watercourse measured to centroid = 758.00(Ft.)
Length along longest watercourse = 0.398 Mi.
Length along longest watercourse measured to centroid = 0.144 Mi.
Difference in elevation = 498.00(Ft.)
Slope along watercourse = 1252.7108 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.073 Hr.
Lag time = 4.38 Min.
25% of lag time = 1.09 Min.
40% of lag time = 1.75 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 21.50 | 1.12 | 24.08 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 21.50 | 2.50 | 53.75 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.120(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 21.500 | 83.92 | 0.000 |

Total Area Entered = 21.50(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.9 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 114.207 | 19.436 | 4.211 |
| 2 0.167 | 228.415 | 56.176 | 12.172 |
| 3 0.250 | 342.622 | 16.280 | 3.528 |
| 4 0.333 | 456.829 | 5.717 | 1.239 |
| 5 0.417 | 571.037 | 1.446 | 0.313 |
| 6 0.500 | 685.244 | 0.732 | 0.159 |
| 7 0.583 | 799.451 | 0.213 | 0.046 |
| | Sum = | 100.000 Sum= | 21.668 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.086 | ( 0.135) | 0.064 |
| 2 | 0.17 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 3 | 0.25 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 4 | 0.33 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 5 | 0.42 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 6 | 0.50 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 7 | 0.58 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 8 | 0.67 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 9 | 0.75 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 10 | 0.83 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 11 | 0.92 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 12 | 1.00 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 13 | 1.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 14 | 1.17 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 15 | 1.25 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 16 | 1.33 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 17 | 1.42 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 18 | 1.50 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 19 | 1.58 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 20 | 1.67 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 21 | 1.75 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 22 | 1.83 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 23 | 1.92 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 24 | 2.00 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 25 | 2.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 26 | 2.17 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 27 | 2.25 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 28 | 2.33 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 29 | 2.42 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 30 | 2.50 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 31 | 2.58 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 32 | 2.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 33 | 2.75 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 34 | 2.83 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 35 | 2.92 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 36 | 3.00 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 37 | 3.08 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 38 | 3.17 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 39 | 3.25 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 40 | 3.33 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 41 | 3.42 | 1.20 | 0.360 | 0.086 | ( 0.324) | 0.274 |
| 42 | 3.50 | 1.30 | 0.390 | 0.086 | ( 0.351) | 0.304 |
| 43 | 3.58 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 44 | 3.67 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 45 | 3.75 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 46 | 3.83 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 47 | 3.92 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 48 | 4.00 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 49 | 4.08 | 1.70 | 0.510 | 0.086 | ( 0.459) | 0.424 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 50 | 4.17 | 1.80 | 0.540 | 0.086 | ( 0.486) | | 0.454 |
| 51 | 4.25 | 1.90 | 0.570 | 0.086 | ( 0.513) | | 0.484 |
| 52 | 4.33 | 2.00 | 0.600 | 0.086 | ( 0.540) | | 0.514 |
| 53 | 4.42 | 2.10 | 0.630 | 0.086 | ( 0.567) | | 0.544 |
| 54 | 4.50 | 2.10 | 0.630 | 0.086 | ( 0.567) | | 0.544 |
| 55 | 4.58 | 2.20 | 0.660 | 0.086 | ( 0.594) | | 0.574 |
| 56 | 4.67 | 2.30 | 0.690 | 0.086 | ( 0.621) | | 0.604 |
| 57 | 4.75 | 2.40 | 0.720 | 0.086 | ( 0.648) | | 0.634 |
| 58 | 4.83 | 2.40 | 0.720 | 0.086 | ( 0.648) | | 0.634 |
| 59 | 4.92 | 2.50 | 0.750 | 0.086 | ( 0.675) | | 0.664 |
| 60 | 5.00 | 2.60 | 0.780 | 0.086 | ( 0.702) | | 0.694 |
| 61 | 5.08 | 3.10 | 0.930 | 0.086 | ( 0.837) | | 0.844 |
| 62 | 5.17 | 3.60 | 1.080 | 0.086 | ( 0.972) | | 0.993 |
| 63 | 5.25 | 3.90 | 1.170 | 0.086 | ( 1.053) | | 1.083 |
| 64 | 5.33 | 4.20 | 1.260 | 0.086 | ( 1.134) | | 1.173 |
| 65 | 5.42 | 4.70 | 1.410 | 0.086 | ( 1.269) | | 1.323 |
| 66 | 5.50 | 5.60 | 1.680 | 0.086 | ( 1.512) | | 1.593 |
| 67 | 5.58 | 1.90 | 0.570 | 0.086 | ( 0.513) | | 0.484 |
| 68 | 5.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | | 0.184 |
| 69 | 5.75 | 0.60 | 0.180 | 0.086 | ( 0.162) | | 0.094 |
| 70 | 5.83 | 0.50 | 0.150 | 0.086 | ( 0.135) | | 0.064 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.086) | 0.081 | | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.086) | 0.054 | | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.8

Flood volume = Effective rainfall 1.98(In)
times area 21.5(Ac.)/[(In)/(Ft.)] = 3.6(Ac.Ft)
Total soil loss = 0.52(In)
Total soil loss = 0.923(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 154874.5 Cubic Feet
Total soil loss = 40223.5 Cubic Feet

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Peak flow rate of this hydrograph = 28.794(CFS)

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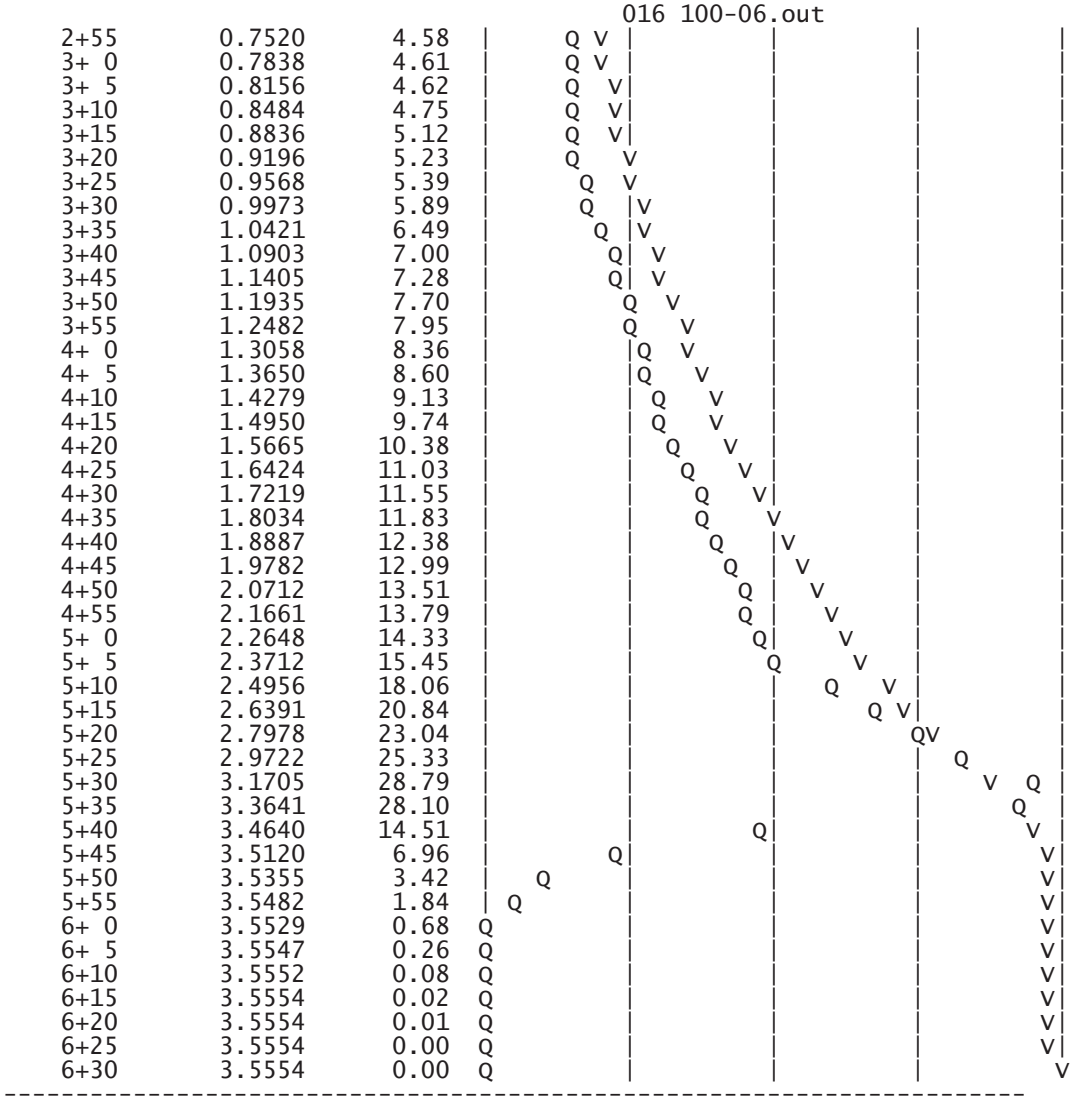
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 7.5 | 15.0 | 22.5 | 30.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0018 | 0.27 | Q | | | | |
| 0+10 | 0.0099 | 1.17 | VQ | | | | |
| 0+15 | 0.0220 | 1.76 | V Q | | | | |
| 0+20 | 0.0354 | 1.94 | V Q | | | | |
| 0+25 | 0.0492 | 2.00 | V Q | | | | |
| 0+30 | 0.0639 | 2.15 | V Q | | | | |
| 0+35 | 0.0813 | 2.52 | V Q | | | | |
| 0+40 | 0.0994 | 2.63 | \|V Q | | | | |
| 0+45 | 0.1177 | 2.66 | \|V Q | | | | |
| 0+50 | 0.1361 | 2.67 | \|V Q | | | | |
| 0+55 | 0.1545 | 2.68 | \|V Q | | | | |
| 1+ 0 | 0.1739 | 2.81 | \|V Q | | | | |
| 1+ 5 | 0.1957 | 3.17 | \| V Q | | | | |
| 1+10 | 0.2183 | 3.28 | \| V Q | | | | |
| 1+15 | 0.2411 | 3.31 | \| V Q | | | | |
| 1+20 | 0.2640 | 3.32 | \| V Q | | | | |
| 1+25 | 0.2869 | 3.33 | \| VQ | | | | |
| 1+30 | 0.3098 | 3.33 | \| VQ | | | | |
| 1+35 | 0.3327 | 3.33 | \| VQ | | | | |
| 1+40 | 0.3557 | 3.33 | \| Q | | | | |
| 1+45 | 0.3786 | 3.33 | \| Q | | | | |
| 1+50 | 0.4015 | 3.33 | \| Q | | | | |
| 1+55 | 0.4244 | 3.33 | \| Q | | | | |
| 2+ 0 | 0.4482 | 3.46 | \| QV | | | | |
| 2+ 5 | 0.4737 | 3.69 | \| QV | | | | |
| 2+10 | 0.4982 | 3.56 | \| QV | | | | |
| 2+15 | 0.5248 | 3.86 | \| Q | | | | |
| 2+20 | 0.5519 | 3.94 | \| QV | | | | |
| 2+25 | 0.5792 | 3.97 | \| QV | | | | |
| 2+30 | 0.6066 | 3.97 | \| QV | | | | |
| 2+35 | 0.6340 | 3.98 | \| Q V | | | | |
| 2+40 | 0.6614 | 3.98 | \| Q V | | | | |
| 2+45 | 0.6897 | 4.11 | \| Q V | | | | |
| 2+50 | 0.7205 | 4.47 | \| Q V \| | | | | |



| | | | |
|---|---|---|---|
| 2+55 | 0.7520 | 4.58 | |
| 3+ 0 | 0.7838 | 4.61 | |
| 3+ 5 | 0.8156 | 4.62 | |
| 3+10 | 0.8484 | 4.75 | |
| 3+15 | 0.8836 | 5.12 | |
| 3+20 | 0.9196 | 5.23 | |
| 3+25 | 0.9568 | 5.39 | |
| 3+30 | 0.9973 | 5.89 | |
| 3+35 | 1.0421 | 6.49 | |
| 3+40 | 1.0903 | 7.00 | |
| 3+45 | 1.1405 | 7.28 | |
| 3+50 | 1.1935 | 7.70 | |
| 3+55 | 1.2482 | 7.95 | |
| 4+ 0 | 1.3058 | 8.36 | |
| 4+ 5 | 1.3650 | 8.60 | |
| 4+10 | 1.4279 | 9.13 | |
| 4+15 | 1.4950 | 9.74 | |
| 4+20 | 1.5665 | 10.38 | |
| 4+25 | 1.6424 | 11.03 | |
| 4+30 | 1.7219 | 11.55 | |
| 4+35 | 1.8034 | 11.83 | |
| 4+40 | 1.8887 | 12.38 | |
| 4+45 | 1.9782 | 12.99 | |
| 4+50 | 2.0712 | 13.51 | |
| 4+55 | 2.1661 | 13.79 | |
| 5+ 0 | 2.2648 | 14.33 | |
| 5+ 5 | 2.3712 | 15.45 | |
| 5+10 | 2.4956 | 18.06 | |
| 5+15 | 2.6391 | 20.84 | |
| 5+20 | 2.7978 | 23.04 | |
| 5+25 | 2.9722 | 25.33 | |
| 5+30 | 3.1705 | 28.79 | |
| 5+35 | 3.3641 | 28.10 | |
| 5+40 | 3.4640 | 14.51 | |
| 5+45 | 3.5120 | 6.96 | |
| 5+50 | 3.5355 | 3.42 | |
| 5+55 | 3.5482 | 1.84 | |
| 6+ 0 | 3.5529 | 0.68 | |
| 6+ 5 | 3.5547 | 0.26 | |
| 6+10 | 3.5552 | 0.08 | |
| 6+15 | 3.5554 | 0.02 | |
| 6+20 | 3.5554 | 0.01 | |
| 6+25 | 3.5554 | 0.00 | |
| 6+30 | 3.5554 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX1624100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 16
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 21.50(Ac.) = 0.034 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.50(Ac.) = 0.034 Sq. Mi.
Length along longest watercourse = 2099.00(Ft.)
Length along longest watercourse measured to centroid = 758.00(Ft.)
Length along longest watercourse = 0.398 Mi.
Length along longest watercourse measured to centroid = 0.144 Mi.
Difference in elevation = 498.00(Ft.)
Slope along watercourse = 1252.7108 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.073 Hr.
Lag time = 4.38 Min.
25% of lag time = 1.09 Min.
40% of lag time = 1.75 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 21.50 | 1.80 | 38.70 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 21.50 | 4.54 | 97.61 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.540(In)

Point rain (area averaged) = 4.540(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.540(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 21.500 | 83.92 | 0.000 |

Total Area Entered = 21.50(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.9 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 114.207 | 19.436 | 4.211 |
| 2 | 0.167 | 228.415 | 56.176 | 12.172 |
| 3 | 0.250 | 342.622 | 16.280 | 3.528 |
| 4 | 0.333 | 456.829 | 5.717 | 1.239 |
| 5 | 0.417 | 571.037 | 1.446 | 0.313 |
| 6 | 0.500 | 685.244 | 0.732 | 0.159 |
| 7 | 0.583 | 799.451 | 0.213 | 0.046 |
| | | | Sum = 100.000 | Sum= 21.668 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.036 | ( 0.153) | 0.033 | 0.004 |
| 2 | 0.17 | 0.07 | 0.036 | ( 0.153) | 0.033 | 0.004 |
| 3 | 0.25 | 0.07 | 0.036 | ( 0.152) | 0.033 | 0.004 |
| 4 | 0.33 | 0.10 | 0.054 | ( 0.151) | 0.049 | 0.005 |
| 5 | 0.42 | 0.10 | 0.054 | ( 0.151) | 0.049 | 0.005 |
| 6 | 0.50 | 0.10 | 0.054 | ( 0.150) | 0.049 | 0.005 |
| 7 | 0.58 | 0.10 | 0.054 | ( 0.150) | 0.049 | 0.005 |
| 8 | 0.67 | 0.10 | 0.054 | ( 0.149) | 0.049 | 0.005 |
| 9 | 0.75 | 0.10 | 0.054 | ( 0.148) | 0.049 | 0.005 |
| 10 | 0.83 | 0.13 | 0.073 | ( 0.148) | 0.065 | 0.007 |
| 11 | 0.92 | 0.13 | 0.073 | ( 0.147) | 0.065 | 0.007 |
| 12 | 1.00 | 0.13 | 0.073 | ( 0.147) | 0.065 | 0.007 |
| 13 | 1.08 | 0.10 | 0.054 | ( 0.146) | 0.049 | 0.005 |
| 14 | 1.17 | 0.10 | 0.054 | ( 0.146) | 0.049 | 0.005 |
| 15 | 1.25 | 0.10 | 0.054 | ( 0.145) | 0.049 | 0.005 |
| 16 | 1.33 | 0.10 | 0.054 | ( 0.144) | 0.049 | 0.005 |
| 17 | 1.42 | 0.10 | 0.054 | ( 0.144) | 0.049 | 0.005 |
| 18 | 1.50 | 0.10 | 0.054 | ( 0.143) | 0.049 | 0.005 |
| 19 | 1.58 | 0.10 | 0.054 | ( 0.143) | 0.049 | 0.005 |
| 20 | 1.67 | 0.10 | 0.054 | ( 0.142) | 0.049 | 0.005 |
| 21 | 1.75 | 0.10 | 0.054 | ( 0.142) | 0.049 | 0.005 |
| 22 | 1.83 | 0.13 | 0.073 | ( 0.141) | 0.065 | 0.007 |
| 23 | 1.92 | 0.13 | 0.073 | ( 0.140) | 0.065 | 0.007 |
| 24 | 2.00 | 0.13 | 0.073 | ( 0.140) | 0.065 | 0.007 |
| 25 | 2.08 | 0.13 | 0.073 | ( 0.139) | 0.065 | 0.007 |
| 26 | 2.17 | 0.13 | 0.073 | ( 0.139) | 0.065 | 0.007 |
| 27 | 2.25 | 0.13 | 0.073 | ( 0.138) | 0.065 | 0.007 |
| 28 | 2.33 | 0.13 | 0.073 | ( 0.138) | 0.065 | 0.007 |
| 29 | 2.42 | 0.13 | 0.073 | ( 0.137) | 0.065 | 0.007 |
| 30 | 2.50 | 0.13 | 0.073 | ( 0.136) | 0.065 | 0.007 |
| 31 | 2.58 | 0.17 | 0.091 | ( 0.136) | 0.082 | 0.009 |
| 32 | 2.67 | 0.17 | 0.091 | ( 0.135) | 0.082 | 0.009 |
| 33 | 2.75 | 0.17 | 0.091 | ( 0.135) | 0.082 | 0.009 |
| 34 | 2.83 | 0.17 | 0.091 | ( 0.134) | 0.082 | 0.009 |
| 35 | 2.92 | 0.17 | 0.091 | ( 0.134) | 0.082 | 0.009 |
| 36 | 3.00 | 0.17 | 0.091 | ( 0.133) | 0.082 | 0.009 |
| 37 | 3.08 | 0.17 | 0.091 | ( 0.133) | 0.082 | 0.009 |
| 38 | 3.17 | 0.17 | 0.091 | ( 0.132) | 0.082 | 0.009 |
| 39 | 3.25 | 0.17 | 0.091 | ( 0.132) | 0.082 | 0.009 |
| 40 | 3.33 | 0.17 | 0.091 | ( 0.131) | 0.082 | 0.009 |
| 41 | 3.42 | 0.17 | 0.091 | ( 0.130) | 0.082 | 0.009 |
| 42 | 3.50 | 0.17 | 0.091 | ( 0.130) | 0.082 | 0.009 |
| 43 | 3.58 | 0.17 | 0.091 | ( 0.129) | 0.082 | 0.009 |
| 44 | 3.67 | 0.17 | 0.091 | ( 0.129) | 0.082 | 0.009 |
| 45 | 3.75 | 0.17 | 0.091 | ( 0.128) | 0.082 | 0.009 |
| 46 | 3.83 | 0.20 | 0.109 | ( 0.128) | 0.098 | 0.011 |
| 47 | 3.92 | 0.20 | 0.109 | ( 0.127) | 0.098 | 0.011 |
| 48 | 4.00 | 0.20 | 0.109 | ( 0.127) | 0.098 | 0.011 |
| 49 | 4.08 | 0.20 | 0.109 | ( 0.126) | 0.098 | 0.011 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 50 | 4.17 | 0.20 | 0.109 | ( | 0.126) | 0.098 | | 0.011 |
| 51 | 4.25 | 0.20 | 0.109 | ( | 0.125) | 0.098 | | 0.011 |
| 52 | 4.33 | 0.23 | 0.127 | ( | 0.124) | 0.114 | | 0.013 |
| 53 | 4.42 | 0.23 | 0.127 | ( | 0.124) | 0.114 | | 0.013 |
| 54 | 4.50 | 0.23 | 0.127 | ( | 0.123) | 0.114 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.127 | ( | 0.123) | 0.114 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.127 | ( | 0.122) | 0.114 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.127 | ( | 0.122) | 0.114 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.145 | | 0.121 | ( | 0.131) | 0.024 |
| 59 | 4.92 | 0.27 | 0.145 | | 0.121 | ( | 0.131) | 0.024 |
| 60 | 5.00 | 0.27 | 0.145 | | 0.120 | ( | 0.131) | 0.025 |
| 61 | 5.08 | 0.20 | 0.109 | ( | 0.120) | 0.098 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.109 | ( | 0.119) | 0.098 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.109 | ( | 0.119) | 0.098 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.127 | ( | 0.118) | 0.114 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.127 | ( | 0.118) | 0.114 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.127 | ( | 0.117) | 0.114 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.145 | | 0.117 | ( | 0.131) | 0.029 |
| 68 | 5.67 | 0.27 | 0.145 | | 0.116 | ( | 0.131) | 0.029 |
| 69 | 5.75 | 0.27 | 0.145 | | 0.116 | ( | 0.131) | 0.030 |
| 70 | 5.83 | 0.27 | 0.145 | | 0.115 | ( | 0.131) | 0.030 |
| 71 | 5.92 | 0.27 | 0.145 | | 0.115 | ( | 0.131) | 0.031 |
| 72 | 6.00 | 0.27 | 0.145 | | 0.114 | ( | 0.131) | 0.031 |
| 73 | 6.08 | 0.30 | 0.163 | | 0.114 | ( | 0.147) | 0.050 |
| 74 | 6.17 | 0.30 | 0.163 | | 0.113 | ( | 0.147) | 0.050 |
| 75 | 6.25 | 0.30 | 0.163 | | 0.113 | ( | 0.147) | 0.051 |
| 76 | 6.33 | 0.30 | 0.163 | | 0.112 | ( | 0.147) | 0.051 |
| 77 | 6.42 | 0.30 | 0.163 | | 0.112 | ( | 0.147) | 0.052 |
| 78 | 6.50 | 0.30 | 0.163 | | 0.111 | ( | 0.147) | 0.052 |
| 79 | 6.58 | 0.33 | 0.182 | | 0.111 | ( | 0.163) | 0.071 |
| 80 | 6.67 | 0.33 | 0.182 | | 0.110 | ( | 0.163) | 0.072 |
| 81 | 6.75 | 0.33 | 0.182 | | 0.110 | ( | 0.163) | 0.072 |
| 82 | 6.83 | 0.33 | 0.182 | | 0.109 | ( | 0.163) | 0.073 |
| 83 | 6.92 | 0.33 | 0.182 | | 0.109 | ( | 0.163) | 0.073 |
| 84 | 7.00 | 0.33 | 0.182 | | 0.108 | ( | 0.163) | 0.074 |
| 85 | 7.08 | 0.33 | 0.182 | | 0.108 | ( | 0.163) | 0.074 |
| 86 | 7.17 | 0.33 | 0.182 | | 0.107 | ( | 0.163) | 0.074 |
| 87 | 7.25 | 0.33 | 0.182 | | 0.107 | ( | 0.163) | 0.075 |
| 88 | 7.33 | 0.37 | 0.200 | | 0.106 | ( | 0.180) | 0.094 |
| 89 | 7.42 | 0.37 | 0.200 | | 0.106 | ( | 0.180) | 0.094 |
| 90 | 7.50 | 0.37 | 0.200 | | 0.105 | ( | 0.180) | 0.095 |
| 91 | 7.58 | 0.40 | 0.218 | | 0.105 | ( | 0.196) | 0.113 |
| 92 | 7.67 | 0.40 | 0.218 | | 0.104 | ( | 0.196) | 0.114 |
| 93 | 7.75 | 0.40 | 0.218 | | 0.104 | ( | 0.196) | 0.114 |
| 94 | 7.83 | 0.43 | 0.236 | | 0.103 | ( | 0.212) | 0.133 |
| 95 | 7.92 | 0.43 | 0.236 | | 0.103 | ( | 0.212) | 0.133 |
| 96 | 8.00 | 0.43 | 0.236 | | 0.102 | ( | 0.212) | 0.134 |
| 97 | 8.08 | 0.50 | 0.272 | | 0.102 | ( | 0.245) | 0.171 |
| 98 | 8.17 | 0.50 | 0.272 | | 0.101 | ( | 0.245) | 0.171 |
| 99 | 8.25 | 0.50 | 0.272 | | 0.101 | ( | 0.245) | 0.172 |
| 100 | 8.33 | 0.50 | 0.272 | | 0.100 | ( | 0.245) | 0.172 |
| 101 | 8.42 | 0.50 | 0.272 | | 0.100 | ( | 0.245) | 0.172 |
| 102 | 8.50 | 0.50 | 0.272 | | 0.099 | ( | 0.245) | 0.173 |
| 103 | 8.58 | 0.53 | 0.291 | | 0.099 | ( | 0.261) | 0.192 |
| 104 | 8.67 | 0.53 | 0.291 | | 0.099 | ( | 0.261) | 0.192 |
| 105 | 8.75 | 0.53 | 0.291 | | 0.098 | ( | 0.261) | 0.192 |
| 106 | 8.83 | 0.57 | 0.309 | | 0.098 | ( | 0.278) | 0.211 |
| 107 | 8.92 | 0.57 | 0.309 | | 0.097 | ( | 0.278) | 0.212 |
| 108 | 9.00 | 0.57 | 0.309 | | 0.097 | ( | 0.278) | 0.212 |
| 109 | 9.08 | 0.63 | 0.345 | | 0.096 | ( | 0.311) | 0.249 |
| 110 | 9.17 | 0.63 | 0.345 | | 0.096 | ( | 0.311) | 0.249 |
| 111 | 9.25 | 0.63 | 0.345 | | 0.095 | ( | 0.311) | 0.250 |
| 112 | 9.33 | 0.67 | 0.363 | | 0.095 | ( | 0.327) | 0.268 |
| 113 | 9.42 | 0.67 | 0.363 | | 0.094 | ( | 0.327) | 0.269 |
| 114 | 9.50 | 0.67 | 0.363 | | 0.094 | ( | 0.327) | 0.269 |
| 115 | 9.58 | 0.70 | 0.381 | | 0.093 | ( | 0.343) | 0.288 |
| 116 | 9.67 | 0.70 | 0.381 | | 0.093 | ( | 0.343) | 0.288 |
| 117 | 9.75 | 0.70 | 0.381 | | 0.093 | ( | 0.343) | 0.289 |
| 118 | 9.83 | 0.73 | 0.400 | | 0.092 | ( | 0.360) | 0.307 |
| 119 | 9.92 | 0.73 | 0.400 | | 0.092 | ( | 0.360) | 0.308 |
| 120 | 10.00 | 0.73 | 0.400 | | 0.091 | ( | 0.360) | 0.308 |
| 121 | 10.08 | 0.50 | 0.272 | | 0.091 | ( | 0.245) | 0.182 |
| 122 | 10.17 | 0.50 | 0.272 | | 0.090 | ( | 0.245) | 0.182 |
| 123 | 10.25 | 0.50 | 0.272 | | 0.090 | ( | 0.245) | 0.182 |
| 124 | 10.33 | 0.50 | 0.272 | | 0.090 | ( | 0.245) | 0.183 |
| 125 | 10.42 | 0.50 | 0.272 | | 0.089 | ( | 0.245) | 0.183 |
| 126 | 10.50 | 0.50 | 0.272 | | 0.089 | ( | 0.245) | 0.184 |
| 127 | 10.58 | 0.67 | 0.363 | | 0.088 | ( | 0.327) | 0.275 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 128 | 10.67 | 0.67 | 0.363 | | 0.088 | ( 0.327) | | 0.275 |
| 129 | 10.75 | 0.67 | 0.363 | | 0.087 | ( 0.327) | | 0.276 |
| 130 | 10.83 | 0.67 | 0.363 | | 0.087 | ( 0.327) | | 0.276 |
| 131 | 10.92 | 0.67 | 0.363 | | 0.086 | ( 0.327) | | 0.277 |
| 132 | 11.00 | 0.67 | 0.363 | | 0.086 | ( 0.327) | | 0.277 |
| 133 | 11.08 | 0.63 | 0.345 | | 0.086 | ( 0.311) | | 0.259 |
| 134 | 11.17 | 0.63 | 0.345 | | 0.085 | ( 0.311) | | 0.260 |
| 135 | 11.25 | 0.63 | 0.345 | | 0.085 | ( 0.311) | | 0.260 |
| 136 | 11.33 | 0.63 | 0.345 | | 0.084 | ( 0.311) | | 0.261 |
| 137 | 11.42 | 0.63 | 0.345 | | 0.084 | ( 0.311) | | 0.261 |
| 138 | 11.50 | 0.63 | 0.345 | | 0.084 | ( 0.311) | | 0.261 |
| 139 | 11.58 | 0.57 | 0.309 | | 0.083 | ( 0.278) | | 0.226 |
| 140 | 11.67 | 0.57 | 0.309 | | 0.083 | ( 0.278) | | 0.226 |
| 141 | 11.75 | 0.57 | 0.309 | | 0.082 | ( 0.278) | | 0.226 |
| 142 | 11.83 | 0.60 | 0.327 | | 0.082 | ( 0.294) | | 0.245 |
| 143 | 11.92 | 0.60 | 0.327 | | 0.081 | ( 0.294) | | 0.245 |
| 144 | 12.00 | 0.60 | 0.327 | | 0.081 | ( 0.294) | | 0.246 |
| 145 | 12.08 | 0.83 | 0.454 | | 0.081 | ( 0.409) | | 0.373 |
| 146 | 12.17 | 0.83 | 0.454 | | 0.080 | ( 0.409) | | 0.374 |
| 147 | 12.25 | 0.83 | 0.454 | | 0.080 | ( 0.409) | | 0.374 |
| 148 | 12.33 | 0.87 | 0.472 | | 0.079 | ( 0.425) | | 0.393 |
| 149 | 12.42 | 0.87 | 0.472 | | 0.079 | ( 0.425) | | 0.393 |
| 150 | 12.50 | 0.87 | 0.472 | | 0.079 | ( 0.425) | | 0.393 |
| 151 | 12.58 | 0.93 | 0.508 | | 0.078 | ( 0.458) | | 0.430 |
| 152 | 12.67 | 0.93 | 0.508 | | 0.078 | ( 0.458) | | 0.431 |
| 153 | 12.75 | 0.93 | 0.508 | | 0.077 | ( 0.458) | | 0.431 |
| 154 | 12.83 | 0.97 | 0.527 | | 0.077 | ( 0.474) | | 0.450 |
| 155 | 12.92 | 0.97 | 0.527 | | 0.077 | ( 0.474) | | 0.450 |
| 156 | 13.00 | 0.97 | 0.527 | | 0.076 | ( 0.474) | | 0.450 |
| 157 | 13.08 | 1.13 | 0.617 | | 0.076 | ( 0.556) | | 0.541 |
| 158 | 13.17 | 1.13 | 0.617 | | 0.076 | ( 0.556) | | 0.542 |
| 159 | 13.25 | 1.13 | 0.617 | | 0.075 | ( 0.556) | | 0.542 |
| 160 | 13.33 | 1.13 | 0.617 | | 0.075 | ( 0.556) | | 0.543 |
| 161 | 13.42 | 1.13 | 0.617 | | 0.074 | ( 0.556) | | 0.543 |
| 162 | 13.50 | 1.13 | 0.617 | | 0.074 | ( 0.556) | | 0.543 |
| 163 | 13.58 | 0.77 | 0.418 | | 0.074 | ( 0.376) | | 0.344 |
| 164 | 13.67 | 0.77 | 0.418 | | 0.073 | ( 0.376) | | 0.344 |
| 165 | 13.75 | 0.77 | 0.418 | | 0.073 | ( 0.376) | | 0.345 |
| 166 | 13.83 | 0.77 | 0.418 | | 0.073 | ( 0.376) | | 0.345 |
| 167 | 13.92 | 0.77 | 0.418 | | 0.072 | ( 0.376) | | 0.346 |
| 168 | 14.00 | 0.77 | 0.418 | | 0.072 | ( 0.376) | | 0.346 |
| 169 | 14.08 | 0.90 | 0.490 | | 0.071 | ( 0.441) | | 0.419 |
| 170 | 14.17 | 0.90 | 0.490 | | 0.071 | ( 0.441) | | 0.419 |
| 171 | 14.25 | 0.90 | 0.490 | | 0.071 | ( 0.441) | | 0.420 |
| 172 | 14.33 | 0.87 | 0.472 | | 0.070 | ( 0.425) | | 0.402 |
| 173 | 14.42 | 0.87 | 0.472 | | 0.070 | ( 0.425) | | 0.402 |
| 174 | 14.50 | 0.87 | 0.472 | | 0.070 | ( 0.425) | | 0.403 |
| 175 | 14.58 | 0.87 | 0.472 | | 0.069 | ( 0.425) | | 0.403 |
| 176 | 14.67 | 0.87 | 0.472 | | 0.069 | ( 0.425) | | 0.403 |
| 177 | 14.75 | 0.87 | 0.472 | | 0.069 | ( 0.425) | | 0.404 |
| 178 | 14.83 | 0.83 | 0.454 | | 0.068 | ( 0.409) | | 0.386 |
| 179 | 14.92 | 0.83 | 0.454 | | 0.068 | ( 0.409) | | 0.386 |
| 180 | 15.00 | 0.83 | 0.454 | | 0.068 | ( 0.409) | | 0.386 |
| 181 | 15.08 | 0.80 | 0.436 | | 0.067 | ( 0.392) | | 0.369 |
| 182 | 15.17 | 0.80 | 0.436 | | 0.067 | ( 0.392) | | 0.369 |
| 183 | 15.25 | 0.80 | 0.436 | | 0.066 | ( 0.392) | | 0.369 |
| 184 | 15.33 | 0.77 | 0.418 | | 0.066 | ( 0.376) | | 0.352 |
| 185 | 15.42 | 0.77 | 0.418 | | 0.066 | ( 0.376) | | 0.352 |
| 186 | 15.50 | 0.77 | 0.418 | | 0.065 | ( 0.376) | | 0.352 |
| 187 | 15.58 | 0.63 | 0.345 | | 0.065 | ( 0.311) | | 0.280 |
| 188 | 15.67 | 0.63 | 0.345 | | 0.065 | ( 0.311) | | 0.280 |
| 189 | 15.75 | 0.63 | 0.345 | | 0.064 | ( 0.311) | | 0.281 |
| 190 | 15.83 | 0.63 | 0.345 | | 0.064 | ( 0.311) | | 0.281 |
| 191 | 15.92 | 0.63 | 0.345 | | 0.064 | ( 0.311) | | 0.281 |
| 192 | 16.00 | 0.63 | 0.345 | | 0.063 | ( 0.311) | | 0.282 |
| 193 | 16.08 | 0.13 | 0.073 | | 0.063 | ( 0.065) | | 0.009 |
| 194 | 16.17 | 0.13 | 0.073 | | 0.063 | ( 0.065) | | 0.010 |
| 195 | 16.25 | 0.13 | 0.073 | | 0.062 | ( 0.065) | | 0.010 |
| 196 | 16.33 | 0.13 | 0.073 | | 0.062 | ( 0.065) | | 0.010 |
| 197 | 16.42 | 0.13 | 0.073 | | 0.062 | ( 0.065) | | 0.011 |
| 198 | 16.50 | 0.13 | 0.073 | | 0.062 | ( 0.065) | | 0.011 |
| 199 | 16.58 | 0.10 | 0.054 | ( 0.061) | | 0.049 | | 0.005 |
| 200 | 16.67 | 0.10 | 0.054 | ( 0.061) | | 0.049 | | 0.005 |
| 201 | 16.75 | 0.10 | 0.054 | ( 0.061) | | 0.049 | | 0.005 |
| 202 | 16.83 | 0.10 | 0.054 | ( 0.060) | | 0.049 | | 0.005 |
| 203 | 16.92 | 0.10 | 0.054 | ( 0.060) | | 0.049 | | 0.005 |
| 204 | 17.00 | 0.10 | 0.054 | ( 0.060) | | 0.049 | | 0.005 |
| 205 | 17.08 | 0.17 | 0.091 | | 0.059 | ( 0.082) | | 0.031 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 206 | 17.17 | 0.17 | 0.091 | | 0.059 | ( | 0.082) | 0.032 |
| 207 | 17.25 | 0.17 | 0.091 | | 0.059 | ( | 0.082) | 0.032 |
| 208 | 17.33 | 0.17 | 0.091 | | 0.059 | ( | 0.082) | 0.032 |
| 209 | 17.42 | 0.17 | 0.091 | | 0.058 | ( | 0.082) | 0.033 |
| 210 | 17.50 | 0.17 | 0.091 | | 0.058 | ( | 0.082) | 0.033 |
| 211 | 17.58 | 0.17 | 0.091 | | 0.058 | ( | 0.082) | 0.033 |
| 212 | 17.67 | 0.17 | 0.091 | | 0.057 | ( | 0.082) | 0.033 |
| 213 | 17.75 | 0.17 | 0.091 | | 0.057 | ( | 0.082) | 0.034 |
| 214 | 17.83 | 0.13 | 0.073 | | 0.057 | ( | 0.065) | 0.016 |
| 215 | 17.92 | 0.13 | 0.073 | | 0.056 | ( | 0.065) | 0.016 |
| 216 | 18.00 | 0.13 | 0.073 | | 0.056 | ( | 0.065) | 0.016 |
| 217 | 18.08 | 0.13 | 0.073 | | 0.056 | ( | 0.065) | 0.017 |
| 218 | 18.17 | 0.13 | 0.073 | | 0.056 | ( | 0.065) | 0.017 |
| 219 | 18.25 | 0.13 | 0.073 | | 0.055 | ( | 0.065) | 0.017 |
| 220 | 18.33 | 0.13 | 0.073 | | 0.055 | ( | 0.065) | 0.018 |
| 221 | 18.42 | 0.13 | 0.073 | | 0.055 | ( | 0.065) | 0.018 |
| 222 | 18.50 | 0.13 | 0.073 | | 0.055 | ( | 0.065) | 0.018 |
| 223 | 18.58 | 0.10 | 0.054 | ( | 0.054) | | 0.049 | 0.005 |
| 224 | 18.67 | 0.10 | 0.054 | ( | 0.054) | | 0.049 | 0.005 |
| 225 | 18.75 | 0.10 | 0.054 | ( | 0.054) | | 0.049 | 0.005 |
| 226 | 18.83 | 0.07 | 0.036 | ( | 0.054) | | 0.033 | 0.004 |
| 227 | 18.92 | 0.07 | 0.036 | ( | 0.053) | | 0.033 | 0.004 |
| 228 | 19.00 | 0.07 | 0.036 | ( | 0.053) | | 0.033 | 0.004 |
| 229 | 19.08 | 0.10 | 0.054 | ( | 0.053) | | 0.049 | 0.005 |
| 230 | 19.17 | 0.10 | 0.054 | ( | 0.053) | | 0.049 | 0.005 |
| 231 | 19.25 | 0.10 | 0.054 | ( | 0.052) | | 0.049 | 0.005 |
| 232 | 19.33 | 0.13 | 0.073 | | 0.052 | ( | 0.065) | 0.021 |
| 233 | 19.42 | 0.13 | 0.073 | | 0.052 | ( | 0.065) | 0.021 |
| 234 | 19.50 | 0.13 | 0.073 | | 0.052 | ( | 0.065) | 0.021 |
| 235 | 19.58 | 0.10 | 0.054 | ( | 0.051) | | 0.049 | 0.005 |
| 236 | 19.67 | 0.10 | 0.054 | ( | 0.051) | | 0.049 | 0.005 |
| 237 | 19.75 | 0.10 | 0.054 | ( | 0.051) | | 0.049 | 0.005 |
| 238 | 19.83 | 0.07 | 0.036 | ( | 0.051) | | 0.033 | 0.004 |
| 239 | 19.92 | 0.07 | 0.036 | ( | 0.050) | | 0.033 | 0.004 |
| 240 | 20.00 | 0.07 | 0.036 | ( | 0.050) | | 0.033 | 0.004 |
| 241 | 20.08 | 0.10 | 0.054 | ( | 0.050) | | 0.049 | 0.005 |
| 242 | 20.17 | 0.10 | 0.054 | ( | 0.050) | | 0.049 | 0.005 |
| 243 | 20.25 | 0.10 | 0.054 | ( | 0.050) | | 0.049 | 0.005 |
| 244 | 20.33 | 0.10 | 0.054 | ( | 0.049) | | 0.049 | 0.005 |
| 245 | 20.42 | 0.10 | 0.054 | ( | 0.049) | | 0.049 | 0.005 |
| 246 | 20.50 | 0.10 | 0.054 | | 0.049 | ( | 0.049) | 0.006 |
| 247 | 20.58 | 0.10 | 0.054 | | 0.049 | ( | 0.049) | 0.006 |
| 248 | 20.67 | 0.10 | 0.054 | | 0.048 | ( | 0.049) | 0.006 |
| 249 | 20.75 | 0.10 | 0.054 | | 0.048 | ( | 0.049) | 0.006 |
| 250 | 20.83 | 0.07 | 0.036 | ( | 0.048) | | 0.033 | 0.004 |
| 251 | 20.92 | 0.07 | 0.036 | ( | 0.048) | | 0.033 | 0.004 |
| 252 | 21.00 | 0.07 | 0.036 | ( | 0.048) | | 0.033 | 0.004 |
| 253 | 21.08 | 0.10 | 0.054 | | 0.048 | ( | 0.049) | 0.007 |
| 254 | 21.17 | 0.10 | 0.054 | | 0.047 | ( | 0.049) | 0.007 |
| 255 | 21.25 | 0.10 | 0.054 | | 0.047 | ( | 0.049) | 0.007 |
| 256 | 21.33 | 0.07 | 0.036 | ( | 0.047) | | 0.033 | 0.004 |
| 257 | 21.42 | 0.07 | 0.036 | ( | 0.047) | | 0.033 | 0.004 |
| 258 | 21.50 | 0.07 | 0.036 | ( | 0.047) | | 0.033 | 0.004 |
| 259 | 21.58 | 0.10 | 0.054 | | 0.046 | ( | 0.049) | 0.008 |
| 260 | 21.67 | 0.10 | 0.054 | | 0.046 | ( | 0.049) | 0.008 |
| 261 | 21.75 | 0.10 | 0.054 | | 0.046 | ( | 0.049) | 0.008 |
| 262 | 21.83 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 263 | 21.92 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 264 | 22.00 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 265 | 22.08 | 0.10 | 0.054 | | 0.045 | ( | 0.049) | 0.009 |
| 266 | 22.17 | 0.10 | 0.054 | | 0.045 | ( | 0.049) | 0.009 |
| 267 | 22.25 | 0.10 | 0.054 | | 0.045 | ( | 0.049) | 0.009 |
| 268 | 22.33 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 269 | 22.42 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 270 | 22.50 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 271 | 22.58 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 272 | 22.67 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 273 | 22.75 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 274 | 22.83 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 275 | 22.92 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 276 | 23.00 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 277 | 23.08 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 278 | 23.17 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 279 | 23.25 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 280 | 23.33 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 281 | 23.42 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.036 | ( | 0.043) | | 0.033 | 0.004 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 284 | 23.67 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 285 | 23.75 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 286 | 23.83 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 287 | 23.92 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 288 | 24.00 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 33.9

Flood volume = Effective rainfall 2.83(In)
times area 21.5(Ac.)/[(In)/(Ft.)] = 5.1(Ac.Ft)
Total soil loss = 1.71(In)
Total soil loss = 3.067(Ac.Ft)
Total rainfall = 4.54(In)
Flood volume = 220698.7 Cubic Feet
Total soil loss = 133610.7 Cubic Feet

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Peak flow rate of this hydrograph = 11.766(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

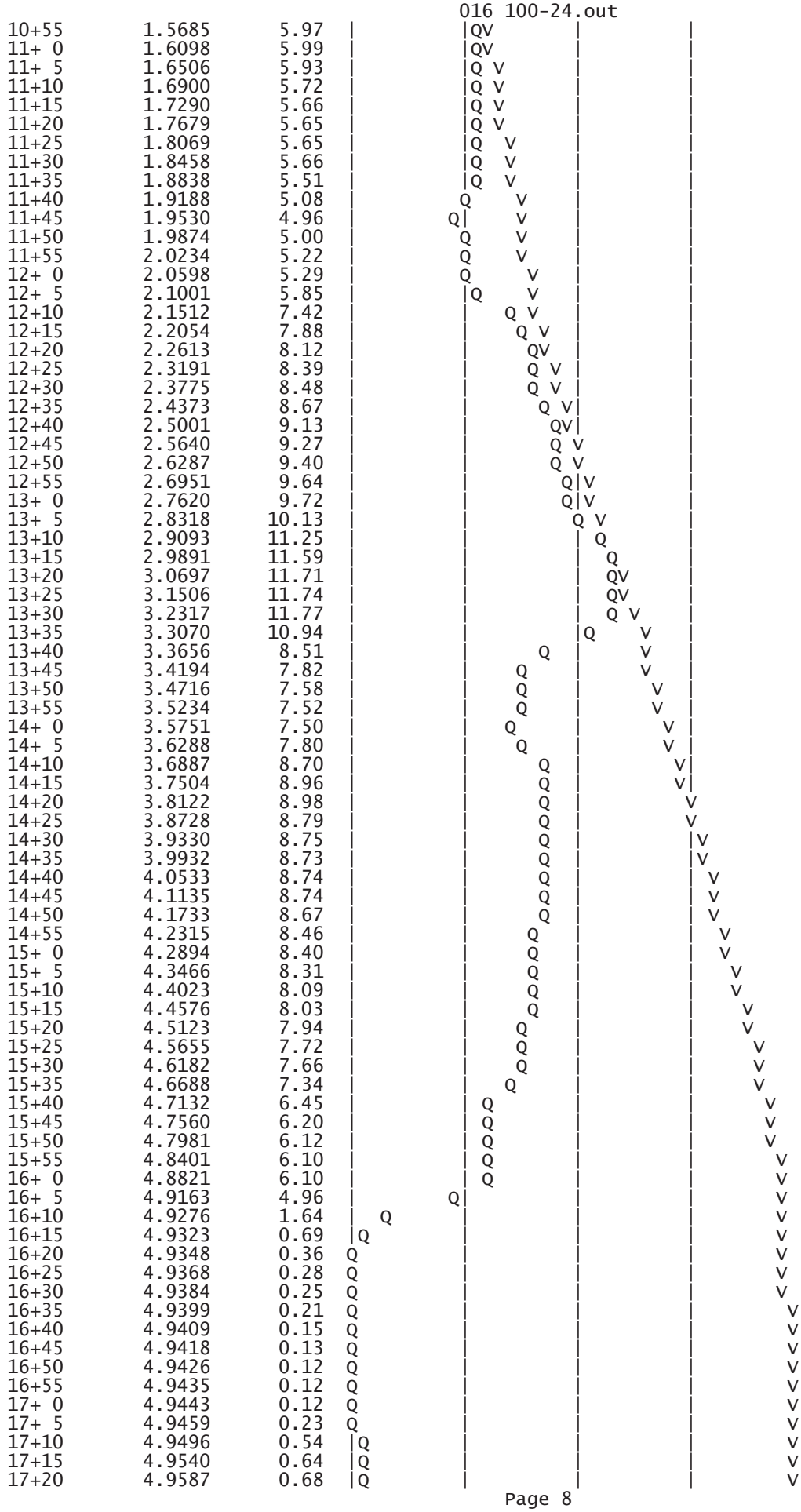
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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 5.0 | 10.0 | 15.0 | 20.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0001 | 0.02 | Q | | | | |
| 0+10 | 0.0005 | 0.06 | Q | | | | |
| 0+15 | 0.0010 | 0.07 | Q | | | | |
| 0+20 | 0.0016 | 0.08 | Q | | | | |
| 0+25 | 0.0023 | 0.11 | Q | | | | |
| 0+30 | 0.0031 | 0.11 | Q | | | | |
| 0+35 | 0.0039 | 0.12 | Q | | | | |
| 0+40 | 0.0047 | 0.12 | Q | | | | |
| 0+45 | 0.0056 | 0.12 | Q | | | | |
| 0+50 | 0.0064 | 0.13 | Q | | | | |
| 0+55 | 0.0074 | 0.15 | Q | | | | |
| 1+ 0 | 0.0085 | 0.15 | Q | | | | |
| 1+ 5 | 0.0095 | 0.15 | Q | | | | |
| 1+10 | 0.0104 | 0.13 | Q | | | | |
| 1+15 | 0.0112 | 0.12 | Q | | | | |
| 1+20 | 0.0121 | 0.12 | Q | | | | |
| 1+25 | 0.0129 | 0.12 | Q | | | | |
| 1+30 | 0.0137 | 0.12 | Q | | | | |
| 1+35 | 0.0145 | 0.12 | Q | | | | |
| 1+40 | 0.0153 | 0.12 | Q | | | | |
| 1+45 | 0.0161 | 0.12 | Q | | | | |
| 1+50 | 0.0170 | 0.13 | Q | | | | |
| 1+55 | 0.0180 | 0.15 | Q | | | | |
| 2+ 0 | 0.0191 | 0.15 | Q | | | | |
| 2+ 5 | 0.0202 | 0.16 | Q | | | | |
| 2+10 | 0.0212 | 0.16 | Q | | | | |
| 2+15 | 0.0223 | 0.16 | Q | | | | |
| 2+20 | 0.0234 | 0.16 | Q | | | | |
| 2+25 | 0.0245 | 0.16 | Q | | | | |
| 2+30 | 0.0256 | 0.16 | Q | | | | |
| 2+35 | 0.0267 | 0.17 | Q | | | | |
| 2+40 | 0.0280 | 0.19 | Q | | | | |
| 2+45 | 0.0293 | 0.19 | Q | | | | |
| 2+50 | 0.0307 | 0.20 | Q | | | | |
| 2+55 | 0.0320 | 0.20 | Q | | | | |
| 3+ 0 | 0.0334 | 0.20 | Q | | | | |
| 3+ 5 | 0.0348 | 0.20 | Q | | | | |
| 3+10 | 0.0361 | 0.20 | Q | | | | |
| 3+15 | 0.0375 | 0.20 | Q | | | | |
| 3+20 | 0.0388 | 0.20 | Q | | | | |
| 3+25 | 0.0402 | 0.20 | Q | | | | |
| 3+30 | 0.0415 | 0.20 | Q | | | | |
| 3+35 | 0.0429 | 0.20 | Q | | | | |
| 3+40 | 0.0442 | 0.20 | Q | | | | |
| 3+45 | 0.0456 | 0.20 | Q | | | | |
| 3+50 | 0.0470 | 0.20 | Q | | | | |
| 3+55 | 0.0486 | 0.23 | Q | | | | |
| 4+ 0 | 0.0502 | 0.23 | Q | | | | |
| 4+ 5 | 0.0518 | 0.24 | Q | | | | |
| 4+10 | 0.0534 | 0.24 | Q | | | | |
| 4+15 | 0.0550 | 0.24 | Q | | | | |
| 4+20 | 0.0567 | 0.24 | Q | | | | |

```
 4+25       0.0586      0.27  Q          |          |          |          |
 4+30       0.0604      0.27  Q          |          |          |          |
 4+35       0.0623      0.27  Q          |          |          |          |
 4+40       0.0642      0.28  Q          |          |          |          |
 4+45       0.0661      0.28  Q          |          |          |          |
 4+50       0.0683      0.32  Q          |          |          |          |
 4+55       0.0715      0.46  Q          |          |          |          |
 5+ 0       0.0750      0.51  VQ         |          |          |          |
 5+ 5       0.0783      0.47  Q          |          |          |          |
 5+10       0.0804      0.31  Q          |          |          |          |
 5+15       0.0822      0.26  Q          |          |          |          |
 5+20       0.0839      0.25  Q          |          |          |          |
 5+25       0.0858      0.27  Q          |          |          |          |
 5+30       0.0877      0.27  Q          |          |          |          |
 5+35       0.0900      0.34  Q          |          |          |          |
 5+40       0.0937      0.54  VQ         |          |          |          |
 5+45       0.0979      0.60  VQ         |          |          |          |
 5+50       0.1022      0.63  VQ         |          |          |          |
 5+55       0.1067      0.65  VQ         |          |          |          |
 6+ 0       0.1113      0.66  VQ         |          |          |          |
 6+ 5       0.1165      0.75  VQ         |          |          |          |
 6+10       0.1232      0.98  VQ         |          |          |          |
 6+15       0.1305      1.06  |VQ        |          |          |          |
 6+20       0.1380      1.09  |VQ        |          |          |          |
 6+25       0.1457      1.11  |VQ        |          |          |          |
 6+30       0.1534      1.12  |VQ        |          |          |          |
 6+35       0.1617      1.21  |VQ        |          |          |          |
 6+40       0.1717      1.44  |VQ        |          |          |          |
 6+45       0.1821      1.52  |V Q       |          |          |          |
 6+50       0.1928      1.55  |V Q       |          |          |          |
 6+55       0.2036      1.57  |V Q       |          |          |          |
 7+ 0       0.2145      1.58  |V Q       |          |          |          |
 7+ 5       0.2254      1.59  |V Q       |          |          |          |
 7+10       0.2365      1.60  |V Q       |          |          |          |
 7+15       0.2476      1.61  |V Q       |          |          |          |
 7+20       0.2593      1.70  | VQ       |          |          |          |
 7+25       0.2726      1.93  | VQ       |          |          |          |
 7+30       0.2864      2.01  | V Q      |          |          |          |
 7+35       0.3010      2.12  | V Q      |          |          |          |
 7+40       0.3172      2.35  | V Q      |          |          |          |
 7+45       0.3339      2.43  | V Q      |          |          |          |
 7+50       0.3514      2.54  | V  Q     |          |          |          |
 7+55       0.3706      2.78  | V  Q     |          |          |          |
 8+ 0       0.3902      2.86  |  V Q     |          |          |          |
 8+ 5       0.4112      3.04  |  V  Q    |          |          |          |
 8+10       0.4353      3.50  |  V   Q   |          |          |          |
 8+15       0.4604      3.64  |  V   Q   |          |          |          |
 8+20       0.4858      3.70  |  V   Q   |          |          |          |
 8+25       0.5115      3.72  |   V  Q   |          |          |          |
 8+30       0.5372      3.74  |   V  Q   |          |          |          |
 8+35       0.5635      3.82  |   V  Q   |          |          |          |
 8+40       0.5914      4.06  |   V   Q  |          |          |          |
 8+45       0.6199      4.13  |   V   Q  |          |          |          |
 8+50       0.6491      4.24  |    V  Q  |          |          |          |
 8+55       0.6799      4.48  |    V  Q  |          |          |          |
 9+ 0       0.7113      4.55  |    V   Q |          |          |          |
 9+ 5       0.7439      4.74  |    V   Q |          |          |          |
 9+10       0.7797      5.20  |     V   Q|          |          |          |
 9+15       0.8164      5.34  |     V   Q|          |          |          |
 9+20       0.8541      5.47  |     V   Q|          |          |          |
 9+25       0.8934      5.71  |      V  |Q          |          |          |
 9+30       0.9333      5.79  |      V  |Q          |          |          |
 9+35       0.9740      5.90  |      V  |Q          |          |          |
 9+40       1.0163      6.14  |       V | Q         |          |          |
 9+45       1.0591      6.22  |       V | Q         |          |          |
 9+50       1.1026      6.33  |       V | Q         |          |          |
 9+55       1.1478      6.56  |        V|  Q        |          |          |
10+ 0       1.1935      6.64  |        V|  Q        |          |          |
10+ 5       1.2358      6.14  |        V| Q         |          |          |
10+10       1.2675      4.60  |        QV         |          |          |
10+15       1.2962      4.17  |       Q V         |          |          |
10+20       1.3239      4.02  |       Q V         |          |          |
10+25       1.3514      3.99  |      Q  V         |          |          |
10+30       1.3788      3.98  |      Q  V         |          |          |
10+35       1.4088      4.36  |       Q |V        |          |          |
10+40       1.4466      5.48  |         QV        |          |          |
10+45       1.4866      5.81  |         |Q        |          |          |
10+50       1.5274      5.93  |         |QV       |          |          |
```



| | | | |
|---|---|---|---|
| 10+55 | 1.5685 | 5.97 | |
| 11+ 0 | 1.6098 | 5.99 | |
| 11+ 5 | 1.6506 | 5.93 | |
| 11+10 | 1.6900 | 5.72 | |
| 11+15 | 1.7290 | 5.66 | |
| 11+20 | 1.7679 | 5.65 | |
| 11+25 | 1.8069 | 5.65 | |
| 11+30 | 1.8458 | 5.66 | |
| 11+35 | 1.8838 | 5.51 | |
| 11+40 | 1.9188 | 5.08 | |
| 11+45 | 1.9530 | 4.96 | |
| 11+50 | 1.9874 | 5.00 | |
| 11+55 | 2.0234 | 5.22 | |
| 12+ 0 | 2.0598 | 5.29 | |
| 12+ 5 | 2.1001 | 5.85 | |
| 12+10 | 2.1512 | 7.42 | |
| 12+15 | 2.2054 | 7.88 | |
| 12+20 | 2.2613 | 8.12 | |
| 12+25 | 2.3191 | 8.39 | |
| 12+30 | 2.3775 | 8.48 | |
| 12+35 | 2.4373 | 8.67 | |
| 12+40 | 2.5001 | 9.13 | |
| 12+45 | 2.5640 | 9.27 | |
| 12+50 | 2.6287 | 9.40 | |
| 12+55 | 2.6951 | 9.64 | |
| 13+ 0 | 2.7620 | 9.72 | |
| 13+ 5 | 2.8318 | 10.13 | |
| 13+10 | 2.9093 | 11.25 | |
| 13+15 | 2.9891 | 11.59 | |
| 13+20 | 3.0697 | 11.71 | |
| 13+25 | 3.1506 | 11.74 | |
| 13+30 | 3.2317 | 11.77 | |
| 13+35 | 3.3070 | 10.94 | |
| 13+40 | 3.3656 | 8.51 | |
| 13+45 | 3.4194 | 7.82 | |
| 13+50 | 3.4716 | 7.58 | |
| 13+55 | 3.5234 | 7.52 | |
| 14+ 0 | 3.5751 | 7.50 | |
| 14+ 5 | 3.6288 | 7.80 | |
| 14+10 | 3.6887 | 8.70 | |
| 14+15 | 3.7504 | 8.96 | |
| 14+20 | 3.8122 | 8.98 | |
| 14+25 | 3.8728 | 8.79 | |
| 14+30 | 3.9330 | 8.75 | |
| 14+35 | 3.9932 | 8.73 | |
| 14+40 | 4.0533 | 8.74 | |
| 14+45 | 4.1135 | 8.74 | |
| 14+50 | 4.1733 | 8.67 | |
| 14+55 | 4.2315 | 8.46 | |
| 15+ 0 | 4.2894 | 8.40 | |
| 15+ 5 | 4.3466 | 8.31 | |
| 15+10 | 4.4023 | 8.09 | |
| 15+15 | 4.4576 | 8.03 | |
| 15+20 | 4.5123 | 7.94 | |
| 15+25 | 4.5655 | 7.72 | |
| 15+30 | 4.6182 | 7.66 | |
| 15+35 | 4.6688 | 7.34 | |
| 15+40 | 4.7132 | 6.45 | |
| 15+45 | 4.7560 | 6.20 | |
| 15+50 | 4.7981 | 6.12 | |
| 15+55 | 4.8401 | 6.10 | |
| 16+ 0 | 4.8821 | 6.10 | |
| 16+ 5 | 4.9163 | 4.96 | |
| 16+10 | 4.9276 | 1.64 | |
| 16+15 | 4.9323 | 0.69 | |
| 16+20 | 4.9348 | 0.36 | |
| 16+25 | 4.9368 | 0.28 | |
| 16+30 | 4.9384 | 0.25 | |
| 16+35 | 4.9399 | 0.21 | |
| 16+40 | 4.9409 | 0.15 | |
| 16+45 | 4.9418 | 0.13 | |
| 16+50 | 4.9426 | 0.12 | |
| 16+55 | 4.9435 | 0.12 | |
| 17+ 0 | 4.9443 | 0.12 | |
| 17+ 5 | 4.9459 | 0.23 | |
| 17+10 | 4.9496 | 0.54 | |
| 17+15 | 4.9540 | 0.64 | |
| 17+20 | 4.9587 | 0.68 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+25 | 4.9635 | 0.69 | \|Q | \| | \| | \| | V\| |
| 17+30 | 4.9683 | 0.70 | \|Q | \| | \| | \| | V\| |
| 17+35 | 4.9732 | 0.71 | \|Q | \| | \| | \| | V\| |
| 17+40 | 4.9782 | 0.72 | \|Q | \| | \| | \| | V\| |
| 17+45 | 4.9832 | 0.72 | \|Q | \| | \| | \| | V\| |
| 17+50 | 4.9877 | 0.65 | \|Q | \| | \| | \| | V\| |
| 17+55 | 4.9907 | 0.44 | Q | \| | \| | \| | V\| |
| 18+ 0 | 4.9933 | 0.38 | Q | \| | \| | \| | V\| |
| 18+ 5 | 4.9958 | 0.36 | Q | \| | \| | \| | V\| |
| 18+10 | 4.9983 | 0.36 | Q | \| | \| | \| | V\| |
| 18+15 | 5.0009 | 0.37 | Q | \| | \| | \| | V\| |
| 18+20 | 5.0034 | 0.37 | Q | \| | \| | \| | V\| |
| 18+25 | 5.0060 | 0.38 | Q | \| | \| | \| | V\| |
| 18+30 | 5.0087 | 0.38 | Q | \| | \| | \| | V\| |
| 18+35 | 5.0110 | 0.34 | Q | \| | \| | \| | V\| |
| 18+40 | 5.0123 | 0.18 | Q | \| | \| | \| | V\| |
| 18+45 | 5.0132 | 0.14 | Q | \| | \| | \| | V\| |
| 18+50 | 5.0140 | 0.12 | Q | \| | \| | \| | V\| |
| 18+55 | 5.0147 | 0.09 | Q | \| | \| | \| | V\| |
| 19+ 0 | 5.0152 | 0.08 | Q | \| | \| | \| | V\| |
| 19+ 5 | 5.0158 | 0.09 | Q | \| | \| | \| | V\| |
| 19+10 | 5.0166 | 0.11 | Q | \| | \| | \| | V\| |
| 19+15 | 5.0174 | 0.11 | Q | \| | \| | \| | V\| |
| 19+20 | 5.0186 | 0.18 | Q | \| | \| | \| | V\| |
| 19+25 | 5.0212 | 0.37 | Q | \| | \| | \| | V\| |
| 19+30 | 5.0241 | 0.42 | Q | \| | \| | \| | V\| |
| 19+35 | 5.0267 | 0.38 | Q | \| | \| | \| | V\| |
| 19+40 | 5.0281 | 0.20 | Q | \| | \| | \| | V\| |
| 19+45 | 5.0291 | 0.14 | Q | \| | \| | \| | V\| |
| 19+50 | 5.0299 | 0.12 | Q | \| | \| | \| | V\| |
| 19+55 | 5.0305 | 0.09 | Q | \| | \| | \| | V\| |
| 20+ 0 | 5.0311 | 0.08 | Q | \| | \| | \| | V\| |
| 20+ 5 | 5.0317 | 0.09 | Q | \| | \| | \| | V\| |
| 20+10 | 5.0324 | 0.11 | Q | \| | \| | \| | V\| |
| 20+15 | 5.0332 | 0.11 | Q | \| | \| | \| | V\| |
| 20+20 | 5.0340 | 0.12 | Q | \| | \| | \| | V\| |
| 20+25 | 5.0348 | 0.12 | Q | \| | \| | \| | V\| |
| 20+30 | 5.0357 | 0.12 | Q | \| | \| | \| | V\| |
| 20+35 | 5.0365 | 0.12 | Q | \| | \| | \| | V\| |
| 20+40 | 5.0373 | 0.13 | Q | \| | \| | \| | V\| |
| 20+45 | 5.0382 | 0.13 | Q | \| | \| | \| | V\| |
| 20+50 | 5.0391 | 0.12 | Q | \| | \| | \| | V\| |
| 20+55 | 5.0397 | 0.09 | Q | \| | \| | \| | V\| |
| 21+ 0 | 5.0403 | 0.08 | Q | \| | \| | \| | V\| |
| 21+ 5 | 5.0409 | 0.09 | Q | \| | \| | \| | V\| |
| 21+10 | 5.0419 | 0.13 | Q | \| | \| | \| | V\| |
| 21+15 | 5.0429 | 0.15 | Q | \| | \| | \| | V\| |
| 21+20 | 5.0439 | 0.14 | Q | \| | \| | \| | V\| |
| 21+25 | 5.0445 | 0.10 | Q | \| | \| | \| | V\| |
| 21+30 | 5.0451 | 0.08 | Q | \| | \| | \| | V\| |
| 21+35 | 5.0458 | 0.10 | Q | \| | \| | \| | V\| |
| 21+40 | 5.0468 | 0.15 | Q | \| | \| | \| | V\| |
| 21+45 | 5.0480 | 0.17 | Q | \| | \| | \| | V\| |
| 21+50 | 5.0491 | 0.16 | Q | \| | \| | \| | V\| |
| 21+55 | 5.0498 | 0.10 | Q | \| | \| | \| | V\| |
| 22+ 0 | 5.0504 | 0.09 | Q | \| | \| | \| | V\| |
| 22+ 5 | 5.0511 | 0.10 | Q | \| | \| | \| | V\| |
| 22+10 | 5.0523 | 0.17 | Q | \| | \| | \| | V\| |
| 22+15 | 5.0536 | 0.19 | Q | \| | \| | \| | V\| |
| 22+20 | 5.0548 | 0.17 | Q | \| | \| | \| | V\| |
| 22+25 | 5.0555 | 0.11 | Q | \| | \| | \| | V\| |
| 22+30 | 5.0561 | 0.09 | Q | \| | \| | \| | V\| |
| 22+35 | 5.0567 | 0.08 | Q | \| | \| | \| | V\| |
| 22+40 | 5.0572 | 0.08 | Q | \| | \| | \| | V\| |
| 22+45 | 5.0578 | 0.08 | Q | \| | \| | \| | V\| |
| 22+50 | 5.0583 | 0.08 | Q | \| | \| | \| | V\| |
| 22+55 | 5.0589 | 0.08 | Q | \| | \| | \| | V\| |
| 23+ 0 | 5.0594 | 0.08 | Q | \| | \| | \| | V\| |
| 23+ 5 | 5.0599 | 0.08 | Q | \| | \| | \| | V\| |
| 23+10 | 5.0605 | 0.08 | Q | \| | \| | \| | V\| |
| 23+15 | 5.0610 | 0.08 | Q | \| | \| | \| | V\| |
| 23+20 | 5.0616 | 0.08 | Q | \| | \| | \| | V\| |
| 23+25 | 5.0621 | 0.08 | Q | \| | \| | \| | V\| |
| 23+30 | 5.0627 | 0.08 | Q | \| | \| | \| | V\| |
| 23+35 | 5.0632 | 0.08 | Q | \| | \| | \| | V\| |
| 23+40 | 5.0637 | 0.08 | Q | \| | \| | \| | V\| |
| 23+45 | 5.0643 | 0.08 | Q | \| | \| | \| | V\| |
| 23+50 | 5.0648 | 0.08 | Q | \| | \| | \| | V\| |

```
   23+55       5.0654      0.08  Q          |          |          |         V|
   24+ 0       5.0659      0.08  Q          |          |          |         V|
   24+ 5       5.0663      0.06  Q          |          |          |         V|
   24+10       5.0665      0.02  Q          |          |          |         V|
   24+15       5.0665      0.01  Q          |          |          |         V|
   24+20       5.0665      0.00  Q          |          |          |         V|
   24+25       5.0665      0.00  Q          |          |          |         V|
   24+30       5.0665      0.00  Q          |          |          |          V
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX171100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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164469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 17
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 2.50(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.50(Ac.) = 0.004 Sq. Mi.
Length along longest watercourse = 540.00(Ft.)
Length along longest watercourse measured to centroid = 249.00(Ft.)
Length along longest watercourse = 0.102 Mi.
Length along longest watercourse measured to centroid = 0.047 Mi.
Difference in elevation = 124.00(Ft.)
Slope along watercourse = 1212.4444 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.029 Hr.
Lag time = 1.72 Min.
25% of lag time = 0.43 Min.
40% of lag time = 0.69 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.50 | 0.49 | 1.23 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.50 | 1.20 | 3.00 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.490(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2.500 | 83.73 | 0.000 |

Total Area Entered = 2.50(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.7 | 93.2 | 0.088 | 0.000 | 0.088 | 1.000 | 0.088 |
| | | | | | Sum (F) = | 0.088 |

Area averaged mean soil loss (F) (In/Hr) = 0.088

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

---

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 290.250 | 56.525 | 1.424 |
| 2 0.167 | 580.499 | 41.134 | 1.036 |
| 3 0.250 | 870.749 | 2.341 | 0.059 |
| | | Sum = 100.000 Sum= | 2.520 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 4.20 | 0.605 | 0.088 | ( 0.544) | 0.517 |
| 2 0.17 | 4.30 | 0.619 | 0.088 | ( 0.557) | 0.531 |
| 3 0.25 | 5.00 | 0.720 | 0.088 | ( 0.648) | 0.632 |
| 4 0.33 | 5.00 | 0.720 | 0.088 | ( 0.648) | 0.632 |
| 5 0.42 | 5.80 | 0.835 | 0.088 | ( 0.752) | 0.747 |
| 6 0.50 | 6.50 | 0.936 | 0.088 | ( 0.842) | 0.848 |
| 7 0.58 | 7.40 | 1.066 | 0.088 | ( 0.959) | 0.978 |
| 8 0.67 | 8.60 | 1.238 | 0.088 | ( 1.115) | 1.150 |
| 9 0.75 | 12.30 | 1.771 | 0.088 | ( 1.594) | 1.683 |
| 10 0.83 | 29.10 | 4.190 | 0.088 | ( 3.771) | 4.102 |
| 11 0.92 | 6.80 | 0.979 | 0.088 | ( 0.881) | 0.891 |
| 12 1.00 | 5.00 | 0.720 | 0.088 | ( 0.648) | 0.632 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 13.3 |

Flood volume = Effective rainfall 1.11(In)
times area 2.5(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.018(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 10092.0 Cubic Feet
Total soil loss = 797.7 Cubic Feet

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Peak flow rate of this hydrograph = 7.659(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0051 | 0.74 | V Q | | | | |
| 0+10 | 0.0140 | 1.29 | \| V Q | | | | |
| 0+15 | 0.0242 | 1.48 | \| VQ | | | | |
| 0+20 | 0.0351 | 1.59 | \| Q | | | | |
| 0+25 | 0.0472 | 1.76 | \| QV | | | | |
| 0+30 | 0.0611 | 2.02 | \| Q V | | | | |
| 0+35 | 0.0771 | 2.32 | \| Q\| V | | | | |
| 0+40 | 0.0957 | 2.70 | \| Q V | | | | |
| 0+45 | 0.1208 | 3.65 | \| Q V | | | | |
| 0+50 | 0.1736 | 7.66 | \| VQ | | | | |
| 0+55 | 0.2123 | 5.62 | \| Q \| V | | | | |
| 1+ 0 | 0.2265 | 2.07 | \| Q \| V | | | | |
| 1+ 5 | 0.2314 | 0.71 | \| Q \| V | | | | |
| 1+10 | 0.2317 | 0.04 | Q \| V | | | | |

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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX173100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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164469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 17
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 2.50(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.50(Ac.) = 0.004 Sq. Mi.
Length along longest watercourse = 540.00(Ft.)
Length along longest watercourse measured to centroid = 249.00(Ft.)
Length along longest watercourse = 0.102 Mi.
Length along longest watercourse measured to centroid = 0.047 Mi.
Difference in elevation = 124.00(Ft.)
Slope along watercourse = 1212.4444 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.029 Hr.
Lag time = 1.72 Min.
25% of lag time = 0.43 Min.
40% of lag time = 0.69 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.50 | 0.80 | 2.00 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.50 | 1.80 | 4.50 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2.500 | 83.73 | 0.000 |

Total Area Entered = 2.50(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.7 | 93.2 | 0.088 | 0.000 | 0.088 | 1.000 | 0.088 |
| | | | | | Sum (F) = | 0.088 |

Area averaged mean soil loss (F) (In/Hr) = 0.088

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 290.250 | 56.525 | 1.424 |
| 2 0.167 | 580.499 | 41.134 | 1.036 |
| 3 0.250 | 870.749 | 2.341 | 0.059 |
| | | Sum = 100.000 Sum= | 2.520 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 1.30 | 0.281 | 0.088 | ( 0.253) | 0.193 |
| 2 0.17 | 1.30 | 0.281 | 0.088 | ( 0.253) | 0.193 |
| 3 0.25 | 1.10 | 0.238 | 0.088 | ( 0.214) | 0.150 |
| 4 0.33 | 1.50 | 0.324 | 0.088 | ( 0.292) | 0.236 |
| 5 0.42 | 1.50 | 0.324 | 0.088 | ( 0.292) | 0.236 |
| 6 0.50 | 1.80 | 0.389 | 0.088 | ( 0.350) | 0.301 |
| 7 0.58 | 1.50 | 0.324 | 0.088 | ( 0.292) | 0.236 |
| 8 0.67 | 1.80 | 0.389 | 0.088 | ( 0.350) | 0.301 |
| 9 0.75 | 1.80 | 0.389 | 0.088 | ( 0.350) | 0.301 |
| 10 0.83 | 1.50 | 0.324 | 0.088 | ( 0.292) | 0.236 |
| 11 0.92 | 1.60 | 0.346 | 0.088 | ( 0.311) | 0.258 |
| 12 1.00 | 1.80 | 0.389 | 0.088 | ( 0.350) | 0.301 |
| 13 1.08 | 2.20 | 0.475 | 0.088 | ( 0.428) | 0.387 |
| 14 1.17 | 2.20 | 0.475 | 0.088 | ( 0.428) | 0.387 |
| 15 1.25 | 2.20 | 0.475 | 0.088 | ( 0.428) | 0.387 |
| 16 1.33 | 2.00 | 0.432 | 0.088 | ( 0.389) | 0.344 |
| 17 1.42 | 2.60 | 0.562 | 0.088 | ( 0.505) | 0.474 |
| 18 1.50 | 2.70 | 0.583 | 0.088 | ( 0.525) | 0.495 |
| 19 1.58 | 2.40 | 0.518 | 0.088 | ( 0.467) | 0.430 |
| 20 1.67 | 2.70 | 0.583 | 0.088 | ( 0.525) | 0.495 |
| 21 1.75 | 3.30 | 0.713 | 0.088 | ( 0.642) | 0.625 |
| 22 1.83 | 3.10 | 0.670 | 0.088 | ( 0.603) | 0.582 |
| 23 1.92 | 2.90 | 0.626 | 0.088 | ( 0.564) | 0.538 |
| 24 2.00 | 3.00 | 0.648 | 0.088 | ( 0.583) | 0.560 |
| 25 2.08 | 3.10 | 0.670 | 0.088 | ( 0.603) | 0.582 |
| 26 2.17 | 4.20 | 0.907 | 0.088 | ( 0.816) | 0.819 |
| 27 2.25 | 5.00 | 1.080 | 0.088 | ( 0.972) | 0.992 |
| 28 2.33 | 3.50 | 0.756 | 0.088 | ( 0.680) | 0.668 |
| 29 2.42 | 6.80 | 1.469 | 0.088 | ( 1.322) | 1.381 |
| 30 2.50 | 7.30 | 1.577 | 0.088 | ( 1.419) | 1.489 |
| 31 2.58 | 8.20 | 1.771 | 0.088 | ( 1.594) | 1.683 |
| 32 2.67 | 5.90 | 1.274 | 0.088 | ( 1.147) | 1.186 |
| 33 2.75 | 2.00 | 0.432 | 0.088 | ( 0.389) | 0.344 |
| 34 2.83 | 1.80 | 0.389 | 0.088 | ( 0.350) | 0.301 |
| 35 2.92 | 1.80 | 0.389 | 0.088 | ( 0.350) | 0.301 |
| 36 3.00 | 0.60 | 0.130 | 0.088 | ( 0.117) | 0.042 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 18.4 |

Flood volume = Effective rainfall 1.54(In)
times area 2.5(Ac.)/[(In)/(Ft.)] = 0.3(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.055(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 13941.6 Cubic Feet
Total soil loss = 2393.2 Cubic Feet

Peak flow rate of this hydrograph = 4.024(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0019 | 0.27 | VQ | | | | |
| 0+10 | 0.0052 | 0.47 | VQ | | | | |
| 0+15 | 0.0081 | 0.42 | \|Q | | | | |
| 0+20 | 0.0116 | 0.50 | \|VQ | | | | |
| 0+25 | 0.0156 | 0.59 | \|VQ | | | | |
| 0+30 | 0.0204 | 0.69 | \| Q | | | | |
| 0+35 | 0.0249 | 0.66 | \| QV | | | | |
| 0+40 | 0.0297 | 0.69 | \| QV | | | | |
| 0+45 | 0.0349 | 0.75 | \|  QV | | | | |
| 0+50 | 0.0395 | 0.67 | \| Q V | | | | |
| 0+55 | 0.0438 | 0.63 | \| Q  V | | | | |
| 1+ 0 | 0.0487 | 0.71 | \| Q   V | | | | |
| 1+ 5 | 0.0547 | 0.88 | \|  Q  V | | | | |
| 1+10 | 0.0614 | 0.97 | \|  Q   V | | | | |
| 1+15 | 0.0682 | 0.98 | \|  Q    V | | | | |
| 1+20 | 0.0745 | 0.91 | \|  Q     V | | | | |
| 1+25 | 0.0817 | 1.05 | \|   Q     V | | | | |
| 1+30 | 0.0901 | 1.22 | \|   Q     \|V | | | | |
| 1+35 | 0.0981 | 1.15 | \|   Q     \| V | | | | |
| 1+40 | 0.1062 | 1.18 | \|   Q     \|  V | | | | |
| 1+45 | 0.1160 | 1.43 | \|    Q     \|   V | | | | |
| 1+50 | 0.1264 | 1.51 | \|     Q    \|    V | | | | |
| 1+55 | 0.1361 | 1.41 | \|    Q     \|      V | | | | |
| 2+ 0 | 0.1457 | 1.39 | \|    Q     \|       V | | | | |
| 2+ 5 | 0.1556 | 1.44 | \|    Q     \|        V | | | | |
| 2+10 | 0.1680 | 1.80 | \|      Q   \|         V | | | | |
| 2+15 | 0.1838 | 2.30 | \|        Q\|          \| V | | | |
| 2+20 | 0.1978 | 2.03 | \|        Q \|          \|   V | | | |
| 2+25 | 0.2165 | 2.72 | \|          Q          \|      V | | | |
| 2+30 | 0.2413 | 3.59 | \|          \|   Q     \|         V | | | |
| 2+35 | 0.2690 | 4.02 | \|          \|     Q   \|          \|  V | | | |
| 2+40 | 0.2933 | 3.52 | \|          \|   Q     \|          \|     V | | | |
| 2+45 | 0.3058 | 1.82 | \|       Q  \|          \|          \|       V | | | |
| 2+50 | 0.3117 | 0.86 | \|  Q       \|          \|          \|       V | | | |
| 2+55 | 0.3169 | 0.76 | \|  Q       \|          \|          \|        V\| | | |
| 3+ 0 | 0.3196 | 0.39 | \|Q         \|          \|          \|        V\| | | |
| 3+ 5 | 0.3200 | 0.06 | Q           \|          \|          \|        V\| | | |
| 3+10 | 0.3201 | 0.00 | Q           \|          \|          \|          V | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX176100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

164469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 17
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 2.50(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.50(Ac.) = 0.004 Sq. Mi.
Length along longest watercourse = 540.00(Ft.)
Length along longest watercourse measured to centroid = 249.00(Ft.)
Length along longest watercourse = 0.102 Mi.
Length along longest watercourse measured to centroid = 0.047 Mi.
Difference in elevation = 124.00(Ft.)
Slope along watercourse = 1212.4444 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.029 Hr.
Lag time = 1.72 Min.
25% of lag time = 0.43 Min.
40% of lag time = 0.69 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.50 | 1.12 | 2.80 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.50 | 2.50 | 6.25 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.120(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2.500 | 83.73 | 0.000 |

Total Area Entered = 2.50(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.7 | 93.2 | 0.088 | 0.000 | 0.088 | 1.000 | 0.088 |
| | | | | | Sum (F) = | 0.088 |

Area averaged mean soil loss (F) (In/Hr) = 0.088

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 290.250 | 56.525 | 1.424 |
| 2 0.167 | 580.499 | 41.134 | 1.036 |
| 3 0.250 | 870.749 | 2.341 | 0.059 |
| | | Sum = 100.000 Sum= | 2.520 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.088 | ( 0.135) | 0.062 |
| 2 | 0.17 | 0.60 | 0.180 | 0.088 | ( 0.162) | 0.092 |
| 3 | 0.25 | 0.60 | 0.180 | 0.088 | ( 0.162) | 0.092 |
| 4 | 0.33 | 0.60 | 0.180 | 0.088 | ( 0.162) | 0.092 |
| 5 | 0.42 | 0.60 | 0.180 | 0.088 | ( 0.162) | 0.092 |
| 6 | 0.50 | 0.70 | 0.210 | 0.088 | ( 0.189) | 0.122 |
| 7 | 0.58 | 0.70 | 0.210 | 0.088 | ( 0.189) | 0.122 |
| 8 | 0.67 | 0.70 | 0.210 | 0.088 | ( 0.189) | 0.122 |
| 9 | 0.75 | 0.70 | 0.210 | 0.088 | ( 0.189) | 0.122 |
| 10 | 0.83 | 0.70 | 0.210 | 0.088 | ( 0.189) | 0.122 |
| 11 | 0.92 | 0.70 | 0.210 | 0.088 | ( 0.189) | 0.122 |
| 12 | 1.00 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 13 | 1.08 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 14 | 1.17 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 15 | 1.25 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 16 | 1.33 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 17 | 1.42 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 18 | 1.50 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 19 | 1.58 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 20 | 1.67 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 21 | 1.75 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 22 | 1.83 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 23 | 1.92 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 24 | 2.00 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 25 | 2.08 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 26 | 2.17 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 27 | 2.25 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 28 | 2.33 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 29 | 2.42 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 30 | 2.50 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 31 | 2.58 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 32 | 2.67 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 33 | 2.75 | 1.00 | 0.300 | 0.088 | ( 0.270) | 0.212 |
| 34 | 2.83 | 1.00 | 0.300 | 0.088 | ( 0.270) | 0.212 |
| 35 | 2.92 | 1.00 | 0.300 | 0.088 | ( 0.270) | 0.212 |
| 36 | 3.00 | 1.00 | 0.300 | 0.088 | ( 0.270) | 0.212 |
| 37 | 3.08 | 1.00 | 0.300 | 0.088 | ( 0.270) | 0.212 |
| 38 | 3.17 | 1.10 | 0.330 | 0.088 | ( 0.297) | 0.242 |
| 39 | 3.25 | 1.10 | 0.330 | 0.088 | ( 0.297) | 0.242 |
| 40 | 3.33 | 1.10 | 0.330 | 0.088 | ( 0.297) | 0.242 |
| 41 | 3.42 | 1.20 | 0.360 | 0.088 | ( 0.324) | 0.272 |
| 42 | 3.50 | 1.30 | 0.390 | 0.088 | ( 0.351) | 0.302 |
| 43 | 3.58 | 1.40 | 0.420 | 0.088 | ( 0.378) | 0.332 |
| 44 | 3.67 | 1.40 | 0.420 | 0.088 | ( 0.378) | 0.332 |
| 45 | 3.75 | 1.50 | 0.450 | 0.088 | ( 0.405) | 0.362 |
| 46 | 3.83 | 1.50 | 0.450 | 0.088 | ( 0.405) | 0.362 |
| 47 | 3.92 | 1.60 | 0.480 | 0.088 | ( 0.432) | 0.392 |
| 48 | 4.00 | 1.60 | 0.480 | 0.088 | ( 0.432) | 0.392 |
| 49 | 4.08 | 1.70 | 0.510 | 0.088 | ( 0.459) | 0.422 |
| 50 | 4.17 | 1.80 | 0.540 | 0.088 | ( 0.486) | 0.452 |
| 51 | 4.25 | 1.90 | 0.570 | 0.088 | ( 0.513) | 0.482 |
| 52 | 4.33 | 2.00 | 0.600 | 0.088 | ( 0.540) | 0.512 |
| 53 | 4.42 | 2.10 | 0.630 | 0.088 | ( 0.567) | 0.542 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 54 | 4.50 | 2.10 | 0.630 | 0.088 | ( 0.567) | | 0.542 |
| 55 | 4.58 | 2.20 | 0.660 | 0.088 | ( 0.594) | | 0.572 |
| 56 | 4.67 | 2.30 | 0.690 | 0.088 | ( 0.621) | | 0.602 |
| 57 | 4.75 | 2.40 | 0.720 | 0.088 | ( 0.648) | | 0.632 |
| 58 | 4.83 | 2.40 | 0.720 | 0.088 | ( 0.648) | | 0.632 |
| 59 | 4.92 | 2.50 | 0.750 | 0.088 | ( 0.675) | | 0.662 |
| 60 | 5.00 | 2.60 | 0.780 | 0.088 | ( 0.702) | | 0.692 |
| 61 | 5.08 | 3.10 | 0.930 | 0.088 | ( 0.837) | | 0.842 |
| 62 | 5.17 | 3.60 | 1.080 | 0.088 | ( 0.972) | | 0.992 |
| 63 | 5.25 | 3.90 | 1.170 | 0.088 | ( 1.053) | | 1.082 |
| 64 | 5.33 | 4.20 | 1.260 | 0.088 | ( 1.134) | | 1.172 |
| 65 | 5.42 | 4.70 | 1.410 | 0.088 | ( 1.269) | | 1.322 |
| 66 | 5.50 | 5.60 | 1.680 | 0.088 | ( 1.512) | | 1.592 |
| 67 | 5.58 | 1.90 | 0.570 | 0.088 | ( 0.513) | | 0.482 |
| 68 | 5.67 | 0.90 | 0.270 | 0.088 | ( 0.243) | | 0.182 |
| 69 | 5.75 | 0.60 | 0.180 | 0.088 | ( 0.162) | | 0.092 |
| 70 | 5.83 | 0.50 | 0.150 | 0.088 | ( 0.135) | | 0.062 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.088) | 0.081 | | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.088) | 0.054 | | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.7

Flood volume = Effective rainfall 1.98(In)
times area 2.5(Ac.)/[(In)/(Ft.)] = 0.4(Ac.Ft)
Total soil loss = 0.52(In)
Total soil loss = 0.109(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 17931.7 Cubic Feet
Total soil loss = 4755.6 Cubic Feet

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Peak flow rate of this hydrograph = 3.709(CFS)

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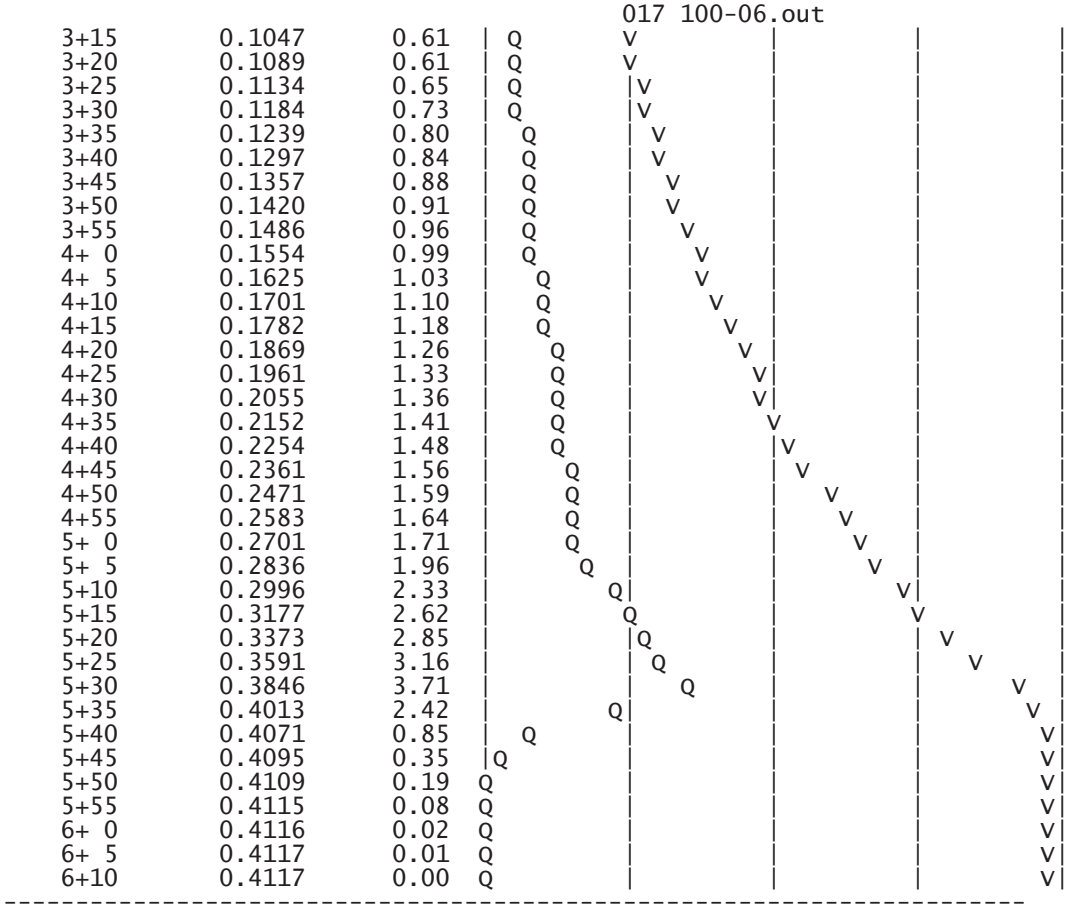
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0006 | 0.09 | Q | \| | \| | \| | \| |
| 0+10 | 0.0020 | 0.20 | Q | \| | \| | \| | \| |
| 0+15 | 0.0035 | 0.23 | Q | \| | \| | \| | \| |
| 0+20 | 0.0051 | 0.23 | Q | \| | \| | \| | \| |
| 0+25 | 0.0067 | 0.23 | Q | \| | \| | \| | \| |
| 0+30 | 0.0086 | 0.27 | VQ | \| | \| | \| | \| |
| 0+35 | 0.0107 | 0.31 | \|Q | \| | \| | \| | \| |
| 0+40 | 0.0129 | 0.31 | \|Q | \| | \| | \| | \| |
| 0+45 | 0.0150 | 0.31 | \|Q | \| | \| | \| | \| |
| 0+50 | 0.0171 | 0.31 | \|Q | \| | \| | \| | \| |
| 0+55 | 0.0192 | 0.31 | \|Q | \| | \| | \| | \| |
| 1+ 0 | 0.0216 | 0.35 | \|QV | \| | \| | \| | \| |
| 1+ 5 | 0.0243 | 0.38 | \|QV | \| | \| | \| | \| |
| 1+10 | 0.0269 | 0.38 | \|QV | \| | \| | \| | \| |
| 1+15 | 0.0295 | 0.38 | \|QV | \| | \| | \| | \| |
| 1+20 | 0.0322 | 0.38 | \|Q V | \| | \| | \| | \| |
| 1+25 | 0.0348 | 0.38 | \|Q V | \| | \| | \| | \| |
| 1+30 | 0.0375 | 0.38 | \|Q V | \| | \| | \| | \| |
| 1+35 | 0.0401 | 0.38 | \|Q V | \| | \| | \| | \| |
| 1+40 | 0.0427 | 0.38 | \|Q V | \| | \| | \| | \| |
| 1+45 | 0.0454 | 0.38 | \|Q V | \| | \| | \| | \| |
| 1+50 | 0.0480 | 0.38 | \|Q V | \| | \| | \| | \| |
| 1+55 | 0.0507 | 0.38 | \|Q V | \| | \| | \| | \| |
| 2+ 0 | 0.0536 | 0.43 | \|Q V | \| | \| | \| | \| |
| 2+ 5 | 0.0565 | 0.41 | \|Q V | \| | \| | \| | \| |
| 2+10 | 0.0594 | 0.43 | \|Q V | \| | \| | \| | \| |
| 2+15 | 0.0626 | 0.46 | \|Q V | \| | \| | \| | \| |
| 2+20 | 0.0657 | 0.46 | \|Q V | \| | \| | \| | \| |
| 2+25 | 0.0689 | 0.46 | \|Q V | \| | \| | \| | \| |
| 2+30 | 0.0720 | 0.46 | \|Q V | \| | \| | \| | \| |
| 2+35 | 0.0752 | 0.46 | \|Q V | \| | \| | \| | \| |
| 2+40 | 0.0784 | 0.46 | \|Q V | \| | \| | \| | \| |
| 2+45 | 0.0818 | 0.50 | \| Q V | \| | \| | \| | \| |
| 2+50 | 0.0855 | 0.53 | \| Q V | \| | \| | \| | \| |
| 2+55 | 0.0892 | 0.53 | \| Q V | \| | \| | \| | \| |
| 3+ 0 | 0.0928 | 0.53 | \| Q V\| | \| | \| | \| | \| |
| 3+ 5 | 0.0965 | 0.53 | \| Q V\| | \| | \| | \| | \| |
| 3+10 | 0.1005 | 0.58 | \| Q V\| | \| | \| | \| | \| |



| | | | |
|---|---|---|---|
| 3+15 | 0.1047 | 0.61 | |
| 3+20 | 0.1089 | 0.61 | |
| 3+25 | 0.1134 | 0.65 | |
| 3+30 | 0.1184 | 0.73 | |
| 3+35 | 0.1239 | 0.80 | |
| 3+40 | 0.1297 | 0.84 | |
| 3+45 | 0.1357 | 0.88 | |
| 3+50 | 0.1420 | 0.91 | |
| 3+55 | 0.1486 | 0.96 | |
| 4+ 0 | 0.1554 | 0.99 | |
| 4+ 5 | 0.1625 | 1.03 | |
| 4+10 | 0.1701 | 1.10 | |
| 4+15 | 0.1782 | 1.18 | |
| 4+20 | 0.1869 | 1.26 | |
| 4+25 | 0.1961 | 1.33 | |
| 4+30 | 0.2055 | 1.36 | |
| 4+35 | 0.2152 | 1.41 | |
| 4+40 | 0.2254 | 1.48 | |
| 4+45 | 0.2361 | 1.56 | |
| 4+50 | 0.2471 | 1.59 | |
| 4+55 | 0.2583 | 1.64 | |
| 5+ 0 | 0.2701 | 1.71 | |
| 5+ 5 | 0.2836 | 1.96 | |
| 5+10 | 0.2996 | 2.33 | |
| 5+15 | 0.3177 | 2.62 | |
| 5+20 | 0.3373 | 2.85 | |
| 5+25 | 0.3591 | 3.16 | |
| 5+30 | 0.3846 | 3.71 | |
| 5+35 | 0.4013 | 2.42 | |
| 5+40 | 0.4071 | 0.85 | |
| 5+45 | 0.4095 | 0.35 | |
| 5+50 | 0.4109 | 0.19 | |
| 5+55 | 0.4115 | 0.08 | |
| 6+ 0 | 0.4116 | 0.02 | |
| 6+ 5 | 0.4117 | 0.01 | |
| 6+10 | 0.4117 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX1724100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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164469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 17
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 2.50(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.50(Ac.) = 0.004 Sq. Mi.
Length along longest watercourse = 540.00(Ft.)
Length along longest watercourse measured to centroid = 249.00(Ft.)
Length along longest watercourse = 0.102 Mi.
Length along longest watercourse measured to centroid = 0.047 Mi.
Difference in elevation = 124.00(Ft.)
Slope along watercourse = 1212.4444 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.029 Hr.
Lag time = 1.72 Min.
25% of lag time = 0.43 Min.
40% of lag time = 0.69 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.50 | 1.80 | 4.50 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.50 | 4.50 | 11.25 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.500(In)

Point rain (area averaged) = 4.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2.500 | 83.73 | 0.000 |

Total Area Entered = 2.50(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.7 | 93.2 | 0.088 | 0.000 | 0.088 | 1.000 | 0.088 |
| | | | | | Sum (F) = | 0.088 |

Area averaged mean soil loss (F) (In/Hr) = 0.088

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 290.250 | 56.525 | 1.424 |
| 2 | 0.167 | 580.499 | 41.134 | 1.036 |
| 3 | 0.250 | 870.749 | 2.341 | 0.059 |
| | | | Sum = 100.000 Sum= | 2.520 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.036 | ( 0.156) | 0.032 | 0.004 |
| 2 | 0.17 | 0.07 | 0.036 | ( 0.155) | 0.032 | 0.004 |
| 3 | 0.25 | 0.07 | 0.036 | ( 0.155) | 0.032 | 0.004 |
| 4 | 0.33 | 0.10 | 0.054 | ( 0.154) | 0.049 | 0.005 |
| 5 | 0.42 | 0.10 | 0.054 | ( 0.153) | 0.049 | 0.005 |
| 6 | 0.50 | 0.10 | 0.054 | ( 0.153) | 0.049 | 0.005 |
| 7 | 0.58 | 0.10 | 0.054 | ( 0.152) | 0.049 | 0.005 |
| 8 | 0.67 | 0.10 | 0.054 | ( 0.152) | 0.049 | 0.005 |
| 9 | 0.75 | 0.10 | 0.054 | ( 0.151) | 0.049 | 0.005 |
| 10 | 0.83 | 0.13 | 0.072 | ( 0.150) | 0.065 | 0.007 |
| 11 | 0.92 | 0.13 | 0.072 | ( 0.150) | 0.065 | 0.007 |
| 12 | 1.00 | 0.13 | 0.072 | ( 0.149) | 0.065 | 0.007 |
| 13 | 1.08 | 0.10 | 0.054 | ( 0.149) | 0.049 | 0.005 |
| 14 | 1.17 | 0.10 | 0.054 | ( 0.148) | 0.049 | 0.005 |
| 15 | 1.25 | 0.10 | 0.054 | ( 0.148) | 0.049 | 0.005 |
| 16 | 1.33 | 0.10 | 0.054 | ( 0.147) | 0.049 | 0.005 |
| 17 | 1.42 | 0.10 | 0.054 | ( 0.146) | 0.049 | 0.005 |
| 18 | 1.50 | 0.10 | 0.054 | ( 0.146) | 0.049 | 0.005 |
| 19 | 1.58 | 0.10 | 0.054 | ( 0.145) | 0.049 | 0.005 |
| 20 | 1.67 | 0.10 | 0.054 | ( 0.145) | 0.049 | 0.005 |
| 21 | 1.75 | 0.10 | 0.054 | ( 0.144) | 0.049 | 0.005 |
| 22 | 1.83 | 0.13 | 0.072 | ( 0.143) | 0.065 | 0.007 |
| 23 | 1.92 | 0.13 | 0.072 | ( 0.143) | 0.065 | 0.007 |
| 24 | 2.00 | 0.13 | 0.072 | ( 0.142) | 0.065 | 0.007 |
| 25 | 2.08 | 0.13 | 0.072 | ( 0.142) | 0.065 | 0.007 |
| 26 | 2.17 | 0.13 | 0.072 | ( 0.141) | 0.065 | 0.007 |
| 27 | 2.25 | 0.13 | 0.072 | ( 0.141) | 0.065 | 0.007 |
| 28 | 2.33 | 0.13 | 0.072 | ( 0.140) | 0.065 | 0.007 |
| 29 | 2.42 | 0.13 | 0.072 | ( 0.139) | 0.065 | 0.007 |
| 30 | 2.50 | 0.13 | 0.072 | ( 0.139) | 0.065 | 0.007 |
| 31 | 2.58 | 0.17 | 0.090 | ( 0.138) | 0.081 | 0.009 |
| 32 | 2.67 | 0.17 | 0.090 | ( 0.138) | 0.081 | 0.009 |
| 33 | 2.75 | 0.17 | 0.090 | ( 0.137) | 0.081 | 0.009 |
| 34 | 2.83 | 0.17 | 0.090 | ( 0.137) | 0.081 | 0.009 |
| 35 | 2.92 | 0.17 | 0.090 | ( 0.136) | 0.081 | 0.009 |
| 36 | 3.00 | 0.17 | 0.090 | ( 0.135) | 0.081 | 0.009 |
| 37 | 3.08 | 0.17 | 0.090 | ( 0.135) | 0.081 | 0.009 |
| 38 | 3.17 | 0.17 | 0.090 | ( 0.134) | 0.081 | 0.009 |
| 39 | 3.25 | 0.17 | 0.090 | ( 0.134) | 0.081 | 0.009 |
| 40 | 3.33 | 0.17 | 0.090 | ( 0.133) | 0.081 | 0.009 |
| 41 | 3.42 | 0.17 | 0.090 | ( 0.133) | 0.081 | 0.009 |
| 42 | 3.50 | 0.17 | 0.090 | ( 0.132) | 0.081 | 0.009 |
| 43 | 3.58 | 0.17 | 0.090 | ( 0.132) | 0.081 | 0.009 |
| 44 | 3.67 | 0.17 | 0.090 | ( 0.131) | 0.081 | 0.009 |
| 45 | 3.75 | 0.17 | 0.090 | ( 0.130) | 0.081 | 0.009 |
| 46 | 3.83 | 0.20 | 0.108 | ( 0.130) | 0.097 | 0.011 |
| 47 | 3.92 | 0.20 | 0.108 | ( 0.129) | 0.097 | 0.011 |
| 48 | 4.00 | 0.20 | 0.108 | ( 0.129) | 0.097 | 0.011 |
| 49 | 4.08 | 0.20 | 0.108 | ( 0.128) | 0.097 | 0.011 |
| 50 | 4.17 | 0.20 | 0.108 | ( 0.128) | 0.097 | 0.011 |
| 51 | 4.25 | 0.20 | 0.108 | ( 0.127) | 0.097 | 0.011 |
| 52 | 4.33 | 0.23 | 0.126 | ( 0.127) | 0.113 | 0.013 |
| 53 | 4.42 | 0.23 | 0.126 | ( 0.126) | 0.113 | 0.013 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 54 | 4.50 | 0.23 | 0.126 | ( | 0.126) | 0.113 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.126 | ( | 0.125) | 0.113 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.126 | ( | 0.124) | 0.113 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.126 | ( | 0.124) | 0.113 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.144 | | 0.123 | ( 0.130) | | 0.021 |
| 59 | 4.92 | 0.27 | 0.144 | | 0.123 | ( 0.130) | | 0.021 |
| 60 | 5.00 | 0.27 | 0.144 | | 0.122 | ( 0.130) | | 0.022 |
| 61 | 5.08 | 0.20 | 0.108 | ( | 0.122) | 0.097 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.108 | ( | 0.121) | 0.097 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.108 | ( | 0.121) | 0.097 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.126 | ( | 0.120) | 0.113 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.126 | ( | 0.120) | 0.113 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.126 | ( | 0.119) | 0.113 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.144 | | 0.119 | ( 0.130) | | 0.025 |
| 68 | 5.67 | 0.27 | 0.144 | | 0.118 | ( 0.130) | | 0.026 |
| 69 | 5.75 | 0.27 | 0.144 | | 0.118 | ( 0.130) | | 0.026 |
| 70 | 5.83 | 0.27 | 0.144 | | 0.117 | ( 0.130) | | 0.027 |
| 71 | 5.92 | 0.27 | 0.144 | | 0.117 | ( 0.130) | | 0.027 |
| 72 | 6.00 | 0.27 | 0.144 | | 0.116 | ( 0.130) | | 0.028 |
| 73 | 6.08 | 0.30 | 0.162 | | 0.116 | ( 0.146) | | 0.046 |
| 74 | 6.17 | 0.30 | 0.162 | | 0.115 | ( 0.146) | | 0.047 |
| 75 | 6.25 | 0.30 | 0.162 | | 0.114 | ( 0.146) | | 0.048 |
| 76 | 6.33 | 0.30 | 0.162 | | 0.114 | ( 0.146) | | 0.048 |
| 77 | 6.42 | 0.30 | 0.162 | | 0.113 | ( 0.146) | | 0.049 |
| 78 | 6.50 | 0.30 | 0.162 | | 0.113 | ( 0.146) | | 0.049 |
| 79 | 6.58 | 0.33 | 0.180 | | 0.112 | ( 0.162) | | 0.068 |
| 80 | 6.67 | 0.33 | 0.180 | | 0.112 | ( 0.162) | | 0.068 |
| 81 | 6.75 | 0.33 | 0.180 | | 0.111 | ( 0.162) | | 0.069 |
| 82 | 6.83 | 0.33 | 0.180 | | 0.111 | ( 0.162) | | 0.069 |
| 83 | 6.92 | 0.33 | 0.180 | | 0.110 | ( 0.162) | | 0.070 |
| 84 | 7.00 | 0.33 | 0.180 | | 0.110 | ( 0.162) | | 0.070 |
| 85 | 7.08 | 0.33 | 0.180 | | 0.109 | ( 0.162) | | 0.071 |
| 86 | 7.17 | 0.33 | 0.180 | | 0.109 | ( 0.162) | | 0.071 |
| 87 | 7.25 | 0.33 | 0.180 | | 0.108 | ( 0.162) | | 0.072 |
| 88 | 7.33 | 0.37 | 0.198 | | 0.108 | ( 0.178) | | 0.090 |
| 89 | 7.42 | 0.37 | 0.198 | | 0.107 | ( 0.178) | | 0.091 |
| 90 | 7.50 | 0.37 | 0.198 | | 0.107 | ( 0.178) | | 0.091 |
| 91 | 7.58 | 0.40 | 0.216 | | 0.106 | ( 0.194) | | 0.110 |
| 92 | 7.67 | 0.40 | 0.216 | | 0.106 | ( 0.194) | | 0.110 |
| 93 | 7.75 | 0.40 | 0.216 | | 0.105 | ( 0.194) | | 0.111 |
| 94 | 7.83 | 0.43 | 0.234 | | 0.105 | ( 0.211) | | 0.129 |
| 95 | 7.92 | 0.43 | 0.234 | | 0.105 | ( 0.211) | | 0.129 |
| 96 | 8.00 | 0.43 | 0.234 | | 0.104 | ( 0.211) | | 0.130 |
| 97 | 8.08 | 0.50 | 0.270 | | 0.104 | ( 0.243) | | 0.166 |
| 98 | 8.17 | 0.50 | 0.270 | | 0.103 | ( 0.243) | | 0.167 |
| 99 | 8.25 | 0.50 | 0.270 | | 0.103 | ( 0.243) | | 0.167 |
| 100 | 8.33 | 0.50 | 0.270 | | 0.102 | ( 0.243) | | 0.168 |
| 101 | 8.42 | 0.50 | 0.270 | | 0.102 | ( 0.243) | | 0.168 |
| 102 | 8.50 | 0.50 | 0.270 | | 0.101 | ( 0.243) | | 0.169 |
| 103 | 8.58 | 0.53 | 0.288 | | 0.101 | ( 0.259) | | 0.187 |
| 104 | 8.67 | 0.53 | 0.288 | | 0.100 | ( 0.259) | | 0.188 |
| 105 | 8.75 | 0.53 | 0.288 | | 0.100 | ( 0.259) | | 0.188 |
| 106 | 8.83 | 0.57 | 0.306 | | 0.099 | ( 0.275) | | 0.207 |
| 107 | 8.92 | 0.57 | 0.306 | | 0.099 | ( 0.275) | | 0.207 |
| 108 | 9.00 | 0.57 | 0.306 | | 0.098 | ( 0.275) | | 0.208 |
| 109 | 9.08 | 0.63 | 0.342 | | 0.098 | ( 0.308) | | 0.244 |
| 110 | 9.17 | 0.63 | 0.342 | | 0.097 | ( 0.308) | | 0.245 |
| 111 | 9.25 | 0.63 | 0.342 | | 0.097 | ( 0.308) | | 0.245 |
| 112 | 9.33 | 0.67 | 0.360 | | 0.096 | ( 0.324) | | 0.264 |
| 113 | 9.42 | 0.67 | 0.360 | | 0.096 | ( 0.324) | | 0.264 |
| 114 | 9.50 | 0.67 | 0.360 | | 0.096 | ( 0.324) | | 0.264 |
| 115 | 9.58 | 0.70 | 0.378 | | 0.095 | ( 0.340) | | 0.283 |
| 116 | 9.67 | 0.70 | 0.378 | | 0.095 | ( 0.340) | | 0.283 |
| 117 | 9.75 | 0.70 | 0.378 | | 0.094 | ( 0.340) | | 0.284 |
| 118 | 9.83 | 0.73 | 0.396 | | 0.094 | ( 0.356) | | 0.302 |
| 119 | 9.92 | 0.73 | 0.396 | | 0.093 | ( 0.356) | | 0.303 |
| 120 | 10.00 | 0.73 | 0.396 | | 0.093 | ( 0.356) | | 0.303 |
| 121 | 10.08 | 0.50 | 0.270 | | 0.092 | ( 0.243) | | 0.178 |
| 122 | 10.17 | 0.50 | 0.270 | | 0.092 | ( 0.243) | | 0.178 |
| 123 | 10.25 | 0.50 | 0.270 | | 0.091 | ( 0.243) | | 0.179 |
| 124 | 10.33 | 0.50 | 0.270 | | 0.091 | ( 0.243) | | 0.179 |
| 125 | 10.42 | 0.50 | 0.270 | | 0.091 | ( 0.243) | | 0.179 |
| 126 | 10.50 | 0.50 | 0.270 | | 0.090 | ( 0.243) | | 0.180 |
| 127 | 10.58 | 0.67 | 0.360 | | 0.090 | ( 0.324) | | 0.270 |
| 128 | 10.67 | 0.67 | 0.360 | | 0.089 | ( 0.324) | | 0.271 |
| 129 | 10.75 | 0.67 | 0.360 | | 0.089 | ( 0.324) | | 0.271 |
| 130 | 10.83 | 0.67 | 0.360 | | 0.088 | ( 0.324) | | 0.272 |
| 131 | 10.92 | 0.67 | 0.360 | | 0.088 | ( 0.324) | | 0.272 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 132 | 11.00 | 0.67 | 0.360 | 0.088 | ( 0.324) | 0.272 |
| 133 | 11.08 | 0.63 | 0.342 | 0.087 | ( 0.308) | 0.255 |
| 134 | 11.17 | 0.63 | 0.342 | 0.087 | ( 0.308) | 0.255 |
| 135 | 11.25 | 0.63 | 0.342 | 0.086 | ( 0.308) | 0.256 |
| 136 | 11.33 | 0.63 | 0.342 | 0.086 | ( 0.308) | 0.256 |
| 137 | 11.42 | 0.63 | 0.342 | 0.085 | ( 0.308) | 0.257 |
| 138 | 11.50 | 0.63 | 0.342 | 0.085 | ( 0.308) | 0.257 |
| 139 | 11.58 | 0.57 | 0.306 | 0.085 | ( 0.275) | 0.221 |
| 140 | 11.67 | 0.57 | 0.306 | 0.084 | ( 0.275) | 0.222 |
| 141 | 11.75 | 0.57 | 0.306 | 0.084 | ( 0.275) | 0.222 |
| 142 | 11.83 | 0.60 | 0.324 | 0.083 | ( 0.292) | 0.241 |
| 143 | 11.92 | 0.60 | 0.324 | 0.083 | ( 0.292) | 0.241 |
| 144 | 12.00 | 0.60 | 0.324 | 0.082 | ( 0.292) | 0.242 |
| 145 | 12.08 | 0.83 | 0.450 | 0.082 | ( 0.405) | 0.368 |
| 146 | 12.17 | 0.83 | 0.450 | 0.082 | ( 0.405) | 0.368 |
| 147 | 12.25 | 0.83 | 0.450 | 0.081 | ( 0.405) | 0.369 |
| 148 | 12.33 | 0.87 | 0.468 | 0.081 | ( 0.421) | 0.387 |
| 149 | 12.42 | 0.87 | 0.468 | 0.080 | ( 0.421) | 0.388 |
| 150 | 12.50 | 0.87 | 0.468 | 0.080 | ( 0.421) | 0.388 |
| 151 | 12.58 | 0.93 | 0.504 | 0.080 | ( 0.454) | 0.424 |
| 152 | 12.67 | 0.93 | 0.504 | 0.079 | ( 0.454) | 0.425 |
| 153 | 12.75 | 0.93 | 0.504 | 0.079 | ( 0.454) | 0.425 |
| 154 | 12.83 | 0.97 | 0.522 | 0.078 | ( 0.470) | 0.444 |
| 155 | 12.92 | 0.97 | 0.522 | 0.078 | ( 0.470) | 0.444 |
| 156 | 13.00 | 0.97 | 0.522 | 0.078 | ( 0.470) | 0.444 |
| 157 | 13.08 | 1.13 | 0.612 | 0.077 | ( 0.551) | 0.535 |
| 158 | 13.17 | 1.13 | 0.612 | 0.077 | ( 0.551) | 0.535 |
| 159 | 13.25 | 1.13 | 0.612 | 0.076 | ( 0.551) | 0.536 |
| 160 | 13.33 | 1.13 | 0.612 | 0.076 | ( 0.551) | 0.536 |
| 161 | 13.42 | 1.13 | 0.612 | 0.076 | ( 0.551) | 0.536 |
| 162 | 13.50 | 1.13 | 0.612 | 0.075 | ( 0.551) | 0.537 |
| 163 | 13.58 | 0.77 | 0.414 | 0.075 | ( 0.373) | 0.339 |
| 164 | 13.67 | 0.77 | 0.414 | 0.075 | ( 0.373) | 0.339 |
| 165 | 13.75 | 0.77 | 0.414 | 0.074 | ( 0.373) | 0.340 |
| 166 | 13.83 | 0.77 | 0.414 | 0.074 | ( 0.373) | 0.340 |
| 167 | 13.92 | 0.77 | 0.414 | 0.073 | ( 0.373) | 0.341 |
| 168 | 14.00 | 0.77 | 0.414 | 0.073 | ( 0.373) | 0.341 |
| 169 | 14.08 | 0.90 | 0.486 | 0.073 | ( 0.437) | 0.413 |
| 170 | 14.17 | 0.90 | 0.486 | 0.072 | ( 0.437) | 0.414 |
| 171 | 14.25 | 0.90 | 0.486 | 0.072 | ( 0.437) | 0.414 |
| 172 | 14.33 | 0.87 | 0.468 | 0.072 | ( 0.421) | 0.396 |
| 173 | 14.42 | 0.87 | 0.468 | 0.071 | ( 0.421) | 0.397 |
| 174 | 14.50 | 0.87 | 0.468 | 0.071 | ( 0.421) | 0.397 |
| 175 | 14.58 | 0.87 | 0.468 | 0.070 | ( 0.421) | 0.398 |
| 176 | 14.67 | 0.87 | 0.468 | 0.070 | ( 0.421) | 0.398 |
| 177 | 14.75 | 0.87 | 0.468 | 0.070 | ( 0.421) | 0.398 |
| 178 | 14.83 | 0.83 | 0.450 | 0.069 | ( 0.405) | 0.381 |
| 179 | 14.92 | 0.83 | 0.450 | 0.069 | ( 0.405) | 0.381 |
| 180 | 15.00 | 0.83 | 0.450 | 0.069 | ( 0.405) | 0.381 |
| 181 | 15.08 | 0.80 | 0.432 | 0.068 | ( 0.389) | 0.364 |
| 182 | 15.17 | 0.80 | 0.432 | 0.068 | ( 0.389) | 0.364 |
| 183 | 15.25 | 0.80 | 0.432 | 0.068 | ( 0.389) | 0.364 |
| 184 | 15.33 | 0.77 | 0.414 | 0.067 | ( 0.373) | 0.347 |
| 185 | 15.42 | 0.77 | 0.414 | 0.067 | ( 0.373) | 0.347 |
| 186 | 15.50 | 0.77 | 0.414 | 0.067 | ( 0.373) | 0.347 |
| 187 | 15.58 | 0.63 | 0.342 | 0.066 | ( 0.308) | 0.276 |
| 188 | 15.67 | 0.63 | 0.342 | 0.066 | ( 0.308) | 0.276 |
| 189 | 15.75 | 0.63 | 0.342 | 0.066 | ( 0.308) | 0.276 |
| 190 | 15.83 | 0.63 | 0.342 | 0.065 | ( 0.308) | 0.277 |
| 191 | 15.92 | 0.63 | 0.342 | 0.065 | ( 0.308) | 0.277 |
| 192 | 16.00 | 0.63 | 0.342 | 0.065 | ( 0.308) | 0.277 |
| 193 | 16.08 | 0.13 | 0.072 | 0.064 | ( 0.065) | 0.008 |
| 194 | 16.17 | 0.13 | 0.072 | 0.064 | ( 0.065) | 0.008 |
| 195 | 16.25 | 0.13 | 0.072 | 0.064 | ( 0.065) | 0.008 |
| 196 | 16.33 | 0.13 | 0.072 | 0.063 | ( 0.065) | 0.009 |
| 197 | 16.42 | 0.13 | 0.072 | 0.063 | ( 0.065) | 0.009 |
| 198 | 16.50 | 0.13 | 0.072 | 0.063 | ( 0.065) | 0.009 |
| 199 | 16.58 | 0.10 | 0.054 | ( 0.062) | 0.049 | 0.005 |
| 200 | 16.67 | 0.10 | 0.054 | ( 0.062) | 0.049 | 0.005 |
| 201 | 16.75 | 0.10 | 0.054 | ( 0.062) | 0.049 | 0.005 |
| 202 | 16.83 | 0.10 | 0.054 | ( 0.061) | 0.049 | 0.005 |
| 203 | 16.92 | 0.10 | 0.054 | ( 0.061) | 0.049 | 0.005 |
| 204 | 17.00 | 0.10 | 0.054 | ( 0.061) | 0.049 | 0.005 |
| 205 | 17.08 | 0.17 | 0.090 | 0.060 | ( 0.081) | 0.030 |
| 206 | 17.17 | 0.17 | 0.090 | 0.060 | ( 0.081) | 0.030 |
| 207 | 17.25 | 0.17 | 0.090 | 0.060 | ( 0.081) | 0.030 |
| 208 | 17.33 | 0.17 | 0.090 | 0.060 | ( 0.081) | 0.030 |
| 209 | 17.42 | 0.17 | 0.090 | 0.059 | ( 0.081) | 0.031 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 210 | 17.50 | 0.17 | 0.090 | | 0.059 | ( | 0.081) | 0.031 |
| 211 | 17.58 | 0.17 | 0.090 | | 0.059 | ( | 0.081) | 0.031 |
| 212 | 17.67 | 0.17 | 0.090 | | 0.058 | ( | 0.081) | 0.032 |
| 213 | 17.75 | 0.17 | 0.090 | | 0.058 | ( | 0.081) | 0.032 |
| 214 | 17.83 | 0.13 | 0.072 | | 0.058 | ( | 0.065) | 0.014 |
| 215 | 17.92 | 0.13 | 0.072 | | 0.057 | ( | 0.065) | 0.015 |
| 216 | 18.00 | 0.13 | 0.072 | | 0.057 | ( | 0.065) | 0.015 |
| 217 | 18.08 | 0.13 | 0.072 | | 0.057 | ( | 0.065) | 0.015 |
| 218 | 18.17 | 0.13 | 0.072 | | 0.057 | ( | 0.065) | 0.015 |
| 219 | 18.25 | 0.13 | 0.072 | | 0.056 | ( | 0.065) | 0.016 |
| 220 | 18.33 | 0.13 | 0.072 | | 0.056 | ( | 0.065) | 0.016 |
| 221 | 18.42 | 0.13 | 0.072 | | 0.056 | ( | 0.065) | 0.016 |
| 222 | 18.50 | 0.13 | 0.072 | | 0.056 | ( | 0.065) | 0.016 |
| 223 | 18.58 | 0.10 | 0.054 | ( | 0.055) | | 0.049 | 0.005 |
| 224 | 18.67 | 0.10 | 0.054 | ( | 0.055) | | 0.049 | 0.005 |
| 225 | 18.75 | 0.10 | 0.054 | ( | 0.055) | | 0.049 | 0.005 |
| 226 | 18.83 | 0.07 | 0.036 | ( | 0.054) | | 0.032 | 0.004 |
| 227 | 18.92 | 0.07 | 0.036 | ( | 0.054) | | 0.032 | 0.004 |
| 228 | 19.00 | 0.07 | 0.036 | ( | 0.054) | | 0.032 | 0.004 |
| 229 | 19.08 | 0.10 | 0.054 | ( | 0.054) | | 0.049 | 0.005 |
| 230 | 19.17 | 0.10 | 0.054 | ( | 0.053) | | 0.049 | 0.005 |
| 231 | 19.25 | 0.10 | 0.054 | ( | 0.053) | | 0.049 | 0.005 |
| 232 | 19.33 | 0.13 | 0.072 | | 0.053 | ( | 0.065) | 0.019 |
| 233 | 19.42 | 0.13 | 0.072 | | 0.053 | ( | 0.065) | 0.019 |
| 234 | 19.50 | 0.13 | 0.072 | | 0.052 | ( | 0.065) | 0.020 |
| 235 | 19.58 | 0.10 | 0.054 | ( | 0.052) | | 0.049 | 0.005 |
| 236 | 19.67 | 0.10 | 0.054 | ( | 0.052) | | 0.049 | 0.005 |
| 237 | 19.75 | 0.10 | 0.054 | ( | 0.052) | | 0.049 | 0.005 |
| 238 | 19.83 | 0.07 | 0.036 | ( | 0.052) | | 0.032 | 0.004 |
| 239 | 19.92 | 0.07 | 0.036 | ( | 0.051) | | 0.032 | 0.004 |
| 240 | 20.00 | 0.07 | 0.036 | ( | 0.051) | | 0.032 | 0.004 |
| 241 | 20.08 | 0.10 | 0.054 | ( | 0.051) | | 0.049 | 0.005 |
| 242 | 20.17 | 0.10 | 0.054 | ( | 0.051) | | 0.049 | 0.005 |
| 243 | 20.25 | 0.10 | 0.054 | ( | 0.050) | | 0.049 | 0.005 |
| 244 | 20.33 | 0.10 | 0.054 | ( | 0.050) | | 0.049 | 0.005 |
| 245 | 20.42 | 0.10 | 0.054 | ( | 0.050) | | 0.049 | 0.005 |
| 246 | 20.50 | 0.10 | 0.054 | ( | 0.050) | | 0.049 | 0.005 |
| 247 | 20.58 | 0.10 | 0.054 | ( | 0.050) | | 0.049 | 0.005 |
| 248 | 20.67 | 0.10 | 0.054 | ( | 0.049) | | 0.049 | 0.005 |
| 249 | 20.75 | 0.10 | 0.054 | ( | 0.049) | | 0.049 | 0.005 |
| 250 | 20.83 | 0.07 | 0.036 | ( | 0.049) | | 0.032 | 0.004 |
| 251 | 20.92 | 0.07 | 0.036 | ( | 0.049) | | 0.032 | 0.004 |
| 252 | 21.00 | 0.07 | 0.036 | ( | 0.049) | | 0.032 | 0.004 |
| 253 | 21.08 | 0.10 | 0.054 | | 0.048 | ( | 0.049) | 0.006 |
| 254 | 21.17 | 0.10 | 0.054 | | 0.048 | ( | 0.049) | 0.006 |
| 255 | 21.25 | 0.10 | 0.054 | | 0.048 | ( | 0.049) | 0.006 |
| 256 | 21.33 | 0.07 | 0.036 | ( | 0.048) | | 0.032 | 0.004 |
| 257 | 21.42 | 0.07 | 0.036 | ( | 0.048) | | 0.032 | 0.004 |
| 258 | 21.50 | 0.07 | 0.036 | ( | 0.047) | | 0.032 | 0.004 |
| 259 | 21.58 | 0.10 | 0.054 | | 0.047 | ( | 0.049) | 0.007 |
| 260 | 21.67 | 0.10 | 0.054 | | 0.047 | ( | 0.049) | 0.007 |
| 261 | 21.75 | 0.10 | 0.054 | | 0.047 | ( | 0.049) | 0.007 |
| 262 | 21.83 | 0.07 | 0.036 | ( | 0.047) | | 0.032 | 0.004 |
| 263 | 21.92 | 0.07 | 0.036 | ( | 0.047) | | 0.032 | 0.004 |
| 264 | 22.00 | 0.07 | 0.036 | ( | 0.046) | | 0.032 | 0.004 |
| 265 | 22.08 | 0.10 | 0.054 | | 0.046 | ( | 0.049) | 0.008 |
| 266 | 22.17 | 0.10 | 0.054 | | 0.046 | ( | 0.049) | 0.008 |
| 267 | 22.25 | 0.10 | 0.054 | | 0.046 | ( | 0.049) | 0.008 |
| 268 | 22.33 | 0.07 | 0.036 | ( | 0.046) | | 0.032 | 0.004 |
| 269 | 22.42 | 0.07 | 0.036 | ( | 0.046) | | 0.032 | 0.004 |
| 270 | 22.50 | 0.07 | 0.036 | ( | 0.046) | | 0.032 | 0.004 |
| 271 | 22.58 | 0.07 | 0.036 | ( | 0.045) | | 0.032 | 0.004 |
| 272 | 22.67 | 0.07 | 0.036 | ( | 0.045) | | 0.032 | 0.004 |
| 273 | 22.75 | 0.07 | 0.036 | ( | 0.045) | | 0.032 | 0.004 |
| 274 | 22.83 | 0.07 | 0.036 | ( | 0.045) | | 0.032 | 0.004 |
| 275 | 22.92 | 0.07 | 0.036 | ( | 0.045) | | 0.032 | 0.004 |
| 276 | 23.00 | 0.07 | 0.036 | ( | 0.045) | | 0.032 | 0.004 |
| 277 | 23.08 | 0.07 | 0.036 | ( | 0.045) | | 0.032 | 0.004 |
| 278 | 23.17 | 0.07 | 0.036 | ( | 0.045) | | 0.032 | 0.004 |
| 279 | 23.25 | 0.07 | 0.036 | ( | 0.045) | | 0.032 | 0.004 |
| 280 | 23.33 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 281 | 23.42 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 282 | 23.50 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 283 | 23.58 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 284 | 23.67 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 285 | 23.75 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 286 | 23.83 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 287 | 23.92 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |

288 24.00 0.07 0.036 ( 0.044) 0.032 0.004
(Loss Rate Not Used)
Sum = 100.0 Sum = 33.3
Flood volume = Effective rainfall 2.77(In)
times area 2.5(Ac.)/[(In)/(Ft.)] = 0.6(Ac.Ft)
Total soil loss = 1.73(In)
Total soil loss = 0.360(Ac.Ft)
Total rainfall = 4.50(In)
Flood volume = 25172.8 Cubic Feet
Total soil loss = 15664.5 Cubic Feet

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Peak flow rate of this hydrograph = 1.352(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

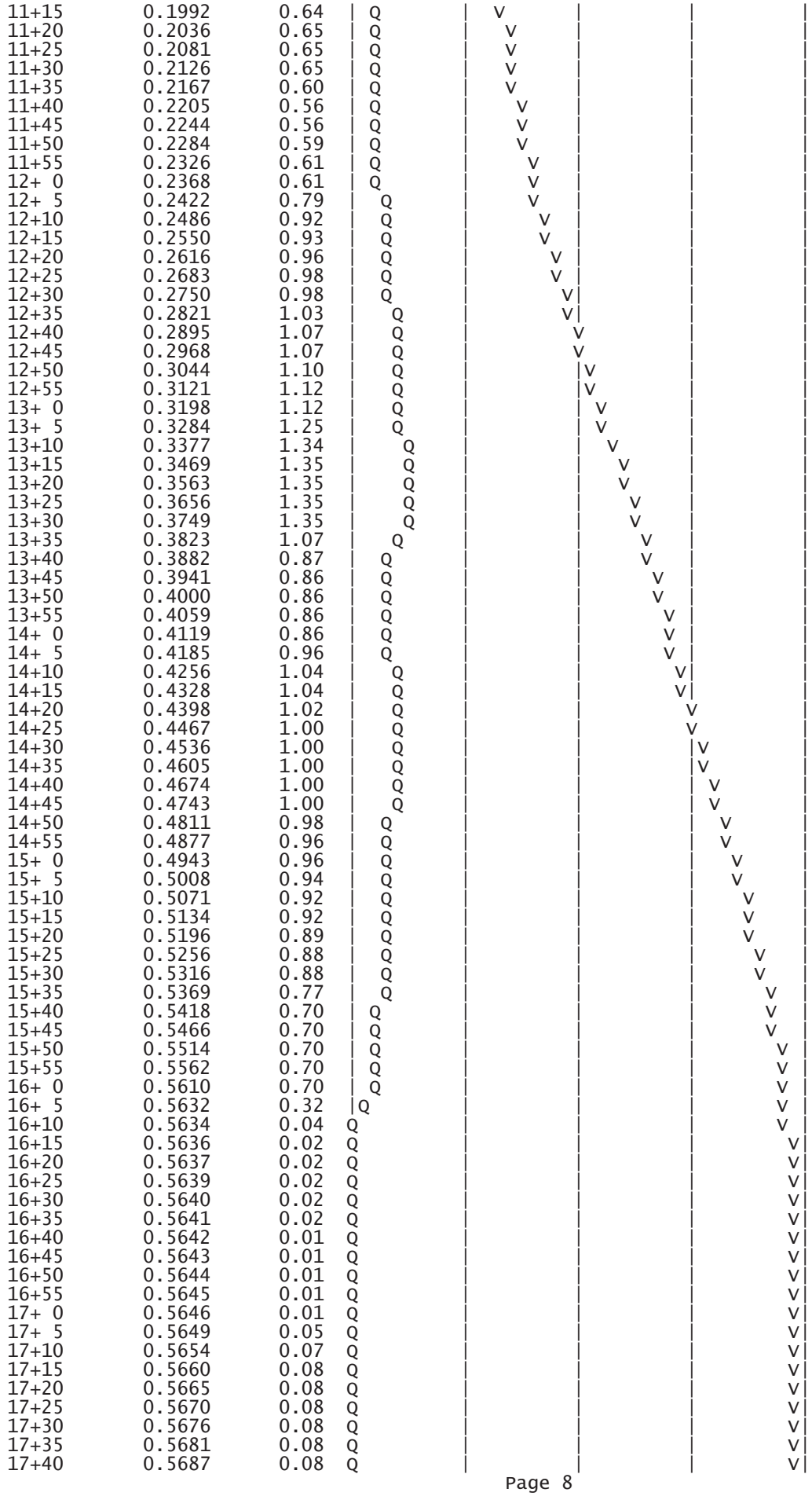
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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0000 | 0.01 | Q | | | | |
| 0+10 | 0.0001 | 0.01 | Q | | | | |
| 0+15 | 0.0002 | 0.01 | Q | | | | |
| 0+20 | 0.0002 | 0.01 | Q | | | | |
| 0+25 | 0.0003 | 0.01 | Q | | | | |
| 0+30 | 0.0004 | 0.01 | Q | | | | |
| 0+35 | 0.0005 | 0.01 | Q | | | | |
| 0+40 | 0.0006 | 0.01 | Q | | | | |
| 0+45 | 0.0007 | 0.01 | Q | | | | |
| 0+50 | 0.0008 | 0.02 | Q | | | | |
| 0+55 | 0.0009 | 0.02 | Q | | | | |
| 1+ 0 | 0.0011 | 0.02 | Q | | | | |
| 1+ 5 | 0.0012 | 0.02 | Q | | | | |
| 1+10 | 0.0013 | 0.01 | Q | | | | |
| 1+15 | 0.0014 | 0.01 | Q | | | | |
| 1+20 | 0.0015 | 0.01 | Q | | | | |
| 1+25 | 0.0016 | 0.01 | Q | | | | |
| 1+30 | 0.0016 | 0.01 | Q | | | | |
| 1+35 | 0.0017 | 0.01 | Q | | | | |
| 1+40 | 0.0018 | 0.01 | Q | | | | |
| 1+45 | 0.0019 | 0.01 | Q | | | | |
| 1+50 | 0.0020 | 0.02 | Q | | | | |
| 1+55 | 0.0022 | 0.02 | Q | | | | |
| 2+ 0 | 0.0023 | 0.02 | Q | | | | |
| 2+ 5 | 0.0024 | 0.02 | Q | | | | |
| 2+10 | 0.0025 | 0.02 | Q | | | | |
| 2+15 | 0.0027 | 0.02 | Q | | | | |
| 2+20 | 0.0028 | 0.02 | Q | | | | |
| 2+25 | 0.0029 | 0.02 | Q | | | | |
| 2+30 | 0.0030 | 0.02 | Q | | | | |
| 2+35 | 0.0032 | 0.02 | Q | | | | |
| 2+40 | 0.0033 | 0.02 | Q | | | | |
| 2+45 | 0.0035 | 0.02 | Q | | | | |
| 2+50 | 0.0036 | 0.02 | Q | | | | |
| 2+55 | 0.0038 | 0.02 | Q | | | | |
| 3+ 0 | 0.0040 | 0.02 | Q | | | | |
| 3+ 5 | 0.0041 | 0.02 | Q | | | | |
| 3+10 | 0.0043 | 0.02 | Q | | | | |
| 3+15 | 0.0044 | 0.02 | Q | | | | |
| 3+20 | 0.0046 | 0.02 | Q | | | | |
| 3+25 | 0.0047 | 0.02 | Q | | | | |
| 3+30 | 0.0049 | 0.02 | Q | | | | |
| 3+35 | 0.0051 | 0.02 | Q | | | | |
| 3+40 | 0.0052 | 0.02 | Q | | | | |
| 3+45 | 0.0054 | 0.02 | Q | | | | |
| 3+50 | 0.0055 | 0.03 | Q | | | | |
| 3+55 | 0.0057 | 0.03 | Q | | | | |
| 4+ 0 | 0.0059 | 0.03 | Q | | | | |
| 4+ 5 | 0.0061 | 0.03 | Q | | | | |
| 4+10 | 0.0063 | 0.03 | Q | | | | |
| 4+15 | 0.0065 | 0.03 | Q | | | | |
| 4+20 | 0.0067 | 0.03 | Q | | | | |
| 4+25 | 0.0069 | 0.03 | Q | | | | |
| 4+30 | 0.0071 | 0.03 | Q | | | | |
| 4+35 | 0.0073 | 0.03 | Q | | | | |
| 4+40 | 0.0076 | 0.03 | Q | | | | |

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 4+45       0.0078      0.03  Q          |          |          |          |
 4+50       0.0081      0.04  Q          |          |          |          |
 4+55       0.0084      0.05  Q          |          |          |          |
 5+ 0       0.0088      0.05  Q          |          |          |          |
 5+ 5       0.0091      0.04  Q          |          |          |          |
 5+10       0.0093      0.03  Q          |          |          |          |
 5+15       0.0095      0.03  Q          |          |          |          |
 5+20       0.0097      0.03  Q          |          |          |          |
 5+25       0.0099      0.03  Q          |          |          |          |
 5+30       0.0101      0.03  Q          |          |          |          |
 5+35       0.0104      0.05  Q          |          |          |          |
 5+40       0.0109      0.06  Q          |          |          |          |
 5+45       0.0113      0.07  Q          |          |          |          |
 5+50       0.0118      0.07  Q          |          |          |          |
 5+55       0.0123      0.07  Q          |          |          |          |
 6+ 0       0.0128      0.07  Q          |          |          |          |
 6+ 5       0.0134      0.10  Q          |          |          |          |
 6+10       0.0142      0.12  Q          |          |          |          |
 6+15       0.0150      0.12  QV         |          |          |          |
 6+20       0.0159      0.12  QV         |          |          |          |
 6+25       0.0167      0.12  QV         |          |          |          |
 6+30       0.0176      0.12  QV         |          |          |          |
 6+35       0.0186      0.15  QV         |          |          |          |
 6+40       0.0198      0.17  QV         |          |          |          |
 6+45       0.0209      0.17  QV         |          |          |          |
 6+50       0.0221      0.17  QV         |          |          |          |
 6+55       0.0233      0.17  QV         |          |          |          |
 7+ 0       0.0246      0.18  QV         |          |          |          |
 7+ 5       0.0258      0.18  QV         |          |          |          |
 7+10       0.0270      0.18  QV         |          |          |          |
 7+15       0.0282      0.18  QV         |          |          |          |
 7+20       0.0297      0.21  Q V        |          |          |          |
 7+25       0.0312      0.23  Q V        |          |          |          |
 7+30       0.0328      0.23  Q V        |          |          |          |
 7+35       0.0346      0.26  |QV        |          |          |          |
 7+40       0.0365      0.28  |QV        |          |          |          |
 7+45       0.0384      0.28  |QV        |          |          |          |
 7+50       0.0405      0.30  |QV        |          |          |          |
 7+55       0.0427      0.32  |QV        |          |          |          |
 8+ 0       0.0450      0.33  |Q V       |          |          |          |
 8+ 5       0.0476      0.38  |Q V       |          |          |          |
 8+10       0.0505      0.42  |Q V       |          |          |          |
 8+15       0.0534      0.42  |Q V       |          |          |          |
 8+20       0.0563      0.42  |Q V       |          |          |          |
 8+25       0.0592      0.42  |Q  V      |          |          |          |
 8+30       0.0621      0.43  |Q  V      |          |          |          |
 8+35       0.0652      0.45  |Q  V      |          |          |          |
 8+40       0.0685      0.47  |Q  V      |          |          |          |
 8+45       0.0718      0.47  |Q  V      |          |          |          |
 8+50       0.0752      0.50  | Q  V     |          |          |          |
 8+55       0.0788      0.52  | Q  V     |          |          |          |
 9+ 0       0.0824      0.52  | Q  V     |          |          |          |
 9+ 5       0.0864      0.58  | Q  V     |          |          |          |
 9+10       0.0906      0.61  | Q   V    |          |          |          |
 9+15       0.0948      0.62  | Q   V    |          |          |          |
 9+20       0.0993      0.64  | Q   V    |          |          |          |
 9+25       0.1038      0.66  | Q    V   |          |          |          |
 9+30       0.1084      0.67  | Q    V   |          |          |          |
 9+35       0.1132      0.69  | Q    V   |          |          |          |
 9+40       0.1181      0.71  | Q     V  |          |          |          |
 9+45       0.1230      0.71  | Q     V  |          |          |          |
 9+50       0.1281      0.74  | Q     V  |          |          |          |
 9+55       0.1334      0.76  |  Q     V |          |          |          |
10+ 0       0.1386      0.76  |  Q     V |          |          |          |
10+ 5       0.1427      0.59  | Q      V |          |          |          |
10+10       0.1458      0.46  |Q       V |          |          |          |
10+15       0.1489      0.45  |Q       V |          |          |          |
10+20       0.1520      0.45  |Q       V |          |          |          |
10+25       0.1551      0.45  |Q       V |          |          |          |
10+30       0.1582      0.45  |Q       V |          |          |          |
10+35       0.1623      0.58  | Q       |V         |          |          |
10+40       0.1669      0.68  | Q       |V         |          |          |
10+45       0.1716      0.68  | Q       |V         |          |          |
10+50       0.1763      0.68  | Q       | V        |          |          |
10+55       0.1810      0.69  | Q       | V        |          |          |
11+ 0       0.1858      0.69  | Q       | V        |          |          |
11+ 5       0.1903      0.66  | Q       |  V       |          |          |
11+10       0.1948      0.64  | Q       |  V       |          |          |
```



| | | | |
|---|---|---|---|
| 11+15 | 0.1992 | 0.64 | Q |
| 11+20 | 0.2036 | 0.65 | Q |
| 11+25 | 0.2081 | 0.65 | Q |
| 11+30 | 0.2126 | 0.65 | Q |
| 11+35 | 0.2167 | 0.60 | Q |
| 11+40 | 0.2205 | 0.56 | Q |
| 11+45 | 0.2244 | 0.56 | Q |
| 11+50 | 0.2284 | 0.59 | Q |
| 11+55 | 0.2326 | 0.61 | Q |
| 12+ 0 | 0.2368 | 0.61 | Q |
| 12+ 5 | 0.2422 | 0.79 | Q |
| 12+10 | 0.2486 | 0.92 | Q |
| 12+15 | 0.2550 | 0.93 | Q |
| 12+20 | 0.2616 | 0.96 | Q |
| 12+25 | 0.2683 | 0.98 | Q |
| 12+30 | 0.2750 | 0.98 | Q |
| 12+35 | 0.2821 | 1.03 | Q |
| 12+40 | 0.2895 | 1.07 | Q |
| 12+45 | 0.2968 | 1.07 | Q |
| 12+50 | 0.3044 | 1.10 | Q |
| 12+55 | 0.3121 | 1.12 | Q |
| 13+ 0 | 0.3198 | 1.12 | Q |
| 13+ 5 | 0.3284 | 1.25 | Q |
| 13+10 | 0.3377 | 1.34 | Q |
| 13+15 | 0.3469 | 1.35 | Q |
| 13+20 | 0.3563 | 1.35 | Q |
| 13+25 | 0.3656 | 1.35 | Q |
| 13+30 | 0.3749 | 1.35 | Q |
| 13+35 | 0.3823 | 1.07 | Q |
| 13+40 | 0.3882 | 0.87 | Q |
| 13+45 | 0.3941 | 0.86 | Q |
| 13+50 | 0.4000 | 0.86 | Q |
| 13+55 | 0.4059 | 0.86 | Q |
| 14+ 0 | 0.4119 | 0.86 | Q |
| 14+ 5 | 0.4185 | 0.96 | Q |
| 14+10 | 0.4256 | 1.04 | Q |
| 14+15 | 0.4328 | 1.04 | Q |
| 14+20 | 0.4398 | 1.02 | Q |
| 14+25 | 0.4467 | 1.00 | Q |
| 14+30 | 0.4536 | 1.00 | Q |
| 14+35 | 0.4605 | 1.00 | Q |
| 14+40 | 0.4674 | 1.00 | Q |
| 14+45 | 0.4743 | 1.00 | Q |
| 14+50 | 0.4811 | 0.98 | Q |
| 14+55 | 0.4877 | 0.96 | Q |
| 15+ 0 | 0.4943 | 0.96 | Q |
| 15+ 5 | 0.5008 | 0.94 | Q |
| 15+10 | 0.5071 | 0.92 | Q |
| 15+15 | 0.5134 | 0.92 | Q |
| 15+20 | 0.5196 | 0.89 | Q |
| 15+25 | 0.5256 | 0.88 | Q |
| 15+30 | 0.5316 | 0.88 | Q |
| 15+35 | 0.5369 | 0.77 | Q |
| 15+40 | 0.5418 | 0.70 | Q |
| 15+45 | 0.5466 | 0.70 | Q |
| 15+50 | 0.5514 | 0.70 | Q |
| 15+55 | 0.5562 | 0.70 | Q |
| 16+ 0 | 0.5610 | 0.70 | Q |
| 16+ 5 | 0.5632 | 0.32 | Q |
| 16+10 | 0.5634 | 0.04 | Q |
| 16+15 | 0.5636 | 0.02 | Q |
| 16+20 | 0.5637 | 0.02 | Q |
| 16+25 | 0.5639 | 0.02 | Q |
| 16+30 | 0.5640 | 0.02 | Q |
| 16+35 | 0.5641 | 0.02 | Q |
| 16+40 | 0.5642 | 0.01 | Q |
| 16+45 | 0.5643 | 0.01 | Q |
| 16+50 | 0.5644 | 0.01 | Q |
| 16+55 | 0.5645 | 0.01 | Q |
| 17+ 0 | 0.5646 | 0.01 | Q |
| 17+ 5 | 0.5649 | 0.05 | Q |
| 17+10 | 0.5654 | 0.07 | Q |
| 17+15 | 0.5660 | 0.08 | Q |
| 17+20 | 0.5665 | 0.08 | Q |
| 17+25 | 0.5670 | 0.08 | Q |
| 17+30 | 0.5676 | 0.08 | Q |
| 17+35 | 0.5681 | 0.08 | Q |
| 17+40 | 0.5687 | 0.08 | Q |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+45 | 0.5692 | 0.08 | Q | \| | \| | \| | V\| |
| 17+50 | 0.5696 | 0.06 | Q | \| | \| | \| | V\| |
| 17+55 | 0.5698 | 0.04 | Q | \| | \| | \| | V\| |
| 18+ 0 | 0.5701 | 0.04 | Q | \| | \| | \| | V\| |
| 18+ 5 | 0.5704 | 0.04 | Q | \| | \| | \| | V\| |
| 18+10 | 0.5706 | 0.04 | Q | \| | \| | \| | V\| |
| 18+15 | 0.5709 | 0.04 | Q | \| | \| | \| | V\| |
| 18+20 | 0.5712 | 0.04 | Q | \| | \| | \| | V\| |
| 18+25 | 0.5715 | 0.04 | Q | \| | \| | \| | V\| |
| 18+30 | 0.5717 | 0.04 | Q | \| | \| | \| | V\| |
| 18+35 | 0.5719 | 0.03 | Q | \| | \| | \| | V\| |
| 18+40 | 0.5720 | 0.01 | Q | \| | \| | \| | V\| |
| 18+45 | 0.5721 | 0.01 | Q | \| | \| | \| | V\| |
| 18+50 | 0.5722 | 0.01 | Q | \| | \| | \| | V\| |
| 18+55 | 0.5722 | 0.01 | Q | \| | \| | \| | V\| |
| 19+ 0 | 0.5723 | 0.01 | Q | \| | \| | \| | V\| |
| 19+ 5 | 0.5724 | 0.01 | Q | \| | \| | \| | V\| |
| 19+10 | 0.5725 | 0.01 | Q | \| | \| | \| | V\| |
| 19+15 | 0.5726 | 0.01 | Q | \| | \| | \| | V\| |
| 19+20 | 0.5728 | 0.03 | Q | \| | \| | \| | V\| |
| 19+25 | 0.5731 | 0.05 | Q | \| | \| | \| | V\| |
| 19+30 | 0.5735 | 0.05 | Q | \| | \| | \| | V\| |
| 19+35 | 0.5737 | 0.03 | Q | \| | \| | \| | V\| |
| 19+40 | 0.5738 | 0.01 | Q | \| | \| | \| | V\| |
| 19+45 | 0.5739 | 0.01 | Q | \| | \| | \| | V\| |
| 19+50 | 0.5739 | 0.01 | Q | \| | \| | \| | V\| |
| 19+55 | 0.5740 | 0.01 | Q | \| | \| | \| | V\| |
| 20+ 0 | 0.5741 | 0.01 | Q | \| | \| | \| | V\| |
| 20+ 5 | 0.5741 | 0.01 | Q | \| | \| | \| | V\| |
| 20+10 | 0.5742 | 0.01 | Q | \| | \| | \| | V\| |
| 20+15 | 0.5743 | 0.01 | Q | \| | \| | \| | V\| |
| 20+20 | 0.5744 | 0.01 | Q | \| | \| | \| | V\| |
| 20+25 | 0.5745 | 0.01 | Q | \| | \| | \| | V\| |
| 20+30 | 0.5746 | 0.01 | Q | \| | \| | \| | V\| |
| 20+35 | 0.5747 | 0.01 | Q | \| | \| | \| | V\| |
| 20+40 | 0.5748 | 0.01 | Q | \| | \| | \| | V\| |
| 20+45 | 0.5749 | 0.01 | Q | \| | \| | \| | V\| |
| 20+50 | 0.5750 | 0.01 | Q | \| | \| | \| | V\| |
| 20+55 | 0.5750 | 0.01 | Q | \| | \| | \| | V\| |
| 21+ 0 | 0.5751 | 0.01 | Q | \| | \| | \| | V\| |
| 21+ 5 | 0.5752 | 0.01 | Q | \| | \| | \| | V\| |
| 21+10 | 0.5753 | 0.01 | Q | \| | \| | \| | V\| |
| 21+15 | 0.5754 | 0.02 | Q | \| | \| | \| | V\| |
| 21+20 | 0.5755 | 0.01 | Q | \| | \| | \| | V\| |
| 21+25 | 0.5755 | 0.01 | Q | \| | \| | \| | V\| |
| 21+30 | 0.5756 | 0.01 | Q | \| | \| | \| | V\| |
| 21+35 | 0.5757 | 0.01 | Q | \| | \| | \| | V\| |
| 21+40 | 0.5758 | 0.02 | Q | \| | \| | \| | V\| |
| 21+45 | 0.5759 | 0.02 | Q | \| | \| | \| | V\| |
| 21+50 | 0.5760 | 0.01 | Q | \| | \| | \| | V\| |
| 21+55 | 0.5761 | 0.01 | Q | \| | \| | \| | V\| |
| 22+ 0 | 0.5761 | 0.01 | Q | \| | \| | \| | V\| |
| 22+ 5 | 0.5762 | 0.01 | Q | \| | \| | \| | V\| |
| 22+10 | 0.5764 | 0.02 | Q | \| | \| | \| | V\| |
| 22+15 | 0.5765 | 0.02 | Q | \| | \| | \| | V\| |
| 22+20 | 0.5766 | 0.01 | Q | \| | \| | \| | V\| |
| 22+25 | 0.5767 | 0.01 | Q | \| | \| | \| | V\| |
| 22+30 | 0.5767 | 0.01 | Q | \| | \| | \| | V\| |
| 22+35 | 0.5768 | 0.01 | Q | \| | \| | \| | V\| |
| 22+40 | 0.5769 | 0.01 | Q | \| | \| | \| | V\| |
| 22+45 | 0.5769 | 0.01 | Q | \| | \| | \| | V\| |
| 22+50 | 0.5770 | 0.01 | Q | \| | \| | \| | V\| |
| 22+55 | 0.5770 | 0.01 | Q | \| | \| | \| | V\| |
| 23+ 0 | 0.5771 | 0.01 | Q | \| | \| | \| | V\| |
| 23+ 5 | 0.5772 | 0.01 | Q | \| | \| | \| | V\| |
| 23+10 | 0.5772 | 0.01 | Q | \| | \| | \| | V\| |
| 23+15 | 0.5773 | 0.01 | Q | \| | \| | \| | V\| |
| 23+20 | 0.5774 | 0.01 | Q | \| | \| | \| | V\| |
| 23+25 | 0.5774 | 0.01 | Q | \| | \| | \| | V\| |
| 23+30 | 0.5775 | 0.01 | Q | \| | \| | \| | V\| |
| 23+35 | 0.5775 | 0.01 | Q | \| | \| | \| | V\| |
| 23+40 | 0.5776 | 0.01 | Q | \| | \| | \| | V\| |
| 23+45 | 0.5777 | 0.01 | Q | \| | \| | \| | V\| |
| 23+50 | 0.5777 | 0.01 | Q | \| | \| | \| | V\| |
| 23+55 | 0.5778 | 0.01 | Q | \| | \| | \| | V\| |
| 24+ 0 | 0.5779 | 0.01 | Q | \| | \| | \| | V\| |
| 24+ 5 | 0.5779 | 0.00 | Q | \| | \| | \| | V\| |
| 24+10 | 0.5779 | 0.00 | Q | \| | \| | \| | V\| |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX181100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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164469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 18
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 0.90(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.90(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 378.00(Ft.)
Length along longest watercourse measured to centroid = 130.00(Ft.)
Length along longest watercourse = 0.072 Mi.
Length along longest watercourse measured to centroid = 0.025 Mi.
Difference in elevation = 108.00(Ft.)
Slope along watercourse = 1508.5714 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.019 Hr.
Lag time = 1.13 Min.
25% of lag time = 0.28 Min.
40% of lag time = 0.45 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.90 | 0.49 | 0.44 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.90 | 1.20 | 1.08 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.490(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.900 | 84.00 | 0.000 |

Total Area Entered = 0.90(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

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| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 443.530 | 70.316 | 0.638 |
| 2 0.167 | 887.061 | 29.684 | 0.269 |
| | Sum = 100.000 | Sum= | 0.907 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 4.20 | 0.605 | 0.086 | ( 0.544) | 0.519 |
| 2 0.17 | 4.30 | 0.619 | 0.086 | ( 0.557) | 0.533 |
| 3 0.25 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 4 0.33 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 5 0.42 | 5.80 | 0.835 | 0.086 | ( 0.752) | 0.749 |
| 6 0.50 | 6.50 | 0.936 | 0.086 | ( 0.842) | 0.850 |
| 7 0.58 | 7.40 | 1.066 | 0.086 | ( 0.959) | 0.980 |
| 8 0.67 | 8.60 | 1.238 | 0.086 | ( 1.115) | 1.153 |
| 9 0.75 | 12.30 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 10 0.83 | 29.10 | 4.190 | 0.086 | ( 3.771) | 4.105 |
| 11 0.92 | 6.80 | 0.979 | 0.086 | ( 0.881) | 0.893 |
| 12 1.00 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 13.4 |

Flood volume = Effective rainfall 1.11(In)
times area 0.9(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.006(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 3640.1 Cubic Feet
Total soil loss = 280.3 Cubic Feet

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Peak flow rate of this hydrograph = 3.073(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0023 | 0.33 | Q | | | | |
| 0+10 | 0.0056 | 0.48 | QV | | | | |
| 0+15 | 0.0094 | 0.55 | Q V | | | | |
| 0+20 | 0.0133 | 0.58 | Q V | | | | |
| 0+25 | 0.0178 | 0.65 | Q V | | | | |
| 0+30 | 0.0229 | 0.74 | Q V | | | | |
| 0+35 | 0.0288 | 0.85 | Q V | | | | |
| 0+40 | 0.0357 | 1.00 | Q V | | | | |
| 0+45 | 0.0452 | 1.39 | Q V | | | | |
| 0+50 | 0.0664 | 3.07 | Q V | | | | |
| 0+55 | 0.0779 | 1.68 | Q V | | | | |
| 1+ 0 | 0.0824 | 0.65 | Q V | | | | |
| 1+ 5 | 0.0836 | 0.17 | Q V | | | | |

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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX183100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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164469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 18
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.90(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.90(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 378.00(Ft.)
Length along longest watercourse measured to centroid = 130.00(Ft.)
Length along longest watercourse = 0.072 Mi.
Length along longest watercourse measured to centroid = 0.025 Mi.
Difference in elevation = 108.00(Ft.)
Slope along watercourse = 1508.5714 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.019 Hr.
Lag time = 1.13 Min.
25% of lag time = 0.28 Min.
40% of lag time = 0.45 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.90 | 0.80 | 0.72 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.90 | 1.80 | 1.62 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.900 | 84.00 | 0.000 |

Total Area Entered = 0.90(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 443.530 | 70.316 | 0.638 |
| 2 0.167 | 887.061 | 29.684 | 0.269 |
| | | Sum = 100.000 Sum= | 0.907 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 1.30 | 0.281 | 0.086 | ( 0.253) | 0.195 |
| 2 0.17 | 1.30 | 0.281 | 0.086 | ( 0.253) | 0.195 |
| 3 0.25 | 1.10 | 0.238 | 0.086 | ( 0.214) | 0.152 |
| 4 0.33 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 5 0.42 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 6 0.50 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 7 0.58 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 8 0.67 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 9 0.75 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 10 0.83 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 11 0.92 | 1.60 | 0.346 | 0.086 | ( 0.311) | 0.260 |
| 12 1.00 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 13 1.08 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 14 1.17 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 15 1.25 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 16 1.33 | 2.00 | 0.432 | 0.086 | ( 0.389) | 0.346 |
| 17 1.42 | 2.60 | 0.562 | 0.086 | ( 0.505) | 0.476 |
| 18 1.50 | 2.70 | 0.583 | 0.086 | ( 0.525) | 0.497 |
| 19 1.58 | 2.40 | 0.518 | 0.086 | ( 0.467) | 0.433 |
| 20 1.67 | 2.70 | 0.583 | 0.086 | ( 0.525) | 0.497 |
| 21 1.75 | 3.30 | 0.713 | 0.086 | ( 0.642) | 0.627 |
| 22 1.83 | 3.10 | 0.670 | 0.086 | ( 0.603) | 0.584 |
| 23 1.92 | 2.90 | 0.626 | 0.086 | ( 0.564) | 0.541 |
| 24 2.00 | 3.00 | 0.648 | 0.086 | ( 0.583) | 0.562 |
| 25 2.08 | 3.10 | 0.670 | 0.086 | ( 0.603) | 0.584 |
| 26 2.17 | 4.20 | 0.907 | 0.086 | ( 0.816) | 0.821 |
| 27 2.25 | 5.00 | 1.080 | 0.086 | ( 0.972) | 0.994 |
| 28 2.33 | 3.50 | 0.756 | 0.086 | ( 0.680) | 0.670 |
| 29 2.42 | 6.80 | 1.469 | 0.086 | ( 1.322) | 1.383 |
| 30 2.50 | 7.30 | 1.577 | 0.086 | ( 1.419) | 1.491 |
| 31 2.58 | 8.20 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 32 2.67 | 5.90 | 1.274 | 0.086 | ( 1.147) | 1.189 |
| 33 2.75 | 2.00 | 0.432 | 0.086 | ( 0.389) | 0.346 |
| 34 2.83 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 35 2.92 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 36 3.00 | 0.60 | 0.130 | 0.086 | ( 0.117) | 0.044 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 18.5 |

Flood volume = Effective rainfall 1.54(In)
times area 0.9(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.019(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 5039.7 Cubic Feet
Total soil loss = 840.9 Cubic Feet

Peak flow rate of this hydrograph = 1.477(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0009 | 0.12 | Q | | | | |
| 0+10 | 0.0021 | 0.18 | Q | | | | |
| 0+15 | 0.0031 | 0.15 | QV | | | | |
| 0+20 | 0.0044 | 0.19 | QV | | | | |
| 0+25 | 0.0059 | 0.22 | Q V | | | | |
| 0+30 | 0.0077 | 0.26 | \|QV | | | | |
| 0+35 | 0.0093 | 0.23 | Q V | | | | |
| 0+40 | 0.0111 | 0.26 | \|Q V | | | | |
| 0+45 | 0.0130 | 0.27 | \|Q V | | | | |
| 0+50 | 0.0146 | 0.23 | Q V | | | | |
| 0+55 | 0.0162 | 0.23 | Q V | | | | |
| 1+ 0 | 0.0180 | 0.26 | \|Q V | | | | |
| 1+ 5 | 0.0203 | 0.33 | \|Q V | | | | |
| 1+10 | 0.0227 | 0.35 | \|Q V | | | | |
| 1+15 | 0.0251 | 0.35 | \|Q V | | | | |
| 1+20 | 0.0274 | 0.33 | \|Q V | | | | |
| 1+25 | 0.0301 | 0.40 | \|Q V | | | | |
| 1+30 | 0.0332 | 0.45 | \|Q V | | | | |
| 1+35 | 0.0360 | 0.41 | \|Q V | | | | |
| 1+40 | 0.0390 | 0.43 | \|Q V | | | | |
| 1+45 | 0.0427 | 0.53 | \| Q V | | | | |
| 1+50 | 0.0464 | 0.54 | \| Q V | | | | |
| 1+55 | 0.0498 | 0.50 | \| Q V | | | | |
| 2+ 0 | 0.0533 | 0.50 | \| Q V | | | | |
| 2+ 5 | 0.0569 | 0.52 | \| Q V | | | | |
| 2+10 | 0.0616 | 0.68 | \| Q V | | | | |
| 2+15 | 0.0675 | 0.86 | \| Q V | | | | |
| 2+20 | 0.0723 | 0.70 | \| Q V | | | | |
| 2+25 | 0.0796 | 1.06 | \| Q V | | | | |
| 2+30 | 0.0887 | 1.32 | \| Q V | | | | |
| 2+35 | 0.0989 | 1.48 | \| Q V | | | | |
| 2+40 | 0.1073 | 1.21 | \| Q V | | | | |
| 2+45 | 0.1110 | 0.54 | \| Q V | | | | |
| 2+50 | 0.1130 | 0.29 | \|Q V | | | | |
| 2+55 | 0.1149 | 0.27 | \|Q V | | | | |
| 3+ 0 | 0.1156 | 0.11 | Q V | | | | |
| 3+ 5 | 0.1157 | 0.01 | Q V | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX186100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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164469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 18
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 0.90(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.90(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 378.00(Ft.)
Length along longest watercourse measured to centroid = 130.00(Ft.)
Length along longest watercourse = 0.072 Mi.
Length along longest watercourse measured to centroid = 0.025 Mi.
Difference in elevation = 108.00(Ft.)
Slope along watercourse = 1508.5714 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.019 Hr.
Lag time = 1.13 Min.
25% of lag time = 0.28 Min.
40% of lag time = 0.45 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.90 | 1.12 | 1.01 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.90 | 2.50 | 2.25 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.120(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.900 | 84.00 | 0.000 |

Total Area Entered = 0.90(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 443.530 | 70.316 | 0.638 |
| 2 0.167 | 887.061 | 29.684 | 0.269 |
| | | Sum = 100.000 Sum= | 0.907 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 0.50 | 0.150 | 0.086 | ( 0.135) | 0.064 |
| 2 0.17 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 3 0.25 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 4 0.33 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 5 0.42 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 6 0.50 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 7 0.58 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 8 0.67 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 9 0.75 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 10 0.83 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 11 0.92 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 12 1.00 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 13 1.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 14 1.17 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 15 1.25 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 16 1.33 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 17 1.42 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 18 1.50 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 19 1.58 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 20 1.67 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 21 1.75 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 22 1.83 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 23 1.92 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 24 2.00 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 25 2.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 26 2.17 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 27 2.25 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 28 2.33 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 29 2.42 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 30 2.50 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 31 2.58 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 32 2.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 33 2.75 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 34 2.83 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 35 2.92 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 36 3.00 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 37 3.08 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 38 3.17 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 39 3.25 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 40 3.33 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 41 3.42 | 1.20 | 0.360 | 0.086 | ( 0.324) | 0.274 |
| 42 3.50 | 1.30 | 0.390 | 0.086 | ( 0.351) | 0.304 |
| 43 3.58 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 44 3.67 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 45 3.75 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 46 3.83 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 47 3.92 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 48 4.00 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 49 4.08 | 1.70 | 0.510 | 0.086 | ( 0.459) | 0.424 |
| 50 4.17 | 1.80 | 0.540 | 0.086 | ( 0.486) | 0.454 |
| 51 4.25 | 1.90 | 0.570 | 0.086 | ( 0.513) | 0.484 |
| 52 4.33 | 2.00 | 0.600 | 0.086 | ( 0.540) | 0.514 |
| 53 4.42 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 |
| 54 4.50 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 55 | 4.58 | 2.20 | 0.660 | 0.086 | ( 0.594) | | 0.574 |
| 56 | 4.67 | 2.30 | 0.690 | 0.086 | ( 0.621) | | 0.604 |
| 57 | 4.75 | 2.40 | 0.720 | 0.086 | ( 0.648) | | 0.634 |
| 58 | 4.83 | 2.40 | 0.720 | 0.086 | ( 0.648) | | 0.634 |
| 59 | 4.92 | 2.50 | 0.750 | 0.086 | ( 0.675) | | 0.664 |
| 60 | 5.00 | 2.60 | 0.780 | 0.086 | ( 0.702) | | 0.694 |
| 61 | 5.08 | 3.10 | 0.930 | 0.086 | ( 0.837) | | 0.844 |
| 62 | 5.17 | 3.60 | 1.080 | 0.086 | ( 0.972) | | 0.994 |
| 63 | 5.25 | 3.90 | 1.170 | 0.086 | ( 1.053) | | 1.084 |
| 64 | 5.33 | 4.20 | 1.260 | 0.086 | ( 1.134) | | 1.174 |
| 65 | 5.42 | 4.70 | 1.410 | 0.086 | ( 1.269) | | 1.324 |
| 66 | 5.50 | 5.60 | 1.680 | 0.086 | ( 1.512) | | 1.594 |
| 67 | 5.58 | 1.90 | 0.570 | 0.086 | ( 0.513) | | 0.484 |
| 68 | 5.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | | 0.184 |
| 69 | 5.75 | 0.60 | 0.180 | 0.086 | ( 0.162) | | 0.094 |
| 70 | 5.83 | 0.50 | 0.150 | 0.086 | ( 0.135) | | 0.064 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.086) | 0.081 | | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.086) | 0.054 | | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.9

Flood volume = Effective rainfall 1.99(In)
times area 0.9(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.51(In)
Total soil loss = 0.038(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 6495.6 Cubic Feet
Total soil loss = 1671.9 Cubic Feet

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Peak flow rate of this hydrograph = 1.374(CFS)

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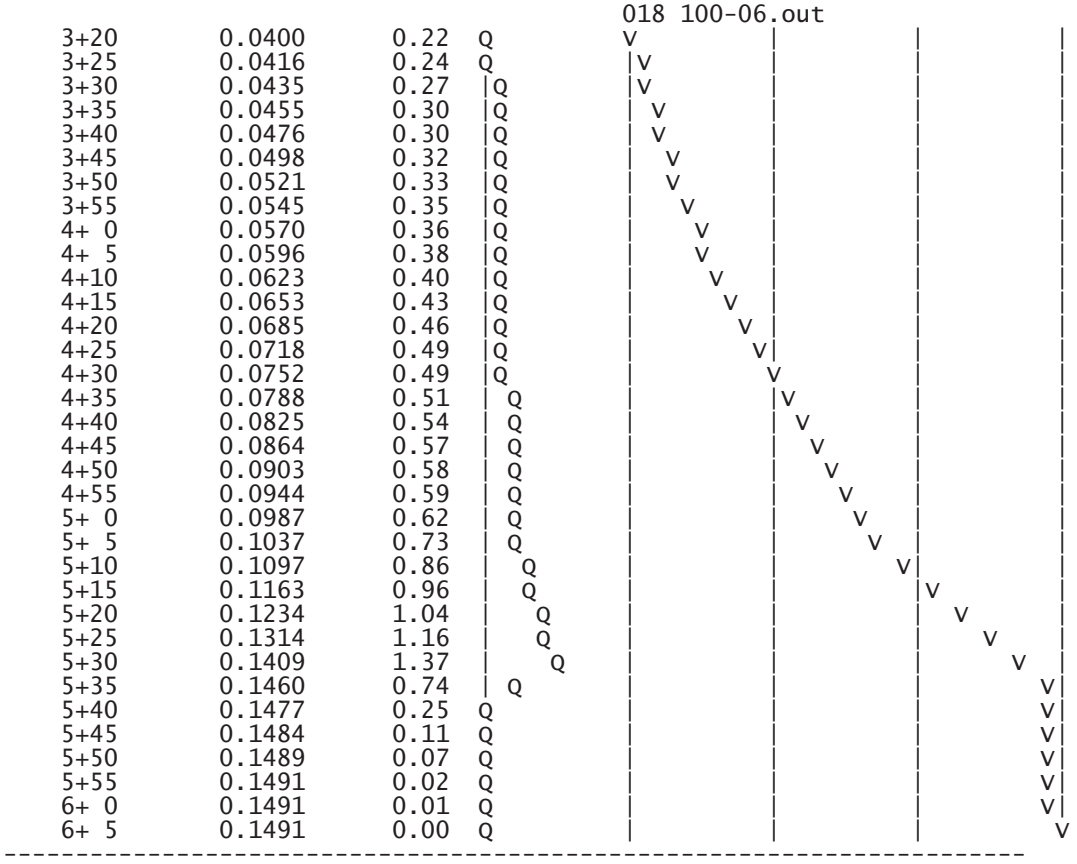
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0003 | 0.04 | Q | | | | |
| 0+10 | 0.0008 | 0.08 | Q | | | | |
| 0+15 | 0.0014 | 0.09 | Q | | | | |
| 0+20 | 0.0020 | 0.09 | Q | | | | |
| 0+25 | 0.0026 | 0.09 | Q | | | | |
| 0+30 | 0.0033 | 0.10 | Q | | | | |
| 0+35 | 0.0041 | 0.11 | QV | | | | |
| 0+40 | 0.0049 | 0.11 | QV | | | | |
| 0+45 | 0.0056 | 0.11 | QV | | | | |
| 0+50 | 0.0064 | 0.11 | QV | | | | |
| 0+55 | 0.0072 | 0.11 | QV | | | | |
| 1+ 0 | 0.0081 | 0.13 | Q V | | | | |
| 1+ 5 | 0.0091 | 0.14 | Q V | | | | |
| 1+10 | 0.0100 | 0.14 | Q V | | | | |
| 1+15 | 0.0110 | 0.14 | Q V | | | | |
| 1+20 | 0.0119 | 0.14 | Q V | | | | |
| 1+25 | 0.0129 | 0.14 | Q V | | | | |
| 1+30 | 0.0139 | 0.14 | Q V | | | | |
| 1+35 | 0.0148 | 0.14 | Q V | | | | |
| 1+40 | 0.0158 | 0.14 | Q V | | | | |
| 1+45 | 0.0168 | 0.14 | Q V | | | | |
| 1+50 | 0.0177 | 0.14 | Q V | | | | |
| 1+55 | 0.0187 | 0.14 | Q V | | | | |
| 2+ 0 | 0.0198 | 0.16 | Q V | | | | |
| 2+ 5 | 0.0208 | 0.15 | Q V | | | | |
| 2+10 | 0.0219 | 0.16 | Q V | | | | |
| 2+15 | 0.0231 | 0.17 | Q V | | | | |
| 2+20 | 0.0242 | 0.17 | Q V | | | | |
| 2+25 | 0.0254 | 0.17 | Q V | | | | |
| 2+30 | 0.0265 | 0.17 | Q V | | | | |
| 2+35 | 0.0277 | 0.17 | Q V | | | | |
| 2+40 | 0.0288 | 0.17 | Q V | | | | |
| 2+45 | 0.0301 | 0.19 | Q V | | | | |
| 2+50 | 0.0314 | 0.19 | Q V | | | | |
| 2+55 | 0.0328 | 0.19 | Q V | | | | |
| 3+ 0 | 0.0341 | 0.19 | Q V | | | | |
| 3+ 5 | 0.0354 | 0.19 | Q V | | | | |
| 3+10 | 0.0369 | 0.21 | Q V | | | | |
| 3+15 | 0.0384 | 0.22 | Q V | | | | |



| | | | |
|---|---|---|---|
| 3+20 | 0.0400 | 0.22 | Q |
| 3+25 | 0.0416 | 0.24 | Q |
| 3+30 | 0.0435 | 0.27 | Q |
| 3+35 | 0.0455 | 0.30 | Q |
| 3+40 | 0.0476 | 0.30 | Q |
| 3+45 | 0.0498 | 0.32 | Q |
| 3+50 | 0.0521 | 0.33 | Q |
| 3+55 | 0.0545 | 0.35 | Q |
| 4+ 0 | 0.0570 | 0.36 | Q |
| 4+ 5 | 0.0596 | 0.38 | Q |
| 4+10 | 0.0623 | 0.40 | Q |
| 4+15 | 0.0653 | 0.43 | Q |
| 4+20 | 0.0685 | 0.46 | Q |
| 4+25 | 0.0718 | 0.49 | Q |
| 4+30 | 0.0752 | 0.49 | Q |
| 4+35 | 0.0788 | 0.51 | Q |
| 4+40 | 0.0825 | 0.54 | Q |
| 4+45 | 0.0864 | 0.57 | Q |
| 4+50 | 0.0903 | 0.58 | Q |
| 4+55 | 0.0944 | 0.59 | Q |
| 5+ 0 | 0.0987 | 0.62 | Q |
| 5+ 5 | 0.1037 | 0.73 | Q |
| 5+10 | 0.1097 | 0.86 | Q |
| 5+15 | 0.1163 | 0.96 | Q |
| 5+20 | 0.1234 | 1.04 | Q |
| 5+25 | 0.1314 | 1.16 | Q |
| 5+30 | 0.1409 | 1.37 | Q |
| 5+35 | 0.1460 | 0.74 | Q |
| 5+40 | 0.1477 | 0.25 | Q |
| 5+45 | 0.1484 | 0.11 | Q |
| 5+50 | 0.1489 | 0.07 | Q |
| 5+55 | 0.1491 | 0.02 | Q |
| 6+ 0 | 0.1491 | 0.01 | Q |
| 6+ 5 | 0.1491 | 0.00 | Q |

U n i t  H y d r o g r a p h  A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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164469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 18
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 0.90(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.90(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 378.00(Ft.)
Length along longest watercourse measured to centroid = 130.00(Ft.)
Length along longest watercourse = 0.072 Mi.
Length along longest watercourse measured to centroid = 0.025 Mi.
Difference in elevation = 108.00(Ft.)
Slope along watercourse = 1508.5714 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.019 Hr.
Lag time = 1.13 Min.
25% of lag time = 0.28 Min.
40% of lag time = 0.45 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.90 | 1.80 | 1.62 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.90 | 4.50 | 4.05 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.500(In)

Point rain (area averaged) = 4.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.900 | 84.00 | 0.000 |

Total Area Entered = 0.90(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086
Minimum soil loss rate ((In/Hr)) = 0.043

(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 443.530 | 70.316 | 0.638 |
| 2 | 0.167 | 887.061 | 29.684 | 0.269 |
| | | | Sum = 100.000 Sum= | 0.907 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.036 | ( 0.152) | 0.032 | 0.004 |
| 2 | 0.17 | 0.07 | 0.036 | ( 0.152) | 0.032 | 0.004 |
| 3 | 0.25 | 0.07 | 0.036 | ( 0.151) | 0.032 | 0.004 |
| 4 | 0.33 | 0.10 | 0.054 | ( 0.150) | 0.049 | 0.005 |
| 5 | 0.42 | 0.10 | 0.054 | ( 0.150) | 0.049 | 0.005 |
| 6 | 0.50 | 0.10 | 0.054 | ( 0.149) | 0.049 | 0.005 |
| 7 | 0.58 | 0.10 | 0.054 | ( 0.149) | 0.049 | 0.005 |
| 8 | 0.67 | 0.10 | 0.054 | ( 0.148) | 0.049 | 0.005 |
| 9 | 0.75 | 0.10 | 0.054 | ( 0.147) | 0.049 | 0.005 |
| 10 | 0.83 | 0.13 | 0.072 | ( 0.147) | 0.065 | 0.007 |
| 11 | 0.92 | 0.13 | 0.072 | ( 0.146) | 0.065 | 0.007 |
| 12 | 1.00 | 0.13 | 0.072 | ( 0.146) | 0.065 | 0.007 |
| 13 | 1.08 | 0.10 | 0.054 | ( 0.145) | 0.049 | 0.005 |
| 14 | 1.17 | 0.10 | 0.054 | ( 0.145) | 0.049 | 0.005 |
| 15 | 1.25 | 0.10 | 0.054 | ( 0.144) | 0.049 | 0.005 |
| 16 | 1.33 | 0.10 | 0.054 | ( 0.143) | 0.049 | 0.005 |
| 17 | 1.42 | 0.10 | 0.054 | ( 0.143) | 0.049 | 0.005 |
| 18 | 1.50 | 0.10 | 0.054 | ( 0.142) | 0.049 | 0.005 |
| 19 | 1.58 | 0.10 | 0.054 | ( 0.142) | 0.049 | 0.005 |
| 20 | 1.67 | 0.10 | 0.054 | ( 0.141) | 0.049 | 0.005 |
| 21 | 1.75 | 0.10 | 0.054 | ( 0.141) | 0.049 | 0.005 |
| 22 | 1.83 | 0.13 | 0.072 | ( 0.140) | 0.065 | 0.007 |
| 23 | 1.92 | 0.13 | 0.072 | ( 0.139) | 0.065 | 0.007 |
| 24 | 2.00 | 0.13 | 0.072 | ( 0.139) | 0.065 | 0.007 |
| 25 | 2.08 | 0.13 | 0.072 | ( 0.138) | 0.065 | 0.007 |
| 26 | 2.17 | 0.13 | 0.072 | ( 0.138) | 0.065 | 0.007 |
| 27 | 2.25 | 0.13 | 0.072 | ( 0.137) | 0.065 | 0.007 |
| 28 | 2.33 | 0.13 | 0.072 | ( 0.137) | 0.065 | 0.007 |
| 29 | 2.42 | 0.13 | 0.072 | ( 0.136) | 0.065 | 0.007 |
| 30 | 2.50 | 0.13 | 0.072 | ( 0.136) | 0.065 | 0.007 |
| 31 | 2.58 | 0.17 | 0.090 | ( 0.135) | 0.081 | 0.009 |
| 32 | 2.67 | 0.17 | 0.090 | ( 0.134) | 0.081 | 0.009 |
| 33 | 2.75 | 0.17 | 0.090 | ( 0.134) | 0.081 | 0.009 |
| 34 | 2.83 | 0.17 | 0.090 | ( 0.133) | 0.081 | 0.009 |
| 35 | 2.92 | 0.17 | 0.090 | ( 0.133) | 0.081 | 0.009 |
| 36 | 3.00 | 0.17 | 0.090 | ( 0.132) | 0.081 | 0.009 |
| 37 | 3.08 | 0.17 | 0.090 | ( 0.132) | 0.081 | 0.009 |
| 38 | 3.17 | 0.17 | 0.090 | ( 0.131) | 0.081 | 0.009 |
| 39 | 3.25 | 0.17 | 0.090 | ( 0.131) | 0.081 | 0.009 |
| 40 | 3.33 | 0.17 | 0.090 | ( 0.130) | 0.081 | 0.009 |
| 41 | 3.42 | 0.17 | 0.090 | ( 0.129) | 0.081 | 0.009 |
| 42 | 3.50 | 0.17 | 0.090 | ( 0.129) | 0.081 | 0.009 |
| 43 | 3.58 | 0.17 | 0.090 | ( 0.128) | 0.081 | 0.009 |
| 44 | 3.67 | 0.17 | 0.090 | ( 0.128) | 0.081 | 0.009 |
| 45 | 3.75 | 0.17 | 0.090 | ( 0.127) | 0.081 | 0.009 |
| 46 | 3.83 | 0.20 | 0.108 | ( 0.127) | 0.097 | 0.011 |
| 47 | 3.92 | 0.20 | 0.108 | ( 0.126) | 0.097 | 0.011 |
| 48 | 4.00 | 0.20 | 0.108 | ( 0.126) | 0.097 | 0.011 |
| 49 | 4.08 | 0.20 | 0.108 | ( 0.125) | 0.097 | 0.011 |
| 50 | 4.17 | 0.20 | 0.108 | ( 0.125) | 0.097 | 0.011 |
| 51 | 4.25 | 0.20 | 0.108 | ( 0.124) | 0.097 | 0.011 |
| 52 | 4.33 | 0.23 | 0.126 | ( 0.124) | 0.113 | 0.013 |
| 53 | 4.42 | 0.23 | 0.126 | ( 0.123) | 0.113 | 0.013 |
| 54 | 4.50 | 0.23 | 0.126 | ( 0.123) | 0.113 | 0.013 |
| 55 | 4.58 | 0.23 | 0.126 | ( 0.122) | 0.113 | 0.013 |
| 56 | 4.67 | 0.23 | 0.126 | ( 0.121) | 0.113 | 0.013 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 57 | 4.75 | 0.23 | 0.126 | ( 0.121) | 0.113 | 0.013 |
| 58 | 4.83 | 0.27 | 0.144 | 0.120 | ( 0.130) | 0.024 |
| 59 | 4.92 | 0.27 | 0.144 | 0.120 | ( 0.130) | 0.024 |
| 60 | 5.00 | 0.27 | 0.144 | 0.119 | ( 0.130) | 0.025 |
| 61 | 5.08 | 0.20 | 0.108 | ( 0.119) | 0.097 | 0.011 |
| 62 | 5.17 | 0.20 | 0.108 | ( 0.118) | 0.097 | 0.011 |
| 63 | 5.25 | 0.20 | 0.108 | ( 0.118) | 0.097 | 0.011 |
| 64 | 5.33 | 0.23 | 0.126 | ( 0.117) | 0.113 | 0.013 |
| 65 | 5.42 | 0.23 | 0.126 | ( 0.117) | 0.113 | 0.013 |
| 66 | 5.50 | 0.23 | 0.126 | ( 0.116) | 0.113 | 0.013 |
| 67 | 5.58 | 0.27 | 0.144 | 0.116 | ( 0.130) | 0.028 |
| 68 | 5.67 | 0.27 | 0.144 | 0.115 | ( 0.130) | 0.029 |
| 69 | 5.75 | 0.27 | 0.144 | 0.115 | ( 0.130) | 0.029 |
| 70 | 5.83 | 0.27 | 0.144 | 0.114 | ( 0.130) | 0.030 |
| 71 | 5.92 | 0.27 | 0.144 | 0.114 | ( 0.130) | 0.030 |
| 72 | 6.00 | 0.27 | 0.144 | 0.113 | ( 0.130) | 0.031 |
| 73 | 6.08 | 0.30 | 0.162 | 0.113 | ( 0.146) | 0.049 |
| 74 | 6.17 | 0.30 | 0.162 | 0.112 | ( 0.146) | 0.050 |
| 75 | 6.25 | 0.30 | 0.162 | 0.112 | ( 0.146) | 0.050 |
| 76 | 6.33 | 0.30 | 0.162 | 0.111 | ( 0.146) | 0.051 |
| 77 | 6.42 | 0.30 | 0.162 | 0.111 | ( 0.146) | 0.051 |
| 78 | 6.50 | 0.30 | 0.162 | 0.110 | ( 0.146) | 0.052 |
| 79 | 6.58 | 0.33 | 0.180 | 0.110 | ( 0.162) | 0.070 |
| 80 | 6.67 | 0.33 | 0.180 | 0.109 | ( 0.162) | 0.071 |
| 81 | 6.75 | 0.33 | 0.180 | 0.109 | ( 0.162) | 0.071 |
| 82 | 6.83 | 0.33 | 0.180 | 0.108 | ( 0.162) | 0.072 |
| 83 | 6.92 | 0.33 | 0.180 | 0.108 | ( 0.162) | 0.072 |
| 84 | 7.00 | 0.33 | 0.180 | 0.107 | ( 0.162) | 0.073 |
| 85 | 7.08 | 0.33 | 0.180 | 0.107 | ( 0.162) | 0.073 |
| 86 | 7.17 | 0.33 | 0.180 | 0.106 | ( 0.162) | 0.074 |
| 87 | 7.25 | 0.33 | 0.180 | 0.106 | ( 0.162) | 0.074 |
| 88 | 7.33 | 0.37 | 0.198 | 0.105 | ( 0.178) | 0.093 |
| 89 | 7.42 | 0.37 | 0.198 | 0.105 | ( 0.178) | 0.093 |
| 90 | 7.50 | 0.37 | 0.198 | 0.104 | ( 0.178) | 0.094 |
| 91 | 7.58 | 0.40 | 0.216 | 0.104 | ( 0.194) | 0.112 |
| 92 | 7.67 | 0.40 | 0.216 | 0.103 | ( 0.194) | 0.113 |
| 93 | 7.75 | 0.40 | 0.216 | 0.103 | ( 0.194) | 0.113 |
| 94 | 7.83 | 0.43 | 0.234 | 0.102 | ( 0.211) | 0.132 |
| 95 | 7.92 | 0.43 | 0.234 | 0.102 | ( 0.211) | 0.132 |
| 96 | 8.00 | 0.43 | 0.234 | 0.102 | ( 0.211) | 0.132 |
| 97 | 8.08 | 0.50 | 0.270 | 0.101 | ( 0.243) | 0.169 |
| 98 | 8.17 | 0.50 | 0.270 | 0.101 | ( 0.243) | 0.169 |
| 99 | 8.25 | 0.50 | 0.270 | 0.100 | ( 0.243) | 0.170 |
| 100 | 8.33 | 0.50 | 0.270 | 0.100 | ( 0.243) | 0.170 |
| 101 | 8.42 | 0.50 | 0.270 | 0.099 | ( 0.243) | 0.171 |
| 102 | 8.50 | 0.50 | 0.270 | 0.099 | ( 0.243) | 0.171 |
| 103 | 8.58 | 0.53 | 0.288 | 0.098 | ( 0.259) | 0.190 |
| 104 | 8.67 | 0.53 | 0.288 | 0.098 | ( 0.259) | 0.190 |
| 105 | 8.75 | 0.53 | 0.288 | 0.097 | ( 0.259) | 0.191 |
| 106 | 8.83 | 0.57 | 0.306 | 0.097 | ( 0.275) | 0.209 |
| 107 | 8.92 | 0.57 | 0.306 | 0.096 | ( 0.275) | 0.210 |
| 108 | 9.00 | 0.57 | 0.306 | 0.096 | ( 0.275) | 0.210 |
| 109 | 9.08 | 0.63 | 0.342 | 0.096 | ( 0.308) | 0.246 |
| 110 | 9.17 | 0.63 | 0.342 | 0.095 | ( 0.308) | 0.247 |
| 111 | 9.25 | 0.63 | 0.342 | 0.095 | ( 0.308) | 0.247 |
| 112 | 9.33 | 0.67 | 0.360 | 0.094 | ( 0.324) | 0.266 |
| 113 | 9.42 | 0.67 | 0.360 | 0.094 | ( 0.324) | 0.266 |
| 114 | 9.50 | 0.67 | 0.360 | 0.093 | ( 0.324) | 0.267 |
| 115 | 9.58 | 0.70 | 0.378 | 0.093 | ( 0.340) | 0.285 |
| 116 | 9.67 | 0.70 | 0.378 | 0.092 | ( 0.340) | 0.286 |
| 117 | 9.75 | 0.70 | 0.378 | 0.092 | ( 0.340) | 0.286 |
| 118 | 9.83 | 0.73 | 0.396 | 0.091 | ( 0.356) | 0.305 |
| 119 | 9.92 | 0.73 | 0.396 | 0.091 | ( 0.356) | 0.305 |
| 120 | 10.00 | 0.73 | 0.396 | 0.091 | ( 0.356) | 0.305 |
| 121 | 10.08 | 0.50 | 0.270 | 0.090 | ( 0.243) | 0.180 |
| 122 | 10.17 | 0.50 | 0.270 | 0.090 | ( 0.243) | 0.180 |
| 123 | 10.25 | 0.50 | 0.270 | 0.089 | ( 0.243) | 0.181 |
| 124 | 10.33 | 0.50 | 0.270 | 0.089 | ( 0.243) | 0.181 |
| 125 | 10.42 | 0.50 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 126 | 10.50 | 0.50 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 127 | 10.58 | 0.67 | 0.360 | 0.088 | ( 0.324) | 0.272 |
| 128 | 10.67 | 0.67 | 0.360 | 0.087 | ( 0.324) | 0.273 |
| 129 | 10.75 | 0.67 | 0.360 | 0.087 | ( 0.324) | 0.273 |
| 130 | 10.83 | 0.67 | 0.360 | 0.086 | ( 0.324) | 0.274 |
| 131 | 10.92 | 0.67 | 0.360 | 0.086 | ( 0.324) | 0.274 |
| 132 | 11.00 | 0.67 | 0.360 | 0.085 | ( 0.324) | 0.275 |
| 133 | 11.08 | 0.63 | 0.342 | 0.085 | ( 0.308) | 0.257 |
| 134 | 11.17 | 0.63 | 0.342 | 0.085 | ( 0.308) | 0.257 |
| 135 | 11.25 | 0.63 | 0.342 | 0.084 | ( 0.308) | 0.258 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 136 | 11.33 | 0.63 | 0.342 | 0.084 | ( 0.308) | 0.258 |
| 137 | 11.42 | 0.63 | 0.342 | 0.083 | ( 0.308) | 0.259 |
| 138 | 11.50 | 0.63 | 0.342 | 0.083 | ( 0.308) | 0.259 |
| 139 | 11.58 | 0.57 | 0.306 | 0.083 | ( 0.275) | 0.223 |
| 140 | 11.67 | 0.57 | 0.306 | 0.082 | ( 0.275) | 0.224 |
| 141 | 11.75 | 0.57 | 0.306 | 0.082 | ( 0.275) | 0.224 |
| 142 | 11.83 | 0.60 | 0.324 | 0.081 | ( 0.292) | 0.243 |
| 143 | 11.92 | 0.60 | 0.324 | 0.081 | ( 0.292) | 0.243 |
| 144 | 12.00 | 0.60 | 0.324 | 0.080 | ( 0.292) | 0.244 |
| 145 | 12.08 | 0.83 | 0.450 | 0.080 | ( 0.405) | 0.370 |
| 146 | 12.17 | 0.83 | 0.450 | 0.080 | ( 0.405) | 0.370 |
| 147 | 12.25 | 0.83 | 0.450 | 0.079 | ( 0.405) | 0.371 |
| 148 | 12.33 | 0.87 | 0.468 | 0.079 | ( 0.421) | 0.389 |
| 149 | 12.42 | 0.87 | 0.468 | 0.078 | ( 0.421) | 0.390 |
| 150 | 12.50 | 0.87 | 0.468 | 0.078 | ( 0.421) | 0.390 |
| 151 | 12.58 | 0.93 | 0.504 | 0.078 | ( 0.454) | 0.426 |
| 152 | 12.67 | 0.93 | 0.504 | 0.077 | ( 0.454) | 0.427 |
| 153 | 12.75 | 0.93 | 0.504 | 0.077 | ( 0.454) | 0.427 |
| 154 | 12.83 | 0.97 | 0.522 | 0.077 | ( 0.470) | 0.445 |
| 155 | 12.92 | 0.97 | 0.522 | 0.076 | ( 0.470) | 0.446 |
| 156 | 13.00 | 0.97 | 0.522 | 0.076 | ( 0.470) | 0.446 |
| 157 | 13.08 | 1.13 | 0.612 | 0.075 | ( 0.551) | 0.537 |
| 158 | 13.17 | 1.13 | 0.612 | 0.075 | ( 0.551) | 0.537 |
| 159 | 13.25 | 1.13 | 0.612 | 0.075 | ( 0.551) | 0.537 |
| 160 | 13.33 | 1.13 | 0.612 | 0.074 | ( 0.551) | 0.538 |
| 161 | 13.42 | 1.13 | 0.612 | 0.074 | ( 0.551) | 0.538 |
| 162 | 13.50 | 1.13 | 0.612 | 0.073 | ( 0.551) | 0.539 |
| 163 | 13.58 | 0.77 | 0.414 | 0.073 | ( 0.373) | 0.341 |
| 164 | 13.67 | 0.77 | 0.414 | 0.073 | ( 0.373) | 0.341 |
| 165 | 13.75 | 0.77 | 0.414 | 0.072 | ( 0.373) | 0.342 |
| 166 | 13.83 | 0.77 | 0.414 | 0.072 | ( 0.373) | 0.342 |
| 167 | 13.92 | 0.77 | 0.414 | 0.072 | ( 0.373) | 0.342 |
| 168 | 14.00 | 0.77 | 0.414 | 0.071 | ( 0.373) | 0.343 |
| 169 | 14.08 | 0.90 | 0.486 | 0.071 | ( 0.437) | 0.415 |
| 170 | 14.17 | 0.90 | 0.486 | 0.071 | ( 0.437) | 0.415 |
| 171 | 14.25 | 0.90 | 0.486 | 0.070 | ( 0.437) | 0.416 |
| 172 | 14.33 | 0.87 | 0.468 | 0.070 | ( 0.421) | 0.398 |
| 173 | 14.42 | 0.87 | 0.468 | 0.069 | ( 0.421) | 0.399 |
| 174 | 14.50 | 0.87 | 0.468 | 0.069 | ( 0.421) | 0.399 |
| 175 | 14.58 | 0.87 | 0.468 | 0.069 | ( 0.421) | 0.399 |
| 176 | 14.67 | 0.87 | 0.468 | 0.068 | ( 0.421) | 0.400 |
| 177 | 14.75 | 0.87 | 0.468 | 0.068 | ( 0.421) | 0.400 |
| 178 | 14.83 | 0.83 | 0.450 | 0.068 | ( 0.405) | 0.382 |
| 179 | 14.92 | 0.83 | 0.450 | 0.067 | ( 0.405) | 0.383 |
| 180 | 15.00 | 0.83 | 0.450 | 0.067 | ( 0.405) | 0.383 |
| 181 | 15.08 | 0.80 | 0.432 | 0.067 | ( 0.389) | 0.365 |
| 182 | 15.17 | 0.80 | 0.432 | 0.066 | ( 0.389) | 0.366 |
| 183 | 15.25 | 0.80 | 0.432 | 0.066 | ( 0.389) | 0.366 |
| 184 | 15.33 | 0.77 | 0.414 | 0.066 | ( 0.373) | 0.348 |
| 185 | 15.42 | 0.77 | 0.414 | 0.065 | ( 0.373) | 0.349 |
| 186 | 15.50 | 0.77 | 0.414 | 0.065 | ( 0.373) | 0.349 |
| 187 | 15.58 | 0.63 | 0.342 | 0.065 | ( 0.308) | 0.277 |
| 188 | 15.67 | 0.63 | 0.342 | 0.064 | ( 0.308) | 0.278 |
| 189 | 15.75 | 0.63 | 0.342 | 0.064 | ( 0.308) | 0.278 |
| 190 | 15.83 | 0.63 | 0.342 | 0.064 | ( 0.308) | 0.278 |
| 191 | 15.92 | 0.63 | 0.342 | 0.063 | ( 0.308) | 0.279 |
| 192 | 16.00 | 0.63 | 0.342 | 0.063 | ( 0.308) | 0.279 |
| 193 | 16.08 | 0.13 | 0.072 | 0.063 | ( 0.065) | 0.009 |
| 194 | 16.17 | 0.13 | 0.072 | 0.062 | ( 0.065) | 0.010 |
| 195 | 16.25 | 0.13 | 0.072 | 0.062 | ( 0.065) | 0.010 |
| 196 | 16.33 | 0.13 | 0.072 | 0.062 | ( 0.065) | 0.010 |
| 197 | 16.42 | 0.13 | 0.072 | 0.061 | ( 0.065) | 0.011 |
| 198 | 16.50 | 0.13 | 0.072 | 0.061 | ( 0.065) | 0.011 |
| 199 | 16.58 | 0.10 | 0.054 | ( 0.061) | 0.049 | 0.005 |
| 200 | 16.67 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 201 | 16.75 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 202 | 16.83 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 203 | 16.92 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 204 | 17.00 | 0.10 | 0.054 | ( 0.059) | 0.049 | 0.005 |
| 205 | 17.08 | 0.17 | 0.090 | 0.059 | ( 0.081) | 0.031 |
| 206 | 17.17 | 0.17 | 0.090 | 0.059 | ( 0.081) | 0.031 |
| 207 | 17.25 | 0.17 | 0.090 | 0.058 | ( 0.081) | 0.032 |
| 208 | 17.33 | 0.17 | 0.090 | 0.058 | ( 0.081) | 0.032 |
| 209 | 17.42 | 0.17 | 0.090 | 0.058 | ( 0.081) | 0.032 |
| 210 | 17.50 | 0.17 | 0.090 | 0.058 | ( 0.081) | 0.032 |
| 211 | 17.58 | 0.17 | 0.090 | 0.057 | ( 0.081) | 0.033 |
| 212 | 17.67 | 0.17 | 0.090 | 0.057 | ( 0.081) | 0.033 |
| 213 | 17.75 | 0.17 | 0.090 | 0.057 | ( 0.081) | 0.033 |
| 214 | 17.83 | 0.13 | 0.072 | 0.056 | ( 0.065) | 0.016 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 215 | 17.92 | 0.13 | 0.072 | | 0.056 | ( | 0.065) | 0.016 |
| 216 | 18.00 | 0.13 | 0.072 | | 0.056 | ( | 0.065) | 0.016 |
| 217 | 18.08 | 0.13 | 0.072 | | 0.056 | ( | 0.065) | 0.016 |
| 218 | 18.17 | 0.13 | 0.072 | | 0.055 | ( | 0.065) | 0.017 |
| 219 | 18.25 | 0.13 | 0.072 | | 0.055 | ( | 0.065) | 0.017 |
| 220 | 18.33 | 0.13 | 0.072 | | 0.055 | ( | 0.065) | 0.017 |
| 221 | 18.42 | 0.13 | 0.072 | | 0.054 | ( | 0.065) | 0.018 |
| 222 | 18.50 | 0.13 | 0.072 | | 0.054 | ( | 0.065) | 0.018 |
| 223 | 18.58 | 0.10 | 0.054 | ( | 0.054) | | 0.049 | 0.005 |
| 224 | 18.67 | 0.10 | 0.054 | ( | 0.054) | | 0.049 | 0.005 |
| 225 | 18.75 | 0.10 | 0.054 | ( | 0.053) | | 0.049 | 0.005 |
| 226 | 18.83 | 0.07 | 0.036 | ( | 0.053) | | 0.032 | 0.004 |
| 227 | 18.92 | 0.07 | 0.036 | ( | 0.053) | | 0.032 | 0.004 |
| 228 | 19.00 | 0.07 | 0.036 | ( | 0.053) | | 0.032 | 0.004 |
| 229 | 19.08 | 0.10 | 0.054 | ( | 0.052) | | 0.049 | 0.005 |
| 230 | 19.17 | 0.10 | 0.054 | ( | 0.052) | | 0.049 | 0.005 |
| 231 | 19.25 | 0.10 | 0.054 | ( | 0.052) | | 0.049 | 0.005 |
| 232 | 19.33 | 0.13 | 0.072 | | 0.052 | ( | 0.065) | 0.020 |
| 233 | 19.42 | 0.13 | 0.072 | | 0.051 | ( | 0.065) | 0.021 |
| 234 | 19.50 | 0.13 | 0.072 | | 0.051 | ( | 0.065) | 0.021 |
| 235 | 19.58 | 0.10 | 0.054 | ( | 0.051) | | 0.049 | 0.005 |
| 236 | 19.67 | 0.10 | 0.054 | ( | 0.051) | | 0.049 | 0.005 |
| 237 | 19.75 | 0.10 | 0.054 | ( | 0.050) | | 0.049 | 0.005 |
| 238 | 19.83 | 0.07 | 0.036 | ( | 0.050) | | 0.032 | 0.004 |
| 239 | 19.92 | 0.07 | 0.036 | ( | 0.050) | | 0.032 | 0.004 |
| 240 | 20.00 | 0.07 | 0.036 | ( | 0.050) | | 0.032 | 0.004 |
| 241 | 20.08 | 0.10 | 0.054 | ( | 0.050) | | 0.049 | 0.005 |
| 242 | 20.17 | 0.10 | 0.054 | ( | 0.049) | | 0.049 | 0.005 |
| 243 | 20.25 | 0.10 | 0.054 | ( | 0.049) | | 0.049 | 0.005 |
| 244 | 20.33 | 0.10 | 0.054 | ( | 0.049) | | 0.049 | 0.005 |
| 245 | 20.42 | 0.10 | 0.054 | ( | 0.049) | | 0.049 | 0.005 |
| 246 | 20.50 | 0.10 | 0.054 | | 0.049 | ( | 0.049) | 0.005 |
| 247 | 20.58 | 0.10 | 0.054 | | 0.048 | ( | 0.049) | 0.006 |
| 248 | 20.67 | 0.10 | 0.054 | | 0.048 | ( | 0.049) | 0.006 |
| 249 | 20.75 | 0.10 | 0.054 | | 0.048 | ( | 0.049) | 0.006 |
| 250 | 20.83 | 0.07 | 0.036 | ( | 0.048) | | 0.032 | 0.004 |
| 251 | 20.92 | 0.07 | 0.036 | ( | 0.048) | | 0.032 | 0.004 |
| 252 | 21.00 | 0.07 | 0.036 | ( | 0.047) | | 0.032 | 0.004 |
| 253 | 21.08 | 0.10 | 0.054 | | 0.047 | ( | 0.049) | 0.007 |
| 254 | 21.17 | 0.10 | 0.054 | | 0.047 | ( | 0.049) | 0.007 |
| 255 | 21.25 | 0.10 | 0.054 | | 0.047 | ( | 0.049) | 0.007 |
| 256 | 21.33 | 0.07 | 0.036 | ( | 0.047) | | 0.032 | 0.004 |
| 257 | 21.42 | 0.07 | 0.036 | ( | 0.046) | | 0.032 | 0.004 |
| 258 | 21.50 | 0.07 | 0.036 | ( | 0.046) | | 0.032 | 0.004 |
| 259 | 21.58 | 0.10 | 0.054 | | 0.046 | ( | 0.049) | 0.008 |
| 260 | 21.67 | 0.10 | 0.054 | | 0.046 | ( | 0.049) | 0.008 |
| 261 | 21.75 | 0.10 | 0.054 | | 0.046 | ( | 0.049) | 0.008 |
| 262 | 21.83 | 0.07 | 0.036 | ( | 0.046) | | 0.032 | 0.004 |
| 263 | 21.92 | 0.07 | 0.036 | ( | 0.045) | | 0.032 | 0.004 |
| 264 | 22.00 | 0.07 | 0.036 | ( | 0.045) | | 0.032 | 0.004 |
| 265 | 22.08 | 0.10 | 0.054 | | 0.045 | ( | 0.049) | 0.009 |
| 266 | 22.17 | 0.10 | 0.054 | | 0.045 | ( | 0.049) | 0.009 |
| 267 | 22.25 | 0.10 | 0.054 | | 0.045 | ( | 0.049) | 0.009 |
| 268 | 22.33 | 0.07 | 0.036 | ( | 0.045) | | 0.032 | 0.004 |
| 269 | 22.42 | 0.07 | 0.036 | ( | 0.045) | | 0.032 | 0.004 |
| 270 | 22.50 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 271 | 22.58 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 272 | 22.67 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 273 | 22.75 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 274 | 22.83 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 275 | 22.92 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 276 | 23.00 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 277 | 23.08 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 278 | 23.17 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 279 | 23.25 | 0.07 | 0.036 | ( | 0.043) | | 0.032 | 0.004 |
| 280 | 23.33 | 0.07 | 0.036 | ( | 0.043) | | 0.032 | 0.004 |
| 281 | 23.42 | 0.07 | 0.036 | ( | 0.043) | | 0.032 | 0.004 |
| 282 | 23.50 | 0.07 | 0.036 | ( | 0.043) | | 0.032 | 0.004 |
| 283 | 23.58 | 0.07 | 0.036 | ( | 0.043) | | 0.032 | 0.004 |
| 284 | 23.67 | 0.07 | 0.036 | ( | 0.043) | | 0.032 | 0.004 |
| 285 | 23.75 | 0.07 | 0.036 | ( | 0.043) | | 0.032 | 0.004 |
| 286 | 23.83 | 0.07 | 0.036 | ( | 0.043) | | 0.032 | 0.004 |
| 287 | 23.92 | 0.07 | 0.036 | ( | 0.043) | | 0.032 | 0.004 |
| 288 | 24.00 | 0.07 | 0.036 | ( | 0.043) | | 0.032 | 0.004 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 33.6

Flood volume = Effective rainfall 2.80(In)
times area 0.9(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 1.70(In)

Total soil loss = 0.127(Ac.Ft)
Total rainfall = 4.50(In)
Flood volume = 9151.8 Cubic Feet
Total soil loss = 5549.7 Cubic Feet

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Peak flow rate of this hydrograph = 0.489(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0000 | 0.00 | Q | | | | |
| 0+10 | 0.0000 | 0.00 | Q | | | | |
| 0+15 | 0.0001 | 0.00 | Q | | | | |
| 0+20 | 0.0001 | 0.00 | Q | | | | |
| 0+25 | 0.0001 | 0.00 | Q | | | | |
| 0+30 | 0.0002 | 0.00 | Q | | | | |
| 0+35 | 0.0002 | 0.00 | Q | | | | |
| 0+40 | 0.0002 | 0.00 | Q | | | | |
| 0+45 | 0.0003 | 0.00 | Q | | | | |
| 0+50 | 0.0003 | 0.01 | Q | | | | |
| 0+55 | 0.0003 | 0.01 | Q | | | | |
| 1+ 0 | 0.0004 | 0.01 | Q | | | | |
| 1+ 5 | 0.0004 | 0.01 | Q | | | | |
| 1+10 | 0.0005 | 0.00 | Q | | | | |
| 1+15 | 0.0005 | 0.00 | Q | | | | |
| 1+20 | 0.0005 | 0.00 | Q | | | | |
| 1+25 | 0.0006 | 0.00 | Q | | | | |
| 1+30 | 0.0006 | 0.00 | Q | | | | |
| 1+35 | 0.0006 | 0.00 | Q | | | | |
| 1+40 | 0.0007 | 0.00 | Q | | | | |
| 1+45 | 0.0007 | 0.00 | Q | | | | |
| 1+50 | 0.0007 | 0.01 | Q | | | | |
| 1+55 | 0.0008 | 0.01 | Q | | | | |
| 2+ 0 | 0.0008 | 0.01 | Q | | | | |
| 2+ 5 | 0.0009 | 0.01 | Q | | | | |
| 2+10 | 0.0009 | 0.01 | Q | | | | |
| 2+15 | 0.0010 | 0.01 | Q | | | | |
| 2+20 | 0.0010 | 0.01 | Q | | | | |
| 2+25 | 0.0011 | 0.01 | Q | | | | |
| 2+30 | 0.0011 | 0.01 | Q | | | | |
| 2+35 | 0.0012 | 0.01 | Q | | | | |
| 2+40 | 0.0012 | 0.01 | Q | | | | |
| 2+45 | 0.0013 | 0.01 | Q | | | | |
| 2+50 | 0.0013 | 0.01 | Q | | | | |
| 2+55 | 0.0014 | 0.01 | Q | | | | |
| 3+ 0 | 0.0014 | 0.01 | Q | | | | |
| 3+ 5 | 0.0015 | 0.01 | Q | | | | |
| 3+10 | 0.0015 | 0.01 | Q | | | | |
| 3+15 | 0.0016 | 0.01 | Q | | | | |
| 3+20 | 0.0017 | 0.01 | Q | | | | |
| 3+25 | 0.0017 | 0.01 | Q | | | | |
| 3+30 | 0.0018 | 0.01 | Q | | | | |
| 3+35 | 0.0018 | 0.01 | Q | | | | |
| 3+40 | 0.0019 | 0.01 | Q | | | | |
| 3+45 | 0.0019 | 0.01 | Q | | | | |
| 3+50 | 0.0020 | 0.01 | Q | | | | |
| 3+55 | 0.0021 | 0.01 | Q | | | | |
| 4+ 0 | 0.0021 | 0.01 | Q | | | | |
| 4+ 5 | 0.0022 | 0.01 | Q | | | | |
| 4+10 | 0.0023 | 0.01 | Q | | | | |
| 4+15 | 0.0023 | 0.01 | Q | | | | |
| 4+20 | 0.0024 | 0.01 | Q | | | | |
| 4+25 | 0.0025 | 0.01 | Q | | | | |
| 4+30 | 0.0026 | 0.01 | Q | | | | |
| 4+35 | 0.0027 | 0.01 | Q | | | | |
| 4+40 | 0.0027 | 0.01 | Q | | | | |
| 4+45 | 0.0028 | 0.01 | Q | | | | |
| 4+50 | 0.0029 | 0.02 | Q | | | | |
| 4+55 | 0.0031 | 0.02 | Q | | | | |
| 5+ 0 | 0.0032 | 0.02 | Q | | | | |
| 5+ 5 | 0.0033 | 0.01 | Q | | | | |
| 5+10 | 0.0034 | 0.01 | Q | | | | |
| 5+15 | 0.0035 | 0.01 | Q | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 5+20 | 0.0035 | 0.01 | Q | \| | \| | \| | \| |
| 5+25 | 0.0036 | 0.01 | Q | \| | \| | \| | \| |
| 5+30 | 0.0037 | 0.01 | Q | \| | \| | \| | \| |
| 5+35 | 0.0038 | 0.02 | Q | \| | \| | \| | \| |
| 5+40 | 0.0040 | 0.03 | Q | \| | \| | \| | \| |
| 5+45 | 0.0042 | 0.03 | Q | \| | \| | \| | \| |
| 5+50 | 0.0044 | 0.03 | Q | \| | \| | \| | \| |
| 5+55 | 0.0046 | 0.03 | Q | \| | \| | \| | \| |
| 6+ 0 | 0.0048 | 0.03 | Q | \| | \| | \| | \| |
| 6+ 5 | 0.0050 | 0.04 | Q | \| | \| | \| | \| |
| 6+10 | 0.0054 | 0.05 | QV | \| | \| | \| | \| |
| 6+15 | 0.0057 | 0.05 | QV | \| | \| | \| | \| |
| 6+20 | 0.0060 | 0.05 | QV | \| | \| | \| | \| |
| 6+25 | 0.0063 | 0.05 | QV | \| | \| | \| | \| |
| 6+30 | 0.0066 | 0.05 | QV | \| | \| | \| | \| |
| 6+35 | 0.0070 | 0.06 | QV | \| | \| | \| | \| |
| 6+40 | 0.0075 | 0.06 | QV | \| | \| | \| | \| |
| 6+45 | 0.0079 | 0.06 | QV | \| | \| | \| | \| |
| 6+50 | 0.0084 | 0.06 | QV | \| | \| | \| | \| |
| 6+55 | 0.0088 | 0.07 | QV | \| | \| | \| | \| |
| 7+ 0 | 0.0093 | 0.07 | QV | \| | \| | \| | \| |
| 7+ 5 | 0.0097 | 0.07 | QV | \| | \| | \| | \| |
| 7+10 | 0.0102 | 0.07 | QV | \| | \| | \| | \| |
| 7+15 | 0.0106 | 0.07 | Q V | \| | \| | \| | \| |
| 7+20 | 0.0112 | 0.08 | Q V | \| | \| | \| | \| |
| 7+25 | 0.0118 | 0.08 | Q V | \| | \| | \| | \| |
| 7+30 | 0.0124 | 0.08 | Q V | \| | \| | \| | \| |
| 7+35 | 0.0130 | 0.10 | Q V | \| | \| | \| | \| |
| 7+40 | 0.0137 | 0.10 | Q V | \| | \| | \| | \| |
| 7+45 | 0.0144 | 0.10 | Q V | \| | \| | \| | \| |
| 7+50 | 0.0152 | 0.11 | Q V | \| | \| | \| | \| |
| 7+55 | 0.0160 | 0.12 | Q  V | \| | \| | \| | \| |
| 8+ 0 | 0.0169 | 0.12 | Q  V | \| | \| | \| | \| |
| 8+ 5 | 0.0179 | 0.14 | Q  V | \| | \| | \| | \| |
| 8+10 | 0.0189 | 0.15 | Q  V | \| | \| | \| | \| |
| 8+15 | 0.0200 | 0.15 | Q  V | \| | \| | \| | \| |
| 8+20 | 0.0210 | 0.15 | Q   V | \| | \| | \| | \| |
| 8+25 | 0.0221 | 0.15 | Q   V | \| | \| | \| | \| |
| 8+30 | 0.0232 | 0.16 | Q   V | \| | \| | \| | \| |
| 8+35 | 0.0243 | 0.17 | Q   V | \| | \| | \| | \| |
| 8+40 | 0.0255 | 0.17 | Q   V | \| | \| | \| | \| |
| 8+45 | 0.0267 | 0.17 | Q    V | \| | \| | \| | \| |
| 8+50 | 0.0280 | 0.18 | Q    V | \| | \| | \| | \| |
| 8+55 | 0.0293 | 0.19 | Q    V | \| | \| | \| | \| |
| 9+ 0 | 0.0306 | 0.19 | Q    V | \| | \| | \| | \| |
| 9+ 5 | 0.0321 | 0.21 | Q     V | \| | \| | \| | \| |
| 9+10 | 0.0336 | 0.22 | Q     V | \| | \| | \| | \| |
| 9+15 | 0.0352 | 0.22 | Q     V | \| | \| | \| | \| |
| 9+20 | 0.0368 | 0.24 | Q      V | \| | \| | \| | \| |
| 9+25 | 0.0385 | 0.24 | Q      V | \| | \| | \| | \| |
| 9+30 | 0.0401 | 0.24 | Q      V | \| | \| | \| | \| |
| 9+35 | 0.0419 | 0.25 | \|Q     V | \| | \| | \| | \| |
| 9+40 | 0.0437 | 0.26 | \|Q      V | \| | \| | \| | \| |
| 9+45 | 0.0454 | 0.26 | \|Q      V | \| | \| | \| | \| |
| 9+50 | 0.0473 | 0.27 | \|Q       V\| | \| | \| | \| |
| 9+55 | 0.0492 | 0.28 | \|Q       V\| | \| | \| | \| |
| 10+ 0 | 0.0511 | 0.28 | \|Q       V\| | \| | \| | \| |
| 10+ 5 | 0.0525 | 0.20 | Q        V\| | \| | \| | \| |
| 10+10 | 0.0536 | 0.16 | Q         V | \| | \| | \| |
| 10+15 | 0.0547 | 0.16 | Q         V | \| | \| | \| |
| 10+20 | 0.0559 | 0.16 | Q         V | \| | \| | \| |
| 10+25 | 0.0570 | 0.16 | Q         V | \| | \| | \| |
| 10+30 | 0.0581 | 0.17 | Q         \|V | \| | \| | \| |
| 10+35 | 0.0597 | 0.22 | Q         \|V | \| | \| | \| |
| 10+40 | 0.0614 | 0.25 | Q         \|V | \| | \| | \| |
| 10+45 | 0.0631 | 0.25 | Q          \| V | \| | \| | \| |
| 10+50 | 0.0648 | 0.25 | Q          \| V | \| | \| | \| |
| 10+55 | 0.0665 | 0.25 | Q          \| V | \| | \| | \| |
| 11+ 0 | 0.0682 | 0.25 | Q          \| V | \| | \| | \| |
| 11+ 5 | 0.0699 | 0.24 | Q          \|  V | \| | \| | \| |
| 11+10 | 0.0715 | 0.23 | Q          \|  V | \| | \| | \| |
| 11+15 | 0.0731 | 0.23 | Q          \|  V | \| | \| | \| |
| 11+20 | 0.0747 | 0.23 | Q          \|   V | \| | \| | \| |
| 11+25 | 0.0763 | 0.23 | Q          \|   V | \| | \| | \| |
| 11+30 | 0.0779 | 0.23 | Q          \|   V | \| | \| | \| |
| 11+35 | 0.0794 | 0.21 | Q          \|    V | \| | \| | \| |
| 11+40 | 0.0808 | 0.20 | Q          \|    V | \| | \| | \| |
| 11+45 | 0.0822 | 0.20 | Q          \|    V | \| | \| | \| |
| 11+50 | 0.0837 | 0.22 | Q          \|    V | \| | \| | \| |

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11+55       0.0852      0.22  Q          |     V    |          |          |
12+ 0       0.0867      0.22  Q          |     V    |          |          |
12+ 5       0.0888      0.30  |Q         |     V    |          |          |
12+10       0.0911      0.34  |Q         |      V   |          |          |
12+15       0.0934      0.34  |Q         |      V   |          |          |
12+20       0.0958      0.35  |Q         |       V  |          |          |
12+25       0.0982      0.35  |Q         |       V  |          |          |
12+30       0.1007      0.35  |Q         |        V |          |          |
12+35       0.1033      0.38  |Q         |        V |          |          |
12+40       0.1059      0.39  |Q         |         V|          |          |
12+45       0.1086      0.39  |Q         |         V|          |          |
12+50       0.1114      0.40  |Q         |          |V         |          |
12+55       0.1142      0.40  |Q         |          |V         |          |
13+ 0       0.1169      0.40  |Q         |          | V        |          |
13+ 5       0.1201      0.46  |Q         |          | V        |          |
13+10       0.1235      0.49  |Q         |          |  V       |          |
13+15       0.1268      0.49  |Q         |          |   V      |          |
13+20       0.1302      0.49  |Q         |          |   V      |          |
13+25       0.1336      0.49  |Q         |          |    V     |          |
13+30       0.1369      0.49  |Q         |          |     V    |          |
13+35       0.1394      0.36  |Q         |          |     V    |          |
13+40       0.1416      0.31  |Q         |          |     V    |          |
13+45       0.1437      0.31  |Q         |          |      V   |          |
13+50       0.1458      0.31  |Q         |          |      V   |          |
13+55       0.1480      0.31  |Q         |          |       V  |          |
14+ 0       0.1501      0.31  |Q         |          |       V  |          |
14+ 5       0.1526      0.36  |Q         |          |        V |          |
14+10       0.1552      0.38  |Q         |          |        V |          |
14+15       0.1578      0.38  |Q         |          |         V|          |
14+20       0.1603      0.37  |Q         |          |         V|          |
14+25       0.1628      0.36  |Q         |          |         V|          |
14+30       0.1653      0.36  |Q         |          |          |V         |
14+35       0.1678      0.36  |Q         |          |          |V         |
14+40       0.1703      0.36  |Q         |          |          | V        |
14+45       0.1728      0.36  |Q         |          |          | V        |
14+50       0.1752      0.35  |Q         |          |          |  V       |
14+55       0.1776      0.35  |Q         |          |          |  V       |
15+ 0       0.1800      0.35  |Q         |          |          |   V      |
15+ 5       0.1823      0.34  |Q         |          |          |   V      |
15+10       0.1846      0.33  |Q         |          |          |    V     |
15+15       0.1868      0.33  |Q         |          |          |    V     |
15+20       0.1891      0.32  |Q         |          |          |    V     |
15+25       0.1912      0.32  |Q         |          |          |     V    |
15+30       0.1934      0.32  |Q         |          |          |     V    |
15+35       0.1953      0.27  |Q         |          |          |      V   |
15+40       0.1970      0.25  |Q         |          |          |      V   |
15+45       0.1988      0.25  |Q         |          |          |      V   |
15+50       0.2005      0.25  |Q         |          |          |       V  |
15+55       0.2022      0.25  |Q         |          |          |       V  |
16+ 0       0.2040      0.25  |Q         |          |          |       V  |
16+ 5       0.2045      0.08  Q          |          |          |       V  |
16+10       0.2046      0.01  Q          |          |          |       V  |
16+15       0.2047      0.01  Q          |          |          |       V  |
16+20       0.2047      0.01  Q          |          |          |       V  |
16+25       0.2048      0.01  Q          |          |          |       V  |
16+30       0.2049      0.01  Q          |          |          |        V |
16+35       0.2049      0.01  Q          |          |          |        V |
16+40       0.2049      0.00  Q          |          |          |        V |
16+45       0.2050      0.00  Q          |          |          |        V |
16+50       0.2050      0.00  Q          |          |          |        V |
16+55       0.2050      0.00  Q          |          |          |        V |
17+ 0       0.2051      0.00  Q          |          |          |        V |
17+ 5       0.2052      0.02  Q          |          |          |        V |
17+10       0.2054      0.03  Q          |          |          |        V |
17+15       0.2056      0.03  Q          |          |          |        V |
17+20       0.2058      0.03  Q          |          |          |        V |
17+25       0.2060      0.03  Q          |          |          |        V |
17+30       0.2062      0.03  Q          |          |          |        V |
17+35       0.2064      0.03  Q          |          |          |        V |
17+40       0.2066      0.03  Q          |          |          |        V |
17+45       0.2068      0.03  Q          |          |          |        V |
17+50       0.2070      0.02  Q          |          |          |        V |
17+55       0.2071      0.01  Q          |          |          |        V |
18+ 0       0.2072      0.01  Q          |          |          |        V |
18+ 5       0.2073      0.01  Q          |          |          |        V |
18+10       0.2074      0.02  Q          |          |          |        V |
18+15       0.2075      0.02  Q          |          |          |        V |
18+20       0.2076      0.02  Q          |          |          |        V |
18+25       0.2077      0.02  Q          |          |          |        V |
```

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 18+30 | 0.2078 | 0.02 | Q | \| | \| | \| | V\| |
| 18+35 | 0.2079 | 0.01 | Q | \| | \| | \| | V\| |
| 18+40 | 0.2079 | 0.00 | Q | \| | \| | \| | V\| |
| 18+45 | 0.2079 | 0.00 | Q | \| | \| | \| | V\| |
| 18+50 | 0.2079 | 0.00 | Q | \| | \| | \| | V\| |
| 18+55 | 0.2080 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 0 | 0.2080 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 5 | 0.2080 | 0.00 | Q | \| | \| | \| | V\| |
| 19+10 | 0.2081 | 0.00 | Q | \| | \| | \| | V\| |
| 19+15 | 0.2081 | 0.00 | Q | \| | \| | \| | V\| |
| 19+20 | 0.2082 | 0.01 | Q | \| | \| | \| | V\| |
| 19+25 | 0.2083 | 0.02 | Q | \| | \| | \| | V\| |
| 19+30 | 0.2084 | 0.02 | Q | \| | \| | \| | V\| |
| 19+35 | 0.2085 | 0.01 | Q | \| | \| | \| | V\| |
| 19+40 | 0.2085 | 0.00 | Q | \| | \| | \| | V\| |
| 19+45 | 0.2086 | 0.00 | Q | \| | \| | \| | V\| |
| 19+50 | 0.2086 | 0.00 | Q | \| | \| | \| | V\| |
| 19+55 | 0.2086 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 0 | 0.2086 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 5 | 0.2087 | 0.00 | Q | \| | \| | \| | V\| |
| 20+10 | 0.2087 | 0.00 | Q | \| | \| | \| | V\| |
| 20+15 | 0.2087 | 0.00 | Q | \| | \| | \| | V\| |
| 20+20 | 0.2088 | 0.00 | Q | \| | \| | \| | V\| |
| 20+25 | 0.2088 | 0.00 | Q | \| | \| | \| | V\| |
| 20+30 | 0.2088 | 0.00 | Q | \| | \| | \| | V\| |
| 20+35 | 0.2089 | 0.01 | Q | \| | \| | \| | V\| |
| 20+40 | 0.2089 | 0.01 | Q | \| | \| | \| | V\| |
| 20+45 | 0.2090 | 0.01 | Q | \| | \| | \| | V\| |
| 20+50 | 0.2090 | 0.00 | Q | \| | \| | \| | V\| |
| 20+55 | 0.2090 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 0 | 0.2090 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 5 | 0.2091 | 0.01 | Q | \| | \| | \| | V\| |
| 21+10 | 0.2091 | 0.01 | Q | \| | \| | \| | V\| |
| 21+15 | 0.2092 | 0.01 | Q | \| | \| | \| | V\| |
| 21+20 | 0.2092 | 0.00 | Q | \| | \| | \| | V\| |
| 21+25 | 0.2092 | 0.00 | Q | \| | \| | \| | V\| |
| 21+30 | 0.2092 | 0.00 | Q | \| | \| | \| | V\| |
| 21+35 | 0.2093 | 0.01 | Q | \| | \| | \| | V\| |
| 21+40 | 0.2093 | 0.01 | Q | \| | \| | \| | V\| |
| 21+45 | 0.2094 | 0.01 | Q | \| | \| | \| | V\| |
| 21+50 | 0.2094 | 0.00 | Q | \| | \| | \| | V\| |
| 21+55 | 0.2094 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 0 | 0.2094 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 5 | 0.2095 | 0.01 | Q | \| | \| | \| | V\| |
| 22+10 | 0.2095 | 0.01 | Q | \| | \| | \| | V\| |
| 22+15 | 0.2096 | 0.01 | Q | \| | \| | \| | V\| |
| 22+20 | 0.2096 | 0.00 | Q | \| | \| | \| | V\| |
| 22+25 | 0.2097 | 0.00 | Q | \| | \| | \| | V\| |
| 22+30 | 0.2097 | 0.00 | Q | \| | \| | \| | V\| |
| 22+35 | 0.2097 | 0.00 | Q | \| | \| | \| | V\| |
| 22+40 | 0.2097 | 0.00 | Q | \| | \| | \| | V\| |
| 22+45 | 0.2098 | 0.00 | Q | \| | \| | \| | V\| |
| 22+50 | 0.2098 | 0.00 | Q | \| | \| | \| | V\| |
| 22+55 | 0.2098 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 0 | 0.2098 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 5 | 0.2098 | 0.00 | Q | \| | \| | \| | V\| |
| 23+10 | 0.2099 | 0.00 | Q | \| | \| | \| | V\| |
| 23+15 | 0.2099 | 0.00 | Q | \| | \| | \| | V\| |
| 23+20 | 0.2099 | 0.00 | Q | \| | \| | \| | V\| |
| 23+25 | 0.2099 | 0.00 | Q | \| | \| | \| | V\| |
| 23+30 | 0.2100 | 0.00 | Q | \| | \| | \| | V\| |
| 23+35 | 0.2100 | 0.00 | Q | \| | \| | \| | V\| |
| 23+40 | 0.2100 | 0.00 | Q | \| | \| | \| | V\| |
| 23+45 | 0.2100 | 0.00 | Q | \| | \| | \| | V\| |
| 23+50 | 0.2100 | 0.00 | Q | \| | \| | \| | V\| |
| 23+55 | 0.2101 | 0.00 | Q | \| | \| | \| | V\| |
| 24+ 0 | 0.2101 | 0.00 | Q | \| | \| | \| | V\| |
| 24+ 5 | 0.2101 | 0.00 | Q | \| | \| | \| | V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX191100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 19
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 5.20(Ac.) = 0.008 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 5.20(Ac.) = 0.008 Sq. Mi.
Length along longest watercourse = 953.00(Ft.)
Length along longest watercourse measured to centroid = 367.00(Ft.)
Length along longest watercourse = 0.180 Mi.
Length along longest watercourse measured to centroid = 0.070 Mi.
Difference in elevation = 138.00(Ft.)
Slope along watercourse = 764.5750 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.045 Hr.
Lag time = 2.70 Min.
25% of lag time = 0.68 Min.
40% of lag time = 1.08 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 5.20 | 0.49 | 2.55 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 5.20 | 1.20 | 6.24 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.490(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 5.200 | 83.94 | 0.000 |

Total Area Entered = 5.20(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.9 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

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| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 184.911 | 39.118 | 2.050 |
| 2 | 0.167 | 369.822 | 51.410 | 2.694 |
| 3 | 0.250 | 554.733 | 7.987 | 0.419 |
| 4 | 0.333 | 739.644 | 1.485 | 0.078 |
| | | Sum = 100.000 | Sum= | 5.241 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.086 | ( 0.544) | 0.519 |
| 2 | 0.17 | 4.30 | 0.619 | 0.086 | ( 0.557) | 0.533 |
| 3 | 0.25 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 4 | 0.33 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 5 | 0.42 | 5.80 | 0.835 | 0.086 | ( 0.752) | 0.749 |
| 6 | 0.50 | 6.50 | 0.936 | 0.086 | ( 0.842) | 0.850 |
| 7 | 0.58 | 7.40 | 1.066 | 0.086 | ( 0.959) | 0.979 |
| 8 | 0.67 | 8.60 | 1.238 | 0.086 | ( 1.115) | 1.152 |
| 9 | 0.75 | 12.30 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 10 | 0.83 | 29.10 | 4.190 | 0.086 | ( 3.771) | 4.104 |
| 11 | 0.92 | 6.80 | 0.979 | 0.086 | ( 0.881) | 0.893 |
| 12 | 1.00 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 13.4 |

Flood volume = Effective rainfall 1.11(In)
times area 5.2(Ac.)/[(In)/(Ft.)] = 0.5(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.037(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 21021.7 Cubic Feet
Total soil loss = 1628.4 Cubic Feet

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Peak flow rate of this hydrograph = 13.689(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 5.0 | 10.0 | 15.0 | 20.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0073 | 1.06 | V Q | | | | |
| 0+10 | 0.0245 | 2.49 | \| V Q | | | | |
| 0+15 | 0.0448 | 2.95 | \| V Q | | | | |
| 0+20 | 0.0673 | 3.27 | \| VQ | | | | |
| 0+25 | 0.0918 | 3.55 | \| Q | | | | |
| 0+30 | 0.1199 | 4.08 | \| QV | | | | |
| 0+35 | 0.1520 | 4.66 | \| Q\| V | | | | |
| 0+40 | 0.1893 | 5.42 | \| Q V | | | | |
| 0+45 | 0.2378 | 7.04 | \| Q V | | | | |
| 0+50 | 0.3309 | 13.52 | \| Q | | | | |
| 0+55 | 0.4251 | 13.69 | \| Q | | | V | |
| 1+ 0 | 0.4634 | 5.56 | \|Q | | | V | |
| 1+ 5 | 0.4799 | 2.40 | \| Q | | | V | |
| 1+10 | 0.4823 | 0.33 | Q | | | V | |
| 1+15 | 0.4826 | 0.05 | Q | | | V | |

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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX193100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 19
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 5.20(Ac.) = 0.008 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 5.20(Ac.) = 0.008 Sq. Mi.
Length along longest watercourse = 953.00(Ft.)
Length along longest watercourse measured to centroid = 367.00(Ft.)
Length along longest watercourse = 0.180 Mi.
Length along longest watercourse measured to centroid = 0.070 Mi.
Difference in elevation = 138.00(Ft.)
Slope along watercourse = 764.5750 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.045 Hr.
Lag time = 2.70 Min.
25% of lag time = 0.68 Min.
40% of lag time = 1.08 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 5.20 | 0.80 | 4.16 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 5.20 | 1.80 | 9.36 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 5.200 | 83.94 | 0.000 |

Total Area Entered = 5.20(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.9 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 184.911 | 39.118 | 2.050 |
| 2 0.167 | 369.822 | 51.410 | 2.694 |
| 3 0.250 | 554.733 | 7.987 | 0.419 |
| 4 0.333 | 739.644 | 1.485 | 0.078 |
| | | Sum = 100.000 | Sum= 5.241 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.281 | 0.086 | ( 0.253) | 0.195 |
| 2 | 0.17 | 1.30 | 0.281 | 0.086 | ( 0.253) | 0.195 |
| 3 | 0.25 | 1.10 | 0.238 | 0.086 | ( 0.214) | 0.151 |
| 4 | 0.33 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 5 | 0.42 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 6 | 0.50 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 7 | 0.58 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 8 | 0.67 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 9 | 0.75 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 10 | 0.83 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 11 | 0.92 | 1.60 | 0.346 | 0.086 | ( 0.311) | 0.259 |
| 12 | 1.00 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 13 | 1.08 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 14 | 1.17 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 15 | 1.25 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 16 | 1.33 | 2.00 | 0.432 | 0.086 | ( 0.389) | 0.346 |
| 17 | 1.42 | 2.60 | 0.562 | 0.086 | ( 0.505) | 0.475 |
| 18 | 1.50 | 2.70 | 0.583 | 0.086 | ( 0.525) | 0.497 |
| 19 | 1.58 | 2.40 | 0.518 | 0.086 | ( 0.467) | 0.432 |
| 20 | 1.67 | 2.70 | 0.583 | 0.086 | ( 0.525) | 0.497 |
| 21 | 1.75 | 3.30 | 0.713 | 0.086 | ( 0.642) | 0.627 |
| 22 | 1.83 | 3.10 | 0.670 | 0.086 | ( 0.603) | 0.583 |
| 23 | 1.92 | 2.90 | 0.626 | 0.086 | ( 0.564) | 0.540 |
| 24 | 2.00 | 3.00 | 0.648 | 0.086 | ( 0.583) | 0.562 |
| 25 | 2.08 | 3.10 | 0.670 | 0.086 | ( 0.603) | 0.583 |
| 26 | 2.17 | 4.20 | 0.907 | 0.086 | ( 0.816) | 0.821 |
| 27 | 2.25 | 5.00 | 1.080 | 0.086 | ( 0.972) | 0.994 |
| 28 | 2.33 | 3.50 | 0.756 | 0.086 | ( 0.680) | 0.670 |
| 29 | 2.42 | 6.80 | 1.469 | 0.086 | ( 1.322) | 1.382 |
| 30 | 2.50 | 7.30 | 1.577 | 0.086 | ( 1.419) | 1.490 |
| 31 | 2.58 | 8.20 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 32 | 2.67 | 5.90 | 1.274 | 0.086 | ( 1.147) | 1.188 |
| 33 | 2.75 | 2.00 | 0.432 | 0.086 | ( 0.389) | 0.346 |
| 34 | 2.83 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 35 | 2.92 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 36 | 3.00 | 0.60 | 0.130 | 0.086 | ( 0.117) | 0.043 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | | Sum = 18.5 |

Flood volume = Effective rainfall 1.54(In)
times area 5.2(Ac.)/[(In)/(Ft.)] = 0.7(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.112(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 29090.8 Cubic Feet
Total soil loss = 4885.2 Cubic Feet

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Peak flow rate of this hydrograph = 8.105(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0027 | 0.40 | VQ | | | | |
| 0+10 | 0.0091 | 0.92 | V Q | | | | |
| 0+15 | 0.0154 | 0.92 | V Q | | | | |
| 0+20 | 0.0222 | 0.99 | V Q | | | | |
| 0+25 | 0.0306 | 1.21 | V Q | | | | |
| 0+30 | 0.0400 | 1.37 | V Q | | | | |
| 0+35 | 0.0498 | 1.42 | V Q | | | | |
| 0+40 | 0.0595 | 1.41 | V Q | | | | |
| 0+45 | 0.0702 | 1.56 | V Q | | | | |
| 0+50 | 0.0802 | 1.45 | VQ | | | | |
| 0+55 | 0.0893 | 1.32 | Q | | | | |
| 1+ 0 | 0.0992 | 1.44 | Q | | | | |
| 1+ 5 | 0.1112 | 1.74 | Q | | | | |
| 1+10 | 0.1250 | 1.99 | Q | | | | |
| 1+15 | 0.1390 | 2.03 | Q | | | | |
| 1+20 | 0.1524 | 1.95 | Q V | | | | |
| 1+25 | 0.1669 | 2.10 | QV | | | | |
| 1+30 | 0.1839 | 2.48 | Q V | | | | |
| 1+35 | 0.2008 | 2.45 | Q V | | | | |
| 1+40 | 0.2175 | 2.43 | Q V | | | | |
| 1+45 | 0.2371 | 2.84 | Q V | | | | |
| 1+50 | 0.2586 | 3.13 | Q V | | | | |
| 1+55 | 0.2792 | 2.98 | Q V | | | | |
| 2+ 0 | 0.2992 | 2.90 | Q V | | | | |
| 2+ 5 | 0.3197 | 2.98 | Q V | | | | |
| 2+10 | 0.3440 | 3.53 | Q V | | | | |
| 2+15 | 0.3753 | 4.54 | Q V | | | | |
| 2+20 | 0.4059 | 4.44 | Q V | | | | |
| 2+25 | 0.4411 | 5.12 | Q V | | | | |
| 2+30 | 0.4903 | 7.14 | QV | | | | |
| 2+35 | 0.5462 | 8.10 | Q | | | | |
| 2+40 | 0.5993 | 7.71 | Q V | | | | |
| 2+45 | 0.6319 | 4.73 | Q V | | | | |
| 2+50 | 0.6469 | 2.18 | Q V | | | | |
| 2+55 | 0.6584 | 1.67 | Q V | | | | |
| 3+ 0 | 0.6657 | 1.06 | Q V | | | | |
| 3+ 5 | 0.6675 | 0.27 | Q V | | | | |
| 3+10 | 0.6678 | 0.04 | Q V | | | | |
| 3+15 | 0.6678 | 0.00 | Q V | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX196100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 19
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 5.20(Ac.) = 0.008 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 5.20(Ac.) = 0.008 Sq. Mi.
Length along longest watercourse = 953.00(Ft.)
Length along longest watercourse measured to centroid = 367.00(Ft.)
Length along longest watercourse = 0.180 Mi.
Length along longest watercourse measured to centroid = 0.070 Mi.
Difference in elevation = 138.00(Ft.)
Slope along watercourse = 764.5750 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.045 Hr.
Lag time = 2.70 Min.
25% of lag time = 0.68 Min.
40% of lag time = 1.08 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 5.20 | 1.12 | 5.82 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 5.20 | 2.50 | 13.00 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.120(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 5.200 | 83.94 | 0.000 |

Total Area Entered = 5.20(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.9 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 184.911 | 39.118 | 2.050 |
| 2 0.167 | 369.822 | 51.410 | 2.694 |
| 3 0.250 | 554.733 | 7.987 | 0.419 |
| 4 0.333 | 739.644 | 1.485 | 0.078 |
| | | Sum = 100.000 Sum= | 5.241 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.086 | ( 0.135) | 0.064 |
| 2 | 0.17 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 3 | 0.25 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 4 | 0.33 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 5 | 0.42 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 6 | 0.50 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 7 | 0.58 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 8 | 0.67 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 9 | 0.75 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 10 | 0.83 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 11 | 0.92 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 12 | 1.00 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 13 | 1.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 14 | 1.17 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 15 | 1.25 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 16 | 1.33 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 17 | 1.42 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 18 | 1.50 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 19 | 1.58 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 20 | 1.67 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 21 | 1.75 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 22 | 1.83 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 23 | 1.92 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 24 | 2.00 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 25 | 2.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 26 | 2.17 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 27 | 2.25 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 28 | 2.33 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 29 | 2.42 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 30 | 2.50 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 31 | 2.58 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 32 | 2.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 33 | 2.75 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 34 | 2.83 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 35 | 2.92 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 36 | 3.00 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 37 | 3.08 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 38 | 3.17 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 39 | 3.25 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 40 | 3.33 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 41 | 3.42 | 1.20 | 0.360 | 0.086 | ( 0.324) | 0.274 |
| 42 | 3.50 | 1.30 | 0.390 | 0.086 | ( 0.351) | 0.304 |
| 43 | 3.58 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 44 | 3.67 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 45 | 3.75 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 46 | 3.83 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 47 | 3.92 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 48 | 4.00 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 49 | 4.08 | 1.70 | 0.510 | 0.086 | ( 0.459) | 0.424 |
| 50 | 4.17 | 1.80 | 0.540 | 0.086 | ( 0.486) | 0.454 |
| 51 | 4.25 | 1.90 | 0.570 | 0.086 | ( 0.513) | 0.484 |
| 52 | 4.33 | 2.00 | 0.600 | 0.086 | ( 0.540) | 0.514 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 53 | 4.42 | 2.10 | 0.630 | 0.086 | ( 0.567) | | 0.544 |
| 54 | 4.50 | 2.10 | 0.630 | 0.086 | ( 0.567) | | 0.544 |
| 55 | 4.58 | 2.20 | 0.660 | 0.086 | ( 0.594) | | 0.574 |
| 56 | 4.67 | 2.30 | 0.690 | 0.086 | ( 0.621) | | 0.604 |
| 57 | 4.75 | 2.40 | 0.720 | 0.086 | ( 0.648) | | 0.634 |
| 58 | 4.83 | 2.40 | 0.720 | 0.086 | ( 0.648) | | 0.634 |
| 59 | 4.92 | 2.50 | 0.750 | 0.086 | ( 0.675) | | 0.664 |
| 60 | 5.00 | 2.60 | 0.780 | 0.086 | ( 0.702) | | 0.694 |
| 61 | 5.08 | 3.10 | 0.930 | 0.086 | ( 0.837) | | 0.844 |
| 62 | 5.17 | 3.60 | 1.080 | 0.086 | ( 0.972) | | 0.994 |
| 63 | 5.25 | 3.90 | 1.170 | 0.086 | ( 1.053) | | 1.084 |
| 64 | 5.33 | 4.20 | 1.260 | 0.086 | ( 1.134) | | 1.174 |
| 65 | 5.42 | 4.70 | 1.410 | 0.086 | ( 1.269) | | 1.324 |
| 66 | 5.50 | 5.60 | 1.680 | 0.086 | ( 1.512) | | 1.594 |
| 67 | 5.58 | 1.90 | 0.570 | 0.086 | ( 0.513) | | 0.484 |
| 68 | 5.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | | 0.184 |
| 69 | 5.75 | 0.60 | 0.180 | 0.086 | ( 0.162) | | 0.094 |
| 70 | 5.83 | 0.50 | 0.150 | 0.086 | ( 0.135) | | 0.064 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.086) | 0.081 | | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.086) | 0.054 | | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.8

Flood volume = Effective rainfall 1.99(In)
times area 5.2(Ac.)/[(In)/(Ft.)] = 0.9(Ac.Ft)
Total soil loss = 0.51(In)
Total soil loss = 0.223(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 37477.8 Cubic Feet
Total soil loss = 9711.3 Cubic Feet

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Peak flow rate of this hydrograph = 7.413(CFS)

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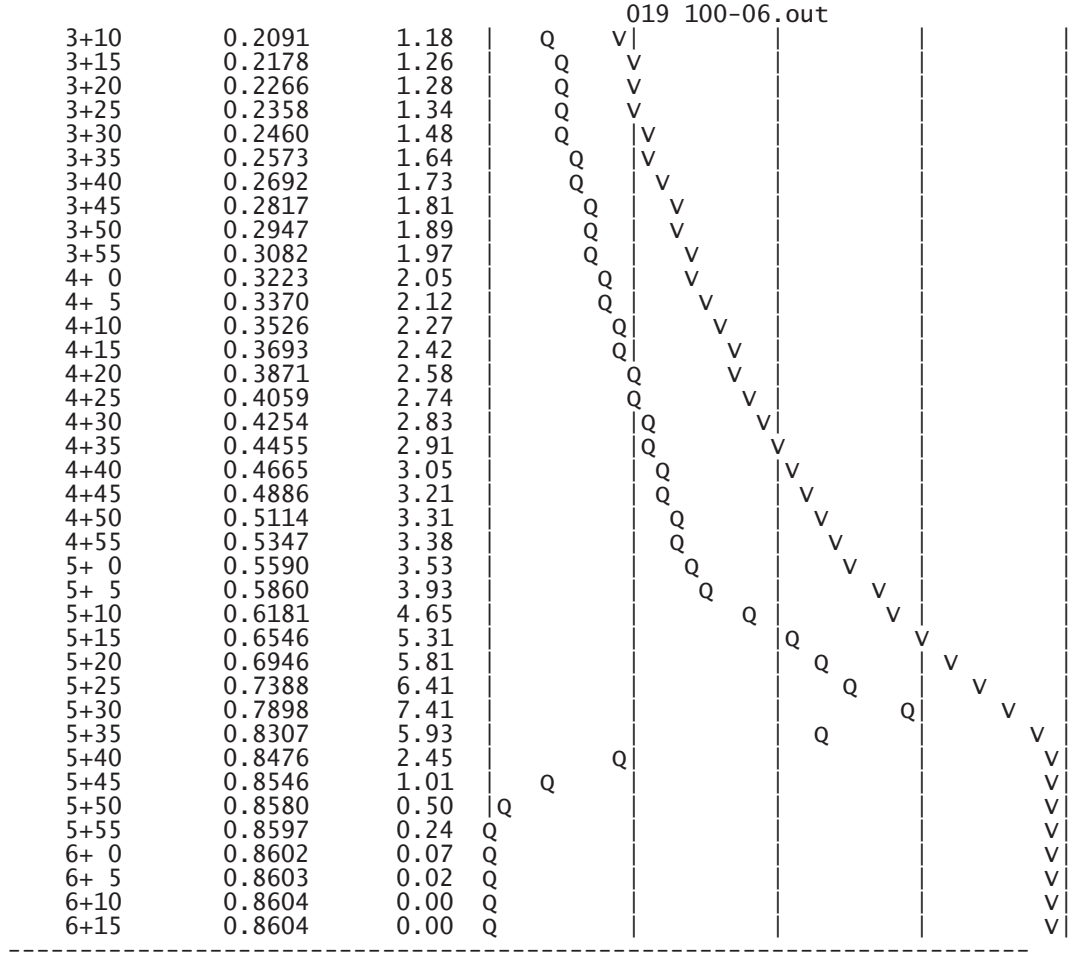
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0009 | 0.13 | Q | \| | \| | \| | \| |
| 0+10 | 0.0034 | 0.36 | VQ | \| | \| | \| | \| |
| 0+15 | 0.0067 | 0.47 | VQ | \| | \| | \| | \| |
| 0+20 | 0.0100 | 0.49 | VQ | \| | \| | \| | \| |
| 0+25 | 0.0134 | 0.49 | VQ | \| | \| | \| | \| |
| 0+30 | 0.0172 | 0.55 | V Q | \| | \| | \| | \| |
| 0+35 | 0.0216 | 0.63 | \|VQ | \| | \| | \| | \| |
| 0+40 | 0.0260 | 0.65 | \|VQ | \| | \| | \| | \| |
| 0+45 | 0.0305 | 0.65 | \|VQ | \| | \| | \| | \| |
| 0+50 | 0.0350 | 0.65 | \|VQ | \| | \| | \| | \| |
| 0+55 | 0.0394 | 0.65 | \|VQ | \| | \| | \| | \| |
| 1+ 0 | 0.0443 | 0.71 | \| Q | \| | \| | \| | \| |
| 1+ 5 | 0.0498 | 0.79 | \| VQ | \| | \| | \| | \| |
| 1+10 | 0.0553 | 0.80 | \| VQ | \| | \| | \| | \| |
| 1+15 | 0.0609 | 0.81 | \| VQ | \| | \| | \| | \| |
| 1+20 | 0.0664 | 0.81 | \| Q | \| | \| | \| | \| |
| 1+25 | 0.0720 | 0.81 | \| Q | \| | \| | \| | \| |
| 1+30 | 0.0775 | 0.81 | \| Q | \| | \| | \| | \| |
| 1+35 | 0.0831 | 0.81 | \| Q | \| | \| | \| | \| |
| 1+40 | 0.0886 | 0.81 | \| QV | \| | \| | \| | \| |
| 1+45 | 0.0942 | 0.81 | \| QV | \| | \| | \| | \| |
| 1+50 | 0.0997 | 0.81 | \| QV | \| | \| | \| | \| |
| 1+55 | 0.1053 | 0.81 | \| QV | \| | \| | \| | \| |
| 2+ 0 | 0.1113 | 0.87 | \| Q V | \| | \| | \| | \| |
| 2+ 5 | 0.1174 | 0.89 | \| Q V | \| | \| | \| | \| |
| 2+10 | 0.1234 | 0.88 | \| Q V | \| | \| | \| | \| |
| 2+15 | 0.1300 | 0.95 | \| Q V | \| | \| | \| | \| |
| 2+20 | 0.1366 | 0.96 | \| Q V | \| | \| | \| | \| |
| 2+25 | 0.1432 | 0.96 | \| Q V | \| | \| | \| | \| |
| 2+30 | 0.1499 | 0.96 | \| Q V | \| | \| | \| | \| |
| 2+35 | 0.1565 | 0.96 | \| Q V | \| | \| | \| | \| |
| 2+40 | 0.1631 | 0.96 | \| Q V | \| | \| | \| | \| |
| 2+45 | 0.1702 | 1.02 | \| Q V | \| | \| | \| | \| |
| 2+50 | 0.1778 | 1.11 | \| Q V | \| | \| | \| | \| |
| 2+55 | 0.1855 | 1.12 | \| Q V | \| | \| | \| | \| |
| 3+ 0 | 0.1932 | 1.12 | \| Q V | \| | \| | \| | \| |
| 3+ 5 | 0.2009 | 1.12 | \| Q V | \| | \| | \| | \| |



| | | | |
|---|---|---|---|
| 3+10 | 0.2091 | 1.18 | |
| 3+15 | 0.2178 | 1.26 | |
| 3+20 | 0.2266 | 1.28 | |
| 3+25 | 0.2358 | 1.34 | |
| 3+30 | 0.2460 | 1.48 | |
| 3+35 | 0.2573 | 1.64 | |
| 3+40 | 0.2692 | 1.73 | |
| 3+45 | 0.2817 | 1.81 | |
| 3+50 | 0.2947 | 1.89 | |
| 3+55 | 0.3082 | 1.97 | |
| 4+ 0 | 0.3223 | 2.05 | |
| 4+ 5 | 0.3370 | 2.12 | |
| 4+10 | 0.3526 | 2.27 | |
| 4+15 | 0.3693 | 2.42 | |
| 4+20 | 0.3871 | 2.58 | |
| 4+25 | 0.4059 | 2.74 | |
| 4+30 | 0.4254 | 2.83 | |
| 4+35 | 0.4455 | 2.91 | |
| 4+40 | 0.4665 | 3.05 | |
| 4+45 | 0.4886 | 3.21 | |
| 4+50 | 0.5114 | 3.31 | |
| 4+55 | 0.5347 | 3.38 | |
| 5+ 0 | 0.5590 | 3.53 | |
| 5+ 5 | 0.5860 | 3.93 | |
| 5+10 | 0.6181 | 4.65 | |
| 5+15 | 0.6546 | 5.31 | |
| 5+20 | 0.6946 | 5.81 | |
| 5+25 | 0.7388 | 6.41 | |
| 5+30 | 0.7898 | 7.41 | |
| 5+35 | 0.8307 | 5.93 | |
| 5+40 | 0.8476 | 2.45 | |
| 5+45 | 0.8546 | 1.01 | |
| 5+50 | 0.8580 | 0.50 | |
| 5+55 | 0.8597 | 0.24 | |
| 6+ 0 | 0.8602 | 0.07 | |
| 6+ 5 | 0.8603 | 0.02 | |
| 6+10 | 0.8604 | 0.00 | |
| 6+15 | 0.8604 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX1924100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 19
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 5.20(Ac.) = 0.008 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 5.20(Ac.) = 0.008 Sq. Mi.
Length along longest watercourse = 953.00(Ft.)
Length along longest watercourse measured to centroid = 367.00(Ft.)
Length along longest watercourse = 0.180 Mi.
Length along longest watercourse measured to centroid = 0.070 Mi.
Difference in elevation = 138.00(Ft.)
Slope along watercourse = 764.5750 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.045 Hr.
Lag time = 2.70 Min.
25% of lag time = 0.68 Min.
40% of lag time = 1.08 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 5.20 | 1.80 | 9.36 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 5.20 | 4.50 | 23.40 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.500(In)

Point rain (area averaged) = 4.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 5.200 | 83.94 | 0.000 |

Total Area Entered = 5.20(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.9 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 184.911 | 39.118 | 2.050 |
| 2 | 0.167 | 369.822 | 51.410 | 2.694 |
| 3 | 0.250 | 554.733 | 7.987 | 0.419 |
| 4 | 0.333 | 739.644 | 1.485 | 0.078 |
| | | | Sum = 100.000 Sum= | 5.241 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.036 | ( 0.153) | 0.032 | 0.004 |
| 2 | 0.17 | 0.07 | 0.036 | ( 0.152) | 0.032 | 0.004 |
| 3 | 0.25 | 0.07 | 0.036 | ( 0.152) | 0.032 | 0.004 |
| 4 | 0.33 | 0.10 | 0.054 | ( 0.151) | 0.049 | 0.005 |
| 5 | 0.42 | 0.10 | 0.054 | ( 0.151) | 0.049 | 0.005 |
| 6 | 0.50 | 0.10 | 0.054 | ( 0.150) | 0.049 | 0.005 |
| 7 | 0.58 | 0.10 | 0.054 | ( 0.149) | 0.049 | 0.005 |
| 8 | 0.67 | 0.10 | 0.054 | ( 0.149) | 0.049 | 0.005 |
| 9 | 0.75 | 0.10 | 0.054 | ( 0.148) | 0.049 | 0.005 |
| 10 | 0.83 | 0.13 | 0.072 | ( 0.148) | 0.065 | 0.007 |
| 11 | 0.92 | 0.13 | 0.072 | ( 0.147) | 0.065 | 0.007 |
| 12 | 1.00 | 0.13 | 0.072 | ( 0.146) | 0.065 | 0.007 |
| 13 | 1.08 | 0.10 | 0.054 | ( 0.146) | 0.049 | 0.005 |
| 14 | 1.17 | 0.10 | 0.054 | ( 0.145) | 0.049 | 0.005 |
| 15 | 1.25 | 0.10 | 0.054 | ( 0.145) | 0.049 | 0.005 |
| 16 | 1.33 | 0.10 | 0.054 | ( 0.144) | 0.049 | 0.005 |
| 17 | 1.42 | 0.10 | 0.054 | ( 0.144) | 0.049 | 0.005 |
| 18 | 1.50 | 0.10 | 0.054 | ( 0.143) | 0.049 | 0.005 |
| 19 | 1.58 | 0.10 | 0.054 | ( 0.142) | 0.049 | 0.005 |
| 20 | 1.67 | 0.10 | 0.054 | ( 0.142) | 0.049 | 0.005 |
| 21 | 1.75 | 0.10 | 0.054 | ( 0.141) | 0.049 | 0.005 |
| 22 | 1.83 | 0.13 | 0.072 | ( 0.141) | 0.065 | 0.007 |
| 23 | 1.92 | 0.13 | 0.072 | ( 0.140) | 0.065 | 0.007 |
| 24 | 2.00 | 0.13 | 0.072 | ( 0.140) | 0.065 | 0.007 |
| 25 | 2.08 | 0.13 | 0.072 | ( 0.139) | 0.065 | 0.007 |
| 26 | 2.17 | 0.13 | 0.072 | ( 0.138) | 0.065 | 0.007 |
| 27 | 2.25 | 0.13 | 0.072 | ( 0.138) | 0.065 | 0.007 |
| 28 | 2.33 | 0.13 | 0.072 | ( 0.137) | 0.065 | 0.007 |
| 29 | 2.42 | 0.13 | 0.072 | ( 0.137) | 0.065 | 0.007 |
| 30 | 2.50 | 0.13 | 0.072 | ( 0.136) | 0.065 | 0.007 |
| 31 | 2.58 | 0.17 | 0.090 | ( 0.136) | 0.081 | 0.009 |
| 32 | 2.67 | 0.17 | 0.090 | ( 0.135) | 0.081 | 0.009 |
| 33 | 2.75 | 0.17 | 0.090 | ( 0.135) | 0.081 | 0.009 |
| 34 | 2.83 | 0.17 | 0.090 | ( 0.134) | 0.081 | 0.009 |
| 35 | 2.92 | 0.17 | 0.090 | ( 0.133) | 0.081 | 0.009 |
| 36 | 3.00 | 0.17 | 0.090 | ( 0.133) | 0.081 | 0.009 |
| 37 | 3.08 | 0.17 | 0.090 | ( 0.132) | 0.081 | 0.009 |
| 38 | 3.17 | 0.17 | 0.090 | ( 0.132) | 0.081 | 0.009 |
| 39 | 3.25 | 0.17 | 0.090 | ( 0.131) | 0.081 | 0.009 |
| 40 | 3.33 | 0.17 | 0.090 | ( 0.131) | 0.081 | 0.009 |
| 41 | 3.42 | 0.17 | 0.090 | ( 0.130) | 0.081 | 0.009 |
| 42 | 3.50 | 0.17 | 0.090 | ( 0.130) | 0.081 | 0.009 |
| 43 | 3.58 | 0.17 | 0.090 | ( 0.129) | 0.081 | 0.009 |
| 44 | 3.67 | 0.17 | 0.090 | ( 0.129) | 0.081 | 0.009 |
| 45 | 3.75 | 0.17 | 0.090 | ( 0.128) | 0.081 | 0.009 |
| 46 | 3.83 | 0.20 | 0.108 | ( 0.127) | 0.097 | 0.011 |
| 47 | 3.92 | 0.20 | 0.108 | ( 0.127) | 0.097 | 0.011 |
| 48 | 4.00 | 0.20 | 0.108 | ( 0.126) | 0.097 | 0.011 |
| 49 | 4.08 | 0.20 | 0.108 | ( 0.126) | 0.097 | 0.011 |
| 50 | 4.17 | 0.20 | 0.108 | ( 0.125) | 0.097 | 0.011 |
| 51 | 4.25 | 0.20 | 0.108 | ( 0.125) | 0.097 | 0.011 |
| 52 | 4.33 | 0.23 | 0.126 | ( 0.124) | 0.113 | 0.013 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 53 | 4.42 | 0.23 | 0.126 | ( | 0.124) | 0.113 | | 0.013 |
| 54 | 4.50 | 0.23 | 0.126 | ( | 0.123) | 0.113 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.126 | ( | 0.123) | 0.113 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.126 | ( | 0.122) | 0.113 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.126 | ( | 0.122) | 0.113 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.144 | | 0.121 | ( 0.130) | | 0.023 |
| 59 | 4.92 | 0.27 | 0.144 | | 0.121 | ( 0.130) | | 0.023 |
| 60 | 5.00 | 0.27 | 0.144 | | 0.120 | ( 0.130) | | 0.024 |
| 61 | 5.08 | 0.20 | 0.108 | ( | 0.120) | 0.097 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.108 | ( | 0.119) | 0.097 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.108 | ( | 0.118) | 0.097 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.126 | ( | 0.118) | 0.113 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.126 | ( | 0.117) | 0.113 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.126 | ( | 0.117) | 0.113 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.144 | | 0.116 | ( 0.130) | | 0.028 |
| 68 | 5.67 | 0.27 | 0.144 | | 0.116 | ( 0.130) | | 0.028 |
| 69 | 5.75 | 0.27 | 0.144 | | 0.115 | ( 0.130) | | 0.029 |
| 70 | 5.83 | 0.27 | 0.144 | | 0.115 | ( 0.130) | | 0.029 |
| 71 | 5.92 | 0.27 | 0.144 | | 0.114 | ( 0.130) | | 0.030 |
| 72 | 6.00 | 0.27 | 0.144 | | 0.114 | ( 0.130) | | 0.030 |
| 73 | 6.08 | 0.30 | 0.162 | | 0.113 | ( 0.146) | | 0.049 |
| 74 | 6.17 | 0.30 | 0.162 | | 0.113 | ( 0.146) | | 0.049 |
| 75 | 6.25 | 0.30 | 0.162 | | 0.112 | ( 0.146) | | 0.050 |
| 76 | 6.33 | 0.30 | 0.162 | | 0.112 | ( 0.146) | | 0.050 |
| 77 | 6.42 | 0.30 | 0.162 | | 0.111 | ( 0.146) | | 0.051 |
| 78 | 6.50 | 0.30 | 0.162 | | 0.111 | ( 0.146) | | 0.051 |
| 79 | 6.58 | 0.33 | 0.180 | | 0.110 | ( 0.162) | | 0.070 |
| 80 | 6.67 | 0.33 | 0.180 | | 0.110 | ( 0.162) | | 0.070 |
| 81 | 6.75 | 0.33 | 0.180 | | 0.109 | ( 0.162) | | 0.071 |
| 82 | 6.83 | 0.33 | 0.180 | | 0.109 | ( 0.162) | | 0.071 |
| 83 | 6.92 | 0.33 | 0.180 | | 0.108 | ( 0.162) | | 0.072 |
| 84 | 7.00 | 0.33 | 0.180 | | 0.108 | ( 0.162) | | 0.072 |
| 85 | 7.08 | 0.33 | 0.180 | | 0.107 | ( 0.162) | | 0.073 |
| 86 | 7.17 | 0.33 | 0.180 | | 0.107 | ( 0.162) | | 0.073 |
| 87 | 7.25 | 0.33 | 0.180 | | 0.106 | ( 0.162) | | 0.074 |
| 88 | 7.33 | 0.37 | 0.198 | | 0.106 | ( 0.178) | | 0.092 |
| 89 | 7.42 | 0.37 | 0.198 | | 0.105 | ( 0.178) | | 0.093 |
| 90 | 7.50 | 0.37 | 0.198 | | 0.105 | ( 0.178) | | 0.093 |
| 91 | 7.58 | 0.40 | 0.216 | | 0.104 | ( 0.194) | | 0.112 |
| 92 | 7.67 | 0.40 | 0.216 | | 0.104 | ( 0.194) | | 0.112 |
| 93 | 7.75 | 0.40 | 0.216 | | 0.104 | ( 0.194) | | 0.112 |
| 94 | 7.83 | 0.43 | 0.234 | | 0.103 | ( 0.211) | | 0.131 |
| 95 | 7.92 | 0.43 | 0.234 | | 0.103 | ( 0.211) | | 0.131 |
| 96 | 8.00 | 0.43 | 0.234 | | 0.102 | ( 0.211) | | 0.132 |
| 97 | 8.08 | 0.50 | 0.270 | | 0.102 | ( 0.243) | | 0.168 |
| 98 | 8.17 | 0.50 | 0.270 | | 0.101 | ( 0.243) | | 0.169 |
| 99 | 8.25 | 0.50 | 0.270 | | 0.101 | ( 0.243) | | 0.169 |
| 100 | 8.33 | 0.50 | 0.270 | | 0.100 | ( 0.243) | | 0.170 |
| 101 | 8.42 | 0.50 | 0.270 | | 0.100 | ( 0.243) | | 0.170 |
| 102 | 8.50 | 0.50 | 0.270 | | 0.099 | ( 0.243) | | 0.171 |
| 103 | 8.58 | 0.53 | 0.288 | | 0.099 | ( 0.259) | | 0.189 |
| 104 | 8.67 | 0.53 | 0.288 | | 0.098 | ( 0.259) | | 0.190 |
| 105 | 8.75 | 0.53 | 0.288 | | 0.098 | ( 0.259) | | 0.190 |
| 106 | 8.83 | 0.57 | 0.306 | | 0.097 | ( 0.275) | | 0.209 |
| 107 | 8.92 | 0.57 | 0.306 | | 0.097 | ( 0.275) | | 0.209 |
| 108 | 9.00 | 0.57 | 0.306 | | 0.096 | ( 0.275) | | 0.210 |
| 109 | 9.08 | 0.63 | 0.342 | | 0.096 | ( 0.308) | | 0.246 |
| 110 | 9.17 | 0.63 | 0.342 | | 0.096 | ( 0.308) | | 0.246 |
| 111 | 9.25 | 0.63 | 0.342 | | 0.095 | ( 0.308) | | 0.247 |
| 112 | 9.33 | 0.67 | 0.360 | | 0.095 | ( 0.324) | | 0.265 |
| 113 | 9.42 | 0.67 | 0.360 | | 0.094 | ( 0.324) | | 0.266 |
| 114 | 9.50 | 0.67 | 0.360 | | 0.094 | ( 0.324) | | 0.266 |
| 115 | 9.58 | 0.70 | 0.378 | | 0.093 | ( 0.340) | | 0.285 |
| 116 | 9.67 | 0.70 | 0.378 | | 0.093 | ( 0.340) | | 0.285 |
| 117 | 9.75 | 0.70 | 0.378 | | 0.092 | ( 0.340) | | 0.286 |
| 118 | 9.83 | 0.73 | 0.396 | | 0.092 | ( 0.356) | | 0.304 |
| 119 | 9.92 | 0.73 | 0.396 | | 0.092 | ( 0.356) | | 0.304 |
| 120 | 10.00 | 0.73 | 0.396 | | 0.091 | ( 0.356) | | 0.305 |
| 121 | 10.08 | 0.50 | 0.270 | | 0.091 | ( 0.243) | | 0.179 |
| 122 | 10.17 | 0.50 | 0.270 | | 0.090 | ( 0.243) | | 0.180 |
| 123 | 10.25 | 0.50 | 0.270 | | 0.090 | ( 0.243) | | 0.180 |
| 124 | 10.33 | 0.50 | 0.270 | | 0.089 | ( 0.243) | | 0.181 |
| 125 | 10.42 | 0.50 | 0.270 | | 0.089 | ( 0.243) | | 0.181 |
| 126 | 10.50 | 0.50 | 0.270 | | 0.088 | ( 0.243) | | 0.182 |
| 127 | 10.58 | 0.67 | 0.360 | | 0.088 | ( 0.324) | | 0.272 |
| 128 | 10.67 | 0.67 | 0.360 | | 0.088 | ( 0.324) | | 0.272 |
| 129 | 10.75 | 0.67 | 0.360 | | 0.087 | ( 0.324) | | 0.273 |
| 130 | 10.83 | 0.67 | 0.360 | | 0.087 | ( 0.324) | | 0.273 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 131 | 10.92 | 0.67 | 0.360 | 0.086 | ( 0.324) | 0.274 |
| 132 | 11.00 | 0.67 | 0.360 | 0.086 | ( 0.324) | 0.274 |
| 133 | 11.08 | 0.63 | 0.342 | 0.085 | ( 0.308) | 0.257 |
| 134 | 11.17 | 0.63 | 0.342 | 0.085 | ( 0.308) | 0.257 |
| 135 | 11.25 | 0.63 | 0.342 | 0.085 | ( 0.308) | 0.257 |
| 136 | 11.33 | 0.63 | 0.342 | 0.084 | ( 0.308) | 0.258 |
| 137 | 11.42 | 0.63 | 0.342 | 0.084 | ( 0.308) | 0.258 |
| 138 | 11.50 | 0.63 | 0.342 | 0.083 | ( 0.308) | 0.259 |
| 139 | 11.58 | 0.57 | 0.306 | 0.083 | ( 0.275) | 0.223 |
| 140 | 11.67 | 0.57 | 0.306 | 0.083 | ( 0.275) | 0.223 |
| 141 | 11.75 | 0.57 | 0.306 | 0.082 | ( 0.275) | 0.224 |
| 142 | 11.83 | 0.60 | 0.324 | 0.082 | ( 0.292) | 0.242 |
| 143 | 11.92 | 0.60 | 0.324 | 0.081 | ( 0.292) | 0.243 |
| 144 | 12.00 | 0.60 | 0.324 | 0.081 | ( 0.292) | 0.243 |
| 145 | 12.08 | 0.83 | 0.450 | 0.081 | ( 0.405) | 0.369 |
| 146 | 12.17 | 0.83 | 0.450 | 0.080 | ( 0.405) | 0.370 |
| 147 | 12.25 | 0.83 | 0.450 | 0.080 | ( 0.405) | 0.370 |
| 148 | 12.33 | 0.87 | 0.468 | 0.079 | ( 0.421) | 0.389 |
| 149 | 12.42 | 0.87 | 0.468 | 0.079 | ( 0.421) | 0.389 |
| 150 | 12.50 | 0.87 | 0.468 | 0.079 | ( 0.421) | 0.389 |
| 151 | 12.58 | 0.93 | 0.504 | 0.078 | ( 0.454) | 0.426 |
| 152 | 12.67 | 0.93 | 0.504 | 0.078 | ( 0.454) | 0.426 |
| 153 | 12.75 | 0.93 | 0.504 | 0.077 | ( 0.454) | 0.427 |
| 154 | 12.83 | 0.97 | 0.522 | 0.077 | ( 0.470) | 0.445 |
| 155 | 12.92 | 0.97 | 0.522 | 0.077 | ( 0.470) | 0.445 |
| 156 | 13.00 | 0.97 | 0.522 | 0.076 | ( 0.470) | 0.446 |
| 157 | 13.08 | 1.13 | 0.612 | 0.076 | ( 0.551) | 0.536 |
| 158 | 13.17 | 1.13 | 0.612 | 0.075 | ( 0.551) | 0.537 |
| 159 | 13.25 | 1.13 | 0.612 | 0.075 | ( 0.551) | 0.537 |
| 160 | 13.33 | 1.13 | 0.612 | 0.075 | ( 0.551) | 0.537 |
| 161 | 13.42 | 1.13 | 0.612 | 0.074 | ( 0.551) | 0.538 |
| 162 | 13.50 | 1.13 | 0.612 | 0.074 | ( 0.551) | 0.538 |
| 163 | 13.58 | 0.77 | 0.414 | 0.074 | ( 0.373) | 0.340 |
| 164 | 13.67 | 0.77 | 0.414 | 0.073 | ( 0.373) | 0.341 |
| 165 | 13.75 | 0.77 | 0.414 | 0.073 | ( 0.373) | 0.341 |
| 166 | 13.83 | 0.77 | 0.414 | 0.072 | ( 0.373) | 0.342 |
| 167 | 13.92 | 0.77 | 0.414 | 0.072 | ( 0.373) | 0.342 |
| 168 | 14.00 | 0.77 | 0.414 | 0.072 | ( 0.373) | 0.342 |
| 169 | 14.08 | 0.90 | 0.486 | 0.071 | ( 0.437) | 0.415 |
| 170 | 14.17 | 0.90 | 0.486 | 0.071 | ( 0.437) | 0.415 |
| 171 | 14.25 | 0.90 | 0.486 | 0.071 | ( 0.437) | 0.415 |
| 172 | 14.33 | 0.87 | 0.468 | 0.070 | ( 0.421) | 0.398 |
| 173 | 14.42 | 0.87 | 0.468 | 0.070 | ( 0.421) | 0.398 |
| 174 | 14.50 | 0.87 | 0.468 | 0.069 | ( 0.421) | 0.399 |
| 175 | 14.58 | 0.87 | 0.468 | 0.069 | ( 0.421) | 0.399 |
| 176 | 14.67 | 0.87 | 0.468 | 0.069 | ( 0.421) | 0.399 |
| 177 | 14.75 | 0.87 | 0.468 | 0.068 | ( 0.421) | 0.400 |
| 178 | 14.83 | 0.83 | 0.450 | 0.068 | ( 0.405) | 0.382 |
| 179 | 14.92 | 0.83 | 0.450 | 0.068 | ( 0.405) | 0.382 |
| 180 | 15.00 | 0.83 | 0.450 | 0.067 | ( 0.405) | 0.383 |
| 181 | 15.08 | 0.80 | 0.432 | 0.067 | ( 0.389) | 0.365 |
| 182 | 15.17 | 0.80 | 0.432 | 0.067 | ( 0.389) | 0.365 |
| 183 | 15.25 | 0.80 | 0.432 | 0.066 | ( 0.389) | 0.366 |
| 184 | 15.33 | 0.77 | 0.414 | 0.066 | ( 0.373) | 0.348 |
| 185 | 15.42 | 0.77 | 0.414 | 0.066 | ( 0.373) | 0.348 |
| 186 | 15.50 | 0.77 | 0.414 | 0.065 | ( 0.373) | 0.349 |
| 187 | 15.58 | 0.63 | 0.342 | 0.065 | ( 0.308) | 0.277 |
| 188 | 15.67 | 0.63 | 0.342 | 0.065 | ( 0.308) | 0.277 |
| 189 | 15.75 | 0.63 | 0.342 | 0.064 | ( 0.308) | 0.278 |
| 190 | 15.83 | 0.63 | 0.342 | 0.064 | ( 0.308) | 0.278 |
| 191 | 15.92 | 0.63 | 0.342 | 0.064 | ( 0.308) | 0.278 |
| 192 | 16.00 | 0.63 | 0.342 | 0.063 | ( 0.308) | 0.279 |
| 193 | 16.08 | 0.13 | 0.072 | 0.063 | ( 0.065) | 0.009 |
| 194 | 16.17 | 0.13 | 0.072 | 0.063 | ( 0.065) | 0.009 |
| 195 | 16.25 | 0.13 | 0.072 | 0.062 | ( 0.065) | 0.010 |
| 196 | 16.33 | 0.13 | 0.072 | 0.062 | ( 0.065) | 0.010 |
| 197 | 16.42 | 0.13 | 0.072 | 0.062 | ( 0.065) | 0.010 |
| 198 | 16.50 | 0.13 | 0.072 | 0.061 | ( 0.065) | 0.011 |
| 199 | 16.58 | 0.10 | 0.054 | ( 0.061) | 0.049 | 0.005 |
| 200 | 16.67 | 0.10 | 0.054 | ( 0.061) | 0.049 | 0.005 |
| 201 | 16.75 | 0.10 | 0.054 | ( 0.061) | 0.049 | 0.005 |
| 202 | 16.83 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 203 | 16.92 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 204 | 17.00 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 205 | 17.08 | 0.17 | 0.090 | 0.059 | ( 0.081) | 0.031 |
| 206 | 17.17 | 0.17 | 0.090 | 0.059 | ( 0.081) | 0.031 |
| 207 | 17.25 | 0.17 | 0.090 | 0.059 | ( 0.081) | 0.031 |
| 208 | 17.33 | 0.17 | 0.090 | 0.058 | ( 0.081) | 0.032 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 209 | 17.42 | 0.17 | 0.090 | | 0.058 | ( | 0.081) | 0.032 |
| 210 | 17.50 | 0.17 | 0.090 | | 0.058 | ( | 0.081) | 0.032 |
| 211 | 17.58 | 0.17 | 0.090 | | 0.058 | ( | 0.081) | 0.032 |
| 212 | 17.67 | 0.17 | 0.090 | | 0.057 | ( | 0.081) | 0.033 |
| 213 | 17.75 | 0.17 | 0.090 | | 0.057 | ( | 0.081) | 0.033 |
| 214 | 17.83 | 0.13 | 0.072 | | 0.057 | ( | 0.065) | 0.015 |
| 215 | 17.92 | 0.13 | 0.072 | | 0.056 | ( | 0.065) | 0.016 |
| 216 | 18.00 | 0.13 | 0.072 | | 0.056 | ( | 0.065) | 0.016 |
| 217 | 18.08 | 0.13 | 0.072 | | 0.056 | ( | 0.065) | 0.016 |
| 218 | 18.17 | 0.13 | 0.072 | | 0.056 | ( | 0.065) | 0.016 |
| 219 | 18.25 | 0.13 | 0.072 | | 0.055 | ( | 0.065) | 0.017 |
| 220 | 18.33 | 0.13 | 0.072 | | 0.055 | ( | 0.065) | 0.017 |
| 221 | 18.42 | 0.13 | 0.072 | | 0.055 | ( | 0.065) | 0.017 |
| 222 | 18.50 | 0.13 | 0.072 | | 0.054 | ( | 0.065) | 0.018 |
| 223 | 18.58 | 0.10 | 0.054 | ( | 0.054) | | 0.049 | 0.005 |
| 224 | 18.67 | 0.10 | 0.054 | ( | 0.054) | | 0.049 | 0.005 |
| 225 | 18.75 | 0.10 | 0.054 | ( | 0.054) | | 0.049 | 0.005 |
| 226 | 18.83 | 0.07 | 0.036 | ( | 0.053) | | 0.032 | 0.004 |
| 227 | 18.92 | 0.07 | 0.036 | ( | 0.053) | | 0.032 | 0.004 |
| 228 | 19.00 | 0.07 | 0.036 | ( | 0.053) | | 0.032 | 0.004 |
| 229 | 19.08 | 0.10 | 0.054 | ( | 0.053) | | 0.049 | 0.005 |
| 230 | 19.17 | 0.10 | 0.054 | ( | 0.052) | | 0.049 | 0.005 |
| 231 | 19.25 | 0.10 | 0.054 | ( | 0.052) | | 0.049 | 0.005 |
| 232 | 19.33 | 0.13 | 0.072 | | 0.052 | ( | 0.065) | 0.020 |
| 233 | 19.42 | 0.13 | 0.072 | | 0.052 | ( | 0.065) | 0.020 |
| 234 | 19.50 | 0.13 | 0.072 | | 0.051 | ( | 0.065) | 0.021 |
| 235 | 19.58 | 0.10 | 0.054 | ( | 0.051) | | 0.049 | 0.005 |
| 236 | 19.67 | 0.10 | 0.054 | ( | 0.051) | | 0.049 | 0.005 |
| 237 | 19.75 | 0.10 | 0.054 | ( | 0.051) | | 0.049 | 0.005 |
| 238 | 19.83 | 0.07 | 0.036 | ( | 0.051) | | 0.032 | 0.004 |
| 239 | 19.92 | 0.07 | 0.036 | ( | 0.050) | | 0.032 | 0.004 |
| 240 | 20.00 | 0.07 | 0.036 | ( | 0.050) | | 0.032 | 0.004 |
| 241 | 20.08 | 0.10 | 0.054 | ( | 0.050) | | 0.049 | 0.005 |
| 242 | 20.17 | 0.10 | 0.054 | ( | 0.050) | | 0.049 | 0.005 |
| 243 | 20.25 | 0.10 | 0.054 | ( | 0.049) | | 0.049 | 0.005 |
| 244 | 20.33 | 0.10 | 0.054 | ( | 0.049) | | 0.049 | 0.005 |
| 245 | 20.42 | 0.10 | 0.054 | ( | 0.049) | | 0.049 | 0.005 |
| 246 | 20.50 | 0.10 | 0.054 | ( | 0.049) | | 0.049 | 0.005 |
| 247 | 20.58 | 0.10 | 0.054 | ( | 0.049) | | 0.049 | 0.005 |
| 248 | 20.67 | 0.10 | 0.054 | | 0.048 | ( | 0.049) | 0.006 |
| 249 | 20.75 | 0.10 | 0.054 | | 0.048 | ( | 0.049) | 0.006 |
| 250 | 20.83 | 0.07 | 0.036 | ( | 0.048) | | 0.032 | 0.004 |
| 251 | 20.92 | 0.07 | 0.036 | ( | 0.048) | | 0.032 | 0.004 |
| 252 | 21.00 | 0.07 | 0.036 | ( | 0.048) | | 0.032 | 0.004 |
| 253 | 21.08 | 0.10 | 0.054 | | 0.047 | ( | 0.049) | 0.007 |
| 254 | 21.17 | 0.10 | 0.054 | | 0.047 | ( | 0.049) | 0.007 |
| 255 | 21.25 | 0.10 | 0.054 | | 0.047 | ( | 0.049) | 0.007 |
| 256 | 21.33 | 0.07 | 0.036 | ( | 0.047) | | 0.032 | 0.004 |
| 257 | 21.42 | 0.07 | 0.036 | ( | 0.047) | | 0.032 | 0.004 |
| 258 | 21.50 | 0.07 | 0.036 | ( | 0.047) | | 0.032 | 0.004 |
| 259 | 21.58 | 0.10 | 0.054 | | 0.046 | ( | 0.049) | 0.008 |
| 260 | 21.67 | 0.10 | 0.054 | | 0.046 | ( | 0.049) | 0.008 |
| 261 | 21.75 | 0.10 | 0.054 | | 0.046 | ( | 0.049) | 0.008 |
| 262 | 21.83 | 0.07 | 0.036 | ( | 0.046) | | 0.032 | 0.004 |
| 263 | 21.92 | 0.07 | 0.036 | ( | 0.046) | | 0.032 | 0.004 |
| 264 | 22.00 | 0.07 | 0.036 | ( | 0.046) | | 0.032 | 0.004 |
| 265 | 22.08 | 0.10 | 0.054 | | 0.045 | ( | 0.049) | 0.009 |
| 266 | 22.17 | 0.10 | 0.054 | | 0.045 | ( | 0.049) | 0.009 |
| 267 | 22.25 | 0.10 | 0.054 | | 0.045 | ( | 0.049) | 0.009 |
| 268 | 22.33 | 0.07 | 0.036 | ( | 0.045) | | 0.032 | 0.004 |
| 269 | 22.42 | 0.07 | 0.036 | ( | 0.045) | | 0.032 | 0.004 |
| 270 | 22.50 | 0.07 | 0.036 | ( | 0.045) | | 0.032 | 0.004 |
| 271 | 22.58 | 0.07 | 0.036 | ( | 0.045) | | 0.032 | 0.004 |
| 272 | 22.67 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 273 | 22.75 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 274 | 22.83 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 275 | 22.92 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 276 | 23.00 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 277 | 23.08 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 278 | 23.17 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 279 | 23.25 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 280 | 23.33 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 281 | 23.42 | 0.07 | 0.036 | ( | 0.044) | | 0.032 | 0.004 |
| 282 | 23.50 | 0.07 | 0.036 | ( | 0.043) | | 0.032 | 0.004 |
| 283 | 23.58 | 0.07 | 0.036 | ( | 0.043) | | 0.032 | 0.004 |
| 284 | 23.67 | 0.07 | 0.036 | ( | 0.043) | | 0.032 | 0.004 |
| 285 | 23.75 | 0.07 | 0.036 | ( | 0.043) | | 0.032 | 0.004 |
| 286 | 23.83 | 0.07 | 0.036 | ( | 0.043) | | 0.032 | 0.004 |

287 23.92 0.07 0.036 ( 0.043) 0.032 0.004
288 24.00 0.07 0.036 ( 0.043) 0.032 0.004
(Loss Rate Not Used)
Sum = 100.0 Sum = 33.5
Flood volume = Effective rainfall 2.80(In)
times area 5.2(Ac.)/[(In)/(Ft.)] = 1.2(Ac.Ft)
Total soil loss = 1.70(In)
Total soil loss = 0.739(Ac.Ft)
Total rainfall = 4.50(In)
Flood volume = 52760.5 Cubic Feet
Total soil loss = 32180.7 Cubic Feet

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Peak flow rate of this hydrograph = 2.820(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

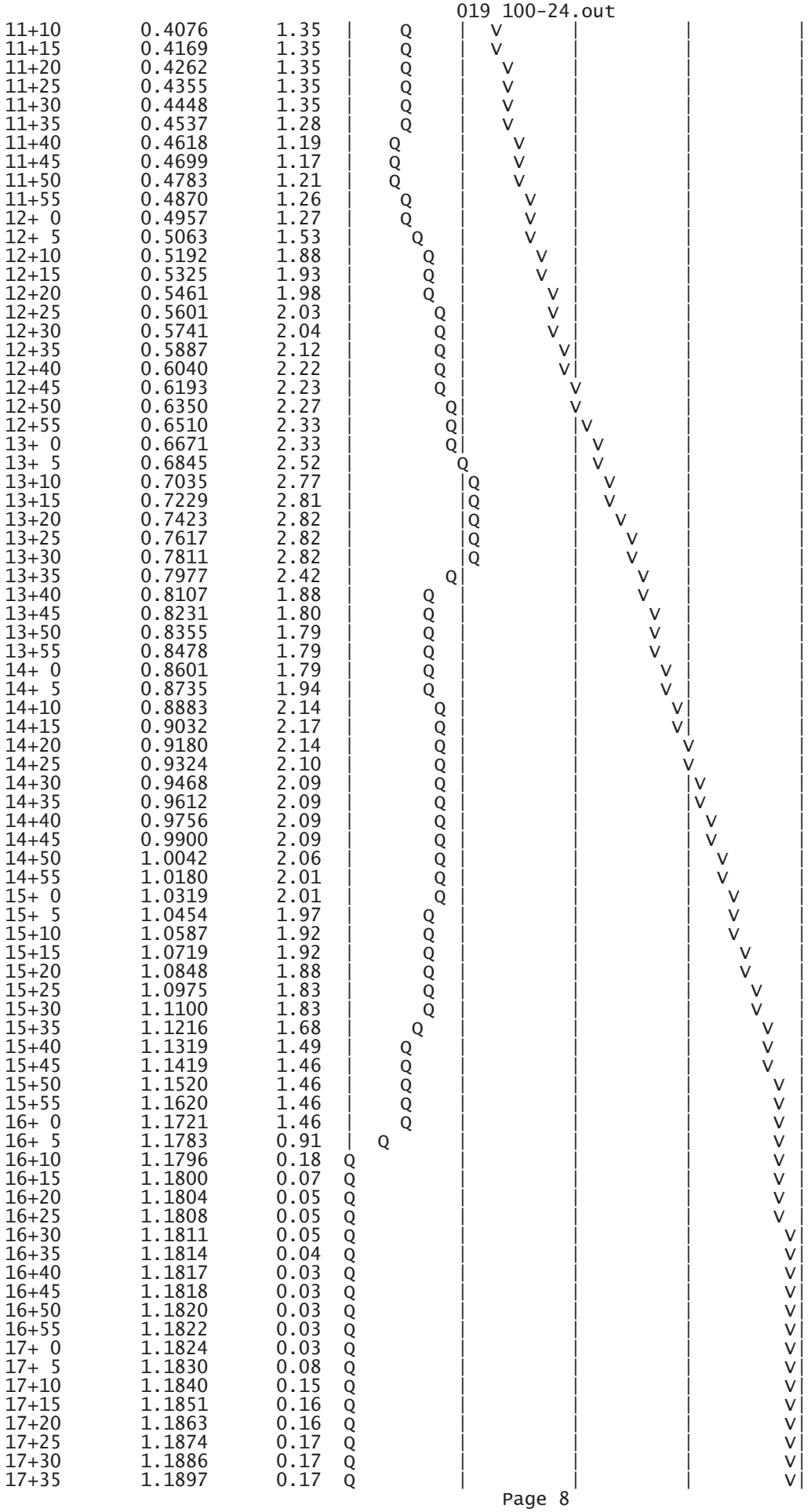
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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0001 | 0.01 | Q | | | | |
| 0+10 | 0.0002 | 0.02 | Q | | | | |
| 0+15 | 0.0003 | 0.02 | Q | | | | |
| 0+20 | 0.0005 | 0.02 | Q | | | | |
| 0+25 | 0.0006 | 0.03 | Q | | | | |
| 0+30 | 0.0008 | 0.03 | Q | | | | |
| 0+35 | 0.0010 | 0.03 | Q | | | | |
| 0+40 | 0.0012 | 0.03 | Q | | | | |
| 0+45 | 0.0014 | 0.03 | Q | | | | |
| 0+50 | 0.0016 | 0.03 | Q | | | | |
| 0+55 | 0.0019 | 0.04 | Q | | | | |
| 1+ 0 | 0.0022 | 0.04 | Q | | | | |
| 1+ 5 | 0.0024 | 0.03 | Q | | | | |
| 1+10 | 0.0026 | 0.03 | Q | | | | |
| 1+15 | 0.0028 | 0.03 | Q | | | | |
| 1+20 | 0.0030 | 0.03 | Q | | | | |
| 1+25 | 0.0032 | 0.03 | Q | | | | |
| 1+30 | 0.0034 | 0.03 | Q | | | | |
| 1+35 | 0.0036 | 0.03 | Q | | | | |
| 1+40 | 0.0038 | 0.03 | Q | | | | |
| 1+45 | 0.0040 | 0.03 | Q | | | | |
| 1+50 | 0.0042 | 0.03 | Q | | | | |
| 1+55 | 0.0044 | 0.04 | Q | | | | |
| 2+ 0 | 0.0047 | 0.04 | Q | | | | |
| 2+ 5 | 0.0049 | 0.04 | Q | | | | |
| 2+10 | 0.0052 | 0.04 | Q | | | | |
| 2+15 | 0.0055 | 0.04 | Q | | | | |
| 2+20 | 0.0057 | 0.04 | Q | | | | |
| 2+25 | 0.0060 | 0.04 | Q | | | | |
| 2+30 | 0.0062 | 0.04 | Q | | | | |
| 2+35 | 0.0065 | 0.04 | Q | | | | |
| 2+40 | 0.0069 | 0.05 | Q | | | | |
| 2+45 | 0.0072 | 0.05 | Q | | | | |
| 2+50 | 0.0075 | 0.05 | Q | | | | |
| 2+55 | 0.0078 | 0.05 | Q | | | | |
| 3+ 0 | 0.0082 | 0.05 | Q | | | | |
| 3+ 5 | 0.0085 | 0.05 | Q | | | | |
| 3+10 | 0.0088 | 0.05 | Q | | | | |
| 3+15 | 0.0091 | 0.05 | Q | | | | |
| 3+20 | 0.0095 | 0.05 | Q | | | | |
| 3+25 | 0.0098 | 0.05 | Q | | | | |
| 3+30 | 0.0101 | 0.05 | Q | | | | |
| 3+35 | 0.0104 | 0.05 | Q | | | | |
| 3+40 | 0.0108 | 0.05 | Q | | | | |
| 3+45 | 0.0111 | 0.05 | Q | | | | |
| 3+50 | 0.0114 | 0.05 | Q | | | | |
| 3+55 | 0.0118 | 0.06 | Q | | | | |
| 4+ 0 | 0.0122 | 0.06 | Q | | | | |
| 4+ 5 | 0.0126 | 0.06 | Q | | | | |
| 4+10 | 0.0130 | 0.06 | Q | | | | |
| 4+15 | 0.0134 | 0.06 | Q | | | | |
| 4+20 | 0.0138 | 0.06 | Q | | | | |
| 4+25 | 0.0142 | 0.07 | Q | | | | |
| 4+30 | 0.0147 | 0.07 | Q | | | | |
| 4+35 | 0.0151 | 0.07 | Q | | | | |

```
 4+40       0.0156      0.07  Q          |          |          |          |
 4+45       0.0161      0.07  Q          |          |          |          |
 4+50       0.0167      0.09  Q          |          |          |          |
 4+55       0.0175      0.12  Q          |          |          |          |
 5+ 0       0.0183      0.12  Q          |          |          |          |
 5+ 5       0.0190      0.10  Q          |          |          |          |
 5+10       0.0194      0.06  Q          |          |          |          |
 5+15       0.0198      0.06  Q          |          |          |          |
 5+20       0.0202      0.06  Q          |          |          |          |
 5+25       0.0207      0.07  Q          |          |          |          |
 5+30       0.0211      0.07  Q          |          |          |          |
 5+35       0.0218      0.10  Q          |          |          |          |
 5+40       0.0227      0.14  Q          |          |          |          |
 5+45       0.0238      0.15  Q          |          |          |          |
 5+50       0.0248      0.15  Q          |          |          |          |
 5+55       0.0259      0.15  Q          |          |          |          |
 6+ 0       0.0269      0.16  Q          |          |          |          |
 6+ 5       0.0283      0.20  Q          |          |          |          |
 6+10       0.0300      0.25  Q          |          |          |          |
 6+15       0.0317      0.26  |Q         |          |          |          |
 6+20       0.0335      0.26  |Q         |          |          |          |
 6+25       0.0354      0.26  |Q         |          |          |          |
 6+30       0.0372      0.27  |Q         |          |          |          |
 6+35       0.0393      0.31  |Q         |          |          |          |
 6+40       0.0418      0.36  |Q         |          |          |          |
 6+45       0.0443      0.37  |Q         |          |          |          |
 6+50       0.0468      0.37  |Q         |          |          |          |
 6+55       0.0494      0.37  |Q         |          |          |          |
 7+ 0       0.0520      0.38  |Q         |          |          |          |
 7+ 5       0.0546      0.38  |Q         |          |          |          |
 7+10       0.0572      0.38  |Q         |          |          |          |
 7+15       0.0599      0.38  |Q         |          |          |          |
 7+20       0.0628      0.42  |QV        |          |          |          |
 7+25       0.0661      0.47  |QV        |          |          |          |
 7+30       0.0694      0.48  |QV        |          |          |          |
 7+35       0.0730      0.53  | Q        |          |          |          |
 7+40       0.0770      0.58  | Q        |          |          |          |
 7+45       0.0810      0.59  | Q        |          |          |          |
 7+50       0.0854      0.63  | Q        |          |          |          |
 7+55       0.0900      0.68  | Q        |          |          |          |
 8+ 0       0.0948      0.69  | QV       |          |          |          |
 8+ 5       0.1000      0.77  |  Q       |          |          |          |
 8+10       0.1060      0.87  |  Q       |          |          |          |
 8+15       0.1121      0.88  |  Q       |          |          |          |
 8+20       0.1182      0.89  |  Q       |          |          |          |
 8+25       0.1243      0.89  |  QV      |          |          |          |
 8+30       0.1305      0.89  |  QV      |          |          |          |
 8+35       0.1369      0.93  |  QV      |          |          |          |
 8+40       0.1437      0.98  |  QV      |          |          |          |
 8+45       0.1505      0.99  |  QV      |          |          |          |
 8+50       0.1577      1.03  |   QV     |          |          |          |
 8+55       0.1651      1.09  |   QV     |          |          |          |
 9+ 0       0.1727      1.10  |   QV     |          |          |          |
 9+ 5       0.1808      1.17  |   QV     |          |          |          |
 9+10       0.1895      1.27  |    QV    |          |          |          |
 9+15       0.1984      1.29  |    QV    |          |          |          |
 9+20       0.2076      1.33  |    QV    |          |          |          |
 9+25       0.2171      1.38  |    Q V   |          |          |          |
 9+30       0.2267      1.39  |    Q V   |          |          |          |
 9+35       0.2366      1.43  |    Q V   |          |          |          |
 9+40       0.2468      1.48  |    Q  V  |          |          |          |
 9+45       0.2571      1.49  |    Q  V  |          |          |          |
 9+50       0.2677      1.53  |     Q V  |          |          |          |
 9+55       0.2786      1.59  |     Q  V |          |          |          |
10+ 0       0.2896      1.60  |     Q  V |          |          |          |
10+ 5       0.2988      1.34  |    Q   V |          |          |          |
10+10       0.3057      1.00  |   Q     V          |          |          |
10+15       0.3123      0.95  |  Q      V          |          |          |
10+20       0.3188      0.95  |  Q      V          |          |          |
10+25       0.3253      0.95  |  Q      V          |          |          |
10+30       0.3319      0.95  |  Q      V          |          |          |
10+35       0.3397      1.14  |   Q     |V         |          |          |
10+40       0.3492      1.38  |    Q    |V         |          |          |
10+45       0.3590      1.42  |    Q    |V         |          |          |
10+50       0.3689      1.43  |    Q    | V        |          |          |
10+55       0.3787      1.43  |    Q    | V        |          |          |
11+ 0       0.3886      1.44  |    Q    | V        |          |          |
11+ 5       0.3983      1.40  |    Q    |  V       |          |          |
```



| | | | |
|---|---|---|---|
| 11+10 | 0.4076 | 1.35 | |
| 11+15 | 0.4169 | 1.35 | |
| 11+20 | 0.4262 | 1.35 | |
| 11+25 | 0.4355 | 1.35 | |
| 11+30 | 0.4448 | 1.35 | |
| 11+35 | 0.4537 | 1.28 | |
| 11+40 | 0.4618 | 1.19 | |
| 11+45 | 0.4699 | 1.17 | |
| 11+50 | 0.4783 | 1.21 | |
| 11+55 | 0.4870 | 1.26 | |
| 12+ 0 | 0.4957 | 1.27 | |
| 12+ 5 | 0.5063 | 1.53 | |
| 12+10 | 0.5192 | 1.88 | |
| 12+15 | 0.5325 | 1.93 | |
| 12+20 | 0.5461 | 1.98 | |
| 12+25 | 0.5601 | 2.03 | |
| 12+30 | 0.5741 | 2.04 | |
| 12+35 | 0.5887 | 2.12 | |
| 12+40 | 0.6040 | 2.22 | |
| 12+45 | 0.6193 | 2.23 | |
| 12+50 | 0.6350 | 2.27 | |
| 12+55 | 0.6510 | 2.33 | |
| 13+ 0 | 0.6671 | 2.33 | |
| 13+ 5 | 0.6845 | 2.52 | |
| 13+10 | 0.7035 | 2.77 | |
| 13+15 | 0.7229 | 2.81 | |
| 13+20 | 0.7423 | 2.82 | |
| 13+25 | 0.7617 | 2.82 | |
| 13+30 | 0.7811 | 2.82 | |
| 13+35 | 0.7977 | 2.42 | |
| 13+40 | 0.8107 | 1.88 | |
| 13+45 | 0.8231 | 1.80 | |
| 13+50 | 0.8355 | 1.79 | |
| 13+55 | 0.8478 | 1.79 | |
| 14+ 0 | 0.8601 | 1.79 | |
| 14+ 5 | 0.8735 | 1.94 | |
| 14+10 | 0.8883 | 2.14 | |
| 14+15 | 0.9032 | 2.17 | |
| 14+20 | 0.9180 | 2.14 | |
| 14+25 | 0.9324 | 2.10 | |
| 14+30 | 0.9468 | 2.09 | |
| 14+35 | 0.9612 | 2.09 | |
| 14+40 | 0.9756 | 2.09 | |
| 14+45 | 0.9900 | 2.09 | |
| 14+50 | 1.0042 | 2.06 | |
| 14+55 | 1.0180 | 2.01 | |
| 15+ 0 | 1.0319 | 2.01 | |
| 15+ 5 | 1.0454 | 1.97 | |
| 15+10 | 1.0587 | 1.92 | |
| 15+15 | 1.0719 | 1.92 | |
| 15+20 | 1.0848 | 1.88 | |
| 15+25 | 1.0975 | 1.83 | |
| 15+30 | 1.1100 | 1.83 | |
| 15+35 | 1.1216 | 1.68 | |
| 15+40 | 1.1319 | 1.49 | |
| 15+45 | 1.1419 | 1.46 | |
| 15+50 | 1.1520 | 1.46 | |
| 15+55 | 1.1620 | 1.46 | |
| 16+ 0 | 1.1721 | 1.46 | |
| 16+ 5 | 1.1783 | 0.91 | |
| 16+10 | 1.1796 | 0.18 | |
| 16+15 | 1.1800 | 0.07 | |
| 16+20 | 1.1804 | 0.05 | |
| 16+25 | 1.1808 | 0.05 | |
| 16+30 | 1.1811 | 0.05 | |
| 16+35 | 1.1814 | 0.04 | |
| 16+40 | 1.1817 | 0.03 | |
| 16+45 | 1.1818 | 0.03 | |
| 16+50 | 1.1820 | 0.03 | |
| 16+55 | 1.1822 | 0.03 | |
| 17+ 0 | 1.1824 | 0.03 | |
| 17+ 5 | 1.1830 | 0.08 | |
| 17+10 | 1.1840 | 0.15 | |
| 17+15 | 1.1851 | 0.16 | |
| 17+20 | 1.1863 | 0.16 | |
| 17+25 | 1.1874 | 0.17 | |
| 17+30 | 1.1886 | 0.17 | |
| 17+35 | 1.1897 | 0.17 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+40 | 1.1909 | 0.17 | Q | \| | \| | \| | V\| |
| 17+45 | 1.1921 | 0.17 | Q | \| | \| | \| | V\| |
| 17+50 | 1.1930 | 0.14 | Q | \| | \| | \| | V\| |
| 17+55 | 1.1936 | 0.09 | Q | \| | \| | \| | V\| |
| 18+ 0 | 1.1942 | 0.08 | Q | \| | \| | \| | V\| |
| 18+ 5 | 1.1948 | 0.08 | Q | \| | \| | \| | V\| |
| 18+10 | 1.1954 | 0.09 | Q | \| | \| | \| | V\| |
| 18+15 | 1.1960 | 0.09 | Q | \| | \| | \| | V\| |
| 18+20 | 1.1966 | 0.09 | Q | \| | \| | \| | V\| |
| 18+25 | 1.1972 | 0.09 | Q | \| | \| | \| | V\| |
| 18+30 | 1.1978 | 0.09 | Q | \| | \| | \| | V\| |
| 18+35 | 1.1983 | 0.07 | Q | \| | \| | \| | V\| |
| 18+40 | 1.1985 | 0.03 | Q | \| | \| | \| | V\| |
| 18+45 | 1.1987 | 0.03 | Q | \| | \| | \| | V\| |
| 18+50 | 1.1989 | 0.02 | Q | \| | \| | \| | V\| |
| 18+55 | 1.1990 | 0.02 | Q | \| | \| | \| | V\| |
| 19+ 0 | 1.1992 | 0.02 | Q | \| | \| | \| | V\| |
| 19+ 5 | 1.1993 | 0.02 | Q | \| | \| | \| | V\| |
| 19+10 | 1.1995 | 0.03 | Q | \| | \| | \| | V\| |
| 19+15 | 1.1997 | 0.03 | Q | \| | \| | \| | V\| |
| 19+20 | 1.2001 | 0.06 | Q | \| | \| | \| | V\| |
| 19+25 | 1.2008 | 0.10 | Q | \| | \| | \| | V\| |
| 19+30 | 1.2015 | 0.11 | Q | \| | \| | \| | V\| |
| 19+35 | 1.2020 | 0.08 | Q | \| | \| | \| | V\| |
| 19+40 | 1.2023 | 0.04 | Q | \| | \| | \| | V\| |
| 19+45 | 1.2025 | 0.03 | Q | \| | \| | \| | V\| |
| 19+50 | 1.2027 | 0.02 | Q | \| | \| | \| | V\| |
| 19+55 | 1.2028 | 0.02 | Q | \| | \| | \| | V\| |
| 20+ 0 | 1.2029 | 0.02 | Q | \| | \| | \| | V\| |
| 20+ 5 | 1.2031 | 0.02 | Q | \| | \| | \| | V\| |
| 20+10 | 1.2033 | 0.03 | Q | \| | \| | \| | V\| |
| 20+15 | 1.2035 | 0.03 | Q | \| | \| | \| | V\| |
| 20+20 | 1.2037 | 0.03 | Q | \| | \| | \| | V\| |
| 20+25 | 1.2038 | 0.03 | Q | \| | \| | \| | V\| |
| 20+30 | 1.2040 | 0.03 | Q | \| | \| | \| | V\| |
| 20+35 | 1.2042 | 0.03 | Q | \| | \| | \| | V\| |
| 20+40 | 1.2044 | 0.03 | Q | \| | \| | \| | V\| |
| 20+45 | 1.2046 | 0.03 | Q | \| | \| | \| | V\| |
| 20+50 | 1.2048 | 0.03 | Q | \| | \| | \| | V\| |
| 20+55 | 1.2050 | 0.02 | Q | \| | \| | \| | V\| |
| 21+ 0 | 1.2051 | 0.02 | Q | \| | \| | \| | V\| |
| 21+ 5 | 1.2053 | 0.02 | Q | \| | \| | \| | V\| |
| 21+10 | 1.2055 | 0.03 | Q | \| | \| | \| | V\| |
| 21+15 | 1.2057 | 0.04 | Q | \| | \| | \| | V\| |
| 21+20 | 1.2059 | 0.03 | Q | \| | \| | \| | V\| |
| 21+25 | 1.2061 | 0.02 | Q | \| | \| | \| | V\| |
| 21+30 | 1.2062 | 0.02 | Q | \| | \| | \| | V\| |
| 21+35 | 1.2064 | 0.03 | Q | \| | \| | \| | V\| |
| 21+40 | 1.2067 | 0.04 | Q | \| | \| | \| | V\| |
| 21+45 | 1.2069 | 0.04 | Q | \| | \| | \| | V\| |
| 21+50 | 1.2072 | 0.03 | Q | \| | \| | \| | V\| |
| 21+55 | 1.2073 | 0.02 | Q | \| | \| | \| | V\| |
| 22+ 0 | 1.2074 | 0.02 | Q | \| | \| | \| | V\| |
| 22+ 5 | 1.2076 | 0.03 | Q | \| | \| | \| | V\| |
| 22+10 | 1.2079 | 0.04 | Q | \| | \| | \| | V\| |
| 22+15 | 1.2083 | 0.05 | Q | \| | \| | \| | V\| |
| 22+20 | 1.2085 | 0.04 | Q | \| | \| | \| | V\| |
| 22+25 | 1.2086 | 0.02 | Q | \| | \| | \| | V\| |
| 22+30 | 1.2088 | 0.02 | Q | \| | \| | \| | V\| |
| 22+35 | 1.2089 | 0.02 | Q | \| | \| | \| | V\| |
| 22+40 | 1.2090 | 0.02 | Q | \| | \| | \| | V\| |
| 22+45 | 1.2092 | 0.02 | Q | \| | \| | \| | V\| |
| 22+50 | 1.2093 | 0.02 | Q | \| | \| | \| | V\| |
| 22+55 | 1.2094 | 0.02 | Q | \| | \| | \| | V\| |
| 23+ 0 | 1.2096 | 0.02 | Q | \| | \| | \| | V\| |
| 23+ 5 | 1.2097 | 0.02 | Q | \| | \| | \| | V\| |
| 23+10 | 1.2098 | 0.02 | Q | \| | \| | \| | V\| |
| 23+15 | 1.2100 | 0.02 | Q | \| | \| | \| | V\| |
| 23+20 | 1.2101 | 0.02 | Q | \| | \| | \| | V\| |
| 23+25 | 1.2102 | 0.02 | Q | \| | \| | \| | V\| |
| 23+30 | 1.2103 | 0.02 | Q | \| | \| | \| | V\| |
| 23+35 | 1.2105 | 0.02 | Q | \| | \| | \| | V\| |
| 23+40 | 1.2106 | 0.02 | Q | \| | \| | \| | V\| |
| 23+45 | 1.2107 | 0.02 | Q | \| | \| | \| | V\| |
| 23+50 | 1.2109 | 0.02 | Q | \| | \| | \| | V\| |
| 23+55 | 1.2110 | 0.02 | Q | \| | \| | \| | V\| |
| 24+ 0 | 1.2111 | 0.02 | Q | \| | \| | \| | V\| |
| 24+ 5 | 1.2112 | 0.01 | Q | \| | \| | \| | V\| |

```
   24+10       1.2112      0.00  Q         |         |         |        V|
   24+15       1.2112      0.00  Q         |         |         |        V|
-----------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX201100.out

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----------------------------------------------------------------------

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 20
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 51.40(Ac.) = 0.080 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 51.40(Ac.) = 0.080 Sq. Mi.
Length along longest watercourse = 3495.00(Ft.)
Length along longest watercourse measured to centroid = 1715.00(Ft.)
Length along longest watercourse = 0.662 Mi.
Length along longest watercourse measured to centroid = 0.325 Mi.
Difference in elevation = 660.00(Ft.)
Slope along watercourse = 997.0815 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.126 Hr.
Lag time = 7.57 Min.
25% of lag time = 1.89 Min.
40% of lag time = 3.03 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 51.40 | 0.49 | 25.19 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 51.40 | 1.20 | 61.68 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.490(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.95 %
Adjusted average point rain = 1.199(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 51.400 | 83.13 | 0.000 |

Total Area Entered = 51.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.1 | 92.9 | 0.093 | 0.000 | 0.093 | 1.000 | 0.093 |
| | | | | | Sum (F) = | 0.093 |

Area averaged mean soil loss (F) (In/Hr) = 0.093

Minimum soil loss rate ((In/Hr)) = 0.046
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

---

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 66.065 | 6.506 | 3.370 |
| 2 | 0.167 | 132.129 | 37.622 | 19.489 |
| 3 | 0.250 | 198.194 | 30.981 | 16.049 |
| 4 | 0.333 | 264.259 | 11.469 | 5.941 |
| 5 | 0.417 | 330.324 | 6.476 | 3.355 |
| 6 | 0.500 | 396.388 | 3.615 | 1.872 |
| 7 | 0.583 | 462.453 | 1.580 | 0.818 |
| 8 | 0.667 | 528.518 | 0.681 | 0.353 |
| 9 | 0.750 | 594.583 | 0.469 | 0.243 |
| 10 | 0.833 | 660.647 | 0.408 | 0.212 |
| 11 | 0.917 | 726.712 | 0.192 | 0.100 |
| | | Sum = 100.000 | Sum= | 51.802 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.093 | ( 0.544) | 0.512 |
| 2 | 0.17 | 4.30 | 0.619 | 0.093 | ( 0.557) | 0.526 |
| 3 | 0.25 | 5.00 | 0.720 | 0.093 | ( 0.648) | 0.627 |
| 4 | 0.33 | 5.00 | 0.720 | 0.093 | ( 0.648) | 0.627 |
| 5 | 0.42 | 5.80 | 0.835 | 0.093 | ( 0.751) | 0.742 |
| 6 | 0.50 | 6.50 | 0.936 | 0.093 | ( 0.842) | 0.843 |
| 7 | 0.58 | 7.40 | 1.065 | 0.093 | ( 0.959) | 0.973 |
| 8 | 0.67 | 8.60 | 1.238 | 0.093 | ( 1.114) | 1.145 |
| 9 | 0.75 | 12.30 | 1.770 | 0.093 | ( 1.593) | 1.678 |
| 10 | 0.83 | 29.10 | 4.188 | 0.093 | ( 3.770) | 4.096 |
| 11 | 0.92 | 6.80 | 0.979 | 0.093 | ( 0.881) | 0.886 |
| 12 | 1.00 | 5.00 | 0.720 | 0.093 | ( 0.648) | 0.627 |
| | | (Loss Rate Not Used) | | | |
| Sum = | | 100.0 | | | Sum = 13.3 |

Flood volume = Effective rainfall 1.11(In)
times area 51.4(Ac.)/[(In)/(Ft.)] = 4.7(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.397(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 206519.2 Cubic Feet
Total soil loss = 17274.9 Cubic Feet

---

Peak flow rate of this hydrograph = 122.588(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

---

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 50.0 | 100.0 | 150.0 | 200.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0119 | 1.73 | Q | | | | |
| 0+10 | 0.0929 | 11.76 | V Q | | | | |
| 0+15 | 0.2347 | 20.60 | V Q | | | | |
| 0+20 | 0.4127 | 25.84 | V Q | | | | |
| 0+25 | 0.6168 | 29.65 | Q | | | | |
| 0+30 | 0.8499 | 33.84 | QV | | | | |
| 0+35 | 1.1176 | 38.87 | Q V | | | | |
| 0+40 | 1.4252 | 44.66 | Q V | | | | |
| 0+45 | 1.7909 | 53.10 | Q V | | | | |
| 0+50 | 2.3136 | 75.89 | Q V | | | | |

```
    0+55       3.1578    122.59  |          |          |   Q V    |          |
    1+ 0       3.8609    102.09  |          |          Q          | V        |
    1+ 5       4.2745     60.05  |          | Q        |          |     V    |
    1+10       4.5082     33.93  |      Q   |          |          |       V  |
    1+15       4.6228     16.64  |   Q      |          |          |         V|
    1+20       4.6798      8.28  |Q         |          |          |         V|
    1+25       4.7080      4.09  Q          |          |          |         V|
    1+30       4.7238      2.29  Q          |          |          |         V|
    1+35       4.7339      1.47  Q          |          |          |         V|
    1+40       4.7391      0.75  Q          |          |          |         V|
    1+45       4.7406      0.22  Q          |          |          |         V|
    1+50       4.7410      0.06  Q          |          |          |          V
-------------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX203100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 20
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 51.40(Ac.) = 0.080 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 51.40(Ac.) = 0.080 Sq. Mi.
Length along longest watercourse = 3495.00(Ft.)
Length along longest watercourse measured to centroid = 1715.00(Ft.)
Length along longest watercourse = 0.662 Mi.
Length along longest watercourse measured to centroid = 0.325 Mi.
Difference in elevation = 660.00(Ft.)
Slope along watercourse = 997.0815 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.126 Hr.
Lag time = 7.57 Min.
25% of lag time = 1.89 Min.
40% of lag time = 3.03 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 51.40 | 0.80 | 41.12 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 51.40 | 1.80 | 92.52 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 99.98 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 51.400 | 83.13 | 0.000 |

Total Area Entered = 51.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.1 | 92.9 | 0.093 | 0.000 | 0.093 | 1.000 | 0.093 |
| | | | | | Sum (F) = | 0.093 |

Area averaged mean soil loss (F) (In/Hr) = 0.093

Minimum soil loss rate ((In/Hr)) = 0.046
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 66.065 | 6.506 | 3.370 |
| 2 0.167 | 132.129 | 37.622 | 19.489 |
| 3 0.250 | 198.194 | 30.981 | 16.049 |
| 4 0.333 | 264.259 | 11.469 | 5.941 |
| 5 0.417 | 330.324 | 6.476 | 3.355 |
| 6 0.500 | 396.388 | 3.615 | 1.872 |
| 7 0.583 | 462.453 | 1.580 | 0.818 |
| 8 0.667 | 528.518 | 0.681 | 0.353 |
| 9 0.750 | 594.583 | 0.469 | 0.243 |
| 10 0.833 | 660.647 | 0.408 | 0.212 |
| 11 0.917 | 726.712 | 0.192 | 0.100 |
| | | Sum = 100.000 | Sum= 51.802 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.281 | 0.093 | ( 0.253) | 0.188 |
| 2 | 0.17 | 1.30 | 0.281 | 0.093 | ( 0.253) | 0.188 |
| 3 | 0.25 | 1.10 | 0.238 | 0.093 | ( 0.214) | 0.145 |
| 4 | 0.33 | 1.50 | 0.324 | 0.093 | ( 0.292) | 0.231 |
| 5 | 0.42 | 1.50 | 0.324 | 0.093 | ( 0.292) | 0.231 |
| 6 | 0.50 | 1.80 | 0.389 | 0.093 | ( 0.350) | 0.296 |
| 7 | 0.58 | 1.50 | 0.324 | 0.093 | ( 0.292) | 0.231 |
| 8 | 0.67 | 1.80 | 0.389 | 0.093 | ( 0.350) | 0.296 |
| 9 | 0.75 | 1.80 | 0.389 | 0.093 | ( 0.350) | 0.296 |
| 10 | 0.83 | 1.50 | 0.324 | 0.093 | ( 0.292) | 0.231 |
| 11 | 0.92 | 1.60 | 0.346 | 0.093 | ( 0.311) | 0.253 |
| 12 | 1.00 | 1.80 | 0.389 | 0.093 | ( 0.350) | 0.296 |
| 13 | 1.08 | 2.20 | 0.475 | 0.093 | ( 0.428) | 0.383 |
| 14 | 1.17 | 2.20 | 0.475 | 0.093 | ( 0.428) | 0.383 |
| 15 | 1.25 | 2.20 | 0.475 | 0.093 | ( 0.428) | 0.383 |
| 16 | 1.33 | 2.00 | 0.432 | 0.093 | ( 0.389) | 0.339 |
| 17 | 1.42 | 2.60 | 0.561 | 0.093 | ( 0.505) | 0.469 |
| 18 | 1.50 | 2.70 | 0.583 | 0.093 | ( 0.525) | 0.490 |
| 19 | 1.58 | 2.40 | 0.518 | 0.093 | ( 0.466) | 0.426 |
| 20 | 1.67 | 2.70 | 0.583 | 0.093 | ( 0.525) | 0.490 |
| 21 | 1.75 | 3.30 | 0.713 | 0.093 | ( 0.641) | 0.620 |
| 22 | 1.83 | 3.10 | 0.669 | 0.093 | ( 0.603) | 0.577 |
| 23 | 1.92 | 2.90 | 0.626 | 0.093 | ( 0.564) | 0.534 |
| 24 | 2.00 | 3.00 | 0.648 | 0.093 | ( 0.583) | 0.555 |
| 25 | 2.08 | 3.10 | 0.669 | 0.093 | ( 0.603) | 0.577 |
| 26 | 2.17 | 4.20 | 0.907 | 0.093 | ( 0.816) | 0.814 |
| 27 | 2.25 | 5.00 | 1.080 | 0.093 | ( 0.972) | 0.987 |
| 28 | 2.33 | 3.50 | 0.756 | 0.093 | ( 0.680) | 0.663 |
| 29 | 2.42 | 6.80 | 1.468 | 0.093 | ( 1.322) | 1.376 |
| 30 | 2.50 | 7.30 | 1.576 | 0.093 | ( 1.419) | 1.484 |
| 31 | 2.58 | 8.20 | 1.771 | 0.093 | ( 1.594) | 1.678 |
| 32 | 2.67 | 5.90 | 1.274 | 0.093 | ( 1.147) | 1.182 |
| 33 | 2.75 | 2.00 | 0.432 | 0.093 | ( 0.389) | 0.339 |
| 34 | 2.83 | 1.80 | 0.389 | 0.093 | ( 0.350) | 0.296 |
| 35 | 2.92 | 1.80 | 0.389 | 0.093 | ( 0.350) | 0.296 |
| 36 | 3.00 | 0.60 | 0.130 | 0.093 | ( 0.117) | 0.037 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | | Sum = 18.3 |

Flood volume = Effective rainfall 1.52(In)
times area 51.4(Ac.)/[(In)/(Ft.)] = 6.5(Ac.Ft)
Total soil loss = 0.28(In)
Total soil loss = 1.190(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 283947.4 Cubic Feet
Total soil loss = 51824.6 Cubic Feet

Peak flow rate of this hydrograph = 73.964(CFS)

3 - H O U R  S T O R M
R u n o f f  H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 20.0 | 40.0 | 60.0 | 80.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0044 | 0.63 | Q | | | | |
| 0+10 | 0.0340 | 4.30 | V Q | | | | |
| 0+15 | 0.0834 | 7.18 | V Q | | | | |
| 0+20 | 0.1368 | 7.75 | V Q | | | | |
| 0+25 | 0.2013 | 9.37 | V Q | | | | |
| 0+30 | 0.2776 | 11.07 | V Q | | | | |
| 0+35 | 0.3646 | 12.64 | V Q | | | | |
| 0+40 | 0.4535 | 12.91 | V Q | | | | |
| 0+45 | 0.5478 | 13.69 | V Q | | | | |
| 0+50 | 0.6472 | 14.44 | V Q | | | | |
| 0+55 | 0.7407 | 13.58 | V Q | | | | |
| 1+ 0 | 0.8320 | 13.26 | VQ | | | | |
| 1+ 5 | 0.9316 | 14.46 | V Q | | | | |
| 1+10 | 1.0474 | 16.81 | V Q | | | | |
| 1+15 | 1.1742 | 18.42 | V Q | | | | |
| 1+20 | 1.3046 | 18.93 | VQ | | | | |
| 1+25 | 1.4348 | 18.90 | VQ | | | | |
| 1+30 | 1.5794 | 21.00 | VQ | | | | |
| 1+35 | 1.7385 | 23.10 | VQ | | | | |
| 1+40 | 1.8974 | 23.07 | Q | | | | |
| 1+45 | 2.0644 | 24.24 | Q | | | | |
| 1+50 | 2.2543 | 27.58 | Q | | | | |
| 1+55 | 2.4539 | 28.98 | QV | | | | |
| 2+ 0 | 2.6498 | 28.44 | Q V | | | | |
| 2+ 5 | 2.8462 | 28.52 | Q V | | | | |
| 2+10 | 3.0527 | 29.98 | Q V | | | | |
| 2+15 | 3.2977 | 35.58 | Q V | | | | |
| 2+20 | 3.5856 | 41.80 | Q V | | | | |
| 2+25 | 3.8761 | 42.18 | Q V | | | | |
| 2+30 | 4.2420 | 53.13 | Q | | | | |
| 2+35 | 4.6997 | 66.45 | V Q | | | | |
| 2+40 | 5.2091 | 73.96 | V Q | | | | |
| 2+45 | 5.6720 | 67.22 | QV | | | | |
| 2+50 | 5.9846 | 45.39 | Q V | | | | |
| 2+55 | 6.1877 | 29.49 | Q V | | | | |
| 3+ 0 | 6.3387 | 21.93 | Q V | | | | |
| 3+ 5 | 6.4286 | 13.06 | Q V | | | | |
| 3+10 | 6.4718 | 6.26 | Q V | | | | |
| 3+15 | 6.4947 | 3.32 | Q V | | | | |
| 3+20 | 6.5073 | 1.83 | Q V | | | | |
| 3+25 | 6.5136 | 0.92 | Q V | | | | |
| 3+30 | 6.5163 | 0.40 | Q V | | | | |
| 3+35 | 6.5176 | 0.18 | Q V | | | | |
| 3+40 | 6.5183 | 0.10 | Q V | | | | |
| 3+45 | 6.5185 | 0.04 | Q V | | | | |
| 3+50 | 6.5185 | 0.00 | Q V | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX206100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 20
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 51.40(Ac.) = 0.080 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 51.40(Ac.) = 0.080 Sq. Mi.
Length along longest watercourse = 3495.00(Ft.)
Length along longest watercourse measured to centroid = 1715.00(Ft.)
Length along longest watercourse = 0.662 Mi.
Length along longest watercourse measured to centroid = 0.325 Mi.
Difference in elevation = 660.00(Ft.)
Slope along watercourse = 997.0815 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.126 Hr.
Lag time = 7.57 Min.
25% of lag time = 1.89 Min.
40% of lag time = 3.03 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 51.40 | 1.12 | 57.57 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 51.40 | 2.50 | 128.50 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.120(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 99.98 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 51.400 | 83.13 | 0.000 |

Total Area Entered = 51.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.1 | 92.9 | 0.093 | 0.000 | 0.093 | 1.000 | 0.093 |
| | | | | | Sum (F) = | 0.093 |

Area averaged mean soil loss (F) (In/Hr) = 0.093

Minimum soil loss rate ((In/Hr)) = 0.046
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 66.065 | 6.506 | 3.370 |
| 2 | 0.167 | 132.129 | 37.622 | 19.489 |
| 3 | 0.250 | 198.194 | 30.981 | 16.049 |
| 4 | 0.333 | 264.259 | 11.469 | 5.941 |
| 5 | 0.417 | 330.324 | 6.476 | 3.355 |
| 6 | 0.500 | 396.388 | 3.615 | 1.872 |
| 7 | 0.583 | 462.453 | 1.580 | 0.818 |
| 8 | 0.667 | 528.518 | 0.681 | 0.353 |
| 9 | 0.750 | 594.583 | 0.469 | 0.243 |
| 10 | 0.833 | 660.647 | 0.408 | 0.212 |
| 11 | 0.917 | 726.712 | 0.192 | 0.100 |
| | | | Sum = 100.000 | Sum= 51.802 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.093 | ( 0.135) | 0.057 |
| 2 | 0.17 | 0.60 | 0.180 | 0.093 | ( 0.162) | 0.087 |
| 3 | 0.25 | 0.60 | 0.180 | 0.093 | ( 0.162) | 0.087 |
| 4 | 0.33 | 0.60 | 0.180 | 0.093 | ( 0.162) | 0.087 |
| 5 | 0.42 | 0.60 | 0.180 | 0.093 | ( 0.162) | 0.087 |
| 6 | 0.50 | 0.70 | 0.210 | 0.093 | ( 0.189) | 0.117 |
| 7 | 0.58 | 0.70 | 0.210 | 0.093 | ( 0.189) | 0.117 |
| 8 | 0.67 | 0.70 | 0.210 | 0.093 | ( 0.189) | 0.117 |
| 9 | 0.75 | 0.70 | 0.210 | 0.093 | ( 0.189) | 0.117 |
| 10 | 0.83 | 0.70 | 0.210 | 0.093 | ( 0.189) | 0.117 |
| 11 | 0.92 | 0.70 | 0.210 | 0.093 | ( 0.189) | 0.117 |
| 12 | 1.00 | 0.80 | 0.240 | 0.093 | ( 0.216) | 0.147 |
| 13 | 1.08 | 0.80 | 0.240 | 0.093 | ( 0.216) | 0.147 |
| 14 | 1.17 | 0.80 | 0.240 | 0.093 | ( 0.216) | 0.147 |
| 15 | 1.25 | 0.80 | 0.240 | 0.093 | ( 0.216) | 0.147 |
| 16 | 1.33 | 0.80 | 0.240 | 0.093 | ( 0.216) | 0.147 |
| 17 | 1.42 | 0.80 | 0.240 | 0.093 | ( 0.216) | 0.147 |
| 18 | 1.50 | 0.80 | 0.240 | 0.093 | ( 0.216) | 0.147 |
| 19 | 1.58 | 0.80 | 0.240 | 0.093 | ( 0.216) | 0.147 |
| 20 | 1.67 | 0.80 | 0.240 | 0.093 | ( 0.216) | 0.147 |
| 21 | 1.75 | 0.80 | 0.240 | 0.093 | ( 0.216) | 0.147 |
| 22 | 1.83 | 0.80 | 0.240 | 0.093 | ( 0.216) | 0.147 |
| 23 | 1.92 | 0.80 | 0.240 | 0.093 | ( 0.216) | 0.147 |
| 24 | 2.00 | 0.90 | 0.270 | 0.093 | ( 0.243) | 0.177 |
| 25 | 2.08 | 0.80 | 0.240 | 0.093 | ( 0.216) | 0.147 |
| 26 | 2.17 | 0.90 | 0.270 | 0.093 | ( 0.243) | 0.177 |
| 27 | 2.25 | 0.90 | 0.270 | 0.093 | ( 0.243) | 0.177 |
| 28 | 2.33 | 0.90 | 0.270 | 0.093 | ( 0.243) | 0.177 |
| 29 | 2.42 | 0.90 | 0.270 | 0.093 | ( 0.243) | 0.177 |
| 30 | 2.50 | 0.90 | 0.270 | 0.093 | ( 0.243) | 0.177 |
| 31 | 2.58 | 0.90 | 0.270 | 0.093 | ( 0.243) | 0.177 |
| 32 | 2.67 | 0.90 | 0.270 | 0.093 | ( 0.243) | 0.177 |
| 33 | 2.75 | 1.00 | 0.300 | 0.093 | ( 0.270) | 0.207 |
| 34 | 2.83 | 1.00 | 0.300 | 0.093 | ( 0.270) | 0.207 |
| 35 | 2.92 | 1.00 | 0.300 | 0.093 | ( 0.270) | 0.207 |
| 36 | 3.00 | 1.00 | 0.300 | 0.093 | ( 0.270) | 0.207 |
| 37 | 3.08 | 1.00 | 0.300 | 0.093 | ( 0.270) | 0.207 |
| 38 | 3.17 | 1.10 | 0.330 | 0.093 | ( 0.297) | 0.237 |
| 39 | 3.25 | 1.10 | 0.330 | 0.093 | ( 0.297) | 0.237 |
| 40 | 3.33 | 1.10 | 0.330 | 0.093 | ( 0.297) | 0.237 |
| 41 | 3.42 | 1.20 | 0.360 | 0.093 | ( 0.324) | 0.267 |
| 42 | 3.50 | 1.30 | 0.390 | 0.093 | ( 0.351) | 0.297 |
| 43 | 3.58 | 1.40 | 0.420 | 0.093 | ( 0.378) | 0.327 |
| 44 | 3.67 | 1.40 | 0.420 | 0.093 | ( 0.378) | 0.327 |
| 45 | 3.75 | 1.50 | 0.450 | 0.093 | ( 0.405) | 0.357 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 46 | 3.83 | 1.50 | 0.450 | 0.093 | ( 0.405) | 0.357 | |
| 47 | 3.92 | 1.60 | 0.480 | 0.093 | ( 0.432) | 0.387 | |
| 48 | 4.00 | 1.60 | 0.480 | 0.093 | ( 0.432) | 0.387 | |
| 49 | 4.08 | 1.70 | 0.510 | 0.093 | ( 0.459) | 0.417 | |
| 50 | 4.17 | 1.80 | 0.540 | 0.093 | ( 0.486) | 0.447 | |
| 51 | 4.25 | 1.90 | 0.570 | 0.093 | ( 0.513) | 0.477 | |
| 52 | 4.33 | 2.00 | 0.600 | 0.093 | ( 0.540) | 0.507 | |
| 53 | 4.42 | 2.10 | 0.630 | 0.093 | ( 0.567) | 0.537 | |
| 54 | 4.50 | 2.10 | 0.630 | 0.093 | ( 0.567) | 0.537 | |
| 55 | 4.58 | 2.20 | 0.660 | 0.093 | ( 0.594) | 0.567 | |
| 56 | 4.67 | 2.30 | 0.690 | 0.093 | ( 0.621) | 0.597 | |
| 57 | 4.75 | 2.40 | 0.720 | 0.093 | ( 0.648) | 0.627 | |
| 58 | 4.83 | 2.40 | 0.720 | 0.093 | ( 0.648) | 0.627 | |
| 59 | 4.92 | 2.50 | 0.750 | 0.093 | ( 0.675) | 0.657 | |
| 60 | 5.00 | 2.60 | 0.780 | 0.093 | ( 0.702) | 0.687 | |
| 61 | 5.08 | 3.10 | 0.930 | 0.093 | ( 0.837) | 0.837 | |
| 62 | 5.17 | 3.60 | 1.080 | 0.093 | ( 0.972) | 0.987 | |
| 63 | 5.25 | 3.90 | 1.170 | 0.093 | ( 1.053) | 1.077 | |
| 64 | 5.33 | 4.20 | 1.260 | 0.093 | ( 1.134) | 1.167 | |
| 65 | 5.42 | 4.70 | 1.410 | 0.093 | ( 1.269) | 1.317 | |
| 66 | 5.50 | 5.60 | 1.680 | 0.093 | ( 1.512) | 1.587 | |
| 67 | 5.58 | 1.90 | 0.570 | 0.093 | ( 0.513) | 0.477 | |
| 68 | 5.67 | 0.90 | 0.270 | 0.093 | ( 0.243) | 0.177 | |
| 69 | 5.75 | 0.60 | 0.180 | 0.093 | ( 0.162) | 0.087 | |
| 70 | 5.83 | 0.50 | 0.150 | 0.093 | ( 0.135) | 0.057 | |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.093) | 0.081 | 0.009 | |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.093) | 0.054 | 0.006 | |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.4

Flood volume = Effective rainfall 1.95(In)
times area 51.4(Ac.)/[(In)/(Ft.)] = 8.3(Ac.Ft)
Total soil loss = 0.55(In)
Total soil loss = 2.362(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 363503.8 Cubic Feet
Total soil loss = 102868.8 Cubic Feet

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Peak flow rate of this hydrograph = 67.393(CFS)

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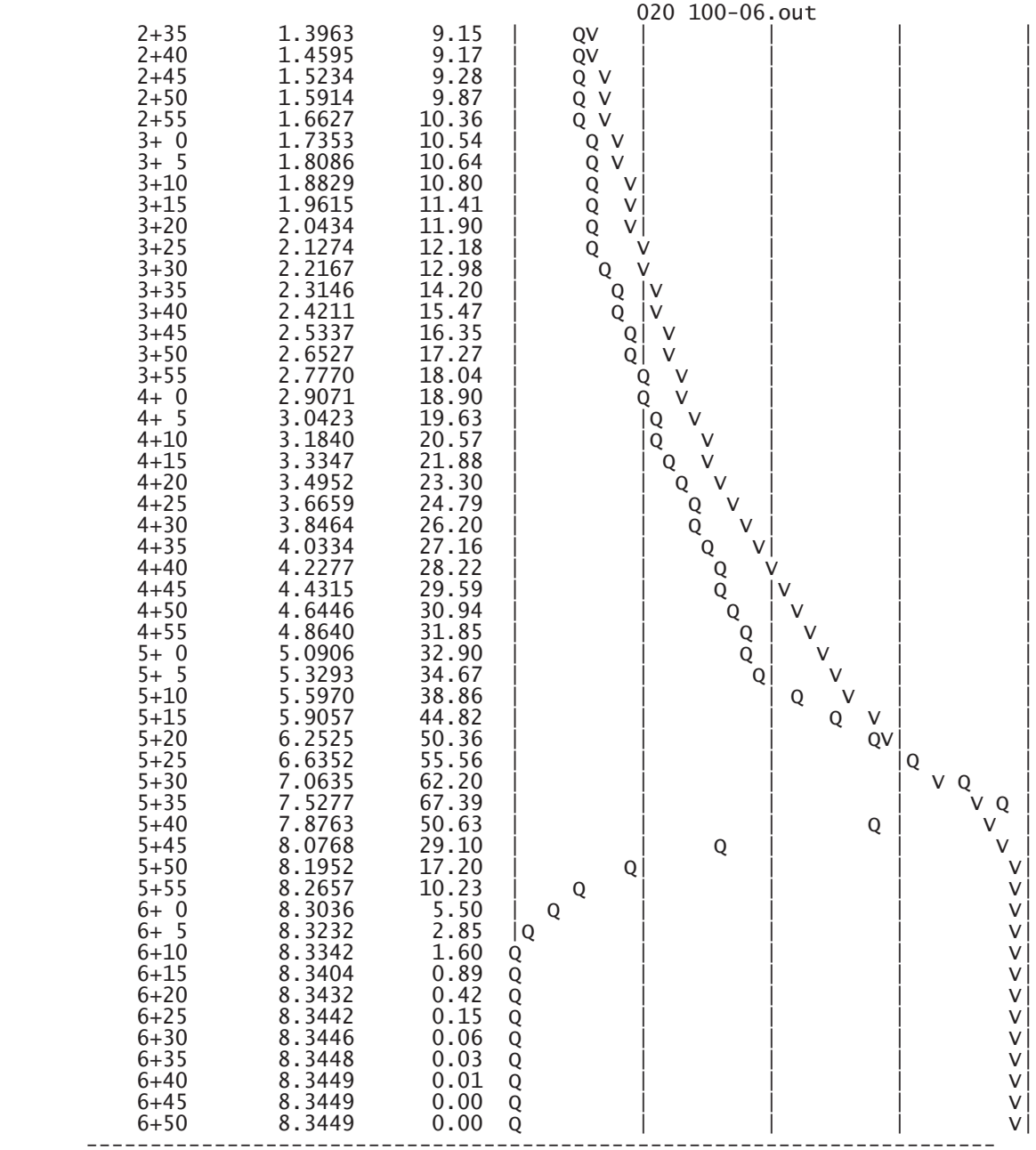
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 17.5 | 35.0 | 52.5 | 70.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0013 | 0.19 | Q | \| | \| | \| | \| |
| 0+10 | 0.0111 | 1.41 | Q | \| | \| | \| | \| |
| 0+15 | 0.0312 | 2.92 | VQ | \| | \| | \| | \| |
| 0+20 | 0.0570 | 3.74 | V Q | \| | \| | \| | \| |
| 0+25 | 0.0853 | 4.11 | V Q | \| | \| | \| | \| |
| 0+30 | 0.1157 | 4.42 | V Q | \| | \| | \| | \| |
| 0+35 | 0.1509 | 5.11 | V Q | \| | \| | \| | \| |
| 0+40 | 0.1898 | 5.64 | V Q | \| | \| | \| | \| |
| 0+45 | 0.2300 | 5.84 | \|V Q | \| | \| | \| | \| |
| 0+50 | 0.2710 | 5.96 | \|V Q | \| | \| | \| | \| |
| 0+55 | 0.3126 | 6.03 | \|V Q | \| | \| | \| | \| |
| 1+ 0 | 0.3550 | 6.16 | \|V Q | \| | \| | \| | \| |
| 1+ 5 | 0.4015 | 6.75 | \|V Q | \| | \| | \| | \| |
| 1+10 | 0.4514 | 7.24 | \| V Q | \| | \| | \| | \| |
| 1+15 | 0.5025 | 7.43 | \| V Q | \| | \| | \| | \| |
| 1+20 | 0.5544 | 7.53 | \| V Q | \| | \| | \| | \| |
| 1+25 | 0.6066 | 7.59 | \| V Q | \| | \| | \| | \| |
| 1+30 | 0.6590 | 7.61 | \| VQ | \| | \| | \| | \| |
| 1+35 | 0.7115 | 7.62 | \| VQ | \| | \| | \| | \| |
| 1+40 | 0.7640 | 7.63 | \| VQ | \| | \| | \| | \| |
| 1+45 | 0.8166 | 7.64 | \| VQ | \| | \| | \| | \| |
| 1+50 | 0.8692 | 7.64 | \| Q | \| | \| | \| | \| |
| 1+55 | 0.9218 | 7.64 | \| Q | \| | \| | \| | \| |
| 2+ 0 | 0.9751 | 7.74 | \| Q | \| | \| | \| | \| |
| 2+ 5 | 1.0318 | 8.22 | \| Q | \| | \| | \| | \| |
| 2+10 | 1.0884 | 8.22 | \| QV | \| | \| | \| | \| |
| 2+15 | 1.1469 | 8.50 | \| QV | \| | \| | \| | \| |
| 2+20 | 1.2083 | 8.91 | \| Q | \| | \| | \| | \| |
| 2+25 | 1.2705 | 9.04 | \| QV | \| | \| | \| | \| |
| 2+30 | 1.3333 | 9.11 | \| QV | \| | \| | \| | \| |



| | | | |
|---|---|---|---|
| 2+35 | 1.3963 | 9.15 | |
| 2+40 | 1.4595 | 9.17 | |
| 2+45 | 1.5234 | 9.28 | |
| 2+50 | 1.5914 | 9.87 | |
| 2+55 | 1.6627 | 10.36 | |
| 3+ 0 | 1.7353 | 10.54 | |
| 3+ 5 | 1.8086 | 10.64 | |
| 3+10 | 1.8829 | 10.80 | |
| 3+15 | 1.9615 | 11.41 | |
| 3+20 | 2.0434 | 11.90 | |
| 3+25 | 2.1274 | 12.18 | |
| 3+30 | 2.2167 | 12.98 | |
| 3+35 | 2.3146 | 14.20 | |
| 3+40 | 2.4211 | 15.47 | |
| 3+45 | 2.5337 | 16.35 | |
| 3+50 | 2.6527 | 17.27 | |
| 3+55 | 2.7770 | 18.04 | |
| 4+ 0 | 2.9071 | 18.90 | |
| 4+ 5 | 3.0423 | 19.63 | |
| 4+10 | 3.1840 | 20.57 | |
| 4+15 | 3.3347 | 21.88 | |
| 4+20 | 3.4952 | 23.30 | |
| 4+25 | 3.6659 | 24.79 | |
| 4+30 | 3.8464 | 26.20 | |
| 4+35 | 4.0334 | 27.16 | |
| 4+40 | 4.2277 | 28.22 | |
| 4+45 | 4.4315 | 29.59 | |
| 4+50 | 4.6446 | 30.94 | |
| 4+55 | 4.8640 | 31.85 | |
| 5+ 0 | 5.0906 | 32.90 | |
| 5+ 5 | 5.3293 | 34.67 | |
| 5+10 | 5.5970 | 38.86 | |
| 5+15 | 5.9057 | 44.82 | |
| 5+20 | 6.2525 | 50.36 | |
| 5+25 | 6.6352 | 55.56 | |
| 5+30 | 7.0635 | 62.20 | |
| 5+35 | 7.5277 | 67.39 | |
| 5+40 | 7.8763 | 50.63 | |
| 5+45 | 8.0768 | 29.10 | |
| 5+50 | 8.1952 | 17.20 | |
| 5+55 | 8.2657 | 10.23 | |
| 6+ 0 | 8.3036 | 5.50 | |
| 6+ 5 | 8.3232 | 2.85 | |
| 6+10 | 8.3342 | 1.60 | |
| 6+15 | 8.3404 | 0.89 | |
| 6+20 | 8.3432 | 0.42 | |
| 6+25 | 8.3442 | 0.15 | |
| 6+30 | 8.3446 | 0.06 | |
| 6+35 | 8.3448 | 0.03 | |
| 6+40 | 8.3449 | 0.01 | |
| 6+45 | 8.3449 | 0.00 | |
| 6+50 | 8.3449 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX2024100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
EXISTING CONDITIONS AREA 20
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 51.40(Ac.) = 0.080 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 51.40(Ac.) = 0.080 Sq. Mi.
Length along longest watercourse = 3495.00(Ft.)
Length along longest watercourse measured to centroid = 1715.00(Ft.)
Length along longest watercourse = 0.662 Mi.
Length along longest watercourse measured to centroid = 0.325 Mi.
Difference in elevation = 660.00(Ft.)
Slope along watercourse = 997.0815 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.126 Hr.
Lag time = 7.57 Min.
25% of lag time = 1.89 Min.
40% of lag time = 3.03 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 51.40 | 1.80 | 92.52 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 51.40 | 4.56 | 234.38 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.560(In)

Point rain (area averaged) = 4.560(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 4.560(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 51.400 | 83.13 | 0.000 |

Total Area Entered = 51.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.1 | 92.9 | 0.093 | 0.000 | 0.093 | 1.000 | 0.093 |
| | | | | | Sum (F) = | 0.093 |

Area averaged mean soil loss (F) (In/Hr) = 0.093

Minimum soil loss rate ((In/Hr)) = 0.046
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 66.065 | 6.506 | 3.370 |
| 2 0.167 | 132.129 | 37.622 | 19.489 |
| 3 0.250 | 198.194 | 30.981 | 16.049 |
| 4 0.333 | 264.259 | 11.469 | 5.941 |
| 5 0.417 | 330.324 | 6.476 | 3.355 |
| 6 0.500 | 396.388 | 3.615 | 1.872 |
| 7 0.583 | 462.453 | 1.580 | 0.818 |
| 8 0.667 | 528.518 | 0.681 | 0.353 |
| 9 0.750 | 594.583 | 0.469 | 0.243 |
| 10 0.833 | 660.647 | 0.408 | 0.212 |
| 11 0.917 | 726.712 | 0.192 | 0.100 |
| | | Sum = 100.000 | Sum= 51.802 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.036 | ( 0.164) | 0.033 | 0.004 |
| 2 | 0.17 | 0.07 | 0.036 | ( 0.163) | 0.033 | 0.004 |
| 3 | 0.25 | 0.07 | 0.036 | ( 0.163) | 0.033 | 0.004 |
| 4 | 0.33 | 0.10 | 0.055 | ( 0.162) | 0.049 | 0.005 |
| 5 | 0.42 | 0.10 | 0.055 | ( 0.162) | 0.049 | 0.005 |
| 6 | 0.50 | 0.10 | 0.055 | ( 0.161) | 0.049 | 0.005 |
| 7 | 0.58 | 0.10 | 0.055 | ( 0.160) | 0.049 | 0.005 |
| 8 | 0.67 | 0.10 | 0.055 | ( 0.160) | 0.049 | 0.005 |
| 9 | 0.75 | 0.10 | 0.055 | ( 0.159) | 0.049 | 0.005 |
| 10 | 0.83 | 0.13 | 0.073 | ( 0.158) | 0.066 | 0.007 |
| 11 | 0.92 | 0.13 | 0.073 | ( 0.158) | 0.066 | 0.007 |
| 12 | 1.00 | 0.13 | 0.073 | ( 0.157) | 0.066 | 0.007 |
| 13 | 1.08 | 0.10 | 0.055 | ( 0.157) | 0.049 | 0.005 |
| 14 | 1.17 | 0.10 | 0.055 | ( 0.156) | 0.049 | 0.005 |
| 15 | 1.25 | 0.10 | 0.055 | ( 0.155) | 0.049 | 0.005 |
| 16 | 1.33 | 0.10 | 0.055 | ( 0.155) | 0.049 | 0.005 |
| 17 | 1.42 | 0.10 | 0.055 | ( 0.154) | 0.049 | 0.005 |
| 18 | 1.50 | 0.10 | 0.055 | ( 0.154) | 0.049 | 0.005 |
| 19 | 1.58 | 0.10 | 0.055 | ( 0.153) | 0.049 | 0.005 |
| 20 | 1.67 | 0.10 | 0.055 | ( 0.152) | 0.049 | 0.005 |
| 21 | 1.75 | 0.10 | 0.055 | ( 0.152) | 0.049 | 0.005 |
| 22 | 1.83 | 0.13 | 0.073 | ( 0.151) | 0.066 | 0.007 |
| 23 | 1.92 | 0.13 | 0.073 | ( 0.150) | 0.066 | 0.007 |
| 24 | 2.00 | 0.13 | 0.073 | ( 0.150) | 0.066 | 0.007 |
| 25 | 2.08 | 0.13 | 0.073 | ( 0.149) | 0.066 | 0.007 |
| 26 | 2.17 | 0.13 | 0.073 | ( 0.149) | 0.066 | 0.007 |
| 27 | 2.25 | 0.13 | 0.073 | ( 0.148) | 0.066 | 0.007 |
| 28 | 2.33 | 0.13 | 0.073 | ( 0.147) | 0.066 | 0.007 |
| 29 | 2.42 | 0.13 | 0.073 | ( 0.147) | 0.066 | 0.007 |
| 30 | 2.50 | 0.13 | 0.073 | ( 0.146) | 0.066 | 0.007 |
| 31 | 2.58 | 0.17 | 0.091 | ( 0.146) | 0.082 | 0.009 |
| 32 | 2.67 | 0.17 | 0.091 | ( 0.145) | 0.082 | 0.009 |
| 33 | 2.75 | 0.17 | 0.091 | ( 0.144) | 0.082 | 0.009 |
| 34 | 2.83 | 0.17 | 0.091 | ( 0.144) | 0.082 | 0.009 |
| 35 | 2.92 | 0.17 | 0.091 | ( 0.143) | 0.082 | 0.009 |
| 36 | 3.00 | 0.17 | 0.091 | ( 0.143) | 0.082 | 0.009 |
| 37 | 3.08 | 0.17 | 0.091 | ( 0.142) | 0.082 | 0.009 |
| 38 | 3.17 | 0.17 | 0.091 | ( 0.141) | 0.082 | 0.009 |
| 39 | 3.25 | 0.17 | 0.091 | ( 0.141) | 0.082 | 0.009 |
| 40 | 3.33 | 0.17 | 0.091 | ( 0.140) | 0.082 | 0.009 |
| 41 | 3.42 | 0.17 | 0.091 | ( 0.140) | 0.082 | 0.009 |
| 42 | 3.50 | 0.17 | 0.091 | ( 0.139) | 0.082 | 0.009 |
| 43 | 3.58 | 0.17 | 0.091 | ( 0.139) | 0.082 | 0.009 |
| 44 | 3.67 | 0.17 | 0.091 | ( 0.138) | 0.082 | 0.009 |
| 45 | 3.75 | 0.17 | 0.091 | ( 0.137) | 0.082 | 0.009 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 46 | 3.83 | 0.20 | 0.109 | ( | 0.137) | 0.098 | | 0.011 |
| 47 | 3.92 | 0.20 | 0.109 | ( | 0.136) | 0.098 | | 0.011 |
| 48 | 4.00 | 0.20 | 0.109 | ( | 0.136) | 0.098 | | 0.011 |
| 49 | 4.08 | 0.20 | 0.109 | ( | 0.135) | 0.098 | | 0.011 |
| 50 | 4.17 | 0.20 | 0.109 | ( | 0.134) | 0.098 | | 0.011 |
| 51 | 4.25 | 0.20 | 0.109 | ( | 0.134) | 0.098 | | 0.011 |
| 52 | 4.33 | 0.23 | 0.128 | ( | 0.133) | 0.115 | | 0.013 |
| 53 | 4.42 | 0.23 | 0.128 | ( | 0.133) | 0.115 | | 0.013 |
| 54 | 4.50 | 0.23 | 0.128 | ( | 0.132) | 0.115 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.128 | ( | 0.132) | 0.115 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.128 | ( | 0.131) | 0.115 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.128 | ( | 0.131) | 0.115 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.146 | | 0.130 | ( | 0.131) | 0.016 |
| 59 | 4.92 | 0.27 | 0.146 | | 0.129 | ( | 0.131) | 0.017 |
| 60 | 5.00 | 0.27 | 0.146 | | 0.129 | ( | 0.131) | 0.017 |
| 61 | 5.08 | 0.20 | 0.109 | ( | 0.128) | 0.098 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.109 | ( | 0.128) | 0.098 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.109 | ( | 0.127) | 0.098 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.128 | ( | 0.127) | 0.115 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.128 | ( | 0.126) | 0.115 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.128 | ( | 0.125) | 0.115 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.146 | | 0.125 | ( | 0.131) | 0.021 |
| 68 | 5.67 | 0.27 | 0.146 | | 0.124 | ( | 0.131) | 0.022 |
| 69 | 5.75 | 0.27 | 0.146 | | 0.124 | ( | 0.131) | 0.022 |
| 70 | 5.83 | 0.27 | 0.146 | | 0.123 | ( | 0.131) | 0.023 |
| 71 | 5.92 | 0.27 | 0.146 | | 0.123 | ( | 0.131) | 0.023 |
| 72 | 6.00 | 0.27 | 0.146 | | 0.122 | ( | 0.131) | 0.024 |
| 73 | 6.08 | 0.30 | 0.164 | | 0.122 | ( | 0.148) | 0.042 |
| 74 | 6.17 | 0.30 | 0.164 | | 0.121 | ( | 0.148) | 0.043 |
| 75 | 6.25 | 0.30 | 0.164 | | 0.121 | ( | 0.148) | 0.044 |
| 76 | 6.33 | 0.30 | 0.164 | | 0.120 | ( | 0.148) | 0.044 |
| 77 | 6.42 | 0.30 | 0.164 | | 0.120 | ( | 0.148) | 0.045 |
| 78 | 6.50 | 0.30 | 0.164 | | 0.119 | ( | 0.148) | 0.045 |
| 79 | 6.58 | 0.33 | 0.182 | | 0.118 | ( | 0.164) | 0.064 |
| 80 | 6.67 | 0.33 | 0.182 | | 0.118 | ( | 0.164) | 0.064 |
| 81 | 6.75 | 0.33 | 0.182 | | 0.117 | ( | 0.164) | 0.065 |
| 82 | 6.83 | 0.33 | 0.182 | | 0.117 | ( | 0.164) | 0.066 |
| 83 | 6.92 | 0.33 | 0.182 | | 0.116 | ( | 0.164) | 0.066 |
| 84 | 7.00 | 0.33 | 0.182 | | 0.116 | ( | 0.164) | 0.067 |
| 85 | 7.08 | 0.33 | 0.182 | | 0.115 | ( | 0.164) | 0.067 |
| 86 | 7.17 | 0.33 | 0.182 | | 0.115 | ( | 0.164) | 0.068 |
| 87 | 7.25 | 0.33 | 0.182 | | 0.114 | ( | 0.164) | 0.068 |
| 88 | 7.33 | 0.37 | 0.201 | | 0.114 | ( | 0.181) | 0.087 |
| 89 | 7.42 | 0.37 | 0.201 | | 0.113 | ( | 0.181) | 0.087 |
| 90 | 7.50 | 0.37 | 0.201 | | 0.113 | ( | 0.181) | 0.088 |
| 91 | 7.58 | 0.40 | 0.219 | | 0.112 | ( | 0.197) | 0.107 |
| 92 | 7.67 | 0.40 | 0.219 | | 0.112 | ( | 0.197) | 0.107 |
| 93 | 7.75 | 0.40 | 0.219 | | 0.111 | ( | 0.197) | 0.108 |
| 94 | 7.83 | 0.43 | 0.237 | | 0.111 | ( | 0.213) | 0.127 |
| 95 | 7.92 | 0.43 | 0.237 | | 0.110 | ( | 0.213) | 0.127 |
| 96 | 8.00 | 0.43 | 0.237 | | 0.110 | ( | 0.213) | 0.128 |
| 97 | 8.08 | 0.50 | 0.274 | | 0.109 | ( | 0.246) | 0.165 |
| 98 | 8.17 | 0.50 | 0.274 | | 0.109 | ( | 0.246) | 0.165 |
| 99 | 8.25 | 0.50 | 0.274 | | 0.108 | ( | 0.246) | 0.166 |
| 100 | 8.33 | 0.50 | 0.274 | | 0.108 | ( | 0.246) | 0.166 |
| 101 | 8.42 | 0.50 | 0.274 | | 0.107 | ( | 0.246) | 0.167 |
| 102 | 8.50 | 0.50 | 0.274 | | 0.107 | ( | 0.246) | 0.167 |
| 103 | 8.58 | 0.53 | 0.292 | | 0.106 | ( | 0.263) | 0.186 |
| 104 | 8.67 | 0.53 | 0.292 | | 0.106 | ( | 0.263) | 0.186 |
| 105 | 8.75 | 0.53 | 0.292 | | 0.105 | ( | 0.263) | 0.187 |
| 106 | 8.83 | 0.57 | 0.310 | | 0.105 | ( | 0.279) | 0.205 |
| 107 | 8.92 | 0.57 | 0.310 | | 0.104 | ( | 0.279) | 0.206 |
| 108 | 9.00 | 0.57 | 0.310 | | 0.104 | ( | 0.279) | 0.206 |
| 109 | 9.08 | 0.63 | 0.347 | | 0.103 | ( | 0.312) | 0.243 |
| 110 | 9.17 | 0.63 | 0.347 | | 0.103 | ( | 0.312) | 0.244 |
| 111 | 9.25 | 0.63 | 0.347 | | 0.102 | ( | 0.312) | 0.244 |
| 112 | 9.33 | 0.67 | 0.365 | | 0.102 | ( | 0.328) | 0.263 |
| 113 | 9.42 | 0.67 | 0.365 | | 0.101 | ( | 0.328) | 0.264 |
| 114 | 9.50 | 0.67 | 0.365 | | 0.101 | ( | 0.328) | 0.264 |
| 115 | 9.58 | 0.70 | 0.383 | | 0.100 | ( | 0.345) | 0.283 |
| 116 | 9.67 | 0.70 | 0.383 | | 0.100 | ( | 0.345) | 0.283 |
| 117 | 9.75 | 0.70 | 0.383 | | 0.099 | ( | 0.345) | 0.284 |
| 118 | 9.83 | 0.73 | 0.401 | | 0.099 | ( | 0.361) | 0.303 |
| 119 | 9.92 | 0.73 | 0.401 | | 0.098 | ( | 0.361) | 0.303 |
| 120 | 10.00 | 0.73 | 0.401 | | 0.098 | ( | 0.361) | 0.303 |
| 121 | 10.08 | 0.50 | 0.274 | | 0.097 | ( | 0.246) | 0.176 |
| 122 | 10.17 | 0.50 | 0.274 | | 0.097 | ( | 0.246) | 0.177 |
| 123 | 10.25 | 0.50 | 0.274 | | 0.096 | ( | 0.246) | 0.177 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124 | 10.33 | 0.50 | 0.274 | 0.096 | ( 0.246) | 0.178 |
| 125 | 10.42 | 0.50 | 0.274 | 0.095 | ( 0.246) | 0.178 |
| 126 | 10.50 | 0.50 | 0.274 | 0.095 | ( 0.246) | 0.179 |
| 127 | 10.58 | 0.67 | 0.365 | 0.094 | ( 0.328) | 0.270 |
| 128 | 10.67 | 0.67 | 0.365 | 0.094 | ( 0.328) | 0.271 |
| 129 | 10.75 | 0.67 | 0.365 | 0.094 | ( 0.328) | 0.271 |
| 130 | 10.83 | 0.67 | 0.365 | 0.093 | ( 0.328) | 0.272 |
| 131 | 10.92 | 0.67 | 0.365 | 0.093 | ( 0.328) | 0.272 |
| 132 | 11.00 | 0.67 | 0.365 | 0.092 | ( 0.328) | 0.273 |
| 133 | 11.08 | 0.63 | 0.347 | 0.092 | ( 0.312) | 0.255 |
| 134 | 11.17 | 0.63 | 0.347 | 0.091 | ( 0.312) | 0.255 |
| 135 | 11.25 | 0.63 | 0.347 | 0.091 | ( 0.312) | 0.256 |
| 136 | 11.33 | 0.63 | 0.347 | 0.090 | ( 0.312) | 0.256 |
| 137 | 11.42 | 0.63 | 0.347 | 0.090 | ( 0.312) | 0.257 |
| 138 | 11.50 | 0.63 | 0.347 | 0.090 | ( 0.312) | 0.257 |
| 139 | 11.58 | 0.57 | 0.310 | 0.089 | ( 0.279) | 0.221 |
| 140 | 11.67 | 0.57 | 0.310 | 0.089 | ( 0.279) | 0.221 |
| 141 | 11.75 | 0.57 | 0.310 | 0.088 | ( 0.279) | 0.222 |
| 142 | 11.83 | 0.60 | 0.328 | 0.088 | ( 0.295) | 0.241 |
| 143 | 11.92 | 0.60 | 0.328 | 0.087 | ( 0.295) | 0.241 |
| 144 | 12.00 | 0.60 | 0.328 | 0.087 | ( 0.295) | 0.241 |
| 145 | 12.08 | 0.83 | 0.456 | 0.086 | ( 0.410) | 0.370 |
| 146 | 12.17 | 0.83 | 0.456 | 0.086 | ( 0.410) | 0.370 |
| 147 | 12.25 | 0.83 | 0.456 | 0.086 | ( 0.410) | 0.370 |
| 148 | 12.33 | 0.87 | 0.474 | 0.085 | ( 0.427) | 0.389 |
| 149 | 12.42 | 0.87 | 0.474 | 0.085 | ( 0.427) | 0.389 |
| 150 | 12.50 | 0.87 | 0.474 | 0.084 | ( 0.427) | 0.390 |
| 151 | 12.58 | 0.93 | 0.511 | 0.084 | ( 0.460) | 0.427 |
| 152 | 12.67 | 0.93 | 0.511 | 0.083 | ( 0.460) | 0.427 |
| 153 | 12.75 | 0.93 | 0.511 | 0.083 | ( 0.460) | 0.428 |
| 154 | 12.83 | 0.97 | 0.529 | 0.083 | ( 0.476) | 0.446 |
| 155 | 12.92 | 0.97 | 0.529 | 0.082 | ( 0.476) | 0.447 |
| 156 | 13.00 | 0.97 | 0.529 | 0.082 | ( 0.476) | 0.447 |
| 157 | 13.08 | 1.13 | 0.620 | 0.081 | ( 0.558) | 0.539 |
| 158 | 13.17 | 1.13 | 0.620 | 0.081 | ( 0.558) | 0.539 |
| 159 | 13.25 | 1.13 | 0.620 | 0.081 | ( 0.558) | 0.540 |
| 160 | 13.33 | 1.13 | 0.620 | 0.080 | ( 0.558) | 0.540 |
| 161 | 13.42 | 1.13 | 0.620 | 0.080 | ( 0.558) | 0.540 |
| 162 | 13.50 | 1.13 | 0.620 | 0.079 | ( 0.558) | 0.541 |
| 163 | 13.58 | 0.77 | 0.419 | 0.079 | ( 0.378) | 0.341 |
| 164 | 13.67 | 0.77 | 0.419 | 0.078 | ( 0.378) | 0.341 |
| 165 | 13.75 | 0.77 | 0.419 | 0.078 | ( 0.378) | 0.341 |
| 166 | 13.83 | 0.77 | 0.419 | 0.078 | ( 0.378) | 0.342 |
| 167 | 13.92 | 0.77 | 0.419 | 0.077 | ( 0.378) | 0.342 |
| 168 | 14.00 | 0.77 | 0.419 | 0.077 | ( 0.378) | 0.343 |
| 169 | 14.08 | 0.90 | 0.492 | 0.077 | ( 0.443) | 0.416 |
| 170 | 14.17 | 0.90 | 0.492 | 0.076 | ( 0.443) | 0.416 |
| 171 | 14.25 | 0.90 | 0.492 | 0.076 | ( 0.443) | 0.417 |
| 172 | 14.33 | 0.87 | 0.474 | 0.075 | ( 0.427) | 0.399 |
| 173 | 14.42 | 0.87 | 0.474 | 0.075 | ( 0.427) | 0.399 |
| 174 | 14.50 | 0.87 | 0.474 | 0.075 | ( 0.427) | 0.400 |
| 175 | 14.58 | 0.87 | 0.474 | 0.074 | ( 0.427) | 0.400 |
| 176 | 14.67 | 0.87 | 0.474 | 0.074 | ( 0.427) | 0.400 |
| 177 | 14.75 | 0.87 | 0.474 | 0.073 | ( 0.427) | 0.401 |
| 178 | 14.83 | 0.83 | 0.456 | 0.073 | ( 0.410) | 0.383 |
| 179 | 14.92 | 0.83 | 0.456 | 0.073 | ( 0.410) | 0.383 |
| 180 | 15.00 | 0.83 | 0.456 | 0.072 | ( 0.410) | 0.384 |
| 181 | 15.08 | 0.80 | 0.438 | 0.072 | ( 0.394) | 0.366 |
| 182 | 15.17 | 0.80 | 0.438 | 0.072 | ( 0.394) | 0.366 |
| 183 | 15.25 | 0.80 | 0.438 | 0.071 | ( 0.394) | 0.367 |
| 184 | 15.33 | 0.77 | 0.419 | 0.071 | ( 0.378) | 0.349 |
| 185 | 15.42 | 0.77 | 0.419 | 0.070 | ( 0.378) | 0.349 |
| 186 | 15.50 | 0.77 | 0.419 | 0.070 | ( 0.378) | 0.349 |
| 187 | 15.58 | 0.63 | 0.347 | 0.070 | ( 0.312) | 0.277 |
| 188 | 15.67 | 0.63 | 0.347 | 0.069 | ( 0.312) | 0.277 |
| 189 | 15.75 | 0.63 | 0.347 | 0.069 | ( 0.312) | 0.277 |
| 190 | 15.83 | 0.63 | 0.347 | 0.069 | ( 0.312) | 0.278 |
| 191 | 15.92 | 0.63 | 0.347 | 0.068 | ( 0.312) | 0.278 |
| 192 | 16.00 | 0.63 | 0.347 | 0.068 | ( 0.312) | 0.279 |
| 193 | 16.08 | 0.13 | 0.073 | ( 0.068) | 0.066 | 0.007 |
| 194 | 16.17 | 0.13 | 0.073 | ( 0.067) | 0.066 | 0.007 |
| 195 | 16.25 | 0.13 | 0.073 | ( 0.067) | 0.066 | 0.007 |
| 196 | 16.33 | 0.13 | 0.073 | ( 0.067) | 0.066 | 0.007 |
| 197 | 16.42 | 0.13 | 0.073 | ( 0.066) | 0.066 | 0.007 |
| 198 | 16.50 | 0.13 | 0.073 | ( 0.066) | 0.066 | 0.007 |
| 199 | 16.58 | 0.10 | 0.055 | ( 0.066) | 0.049 | 0.005 |
| 200 | 16.67 | 0.10 | 0.055 | ( 0.065) | 0.049 | 0.005 |
| 201 | 16.75 | 0.10 | 0.055 | ( 0.065) | 0.049 | 0.005 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 202 | 16.83 | 0.10 | 0.055 | ( | 0.065) | 0.049 | | 0.005 |
| 203 | 16.92 | 0.10 | 0.055 | ( | 0.064) | 0.049 | | 0.005 |
| 204 | 17.00 | 0.10 | 0.055 | ( | 0.064) | 0.049 | | 0.005 |
| 205 | 17.08 | 0.17 | 0.091 | | 0.064 | ( 0.082) | | 0.028 |
| 206 | 17.17 | 0.17 | 0.091 | | 0.063 | ( 0.082) | | 0.028 |
| 207 | 17.25 | 0.17 | 0.091 | | 0.063 | ( 0.082) | | 0.028 |
| 208 | 17.33 | 0.17 | 0.091 | | 0.063 | ( 0.082) | | 0.029 |
| 209 | 17.42 | 0.17 | 0.091 | | 0.062 | ( 0.082) | | 0.029 |
| 210 | 17.50 | 0.17 | 0.091 | | 0.062 | ( 0.082) | | 0.029 |
| 211 | 17.58 | 0.17 | 0.091 | | 0.062 | ( 0.082) | | 0.029 |
| 212 | 17.67 | 0.17 | 0.091 | | 0.061 | ( 0.082) | | 0.030 |
| 213 | 17.75 | 0.17 | 0.091 | | 0.061 | ( 0.082) | | 0.030 |
| 214 | 17.83 | 0.13 | 0.073 | | 0.061 | ( 0.066) | | 0.012 |
| 215 | 17.92 | 0.13 | 0.073 | | 0.061 | ( 0.066) | | 0.012 |
| 216 | 18.00 | 0.13 | 0.073 | | 0.060 | ( 0.066) | | 0.013 |
| 217 | 18.08 | 0.13 | 0.073 | | 0.060 | ( 0.066) | | 0.013 |
| 218 | 18.17 | 0.13 | 0.073 | | 0.060 | ( 0.066) | | 0.013 |
| 219 | 18.25 | 0.13 | 0.073 | | 0.059 | ( 0.066) | | 0.014 |
| 220 | 18.33 | 0.13 | 0.073 | | 0.059 | ( 0.066) | | 0.014 |
| 221 | 18.42 | 0.13 | 0.073 | | 0.059 | ( 0.066) | | 0.014 |
| 222 | 18.50 | 0.13 | 0.073 | | 0.058 | ( 0.066) | | 0.014 |
| 223 | 18.58 | 0.10 | 0.055 | ( | 0.058) | 0.049 | | 0.005 |
| 224 | 18.67 | 0.10 | 0.055 | ( | 0.058) | 0.049 | | 0.005 |
| 225 | 18.75 | 0.10 | 0.055 | ( | 0.058) | 0.049 | | 0.005 |
| 226 | 18.83 | 0.07 | 0.036 | ( | 0.057) | 0.033 | | 0.004 |
| 227 | 18.92 | 0.07 | 0.036 | ( | 0.057) | 0.033 | | 0.004 |
| 228 | 19.00 | 0.07 | 0.036 | ( | 0.057) | 0.033 | | 0.004 |
| 229 | 19.08 | 0.10 | 0.055 | ( | 0.057) | 0.049 | | 0.005 |
| 230 | 19.17 | 0.10 | 0.055 | ( | 0.056) | 0.049 | | 0.005 |
| 231 | 19.25 | 0.10 | 0.055 | ( | 0.056) | 0.049 | | 0.005 |
| 232 | 19.33 | 0.13 | 0.073 | | 0.056 | ( 0.066) | | 0.017 |
| 233 | 19.42 | 0.13 | 0.073 | | 0.055 | ( 0.066) | | 0.017 |
| 234 | 19.50 | 0.13 | 0.073 | | 0.055 | ( 0.066) | | 0.018 |
| 235 | 19.58 | 0.10 | 0.055 | ( | 0.055) | 0.049 | | 0.005 |
| 236 | 19.67 | 0.10 | 0.055 | ( | 0.055) | 0.049 | | 0.005 |
| 237 | 19.75 | 0.10 | 0.055 | ( | 0.054) | 0.049 | | 0.005 |
| 238 | 19.83 | 0.07 | 0.036 | ( | 0.054) | 0.033 | | 0.004 |
| 239 | 19.92 | 0.07 | 0.036 | ( | 0.054) | 0.033 | | 0.004 |
| 240 | 20.00 | 0.07 | 0.036 | ( | 0.054) | 0.033 | | 0.004 |
| 241 | 20.08 | 0.10 | 0.055 | ( | 0.054) | 0.049 | | 0.005 |
| 242 | 20.17 | 0.10 | 0.055 | ( | 0.053) | 0.049 | | 0.005 |
| 243 | 20.25 | 0.10 | 0.055 | ( | 0.053) | 0.049 | | 0.005 |
| 244 | 20.33 | 0.10 | 0.055 | ( | 0.053) | 0.049 | | 0.005 |
| 245 | 20.42 | 0.10 | 0.055 | ( | 0.053) | 0.049 | | 0.005 |
| 246 | 20.50 | 0.10 | 0.055 | ( | 0.052) | 0.049 | | 0.005 |
| 247 | 20.58 | 0.10 | 0.055 | ( | 0.052) | 0.049 | | 0.005 |
| 248 | 20.67 | 0.10 | 0.055 | ( | 0.052) | 0.049 | | 0.005 |
| 249 | 20.75 | 0.10 | 0.055 | ( | 0.052) | 0.049 | | 0.005 |
| 250 | 20.83 | 0.07 | 0.036 | ( | 0.052) | 0.033 | | 0.004 |
| 251 | 20.92 | 0.07 | 0.036 | ( | 0.051) | 0.033 | | 0.004 |
| 252 | 21.00 | 0.07 | 0.036 | ( | 0.051) | 0.033 | | 0.004 |
| 253 | 21.08 | 0.10 | 0.055 | ( | 0.051) | 0.049 | | 0.005 |
| 254 | 21.17 | 0.10 | 0.055 | ( | 0.051) | 0.049 | | 0.005 |
| 255 | 21.25 | 0.10 | 0.055 | ( | 0.051) | 0.049 | | 0.005 |
| 256 | 21.33 | 0.07 | 0.036 | ( | 0.050) | 0.033 | | 0.004 |
| 257 | 21.42 | 0.07 | 0.036 | ( | 0.050) | 0.033 | | 0.004 |
| 258 | 21.50 | 0.07 | 0.036 | ( | 0.050) | 0.033 | | 0.004 |
| 259 | 21.58 | 0.10 | 0.055 | ( | 0.050) | 0.049 | | 0.005 |
| 260 | 21.67 | 0.10 | 0.055 | ( | 0.050) | 0.049 | | 0.005 |
| 261 | 21.75 | 0.10 | 0.055 | ( | 0.049) | 0.049 | | 0.005 |
| 262 | 21.83 | 0.07 | 0.036 | ( | 0.049) | 0.033 | | 0.004 |
| 263 | 21.92 | 0.07 | 0.036 | ( | 0.049) | 0.033 | | 0.004 |
| 264 | 22.00 | 0.07 | 0.036 | ( | 0.049) | 0.033 | | 0.004 |
| 265 | 22.08 | 0.10 | 0.055 | | 0.049 | ( 0.049) | | 0.006 |
| 266 | 22.17 | 0.10 | 0.055 | | 0.049 | ( 0.049) | | 0.006 |
| 267 | 22.25 | 0.10 | 0.055 | | 0.048 | ( 0.049) | | 0.006 |
| 268 | 22.33 | 0.07 | 0.036 | ( | 0.048) | 0.033 | | 0.004 |
| 269 | 22.42 | 0.07 | 0.036 | ( | 0.048) | 0.033 | | 0.004 |
| 270 | 22.50 | 0.07 | 0.036 | ( | 0.048) | 0.033 | | 0.004 |
| 271 | 22.58 | 0.07 | 0.036 | ( | 0.048) | 0.033 | | 0.004 |
| 272 | 22.67 | 0.07 | 0.036 | ( | 0.048) | 0.033 | | 0.004 |
| 273 | 22.75 | 0.07 | 0.036 | ( | 0.048) | 0.033 | | 0.004 |
| 274 | 22.83 | 0.07 | 0.036 | ( | 0.047) | 0.033 | | 0.004 |
| 275 | 22.92 | 0.07 | 0.036 | ( | 0.047) | 0.033 | | 0.004 |
| 276 | 23.00 | 0.07 | 0.036 | ( | 0.047) | 0.033 | | 0.004 |
| 277 | 23.08 | 0.07 | 0.036 | ( | 0.047) | 0.033 | | 0.004 |
| 278 | 23.17 | 0.07 | 0.036 | ( | 0.047) | 0.033 | | 0.004 |
| 279 | 23.25 | 0.07 | 0.036 | ( | 0.047) | 0.033 | | 0.004 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 280 | 23.33 | 0.07 | 0.036 | ( | 0.047) | 0.033 | 0.004 |
| 281 | 23.42 | 0.07 | 0.036 | ( | 0.047) | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.036 | ( | 0.047) | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.036 | ( | 0.047) | 0.033 | 0.004 |
| 284 | 23.67 | 0.07 | 0.036 | ( | 0.046) | 0.033 | 0.004 |
| 285 | 23.75 | 0.07 | 0.036 | ( | 0.046) | 0.033 | 0.004 |
| 286 | 23.83 | 0.07 | 0.036 | ( | 0.046) | 0.033 | 0.004 |
| 287 | 23.92 | 0.07 | 0.036 | ( | 0.046) | 0.033 | 0.004 |
| 288 | 24.00 | 0.07 | 0.036 | ( | 0.046) | 0.033 | 0.004 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 33.2

Flood volume = Effective rainfall 2.77(In)
times area 51.4(Ac.)/[(In)/(Ft.)] = 11.8(Ac.Ft)
Total soil loss = 1.79(In)
Total soil loss = 7.682(Ac.Ft)
Total rainfall = 4.56(In)
Flood volume = 516090.9 Cubic Feet
Total soil loss = 334637.6 Cubic Feet

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Peak flow rate of this hydrograph = 27.823(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

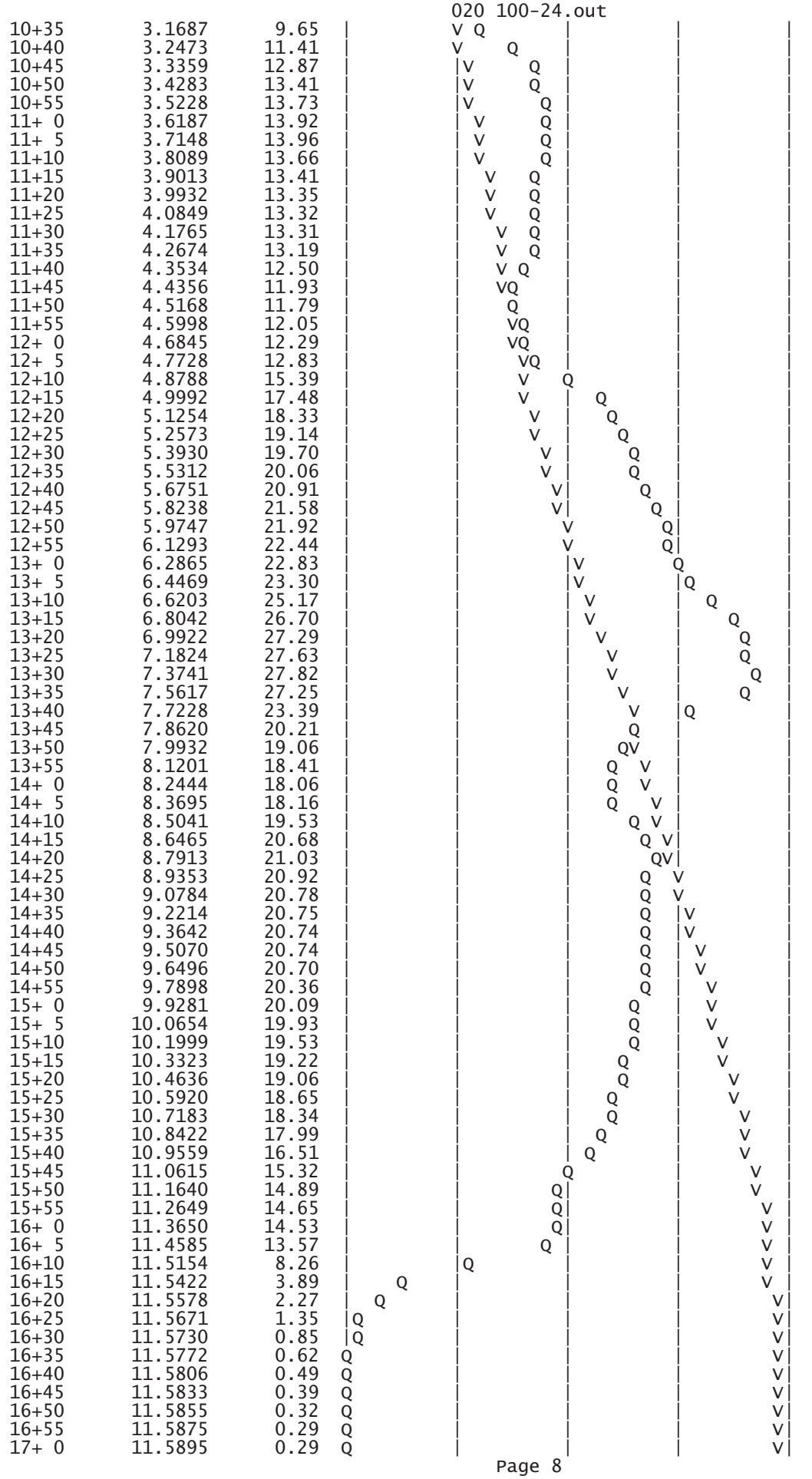
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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 7.5 | 15.0 | 22.5 | 30.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0001 | 0.01 | Q | | | | |
| 0+10 | 0.0007 | 0.08 | Q | | | | |
| 0+15 | 0.0016 | 0.14 | Q | | | | |
| 0+20 | 0.0028 | 0.17 | Q | | | | |
| 0+25 | 0.0043 | 0.22 | Q | | | | |
| 0+30 | 0.0061 | 0.25 | Q | | | | |
| 0+35 | 0.0079 | 0.27 | Q | | | | |
| 0+40 | 0.0098 | 0.27 | Q | | | | |
| 0+45 | 0.0117 | 0.28 | Q | | | | |
| 0+50 | 0.0137 | 0.29 | Q | | | | |
| 0+55 | 0.0159 | 0.32 | Q | | | | |
| 1+ 0 | 0.0184 | 0.35 | Q | | | | |
| 1+ 5 | 0.0208 | 0.36 | Q | | | | |
| 1+10 | 0.0231 | 0.33 | Q | | | | |
| 1+15 | 0.0252 | 0.30 | Q | | | | |
| 1+20 | 0.0272 | 0.29 | Q | | | | |
| 1+25 | 0.0292 | 0.29 | Q | | | | |
| 1+30 | 0.0312 | 0.29 | Q | | | | |
| 1+35 | 0.0332 | 0.29 | Q | | | | |
| 1+40 | 0.0351 | 0.28 | Q | | | | |
| 1+45 | 0.0371 | 0.28 | Q | | | | |
| 1+50 | 0.0391 | 0.29 | Q | | | | |
| 1+55 | 0.0413 | 0.33 | Q | | | | |
| 2+ 0 | 0.0438 | 0.35 | Q | | | | |
| 2+ 5 | 0.0463 | 0.37 | Q | | | | |
| 2+10 | 0.0488 | 0.37 | Q | | | | |
| 2+15 | 0.0514 | 0.37 | Q | | | | |
| 2+20 | 0.0540 | 0.38 | Q | | | | |
| 2+25 | 0.0566 | 0.38 | Q | | | | |
| 2+30 | 0.0592 | 0.38 | Q | | | | |
| 2+35 | 0.0618 | 0.38 | Q | | | | |
| 2+40 | 0.0647 | 0.42 | Q | | | | |
| 2+45 | 0.0678 | 0.45 | Q | | | | |
| 2+50 | 0.0710 | 0.46 | Q | | | | |
| 2+55 | 0.0742 | 0.47 | Q | | | | |
| 3+ 0 | 0.0774 | 0.47 | Q | | | | |
| 3+ 5 | 0.0807 | 0.47 | Q | | | | |
| 3+10 | 0.0839 | 0.47 | Q | | | | |
| 3+15 | 0.0872 | 0.47 | Q | | | | |
| 3+20 | 0.0904 | 0.47 | Q | | | | |
| 3+25 | 0.0937 | 0.47 | Q | | | | |
| 3+30 | 0.0969 | 0.47 | Q | | | | |
| 3+35 | 0.1002 | 0.47 | Q | | | | |
| 3+40 | 0.1035 | 0.47 | Q | | | | |
| 3+45 | 0.1067 | 0.47 | Q | | | | |
| 3+50 | 0.1100 | 0.48 | Q | | | | |
| 3+55 | 0.1136 | 0.51 | Q | | | | |
| 4+ 0 | 0.1173 | 0.54 | Q | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 4+ 5 | 0.1211 | 0.55 | Q | \| | \| | \| | \| |
| 4+10 | 0.1250 | 0.56 | Q | \| | \| | \| | \| |
| 4+15 | 0.1289 | 0.56 | Q | \| | \| | \| | \| |
| 4+20 | 0.1328 | 0.57 | Q | \| | \| | \| | \| |
| 4+25 | 0.1370 | 0.61 | Q | \| | \| | \| | \| |
| 4+30 | 0.1414 | 0.64 | Q | \| | \| | \| | \| |
| 4+35 | 0.1458 | 0.65 | Q | \| | \| | \| | \| |
| 4+40 | 0.1504 | 0.66 | Q | \| | \| | \| | \| |
| 4+45 | 0.1549 | 0.66 | Q | \| | \| | \| | \| |
| 4+50 | 0.1595 | 0.67 | Q | \| | \| | \| | \| |
| 4+55 | 0.1646 | 0.74 | Q | \| | \| | \| | \| |
| 5+ 0 | 0.1701 | 0.80 | VQ | \| | \| | \| | \| |
| 5+ 5 | 0.1757 | 0.82 | VQ | \| | \| | \| | \| |
| 5+10 | 0.1807 | 0.72 | Q | \| | \| | \| | \| |
| 5+15 | 0.1851 | 0.63 | Q | \| | \| | \| | \| |
| 5+20 | 0.1893 | 0.61 | Q | \| | \| | \| | \| |
| 5+25 | 0.1936 | 0.63 | Q | \| | \| | \| | \| |
| 5+30 | 0.1980 | 0.65 | Q | \| | \| | \| | \| |
| 5+35 | 0.2027 | 0.68 | Q | \| | \| | \| | \| |
| 5+40 | 0.2086 | 0.85 | VQ | \| | \| | \| | \| |
| 5+45 | 0.2154 | 0.99 | VQ | \| | \| | \| | \| |
| 5+50 | 0.2227 | 1.06 | VQ | \| | \| | \| | \| |
| 5+55 | 0.2304 | 1.12 | VQ | \| | \| | \| | \| |
| 6+ 0 | 0.2384 | 1.16 | VQ | \| | \| | \| | \| |
| 6+ 5 | 0.2470 | 1.25 | VQ | \| | \| | \| | \| |
| 6+10 | 0.2583 | 1.64 | V Q | \| | \| | \| | \| |
| 6+15 | 0.2719 | 1.96 | V Q | \| | \| | \| | \| |
| 6+20 | 0.2863 | 2.10 | V Q | \| | \| | \| | \| |
| 6+25 | 0.3014 | 2.19 | \|VQ | \| | \| | \| | \| |
| 6+30 | 0.3169 | 2.25 | \|V Q | \| | \| | \| | \| |
| 6+35 | 0.3332 | 2.36 | \|V Q | \| | \| | \| | \| |
| 6+40 | 0.3521 | 2.75 | \|V Q | \| | \| | \| | \| |
| 6+45 | 0.3733 | 3.07 | \|V  Q | \| | \| | \| | \| |
| 6+50 | 0.3954 | 3.21 | \|V  Q | \| | \| | \| | \| |
| 6+55 | 0.4181 | 3.30 | \|V  Q | \| | \| | \| | \| |
| 7+ 0 | 0.4413 | 3.36 | \|V  Q | \| | \| | \| | \| |
| 7+ 5 | 0.4648 | 3.41 | \|V  Q | \| | \| | \| | \| |
| 7+10 | 0.4885 | 3.44 | \|V  Q | \| | \| | \| | \| |
| 7+15 | 0.5124 | 3.47 | \|V  Q | \| | \| | \| | \| |
| 7+20 | 0.5369 | 3.56 | \|V  Q | \| | \| | \| | \| |
| 7+25 | 0.5641 | 3.95 | \|V   Q | \| | \| | \| | \| |
| 7+30 | 0.5935 | 4.27 | \| V  Q | \| | \| | \| | \| |
| 7+35 | 0.6243 | 4.47 | \| V  Q | \| | \| | \| | \| |
| 7+40 | 0.6581 | 4.91 | \| V   Q | \| | \| | \| | \| |
| 7+45 | 0.6944 | 5.26 | \| V    Q | \| | \| | \| | \| |
| 7+50 | 0.7321 | 5.48 | \| V    Q | \| | \| | \| | \| |
| 7+55 | 0.7729 | 5.93 | \| V    Q | \| | \| | \| | \| |
| 8+ 0 | 0.8162 | 6.28 | \| V     Q | \| | \| | \| | \| |
| 8+ 5 | 0.8613 | 6.56 | \| V     Q | \| | \| | \| | \| |
| 8+10 | 0.9121 | 7.37 | \|  V     Q| \| | \| | \| | \| |
| 8+15 | 0.9673 | 8.02 | \|  V      Q | \| | \| | \| | \| |
| 8+20 | 1.0243 | 8.28 | \|  V      \|Q | \| | \| | \| | \| |
| 8+25 | 1.0824 | 8.44 | \|  V      \|Q | \| | \| | \| | \| |
| 8+30 | 1.1412 | 8.54 | \|  V      \|Q | \| | \| | \| | \| |
| 8+35 | 1.2008 | 8.66 | \|   V     \|Q | \| | \| | \| | \| |
| 8+40 | 1.2632 | 9.05 | \|   V     \| Q | \| | \| | \| | \| |
| 8+45 | 1.3278 | 9.38 | \|   V     \| Q | \| | \| | \| | \| |
| 8+50 | 1.3938 | 9.58 | \|   V     \| Q | \| | \| | \| | \| |
| 8+55 | 1.4629 | 10.03 | \|   V     \|  Q | \| | \| | \| | \| |
| 9+ 0 | 1.5344 | 10.38 | \|    V    \|  Q | \| | \| | \| | \| |
| 9+ 5 | 1.6078 | 10.66 | \|    V    \|   Q | \| | \| | \| | \| |
| 9+10 | 1.6867 | 11.46 | \|    V    \|    Q | \| | \| | \| | \| |
| 9+15 | 1.7701 | 12.11 | \|    V    \|     Q | \| | \| | \| | \| |
| 9+20 | 1.8557 | 12.43 | \|     V   \|     Q | \| | \| | \| | \| |
| 9+25 | 1.9449 | 12.94 | \|     V   \|      Q | \| | \| | \| | \| |
| 9+30 | 2.0367 | 13.33 | \|     V   \|      Q | \| | \| | \| | \| |
| 9+35 | 2.1301 | 13.56 | \|      V  \|       Q | \| | \| | \| | \| |
| 9+40 | 2.2267 | 14.02 | \|      V  \|       Q | \| | \| | \| | \| |
| 9+45 | 2.3257 | 14.38 | \|      V  \|       Q| \| | \| | \| | \| |
| 9+50 | 2.4263 | 14.60 | \|       V \|       Q| \| | \| | \| | \| |
| 9+55 | 2.5299 | 15.05 | \|       V \|        Q | \| | \| | \| | \| |
| 10+ 0 | 2.6360 | 15.41 | \|       V \|        Q | \| | \| | \| | \| |
| 10+ 5 | 2.7402 | 15.13 | \|        V\|        Q | \| | \| | \| | \| |
| 10+10 | 2.8279 | 12.73 | \|        V\|     Q   | \| | \| | \| | \| |
| 10+15 | 2.9019 | 10.75 | \|        V\|   Q     | \| | \| | \| | \| |
| 10+20 | 2.9710 | 10.03 | \|         V  Q      | \| | \| | \| | \| |
| 10+25 | 3.0373 | 9.63 | \|         V Q       | \| | \| | \| | \| |
| 10+30 | 3.1022 | 9.42 | \|         V Q       | \| | \| | \| | \| |



| | | | |
|---|---|---|---|
| 10+35 | 3.1687 | 9.65 | |
| 10+40 | 3.2473 | 11.41 | |
| 10+45 | 3.3359 | 12.87 | |
| 10+50 | 3.4283 | 13.41 | |
| 10+55 | 3.5228 | 13.73 | |
| 11+ 0 | 3.6187 | 13.92 | |
| 11+ 5 | 3.7148 | 13.96 | |
| 11+10 | 3.8089 | 13.66 | |
| 11+15 | 3.9013 | 13.41 | |
| 11+20 | 3.9932 | 13.35 | |
| 11+25 | 4.0849 | 13.32 | |
| 11+30 | 4.1765 | 13.31 | |
| 11+35 | 4.2674 | 13.19 | |
| 11+40 | 4.3534 | 12.50 | |
| 11+45 | 4.4356 | 11.93 | |
| 11+50 | 4.5168 | 11.79 | |
| 11+55 | 4.5998 | 12.05 | |
| 12+ 0 | 4.6845 | 12.29 | |
| 12+ 5 | 4.7728 | 12.83 | |
| 12+10 | 4.8788 | 15.39 | |
| 12+15 | 4.9992 | 17.48 | |
| 12+20 | 5.1254 | 18.33 | |
| 12+25 | 5.2573 | 19.14 | |
| 12+30 | 5.3930 | 19.70 | |
| 12+35 | 5.5312 | 20.06 | |
| 12+40 | 5.6751 | 20.91 | |
| 12+45 | 5.8238 | 21.58 | |
| 12+50 | 5.9747 | 21.92 | |
| 12+55 | 6.1293 | 22.44 | |
| 13+ 0 | 6.2865 | 22.83 | |
| 13+ 5 | 6.4469 | 23.30 | |
| 13+10 | 6.6203 | 25.17 | |
| 13+15 | 6.8042 | 26.70 | |
| 13+20 | 6.9922 | 27.29 | |
| 13+25 | 7.1824 | 27.63 | |
| 13+30 | 7.3741 | 27.82 | |
| 13+35 | 7.5617 | 27.25 | |
| 13+40 | 7.7228 | 23.39 | |
| 13+45 | 7.8620 | 20.21 | |
| 13+50 | 7.9932 | 19.06 | |
| 13+55 | 8.1201 | 18.41 | |
| 14+ 0 | 8.2444 | 18.06 | |
| 14+ 5 | 8.3695 | 18.16 | |
| 14+10 | 8.5041 | 19.53 | |
| 14+15 | 8.6465 | 20.68 | |
| 14+20 | 8.7913 | 21.03 | |
| 14+25 | 8.9353 | 20.92 | |
| 14+30 | 9.0784 | 20.78 | |
| 14+35 | 9.2214 | 20.75 | |
| 14+40 | 9.3642 | 20.74 | |
| 14+45 | 9.5070 | 20.74 | |
| 14+50 | 9.6496 | 20.70 | |
| 14+55 | 9.7898 | 20.36 | |
| 15+ 0 | 9.9281 | 20.09 | |
| 15+ 5 | 10.0654 | 19.93 | |
| 15+10 | 10.1999 | 19.53 | |
| 15+15 | 10.3323 | 19.22 | |
| 15+20 | 10.4636 | 19.06 | |
| 15+25 | 10.5920 | 18.65 | |
| 15+30 | 10.7183 | 18.34 | |
| 15+35 | 10.8422 | 17.99 | |
| 15+40 | 10.9559 | 16.51 | |
| 15+45 | 11.0615 | 15.32 | |
| 15+50 | 11.1640 | 14.89 | |
| 15+55 | 11.2649 | 14.65 | |
| 16+ 0 | 11.3650 | 14.53 | |
| 16+ 5 | 11.4585 | 13.57 | |
| 16+10 | 11.5154 | 8.26 | |
| 16+15 | 11.5422 | 3.89 | |
| 16+20 | 11.5578 | 2.27 | |
| 16+25 | 11.5671 | 1.35 | |
| 16+30 | 11.5730 | 0.85 | |
| 16+35 | 11.5772 | 0.62 | |
| 16+40 | 11.5806 | 0.49 | |
| 16+45 | 11.5833 | 0.39 | |
| 16+50 | 11.5855 | 0.32 | |
| 16+55 | 11.5875 | 0.29 | |
| 17+ 0 | 11.5895 | 0.29 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+ 5 | 11.5919 | 0.36 | Q | \| | \| | \| | V\| |
| 17+10 | 11.5974 | 0.79 | \|Q | \| | \| | \| | V\| |
| 17+15 | 11.6053 | 1.15 | \|Q | \| | \| | \| | V\| |
| 17+20 | 11.6143 | 1.30 | \|Q | \| | \| | \| | V\| |
| 17+25 | 11.6238 | 1.38 | \|Q | \| | \| | \| | V\| |
| 17+30 | 11.6337 | 1.44 | \|Q | \| | \| | \| | V\| |
| 17+35 | 11.6439 | 1.47 | \|Q | \| | \| | \| | V\| |
| 17+40 | 11.6542 | 1.50 | \|Q | \| | \| | \| | V\| |
| 17+45 | 11.6646 | 1.52 | \| Q | \| | \| | \| | V\| |
| 17+50 | 11.6748 | 1.48 | \|Q | \| | \| | \| | V\| |
| 17+55 | 11.6827 | 1.14 | \|Q | \| | \| | \| | V\| |
| 18+ 0 | 11.6886 | 0.86 | \|Q | \| | \| | \| | V\| |
| 18+ 5 | 11.6939 | 0.77 | \|Q | \| | \| | \| | V\| |
| 18+10 | 11.6989 | 0.73 | Q | \| | \| | \| | V\| |
| 18+15 | 11.7038 | 0.71 | Q | \| | \| | \| | V\| |
| 18+20 | 11.7087 | 0.71 | Q | \| | \| | \| | V\| |
| 18+25 | 11.7136 | 0.72 | Q | \| | \| | \| | V\| |
| 18+30 | 11.7186 | 0.73 | Q | \| | \| | \| | V\| |
| 18+35 | 11.7234 | 0.71 | Q | \| | \| | \| | V\| |
| 18+40 | 11.7271 | 0.54 | Q | \| | \| | \| | V\| |
| 18+45 | 11.7299 | 0.40 | Q | \| | \| | \| | V\| |
| 18+50 | 11.7322 | 0.34 | Q | \| | \| | \| | V\| |
| 18+55 | 11.7341 | 0.27 | Q | \| | \| | \| | V\| |
| 19+ 0 | 11.7356 | 0.23 | Q | \| | \| | \| | V\| |
| 19+ 5 | 11.7371 | 0.22 | Q | \| | \| | \| | V\| |
| 19+10 | 11.7388 | 0.24 | Q | \| | \| | \| | V\| |
| 19+15 | 11.7406 | 0.27 | Q | \| | \| | \| | V\| |
| 19+20 | 11.7428 | 0.31 | Q | \| | \| | \| | V\| |
| 19+25 | 11.7466 | 0.55 | Q | \| | \| | \| | V\| |
| 19+30 | 11.7517 | 0.74 | Q | \| | \| | \| | V\| |
| 19+35 | 11.7571 | 0.78 | \|Q | \| | \| | \| | V\| |
| 19+40 | 11.7611 | 0.59 | Q | \| | \| | \| | V\| |
| 19+45 | 11.7640 | 0.42 | Q | \| | \| | \| | V\| |
| 19+50 | 11.7664 | 0.35 | Q | \| | \| | \| | V\| |
| 19+55 | 11.7683 | 0.28 | Q | \| | \| | \| | V\| |
| 20+ 0 | 11.7699 | 0.23 | Q | \| | \| | \| | V\| |
| 20+ 5 | 11.7714 | 0.22 | Q | \| | \| | \| | V\| |
| 20+10 | 11.7731 | 0.24 | Q | \| | \| | \| | V\| |
| 20+15 | 11.7749 | 0.27 | Q | \| | \| | \| | V\| |
| 20+20 | 11.7768 | 0.27 | Q | \| | \| | \| | V\| |
| 20+25 | 11.7787 | 0.28 | Q | \| | \| | \| | V\| |
| 20+30 | 11.7807 | 0.28 | Q | \| | \| | \| | V\| |
| 20+35 | 11.7826 | 0.28 | Q | \| | \| | \| | V\| |
| 20+40 | 11.7846 | 0.28 | Q | \| | \| | \| | V\| |
| 20+45 | 11.7865 | 0.28 | Q | \| | \| | \| | V\| |
| 20+50 | 11.7884 | 0.28 | Q | \| | \| | \| | V\| |
| 20+55 | 11.7901 | 0.24 | Q | \| | \| | \| | V\| |
| 21+ 0 | 11.7916 | 0.21 | Q | \| | \| | \| | V\| |
| 21+ 5 | 11.7930 | 0.21 | Q | \| | \| | \| | V\| |
| 21+10 | 11.7946 | 0.24 | Q | \| | \| | \| | V\| |
| 21+15 | 11.7964 | 0.26 | Q | \| | \| | \| | V\| |
| 21+20 | 11.7983 | 0.27 | Q | \| | \| | \| | V\| |
| 21+25 | 11.7999 | 0.24 | Q | \| | \| | \| | V\| |
| 21+30 | 11.8013 | 0.21 | Q | \| | \| | \| | V\| |
| 21+35 | 11.8028 | 0.21 | Q | \| | \| | \| | V\| |
| 21+40 | 11.8044 | 0.24 | Q | \| | \| | \| | V\| |
| 21+45 | 11.8062 | 0.26 | Q | \| | \| | \| | V\| |
| 21+50 | 11.8080 | 0.27 | Q | \| | \| | \| | V\| |
| 21+55 | 11.8097 | 0.24 | Q | \| | \| | \| | V\| |
| 22+ 0 | 11.8111 | 0.21 | Q | \| | \| | \| | V\| |
| 22+ 5 | 11.8125 | 0.21 | Q | \| | \| | \| | V\| |
| 22+10 | 11.8143 | 0.25 | Q | \| | \| | \| | V\| |
| 22+15 | 11.8162 | 0.29 | Q | \| | \| | \| | V\| |
| 22+20 | 11.8183 | 0.30 | Q | \| | \| | \| | V\| |
| 22+25 | 11.8200 | 0.26 | Q | \| | \| | \| | V\| |
| 22+30 | 11.8215 | 0.22 | Q | \| | \| | \| | V\| |
| 22+35 | 11.8229 | 0.20 | Q | \| | \| | \| | V\| |
| 22+40 | 11.8243 | 0.20 | Q | \| | \| | \| | V\| |
| 22+45 | 11.8256 | 0.19 | Q | \| | \| | \| | V\| |
| 22+50 | 11.8269 | 0.19 | Q | \| | \| | \| | V\| |
| 22+55 | 11.8283 | 0.19 | Q | \| | \| | \| | V\| |
| 23+ 0 | 11.8296 | 0.19 | Q | \| | \| | \| | V\| |
| 23+ 5 | 11.8309 | 0.19 | Q | \| | \| | \| | V\| |
| 23+10 | 11.8322 | 0.19 | Q | \| | \| | \| | V\| |
| 23+15 | 11.8335 | 0.19 | Q | \| | \| | \| | V\| |
| 23+20 | 11.8348 | 0.19 | Q | \| | \| | \| | V\| |
| 23+25 | 11.8361 | 0.19 | Q | \| | \| | \| | V\| |
| 23+30 | 11.8374 | 0.19 | Q | \| | \| | \| | V\| |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 23+35 | 11.8387 | 0.19 | Q | \| | \| | \| | V\| |
| 23+40 | 11.8400 | 0.19 | Q | \| | \| | \| | V\| |
| 23+45 | 11.8413 | 0.19 | Q | \| | \| | \| | V\| |
| 23+50 | 11.8426 | 0.19 | Q | \| | \| | \| | V\| |
| 23+55 | 11.8439 | 0.19 | Q | \| | \| | \| | V\| |
| 24+ 0 | 11.8452 | 0.19 | Q | \| | \| | \| | V\| |
| 24+ 5 | 11.8464 | 0.18 | Q | \| | \| | \| | V\| |
| 24+10 | 11.8471 | 0.11 | Q | \| | \| | \| | V\| |
| 24+15 | 11.8475 | 0.05 | Q | \| | \| | \| | V\| |
| 24+20 | 11.8476 | 0.03 | Q | \| | \| | \| | V\| |
| 24+25 | 11.8477 | 0.01 | Q | \| | \| | \| | V\| |
| 24+30 | 11.8478 | 0.01 | Q | \| | \| | \| | V\| |
| 24+35 | 11.8478 | 0.00 | Q | \| | \| | \| | V\| |
| 24+40 | 11.8478 | 0.00 | Q | \| | \| | \| | V\| |
| 24+45 | 11.8478 | 0.00 | Q | \| | \| | \| | V\| |
| 24+50 | 11.8478 | 0.00 | Q | \| | \| | \| | V\| |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX2124100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 21
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 6.40(Ac.) = 0.010 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 6.40(Ac.) = 0.010 Sq. Mi.
Length along longest watercourse = 1043.00(Ft.)
Length along longest watercourse measured to centroid = 548.00(Ft.)
Length along longest watercourse = 0.198 Mi.
Length along longest watercourse measured to centroid = 0.104 Mi.
Difference in elevation = 196.00(Ft.)
Slope along watercourse = 992.2148 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.052 Hr.
Lag time = 3.10 Min.
25% of lag time = 0.78 Min.
40% of lag time = 1.24 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.40 | 1.80 | 11.52 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 6.40 | 4.51 | 28.86 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.510(In)

Point rain (area averaged) = 4.510(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.510(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 6.400 | 77.56 | 0.000 |

Total Area Entered = 6.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 77.6 | 89.5 | 0.135 | 0.000 | 0.135 | 1.000 | 0.135 |
| | | | | | Sum (F) = | 0.135 |

Area averaged mean soil loss (F) (In/Hr) = 0.135

Minimum soil loss rate ((In/Hr)) = 0.068
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 161.217 | 33.516 | 2.162 |
| 2 | 0.167 | 322.435 | 53.456 | 3.448 |
| 3 | 0.250 | 483.652 | 10.537 | 0.680 |
| 4 | 0.333 | 644.869 | 1.904 | 0.123 |
| 5 | 0.417 | 806.087 | 0.587 | 0.038 |
| | | | Sum = 100.000 Sum= | 6.450 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.036 | ( 0.240) | 0.032 | 0.004 |
| 2 | 0.17 | 0.07 | 0.036 | ( 0.239) | 0.032 | 0.004 |
| 3 | 0.25 | 0.07 | 0.036 | ( 0.238) | 0.032 | 0.004 |
| 4 | 0.33 | 0.10 | 0.054 | ( 0.237) | 0.049 | 0.005 |
| 5 | 0.42 | 0.10 | 0.054 | ( 0.236) | 0.049 | 0.005 |
| 6 | 0.50 | 0.10 | 0.054 | ( 0.235) | 0.049 | 0.005 |
| 7 | 0.58 | 0.10 | 0.054 | ( 0.234) | 0.049 | 0.005 |
| 8 | 0.67 | 0.10 | 0.054 | ( 0.233) | 0.049 | 0.005 |
| 9 | 0.75 | 0.10 | 0.054 | ( 0.232) | 0.049 | 0.005 |
| 10 | 0.83 | 0.13 | 0.072 | ( 0.232) | 0.065 | 0.007 |
| 11 | 0.92 | 0.13 | 0.072 | ( 0.231) | 0.065 | 0.007 |
| 12 | 1.00 | 0.13 | 0.072 | ( 0.230) | 0.065 | 0.007 |
| 13 | 1.08 | 0.10 | 0.054 | ( 0.229) | 0.049 | 0.005 |
| 14 | 1.17 | 0.10 | 0.054 | ( 0.228) | 0.049 | 0.005 |
| 15 | 1.25 | 0.10 | 0.054 | ( 0.227) | 0.049 | 0.005 |
| 16 | 1.33 | 0.10 | 0.054 | ( 0.226) | 0.049 | 0.005 |
| 17 | 1.42 | 0.10 | 0.054 | ( 0.225) | 0.049 | 0.005 |
| 18 | 1.50 | 0.10 | 0.054 | ( 0.224) | 0.049 | 0.005 |
| 19 | 1.58 | 0.10 | 0.054 | ( 0.223) | 0.049 | 0.005 |
| 20 | 1.67 | 0.10 | 0.054 | ( 0.223) | 0.049 | 0.005 |
| 21 | 1.75 | 0.10 | 0.054 | ( 0.222) | 0.049 | 0.005 |
| 22 | 1.83 | 0.13 | 0.072 | ( 0.221) | 0.065 | 0.007 |
| 23 | 1.92 | 0.13 | 0.072 | ( 0.220) | 0.065 | 0.007 |
| 24 | 2.00 | 0.13 | 0.072 | ( 0.219) | 0.065 | 0.007 |
| 25 | 2.08 | 0.13 | 0.072 | ( 0.218) | 0.065 | 0.007 |
| 26 | 2.17 | 0.13 | 0.072 | ( 0.217) | 0.065 | 0.007 |
| 27 | 2.25 | 0.13 | 0.072 | ( 0.216) | 0.065 | 0.007 |
| 28 | 2.33 | 0.13 | 0.072 | ( 0.215) | 0.065 | 0.007 |
| 29 | 2.42 | 0.13 | 0.072 | ( 0.215) | 0.065 | 0.007 |
| 30 | 2.50 | 0.13 | 0.072 | ( 0.214) | 0.065 | 0.007 |
| 31 | 2.58 | 0.17 | 0.090 | ( 0.213) | 0.081 | 0.009 |
| 32 | 2.67 | 0.17 | 0.090 | ( 0.212) | 0.081 | 0.009 |
| 33 | 2.75 | 0.17 | 0.090 | ( 0.211) | 0.081 | 0.009 |
| 34 | 2.83 | 0.17 | 0.090 | ( 0.210) | 0.081 | 0.009 |
| 35 | 2.92 | 0.17 | 0.090 | ( 0.209) | 0.081 | 0.009 |
| 36 | 3.00 | 0.17 | 0.090 | ( 0.208) | 0.081 | 0.009 |
| 37 | 3.08 | 0.17 | 0.090 | ( 0.208) | 0.081 | 0.009 |
| 38 | 3.17 | 0.17 | 0.090 | ( 0.207) | 0.081 | 0.009 |
| 39 | 3.25 | 0.17 | 0.090 | ( 0.206) | 0.081 | 0.009 |
| 40 | 3.33 | 0.17 | 0.090 | ( 0.205) | 0.081 | 0.009 |
| 41 | 3.42 | 0.17 | 0.090 | ( 0.204) | 0.081 | 0.009 |
| 42 | 3.50 | 0.17 | 0.090 | ( 0.203) | 0.081 | 0.009 |
| 43 | 3.58 | 0.17 | 0.090 | ( 0.202) | 0.081 | 0.009 |
| 44 | 3.67 | 0.17 | 0.090 | ( 0.202) | 0.081 | 0.009 |
| 45 | 3.75 | 0.17 | 0.090 | ( 0.201) | 0.081 | 0.009 |
| 46 | 3.83 | 0.20 | 0.108 | ( 0.200) | 0.097 | 0.011 |
| 47 | 3.92 | 0.20 | 0.108 | ( 0.199) | 0.097 | 0.011 |
| 48 | 4.00 | 0.20 | 0.108 | ( 0.198) | 0.097 | 0.011 |
| 49 | 4.08 | 0.20 | 0.108 | ( 0.197) | 0.097 | 0.011 |
| 50 | 4.17 | 0.20 | 0.108 | ( 0.197) | 0.097 | 0.011 |
| 51 | 4.25 | 0.20 | 0.108 | ( 0.196) | 0.097 | 0.011 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 52 | 4.33 | 0.23 | 0.126 | ( | 0.195) | 0.114 | | 0.013 |
| 53 | 4.42 | 0.23 | 0.126 | ( | 0.194) | 0.114 | | 0.013 |
| 54 | 4.50 | 0.23 | 0.126 | ( | 0.193) | 0.114 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.126 | ( | 0.192) | 0.114 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.126 | ( | 0.192) | 0.114 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.126 | ( | 0.191) | 0.114 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.144 | ( | 0.190) | 0.130 | | 0.014 |
| 59 | 4.92 | 0.27 | 0.144 | ( | 0.189) | 0.130 | | 0.014 |
| 60 | 5.00 | 0.27 | 0.144 | ( | 0.188) | 0.130 | | 0.014 |
| 61 | 5.08 | 0.20 | 0.108 | ( | 0.187) | 0.097 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.108 | ( | 0.187) | 0.097 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.108 | ( | 0.186) | 0.097 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.126 | ( | 0.185) | 0.114 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.126 | ( | 0.184) | 0.114 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.126 | ( | 0.183) | 0.114 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.144 | ( | 0.183) | 0.130 | | 0.014 |
| 68 | 5.67 | 0.27 | 0.144 | ( | 0.182) | 0.130 | | 0.014 |
| 69 | 5.75 | 0.27 | 0.144 | ( | 0.181) | 0.130 | | 0.014 |
| 70 | 5.83 | 0.27 | 0.144 | ( | 0.180) | 0.130 | | 0.014 |
| 71 | 5.92 | 0.27 | 0.144 | ( | 0.179) | 0.130 | | 0.014 |
| 72 | 6.00 | 0.27 | 0.144 | ( | 0.179) | 0.130 | | 0.014 |
| 73 | 6.08 | 0.30 | 0.162 | ( | 0.178) | 0.146 | | 0.016 |
| 74 | 6.17 | 0.30 | 0.162 | ( | 0.177) | 0.146 | | 0.016 |
| 75 | 6.25 | 0.30 | 0.162 | ( | 0.176) | 0.146 | | 0.016 |
| 76 | 6.33 | 0.30 | 0.162 | ( | 0.175) | 0.146 | | 0.016 |
| 77 | 6.42 | 0.30 | 0.162 | ( | 0.175) | 0.146 | | 0.016 |
| 78 | 6.50 | 0.30 | 0.162 | ( | 0.174) | 0.146 | | 0.016 |
| 79 | 6.58 | 0.33 | 0.180 | ( | 0.173) | 0.162 | | 0.018 |
| 80 | 6.67 | 0.33 | 0.180 | ( | 0.172) | 0.162 | | 0.018 |
| 81 | 6.75 | 0.33 | 0.180 | ( | 0.172) | 0.162 | | 0.018 |
| 82 | 6.83 | 0.33 | 0.180 | ( | 0.171) | 0.162 | | 0.018 |
| 83 | 6.92 | 0.33 | 0.180 | ( | 0.170) | 0.162 | | 0.018 |
| 84 | 7.00 | 0.33 | 0.180 | ( | 0.169) | 0.162 | | 0.018 |
| 85 | 7.08 | 0.33 | 0.180 | ( | 0.168) | 0.162 | | 0.018 |
| 86 | 7.17 | 0.33 | 0.180 | ( | 0.168) | 0.162 | | 0.018 |
| 87 | 7.25 | 0.33 | 0.180 | ( | 0.167) | 0.162 | | 0.018 |
| 88 | 7.33 | 0.37 | 0.198 | | 0.166 | ( | 0.179) | 0.032 |
| 89 | 7.42 | 0.37 | 0.198 | | 0.165 | ( | 0.179) | 0.033 |
| 90 | 7.50 | 0.37 | 0.198 | | 0.165 | ( | 0.179) | 0.034 |
| 91 | 7.58 | 0.40 | 0.216 | | 0.164 | ( | 0.195) | 0.053 |
| 92 | 7.67 | 0.40 | 0.216 | | 0.163 | ( | 0.195) | 0.053 |
| 93 | 7.75 | 0.40 | 0.216 | | 0.162 | ( | 0.195) | 0.054 |
| 94 | 7.83 | 0.43 | 0.235 | | 0.162 | ( | 0.211) | 0.073 |
| 95 | 7.92 | 0.43 | 0.235 | | 0.161 | ( | 0.211) | 0.074 |
| 96 | 8.00 | 0.43 | 0.235 | | 0.160 | ( | 0.211) | 0.074 |
| 97 | 8.08 | 0.50 | 0.271 | | 0.159 | ( | 0.244) | 0.111 |
| 98 | 8.17 | 0.50 | 0.271 | | 0.159 | ( | 0.244) | 0.112 |
| 99 | 8.25 | 0.50 | 0.271 | | 0.158 | ( | 0.244) | 0.113 |
| 100 | 8.33 | 0.50 | 0.271 | | 0.157 | ( | 0.244) | 0.113 |
| 101 | 8.42 | 0.50 | 0.271 | | 0.156 | ( | 0.244) | 0.114 |
| 102 | 8.50 | 0.50 | 0.271 | | 0.156 | ( | 0.244) | 0.115 |
| 103 | 8.58 | 0.53 | 0.289 | | 0.155 | ( | 0.260) | 0.134 |
| 104 | 8.67 | 0.53 | 0.289 | | 0.154 | ( | 0.260) | 0.134 |
| 105 | 8.75 | 0.53 | 0.289 | | 0.153 | ( | 0.260) | 0.135 |
| 106 | 8.83 | 0.57 | 0.307 | | 0.153 | ( | 0.276) | 0.154 |
| 107 | 8.92 | 0.57 | 0.307 | | 0.152 | ( | 0.276) | 0.155 |
| 108 | 9.00 | 0.57 | 0.307 | | 0.151 | ( | 0.276) | 0.155 |
| 109 | 9.08 | 0.63 | 0.343 | | 0.151 | ( | 0.308) | 0.192 |
| 110 | 9.17 | 0.63 | 0.343 | | 0.150 | ( | 0.308) | 0.193 |
| 111 | 9.25 | 0.63 | 0.343 | | 0.149 | ( | 0.308) | 0.194 |
| 112 | 9.33 | 0.67 | 0.361 | | 0.148 | ( | 0.325) | 0.212 |
| 113 | 9.42 | 0.67 | 0.361 | | 0.148 | ( | 0.325) | 0.213 |
| 114 | 9.50 | 0.67 | 0.361 | | 0.147 | ( | 0.325) | 0.214 |
| 115 | 9.58 | 0.70 | 0.379 | | 0.146 | ( | 0.341) | 0.232 |
| 116 | 9.67 | 0.70 | 0.379 | | 0.146 | ( | 0.341) | 0.233 |
| 117 | 9.75 | 0.70 | 0.379 | | 0.145 | ( | 0.341) | 0.234 |
| 118 | 9.83 | 0.73 | 0.397 | | 0.144 | ( | 0.357) | 0.253 |
| 119 | 9.92 | 0.73 | 0.397 | | 0.144 | ( | 0.357) | 0.253 |
| 120 | 10.00 | 0.73 | 0.397 | | 0.143 | ( | 0.357) | 0.254 |
| 121 | 10.08 | 0.50 | 0.271 | | 0.142 | ( | 0.244) | 0.128 |
| 122 | 10.17 | 0.50 | 0.271 | | 0.141 | ( | 0.244) | 0.129 |
| 123 | 10.25 | 0.50 | 0.271 | | 0.141 | ( | 0.244) | 0.130 |
| 124 | 10.33 | 0.50 | 0.271 | | 0.140 | ( | 0.244) | 0.130 |
| 125 | 10.42 | 0.50 | 0.271 | | 0.139 | ( | 0.244) | 0.131 |
| 126 | 10.50 | 0.50 | 0.271 | | 0.139 | ( | 0.244) | 0.132 |
| 127 | 10.58 | 0.67 | 0.361 | | 0.138 | ( | 0.325) | 0.223 |
| 128 | 10.67 | 0.67 | 0.361 | | 0.137 | ( | 0.325) | 0.223 |
| 129 | 10.75 | 0.67 | 0.361 | | 0.137 | ( | 0.325) | 0.224 |

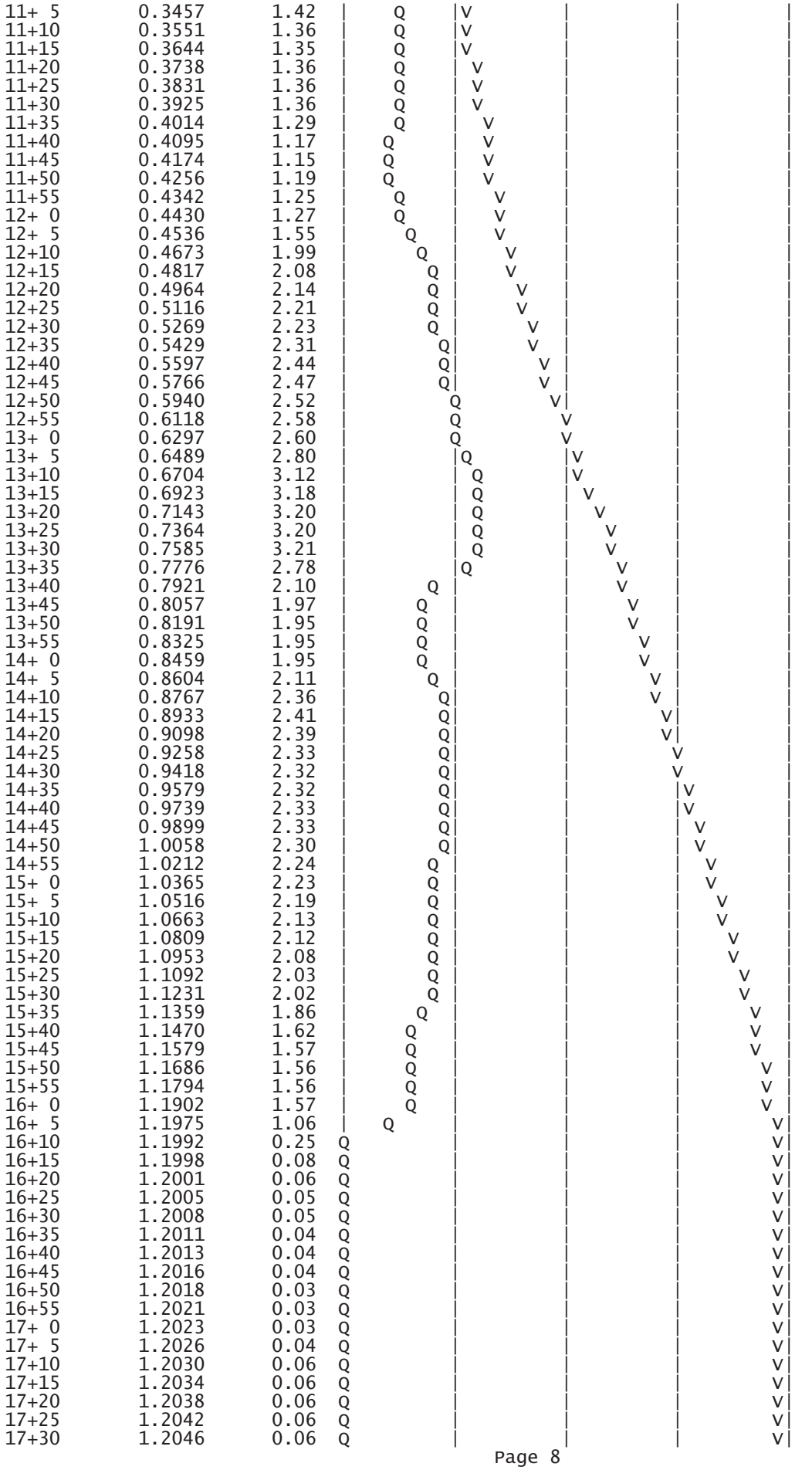
| | | | | | | |
|---|---|---|---|---|---|---|
| 130 | 10.83 | 0.67 | 0.361 | 0.136 | ( 0.325) | 0.225 |
| 131 | 10.92 | 0.67 | 0.361 | 0.135 | ( 0.325) | 0.225 |
| 132 | 11.00 | 0.67 | 0.361 | 0.135 | ( 0.325) | 0.226 |
| 133 | 11.08 | 0.63 | 0.343 | 0.134 | ( 0.308) | 0.209 |
| 134 | 11.17 | 0.63 | 0.343 | 0.133 | ( 0.308) | 0.209 |
| 135 | 11.25 | 0.63 | 0.343 | 0.133 | ( 0.308) | 0.210 |
| 136 | 11.33 | 0.63 | 0.343 | 0.132 | ( 0.308) | 0.211 |
| 137 | 11.42 | 0.63 | 0.343 | 0.131 | ( 0.308) | 0.211 |
| 138 | 11.50 | 0.63 | 0.343 | 0.131 | ( 0.308) | 0.212 |
| 139 | 11.58 | 0.57 | 0.307 | 0.130 | ( 0.276) | 0.177 |
| 140 | 11.67 | 0.57 | 0.307 | 0.129 | ( 0.276) | 0.177 |
| 141 | 11.75 | 0.57 | 0.307 | 0.129 | ( 0.276) | 0.178 |
| 142 | 11.83 | 0.60 | 0.325 | 0.128 | ( 0.292) | 0.197 |
| 143 | 11.92 | 0.60 | 0.325 | 0.128 | ( 0.292) | 0.197 |
| 144 | 12.00 | 0.60 | 0.325 | 0.127 | ( 0.292) | 0.198 |
| 145 | 12.08 | 0.83 | 0.451 | 0.126 | ( 0.406) | 0.325 |
| 146 | 12.17 | 0.83 | 0.451 | 0.126 | ( 0.406) | 0.325 |
| 147 | 12.25 | 0.83 | 0.451 | 0.125 | ( 0.406) | 0.326 |
| 148 | 12.33 | 0.87 | 0.469 | 0.124 | ( 0.422) | 0.345 |
| 149 | 12.42 | 0.87 | 0.469 | 0.124 | ( 0.422) | 0.345 |
| 150 | 12.50 | 0.87 | 0.469 | 0.123 | ( 0.422) | 0.346 |
| 151 | 12.58 | 0.93 | 0.505 | 0.123 | ( 0.455) | 0.383 |
| 152 | 12.67 | 0.93 | 0.505 | 0.122 | ( 0.455) | 0.383 |
| 153 | 12.75 | 0.93 | 0.505 | 0.121 | ( 0.455) | 0.384 |
| 154 | 12.83 | 0.97 | 0.523 | 0.121 | ( 0.471) | 0.402 |
| 155 | 12.92 | 0.97 | 0.523 | 0.120 | ( 0.471) | 0.403 |
| 156 | 13.00 | 0.97 | 0.523 | 0.119 | ( 0.471) | 0.404 |
| 157 | 13.08 | 1.13 | 0.613 | 0.119 | ( 0.552) | 0.494 |
| 158 | 13.17 | 1.13 | 0.613 | 0.118 | ( 0.552) | 0.495 |
| 159 | 13.25 | 1.13 | 0.613 | 0.118 | ( 0.552) | 0.496 |
| 160 | 13.33 | 1.13 | 0.613 | 0.117 | ( 0.552) | 0.496 |
| 161 | 13.42 | 1.13 | 0.613 | 0.116 | ( 0.552) | 0.497 |
| 162 | 13.50 | 1.13 | 0.613 | 0.116 | ( 0.552) | 0.497 |
| 163 | 13.58 | 0.77 | 0.415 | 0.115 | ( 0.373) | 0.300 |
| 164 | 13.67 | 0.77 | 0.415 | 0.115 | ( 0.373) | 0.300 |
| 165 | 13.75 | 0.77 | 0.415 | 0.114 | ( 0.373) | 0.301 |
| 166 | 13.83 | 0.77 | 0.415 | 0.114 | ( 0.373) | 0.301 |
| 167 | 13.92 | 0.77 | 0.415 | 0.113 | ( 0.373) | 0.302 |
| 168 | 14.00 | 0.77 | 0.415 | 0.112 | ( 0.373) | 0.303 |
| 169 | 14.08 | 0.90 | 0.487 | 0.112 | ( 0.438) | 0.375 |
| 170 | 14.17 | 0.90 | 0.487 | 0.111 | ( 0.438) | 0.376 |
| 171 | 14.25 | 0.90 | 0.487 | 0.111 | ( 0.438) | 0.376 |
| 172 | 14.33 | 0.87 | 0.469 | 0.110 | ( 0.422) | 0.359 |
| 173 | 14.42 | 0.87 | 0.469 | 0.110 | ( 0.422) | 0.359 |
| 174 | 14.50 | 0.87 | 0.469 | 0.109 | ( 0.422) | 0.360 |
| 175 | 14.58 | 0.87 | 0.469 | 0.108 | ( 0.422) | 0.361 |
| 176 | 14.67 | 0.87 | 0.469 | 0.108 | ( 0.422) | 0.361 |
| 177 | 14.75 | 0.87 | 0.469 | 0.107 | ( 0.422) | 0.362 |
| 178 | 14.83 | 0.83 | 0.451 | 0.107 | ( 0.406) | 0.344 |
| 179 | 14.92 | 0.83 | 0.451 | 0.106 | ( 0.406) | 0.345 |
| 180 | 15.00 | 0.83 | 0.451 | 0.106 | ( 0.406) | 0.345 |
| 181 | 15.08 | 0.80 | 0.433 | 0.105 | ( 0.390) | 0.328 |
| 182 | 15.17 | 0.80 | 0.433 | 0.105 | ( 0.390) | 0.328 |
| 183 | 15.25 | 0.80 | 0.433 | 0.104 | ( 0.390) | 0.329 |
| 184 | 15.33 | 0.77 | 0.415 | 0.104 | ( 0.373) | 0.311 |
| 185 | 15.42 | 0.77 | 0.415 | 0.103 | ( 0.373) | 0.312 |
| 186 | 15.50 | 0.77 | 0.415 | 0.102 | ( 0.373) | 0.312 |
| 187 | 15.58 | 0.63 | 0.343 | 0.102 | ( 0.308) | 0.241 |
| 188 | 15.67 | 0.63 | 0.343 | 0.101 | ( 0.308) | 0.241 |
| 189 | 15.75 | 0.63 | 0.343 | 0.101 | ( 0.308) | 0.242 |
| 190 | 15.83 | 0.63 | 0.343 | 0.100 | ( 0.308) | 0.242 |
| 191 | 15.92 | 0.63 | 0.343 | 0.100 | ( 0.308) | 0.243 |
| 192 | 16.00 | 0.63 | 0.343 | 0.099 | ( 0.308) | 0.243 |
| 193 | 16.08 | 0.13 | 0.072 | ( 0.099) | 0.065 | 0.007 |
| 194 | 16.17 | 0.13 | 0.072 | ( 0.098) | 0.065 | 0.007 |
| 195 | 16.25 | 0.13 | 0.072 | ( 0.098) | 0.065 | 0.007 |
| 196 | 16.33 | 0.13 | 0.072 | ( 0.097) | 0.065 | 0.007 |
| 197 | 16.42 | 0.13 | 0.072 | ( 0.097) | 0.065 | 0.007 |
| 198 | 16.50 | 0.13 | 0.072 | ( 0.096) | 0.065 | 0.007 |
| 199 | 16.58 | 0.10 | 0.054 | ( 0.096) | 0.049 | 0.005 |
| 200 | 16.67 | 0.10 | 0.054 | ( 0.095) | 0.049 | 0.005 |
| 201 | 16.75 | 0.10 | 0.054 | ( 0.095) | 0.049 | 0.005 |
| 202 | 16.83 | 0.10 | 0.054 | ( 0.094) | 0.049 | 0.005 |
| 203 | 16.92 | 0.10 | 0.054 | ( 0.094) | 0.049 | 0.005 |
| 204 | 17.00 | 0.10 | 0.054 | ( 0.093) | 0.049 | 0.005 |
| 205 | 17.08 | 0.17 | 0.090 | ( 0.093) | 0.081 | 0.009 |
| 206 | 17.17 | 0.17 | 0.090 | ( 0.093) | 0.081 | 0.009 |
| 207 | 17.25 | 0.17 | 0.090 | ( 0.092) | 0.081 | 0.009 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 208 | 17.33 | 0.17 | 0.090 | ( 0.092) | 0.081 | 0.009 |
| 209 | 17.42 | 0.17 | 0.090 | ( 0.091) | 0.081 | 0.009 |
| 210 | 17.50 | 0.17 | 0.090 | ( 0.091) | 0.081 | 0.009 |
| 211 | 17.58 | 0.17 | 0.090 | ( 0.090) | 0.081 | 0.009 |
| 212 | 17.67 | 0.17 | 0.090 | ( 0.090) | 0.081 | 0.009 |
| 213 | 17.75 | 0.17 | 0.090 | ( 0.089) | 0.081 | 0.009 |
| 214 | 17.83 | 0.13 | 0.072 | ( 0.089) | 0.065 | 0.007 |
| 215 | 17.92 | 0.13 | 0.072 | ( 0.088) | 0.065 | 0.007 |
| 216 | 18.00 | 0.13 | 0.072 | ( 0.088) | 0.065 | 0.007 |
| 217 | 18.08 | 0.13 | 0.072 | ( 0.088) | 0.065 | 0.007 |
| 218 | 18.17 | 0.13 | 0.072 | ( 0.087) | 0.065 | 0.007 |
| 219 | 18.25 | 0.13 | 0.072 | ( 0.087) | 0.065 | 0.007 |
| 220 | 18.33 | 0.13 | 0.072 | ( 0.086) | 0.065 | 0.007 |
| 221 | 18.42 | 0.13 | 0.072 | ( 0.086) | 0.065 | 0.007 |
| 222 | 18.50 | 0.13 | 0.072 | ( 0.085) | 0.065 | 0.007 |
| 223 | 18.58 | 0.10 | 0.054 | ( 0.085) | 0.049 | 0.005 |
| 224 | 18.67 | 0.10 | 0.054 | ( 0.085) | 0.049 | 0.005 |
| 225 | 18.75 | 0.10 | 0.054 | ( 0.084) | 0.049 | 0.005 |
| 226 | 18.83 | 0.07 | 0.036 | ( 0.084) | 0.032 | 0.004 |
| 227 | 18.92 | 0.07 | 0.036 | ( 0.083) | 0.032 | 0.004 |
| 228 | 19.00 | 0.07 | 0.036 | ( 0.083) | 0.032 | 0.004 |
| 229 | 19.08 | 0.10 | 0.054 | ( 0.083) | 0.049 | 0.005 |
| 230 | 19.17 | 0.10 | 0.054 | ( 0.082) | 0.049 | 0.005 |
| 231 | 19.25 | 0.10 | 0.054 | ( 0.082) | 0.049 | 0.005 |
| 232 | 19.33 | 0.13 | 0.072 | ( 0.081) | 0.065 | 0.007 |
| 233 | 19.42 | 0.13 | 0.072 | ( 0.081) | 0.065 | 0.007 |
| 234 | 19.50 | 0.13 | 0.072 | ( 0.081) | 0.065 | 0.007 |
| 235 | 19.58 | 0.10 | 0.054 | ( 0.080) | 0.049 | 0.005 |
| 236 | 19.67 | 0.10 | 0.054 | ( 0.080) | 0.049 | 0.005 |
| 237 | 19.75 | 0.10 | 0.054 | ( 0.080) | 0.049 | 0.005 |
| 238 | 19.83 | 0.07 | 0.036 | ( 0.079) | 0.032 | 0.004 |
| 239 | 19.92 | 0.07 | 0.036 | ( 0.079) | 0.032 | 0.004 |
| 240 | 20.00 | 0.07 | 0.036 | ( 0.079) | 0.032 | 0.004 |
| 241 | 20.08 | 0.10 | 0.054 | ( 0.078) | 0.049 | 0.005 |
| 242 | 20.17 | 0.10 | 0.054 | ( 0.078) | 0.049 | 0.005 |
| 243 | 20.25 | 0.10 | 0.054 | ( 0.078) | 0.049 | 0.005 |
| 244 | 20.33 | 0.10 | 0.054 | ( 0.077) | 0.049 | 0.005 |
| 245 | 20.42 | 0.10 | 0.054 | ( 0.077) | 0.049 | 0.005 |
| 246 | 20.50 | 0.10 | 0.054 | ( 0.077) | 0.049 | 0.005 |
| 247 | 20.58 | 0.10 | 0.054 | ( 0.076) | 0.049 | 0.005 |
| 248 | 20.67 | 0.10 | 0.054 | ( 0.076) | 0.049 | 0.005 |
| 249 | 20.75 | 0.10 | 0.054 | ( 0.076) | 0.049 | 0.005 |
| 250 | 20.83 | 0.07 | 0.036 | ( 0.075) | 0.032 | 0.004 |
| 251 | 20.92 | 0.07 | 0.036 | ( 0.075) | 0.032 | 0.004 |
| 252 | 21.00 | 0.07 | 0.036 | ( 0.075) | 0.032 | 0.004 |
| 253 | 21.08 | 0.10 | 0.054 | ( 0.074) | 0.049 | 0.005 |
| 254 | 21.17 | 0.10 | 0.054 | ( 0.074) | 0.049 | 0.005 |
| 255 | 21.25 | 0.10 | 0.054 | ( 0.074) | 0.049 | 0.005 |
| 256 | 21.33 | 0.07 | 0.036 | ( 0.074) | 0.032 | 0.004 |
| 257 | 21.42 | 0.07 | 0.036 | ( 0.073) | 0.032 | 0.004 |
| 258 | 21.50 | 0.07 | 0.036 | ( 0.073) | 0.032 | 0.004 |
| 259 | 21.58 | 0.10 | 0.054 | ( 0.073) | 0.049 | 0.005 |
| 260 | 21.67 | 0.10 | 0.054 | ( 0.072) | 0.049 | 0.005 |
| 261 | 21.75 | 0.10 | 0.054 | ( 0.072) | 0.049 | 0.005 |
| 262 | 21.83 | 0.07 | 0.036 | ( 0.072) | 0.032 | 0.004 |
| 263 | 21.92 | 0.07 | 0.036 | ( 0.072) | 0.032 | 0.004 |
| 264 | 22.00 | 0.07 | 0.036 | ( 0.071) | 0.032 | 0.004 |
| 265 | 22.08 | 0.10 | 0.054 | ( 0.071) | 0.049 | 0.005 |
| 266 | 22.17 | 0.10 | 0.054 | ( 0.071) | 0.049 | 0.005 |
| 267 | 22.25 | 0.10 | 0.054 | ( 0.071) | 0.049 | 0.005 |
| 268 | 22.33 | 0.07 | 0.036 | ( 0.071) | 0.032 | 0.004 |
| 269 | 22.42 | 0.07 | 0.036 | ( 0.070) | 0.032 | 0.004 |
| 270 | 22.50 | 0.07 | 0.036 | ( 0.070) | 0.032 | 0.004 |
| 271 | 22.58 | 0.07 | 0.036 | ( 0.070) | 0.032 | 0.004 |
| 272 | 22.67 | 0.07 | 0.036 | ( 0.070) | 0.032 | 0.004 |
| 273 | 22.75 | 0.07 | 0.036 | ( 0.070) | 0.032 | 0.004 |
| 274 | 22.83 | 0.07 | 0.036 | ( 0.069) | 0.032 | 0.004 |
| 275 | 22.92 | 0.07 | 0.036 | ( 0.069) | 0.032 | 0.004 |
| 276 | 23.00 | 0.07 | 0.036 | ( 0.069) | 0.032 | 0.004 |
| 277 | 23.08 | 0.07 | 0.036 | ( 0.069) | 0.032 | 0.004 |
| 278 | 23.17 | 0.07 | 0.036 | ( 0.069) | 0.032 | 0.004 |
| 279 | 23.25 | 0.07 | 0.036 | ( 0.069) | 0.032 | 0.004 |
| 280 | 23.33 | 0.07 | 0.036 | ( 0.068) | 0.032 | 0.004 |
| 281 | 23.42 | 0.07 | 0.036 | ( 0.068) | 0.032 | 0.004 |
| 282 | 23.50 | 0.07 | 0.036 | ( 0.068) | 0.032 | 0.004 |
| 283 | 23.58 | 0.07 | 0.036 | ( 0.068) | 0.032 | 0.004 |
| 284 | 23.67 | 0.07 | 0.036 | ( 0.068) | 0.032 | 0.004 |
| 285 | 23.75 | 0.07 | 0.036 | ( 0.068) | 0.032 | 0.004 |

```
286  23.83     0.07      0.036       (  0.068)       0.032        0.004
287  23.92     0.07      0.036       (  0.068)       0.032        0.004
288  24.00     0.07      0.036       (  0.068)       0.032        0.004
              (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    27.5
       Flood volume = Effective rainfall      2.29(In)
        times area       6.4(Ac.)/[(In)/(Ft.)] =       1.2(Ac.Ft)
       Total soil loss =      2.22(In)
       Total soil loss =     1.183(Ac.Ft)
       Total rainfall =      4.51(In)
       Flood volume =       53239.9 Cubic Feet
       Total soil loss =       51535.1 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =      3.207(CFS)
       ---------------------------------------------------------------------
       +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
       ---------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))

       ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ----------------------------------------------------------------------------
   0+ 5       0.0001      0.01  Q          |         |         |         |
   0+10       0.0002      0.02  Q          |         |         |         |
   0+15       0.0003      0.02  Q          |         |         |         |
   0+20       0.0005      0.03  Q          |         |         |         |
   0+25       0.0008      0.03  Q          |         |         |         |
   0+30       0.0010      0.03  Q          |         |         |         |
   0+35       0.0012      0.03  Q          |         |         |         |
   0+40       0.0015      0.03  Q          |         |         |         |
   0+45       0.0017      0.03  Q          |         |         |         |
   0+50       0.0020      0.04  Q          |         |         |         |
   0+55       0.0023      0.05  Q          |         |         |         |
   1+ 0       0.0026      0.05  Q          |         |         |         |
   1+ 5       0.0029      0.04  Q          |         |         |         |
   1+10       0.0032      0.04  Q          |         |         |         |
   1+15       0.0034      0.04  Q          |         |         |         |
   1+20       0.0036      0.03  Q          |         |         |         |
   1+25       0.0039      0.03  Q          |         |         |         |
   1+30       0.0041      0.03  Q          |         |         |         |
   1+35       0.0044      0.03  Q          |         |         |         |
   1+40       0.0046      0.03  Q          |         |         |         |
   1+45       0.0049      0.03  Q          |         |         |         |
   1+50       0.0051      0.04  Q          |         |         |         |
   1+55       0.0054      0.05  Q          |         |         |         |
   2+ 0       0.0057      0.05  Q          |         |         |         |
   2+ 5       0.0061      0.05  Q          |         |         |         |
   2+10       0.0064      0.05  Q          |         |         |         |
   2+15       0.0067      0.05  Q          |         |         |         |
   2+20       0.0070      0.05  Q          |         |         |         |
   2+25       0.0074      0.05  Q          |         |         |         |
   2+30       0.0077      0.05  Q          |         |         |         |
   2+35       0.0080      0.05  Q          |         |         |         |
   2+40       0.0084      0.06  Q          |         |         |         |
   2+45       0.0088      0.06  Q          |         |         |         |
   2+50       0.0092      0.06  Q          |         |         |         |
   2+55       0.0096      0.06  Q          |         |         |         |
   3+ 0       0.0100      0.06  Q          |         |         |         |
   3+ 5       0.0104      0.06  Q          |         |         |         |
   3+10       0.0108      0.06  Q          |         |         |         |
   3+15       0.0112      0.06  Q          |         |         |         |
   3+20       0.0116      0.06  Q          |         |         |         |
   3+25       0.0120      0.06  Q          |         |         |         |
   3+30       0.0124      0.06  Q          |         |         |         |
   3+35       0.0128      0.06  Q          |         |         |         |
   3+40       0.0132      0.06  Q          |         |         |         |
   3+45       0.0136      0.06  Q          |         |         |         |
   3+50       0.0140      0.06  Q          |         |         |         |
   3+55       0.0145      0.07  Q          |         |         |         |
   4+ 0       0.0150      0.07  Q          |         |         |         |
   4+ 5       0.0155      0.07  Q          |         |         |         |
   4+10       0.0160      0.07  Q          |         |         |         |
   4+15       0.0164      0.07  Q          |         |         |         |
   4+20       0.0169      0.07  Q          |         |         |         |
   4+25       0.0175      0.08  Q          |         |         |         |
   4+30       0.0181      0.08  Q          |         |         |         |
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 4+35       0.0186      0.08  Q          |           |           |           |
 4+40       0.0192      0.08  Q          |           |           |           |
 4+45       0.0197      0.08  Q          |           |           |           |
 4+50       0.0203      0.09  Q          |           |           |           |
 4+55       0.0210      0.09  Q          |           |           |           |
 5+ 0       0.0216      0.09  Q          |           |           |           |
 5+ 5       0.0222      0.09  Q          |           |           |           |
 5+10       0.0227      0.07  Q          |           |           |           |
 5+15       0.0232      0.07  Q          |           |           |           |
 5+20       0.0237      0.07  Q          |           |           |           |
 5+25       0.0242      0.08  Q          |           |           |           |
 5+30       0.0248      0.08  Q          |           |           |           |
 5+35       0.0254      0.09  Q          |           |           |           |
 5+40       0.0260      0.09  Q          |           |           |           |
 5+45       0.0267      0.09  Q          |           |           |           |
 5+50       0.0273      0.09  Q          |           |           |           |
 5+55       0.0279      0.09  Q          |           |           |           |
 6+ 0       0.0286      0.09  Q          |           |           |           |
 6+ 5       0.0292      0.10  Q          |           |           |           |
 6+10       0.0300      0.10  Q          |           |           |           |
 6+15       0.0307      0.10  QV         |           |           |           |
 6+20       0.0314      0.10  QV         |           |           |           |
 6+25       0.0321      0.10  QV         |           |           |           |
 6+30       0.0328      0.10  QV         |           |           |           |
 6+35       0.0336      0.11  QV         |           |           |           |
 6+40       0.0344      0.11  QV         |           |           |           |
 6+45       0.0352      0.12  QV         |           |           |           |
 6+50       0.0360      0.12  QV         |           |           |           |
 6+55       0.0368      0.12  QV         |           |           |           |
 7+ 0       0.0376      0.12  QV         |           |           |           |
 7+ 5       0.0384      0.12  QV         |           |           |           |
 7+10       0.0392      0.12  QV         |           |           |           |
 7+15       0.0400      0.12  QV         |           |           |           |
 7+20       0.0410      0.15  QV         |           |           |           |
 7+25       0.0424      0.20  QV         |           |           |           |
 7+30       0.0438      0.21  QV         |           |           |           |
 7+35       0.0456      0.26  |Q         |           |           |           |
 7+40       0.0478      0.33  |Q         |           |           |           |
 7+45       0.0502      0.34  |Q         |           |           |           |
 7+50       0.0529      0.39  |Q         |           |           |           |
 7+55       0.0560      0.46  |Q         |           |           |           |
 8+ 0       0.0593      0.47  |Q         |           |           |           |
 8+ 5       0.0631      0.56  | Q        |           |           |           |
 8+10       0.0679      0.69  | Q        |           |           |           |
 8+15       0.0728      0.72  | Q        |           |           |           |
 8+20       0.0778      0.73  | Q        |           |           |           |
 8+25       0.0829      0.73  | Q        |           |           |           |
 8+30       0.0879      0.74  | Q        |           |           |           |
 8+35       0.0933      0.78  |  Q       |           |           |           |
 8+40       0.0992      0.85  |  Q       |           |           |           |
 8+45       0.1051      0.87  |  Q       |           |           |           |
 8+50       0.1114      0.91  |  Q       |           |           |           |
 8+55       0.1181      0.98  |  Q       |           |           |           |
 9+ 0       0.1250      1.00  |  QV      |           |           |           |
 9+ 5       0.1324      1.08  |   Q      |           |           |           |
 9+10       0.1408      1.21  |   Q      |           |           |           |
 9+15       0.1493      1.24  |   Q      |           |           |           |
 9+20       0.1582      1.29  |    Q     |           |           |           |
 9+25       0.1675      1.36  |    Q     |           |           |           |
 9+30       0.1770      1.37  |    Q     |           |           |           |
 9+35       0.1867      1.42  |    QV    |           |           |           |
 9+40       0.1970      1.49  |    QV    |           |           |           |
 9+45       0.2073      1.50  |     Q    |           |           |           |
 9+50       0.2180      1.55  |     QV   |           |           |           |
 9+55       0.2291      1.62  |     QV   |           |           |           |
10+ 0       0.2404      1.63  |     QV   |           |           |           |
10+ 5       0.2498      1.37  |    Q  V  |           |           |           |
10+10       0.2562      0.94  |  Q    V  |           |           |           |
10+15       0.2621      0.85  |  Q    V  |           |           |           |
10+20       0.2679      0.84  |  Q    V  |           |           |           |
10+25       0.2737      0.84  |  Q    V  |           |           |           |
10+30       0.2795      0.85  |  Q     V|           |           |           |
10+35       0.2868      1.05  |   Q    V|           |           |           |
10+40       0.2961      1.36  |    Q   V|           |           |           |
10+45       0.3060      1.43  |    Q    V          |           |           |
10+50       0.3159      1.44  |    Q    V          |           |           |
10+55       0.3259      1.45  |    Q    V          |           |           |
11+ 0       0.3359      1.46  |    Q    V          |           |           |
```


11+ 5 0.3457 1.42
11+10 0.3551 1.36
11+15 0.3644 1.35
11+20 0.3738 1.36
11+25 0.3831 1.36
11+30 0.3925 1.36
11+35 0.4014 1.29
11+40 0.4095 1.17
11+45 0.4174 1.15
11+50 0.4256 1.19
11+55 0.4342 1.25
12+ 0 0.4430 1.27
12+ 5 0.4536 1.55
12+10 0.4673 1.99
12+15 0.4817 2.08
12+20 0.4964 2.14
12+25 0.5116 2.21
12+30 0.5269 2.23
12+35 0.5429 2.31
12+40 0.5597 2.44
12+45 0.5766 2.47
12+50 0.5940 2.52
12+55 0.6118 2.58
13+ 0 0.6297 2.60
13+ 5 0.6489 2.80
13+10 0.6704 3.12
13+15 0.6923 3.18
13+20 0.7143 3.20
13+25 0.7364 3.20
13+30 0.7585 3.21
13+35 0.7776 2.78
13+40 0.7921 2.10
13+45 0.8057 1.97
13+50 0.8191 1.95
13+55 0.8325 1.95
14+ 0 0.8459 1.95
14+ 5 0.8604 2.11
14+10 0.8767 2.36
14+15 0.8933 2.41
14+20 0.9098 2.39
14+25 0.9258 2.33
14+30 0.9418 2.32
14+35 0.9579 2.32
14+40 0.9739 2.33
14+45 0.9899 2.33
14+50 1.0058 2.30
14+55 1.0212 2.24
15+ 0 1.0365 2.23
15+ 5 1.0516 2.19
15+10 1.0663 2.13
15+15 1.0809 2.12
15+20 1.0953 2.08
15+25 1.1092 2.03
15+30 1.1231 2.02
15+35 1.1359 1.86
15+40 1.1470 1.62
15+45 1.1579 1.57
15+50 1.1686 1.56
15+55 1.1794 1.56
16+ 0 1.1902 1.57
16+ 5 1.1975 1.06
16+10 1.1992 0.25
16+15 1.1998 0.08
16+20 1.2001 0.06
16+25 1.2005 0.05
16+30 1.2008 0.05
16+35 1.2011 0.04
16+40 1.2013 0.04
16+45 1.2016 0.04
16+50 1.2018 0.03
16+55 1.2021 0.03
17+ 0 1.2023 0.03
17+ 5 1.2026 0.04
17+10 1.2030 0.06
17+15 1.2034 0.06
17+20 1.2038 0.06
17+25 1.2042 0.06
17+30 1.2046 0.06

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+35 | 1.2050 | 0.06 | Q | \| | \| | \| | V\| |
| 17+40 | 1.2054 | 0.06 | Q | \| | \| | \| | V\| |
| 17+45 | 1.2058 | 0.06 | Q | \| | \| | \| | V\| |
| 17+50 | 1.2061 | 0.05 | Q | \| | \| | \| | V\| |
| 17+55 | 1.2065 | 0.05 | Q | \| | \| | \| | V\| |
| 18+ 0 | 1.2068 | 0.05 | Q | \| | \| | \| | V\| |
| 18+ 5 | 1.2071 | 0.05 | Q | \| | \| | \| | V\| |
| 18+10 | 1.2074 | 0.05 | Q | \| | \| | \| | V\| |
| 18+15 | 1.2078 | 0.05 | Q | \| | \| | \| | V\| |
| 18+20 | 1.2081 | 0.05 | Q | \| | \| | \| | V\| |
| 18+25 | 1.2084 | 0.05 | Q | \| | \| | \| | V\| |
| 18+30 | 1.2087 | 0.05 | Q | \| | \| | \| | V\| |
| 18+35 | 1.2090 | 0.04 | Q | \| | \| | \| | V\| |
| 18+40 | 1.2093 | 0.04 | Q | \| | \| | \| | V\| |
| 18+45 | 1.2095 | 0.04 | Q | \| | \| | \| | V\| |
| 18+50 | 1.2097 | 0.03 | Q | \| | \| | \| | V\| |
| 18+55 | 1.2099 | 0.02 | Q | \| | \| | \| | V\| |
| 19+ 0 | 1.2101 | 0.02 | Q | \| | \| | \| | V\| |
| 19+ 5 | 1.2102 | 0.03 | Q | \| | \| | \| | V\| |
| 19+10 | 1.2105 | 0.03 | Q | \| | \| | \| | V\| |
| 19+15 | 1.2107 | 0.03 | Q | \| | \| | \| | V\| |
| 19+20 | 1.2110 | 0.04 | Q | \| | \| | \| | V\| |
| 19+25 | 1.2113 | 0.05 | Q | \| | \| | \| | V\| |
| 19+30 | 1.2116 | 0.05 | Q | \| | \| | \| | V\| |
| 19+35 | 1.2119 | 0.04 | Q | \| | \| | \| | V\| |
| 19+40 | 1.2122 | 0.04 | Q | \| | \| | \| | V\| |
| 19+45 | 1.2124 | 0.04 | Q | \| | \| | \| | V\| |
| 19+50 | 1.2126 | 0.03 | Q | \| | \| | \| | V\| |
| 19+55 | 1.2128 | 0.02 | Q | \| | \| | \| | V\| |
| 20+ 0 | 1.2129 | 0.02 | Q | \| | \| | \| | V\| |
| 20+ 5 | 1.2131 | 0.03 | Q | \| | \| | \| | V\| |
| 20+10 | 1.2134 | 0.03 | Q | \| | \| | \| | V\| |
| 20+15 | 1.2136 | 0.03 | Q | \| | \| | \| | V\| |
| 20+20 | 1.2138 | 0.03 | Q | \| | \| | \| | V\| |
| 20+25 | 1.2141 | 0.03 | Q | \| | \| | \| | V\| |
| 20+30 | 1.2143 | 0.03 | Q | \| | \| | \| | V\| |
| 20+35 | 1.2146 | 0.03 | Q | \| | \| | \| | V\| |
| 20+40 | 1.2148 | 0.03 | Q | \| | \| | \| | V\| |
| 20+45 | 1.2150 | 0.03 | Q | \| | \| | \| | V\| |
| 20+50 | 1.2153 | 0.03 | Q | \| | \| | \| | V\| |
| 20+55 | 1.2154 | 0.02 | Q | \| | \| | \| | V\| |
| 21+ 0 | 1.2156 | 0.02 | Q | \| | \| | \| | V\| |
| 21+ 5 | 1.2158 | 0.03 | Q | \| | \| | \| | V\| |
| 21+10 | 1.2160 | 0.03 | Q | \| | \| | \| | V\| |
| 21+15 | 1.2162 | 0.03 | Q | \| | \| | \| | V\| |
| 21+20 | 1.2165 | 0.03 | Q | \| | \| | \| | V\| |
| 21+25 | 1.2166 | 0.02 | Q | \| | \| | \| | V\| |
| 21+30 | 1.2168 | 0.02 | Q | \| | \| | \| | V\| |
| 21+35 | 1.2170 | 0.03 | Q | \| | \| | \| | V\| |
| 21+40 | 1.2172 | 0.03 | Q | \| | \| | \| | V\| |
| 21+45 | 1.2175 | 0.03 | Q | \| | \| | \| | V\| |
| 21+50 | 1.2177 | 0.03 | Q | \| | \| | \| | V\| |
| 21+55 | 1.2178 | 0.02 | Q | \| | \| | \| | V\| |
| 22+ 0 | 1.2180 | 0.02 | Q | \| | \| | \| | V\| |
| 22+ 5 | 1.2182 | 0.03 | Q | \| | \| | \| | V\| |
| 22+10 | 1.2184 | 0.03 | Q | \| | \| | \| | V\| |
| 22+15 | 1.2187 | 0.03 | Q | \| | \| | \| | V\| |
| 22+20 | 1.2189 | 0.03 | Q | \| | \| | \| | V\| |
| 22+25 | 1.2190 | 0.02 | Q | \| | \| | \| | V\| |
| 22+30 | 1.2192 | 0.02 | Q | \| | \| | \| | V\| |
| 22+35 | 1.2194 | 0.02 | Q | \| | \| | \| | V\| |
| 22+40 | 1.2195 | 0.02 | Q | \| | \| | \| | V\| |
| 22+45 | 1.2197 | 0.02 | Q | \| | \| | \| | V\| |
| 22+50 | 1.2198 | 0.02 | Q | \| | \| | \| | V\| |
| 22+55 | 1.2200 | 0.02 | Q | \| | \| | \| | V\| |
| 23+ 0 | 1.2202 | 0.02 | Q | \| | \| | \| | V\| |
| 23+ 5 | 1.2203 | 0.02 | Q | \| | \| | \| | V\| |
| 23+10 | 1.2205 | 0.02 | Q | \| | \| | \| | V\| |
| 23+15 | 1.2206 | 0.02 | Q | \| | \| | \| | V\| |
| 23+20 | 1.2208 | 0.02 | Q | \| | \| | \| | V\| |
| 23+25 | 1.2210 | 0.02 | Q | \| | \| | \| | V\| |
| 23+30 | 1.2211 | 0.02 | Q | \| | \| | \| | V\| |
| 23+35 | 1.2213 | 0.02 | Q | \| | \| | \| | V\| |
| 23+40 | 1.2214 | 0.02 | Q | \| | \| | \| | V\| |
| 23+45 | 1.2216 | 0.02 | Q | \| | \| | \| | V\| |
| 23+50 | 1.2218 | 0.02 | Q | \| | \| | \| | V\| |
| 23+55 | 1.2219 | 0.02 | Q | \| | \| | \| | V\| |
| 24+ 0 | 1.2221 | 0.02 | Q | \| | \| | \| | V\| |

```
   24+ 5       1.2222      0.02  Q         |          |          |        V|
   24+10       1.2222      0.00  Q         |          |          |        V|
   24+15       1.2222      0.00  Q         |          |          |        V|
   24+20       1.2222      0.00  Q         |          |          |         V
-------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX221100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 22
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.60(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.60(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 206.00(Ft.)
Length along longest watercourse measured to centroid = 96.00(Ft.)
Length along longest watercourse = 0.039 Mi.
Length along longest watercourse measured to centroid = 0.018 Mi.
Difference in elevation = 110.00(Ft.)
Slope along watercourse = 2819.4175 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.012 Hr.
Lag time = 0.71 Min.
25% of lag time = 0.18 Min.
40% of lag time = 0.28 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 0.49 | 0.29 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 1.20 | 0.72 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.490(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.600 | 83.58 | 0.000 |

Total Area Entered = 0.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.6 | 93.1 | 0.089 | 0.000 | 0.089 | 1.000 | 0.089 |
| | | | | | Sum (F) = | 0.089 |

Area averaged mean soil loss (F) (In/Hr) = 0.089

Minimum soil loss rate ((In/Hr)) = 0.045
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

---

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 705.893 | 100.000 | 0.605 |
| | | Sum = 100.000 Sum= | 0.605 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 4.20 | 0.605 | 0.089 | ( 0.544) | 0.516 |
| 2 0.17 | 4.30 | 0.619 | 0.089 | ( 0.557) | 0.530 |
| 3 0.25 | 5.00 | 0.720 | 0.089 | ( 0.648) | 0.631 |
| 4 0.33 | 5.00 | 0.720 | 0.089 | ( 0.648) | 0.631 |
| 5 0.42 | 5.80 | 0.835 | 0.089 | ( 0.752) | 0.746 |
| 6 0.50 | 6.50 | 0.936 | 0.089 | ( 0.842) | 0.847 |
| 7 0.58 | 7.40 | 1.066 | 0.089 | ( 0.959) | 0.977 |
| 8 0.67 | 8.60 | 1.238 | 0.089 | ( 1.115) | 1.149 |
| 9 0.75 | 12.30 | 1.771 | 0.089 | ( 1.594) | 1.682 |
| 10 0.83 | 29.10 | 4.190 | 0.089 | ( 3.771) | 4.101 |
| 11 0.92 | 6.80 | 0.979 | 0.089 | ( 0.881) | 0.890 |
| 12 1.00 | 5.00 | 0.720 | 0.089 | ( 0.648) | 0.631 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 13.3 |

Flood volume = Effective rainfall 1.11(In)
times area 0.6(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.004(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 2419.6 Cubic Feet
Total soil loss = 194.0 Cubic Feet

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Peak flow rate of this hydrograph = 2.481(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0021 | 0.31 | Q | | | | |
| 0+10 | 0.0044 | 0.32 | Q V | | | | |
| 0+15 | 0.0070 | 0.38 | Q V | | | | |
| 0+20 | 0.0096 | 0.38 | Q V | | | | |
| 0+25 | 0.0127 | 0.45 | Q V | | | | |
| 0+30 | 0.0163 | 0.51 | Q V | | | | |
| 0+35 | 0.0203 | 0.59 | Q V | | | | |
| 0+40 | 0.0251 | 0.70 | Q V | | | | |
| 0+45 | 0.0321 | 1.02 | Q | V | | | |
| 0+50 | 0.0492 | 2.48 | Q | | | V | |
| 0+55 | 0.0529 | 0.54 | Q | | | V | |
| 1+ 0 | 0.0555 | 0.38 | Q | | | | V |

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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX223100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 22
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.60(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.60(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 206.00(Ft.)
Length along longest watercourse measured to centroid = 96.00(Ft.)
Length along longest watercourse = 0.039 Mi.
Length along longest watercourse measured to centroid = 0.018 Mi.
Difference in elevation = 110.00(Ft.)
Slope along watercourse = 2819.4175 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.012 Hr.
Lag time = 0.71 Min.
25% of lag time = 0.18 Min.
40% of lag time = 0.28 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 0.80 | 0.48 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 1.80 | 1.08 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.600 | 83.58 | 0.000 |

Total Area Entered = 0.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.6 | 93.1 | 0.089 | 0.000 | 0.089 | 1.000 | 0.089 |
| | | | | | Sum (F) = | 0.089 |

Area averaged mean soil loss (F) (In/Hr) = 0.089

Minimum soil loss rate ((In/Hr)) = 0.045
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 705.893 | 100.000 | 0.605 |
| | | Sum = 100.000 | Sum= 0.605 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.281 | 0.089 | ( 0.253) | 0.192 |
| 2 | 0.17 | 1.30 | 0.281 | 0.089 | ( 0.253) | 0.192 |
| 3 | 0.25 | 1.10 | 0.238 | 0.089 | ( 0.214) | 0.149 |
| 4 | 0.33 | 1.50 | 0.324 | 0.089 | ( 0.292) | 0.235 |
| 5 | 0.42 | 1.50 | 0.324 | 0.089 | ( 0.292) | 0.235 |
| 6 | 0.50 | 1.80 | 0.389 | 0.089 | ( 0.350) | 0.300 |
| 7 | 0.58 | 1.50 | 0.324 | 0.089 | ( 0.292) | 0.235 |
| 8 | 0.67 | 1.80 | 0.389 | 0.089 | ( 0.350) | 0.300 |
| 9 | 0.75 | 1.80 | 0.389 | 0.089 | ( 0.350) | 0.300 |
| 10 | 0.83 | 1.50 | 0.324 | 0.089 | ( 0.292) | 0.235 |
| 11 | 0.92 | 1.60 | 0.346 | 0.089 | ( 0.311) | 0.257 |
| 12 | 1.00 | 1.80 | 0.389 | 0.089 | ( 0.350) | 0.300 |
| 13 | 1.08 | 2.20 | 0.475 | 0.089 | ( 0.428) | 0.386 |
| 14 | 1.17 | 2.20 | 0.475 | 0.089 | ( 0.428) | 0.386 |
| 15 | 1.25 | 2.20 | 0.475 | 0.089 | ( 0.428) | 0.386 |
| 16 | 1.33 | 2.00 | 0.432 | 0.089 | ( 0.389) | 0.343 |
| 17 | 1.42 | 2.60 | 0.562 | 0.089 | ( 0.505) | 0.473 |
| 18 | 1.50 | 2.70 | 0.583 | 0.089 | ( 0.525) | 0.494 |
| 19 | 1.58 | 2.40 | 0.518 | 0.089 | ( 0.467) | 0.429 |
| 20 | 1.67 | 2.70 | 0.583 | 0.089 | ( 0.525) | 0.494 |
| 21 | 1.75 | 3.30 | 0.713 | 0.089 | ( 0.642) | 0.624 |
| 22 | 1.83 | 3.10 | 0.670 | 0.089 | ( 0.603) | 0.581 |
| 23 | 1.92 | 2.90 | 0.626 | 0.089 | ( 0.564) | 0.537 |
| 24 | 2.00 | 3.00 | 0.648 | 0.089 | ( 0.583) | 0.559 |
| 25 | 2.08 | 3.10 | 0.670 | 0.089 | ( 0.603) | 0.581 |
| 26 | 2.17 | 4.20 | 0.907 | 0.089 | ( 0.816) | 0.818 |
| 27 | 2.25 | 5.00 | 1.080 | 0.089 | ( 0.972) | 0.991 |
| 28 | 2.33 | 3.50 | 0.756 | 0.089 | ( 0.680) | 0.667 |
| 29 | 2.42 | 6.80 | 1.469 | 0.089 | ( 1.322) | 1.380 |
| 30 | 2.50 | 7.30 | 1.577 | 0.089 | ( 1.419) | 1.488 |
| 31 | 2.58 | 8.20 | 1.771 | 0.089 | ( 1.594) | 1.682 |
| 32 | 2.67 | 5.90 | 1.274 | 0.089 | ( 1.147) | 1.185 |
| 33 | 2.75 | 2.00 | 0.432 | 0.089 | ( 0.389) | 0.343 |
| 34 | 2.83 | 1.80 | 0.389 | 0.089 | ( 0.350) | 0.300 |
| 35 | 2.92 | 1.80 | 0.389 | 0.089 | ( 0.350) | 0.300 |
| 36 | 3.00 | 0.60 | 0.130 | 0.089 | ( 0.117) | 0.041 |
| | | (Loss Rate Not Used) | | | |
| Sum = | | 100.0 | | | Sum = 18.4 |

Flood volume = Effective rainfall 1.53(In)
times area 0.6(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.27(In)
Total soil loss = 0.013(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 3338.4 Cubic Feet
Total soil loss = 582.0 Cubic Feet

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Peak flow rate of this hydrograph = 1.018(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 2.5 5.0 7.5 10.0 |
|---|---|---|---|
| 0+ 5 | 0.0008 | 0.12 | Q \| \| \| \| |
| 0+10 | 0.0016 | 0.12 | Q \| \| \| \| |
| 0+15 | 0.0022 | 0.09 | QV \| \| \| \| |
| 0+20 | 0.0032 | 0.14 | QV \| \| \| \| |
| 0+25 | 0.0042 | 0.14 | Q V \| \| \| \| |
| 0+30 | 0.0054 | 0.18 | Q V \| \| \| \| |
| 0+35 | 0.0064 | 0.14 | Q V \| \| \| \| |
| 0+40 | 0.0077 | 0.18 | Q V \| \| \| \| |
| 0+45 | 0.0089 | 0.18 | Q V \| \| \| \| |
| 0+50 | 0.0099 | 0.14 | Q V \| \| \| \| |
| 0+55 | 0.0109 | 0.16 | Q V \| \| \| \| |
| 1+ 0 | 0.0122 | 0.18 | Q V \| \| \| \| |
| 1+ 5 | 0.0138 | 0.23 | Q V \| \| \| \| |
| 1+10 | 0.0154 | 0.23 | Q V \| \| \| \| |
| 1+15 | 0.0170 | 0.23 | Q V \| \| \| \| |
| 1+20 | 0.0185 | 0.21 | Q V\| \| \| \| |
| 1+25 | 0.0204 | 0.29 | \|Q V \| \| \| |
| 1+30 | 0.0225 | 0.30 | \|Q V \| \| \| |
| 1+35 | 0.0243 | 0.26 | \|Q V \| \| \| |
| 1+40 | 0.0263 | 0.30 | \|Q V \| \| \| |
| 1+45 | 0.0289 | 0.38 | \|Q V \| \| \| |
| 1+50 | 0.0313 | 0.35 | \|Q V \| \| \| |
| 1+55 | 0.0336 | 0.33 | \|Q V \| \| \| |
| 2+ 0 | 0.0359 | 0.34 | \|Q V \| \| \| |
| 2+ 5 | 0.0383 | 0.35 | \|Q V \| \| \| |
| 2+10 | 0.0417 | 0.49 | \|Q \|V \| \| |
| 2+15 | 0.0459 | 0.60 | \| Q \| V \| \| |
| 2+20 | 0.0486 | 0.40 | \|Q \| V \| \| |
| 2+25 | 0.0544 | 0.83 | \| Q \| \| V \| \| |
| 2+30 | 0.0606 | 0.90 | \| Q \| \| \|V \| |
| 2+35 | 0.0676 | 1.02 | \| Q \| \| \| V \| |
| 2+40 | 0.0725 | 0.72 | \| Q \| \| \| V \| |
| 2+45 | 0.0740 | 0.21 | Q \| \| \| V \| |
| 2+50 | 0.0752 | 0.18 | Q \| \| \| V\| |
| 2+55 | 0.0765 | 0.18 | Q \| \| \| V\| |
| 3+ 0 | 0.0766 | 0.02 | Q \| \| \| V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 22
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 0.60(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.60(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 206.00(Ft.)
Length along longest watercourse measured to centroid = 96.00(Ft.)
Length along longest watercourse = 0.039 Mi.
Length along longest watercourse measured to centroid = 0.018 Mi.
Difference in elevation = 110.00(Ft.)
Slope along watercourse = 2819.4175 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.012 Hr.
Lag time = 0.71 Min.
25% of lag time = 0.18 Min.
40% of lag time = 0.28 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 1.12 | 0.67 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 2.50 | 1.50 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.120(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.600 | 83.58 | 0.000 |

Total Area Entered = 0.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.6 | 93.1 | 0.089 | 0.000 | 0.089 | 1.000 | 0.089 |
| | | | | | Sum (F) = | 0.089 |

Area averaged mean soil loss (F) (In/Hr) = 0.089

Minimum soil loss rate ((In/Hr)) = 0.045
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 705.893 | 100.000 | 0.605 |
| | | Sum = 100.000 | Sum= 0.605 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.089 | ( 0.135) | 0.061 |
| 2 | 0.17 | 0.60 | 0.180 | 0.089 | ( 0.162) | 0.091 |
| 3 | 0.25 | 0.60 | 0.180 | 0.089 | ( 0.162) | 0.091 |
| 4 | 0.33 | 0.60 | 0.180 | 0.089 | ( 0.162) | 0.091 |
| 5 | 0.42 | 0.60 | 0.180 | 0.089 | ( 0.162) | 0.091 |
| 6 | 0.50 | 0.70 | 0.210 | 0.089 | ( 0.189) | 0.121 |
| 7 | 0.58 | 0.70 | 0.210 | 0.089 | ( 0.189) | 0.121 |
| 8 | 0.67 | 0.70 | 0.210 | 0.089 | ( 0.189) | 0.121 |
| 9 | 0.75 | 0.70 | 0.210 | 0.089 | ( 0.189) | 0.121 |
| 10 | 0.83 | 0.70 | 0.210 | 0.089 | ( 0.189) | 0.121 |
| 11 | 0.92 | 0.70 | 0.210 | 0.089 | ( 0.189) | 0.121 |
| 12 | 1.00 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 13 | 1.08 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 14 | 1.17 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 15 | 1.25 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 16 | 1.33 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 17 | 1.42 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 18 | 1.50 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 19 | 1.58 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 20 | 1.67 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 21 | 1.75 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 22 | 1.83 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 23 | 1.92 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 24 | 2.00 | 0.90 | 0.270 | 0.089 | ( 0.243) | 0.181 |
| 25 | 2.08 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 26 | 2.17 | 0.90 | 0.270 | 0.089 | ( 0.243) | 0.181 |
| 27 | 2.25 | 0.90 | 0.270 | 0.089 | ( 0.243) | 0.181 |
| 28 | 2.33 | 0.90 | 0.270 | 0.089 | ( 0.243) | 0.181 |
| 29 | 2.42 | 0.90 | 0.270 | 0.089 | ( 0.243) | 0.181 |
| 30 | 2.50 | 0.90 | 0.270 | 0.089 | ( 0.243) | 0.181 |
| 31 | 2.58 | 0.90 | 0.270 | 0.089 | ( 0.243) | 0.181 |
| 32 | 2.67 | 0.90 | 0.270 | 0.089 | ( 0.243) | 0.181 |
| 33 | 2.75 | 1.00 | 0.300 | 0.089 | ( 0.270) | 0.211 |
| 34 | 2.83 | 1.00 | 0.300 | 0.089 | ( 0.270) | 0.211 |
| 35 | 2.92 | 1.00 | 0.300 | 0.089 | ( 0.270) | 0.211 |
| 36 | 3.00 | 1.00 | 0.300 | 0.089 | ( 0.270) | 0.211 |
| 37 | 3.08 | 1.00 | 0.300 | 0.089 | ( 0.270) | 0.211 |
| 38 | 3.17 | 1.10 | 0.330 | 0.089 | ( 0.297) | 0.241 |
| 39 | 3.25 | 1.10 | 0.330 | 0.089 | ( 0.297) | 0.241 |
| 40 | 3.33 | 1.10 | 0.330 | 0.089 | ( 0.297) | 0.241 |
| 41 | 3.42 | 1.20 | 0.360 | 0.089 | ( 0.324) | 0.271 |
| 42 | 3.50 | 1.30 | 0.390 | 0.089 | ( 0.351) | 0.301 |
| 43 | 3.58 | 1.40 | 0.420 | 0.089 | ( 0.378) | 0.331 |
| 44 | 3.67 | 1.40 | 0.420 | 0.089 | ( 0.378) | 0.331 |
| 45 | 3.75 | 1.50 | 0.450 | 0.089 | ( 0.405) | 0.361 |
| 46 | 3.83 | 1.50 | 0.450 | 0.089 | ( 0.405) | 0.361 |
| 47 | 3.92 | 1.60 | 0.480 | 0.089 | ( 0.432) | 0.391 |
| 48 | 4.00 | 1.60 | 0.480 | 0.089 | ( 0.432) | 0.391 |
| 49 | 4.08 | 1.70 | 0.510 | 0.089 | ( 0.459) | 0.421 |
| 50 | 4.17 | 1.80 | 0.540 | 0.089 | ( 0.486) | 0.451 |
| 51 | 4.25 | 1.90 | 0.570 | 0.089 | ( 0.513) | 0.481 |
| 52 | 4.33 | 2.00 | 0.600 | 0.089 | ( 0.540) | 0.511 |
| 53 | 4.42 | 2.10 | 0.630 | 0.089 | ( 0.567) | 0.541 |
| 54 | 4.50 | 2.10 | 0.630 | 0.089 | ( 0.567) | 0.541 |
| 55 | 4.58 | 2.20 | 0.660 | 0.089 | ( 0.594) | 0.571 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 56 | 4.67 | 2.30 | 0.690 | 0.089 | ( 0.621) | | 0.601 |
| 57 | 4.75 | 2.40 | 0.720 | 0.089 | ( 0.648) | | 0.631 |
| 58 | 4.83 | 2.40 | 0.720 | 0.089 | ( 0.648) | | 0.631 |
| 59 | 4.92 | 2.50 | 0.750 | 0.089 | ( 0.675) | | 0.661 |
| 60 | 5.00 | 2.60 | 0.780 | 0.089 | ( 0.702) | | 0.691 |
| 61 | 5.08 | 3.10 | 0.930 | 0.089 | ( 0.837) | | 0.841 |
| 62 | 5.17 | 3.60 | 1.080 | 0.089 | ( 0.972) | | 0.991 |
| 63 | 5.25 | 3.90 | 1.170 | 0.089 | ( 1.053) | | 1.081 |
| 64 | 5.33 | 4.20 | 1.260 | 0.089 | ( 1.134) | | 1.171 |
| 65 | 5.42 | 4.70 | 1.410 | 0.089 | ( 1.269) | | 1.321 |
| 66 | 5.50 | 5.60 | 1.680 | 0.089 | ( 1.512) | | 1.591 |
| 67 | 5.58 | 1.90 | 0.570 | 0.089 | ( 0.513) | | 0.481 |
| 68 | 5.67 | 0.90 | 0.270 | 0.089 | ( 0.243) | | 0.181 |
| 69 | 5.75 | 0.60 | 0.180 | 0.089 | ( 0.162) | | 0.091 |
| 70 | 5.83 | 0.50 | 0.150 | 0.089 | ( 0.135) | | 0.061 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.089) | 0.081 | | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.089) | 0.054 | | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.6

Flood volume = Effective rainfall 1.97(In)
times area 0.6(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.53(In)
Total soil loss = 0.027(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 4288.8 Cubic Feet
Total soil loss = 1156.2 Cubic Feet

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Peak flow rate of this hydrograph = 0.963(CFS)

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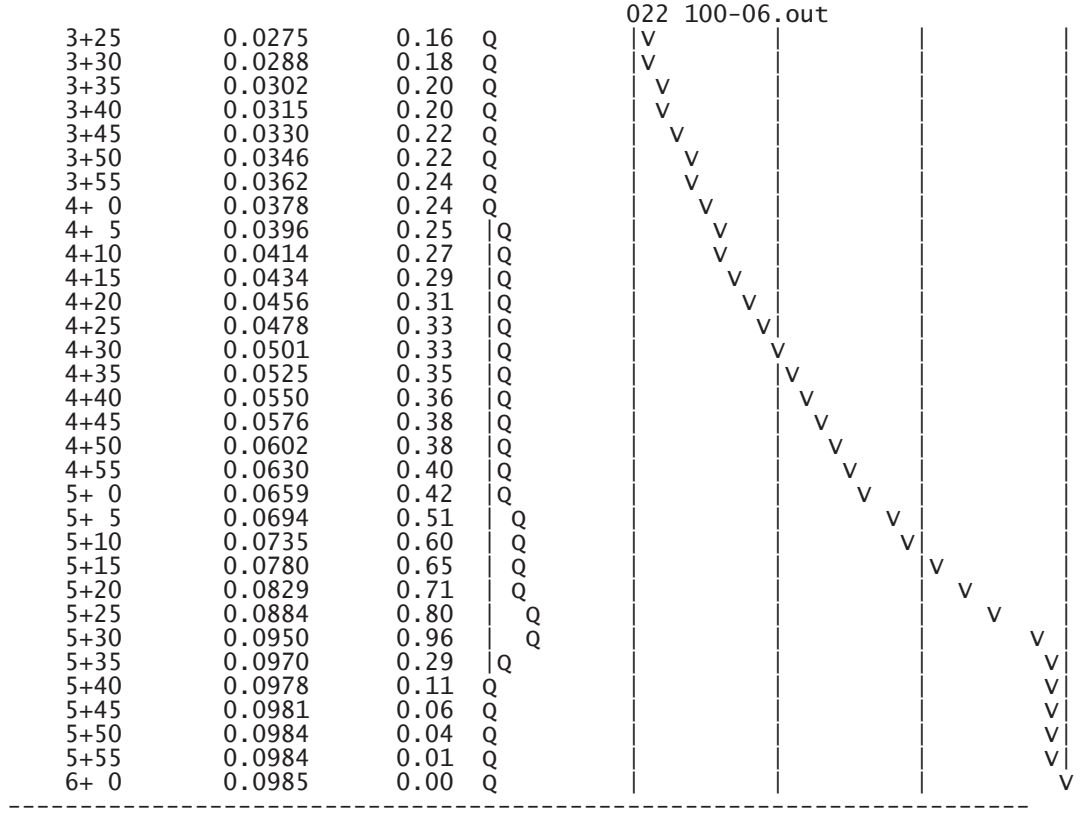
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

---

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0003 | 0.04 | Q | | | | |
| 0+10 | 0.0006 | 0.06 | Q | | | | |
| 0+15 | 0.0010 | 0.06 | Q | | | | |
| 0+20 | 0.0014 | 0.06 | Q | | | | |
| 0+25 | 0.0018 | 0.06 | Q | | | | |
| 0+30 | 0.0023 | 0.07 | Q | | | | |
| 0+35 | 0.0028 | 0.07 | QV | | | | |
| 0+40 | 0.0033 | 0.07 | QV | | | | |
| 0+45 | 0.0038 | 0.07 | QV | | | | |
| 0+50 | 0.0043 | 0.07 | QV | | | | |
| 0+55 | 0.0048 | 0.07 | QV | | | | |
| 1+ 0 | 0.0054 | 0.09 | Q V | | | | |
| 1+ 5 | 0.0061 | 0.09 | Q V | | | | |
| 1+10 | 0.0067 | 0.09 | Q V | | | | |
| 1+15 | 0.0073 | 0.09 | Q V | | | | |
| 1+20 | 0.0079 | 0.09 | Q V | | | | |
| 1+25 | 0.0086 | 0.09 | Q V | | | | |
| 1+30 | 0.0092 | 0.09 | Q V | | | | |
| 1+35 | 0.0098 | 0.09 | Q V | | | | |
| 1+40 | 0.0105 | 0.09 | Q V | | | | |
| 1+45 | 0.0111 | 0.09 | Q V | | | | |
| 1+50 | 0.0117 | 0.09 | Q V | | | | |
| 1+55 | 0.0123 | 0.09 | Q V | | | | |
| 2+ 0 | 0.0131 | 0.11 | Q V | | | | |
| 2+ 5 | 0.0137 | 0.09 | Q V | | | | |
| 2+10 | 0.0145 | 0.11 | Q V | | | | |
| 2+15 | 0.0152 | 0.11 | Q V | | | | |
| 2+20 | 0.0160 | 0.11 | Q V | | | | |
| 2+25 | 0.0167 | 0.11 | Q V | | | | |
| 2+30 | 0.0175 | 0.11 | Q V | | | | |
| 2+35 | 0.0182 | 0.11 | Q V | | | | |
| 2+40 | 0.0190 | 0.11 | Q V | | | | |
| 2+45 | 0.0199 | 0.13 | Q V | | | | |
| 2+50 | 0.0208 | 0.13 | Q V | | | | |
| 2+55 | 0.0216 | 0.13 | Q V | | | | |
| 3+ 0 | 0.0225 | 0.13 | Q V | | | | |
| 3+ 5 | 0.0234 | 0.13 | Q V | | | | |
| 3+10 | 0.0244 | 0.15 | Q V | | | | |
| 3+15 | 0.0254 | 0.15 | Q V | | | | |
| 3+20 | 0.0264 | 0.15 | Q V | | | | |



| | | | |
|---|---|---|---|
| 3+25 | 0.0275 | 0.16 | Q |
| 3+30 | 0.0288 | 0.18 | Q |
| 3+35 | 0.0302 | 0.20 | Q |
| 3+40 | 0.0315 | 0.20 | Q |
| 3+45 | 0.0330 | 0.22 | Q |
| 3+50 | 0.0346 | 0.22 | Q |
| 3+55 | 0.0362 | 0.24 | Q |
| 4+ 0 | 0.0378 | 0.24 | Q |
| 4+ 5 | 0.0396 | 0.25 | Q |
| 4+10 | 0.0414 | 0.27 | Q |
| 4+15 | 0.0434 | 0.29 | Q |
| 4+20 | 0.0456 | 0.31 | Q |
| 4+25 | 0.0478 | 0.33 | Q |
| 4+30 | 0.0501 | 0.33 | Q |
| 4+35 | 0.0525 | 0.35 | Q |
| 4+40 | 0.0550 | 0.36 | Q |
| 4+45 | 0.0576 | 0.38 | Q |
| 4+50 | 0.0602 | 0.38 | Q |
| 4+55 | 0.0630 | 0.40 | Q |
| 5+ 0 | 0.0659 | 0.42 | Q |
| 5+ 5 | 0.0694 | 0.51 | Q |
| 5+10 | 0.0735 | 0.60 | Q |
| 5+15 | 0.0780 | 0.65 | Q |
| 5+20 | 0.0829 | 0.71 | Q |
| 5+25 | 0.0884 | 0.80 | Q |
| 5+30 | 0.0950 | 0.96 | Q |
| 5+35 | 0.0970 | 0.29 | Q |
| 5+40 | 0.0978 | 0.11 | Q |
| 5+45 | 0.0981 | 0.06 | Q |
| 5+50 | 0.0984 | 0.04 | Q |
| 5+55 | 0.0984 | 0.01 | Q |
| 6+ 0 | 0.0985 | 0.00 | Q |

U n i t  H y d r o g r a p h  A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 22
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.60(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.60(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 206.00(Ft.)
Length along longest watercourse measured to centroid = 96.00(Ft.)
Length along longest watercourse = 0.039 Mi.
Length along longest watercourse measured to centroid = 0.018 Mi.
Difference in elevation = 110.00(Ft.)
Slope along watercourse = 2819.4175 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.012 Hr.
Lag time = 0.71 Min.
25% of lag time = 0.18 Min.
40% of lag time = 0.28 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 1.80 | 1.08 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 4.52 | 2.71 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.520(In)

Point rain (area averaged) = 4.520(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.520(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.600 | 83.58 | 0.000 |

Total Area Entered = 0.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.6 | 93.1 | 0.089 | 0.000 | 0.089 | 1.000 | 0.089 |
| | | | | | Sum (F) = | 0.089 |

Area averaged mean soil loss (F) (In/Hr) = 0.089

Minimum soil loss rate ((In/Hr)) = 0.045
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 705.893 | 100.000 | 0.605 |
| | | Sum = 100.000 | Sum= 0.605 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.036 | ( 0.158) | 0.033 | 0.004 |
| 2 | 0.17 | 0.07 | 0.036 | ( 0.157) | 0.033 | 0.004 |
| 3 | 0.25 | 0.07 | 0.036 | ( 0.157) | 0.033 | 0.004 |
| 4 | 0.33 | 0.10 | 0.054 | ( 0.156) | 0.049 | 0.005 |
| 5 | 0.42 | 0.10 | 0.054 | ( 0.155) | 0.049 | 0.005 |
| 6 | 0.50 | 0.10 | 0.054 | ( 0.155) | 0.049 | 0.005 |
| 7 | 0.58 | 0.10 | 0.054 | ( 0.154) | 0.049 | 0.005 |
| 8 | 0.67 | 0.10 | 0.054 | ( 0.154) | 0.049 | 0.005 |
| 9 | 0.75 | 0.10 | 0.054 | ( 0.153) | 0.049 | 0.005 |
| 10 | 0.83 | 0.13 | 0.072 | ( 0.152) | 0.065 | 0.007 |
| 11 | 0.92 | 0.13 | 0.072 | ( 0.152) | 0.065 | 0.007 |
| 12 | 1.00 | 0.13 | 0.072 | ( 0.151) | 0.065 | 0.007 |
| 13 | 1.08 | 0.10 | 0.054 | ( 0.151) | 0.049 | 0.005 |
| 14 | 1.17 | 0.10 | 0.054 | ( 0.150) | 0.049 | 0.005 |
| 15 | 1.25 | 0.10 | 0.054 | ( 0.149) | 0.049 | 0.005 |
| 16 | 1.33 | 0.10 | 0.054 | ( 0.149) | 0.049 | 0.005 |
| 17 | 1.42 | 0.10 | 0.054 | ( 0.148) | 0.049 | 0.005 |
| 18 | 1.50 | 0.10 | 0.054 | ( 0.148) | 0.049 | 0.005 |
| 19 | 1.58 | 0.10 | 0.054 | ( 0.147) | 0.049 | 0.005 |
| 20 | 1.67 | 0.10 | 0.054 | ( 0.147) | 0.049 | 0.005 |
| 21 | 1.75 | 0.10 | 0.054 | ( 0.146) | 0.049 | 0.005 |
| 22 | 1.83 | 0.13 | 0.072 | ( 0.145) | 0.065 | 0.007 |
| 23 | 1.92 | 0.13 | 0.072 | ( 0.145) | 0.065 | 0.007 |
| 24 | 2.00 | 0.13 | 0.072 | ( 0.144) | 0.065 | 0.007 |
| 25 | 2.08 | 0.13 | 0.072 | ( 0.144) | 0.065 | 0.007 |
| 26 | 2.17 | 0.13 | 0.072 | ( 0.143) | 0.065 | 0.007 |
| 27 | 2.25 | 0.13 | 0.072 | ( 0.142) | 0.065 | 0.007 |
| 28 | 2.33 | 0.13 | 0.072 | ( 0.142) | 0.065 | 0.007 |
| 29 | 2.42 | 0.13 | 0.072 | ( 0.141) | 0.065 | 0.007 |
| 30 | 2.50 | 0.13 | 0.072 | ( 0.141) | 0.065 | 0.007 |
| 31 | 2.58 | 0.17 | 0.090 | ( 0.140) | 0.081 | 0.009 |
| 32 | 2.67 | 0.17 | 0.090 | ( 0.140) | 0.081 | 0.009 |
| 33 | 2.75 | 0.17 | 0.090 | ( 0.139) | 0.081 | 0.009 |
| 34 | 2.83 | 0.17 | 0.090 | ( 0.138) | 0.081 | 0.009 |
| 35 | 2.92 | 0.17 | 0.090 | ( 0.138) | 0.081 | 0.009 |
| 36 | 3.00 | 0.17 | 0.090 | ( 0.137) | 0.081 | 0.009 |
| 37 | 3.08 | 0.17 | 0.090 | ( 0.137) | 0.081 | 0.009 |
| 38 | 3.17 | 0.17 | 0.090 | ( 0.136) | 0.081 | 0.009 |
| 39 | 3.25 | 0.17 | 0.090 | ( 0.136) | 0.081 | 0.009 |
| 40 | 3.33 | 0.17 | 0.090 | ( 0.135) | 0.081 | 0.009 |
| 41 | 3.42 | 0.17 | 0.090 | ( 0.134) | 0.081 | 0.009 |
| 42 | 3.50 | 0.17 | 0.090 | ( 0.134) | 0.081 | 0.009 |
| 43 | 3.58 | 0.17 | 0.090 | ( 0.133) | 0.081 | 0.009 |
| 44 | 3.67 | 0.17 | 0.090 | ( 0.133) | 0.081 | 0.009 |
| 45 | 3.75 | 0.17 | 0.090 | ( 0.132) | 0.081 | 0.009 |
| 46 | 3.83 | 0.20 | 0.108 | ( 0.132) | 0.098 | 0.011 |
| 47 | 3.92 | 0.20 | 0.108 | ( 0.131) | 0.098 | 0.011 |
| 48 | 4.00 | 0.20 | 0.108 | ( 0.131) | 0.098 | 0.011 |
| 49 | 4.08 | 0.20 | 0.108 | ( 0.130) | 0.098 | 0.011 |
| 50 | 4.17 | 0.20 | 0.108 | ( 0.129) | 0.098 | 0.011 |
| 51 | 4.25 | 0.20 | 0.108 | ( 0.129) | 0.098 | 0.011 |
| 52 | 4.33 | 0.23 | 0.127 | ( 0.128) | 0.114 | 0.013 |
| 53 | 4.42 | 0.23 | 0.127 | ( 0.128) | 0.114 | 0.013 |
| 54 | 4.50 | 0.23 | 0.127 | ( 0.127) | 0.114 | 0.013 |
| 55 | 4.58 | 0.23 | 0.127 | ( 0.127) | 0.114 | 0.013 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 56 | 4.67 | 0.23 | 0.127 | ( | 0.126) | 0.114 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.127 | ( | 0.126) | 0.114 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.145 | | 0.125 | ( 0.130) | | 0.020 |
| 59 | 4.92 | 0.27 | 0.145 | | 0.124 | ( 0.130) | | 0.020 |
| 60 | 5.00 | 0.27 | 0.145 | | 0.124 | ( 0.130) | | 0.021 |
| 61 | 5.08 | 0.20 | 0.108 | ( | 0.123) | 0.098 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.108 | ( | 0.123) | 0.098 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.108 | ( | 0.122) | 0.098 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.127 | ( | 0.122) | 0.114 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.127 | ( | 0.121) | 0.114 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.127 | ( | 0.121) | 0.114 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.145 | | 0.120 | ( 0.130) | | 0.024 |
| 68 | 5.67 | 0.27 | 0.145 | | 0.120 | ( 0.130) | | 0.025 |
| 69 | 5.75 | 0.27 | 0.145 | | 0.119 | ( 0.130) | | 0.025 |
| 70 | 5.83 | 0.27 | 0.145 | | 0.119 | ( 0.130) | | 0.026 |
| 71 | 5.92 | 0.27 | 0.145 | | 0.118 | ( 0.130) | | 0.027 |
| 72 | 6.00 | 0.27 | 0.145 | | 0.118 | ( 0.130) | | 0.027 |
| 73 | 6.08 | 0.30 | 0.163 | | 0.117 | ( 0.146) | | 0.046 |
| 74 | 6.17 | 0.30 | 0.163 | | 0.117 | ( 0.146) | | 0.046 |
| 75 | 6.25 | 0.30 | 0.163 | | 0.116 | ( 0.146) | | 0.047 |
| 76 | 6.33 | 0.30 | 0.163 | | 0.115 | ( 0.146) | | 0.047 |
| 77 | 6.42 | 0.30 | 0.163 | | 0.115 | ( 0.146) | | 0.048 |
| 78 | 6.50 | 0.30 | 0.163 | | 0.114 | ( 0.146) | | 0.048 |
| 79 | 6.58 | 0.33 | 0.181 | | 0.114 | ( 0.163) | | 0.067 |
| 80 | 6.67 | 0.33 | 0.181 | | 0.113 | ( 0.163) | | 0.067 |
| 81 | 6.75 | 0.33 | 0.181 | | 0.113 | ( 0.163) | | 0.068 |
| 82 | 6.83 | 0.33 | 0.181 | | 0.112 | ( 0.163) | | 0.068 |
| 83 | 6.92 | 0.33 | 0.181 | | 0.112 | ( 0.163) | | 0.069 |
| 84 | 7.00 | 0.33 | 0.181 | | 0.111 | ( 0.163) | | 0.069 |
| 85 | 7.08 | 0.33 | 0.181 | | 0.111 | ( 0.163) | | 0.070 |
| 86 | 7.17 | 0.33 | 0.181 | | 0.110 | ( 0.163) | | 0.070 |
| 87 | 7.25 | 0.33 | 0.181 | | 0.110 | ( 0.163) | | 0.071 |
| 88 | 7.33 | 0.37 | 0.199 | | 0.109 | ( 0.179) | | 0.089 |
| 89 | 7.42 | 0.37 | 0.199 | | 0.109 | ( 0.179) | | 0.090 |
| 90 | 7.50 | 0.37 | 0.199 | | 0.108 | ( 0.179) | | 0.090 |
| 91 | 7.58 | 0.40 | 0.217 | | 0.108 | ( 0.195) | | 0.109 |
| 92 | 7.67 | 0.40 | 0.217 | | 0.107 | ( 0.195) | | 0.110 |
| 93 | 7.75 | 0.40 | 0.217 | | 0.107 | ( 0.195) | | 0.110 |
| 94 | 7.83 | 0.43 | 0.235 | | 0.106 | ( 0.212) | | 0.129 |
| 95 | 7.92 | 0.43 | 0.235 | | 0.106 | ( 0.212) | | 0.129 |
| 96 | 8.00 | 0.43 | 0.235 | | 0.105 | ( 0.212) | | 0.130 |
| 97 | 8.08 | 0.50 | 0.271 | | 0.105 | ( 0.244) | | 0.166 |
| 98 | 8.17 | 0.50 | 0.271 | | 0.104 | ( 0.244) | | 0.167 |
| 99 | 8.25 | 0.50 | 0.271 | | 0.104 | ( 0.244) | | 0.167 |
| 100 | 8.33 | 0.50 | 0.271 | | 0.103 | ( 0.244) | | 0.168 |
| 101 | 8.42 | 0.50 | 0.271 | | 0.103 | ( 0.244) | | 0.168 |
| 102 | 8.50 | 0.50 | 0.271 | | 0.103 | ( 0.244) | | 0.169 |
| 103 | 8.58 | 0.53 | 0.289 | | 0.102 | ( 0.260) | | 0.187 |
| 104 | 8.67 | 0.53 | 0.289 | | 0.102 | ( 0.260) | | 0.188 |
| 105 | 8.75 | 0.53 | 0.289 | | 0.101 | ( 0.260) | | 0.188 |
| 106 | 8.83 | 0.57 | 0.307 | | 0.101 | ( 0.277) | | 0.207 |
| 107 | 8.92 | 0.57 | 0.307 | | 0.100 | ( 0.277) | | 0.207 |
| 108 | 9.00 | 0.57 | 0.307 | | 0.100 | ( 0.277) | | 0.208 |
| 109 | 9.08 | 0.63 | 0.344 | | 0.099 | ( 0.309) | | 0.244 |
| 110 | 9.17 | 0.63 | 0.344 | | 0.099 | ( 0.309) | | 0.245 |
| 111 | 9.25 | 0.63 | 0.344 | | 0.098 | ( 0.309) | | 0.245 |
| 112 | 9.33 | 0.67 | 0.362 | | 0.098 | ( 0.325) | | 0.264 |
| 113 | 9.42 | 0.67 | 0.362 | | 0.097 | ( 0.325) | | 0.264 |
| 114 | 9.50 | 0.67 | 0.362 | | 0.097 | ( 0.325) | | 0.265 |
| 115 | 9.58 | 0.70 | 0.380 | | 0.096 | ( 0.342) | | 0.283 |
| 116 | 9.67 | 0.70 | 0.380 | | 0.096 | ( 0.342) | | 0.284 |
| 117 | 9.75 | 0.70 | 0.380 | | 0.095 | ( 0.342) | | 0.284 |
| 118 | 9.83 | 0.73 | 0.398 | | 0.095 | ( 0.358) | | 0.303 |
| 119 | 9.92 | 0.73 | 0.398 | | 0.095 | ( 0.358) | | 0.303 |
| 120 | 10.00 | 0.73 | 0.398 | | 0.094 | ( 0.358) | | 0.304 |
| 121 | 10.08 | 0.50 | 0.271 | | 0.094 | ( 0.244) | | 0.178 |
| 122 | 10.17 | 0.50 | 0.271 | | 0.093 | ( 0.244) | | 0.178 |
| 123 | 10.25 | 0.50 | 0.271 | | 0.093 | ( 0.244) | | 0.178 |
| 124 | 10.33 | 0.50 | 0.271 | | 0.092 | ( 0.244) | | 0.179 |
| 125 | 10.42 | 0.50 | 0.271 | | 0.092 | ( 0.244) | | 0.179 |
| 126 | 10.50 | 0.50 | 0.271 | | 0.091 | ( 0.244) | | 0.180 |
| 127 | 10.58 | 0.67 | 0.362 | | 0.091 | ( 0.325) | | 0.271 |
| 128 | 10.67 | 0.67 | 0.362 | | 0.090 | ( 0.325) | | 0.271 |
| 129 | 10.75 | 0.67 | 0.362 | | 0.090 | ( 0.325) | | 0.272 |
| 130 | 10.83 | 0.67 | 0.362 | | 0.090 | ( 0.325) | | 0.272 |
| 131 | 10.92 | 0.67 | 0.362 | | 0.089 | ( 0.325) | | 0.272 |
| 132 | 11.00 | 0.67 | 0.362 | | 0.089 | ( 0.325) | | 0.273 |
| 133 | 11.08 | 0.63 | 0.344 | | 0.088 | ( 0.309) | | 0.255 |

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|---|---|---|---|---|---|---|---|---|
| 134 | 11.17 | 0.63 | 0.344 | | 0.088 | ( 0.309) | | 0.256 |
| 135 | 11.25 | 0.63 | 0.344 | | 0.087 | ( 0.309) | | 0.256 |
| 136 | 11.33 | 0.63 | 0.344 | | 0.087 | ( 0.309) | | 0.257 |
| 137 | 11.42 | 0.63 | 0.344 | | 0.087 | ( 0.309) | | 0.257 |
| 138 | 11.50 | 0.63 | 0.344 | | 0.086 | ( 0.309) | | 0.257 |
| 139 | 11.58 | 0.57 | 0.307 | | 0.086 | ( 0.277) | | 0.222 |
| 140 | 11.67 | 0.57 | 0.307 | | 0.085 | ( 0.277) | | 0.222 |
| 141 | 11.75 | 0.57 | 0.307 | | 0.085 | ( 0.277) | | 0.223 |
| 142 | 11.83 | 0.60 | 0.325 | | 0.084 | ( 0.293) | | 0.241 |
| 143 | 11.92 | 0.60 | 0.325 | | 0.084 | ( 0.293) | | 0.241 |
| 144 | 12.00 | 0.60 | 0.325 | | 0.084 | ( 0.293) | | 0.242 |
| 145 | 12.08 | 0.83 | 0.452 | | 0.083 | ( 0.407) | | 0.369 |
| 146 | 12.17 | 0.83 | 0.452 | | 0.083 | ( 0.407) | | 0.369 |
| 147 | 12.25 | 0.83 | 0.452 | | 0.082 | ( 0.407) | | 0.370 |
| 148 | 12.33 | 0.87 | 0.470 | | 0.082 | ( 0.423) | | 0.388 |
| 149 | 12.42 | 0.87 | 0.470 | | 0.081 | ( 0.423) | | 0.389 |
| 150 | 12.50 | 0.87 | 0.470 | | 0.081 | ( 0.423) | | 0.389 |
| 151 | 12.58 | 0.93 | 0.506 | | 0.081 | ( 0.456) | | 0.426 |
| 152 | 12.67 | 0.93 | 0.506 | | 0.080 | ( 0.456) | | 0.426 |
| 153 | 12.75 | 0.93 | 0.506 | | 0.080 | ( 0.456) | | 0.426 |
| 154 | 12.83 | 0.97 | 0.524 | | 0.079 | ( 0.472) | | 0.445 |
| 155 | 12.92 | 0.97 | 0.524 | | 0.079 | ( 0.472) | | 0.445 |
| 156 | 13.00 | 0.97 | 0.524 | | 0.079 | ( 0.472) | | 0.446 |
| 157 | 13.08 | 1.13 | 0.615 | | 0.078 | ( 0.553) | | 0.536 |
| 158 | 13.17 | 1.13 | 0.615 | | 0.078 | ( 0.553) | | 0.537 |
| 159 | 13.25 | 1.13 | 0.615 | | 0.077 | ( 0.553) | | 0.537 |
| 160 | 13.33 | 1.13 | 0.615 | | 0.077 | ( 0.553) | | 0.538 |
| 161 | 13.42 | 1.13 | 0.615 | | 0.077 | ( 0.553) | | 0.538 |
| 162 | 13.50 | 1.13 | 0.615 | | 0.076 | ( 0.553) | | 0.538 |
| 163 | 13.58 | 0.77 | 0.416 | | 0.076 | ( 0.374) | | 0.340 |
| 164 | 13.67 | 0.77 | 0.416 | | 0.076 | ( 0.374) | | 0.340 |
| 165 | 13.75 | 0.77 | 0.416 | | 0.075 | ( 0.374) | | 0.341 |
| 166 | 13.83 | 0.77 | 0.416 | | 0.075 | ( 0.374) | | 0.341 |
| 167 | 13.92 | 0.77 | 0.416 | | 0.074 | ( 0.374) | | 0.341 |
| 168 | 14.00 | 0.77 | 0.416 | | 0.074 | ( 0.374) | | 0.342 |
| 169 | 14.08 | 0.90 | 0.488 | | 0.074 | ( 0.439) | | 0.415 |
| 170 | 14.17 | 0.90 | 0.488 | | 0.073 | ( 0.439) | | 0.415 |
| 171 | 14.25 | 0.90 | 0.488 | | 0.073 | ( 0.439) | | 0.415 |
| 172 | 14.33 | 0.87 | 0.470 | | 0.072 | ( 0.423) | | 0.398 |
| 173 | 14.42 | 0.87 | 0.470 | | 0.072 | ( 0.423) | | 0.398 |
| 174 | 14.50 | 0.87 | 0.470 | | 0.072 | ( 0.423) | | 0.398 |
| 175 | 14.58 | 0.87 | 0.470 | | 0.071 | ( 0.423) | | 0.399 |
| 176 | 14.67 | 0.87 | 0.470 | | 0.071 | ( 0.423) | | 0.399 |
| 177 | 14.75 | 0.87 | 0.470 | | 0.071 | ( 0.423) | | 0.399 |
| 178 | 14.83 | 0.83 | 0.452 | | 0.070 | ( 0.407) | | 0.382 |
| 179 | 14.92 | 0.83 | 0.452 | | 0.070 | ( 0.407) | | 0.382 |
| 180 | 15.00 | 0.83 | 0.452 | | 0.070 | ( 0.407) | | 0.382 |
| 181 | 15.08 | 0.80 | 0.434 | | 0.069 | ( 0.391) | | 0.365 |
| 182 | 15.17 | 0.80 | 0.434 | | 0.069 | ( 0.391) | | 0.365 |
| 183 | 15.25 | 0.80 | 0.434 | | 0.069 | ( 0.391) | | 0.365 |
| 184 | 15.33 | 0.77 | 0.416 | | 0.068 | ( 0.374) | | 0.348 |
| 185 | 15.42 | 0.77 | 0.416 | | 0.068 | ( 0.374) | | 0.348 |
| 186 | 15.50 | 0.77 | 0.416 | | 0.067 | ( 0.374) | | 0.348 |
| 187 | 15.58 | 0.63 | 0.344 | | 0.067 | ( 0.309) | | 0.276 |
| 188 | 15.67 | 0.63 | 0.344 | | 0.067 | ( 0.309) | | 0.277 |
| 189 | 15.75 | 0.63 | 0.344 | | 0.066 | ( 0.309) | | 0.277 |
| 190 | 15.83 | 0.63 | 0.344 | | 0.066 | ( 0.309) | | 0.277 |
| 191 | 15.92 | 0.63 | 0.344 | | 0.066 | ( 0.309) | | 0.278 |
| 192 | 16.00 | 0.63 | 0.344 | | 0.065 | ( 0.309) | | 0.278 |
| 193 | 16.08 | 0.13 | 0.072 | | 0.065 | ( 0.065) | | 0.007 |
| 194 | 16.17 | 0.13 | 0.072 | | 0.065 | ( 0.065) | | 0.008 |
| 195 | 16.25 | 0.13 | 0.072 | | 0.064 | ( 0.065) | | 0.008 |
| 196 | 16.33 | 0.13 | 0.072 | | 0.064 | ( 0.065) | | 0.008 |
| 197 | 16.42 | 0.13 | 0.072 | | 0.064 | ( 0.065) | | 0.009 |
| 198 | 16.50 | 0.13 | 0.072 | | 0.063 | ( 0.065) | | 0.009 |
| 199 | 16.58 | 0.10 | 0.054 | ( | 0.063) | 0.049 | | 0.005 |
| 200 | 16.67 | 0.10 | 0.054 | ( | 0.063) | 0.049 | | 0.005 |
| 201 | 16.75 | 0.10 | 0.054 | ( | 0.062) | 0.049 | | 0.005 |
| 202 | 16.83 | 0.10 | 0.054 | ( | 0.062) | 0.049 | | 0.005 |
| 203 | 16.92 | 0.10 | 0.054 | ( | 0.062) | 0.049 | | 0.005 |
| 204 | 17.00 | 0.10 | 0.054 | ( | 0.062) | 0.049 | | 0.005 |
| 205 | 17.08 | 0.17 | 0.090 | | 0.061 | ( 0.081) | | 0.029 |
| 206 | 17.17 | 0.17 | 0.090 | | 0.061 | ( 0.081) | | 0.029 |
| 207 | 17.25 | 0.17 | 0.090 | | 0.061 | ( 0.081) | | 0.030 |
| 208 | 17.33 | 0.17 | 0.090 | | 0.060 | ( 0.081) | | 0.030 |
| 209 | 17.42 | 0.17 | 0.090 | | 0.060 | ( 0.081) | | 0.030 |
| 210 | 17.50 | 0.17 | 0.090 | | 0.060 | ( 0.081) | | 0.031 |
| 211 | 17.58 | 0.17 | 0.090 | | 0.059 | ( 0.081) | | 0.031 |

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|---|---|---|---|---|---|---|
| 212 | 17.67 | 0.17 | 0.090 | 0.059 | ( 0.081) | 0.031 |
| 213 | 17.75 | 0.17 | 0.090 | 0.059 | ( 0.081) | 0.032 |
| 214 | 17.83 | 0.13 | 0.072 | 0.059 | ( 0.065) | 0.014 |
| 215 | 17.92 | 0.13 | 0.072 | 0.058 | ( 0.065) | 0.014 |
| 216 | 18.00 | 0.13 | 0.072 | 0.058 | ( 0.065) | 0.014 |
| 217 | 18.08 | 0.13 | 0.072 | 0.058 | ( 0.065) | 0.015 |
| 218 | 18.17 | 0.13 | 0.072 | 0.057 | ( 0.065) | 0.015 |
| 219 | 18.25 | 0.13 | 0.072 | 0.057 | ( 0.065) | 0.015 |
| 220 | 18.33 | 0.13 | 0.072 | 0.057 | ( 0.065) | 0.016 |
| 221 | 18.42 | 0.13 | 0.072 | 0.057 | ( 0.065) | 0.016 |
| 222 | 18.50 | 0.13 | 0.072 | 0.056 | ( 0.065) | 0.016 |
| 223 | 18.58 | 0.10 | 0.054 | ( 0.056) | 0.049 | 0.005 |
| 224 | 18.67 | 0.10 | 0.054 | ( 0.056) | 0.049 | 0.005 |
| 225 | 18.75 | 0.10 | 0.054 | ( 0.055) | 0.049 | 0.005 |
| 226 | 18.83 | 0.07 | 0.036 | ( 0.055) | 0.033 | 0.004 |
| 227 | 18.92 | 0.07 | 0.036 | ( 0.055) | 0.033 | 0.004 |
| 228 | 19.00 | 0.07 | 0.036 | ( 0.055) | 0.033 | 0.004 |
| 229 | 19.08 | 0.10 | 0.054 | ( 0.054) | 0.049 | 0.005 |
| 230 | 19.17 | 0.10 | 0.054 | ( 0.054) | 0.049 | 0.005 |
| 231 | 19.25 | 0.10 | 0.054 | ( 0.054) | 0.049 | 0.005 |
| 232 | 19.33 | 0.13 | 0.072 | 0.054 | ( 0.065) | 0.019 |
| 233 | 19.42 | 0.13 | 0.072 | 0.053 | ( 0.065) | 0.019 |
| 234 | 19.50 | 0.13 | 0.072 | 0.053 | ( 0.065) | 0.019 |
| 235 | 19.58 | 0.10 | 0.054 | ( 0.053) | 0.049 | 0.005 |
| 236 | 19.67 | 0.10 | 0.054 | ( 0.053) | 0.049 | 0.005 |
| 237 | 19.75 | 0.10 | 0.054 | ( 0.052) | 0.049 | 0.005 |
| 238 | 19.83 | 0.07 | 0.036 | ( 0.052) | 0.033 | 0.004 |
| 239 | 19.92 | 0.07 | 0.036 | ( 0.052) | 0.033 | 0.004 |
| 240 | 20.00 | 0.07 | 0.036 | ( 0.052) | 0.033 | 0.004 |
| 241 | 20.08 | 0.10 | 0.054 | ( 0.051) | 0.049 | 0.005 |
| 242 | 20.17 | 0.10 | 0.054 | ( 0.051) | 0.049 | 0.005 |
| 243 | 20.25 | 0.10 | 0.054 | ( 0.051) | 0.049 | 0.005 |
| 244 | 20.33 | 0.10 | 0.054 | ( 0.051) | 0.049 | 0.005 |
| 245 | 20.42 | 0.10 | 0.054 | ( 0.051) | 0.049 | 0.005 |
| 246 | 20.50 | 0.10 | 0.054 | ( 0.050) | 0.049 | 0.005 |
| 247 | 20.58 | 0.10 | 0.054 | ( 0.050) | 0.049 | 0.005 |
| 248 | 20.67 | 0.10 | 0.054 | ( 0.050) | 0.049 | 0.005 |
| 249 | 20.75 | 0.10 | 0.054 | ( 0.050) | 0.049 | 0.005 |
| 250 | 20.83 | 0.07 | 0.036 | ( 0.050) | 0.033 | 0.004 |
| 251 | 20.92 | 0.07 | 0.036 | ( 0.049) | 0.033 | 0.004 |
| 252 | 21.00 | 0.07 | 0.036 | ( 0.049) | 0.033 | 0.004 |
| 253 | 21.08 | 0.10 | 0.054 | ( 0.049) | 0.049 | 0.005 |
| 254 | 21.17 | 0.10 | 0.054 | 0.049 | ( 0.049) | 0.005 |
| 255 | 21.25 | 0.10 | 0.054 | 0.049 | ( 0.049) | 0.006 |
| 256 | 21.33 | 0.07 | 0.036 | ( 0.048) | 0.033 | 0.004 |
| 257 | 21.42 | 0.07 | 0.036 | ( 0.048) | 0.033 | 0.004 |
| 258 | 21.50 | 0.07 | 0.036 | ( 0.048) | 0.033 | 0.004 |
| 259 | 21.58 | 0.10 | 0.054 | 0.048 | ( 0.049) | 0.006 |
| 260 | 21.67 | 0.10 | 0.054 | 0.048 | ( 0.049) | 0.007 |
| 261 | 21.75 | 0.10 | 0.054 | 0.048 | ( 0.049) | 0.007 |
| 262 | 21.83 | 0.07 | 0.036 | ( 0.047) | 0.033 | 0.004 |
| 263 | 21.92 | 0.07 | 0.036 | ( 0.047) | 0.033 | 0.004 |
| 264 | 22.00 | 0.07 | 0.036 | ( 0.047) | 0.033 | 0.004 |
| 265 | 22.08 | 0.10 | 0.054 | 0.047 | ( 0.049) | 0.007 |
| 266 | 22.17 | 0.10 | 0.054 | 0.047 | ( 0.049) | 0.008 |
| 267 | 22.25 | 0.10 | 0.054 | 0.047 | ( 0.049) | 0.008 |
| 268 | 22.33 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 269 | 22.42 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 270 | 22.50 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 271 | 22.58 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 272 | 22.67 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 273 | 22.75 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 274 | 22.83 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 275 | 22.92 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 276 | 23.00 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 277 | 23.08 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 278 | 23.17 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 279 | 23.25 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 280 | 23.33 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 281 | 23.42 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 284 | 23.67 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 285 | 23.75 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 286 | 23.83 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 287 | 23.92 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 288 | 24.00 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 33.3

Flood volume = Effective rainfall 2.78(In)
times area 0.6(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 1.74(In)
Total soil loss = 0.087(Ac.Ft)
Total rainfall = 4.52(In)
Flood volume = 6046.4 Cubic Feet
Total soil loss = 3798.2 Cubic Feet

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Peak flow rate of this hydrograph = 0.326(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

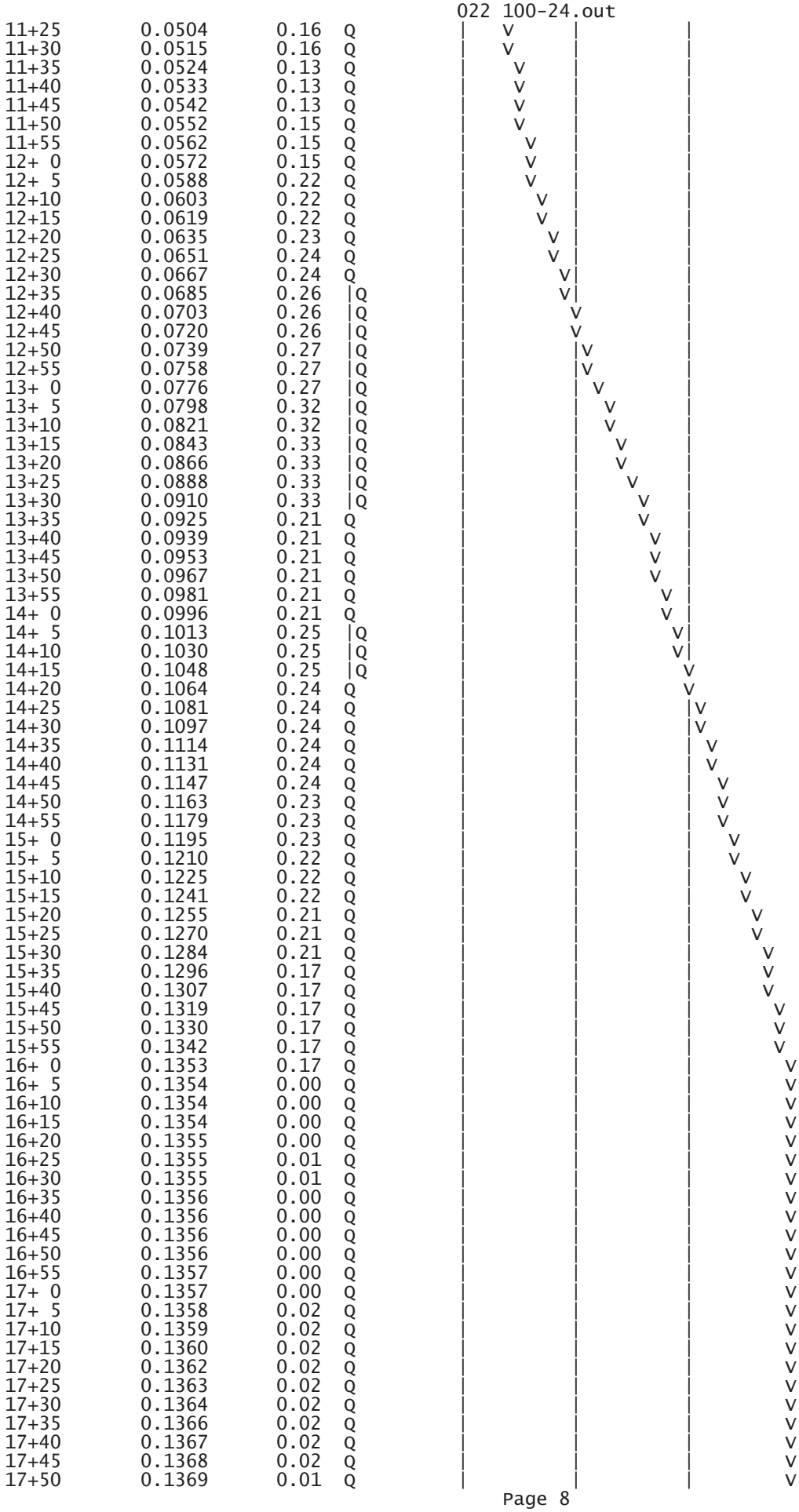
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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0000 | 0.00 | Q | | | | |
| 0+10 | 0.0000 | 0.00 | Q | | | | |
| 0+15 | 0.0000 | 0.00 | Q | | | | |
| 0+20 | 0.0001 | 0.00 | Q | | | | |
| 0+25 | 0.0001 | 0.00 | Q | | | | |
| 0+30 | 0.0001 | 0.00 | Q | | | | |
| 0+35 | 0.0001 | 0.00 | Q | | | | |
| 0+40 | 0.0002 | 0.00 | Q | | | | |
| 0+45 | 0.0002 | 0.00 | Q | | | | |
| 0+50 | 0.0002 | 0.00 | Q | | | | |
| 0+55 | 0.0002 | 0.00 | Q | | | | |
| 1+ 0 | 0.0003 | 0.00 | Q | | | | |
| 1+ 5 | 0.0003 | 0.00 | Q | | | | |
| 1+10 | 0.0003 | 0.00 | Q | | | | |
| 1+15 | 0.0003 | 0.00 | Q | | | | |
| 1+20 | 0.0004 | 0.00 | Q | | | | |
| 1+25 | 0.0004 | 0.00 | Q | | | | |
| 1+30 | 0.0004 | 0.00 | Q | | | | |
| 1+35 | 0.0004 | 0.00 | Q | | | | |
| 1+40 | 0.0005 | 0.00 | Q | | | | |
| 1+45 | 0.0005 | 0.00 | Q | | | | |
| 1+50 | 0.0005 | 0.00 | Q | | | | |
| 1+55 | 0.0005 | 0.00 | Q | | | | |
| 2+ 0 | 0.0006 | 0.00 | Q | | | | |
| 2+ 5 | 0.0006 | 0.00 | Q | | | | |
| 2+10 | 0.0006 | 0.00 | Q | | | | |
| 2+15 | 0.0007 | 0.00 | Q | | | | |
| 2+20 | 0.0007 | 0.00 | Q | | | | |
| 2+25 | 0.0007 | 0.00 | Q | | | | |
| 2+30 | 0.0007 | 0.00 | Q | | | | |
| 2+35 | 0.0008 | 0.01 | Q | | | | |
| 2+40 | 0.0008 | 0.01 | Q | | | | |
| 2+45 | 0.0009 | 0.01 | Q | | | | |
| 2+50 | 0.0009 | 0.01 | Q | | | | |
| 2+55 | 0.0009 | 0.01 | Q | | | | |
| 3+ 0 | 0.0010 | 0.01 | Q | | | | |
| 3+ 5 | 0.0010 | 0.01 | Q | | | | |
| 3+10 | 0.0010 | 0.01 | Q | | | | |
| 3+15 | 0.0011 | 0.01 | Q | | | | |
| 3+20 | 0.0011 | 0.01 | Q | | | | |
| 3+25 | 0.0012 | 0.01 | Q | | | | |
| 3+30 | 0.0012 | 0.01 | Q | | | | |
| 3+35 | 0.0012 | 0.01 | Q | | | | |
| 3+40 | 0.0013 | 0.01 | Q | | | | |
| 3+45 | 0.0013 | 0.01 | Q | | | | |
| 3+50 | 0.0014 | 0.01 | Q | | | | |
| 3+55 | 0.0014 | 0.01 | Q | | | | |
| 4+ 0 | 0.0014 | 0.01 | Q | | | | |
| 4+ 5 | 0.0015 | 0.01 | Q | | | | |
| 4+10 | 0.0015 | 0.01 | Q | | | | |
| 4+15 | 0.0016 | 0.01 | Q | | | | |
| 4+20 | 0.0016 | 0.01 | Q | | | | |
| 4+25 | 0.0017 | 0.01 | Q | | | | |
| 4+30 | 0.0017 | 0.01 | Q | | | | |
| 4+35 | 0.0018 | 0.01 | Q | | | | |
| 4+40 | 0.0018 | 0.01 | Q | | | | |
| 4+45 | 0.0019 | 0.01 | Q | | | | |
| 4+50 | 0.0020 | 0.01 | Q | | | | |

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 4+55       0.0021      0.01  Q          |          |          |          |
 5+ 0       0.0022      0.01  Q          |          |          |          |
 5+ 5       0.0022      0.01  Q          |          |          |          |
 5+10       0.0022      0.01  Q          |          |          |          |
 5+15       0.0023      0.01  Q          |          |          |          |
 5+20       0.0023      0.01  Q          |          |          |          |
 5+25       0.0024      0.01  Q          |          |          |          |
 5+30       0.0024      0.01  Q          |          |          |          |
 5+35       0.0025      0.01  Q          |          |          |          |
 5+40       0.0026      0.02  Q          |          |          |          |
 5+45       0.0028      0.02  Q          |          |          |          |
 5+50       0.0029      0.02  Q          |          |          |          |
 5+55       0.0030      0.02  Q          |          |          |          |
 6+ 0       0.0031      0.02  Q          |          |          |          |
 6+ 5       0.0033      0.03  Q          |          |          |          |
 6+10       0.0035      0.03  QV         |          |          |          |
 6+15       0.0037      0.03  QV         |          |          |          |
 6+20       0.0039      0.03  QV         |          |          |          |
 6+25       0.0041      0.03  QV         |          |          |          |
 6+30       0.0043      0.03  QV         |          |          |          |
 6+35       0.0045      0.04  QV         |          |          |          |
 6+40       0.0048      0.04  QV         |          |          |          |
 6+45       0.0051      0.04  QV         |          |          |          |
 6+50       0.0054      0.04  QV         |          |          |          |
 6+55       0.0057      0.04  QV         |          |          |          |
 7+ 0       0.0060      0.04  QV         |          |          |          |
 7+ 5       0.0063      0.04  QV         |          |          |          |
 7+10       0.0065      0.04  QV         |          |          |          |
 7+15       0.0068      0.04  QV         |          |          |          |
 7+20       0.0072      0.05  Q V        |          |          |          |
 7+25       0.0076      0.05  Q V        |          |          |          |
 7+30       0.0080      0.05  Q V        |          |          |          |
 7+35       0.0084      0.07  Q V        |          |          |          |
 7+40       0.0089      0.07  Q V        |          |          |          |
 7+45       0.0093      0.07  Q V        |          |          |          |
 7+50       0.0099      0.08  Q V        |          |          |          |
 7+55       0.0104      0.08  Q  V       |          |          |          |
 8+ 0       0.0110      0.08  Q  V       |          |          |          |
 8+ 5       0.0116      0.10  Q  V       |          |          |          |
 8+10       0.0123      0.10  Q  V       |          |          |          |
 8+15       0.0130      0.10  Q  V       |          |          |          |
 8+20       0.0137      0.10  Q  V       |          |          |          |
 8+25       0.0144      0.10  Q   V      |          |          |          |
 8+30       0.0151      0.10  Q   V      |          |          |          |
 8+35       0.0159      0.11  Q   V      |          |          |          |
 8+40       0.0167      0.11  Q   V      |          |          |          |
 8+45       0.0175      0.11  Q    V     |          |          |          |
 8+50       0.0183      0.13  Q    V     |          |          |          |
 8+55       0.0192      0.13  Q    V     |          |          |          |
 9+ 0       0.0201      0.13  Q    V     |          |          |          |
 9+ 5       0.0211      0.15  Q     V    |          |          |          |
 9+10       0.0221      0.15  Q     V    |          |          |          |
 9+15       0.0231      0.15  Q     V    |          |          |          |
 9+20       0.0242      0.16  Q     V    |          |          |          |
 9+25       0.0253      0.16  Q      V   |          |          |          |
 9+30       0.0264      0.16  Q      V   |          |          |          |
 9+35       0.0276      0.17  Q      V   |          |          |          |
 9+40       0.0288      0.17  Q       V  |          |          |          |
 9+45       0.0300      0.17  Q       V  |          |          |          |
 9+50       0.0313      0.18  Q        V |          |          |          |
 9+55       0.0325      0.18  Q        V |          |          |          |
10+ 0       0.0338      0.18  Q        V |          |          |          |
10+ 5       0.0345      0.11  Q        V |          |          |          |
10+10       0.0353      0.11  Q         V          |          |          |
10+15       0.0360      0.11  Q         V          |          |          |
10+20       0.0368      0.11  Q         V          |          |          |
10+25       0.0375      0.11  Q         V          |          |          |
10+30       0.0382      0.11  Q         |V         |          |          |
10+35       0.0394      0.16  Q         |V         |          |          |
10+40       0.0405      0.16  Q         |V         |          |          |
10+45       0.0416      0.16  Q         |V         |          |          |
10+50       0.0428      0.16  Q         | V        |          |          |
10+55       0.0439      0.16  Q         | V        |          |          |
11+ 0       0.0450      0.17  Q         | V        |          |          |
11+ 5       0.0461      0.15  Q         |  V       |          |          |
11+10       0.0472      0.15  Q         |  V       |          |          |
11+15       0.0482      0.15  Q         |  V       |          |          |
11+20       0.0493      0.16  Q         |   V      |          |          |
```



| | | | | |
|---|---|---|---|---|
| 11+25 | 0.0504 | 0.16 | Q | |
| 11+30 | 0.0515 | 0.16 | Q | |
| 11+35 | 0.0524 | 0.13 | Q | |
| 11+40 | 0.0533 | 0.13 | Q | |
| 11+45 | 0.0542 | 0.13 | Q | |
| 11+50 | 0.0552 | 0.15 | Q | |
| 11+55 | 0.0562 | 0.15 | Q | |
| 12+ 0 | 0.0572 | 0.15 | Q | |
| 12+ 5 | 0.0588 | 0.22 | Q | |
| 12+10 | 0.0603 | 0.22 | Q | |
| 12+15 | 0.0619 | 0.22 | Q | |
| 12+20 | 0.0635 | 0.23 | Q | |
| 12+25 | 0.0651 | 0.24 | Q | |
| 12+30 | 0.0667 | 0.24 | Q | |
| 12+35 | 0.0685 | 0.26 | \|Q | |
| 12+40 | 0.0703 | 0.26 | \|Q | |
| 12+45 | 0.0720 | 0.26 | \|Q | |
| 12+50 | 0.0739 | 0.27 | \|Q | |
| 12+55 | 0.0758 | 0.27 | \|Q | |
| 13+ 0 | 0.0776 | 0.27 | \|Q | |
| 13+ 5 | 0.0798 | 0.32 | \|Q | |
| 13+10 | 0.0821 | 0.32 | \|Q | |
| 13+15 | 0.0843 | 0.33 | \|Q | |
| 13+20 | 0.0866 | 0.33 | \|Q | |
| 13+25 | 0.0888 | 0.33 | \|Q | |
| 13+30 | 0.0910 | 0.33 | \|Q | |
| 13+35 | 0.0925 | 0.21 | Q | |
| 13+40 | 0.0939 | 0.21 | Q | |
| 13+45 | 0.0953 | 0.21 | Q | |
| 13+50 | 0.0967 | 0.21 | Q | |
| 13+55 | 0.0981 | 0.21 | Q | |
| 14+ 0 | 0.0996 | 0.21 | Q | |
| 14+ 5 | 0.1013 | 0.25 | \|Q | |
| 14+10 | 0.1030 | 0.25 | \|Q | |
| 14+15 | 0.1048 | 0.25 | \|Q | |
| 14+20 | 0.1064 | 0.24 | Q | |
| 14+25 | 0.1081 | 0.24 | Q | |
| 14+30 | 0.1097 | 0.24 | Q | |
| 14+35 | 0.1114 | 0.24 | Q | |
| 14+40 | 0.1131 | 0.24 | Q | |
| 14+45 | 0.1147 | 0.24 | Q | |
| 14+50 | 0.1163 | 0.23 | Q | |
| 14+55 | 0.1179 | 0.23 | Q | |
| 15+ 0 | 0.1195 | 0.23 | Q | |
| 15+ 5 | 0.1210 | 0.22 | Q | |
| 15+10 | 0.1225 | 0.22 | Q | |
| 15+15 | 0.1241 | 0.22 | Q | |
| 15+20 | 0.1255 | 0.21 | Q | |
| 15+25 | 0.1270 | 0.21 | Q | |
| 15+30 | 0.1284 | 0.21 | Q | |
| 15+35 | 0.1296 | 0.17 | Q | |
| 15+40 | 0.1307 | 0.17 | Q | |
| 15+45 | 0.1319 | 0.17 | Q | |
| 15+50 | 0.1330 | 0.17 | Q | |
| 15+55 | 0.1342 | 0.17 | Q | |
| 16+ 0 | 0.1353 | 0.17 | Q | |
| 16+ 5 | 0.1354 | 0.00 | Q | |
| 16+10 | 0.1354 | 0.00 | Q | |
| 16+15 | 0.1354 | 0.00 | Q | |
| 16+20 | 0.1355 | 0.00 | Q | |
| 16+25 | 0.1355 | 0.01 | Q | |
| 16+30 | 0.1355 | 0.01 | Q | |
| 16+35 | 0.1356 | 0.00 | Q | |
| 16+40 | 0.1356 | 0.00 | Q | |
| 16+45 | 0.1356 | 0.00 | Q | |
| 16+50 | 0.1356 | 0.00 | Q | |
| 16+55 | 0.1357 | 0.00 | Q | |
| 17+ 0 | 0.1357 | 0.00 | Q | |
| 17+ 5 | 0.1358 | 0.02 | Q | |
| 17+10 | 0.1359 | 0.02 | Q | |
| 17+15 | 0.1360 | 0.02 | Q | |
| 17+20 | 0.1362 | 0.02 | Q | |
| 17+25 | 0.1363 | 0.02 | Q | |
| 17+30 | 0.1364 | 0.02 | Q | |
| 17+35 | 0.1366 | 0.02 | Q | |
| 17+40 | 0.1367 | 0.02 | Q | |
| 17+45 | 0.1368 | 0.02 | Q | |
| 17+50 | 0.1369 | 0.01 | Q | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+55 | 0.1369 | 0.01 | Q | \| | \| | \| | V\| |
| 18+ 0 | 0.1370 | 0.01 | Q | \| | \| | \| | V\| |
| 18+ 5 | 0.1371 | 0.01 | Q | \| | \| | \| | V\| |
| 18+10 | 0.1371 | 0.01 | Q | \| | \| | \| | V\| |
| 18+15 | 0.1372 | 0.01 | Q | \| | \| | \| | V\| |
| 18+20 | 0.1372 | 0.01 | Q | \| | \| | \| | V\| |
| 18+25 | 0.1373 | 0.01 | Q | \| | \| | \| | V\| |
| 18+30 | 0.1374 | 0.01 | Q | \| | \| | \| | V\| |
| 18+35 | 0.1374 | 0.00 | Q | \| | \| | \| | V\| |
| 18+40 | 0.1374 | 0.00 | Q | \| | \| | \| | V\| |
| 18+45 | 0.1374 | 0.00 | Q | \| | \| | \| | V\| |
| 18+50 | 0.1375 | 0.00 | Q | \| | \| | \| | V\| |
| 18+55 | 0.1375 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 0 | 0.1375 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 5 | 0.1375 | 0.00 | Q | \| | \| | \| | V\| |
| 19+10 | 0.1375 | 0.00 | Q | \| | \| | \| | V\| |
| 19+15 | 0.1376 | 0.00 | Q | \| | \| | \| | V\| |
| 19+20 | 0.1376 | 0.01 | Q | \| | \| | \| | V\| |
| 19+25 | 0.1377 | 0.01 | Q | \| | \| | \| | V\| |
| 19+30 | 0.1378 | 0.01 | Q | \| | \| | \| | V\| |
| 19+35 | 0.1378 | 0.00 | Q | \| | \| | \| | V\| |
| 19+40 | 0.1378 | 0.00 | Q | \| | \| | \| | V\| |
| 19+45 | 0.1379 | 0.00 | Q | \| | \| | \| | V\| |
| 19+50 | 0.1379 | 0.00 | Q | \| | \| | \| | V\| |
| 19+55 | 0.1379 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 0 | 0.1379 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 5 | 0.1379 | 0.00 | Q | \| | \| | \| | V\| |
| 20+10 | 0.1380 | 0.00 | Q | \| | \| | \| | V\| |
| 20+15 | 0.1380 | 0.00 | Q | \| | \| | \| | V\| |
| 20+20 | 0.1380 | 0.00 | Q | \| | \| | \| | V\| |
| 20+25 | 0.1380 | 0.00 | Q | \| | \| | \| | V\| |
| 20+30 | 0.1380 | 0.00 | Q | \| | \| | \| | V\| |
| 20+35 | 0.1381 | 0.00 | Q | \| | \| | \| | V\| |
| 20+40 | 0.1381 | 0.00 | Q | \| | \| | \| | V\| |
| 20+45 | 0.1381 | 0.00 | Q | \| | \| | \| | V\| |
| 20+50 | 0.1381 | 0.00 | Q | \| | \| | \| | V\| |
| 20+55 | 0.1381 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 0 | 0.1382 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 5 | 0.1382 | 0.00 | Q | \| | \| | \| | V\| |
| 21+10 | 0.1382 | 0.00 | Q | \| | \| | \| | V\| |
| 21+15 | 0.1382 | 0.00 | Q | \| | \| | \| | V\| |
| 21+20 | 0.1382 | 0.00 | Q | \| | \| | \| | V\| |
| 21+25 | 0.1383 | 0.00 | Q | \| | \| | \| | V\| |
| 21+30 | 0.1383 | 0.00 | Q | \| | \| | \| | V\| |
| 21+35 | 0.1383 | 0.00 | Q | \| | \| | \| | V\| |
| 21+40 | 0.1383 | 0.00 | Q | \| | \| | \| | V\| |
| 21+45 | 0.1384 | 0.00 | Q | \| | \| | \| | V\| |
| 21+50 | 0.1384 | 0.00 | Q | \| | \| | \| | V\| |
| 21+55 | 0.1384 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 0 | 0.1384 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 5 | 0.1384 | 0.00 | Q | \| | \| | \| | V\| |
| 22+10 | 0.1385 | 0.00 | Q | \| | \| | \| | V\| |
| 22+15 | 0.1385 | 0.00 | Q | \| | \| | \| | V\| |
| 22+20 | 0.1385 | 0.00 | Q | \| | \| | \| | V\| |
| 22+25 | 0.1385 | 0.00 | Q | \| | \| | \| | V\| |
| 22+30 | 0.1385 | 0.00 | Q | \| | \| | \| | V\| |
| 22+35 | 0.1385 | 0.00 | Q | \| | \| | \| | V\| |
| 22+40 | 0.1386 | 0.00 | Q | \| | \| | \| | V\| |
| 22+45 | 0.1386 | 0.00 | Q | \| | \| | \| | V\| |
| 22+50 | 0.1386 | 0.00 | Q | \| | \| | \| | V\| |
| 22+55 | 0.1386 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 0 | 0.1386 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 5 | 0.1386 | 0.00 | Q | \| | \| | \| | V\| |
| 23+10 | 0.1387 | 0.00 | Q | \| | \| | \| | V\| |
| 23+15 | 0.1387 | 0.00 | Q | \| | \| | \| | V\| |
| 23+20 | 0.1387 | 0.00 | Q | \| | \| | \| | V\| |
| 23+25 | 0.1387 | 0.00 | Q | \| | \| | \| | V\| |
| 23+30 | 0.1387 | 0.00 | Q | \| | \| | \| | V\| |
| 23+35 | 0.1387 | 0.00 | Q | \| | \| | \| | V\| |
| 23+40 | 0.1387 | 0.00 | Q | \| | \| | \| | V\| |
| 23+45 | 0.1388 | 0.00 | Q | \| | \| | \| | V\| |
| 23+50 | 0.1388 | 0.00 | Q | \| | \| | \| | V\| |
| 23+55 | 0.1388 | 0.00 | Q | \| | \| | \| | V\| |
| 24+ 0 | 0.1388 | 0.00 | Q | \| | \| | \| | V\| |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX231100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 23
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 0.60(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.60(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 207.00(Ft.)
Length along longest watercourse measured to centroid = 116.00(Ft.)
Length along longest watercourse = 0.039 Mi.
Length along longest watercourse measured to centroid = 0.022 Mi.
Difference in elevation = 124.00(Ft.)
Slope along watercourse = 3162.8986 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.012 Hr.
Lag time = 0.75 Min.
25% of lag time = 0.19 Min.
40% of lag time = 0.30 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 0.49 | 0.29 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 1.20 | 0.72 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.490(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.600 | 83.80 | 0.000 |

Total Area Entered = 0.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.8 | 93.3 | 0.087 | 0.000 | 0.087 | 1.000 | 0.087 |
| | | | | | Sum (F) = | 0.087 |

Area averaged mean soil loss (F) (In/Hr) = 0.087

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

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| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 670.185 | 80.129 | 0.485 |
| 2 | 0.167 | 1340.370 | 19.871 | 0.120 |
| | | Sum = 100.000 | Sum= | 0.605 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.087 | ( 0.544) | 0.517 |
| 2 | 0.17 | 4.30 | 0.619 | 0.087 | ( 0.557) | 0.532 |
| 3 | 0.25 | 5.00 | 0.720 | 0.087 | ( 0.648) | 0.633 |
| 4 | 0.33 | 5.00 | 0.720 | 0.087 | ( 0.648) | 0.633 |
| 5 | 0.42 | 5.80 | 0.835 | 0.087 | ( 0.752) | 0.748 |
| 6 | 0.50 | 6.50 | 0.936 | 0.087 | ( 0.842) | 0.849 |
| 7 | 0.58 | 7.40 | 1.066 | 0.087 | ( 0.959) | 0.978 |
| 8 | 0.67 | 8.60 | 1.238 | 0.087 | ( 1.115) | 1.151 |
| 9 | 0.75 | 12.30 | 1.771 | 0.087 | ( 1.594) | 1.684 |
| 10 | 0.83 | 29.10 | 4.190 | 0.087 | ( 3.771) | 4.103 |
| 11 | 0.92 | 6.80 | 0.979 | 0.087 | ( 0.881) | 0.892 |
| 12 | 1.00 | 5.00 | 0.720 | 0.087 | ( 0.648) | 0.633 |
| | | (Loss Rate Not Used) | | | |
| Sum = | 100.0 | | | | Sum = 13.4 |

Flood volume = Effective rainfall 1.11(In)
times area 0.6(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.004(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 2423.3 Cubic Feet
Total soil loss = 190.3 Cubic Feet

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Peak flow rate of this hydrograph = 2.191(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0017 | 0.25 | Q | | | | |
| 0+10 | 0.0039 | 0.32 | QV | | | | |
| 0+15 | 0.0065 | 0.37 | Q V | | | | |
| 0+20 | 0.0091 | 0.38 | Q V | | | | |
| 0+25 | 0.0121 | 0.44 | Q V | | | | |
| 0+30 | 0.0156 | 0.50 | Q V | | | | |
| 0+35 | 0.0196 | 0.58 | Q V | | | | |
| 0+40 | 0.0242 | 0.68 | Q V | | | | |
| 0+45 | 0.0308 | 0.95 | Q V | | | | |
| 0+50 | 0.0459 | 2.19 | Q V | | | | |
| 0+55 | 0.0523 | 0.93 | Q V | | | | |
| 1+ 0 | 0.0551 | 0.41 | Q V | | | | |
| 1+ 5 | 0.0556 | 0.08 | Q V | | | | |

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U n i t  H y d r o g r a p h  A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 23
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.60(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.60(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 207.00(Ft.)
Length along longest watercourse measured to centroid = 116.00(Ft.)
Length along longest watercourse = 0.039 Mi.
Length along longest watercourse measured to centroid = 0.022 Mi.
Difference in elevation = 124.00(Ft.)
Slope along watercourse = 3162.8986 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.012 Hr.
Lag time = 0.75 Min.
25% of lag time = 0.19 Min.
40% of lag time = 0.30 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 0.80 | 0.48 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 1.80 | 1.08 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.600 | 83.80 | 0.000 |

Total Area Entered = 0.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.8 | 93.3 | 0.087 | 0.000 | 0.087 | 1.000 | 0.087 |
| | | | | | Sum (F) = | 0.087 |

Area averaged mean soil loss (F) (In/Hr) = 0.087

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 670.185 | 80.129 | 0.485 |
| 2 0.167 | 1340.370 | 19.871 | 0.120 |
| | | Sum = 100.000 Sum= | 0.605 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 1.30 | 0.281 | 0.087 | ( 0.253) | 0.193 |
| 2 0.17 | 1.30 | 0.281 | 0.087 | ( 0.253) | 0.193 |
| 3 0.25 | 1.10 | 0.238 | 0.087 | ( 0.214) | 0.150 |
| 4 0.33 | 1.50 | 0.324 | 0.087 | ( 0.292) | 0.237 |
| 5 0.42 | 1.50 | 0.324 | 0.087 | ( 0.292) | 0.237 |
| 6 0.50 | 1.80 | 0.389 | 0.087 | ( 0.350) | 0.301 |
| 7 0.58 | 1.50 | 0.324 | 0.087 | ( 0.292) | 0.237 |
| 8 0.67 | 1.80 | 0.389 | 0.087 | ( 0.350) | 0.301 |
| 9 0.75 | 1.80 | 0.389 | 0.087 | ( 0.350) | 0.301 |
| 10 0.83 | 1.50 | 0.324 | 0.087 | ( 0.292) | 0.237 |
| 11 0.92 | 1.60 | 0.346 | 0.087 | ( 0.311) | 0.258 |
| 12 1.00 | 1.80 | 0.389 | 0.087 | ( 0.350) | 0.301 |
| 13 1.08 | 2.20 | 0.475 | 0.087 | ( 0.428) | 0.388 |
| 14 1.17 | 2.20 | 0.475 | 0.087 | ( 0.428) | 0.388 |
| 15 1.25 | 2.20 | 0.475 | 0.087 | ( 0.428) | 0.388 |
| 16 1.33 | 2.00 | 0.432 | 0.087 | ( 0.389) | 0.345 |
| 17 1.42 | 2.60 | 0.562 | 0.087 | ( 0.505) | 0.474 |
| 18 1.50 | 2.70 | 0.583 | 0.087 | ( 0.525) | 0.496 |
| 19 1.58 | 2.40 | 0.518 | 0.087 | ( 0.467) | 0.431 |
| 20 1.67 | 2.70 | 0.583 | 0.087 | ( 0.525) | 0.496 |
| 21 1.75 | 3.30 | 0.713 | 0.087 | ( 0.642) | 0.625 |
| 22 1.83 | 3.10 | 0.670 | 0.087 | ( 0.603) | 0.582 |
| 23 1.92 | 2.90 | 0.626 | 0.087 | ( 0.564) | 0.539 |
| 24 2.00 | 3.00 | 0.648 | 0.087 | ( 0.583) | 0.561 |
| 25 2.08 | 3.10 | 0.670 | 0.087 | ( 0.603) | 0.582 |
| 26 2.17 | 4.20 | 0.907 | 0.087 | ( 0.816) | 0.820 |
| 27 2.25 | 5.00 | 1.080 | 0.087 | ( 0.972) | 0.993 |
| 28 2.33 | 3.50 | 0.756 | 0.087 | ( 0.680) | 0.669 |
| 29 2.42 | 6.80 | 1.469 | 0.087 | ( 1.322) | 1.381 |
| 30 2.50 | 7.30 | 1.577 | 0.087 | ( 1.419) | 1.489 |
| 31 2.58 | 8.20 | 1.771 | 0.087 | ( 1.594) | 1.684 |
| 32 2.67 | 5.90 | 1.274 | 0.087 | ( 1.147) | 1.187 |
| 33 2.75 | 2.00 | 0.432 | 0.087 | ( 0.389) | 0.345 |
| 34 2.83 | 1.80 | 0.389 | 0.087 | ( 0.350) | 0.301 |
| 35 2.92 | 1.80 | 0.389 | 0.087 | ( 0.350) | 0.301 |
| 36 3.00 | 0.60 | 0.130 | 0.087 | ( 0.117) | 0.042 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 18.5 |

Flood volume = Effective rainfall 1.54(In)
times area 0.6(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.013(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 3349.6 Cubic Feet
Total soil loss = 570.8 Cubic Feet

Peak flow rate of this hydrograph = 0.995(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0006 | 0.09 | Q | | | | |
| 0+10 | 0.0015 | 0.12 | Q | | | | |
| 0+15 | 0.0021 | 0.10 | QV | | | | |
| 0+20 | 0.0030 | 0.13 | QV | | | | |
| 0+25 | 0.0040 | 0.14 | Q V | | | | |
| 0+30 | 0.0052 | 0.17 | Q V | | | | |
| 0+35 | 0.0063 | 0.15 | Q V | | | | |
| 0+40 | 0.0075 | 0.17 | Q V | | | | |
| 0+45 | 0.0087 | 0.18 | Q V | | | | |
| 0+50 | 0.0098 | 0.15 | Q V | | | | |
| 0+55 | 0.0108 | 0.15 | Q V | | | | |
| 1+ 0 | 0.0120 | 0.18 | Q V | | | | |
| 1+ 5 | 0.0136 | 0.22 | Q V | | | | |
| 1+10 | 0.0152 | 0.23 | Q V | | | | |
| 1+15 | 0.0168 | 0.23 | Q V | | | | |
| 1+20 | 0.0183 | 0.21 | Q V | | | | |
| 1+25 | 0.0201 | 0.27 | \|Q V | | | | |
| 1+30 | 0.0222 | 0.30 | \|Q V | | | | |
| 1+35 | 0.0240 | 0.27 | \|Q V | | | | |
| 1+40 | 0.0261 | 0.29 | \|Q V | | | | |
| 1+45 | 0.0286 | 0.36 | \|Q V | | | | |
| 1+50 | 0.0310 | 0.36 | \|Q V | | | | |
| 1+55 | 0.0333 | 0.33 | \|Q V | | | | |
| 2+ 0 | 0.0356 | 0.34 | \|Q V | | | | |
| 2+ 5 | 0.0380 | 0.35 | \|Q V | | | | |
| 2+10 | 0.0412 | 0.47 | \|Q V | | | | |
| 2+15 | 0.0452 | 0.58 | \| Q V | | | | |
| 2+20 | 0.0483 | 0.44 | \|Q V | | | | |
| 2+25 | 0.0535 | 0.75 | \| Q V | | | | |
| 2+30 | 0.0596 | 0.89 | \| Q V | | | | |
| 2+35 | 0.0664 | 1.00 | \| Q V | | | | |
| 2+40 | 0.0718 | 0.78 | \| Q V | | | | |
| 2+45 | 0.0739 | 0.31 | \|Q V | | | | |
| 2+50 | 0.0752 | 0.19 | Q V | | | | |
| 2+55 | 0.0765 | 0.18 | Q V | | | | |
| 3+ 0 | 0.0769 | 0.06 | Q V | | | | |
| 3+ 5 | 0.0769 | 0.01 | Q V | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX236100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 23
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.60(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.60(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 207.00(Ft.)
Length along longest watercourse measured to centroid = 116.00(Ft.)
Length along longest watercourse = 0.039 Mi.
Length along longest watercourse measured to centroid = 0.022 Mi.
Difference in elevation = 124.00(Ft.)
Slope along watercourse = 3162.8986 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.012 Hr.
Lag time = 0.75 Min.
25% of lag time = 0.19 Min.
40% of lag time = 0.30 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 1.12 | 0.67 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 2.50 | 1.50 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.120(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.600 | 83.80 | 0.000 |

Total Area Entered = 0.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.8 | 93.3 | 0.087 | 0.000 | 0.087 | 1.000 | 0.087 |
| | | | | | Sum (F) = | 0.087 |

Area averaged mean soil loss (F) (In/Hr) = 0.087

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 670.185 | 80.129 | 0.485 |
| 2 | 0.167 | 1340.370 | 19.871 | 0.120 |
| | | | Sum = 100.000 Sum= | 0.605 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.087 | ( 0.135) | 0.063 |
| 2 | 0.17 | 0.60 | 0.180 | 0.087 | ( 0.162) | 0.093 |
| 3 | 0.25 | 0.60 | 0.180 | 0.087 | ( 0.162) | 0.093 |
| 4 | 0.33 | 0.60 | 0.180 | 0.087 | ( 0.162) | 0.093 |
| 5 | 0.42 | 0.60 | 0.180 | 0.087 | ( 0.162) | 0.093 |
| 6 | 0.50 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 7 | 0.58 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 8 | 0.67 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 9 | 0.75 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 10 | 0.83 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 11 | 0.92 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 12 | 1.00 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 13 | 1.08 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 14 | 1.17 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 15 | 1.25 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 16 | 1.33 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 17 | 1.42 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 18 | 1.50 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 19 | 1.58 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 20 | 1.67 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 21 | 1.75 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 22 | 1.83 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 23 | 1.92 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 24 | 2.00 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 25 | 2.08 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 26 | 2.17 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 27 | 2.25 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 28 | 2.33 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 29 | 2.42 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 30 | 2.50 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 31 | 2.58 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 32 | 2.67 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 33 | 2.75 | 1.00 | 0.300 | 0.087 | ( 0.270) | 0.213 |
| 34 | 2.83 | 1.00 | 0.300 | 0.087 | ( 0.270) | 0.213 |
| 35 | 2.92 | 1.00 | 0.300 | 0.087 | ( 0.270) | 0.213 |
| 36 | 3.00 | 1.00 | 0.300 | 0.087 | ( 0.270) | 0.213 |
| 37 | 3.08 | 1.00 | 0.300 | 0.087 | ( 0.270) | 0.213 |
| 38 | 3.17 | 1.10 | 0.330 | 0.087 | ( 0.297) | 0.243 |
| 39 | 3.25 | 1.10 | 0.330 | 0.087 | ( 0.297) | 0.243 |
| 40 | 3.33 | 1.10 | 0.330 | 0.087 | ( 0.297) | 0.243 |
| 41 | 3.42 | 1.20 | 0.360 | 0.087 | ( 0.324) | 0.273 |
| 42 | 3.50 | 1.30 | 0.390 | 0.087 | ( 0.351) | 0.303 |
| 43 | 3.58 | 1.40 | 0.420 | 0.087 | ( 0.378) | 0.333 |
| 44 | 3.67 | 1.40 | 0.420 | 0.087 | ( 0.378) | 0.333 |
| 45 | 3.75 | 1.50 | 0.450 | 0.087 | ( 0.405) | 0.363 |
| 46 | 3.83 | 1.50 | 0.450 | 0.087 | ( 0.405) | 0.363 |
| 47 | 3.92 | 1.60 | 0.480 | 0.087 | ( 0.432) | 0.393 |
| 48 | 4.00 | 1.60 | 0.480 | 0.087 | ( 0.432) | 0.393 |
| 49 | 4.08 | 1.70 | 0.510 | 0.087 | ( 0.459) | 0.423 |
| 50 | 4.17 | 1.80 | 0.540 | 0.087 | ( 0.486) | 0.453 |
| 51 | 4.25 | 1.90 | 0.570 | 0.087 | ( 0.513) | 0.483 |
| 52 | 4.33 | 2.00 | 0.600 | 0.087 | ( 0.540) | 0.513 |
| 53 | 4.42 | 2.10 | 0.630 | 0.087 | ( 0.567) | 0.543 |
| 54 | 4.50 | 2.10 | 0.630 | 0.087 | ( 0.567) | 0.543 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 55 | 4.58 | 2.20 | 0.660 | 0.087 | ( 0.594) | 0.573 |
| 56 | 4.67 | 2.30 | 0.690 | 0.087 | ( 0.621) | 0.603 |
| 57 | 4.75 | 2.40 | 0.720 | 0.087 | ( 0.648) | 0.633 |
| 58 | 4.83 | 2.40 | 0.720 | 0.087 | ( 0.648) | 0.633 |
| 59 | 4.92 | 2.50 | 0.750 | 0.087 | ( 0.675) | 0.663 |
| 60 | 5.00 | 2.60 | 0.780 | 0.087 | ( 0.702) | 0.693 |
| 61 | 5.08 | 3.10 | 0.930 | 0.087 | ( 0.837) | 0.843 |
| 62 | 5.17 | 3.60 | 1.080 | 0.087 | ( 0.972) | 0.993 |
| 63 | 5.25 | 3.90 | 1.170 | 0.087 | ( 1.053) | 1.083 |
| 64 | 5.33 | 4.20 | 1.260 | 0.087 | ( 1.134) | 1.173 |
| 65 | 5.42 | 4.70 | 1.410 | 0.087 | ( 1.269) | 1.323 |
| 66 | 5.50 | 5.60 | 1.680 | 0.087 | ( 1.512) | 1.593 |
| 67 | 5.58 | 1.90 | 0.570 | 0.087 | ( 0.513) | 0.483 |
| 68 | 5.67 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 69 | 5.75 | 0.60 | 0.180 | 0.087 | ( 0.162) | 0.093 |
| 70 | 5.83 | 0.50 | 0.150 | 0.087 | ( 0.135) | 0.063 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.087) | 0.081 | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.087) | 0.054 | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.7

Flood volume = Effective rainfall 1.98(In)
times area 0.6(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.52(In)
Total soil loss = 0.026(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 4310.6 Cubic Feet
Total soil loss = 1134.4 Cubic Feet

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Peak flow rate of this hydrograph = 0.931(CFS)

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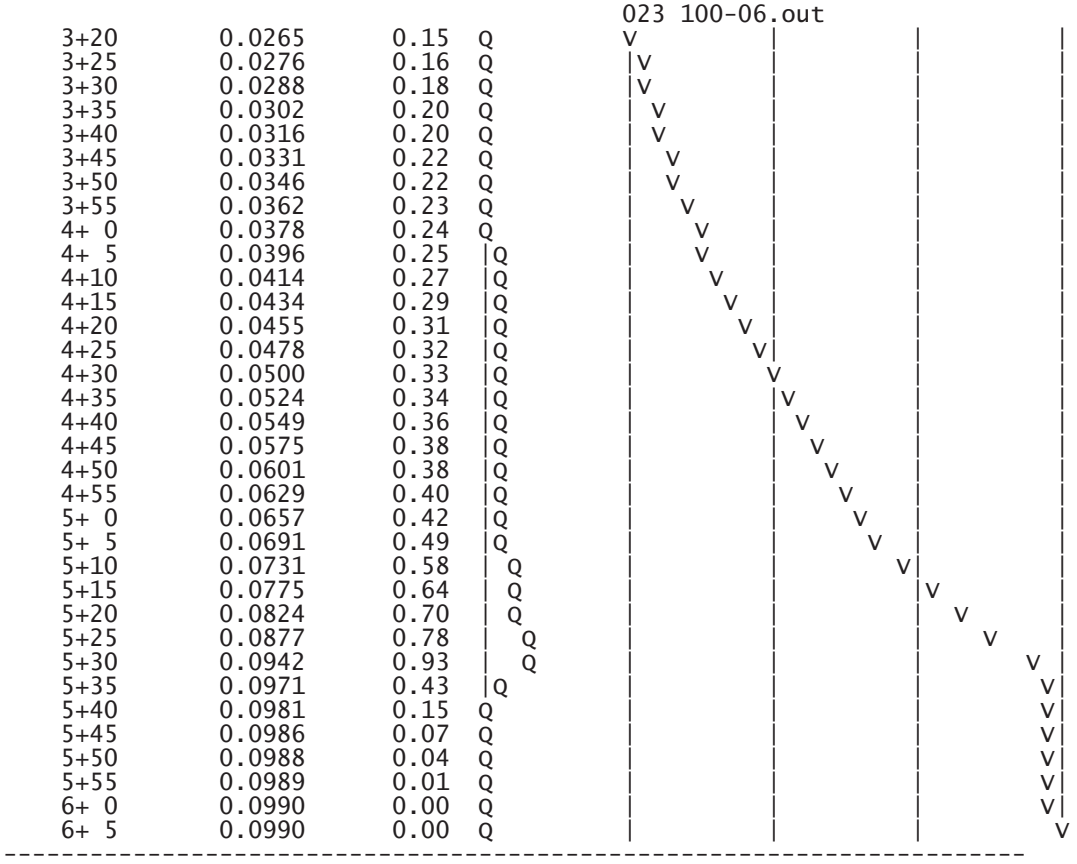
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0002 | 0.03 | Q | | | | |
| 0+10 | 0.0006 | 0.05 | Q | | | | |
| 0+15 | 0.0010 | 0.06 | Q | | | | |
| 0+20 | 0.0013 | 0.06 | Q | | | | |
| 0+25 | 0.0017 | 0.06 | Q | | | | |
| 0+30 | 0.0022 | 0.07 | Q | | | | |
| 0+35 | 0.0027 | 0.07 | QV | | | | |
| 0+40 | 0.0032 | 0.07 | QV | | | | |
| 0+45 | 0.0037 | 0.07 | QV | | | | |
| 0+50 | 0.0043 | 0.07 | QV | | | | |
| 0+55 | 0.0048 | 0.07 | QV | | | | |
| 1+ 0 | 0.0054 | 0.09 | Q V | | | | |
| 1+ 5 | 0.0060 | 0.09 | Q V | | | | |
| 1+10 | 0.0067 | 0.09 | Q V | | | | |
| 1+15 | 0.0073 | 0.09 | Q V | | | | |
| 1+20 | 0.0079 | 0.09 | Q V | | | | |
| 1+25 | 0.0086 | 0.09 | Q V | | | | |
| 1+30 | 0.0092 | 0.09 | Q V | | | | |
| 1+35 | 0.0098 | 0.09 | Q V | | | | |
| 1+40 | 0.0105 | 0.09 | Q V | | | | |
| 1+45 | 0.0111 | 0.09 | Q V | | | | |
| 1+50 | 0.0117 | 0.09 | Q V | | | | |
| 1+55 | 0.0124 | 0.09 | Q V | | | | |
| 2+ 0 | 0.0131 | 0.11 | Q V | | | | |
| 2+ 5 | 0.0138 | 0.10 | Q V | | | | |
| 2+10 | 0.0145 | 0.11 | Q V | | | | |
| 2+15 | 0.0153 | 0.11 | Q V | | | | |
| 2+20 | 0.0160 | 0.11 | Q V | | | | |
| 2+25 | 0.0168 | 0.11 | Q V | | | | |
| 2+30 | 0.0176 | 0.11 | Q V | | | | |
| 2+35 | 0.0183 | 0.11 | Q V | | | | |
| 2+40 | 0.0191 | 0.11 | Q V | | | | |
| 2+45 | 0.0199 | 0.13 | Q V | | | | |
| 2+50 | 0.0208 | 0.13 | Q V | | | | |
| 2+55 | 0.0217 | 0.13 | Q V | | | | |
| 3+ 0 | 0.0226 | 0.13 | Q V | | | | |
| 3+ 5 | 0.0235 | 0.13 | Q V | | | | |
| 3+10 | 0.0245 | 0.14 | Q V | | | | |
| 3+15 | 0.0255 | 0.15 | Q V | | | | |



| | | | |
|---|---|---|---|
| 3+20 | 0.0265 | 0.15 | Q |
| 3+25 | 0.0276 | 0.16 | Q |
| 3+30 | 0.0288 | 0.18 | Q |
| 3+35 | 0.0302 | 0.20 | Q |
| 3+40 | 0.0316 | 0.20 | Q |
| 3+45 | 0.0331 | 0.22 | Q |
| 3+50 | 0.0346 | 0.22 | Q |
| 3+55 | 0.0362 | 0.23 | Q |
| 4+ 0 | 0.0378 | 0.24 | Q |
| 4+ 5 | 0.0396 | 0.25 | Q |
| 4+10 | 0.0414 | 0.27 | Q |
| 4+15 | 0.0434 | 0.29 | Q |
| 4+20 | 0.0455 | 0.31 | Q |
| 4+25 | 0.0478 | 0.32 | Q |
| 4+30 | 0.0500 | 0.33 | Q |
| 4+35 | 0.0524 | 0.34 | Q |
| 4+40 | 0.0549 | 0.36 | Q |
| 4+45 | 0.0575 | 0.38 | Q |
| 4+50 | 0.0601 | 0.38 | Q |
| 4+55 | 0.0629 | 0.40 | Q |
| 5+ 0 | 0.0657 | 0.42 | Q |
| 5+ 5 | 0.0691 | 0.49 | Q |
| 5+10 | 0.0731 | 0.58 | Q |
| 5+15 | 0.0775 | 0.64 | Q |
| 5+20 | 0.0824 | 0.70 | Q |
| 5+25 | 0.0877 | 0.78 | Q |
| 5+30 | 0.0942 | 0.93 | Q |
| 5+35 | 0.0971 | 0.43 | Q |
| 5+40 | 0.0981 | 0.15 | Q |
| 5+45 | 0.0986 | 0.07 | Q |
| 5+50 | 0.0988 | 0.04 | Q |
| 5+55 | 0.0989 | 0.01 | Q |
| 6+ 0 | 0.0990 | 0.00 | Q |
| 6+ 5 | 0.0990 | 0.00 | Q |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX2324100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 23
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 0.60(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.60(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 207.00(Ft.)
Length along longest watercourse measured to centroid = 116.00(Ft.)
Length along longest watercourse = 0.039 Mi.
Length along longest watercourse measured to centroid = 0.022 Mi.
Difference in elevation = 124.00(Ft.)
Slope along watercourse = 3162.8986 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.012 Hr.
Lag time = 0.75 Min.
25% of lag time = 0.19 Min.
40% of lag time = 0.30 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 1.80 | 1.08 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 4.52 | 2.71 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.520(In)

Point rain (area averaged) = 4.520(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.520(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.600 | 83.80 | 0.000 |

Total Area Entered = 0.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.8 | 93.3 | 0.087 | 0.000 | 0.087 | 1.000 | 0.087 |
| | | | | | Sum (F) = | 0.087 |

Area averaged mean soil loss (F) (In/Hr) = 0.087

Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 670.185 | 80.129 | 0.485 |
| 2 | 0.167 | 1340.370 | 19.871 | 0.120 |
| | | | Sum = 100.000 Sum= | 0.605 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.036 | ( 0.155) | 0.033 | 0.004 |
| 2 | 0.17 | 0.07 | 0.036 | ( 0.154) | 0.033 | 0.004 |
| 3 | 0.25 | 0.07 | 0.036 | ( 0.154) | 0.033 | 0.004 |
| 4 | 0.33 | 0.10 | 0.054 | ( 0.153) | 0.049 | 0.005 |
| 5 | 0.42 | 0.10 | 0.054 | ( 0.152) | 0.049 | 0.005 |
| 6 | 0.50 | 0.10 | 0.054 | ( 0.152) | 0.049 | 0.005 |
| 7 | 0.58 | 0.10 | 0.054 | ( 0.151) | 0.049 | 0.005 |
| 8 | 0.67 | 0.10 | 0.054 | ( 0.151) | 0.049 | 0.005 |
| 9 | 0.75 | 0.10 | 0.054 | ( 0.150) | 0.049 | 0.005 |
| 10 | 0.83 | 0.13 | 0.072 | ( 0.150) | 0.065 | 0.007 |
| 11 | 0.92 | 0.13 | 0.072 | ( 0.149) | 0.065 | 0.007 |
| 12 | 1.00 | 0.13 | 0.072 | ( 0.148) | 0.065 | 0.007 |
| 13 | 1.08 | 0.10 | 0.054 | ( 0.148) | 0.049 | 0.005 |
| 14 | 1.17 | 0.10 | 0.054 | ( 0.147) | 0.049 | 0.005 |
| 15 | 1.25 | 0.10 | 0.054 | ( 0.147) | 0.049 | 0.005 |
| 16 | 1.33 | 0.10 | 0.054 | ( 0.146) | 0.049 | 0.005 |
| 17 | 1.42 | 0.10 | 0.054 | ( 0.145) | 0.049 | 0.005 |
| 18 | 1.50 | 0.10 | 0.054 | ( 0.145) | 0.049 | 0.005 |
| 19 | 1.58 | 0.10 | 0.054 | ( 0.144) | 0.049 | 0.005 |
| 20 | 1.67 | 0.10 | 0.054 | ( 0.144) | 0.049 | 0.005 |
| 21 | 1.75 | 0.10 | 0.054 | ( 0.143) | 0.049 | 0.005 |
| 22 | 1.83 | 0.13 | 0.072 | ( 0.143) | 0.065 | 0.007 |
| 23 | 1.92 | 0.13 | 0.072 | ( 0.142) | 0.065 | 0.007 |
| 24 | 2.00 | 0.13 | 0.072 | ( 0.141) | 0.065 | 0.007 |
| 25 | 2.08 | 0.13 | 0.072 | ( 0.141) | 0.065 | 0.007 |
| 26 | 2.17 | 0.13 | 0.072 | ( 0.140) | 0.065 | 0.007 |
| 27 | 2.25 | 0.13 | 0.072 | ( 0.140) | 0.065 | 0.007 |
| 28 | 2.33 | 0.13 | 0.072 | ( 0.139) | 0.065 | 0.007 |
| 29 | 2.42 | 0.13 | 0.072 | ( 0.139) | 0.065 | 0.007 |
| 30 | 2.50 | 0.13 | 0.072 | ( 0.138) | 0.065 | 0.007 |
| 31 | 2.58 | 0.17 | 0.090 | ( 0.137) | 0.081 | 0.009 |
| 32 | 2.67 | 0.17 | 0.090 | ( 0.137) | 0.081 | 0.009 |
| 33 | 2.75 | 0.17 | 0.090 | ( 0.136) | 0.081 | 0.009 |
| 34 | 2.83 | 0.17 | 0.090 | ( 0.136) | 0.081 | 0.009 |
| 35 | 2.92 | 0.17 | 0.090 | ( 0.135) | 0.081 | 0.009 |
| 36 | 3.00 | 0.17 | 0.090 | ( 0.135) | 0.081 | 0.009 |
| 37 | 3.08 | 0.17 | 0.090 | ( 0.134) | 0.081 | 0.009 |
| 38 | 3.17 | 0.17 | 0.090 | ( 0.133) | 0.081 | 0.009 |
| 39 | 3.25 | 0.17 | 0.090 | ( 0.133) | 0.081 | 0.009 |
| 40 | 3.33 | 0.17 | 0.090 | ( 0.132) | 0.081 | 0.009 |
| 41 | 3.42 | 0.17 | 0.090 | ( 0.132) | 0.081 | 0.009 |
| 42 | 3.50 | 0.17 | 0.090 | ( 0.131) | 0.081 | 0.009 |
| 43 | 3.58 | 0.17 | 0.090 | ( 0.131) | 0.081 | 0.009 |
| 44 | 3.67 | 0.17 | 0.090 | ( 0.130) | 0.081 | 0.009 |
| 45 | 3.75 | 0.17 | 0.090 | ( 0.130) | 0.081 | 0.009 |
| 46 | 3.83 | 0.20 | 0.108 | ( 0.129) | 0.098 | 0.011 |
| 47 | 3.92 | 0.20 | 0.108 | ( 0.129) | 0.098 | 0.011 |
| 48 | 4.00 | 0.20 | 0.108 | ( 0.128) | 0.098 | 0.011 |
| 49 | 4.08 | 0.20 | 0.108 | ( 0.127) | 0.098 | 0.011 |
| 50 | 4.17 | 0.20 | 0.108 | ( 0.127) | 0.098 | 0.011 |
| 51 | 4.25 | 0.20 | 0.108 | ( 0.126) | 0.098 | 0.011 |
| 52 | 4.33 | 0.23 | 0.127 | ( 0.126) | 0.114 | 0.013 |
| 53 | 4.42 | 0.23 | 0.127 | ( 0.125) | 0.114 | 0.013 |
| 54 | 4.50 | 0.23 | 0.127 | ( 0.125) | 0.114 | 0.013 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 55 | 4.58 | 0.23 | 0.127 | ( | 0.124) | 0.114 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.127 | ( | 0.124) | 0.114 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.127 | ( | 0.123) | 0.114 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.145 | | 0.123 | ( 0.130) | | 0.022 |
| 59 | 4.92 | 0.27 | 0.145 | | 0.122 | ( 0.130) | | 0.023 |
| 60 | 5.00 | 0.27 | 0.145 | | 0.122 | ( 0.130) | | 0.023 |
| 61 | 5.08 | 0.20 | 0.108 | ( | 0.121) | 0.098 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.108 | ( | 0.121) | 0.098 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.108 | ( | 0.120) | 0.098 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.127 | ( | 0.119) | 0.114 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.127 | ( | 0.119) | 0.114 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.127 | ( | 0.118) | 0.114 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.145 | | 0.118 | ( 0.130) | | 0.027 |
| 68 | 5.67 | 0.27 | 0.145 | | 0.117 | ( 0.130) | | 0.027 |
| 69 | 5.75 | 0.27 | 0.145 | | 0.117 | ( 0.130) | | 0.028 |
| 70 | 5.83 | 0.27 | 0.145 | | 0.116 | ( 0.130) | | 0.028 |
| 71 | 5.92 | 0.27 | 0.145 | | 0.116 | ( 0.130) | | 0.029 |
| 72 | 6.00 | 0.27 | 0.145 | | 0.115 | ( 0.130) | | 0.029 |
| 73 | 6.08 | 0.30 | 0.163 | | 0.115 | ( 0.146) | | 0.048 |
| 74 | 6.17 | 0.30 | 0.163 | | 0.114 | ( 0.146) | | 0.048 |
| 75 | 6.25 | 0.30 | 0.163 | | 0.114 | ( 0.146) | | 0.049 |
| 76 | 6.33 | 0.30 | 0.163 | | 0.113 | ( 0.146) | | 0.049 |
| 77 | 6.42 | 0.30 | 0.163 | | 0.113 | ( 0.146) | | 0.050 |
| 78 | 6.50 | 0.30 | 0.163 | | 0.112 | ( 0.146) | | 0.050 |
| 79 | 6.58 | 0.33 | 0.181 | | 0.112 | ( 0.163) | | 0.069 |
| 80 | 6.67 | 0.33 | 0.181 | | 0.111 | ( 0.163) | | 0.070 |
| 81 | 6.75 | 0.33 | 0.181 | | 0.111 | ( 0.163) | | 0.070 |
| 82 | 6.83 | 0.33 | 0.181 | | 0.110 | ( 0.163) | | 0.071 |
| 83 | 6.92 | 0.33 | 0.181 | | 0.110 | ( 0.163) | | 0.071 |
| 84 | 7.00 | 0.33 | 0.181 | | 0.109 | ( 0.163) | | 0.072 |
| 85 | 7.08 | 0.33 | 0.181 | | 0.109 | ( 0.163) | | 0.072 |
| 86 | 7.17 | 0.33 | 0.181 | | 0.108 | ( 0.163) | | 0.073 |
| 87 | 7.25 | 0.33 | 0.181 | | 0.108 | ( 0.163) | | 0.073 |
| 88 | 7.33 | 0.37 | 0.199 | | 0.107 | ( 0.179) | | 0.092 |
| 89 | 7.42 | 0.37 | 0.199 | | 0.107 | ( 0.179) | | 0.092 |
| 90 | 7.50 | 0.37 | 0.199 | | 0.106 | ( 0.179) | | 0.093 |
| 91 | 7.58 | 0.40 | 0.217 | | 0.106 | ( 0.195) | | 0.111 |
| 92 | 7.67 | 0.40 | 0.217 | | 0.105 | ( 0.195) | | 0.112 |
| 93 | 7.75 | 0.40 | 0.217 | | 0.105 | ( 0.195) | | 0.112 |
| 94 | 7.83 | 0.43 | 0.235 | | 0.104 | ( 0.212) | | 0.131 |
| 95 | 7.92 | 0.43 | 0.235 | | 0.104 | ( 0.212) | | 0.131 |
| 96 | 8.00 | 0.43 | 0.235 | | 0.103 | ( 0.212) | | 0.132 |
| 97 | 8.08 | 0.50 | 0.271 | | 0.103 | ( 0.244) | | 0.168 |
| 98 | 8.17 | 0.50 | 0.271 | | 0.102 | ( 0.244) | | 0.169 |
| 99 | 8.25 | 0.50 | 0.271 | | 0.102 | ( 0.244) | | 0.169 |
| 100 | 8.33 | 0.50 | 0.271 | | 0.101 | ( 0.244) | | 0.170 |
| 101 | 8.42 | 0.50 | 0.271 | | 0.101 | ( 0.244) | | 0.170 |
| 102 | 8.50 | 0.50 | 0.271 | | 0.101 | ( 0.244) | | 0.171 |
| 103 | 8.58 | 0.53 | 0.289 | | 0.100 | ( 0.260) | | 0.189 |
| 104 | 8.67 | 0.53 | 0.289 | | 0.100 | ( 0.260) | | 0.190 |
| 105 | 8.75 | 0.53 | 0.289 | | 0.099 | ( 0.260) | | 0.190 |
| 106 | 8.83 | 0.57 | 0.307 | | 0.099 | ( 0.277) | | 0.209 |
| 107 | 8.92 | 0.57 | 0.307 | | 0.098 | ( 0.277) | | 0.209 |
| 108 | 9.00 | 0.57 | 0.307 | | 0.098 | ( 0.277) | | 0.210 |
| 109 | 9.08 | 0.63 | 0.344 | | 0.097 | ( 0.309) | | 0.246 |
| 110 | 9.17 | 0.63 | 0.344 | | 0.097 | ( 0.309) | | 0.247 |
| 111 | 9.25 | 0.63 | 0.344 | | 0.096 | ( 0.309) | | 0.247 |
| 112 | 9.33 | 0.67 | 0.362 | | 0.096 | ( 0.325) | | 0.266 |
| 113 | 9.42 | 0.67 | 0.362 | | 0.095 | ( 0.325) | | 0.266 |
| 114 | 9.50 | 0.67 | 0.362 | | 0.095 | ( 0.325) | | 0.267 |
| 115 | 9.58 | 0.70 | 0.380 | | 0.095 | ( 0.342) | | 0.285 |
| 116 | 9.67 | 0.70 | 0.380 | | 0.094 | ( 0.342) | | 0.286 |
| 117 | 9.75 | 0.70 | 0.380 | | 0.094 | ( 0.342) | | 0.286 |
| 118 | 9.83 | 0.73 | 0.398 | | 0.093 | ( 0.358) | | 0.305 |
| 119 | 9.92 | 0.73 | 0.398 | | 0.093 | ( 0.358) | | 0.305 |
| 120 | 10.00 | 0.73 | 0.398 | | 0.092 | ( 0.358) | | 0.306 |
| 121 | 10.08 | 0.50 | 0.271 | | 0.092 | ( 0.244) | | 0.179 |
| 122 | 10.17 | 0.50 | 0.271 | | 0.091 | ( 0.244) | | 0.180 |
| 123 | 10.25 | 0.50 | 0.271 | | 0.091 | ( 0.244) | | 0.180 |
| 124 | 10.33 | 0.50 | 0.271 | | 0.090 | ( 0.244) | | 0.181 |
| 125 | 10.42 | 0.50 | 0.271 | | 0.090 | ( 0.244) | | 0.181 |
| 126 | 10.50 | 0.50 | 0.271 | | 0.090 | ( 0.244) | | 0.182 |
| 127 | 10.58 | 0.67 | 0.362 | | 0.089 | ( 0.325) | | 0.272 |
| 128 | 10.67 | 0.67 | 0.362 | | 0.089 | ( 0.325) | | 0.273 |
| 129 | 10.75 | 0.67 | 0.362 | | 0.088 | ( 0.325) | | 0.273 |
| 130 | 10.83 | 0.67 | 0.362 | | 0.088 | ( 0.325) | | 0.274 |
| 131 | 10.92 | 0.67 | 0.362 | | 0.087 | ( 0.325) | | 0.274 |
| 132 | 11.00 | 0.67 | 0.362 | | 0.087 | ( 0.325) | | 0.275 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 133 | 11.08 | 0.63 | 0.344 | 0.087 | ( 0.309) | 0.257 |
| 134 | 11.17 | 0.63 | 0.344 | 0.086 | ( 0.309) | 0.257 |
| 135 | 11.25 | 0.63 | 0.344 | 0.086 | ( 0.309) | 0.258 |
| 136 | 11.33 | 0.63 | 0.344 | 0.085 | ( 0.309) | 0.258 |
| 137 | 11.42 | 0.63 | 0.344 | 0.085 | ( 0.309) | 0.259 |
| 138 | 11.50 | 0.63 | 0.344 | 0.084 | ( 0.309) | 0.259 |
| 139 | 11.58 | 0.57 | 0.307 | 0.084 | ( 0.277) | 0.223 |
| 140 | 11.67 | 0.57 | 0.307 | 0.084 | ( 0.277) | 0.224 |
| 141 | 11.75 | 0.57 | 0.307 | 0.083 | ( 0.277) | 0.224 |
| 142 | 11.83 | 0.60 | 0.325 | 0.083 | ( 0.293) | 0.243 |
| 143 | 11.92 | 0.60 | 0.325 | 0.082 | ( 0.293) | 0.243 |
| 144 | 12.00 | 0.60 | 0.325 | 0.082 | ( 0.293) | 0.243 |
| 145 | 12.08 | 0.83 | 0.452 | 0.082 | ( 0.407) | 0.370 |
| 146 | 12.17 | 0.83 | 0.452 | 0.081 | ( 0.407) | 0.371 |
| 147 | 12.25 | 0.83 | 0.452 | 0.081 | ( 0.407) | 0.371 |
| 148 | 12.33 | 0.87 | 0.470 | 0.080 | ( 0.423) | 0.390 |
| 149 | 12.42 | 0.87 | 0.470 | 0.080 | ( 0.423) | 0.390 |
| 150 | 12.50 | 0.87 | 0.470 | 0.080 | ( 0.423) | 0.391 |
| 151 | 12.58 | 0.93 | 0.506 | 0.079 | ( 0.456) | 0.427 |
| 152 | 12.67 | 0.93 | 0.506 | 0.079 | ( 0.456) | 0.428 |
| 153 | 12.75 | 0.93 | 0.506 | 0.078 | ( 0.456) | 0.428 |
| 154 | 12.83 | 0.97 | 0.524 | 0.078 | ( 0.472) | 0.446 |
| 155 | 12.92 | 0.97 | 0.524 | 0.078 | ( 0.472) | 0.447 |
| 156 | 13.00 | 0.97 | 0.524 | 0.077 | ( 0.472) | 0.447 |
| 157 | 13.08 | 1.13 | 0.615 | 0.077 | ( 0.553) | 0.538 |
| 158 | 13.17 | 1.13 | 0.615 | 0.076 | ( 0.553) | 0.538 |
| 159 | 13.25 | 1.13 | 0.615 | 0.076 | ( 0.553) | 0.539 |
| 160 | 13.33 | 1.13 | 0.615 | 0.076 | ( 0.553) | 0.539 |
| 161 | 13.42 | 1.13 | 0.615 | 0.075 | ( 0.553) | 0.540 |
| 162 | 13.50 | 1.13 | 0.615 | 0.075 | ( 0.553) | 0.540 |
| 163 | 13.58 | 0.77 | 0.416 | 0.074 | ( 0.374) | 0.341 |
| 164 | 13.67 | 0.77 | 0.416 | 0.074 | ( 0.374) | 0.342 |
| 165 | 13.75 | 0.77 | 0.416 | 0.074 | ( 0.374) | 0.342 |
| 166 | 13.83 | 0.77 | 0.416 | 0.073 | ( 0.374) | 0.343 |
| 167 | 13.92 | 0.77 | 0.416 | 0.073 | ( 0.374) | 0.343 |
| 168 | 14.00 | 0.77 | 0.416 | 0.073 | ( 0.374) | 0.343 |
| 169 | 14.08 | 0.90 | 0.488 | 0.072 | ( 0.439) | 0.416 |
| 170 | 14.17 | 0.90 | 0.488 | 0.072 | ( 0.439) | 0.416 |
| 171 | 14.25 | 0.90 | 0.488 | 0.071 | ( 0.439) | 0.417 |
| 172 | 14.33 | 0.87 | 0.470 | 0.071 | ( 0.423) | 0.399 |
| 173 | 14.42 | 0.87 | 0.470 | 0.071 | ( 0.423) | 0.399 |
| 174 | 14.50 | 0.87 | 0.470 | 0.070 | ( 0.423) | 0.400 |
| 175 | 14.58 | 0.87 | 0.470 | 0.070 | ( 0.423) | 0.400 |
| 176 | 14.67 | 0.87 | 0.470 | 0.070 | ( 0.423) | 0.400 |
| 177 | 14.75 | 0.87 | 0.470 | 0.069 | ( 0.423) | 0.401 |
| 178 | 14.83 | 0.83 | 0.452 | 0.069 | ( 0.407) | 0.383 |
| 179 | 14.92 | 0.83 | 0.452 | 0.069 | ( 0.407) | 0.383 |
| 180 | 15.00 | 0.83 | 0.452 | 0.068 | ( 0.407) | 0.384 |
| 181 | 15.08 | 0.80 | 0.434 | 0.068 | ( 0.391) | 0.366 |
| 182 | 15.17 | 0.80 | 0.434 | 0.068 | ( 0.391) | 0.366 |
| 183 | 15.25 | 0.80 | 0.434 | 0.067 | ( 0.391) | 0.367 |
| 184 | 15.33 | 0.77 | 0.416 | 0.067 | ( 0.374) | 0.349 |
| 185 | 15.42 | 0.77 | 0.416 | 0.066 | ( 0.374) | 0.349 |
| 186 | 15.50 | 0.77 | 0.416 | 0.066 | ( 0.374) | 0.350 |
| 187 | 15.58 | 0.63 | 0.344 | 0.066 | ( 0.309) | 0.278 |
| 188 | 15.67 | 0.63 | 0.344 | 0.065 | ( 0.309) | 0.278 |
| 189 | 15.75 | 0.63 | 0.344 | 0.065 | ( 0.309) | 0.278 |
| 190 | 15.83 | 0.63 | 0.344 | 0.065 | ( 0.309) | 0.279 |
| 191 | 15.92 | 0.63 | 0.344 | 0.064 | ( 0.309) | 0.279 |
| 192 | 16.00 | 0.63 | 0.344 | 0.064 | ( 0.309) | 0.279 |
| 193 | 16.08 | 0.13 | 0.072 | 0.064 | ( 0.065) | 0.008 |
| 194 | 16.17 | 0.13 | 0.072 | 0.063 | ( 0.065) | 0.009 |
| 195 | 16.25 | 0.13 | 0.072 | 0.063 | ( 0.065) | 0.009 |
| 196 | 16.33 | 0.13 | 0.072 | 0.063 | ( 0.065) | 0.009 |
| 197 | 16.42 | 0.13 | 0.072 | 0.063 | ( 0.065) | 0.010 |
| 198 | 16.50 | 0.13 | 0.072 | 0.062 | ( 0.065) | 0.010 |
| 199 | 16.58 | 0.10 | 0.054 | ( 0.062) | 0.049 | 0.005 |
| 200 | 16.67 | 0.10 | 0.054 | ( 0.062) | 0.049 | 0.005 |
| 201 | 16.75 | 0.10 | 0.054 | ( 0.061) | 0.049 | 0.005 |
| 202 | 16.83 | 0.10 | 0.054 | ( 0.061) | 0.049 | 0.005 |
| 203 | 16.92 | 0.10 | 0.054 | ( 0.061) | 0.049 | 0.005 |
| 204 | 17.00 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 205 | 17.08 | 0.17 | 0.090 | 0.060 | ( 0.081) | 0.030 |
| 206 | 17.17 | 0.17 | 0.090 | 0.060 | ( 0.081) | 0.031 |
| 207 | 17.25 | 0.17 | 0.090 | 0.059 | ( 0.081) | 0.031 |
| 208 | 17.33 | 0.17 | 0.090 | 0.059 | ( 0.081) | 0.031 |
| 209 | 17.42 | 0.17 | 0.090 | 0.059 | ( 0.081) | 0.032 |
| 210 | 17.50 | 0.17 | 0.090 | 0.059 | ( 0.081) | 0.032 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 211 | 17.58 | 0.17 | 0.090 | | 0.058 | ( | 0.081) | 0.032 |
| 212 | 17.67 | 0.17 | 0.090 | | 0.058 | ( | 0.081) | 0.032 |
| 213 | 17.75 | 0.17 | 0.090 | | 0.058 | ( | 0.081) | 0.033 |
| 214 | 17.83 | 0.13 | 0.072 | | 0.057 | ( | 0.065) | 0.015 |
| 215 | 17.92 | 0.13 | 0.072 | | 0.057 | ( | 0.065) | 0.015 |
| 216 | 18.00 | 0.13 | 0.072 | | 0.057 | ( | 0.065) | 0.015 |
| 217 | 18.08 | 0.13 | 0.072 | | 0.057 | ( | 0.065) | 0.016 |
| 218 | 18.17 | 0.13 | 0.072 | | 0.056 | ( | 0.065) | 0.016 |
| 219 | 18.25 | 0.13 | 0.072 | | 0.056 | ( | 0.065) | 0.016 |
| 220 | 18.33 | 0.13 | 0.072 | | 0.056 | ( | 0.065) | 0.017 |
| 221 | 18.42 | 0.13 | 0.072 | | 0.055 | ( | 0.065) | 0.017 |
| 222 | 18.50 | 0.13 | 0.072 | | 0.055 | ( | 0.065) | 0.017 |
| 223 | 18.58 | 0.10 | 0.054 | ( | 0.055) | | 0.049 | 0.005 |
| 224 | 18.67 | 0.10 | 0.054 | ( | 0.055) | | 0.049 | 0.005 |
| 225 | 18.75 | 0.10 | 0.054 | ( | 0.054) | | 0.049 | 0.005 |
| 226 | 18.83 | 0.07 | 0.036 | ( | 0.054) | | 0.033 | 0.004 |
| 227 | 18.92 | 0.07 | 0.036 | ( | 0.054) | | 0.033 | 0.004 |
| 228 | 19.00 | 0.07 | 0.036 | ( | 0.054) | | 0.033 | 0.004 |
| 229 | 19.08 | 0.10 | 0.054 | ( | 0.053) | | 0.049 | 0.005 |
| 230 | 19.17 | 0.10 | 0.054 | ( | 0.053) | | 0.049 | 0.005 |
| 231 | 19.25 | 0.10 | 0.054 | ( | 0.053) | | 0.049 | 0.005 |
| 232 | 19.33 | 0.13 | 0.072 | | 0.053 | ( | 0.065) | 0.020 |
| 233 | 19.42 | 0.13 | 0.072 | | 0.052 | ( | 0.065) | 0.020 |
| 234 | 19.50 | 0.13 | 0.072 | | 0.052 | ( | 0.065) | 0.020 |
| 235 | 19.58 | 0.10 | 0.054 | ( | 0.052) | | 0.049 | 0.005 |
| 236 | 19.67 | 0.10 | 0.054 | ( | 0.052) | | 0.049 | 0.005 |
| 237 | 19.75 | 0.10 | 0.054 | ( | 0.051) | | 0.049 | 0.005 |
| 238 | 19.83 | 0.07 | 0.036 | ( | 0.051) | | 0.033 | 0.004 |
| 239 | 19.92 | 0.07 | 0.036 | ( | 0.051) | | 0.033 | 0.004 |
| 240 | 20.00 | 0.07 | 0.036 | ( | 0.051) | | 0.033 | 0.004 |
| 241 | 20.08 | 0.10 | 0.054 | ( | 0.051) | | 0.049 | 0.005 |
| 242 | 20.17 | 0.10 | 0.054 | ( | 0.050) | | 0.049 | 0.005 |
| 243 | 20.25 | 0.10 | 0.054 | ( | 0.050) | | 0.049 | 0.005 |
| 244 | 20.33 | 0.10 | 0.054 | ( | 0.050) | | 0.049 | 0.005 |
| 245 | 20.42 | 0.10 | 0.054 | ( | 0.050) | | 0.049 | 0.005 |
| 246 | 20.50 | 0.10 | 0.054 | ( | 0.049) | | 0.049 | 0.005 |
| 247 | 20.58 | 0.10 | 0.054 | ( | 0.049) | | 0.049 | 0.005 |
| 248 | 20.67 | 0.10 | 0.054 | ( | 0.049) | | 0.049 | 0.005 |
| 249 | 20.75 | 0.10 | 0.054 | | 0.049 | ( | 0.049) | 0.005 |
| 250 | 20.83 | 0.07 | 0.036 | ( | 0.049) | | 0.033 | 0.004 |
| 251 | 20.92 | 0.07 | 0.036 | ( | 0.048) | | 0.033 | 0.004 |
| 252 | 21.00 | 0.07 | 0.036 | ( | 0.048) | | 0.033 | 0.004 |
| 253 | 21.08 | 0.10 | 0.054 | | 0.048 | ( | 0.049) | 0.006 |
| 254 | 21.17 | 0.10 | 0.054 | | 0.048 | ( | 0.049) | 0.006 |
| 255 | 21.25 | 0.10 | 0.054 | | 0.048 | ( | 0.049) | 0.007 |
| 256 | 21.33 | 0.07 | 0.036 | ( | 0.047) | | 0.033 | 0.004 |
| 257 | 21.42 | 0.07 | 0.036 | ( | 0.047) | | 0.033 | 0.004 |
| 258 | 21.50 | 0.07 | 0.036 | ( | 0.047) | | 0.033 | 0.004 |
| 259 | 21.58 | 0.10 | 0.054 | | 0.047 | ( | 0.049) | 0.007 |
| 260 | 21.67 | 0.10 | 0.054 | | 0.047 | ( | 0.049) | 0.007 |
| 261 | 21.75 | 0.10 | 0.054 | | 0.047 | ( | 0.049) | 0.008 |
| 262 | 21.83 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 263 | 21.92 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 264 | 22.00 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 265 | 22.08 | 0.10 | 0.054 | | 0.046 | ( | 0.049) | 0.008 |
| 266 | 22.17 | 0.10 | 0.054 | | 0.046 | ( | 0.049) | 0.008 |
| 267 | 22.25 | 0.10 | 0.054 | | 0.046 | ( | 0.049) | 0.009 |
| 268 | 22.33 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 269 | 22.42 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 270 | 22.50 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 271 | 22.58 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 272 | 22.67 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 273 | 22.75 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 274 | 22.83 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 275 | 22.92 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 276 | 23.00 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 277 | 23.08 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 278 | 23.17 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 279 | 23.25 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 280 | 23.33 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 281 | 23.42 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 284 | 23.67 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 285 | 23.75 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 286 | 23.83 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 287 | 23.92 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 288 | 24.00 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |

(Loss Rate Not Used)
Sum = 100.0 Sum = 33.6
Flood volume = Effective rainfall 2.80(In)
times area 0.6(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 1.72(In)
Total soil loss = 0.086(Ac.Ft)
Total rainfall = 4.52(In)
Flood volume = 6094.8 Cubic Feet
Total soil loss = 3749.8 Cubic Feet

Peak flow rate of this hydrograph = 0.327(CFS)

24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0000 | 0.00 | Q | | | | |
| 0+10 | 0.0000 | 0.00 | Q | | | | |
| 0+15 | 0.0000 | 0.00 | Q | | | | |
| 0+20 | 0.0001 | 0.00 | Q | | | | |
| 0+25 | 0.0001 | 0.00 | Q | | | | |
| 0+30 | 0.0001 | 0.00 | Q | | | | |
| 0+35 | 0.0001 | 0.00 | Q | | | | |
| 0+40 | 0.0002 | 0.00 | Q | | | | |
| 0+45 | 0.0002 | 0.00 | Q | | | | |
| 0+50 | 0.0002 | 0.00 | Q | | | | |
| 0+55 | 0.0002 | 0.00 | Q | | | | |
| 1+ 0 | 0.0003 | 0.00 | Q | | | | |
| 1+ 5 | 0.0003 | 0.00 | Q | | | | |
| 1+10 | 0.0003 | 0.00 | Q | | | | |
| 1+15 | 0.0003 | 0.00 | Q | | | | |
| 1+20 | 0.0004 | 0.00 | Q | | | | |
| 1+25 | 0.0004 | 0.00 | Q | | | | |
| 1+30 | 0.0004 | 0.00 | Q | | | | |
| 1+35 | 0.0004 | 0.00 | Q | | | | |
| 1+40 | 0.0004 | 0.00 | Q | | | | |
| 1+45 | 0.0005 | 0.00 | Q | | | | |
| 1+50 | 0.0005 | 0.00 | Q | | | | |
| 1+55 | 0.0005 | 0.00 | Q | | | | |
| 2+ 0 | 0.0006 | 0.00 | Q | | | | |
| 2+ 5 | 0.0006 | 0.00 | Q | | | | |
| 2+10 | 0.0006 | 0.00 | Q | | | | |
| 2+15 | 0.0006 | 0.00 | Q | | | | |
| 2+20 | 0.0007 | 0.00 | Q | | | | |
| 2+25 | 0.0007 | 0.00 | Q | | | | |
| 2+30 | 0.0007 | 0.00 | Q | | | | |
| 2+35 | 0.0008 | 0.01 | Q | | | | |
| 2+40 | 0.0008 | 0.01 | Q | | | | |
| 2+45 | 0.0009 | 0.01 | Q | | | | |
| 2+50 | 0.0009 | 0.01 | Q | | | | |
| 2+55 | 0.0009 | 0.01 | Q | | | | |
| 3+ 0 | 0.0010 | 0.01 | Q | | | | |
| 3+ 5 | 0.0010 | 0.01 | Q | | | | |
| 3+10 | 0.0010 | 0.01 | Q | | | | |
| 3+15 | 0.0011 | 0.01 | Q | | | | |
| 3+20 | 0.0011 | 0.01 | Q | | | | |
| 3+25 | 0.0012 | 0.01 | Q | | | | |
| 3+30 | 0.0012 | 0.01 | Q | | | | |
| 3+35 | 0.0012 | 0.01 | Q | | | | |
| 3+40 | 0.0013 | 0.01 | Q | | | | |
| 3+45 | 0.0013 | 0.01 | Q | | | | |
| 3+50 | 0.0013 | 0.01 | Q | | | | |
| 3+55 | 0.0014 | 0.01 | Q | | | | |
| 4+ 0 | 0.0014 | 0.01 | Q | | | | |
| 4+ 5 | 0.0015 | 0.01 | Q | | | | |
| 4+10 | 0.0015 | 0.01 | Q | | | | |
| 4+15 | 0.0016 | 0.01 | Q | | | | |
| 4+20 | 0.0016 | 0.01 | Q | | | | |
| 4+25 | 0.0017 | 0.01 | Q | | | | |
| 4+30 | 0.0017 | 0.01 | Q | | | | |
| 4+35 | 0.0018 | 0.01 | Q | | | | |
| 4+40 | 0.0018 | 0.01 | Q | | | | |
| 4+45 | 0.0019 | 0.01 | Q | | | | |

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 4+50       0.0020      0.01  Q          |          |          |          |
 4+55       0.0021      0.01  Q          |          |          |          |
 5+ 0       0.0022      0.01  Q          |          |          |          |
 5+ 5       0.0022      0.01  Q          |          |          |          |
 5+10       0.0023      0.01  Q          |          |          |          |
 5+15       0.0023      0.01  Q          |          |          |          |
 5+20       0.0024      0.01  Q          |          |          |          |
 5+25       0.0024      0.01  Q          |          |          |          |
 5+30       0.0025      0.01  Q          |          |          |          |
 5+35       0.0026      0.01  Q          |          |          |          |
 5+40       0.0027      0.02  Q          |          |          |          |
 5+45       0.0028      0.02  Q          |          |          |          |
 5+50       0.0029      0.02  Q          |          |          |          |
 5+55       0.0030      0.02  Q          |          |          |          |
 6+ 0       0.0032      0.02  Q          |          |          |          |
 6+ 5       0.0033      0.03  Q          |          |          |          |
 6+10       0.0035      0.03  QV         |          |          |          |
 6+15       0.0037      0.03  QV         |          |          |          |
 6+20       0.0039      0.03  QV         |          |          |          |
 6+25       0.0042      0.03  QV         |          |          |          |
 6+30       0.0044      0.03  QV         |          |          |          |
 6+35       0.0046      0.04  QV         |          |          |          |
 6+40       0.0049      0.04  QV         |          |          |          |
 6+45       0.0052      0.04  QV         |          |          |          |
 6+50       0.0055      0.04  QV         |          |          |          |
 6+55       0.0058      0.04  QV         |          |          |          |
 7+ 0       0.0061      0.04  QV         |          |          |          |
 7+ 5       0.0064      0.04  QV         |          |          |          |
 7+10       0.0067      0.04  QV         |          |          |          |
 7+15       0.0070      0.04  Q V        |          |          |          |
 7+20       0.0074      0.05  Q V        |          |          |          |
 7+25       0.0078      0.06  Q V        |          |          |          |
 7+30       0.0081      0.06  Q V        |          |          |          |
 7+35       0.0086      0.07  Q V        |          |          |          |
 7+40       0.0091      0.07  Q V        |          |          |          |
 7+45       0.0095      0.07  Q V        |          |          |          |
 7+50       0.0101      0.08  Q V        |          |          |          |
 7+55       0.0106      0.08  Q  V       |          |          |          |
 8+ 0       0.0111      0.08  Q  V       |          |          |          |
 8+ 5       0.0118      0.10  Q  V       |          |          |          |
 8+10       0.0125      0.10  Q  V       |          |          |          |
 8+15       0.0132      0.10  Q  V       |          |          |          |
 8+20       0.0139      0.10  Q  V       |          |          |          |
 8+25       0.0146      0.10  Q   V      |          |          |          |
 8+30       0.0154      0.10  Q   V      |          |          |          |
 8+35       0.0161      0.11  Q   V      |          |          |          |
 8+40       0.0169      0.11  Q   V      |          |          |          |
 8+45       0.0177      0.11  Q    V     |          |          |          |
 8+50       0.0186      0.12  Q    V     |          |          |          |
 8+55       0.0194      0.13  Q    V     |          |          |          |
 9+ 0       0.0203      0.13  Q    V     |          |          |          |
 9+ 5       0.0213      0.14  Q     V    |          |          |          |
 9+10       0.0223      0.15  Q     V    |          |          |          |
 9+15       0.0234      0.15  Q     V    |          |          |          |
 9+20       0.0244      0.16  Q     V    |          |          |          |
 9+25       0.0256      0.16  Q      V   |          |          |          |
 9+30       0.0267      0.16  Q      V   |          |          |          |
 9+35       0.0278      0.17  Q      V   |          |          |          |
 9+40       0.0290      0.17  Q       V  |          |          |          |
 9+45       0.0302      0.17  Q       V  |          |          |          |
 9+50       0.0315      0.18  Q       V  |          |          |          |
 9+55       0.0327      0.18  Q        V |          |          |          |
10+ 0       0.0340      0.18  Q        V |          |          |          |
10+ 5       0.0349      0.12  Q        V |          |          |          |
10+10       0.0356      0.11  Q         V          |          |          |
10+15       0.0364      0.11  Q         V          |          |          |
10+20       0.0371      0.11  Q         V          |          |          |
10+25       0.0379      0.11  Q         V          |          |          |
10+30       0.0386      0.11  Q         |V         |          |          |
10+35       0.0397      0.15  Q         |V         |          |          |
10+40       0.0408      0.17  Q         |V         |          |          |
10+45       0.0420      0.17  Q         |V         |          |          |
10+50       0.0431      0.17  Q         | V        |          |          |
10+55       0.0443      0.17  Q         | V        |          |          |
11+ 0       0.0454      0.17  Q         | V        |          |          |
11+ 5       0.0465      0.16  Q         |  V       |          |          |
11+10       0.0476      0.16  Q         |  V       |          |          |
11+15       0.0486      0.16  Q         |  V       |          |          |
```

```
11+20       0.0497      0.16  Q          |   V     |         |          |
11+25       0.0508      0.16  Q          |   V     |         |          |
11+30       0.0519      0.16  Q          |   V     |         |          |
11+35       0.0528      0.14  Q          |    V    |         |          |
11+40       0.0538      0.14  Q          |    V    |         |          |
11+45       0.0547      0.14  Q          |    V    |         |          |
11+50       0.0557      0.14  Q          |    V    |         |          |
11+55       0.0567      0.15  Q          |     V   |         |          |
12+ 0       0.0577      0.15  Q          |     V   |         |          |
12+ 5       0.0591      0.21  Q          |     V   |         |          |
12+10       0.0607      0.22  Q          |      V  |         |          |
12+15       0.0622      0.22  Q          |      V  |         |          |
12+20       0.0638      0.23  Q          |       V |         |          |
12+25       0.0655      0.24  Q          |       V |         |          |
12+30       0.0671      0.24  Q          |        V|         |          |
12+35       0.0688      0.25  |Q         |        V|         |          |
12+40       0.0706      0.26  |Q         |         V         |          |
12+45       0.0724      0.26  |Q         |         V         |          |
12+50       0.0743      0.27  |Q         |         |V        |          |
12+55       0.0761      0.27  |Q         |         |V        |          |
13+ 0       0.0780      0.27  |Q         |         | V       |          |
13+ 5       0.0801      0.31  |Q         |         | V       |          |
13+10       0.0824      0.33  |Q         |         |  V      |          |
13+15       0.0846      0.33  |Q         |         |   V     |          |
13+20       0.0869      0.33  |Q         |         |   V     |          |
13+25       0.0891      0.33  |Q         |         |    V    |          |
13+30       0.0914      0.33  |Q         |         |     V   |          |
13+35       0.0930      0.23  Q          |         |     V   |          |
13+40       0.0944      0.21  Q          |         |     V   |          |
13+45       0.0958      0.21  Q          |         |      V  |          |
13+50       0.0972      0.21  Q          |         |      V  |          |
13+55       0.0987      0.21  Q          |         |       V |          |
14+ 0       0.1001      0.21  Q          |         |       V |          |
14+ 5       0.1018      0.24  Q          |         |        V|          |
14+10       0.1035      0.25  |Q         |         |        V|          |
14+15       0.1052      0.25  |Q         |         |         V          |
14+20       0.1069      0.24  Q          |         |         V          |
14+25       0.1086      0.24  Q          |         |         |V         |
14+30       0.1102      0.24  Q          |         |         |V         |
14+35       0.1119      0.24  Q          |         |         |V         |
14+40       0.1136      0.24  Q          |         |         | V        |
14+45       0.1153      0.24  Q          |         |         | V        |
14+50       0.1169      0.23  Q          |         |         |  V       |
14+55       0.1185      0.23  Q          |         |         |  V       |
15+ 0       0.1201      0.23  Q          |         |         |   V      |
15+ 5       0.1216      0.22  Q          |         |         |   V      |
15+10       0.1231      0.22  Q          |         |         |    V     |
15+15       0.1247      0.22  Q          |         |         |    V     |
15+20       0.1261      0.21  Q          |         |         |     V    |
15+25       0.1276      0.21  Q          |         |         |     V    |
15+30       0.1290      0.21  Q          |         |         |     V    |
15+35       0.1303      0.18  Q          |         |         |      V   |
15+40       0.1314      0.17  Q          |         |         |      V   |
15+45       0.1326      0.17  Q          |         |         |      V   |
15+50       0.1337      0.17  Q          |         |         |       V  |
15+55       0.1349      0.17  Q          |         |         |       V  |
16+ 0       0.1361      0.17  Q          |         |         |       V  |
16+ 5       0.1363      0.04  Q          |         |         |       V  |
16+10       0.1364      0.01  Q          |         |         |       V  |
16+15       0.1364      0.01  Q          |         |         |       V  |
16+20       0.1364      0.01  Q          |         |         |        V |
16+25       0.1365      0.01  Q          |         |         |        V |
16+30       0.1365      0.01  Q          |         |         |        V |
16+35       0.1365      0.00  Q          |         |         |        V |
16+40       0.1366      0.00  Q          |         |         |        V |
16+45       0.1366      0.00  Q          |         |         |        V |
16+50       0.1366      0.00  Q          |         |         |        V |
16+55       0.1366      0.00  Q          |         |         |        V |
17+ 0       0.1367      0.00  Q          |         |         |        V |
17+ 5       0.1368      0.02  Q          |         |         |        V |
17+10       0.1369      0.02  Q          |         |         |        V |
17+15       0.1370      0.02  Q          |         |         |        V |
17+20       0.1371      0.02  Q          |         |         |        V |
17+25       0.1373      0.02  Q          |         |         |        V |
17+30       0.1374      0.02  Q          |         |         |        V |
17+35       0.1375      0.02  Q          |         |         |        V |
17+40       0.1377      0.02  Q          |         |         |        V |
17+45       0.1378      0.02  Q          |         |         |        V |
```

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+50 | 0.1379 | 0.01 | Q | \| | \| | \| | V\| |
| 17+55 | 0.1380 | 0.01 | Q | \| | \| | \| | V\| |
| 18+ 0 | 0.1380 | 0.01 | Q | \| | \| | \| | V\| |
| 18+ 5 | 0.1381 | 0.01 | Q | \| | \| | \| | V\| |
| 18+10 | 0.1381 | 0.01 | Q | \| | \| | \| | V\| |
| 18+15 | 0.1382 | 0.01 | Q | \| | \| | \| | V\| |
| 18+20 | 0.1383 | 0.01 | Q | \| | \| | \| | V\| |
| 18+25 | 0.1384 | 0.01 | Q | \| | \| | \| | V\| |
| 18+30 | 0.1384 | 0.01 | Q | \| | \| | \| | V\| |
| 18+35 | 0.1385 | 0.00 | Q | \| | \| | \| | V\| |
| 18+40 | 0.1385 | 0.00 | Q | \| | \| | \| | V\| |
| 18+45 | 0.1385 | 0.00 | Q | \| | \| | \| | V\| |
| 18+50 | 0.1385 | 0.00 | Q | \| | \| | \| | V\| |
| 18+55 | 0.1385 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 0 | 0.1385 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 5 | 0.1386 | 0.00 | Q | \| | \| | \| | V\| |
| 19+10 | 0.1386 | 0.00 | Q | \| | \| | \| | V\| |
| 19+15 | 0.1386 | 0.00 | Q | \| | \| | \| | V\| |
| 19+20 | 0.1387 | 0.01 | Q | \| | \| | \| | V\| |
| 19+25 | 0.1388 | 0.01 | Q | \| | \| | \| | V\| |
| 19+30 | 0.1389 | 0.01 | Q | \| | \| | \| | V\| |
| 19+35 | 0.1389 | 0.01 | Q | \| | \| | \| | V\| |
| 19+40 | 0.1389 | 0.00 | Q | \| | \| | \| | V\| |
| 19+45 | 0.1389 | 0.00 | Q | \| | \| | \| | V\| |
| 19+50 | 0.1389 | 0.00 | Q | \| | \| | \| | V\| |
| 19+55 | 0.1390 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 0 | 0.1390 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 5 | 0.1390 | 0.00 | Q | \| | \| | \| | V\| |
| 20+10 | 0.1390 | 0.00 | Q | \| | \| | \| | V\| |
| 20+15 | 0.1390 | 0.00 | Q | \| | \| | \| | V\| |
| 20+20 | 0.1391 | 0.00 | Q | \| | \| | \| | V\| |
| 20+25 | 0.1391 | 0.00 | Q | \| | \| | \| | V\| |
| 20+30 | 0.1391 | 0.00 | Q | \| | \| | \| | V\| |
| 20+35 | 0.1391 | 0.00 | Q | \| | \| | \| | V\| |
| 20+40 | 0.1392 | 0.00 | Q | \| | \| | \| | V\| |
| 20+45 | 0.1392 | 0.00 | Q | \| | \| | \| | V\| |
| 20+50 | 0.1392 | 0.00 | Q | \| | \| | \| | V\| |
| 20+55 | 0.1392 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 0 | 0.1392 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 5 | 0.1393 | 0.00 | Q | \| | \| | \| | V\| |
| 21+10 | 0.1393 | 0.00 | Q | \| | \| | \| | V\| |
| 21+15 | 0.1393 | 0.00 | Q | \| | \| | \| | V\| |
| 21+20 | 0.1393 | 0.00 | Q | \| | \| | \| | V\| |
| 21+25 | 0.1393 | 0.00 | Q | \| | \| | \| | V\| |
| 21+30 | 0.1394 | 0.00 | Q | \| | \| | \| | V\| |
| 21+35 | 0.1394 | 0.00 | Q | \| | \| | \| | V\| |
| 21+40 | 0.1394 | 0.00 | Q | \| | \| | \| | V\| |
| 21+45 | 0.1394 | 0.00 | Q | \| | \| | \| | V\| |
| 21+50 | 0.1395 | 0.00 | Q | \| | \| | \| | V\| |
| 21+55 | 0.1395 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 0 | 0.1395 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 5 | 0.1395 | 0.00 | Q | \| | \| | \| | V\| |
| 22+10 | 0.1396 | 0.01 | Q | \| | \| | \| | V\| |
| 22+15 | 0.1396 | 0.01 | Q | \| | \| | \| | V\| |
| 22+20 | 0.1396 | 0.00 | Q | \| | \| | \| | V\| |
| 22+25 | 0.1396 | 0.00 | Q | \| | \| | \| | V\| |
| 22+30 | 0.1396 | 0.00 | Q | \| | \| | \| | V\| |
| 22+35 | 0.1397 | 0.00 | Q | \| | \| | \| | V\| |
| 22+40 | 0.1397 | 0.00 | Q | \| | \| | \| | V\| |
| 22+45 | 0.1397 | 0.00 | Q | \| | \| | \| | V\| |
| 22+50 | 0.1397 | 0.00 | Q | \| | \| | \| | V\| |
| 22+55 | 0.1397 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 0 | 0.1397 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 5 | 0.1397 | 0.00 | Q | \| | \| | \| | V\| |
| 23+10 | 0.1398 | 0.00 | Q | \| | \| | \| | V\| |
| 23+15 | 0.1398 | 0.00 | Q | \| | \| | \| | V\| |
| 23+20 | 0.1398 | 0.00 | Q | \| | \| | \| | V\| |
| 23+25 | 0.1398 | 0.00 | Q | \| | \| | \| | V\| |
| 23+30 | 0.1398 | 0.00 | Q | \| | \| | \| | V\| |
| 23+35 | 0.1398 | 0.00 | Q | \| | \| | \| | V\| |
| 23+40 | 0.1399 | 0.00 | Q | \| | \| | \| | V\| |
| 23+45 | 0.1399 | 0.00 | Q | \| | \| | \| | V\| |
| 23+50 | 0.1399 | 0.00 | Q | \| | \| | \| | V\| |
| 23+55 | 0.1399 | 0.00 | Q | \| | \| | \| | V\| |
| 24+ 0 | 0.1399 | 0.00 | Q | \| | \| | \| | V\| |
| 24+ 5 | 0.1399 | 0.00 | Q | \| | \| | \| | V\| |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX241100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 24
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.70(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.70(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 246.00(Ft.)
Length along longest watercourse measured to centroid = 132.00(Ft.)
Length along longest watercourse = 0.047 Mi.
Length along longest watercourse measured to centroid = 0.025 Mi.
Difference in elevation = 140.00(Ft.)
Slope along watercourse = 3004.8780 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.014 Hr.
Lag time = 0.84 Min.
25% of lag time = 0.21 Min.
40% of lag time = 0.34 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.70 | 0.49 | 0.34 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.70 | 1.20 | 0.84 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.490(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.700 | 84.00 | 0.000 |

Total Area Entered = 0.70(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

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| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 591.773 | 77.520 | 0.547 |
| 2 0.167 | 1183.545 | 22.480 | 0.159 |
| | | Sum = 100.000 Sum= | 0.705 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.086 | ( 0.544) | 0.519 |
| 2 | 0.17 | 4.30 | 0.619 | 0.086 | ( 0.557) | 0.533 |
| 3 | 0.25 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 4 | 0.33 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 5 | 0.42 | 5.80 | 0.835 | 0.086 | ( 0.752) | 0.749 |
| 6 | 0.50 | 6.50 | 0.936 | 0.086 | ( 0.842) | 0.850 |
| 7 | 0.58 | 7.40 | 1.066 | 0.086 | ( 0.959) | 0.980 |
| 8 | 0.67 | 8.60 | 1.238 | 0.086 | ( 1.115) | 1.153 |
| 9 | 0.75 | 12.30 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 10 | 0.83 | 29.10 | 4.190 | 0.086 | ( 3.771) | 4.105 |
| 11 | 0.92 | 6.80 | 0.979 | 0.086 | ( 0.881) | 0.893 |
| 12 | 1.00 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 13.4 |

Flood volume = Effective rainfall 1.11(In)
times area 0.7(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.005(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 2831.2 Cubic Feet
Total soil loss = 218.0 Cubic Feet

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Peak flow rate of this hydrograph = 2.513(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0020 | 0.28 | Q | | | | |
| 0+10 | 0.0045 | 0.37 | QV | | | | |
| 0+15 | 0.0075 | 0.43 | Q V | | | | |
| 0+20 | 0.0106 | 0.45 | Q V | | | | |
| 0+25 | 0.0141 | 0.51 | Q V | | | | |
| 0+30 | 0.0181 | 0.58 | Q V | | | | |
| 0+35 | 0.0227 | 0.67 | Q V | | | | |
| 0+40 | 0.0282 | 0.79 | Q V | | | | |
| 0+45 | 0.0358 | 1.11 | Q V | | | | |
| 0+50 | 0.0531 | 2.51 | Q V | | | | |
| 0+55 | 0.0609 | 1.14 | Q V | | | | |
| 1+ 0 | 0.0643 | 0.49 | Q V | | | | |
| 1+ 5 | 0.0650 | 0.10 | Q V | | | | |

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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX243100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 24
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.70(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.70(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 246.00(Ft.)
Length along longest watercourse measured to centroid = 132.00(Ft.)
Length along longest watercourse = 0.047 Mi.
Length along longest watercourse measured to centroid = 0.025 Mi.
Difference in elevation = 140.00(Ft.)
Slope along watercourse = 3004.8780 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.014 Hr.
Lag time = 0.84 Min.
25% of lag time = 0.21 Min.
40% of lag time = 0.34 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.70 | 0.80 | 0.56 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.70 | 1.80 | 1.26 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.700 | 84.00 | 0.000 |

Total Area Entered = 0.70(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 591.773 | 77.520 | 0.547 |
| 2 | 0.167 | 1183.545 | 22.480 | 0.159 |
| | | | Sum = 100.000 Sum= | 0.705 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.281 | 0.086 | ( 0.253) | 0.195 |
| 2 | 0.17 | 1.30 | 0.281 | 0.086 | ( 0.253) | 0.195 |
| 3 | 0.25 | 1.10 | 0.238 | 0.086 | ( 0.214) | 0.152 |
| 4 | 0.33 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 5 | 0.42 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 6 | 0.50 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 7 | 0.58 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 8 | 0.67 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 9 | 0.75 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 10 | 0.83 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 11 | 0.92 | 1.60 | 0.346 | 0.086 | ( 0.311) | 0.260 |
| 12 | 1.00 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 13 | 1.08 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 14 | 1.17 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 15 | 1.25 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 16 | 1.33 | 2.00 | 0.432 | 0.086 | ( 0.389) | 0.346 |
| 17 | 1.42 | 2.60 | 0.562 | 0.086 | ( 0.505) | 0.476 |
| 18 | 1.50 | 2.70 | 0.583 | 0.086 | ( 0.525) | 0.497 |
| 19 | 1.58 | 2.40 | 0.518 | 0.086 | ( 0.467) | 0.433 |
| 20 | 1.67 | 2.70 | 0.583 | 0.086 | ( 0.525) | 0.497 |
| 21 | 1.75 | 3.30 | 0.713 | 0.086 | ( 0.642) | 0.627 |
| 22 | 1.83 | 3.10 | 0.670 | 0.086 | ( 0.603) | 0.584 |
| 23 | 1.92 | 2.90 | 0.626 | 0.086 | ( 0.564) | 0.541 |
| 24 | 2.00 | 3.00 | 0.648 | 0.086 | ( 0.583) | 0.562 |
| 25 | 2.08 | 3.10 | 0.670 | 0.086 | ( 0.603) | 0.584 |
| 26 | 2.17 | 4.20 | 0.907 | 0.086 | ( 0.816) | 0.821 |
| 27 | 2.25 | 5.00 | 1.080 | 0.086 | ( 0.972) | 0.994 |
| 28 | 2.33 | 3.50 | 0.756 | 0.086 | ( 0.680) | 0.670 |
| 29 | 2.42 | 6.80 | 1.469 | 0.086 | ( 1.322) | 1.383 |
| 30 | 2.50 | 7.30 | 1.577 | 0.086 | ( 1.419) | 1.491 |
| 31 | 2.58 | 8.20 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 32 | 2.67 | 5.90 | 1.274 | 0.086 | ( 1.147) | 1.189 |
| 33 | 2.75 | 2.00 | 0.432 | 0.086 | ( 0.389) | 0.346 |
| 34 | 2.83 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 35 | 2.92 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 36 | 3.00 | 0.60 | 0.130 | 0.086 | ( 0.117) | 0.044 |
| | | (Loss Rate Not Used) | | | |
| Sum = | | 100.0 | | | Sum = 18.5 |

Flood volume = Effective rainfall 1.54(In)
times area 0.7(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.015(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 3919.7 Cubic Feet
Total soil loss = 654.1 Cubic Feet

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Peak flow rate of this hydrograph = 1.159(CFS)

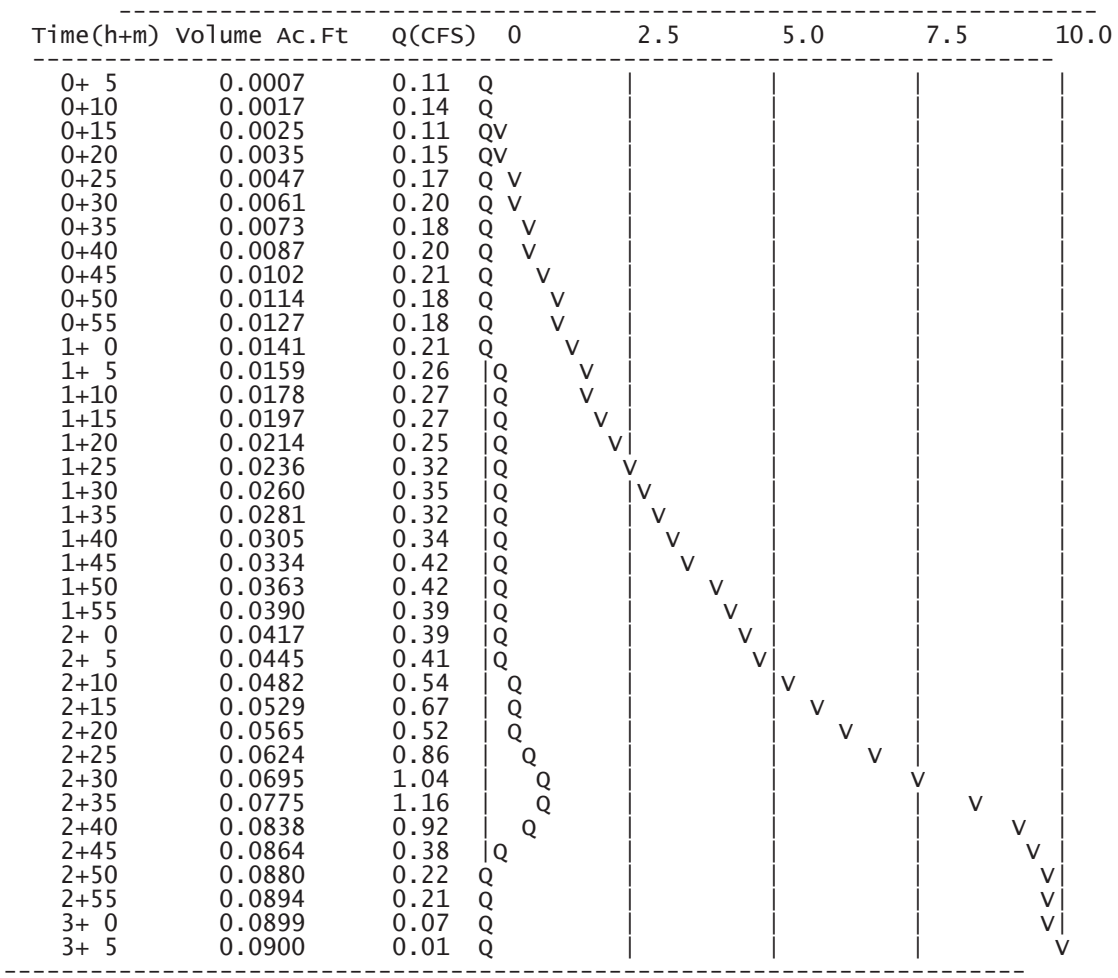
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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))


Time(h+m) Volume Ac.Ft Q(CFS) 0 2.5 5.0 7.5 10.0
0+ 5 0.0007 0.11
0+10 0.0017 0.14
0+15 0.0025 0.11
0+20 0.0035 0.15
0+25 0.0047 0.17
0+30 0.0061 0.20
0+35 0.0073 0.18
0+40 0.0087 0.20
0+45 0.0102 0.21
0+50 0.0114 0.18
0+55 0.0127 0.18
1+ 0 0.0141 0.21
1+ 5 0.0159 0.26
1+10 0.0178 0.27
1+15 0.0197 0.27
1+20 0.0214 0.25
1+25 0.0236 0.32
1+30 0.0260 0.35
1+35 0.0281 0.32
1+40 0.0305 0.34
1+45 0.0334 0.42
1+50 0.0363 0.42
1+55 0.0390 0.39
2+ 0 0.0417 0.39
2+ 5 0.0445 0.41
2+10 0.0482 0.54
2+15 0.0529 0.67
2+20 0.0565 0.52
2+25 0.0624 0.86
2+30 0.0695 1.04
2+35 0.0775 1.16
2+40 0.0838 0.92
2+45 0.0864 0.38
2+50 0.0880 0.22
2+55 0.0894 0.21
3+ 0 0.0899 0.07
3+ 5 0.0900 0.01

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX246100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 24
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.70(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.70(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 246.00(Ft.)
Length along longest watercourse measured to centroid = 132.00(Ft.)
Length along longest watercourse = 0.047 Mi.
Length along longest watercourse measured to centroid = 0.025 Mi.
Difference in elevation = 140.00(Ft.)
Slope along watercourse = 3004.8780 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.014 Hr.
Lag time = 0.84 Min.
25% of lag time = 0.21 Min.
40% of lag time = 0.34 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.70 | 1.12 | 0.78 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.70 | 2.50 | 1.75 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.120(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.700 | 84.00 | 0.000 |

Total Area Entered = 0.70(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 591.773 | 77.520 | 0.547 |
| 2 0.167 | 1183.545 | 22.480 | 0.159 |
| | | Sum = 100.000 Sum= | 0.705 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 0.50 | 0.150 | 0.086 | ( 0.135) | 0.064 |
| 2 0.17 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 3 0.25 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 4 0.33 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 5 0.42 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 6 0.50 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 7 0.58 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 8 0.67 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 9 0.75 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 10 0.83 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 11 0.92 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 12 1.00 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 13 1.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 14 1.17 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 15 1.25 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 16 1.33 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 17 1.42 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 18 1.50 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 19 1.58 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 20 1.67 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 21 1.75 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 22 1.83 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 23 1.92 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 24 2.00 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 25 2.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 26 2.17 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 27 2.25 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 28 2.33 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 29 2.42 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 30 2.50 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 31 2.58 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 32 2.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 33 2.75 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 34 2.83 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 35 2.92 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 36 3.00 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 37 3.08 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 38 3.17 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 39 3.25 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 40 3.33 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 41 3.42 | 1.20 | 0.360 | 0.086 | ( 0.324) | 0.274 |
| 42 3.50 | 1.30 | 0.390 | 0.086 | ( 0.351) | 0.304 |
| 43 3.58 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 44 3.67 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 45 3.75 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 46 3.83 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 47 3.92 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 48 4.00 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 49 4.08 | 1.70 | 0.510 | 0.086 | ( 0.459) | 0.424 |
| 50 4.17 | 1.80 | 0.540 | 0.086 | ( 0.486) | 0.454 |
| 51 4.25 | 1.90 | 0.570 | 0.086 | ( 0.513) | 0.484 |
| 52 4.33 | 2.00 | 0.600 | 0.086 | ( 0.540) | 0.514 |
| 53 4.42 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 |
| 54 4.50 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 55 | 4.58 | 2.20 | 0.660 | 0.086 | ( 0.594) | | 0.574 |
| 56 | 4.67 | 2.30 | 0.690 | 0.086 | ( 0.621) | | 0.604 |
| 57 | 4.75 | 2.40 | 0.720 | 0.086 | ( 0.648) | | 0.634 |
| 58 | 4.83 | 2.40 | 0.720 | 0.086 | ( 0.648) | | 0.634 |
| 59 | 4.92 | 2.50 | 0.750 | 0.086 | ( 0.675) | | 0.664 |
| 60 | 5.00 | 2.60 | 0.780 | 0.086 | ( 0.702) | | 0.694 |
| 61 | 5.08 | 3.10 | 0.930 | 0.086 | ( 0.837) | | 0.844 |
| 62 | 5.17 | 3.60 | 1.080 | 0.086 | ( 0.972) | | 0.994 |
| 63 | 5.25 | 3.90 | 1.170 | 0.086 | ( 1.053) | | 1.084 |
| 64 | 5.33 | 4.20 | 1.260 | 0.086 | ( 1.134) | | 1.174 |
| 65 | 5.42 | 4.70 | 1.410 | 0.086 | ( 1.269) | | 1.324 |
| 66 | 5.50 | 5.60 | 1.680 | 0.086 | ( 1.512) | | 1.594 |
| 67 | 5.58 | 1.90 | 0.570 | 0.086 | ( 0.513) | | 0.484 |
| 68 | 5.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | | 0.184 |
| 69 | 5.75 | 0.60 | 0.180 | 0.086 | ( 0.162) | | 0.094 |
| 70 | 5.83 | 0.50 | 0.150 | 0.086 | ( 0.135) | | 0.064 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.086) | 0.081 | | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.086) | 0.054 | | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.9

Flood volume = Effective rainfall 1.99(In)
times area 0.7(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.51(In)
Total soil loss = 0.030(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 5052.1 Cubic Feet
Total soil loss = 1300.4 Cubic Feet

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Peak flow rate of this hydrograph = 1.082(CFS)

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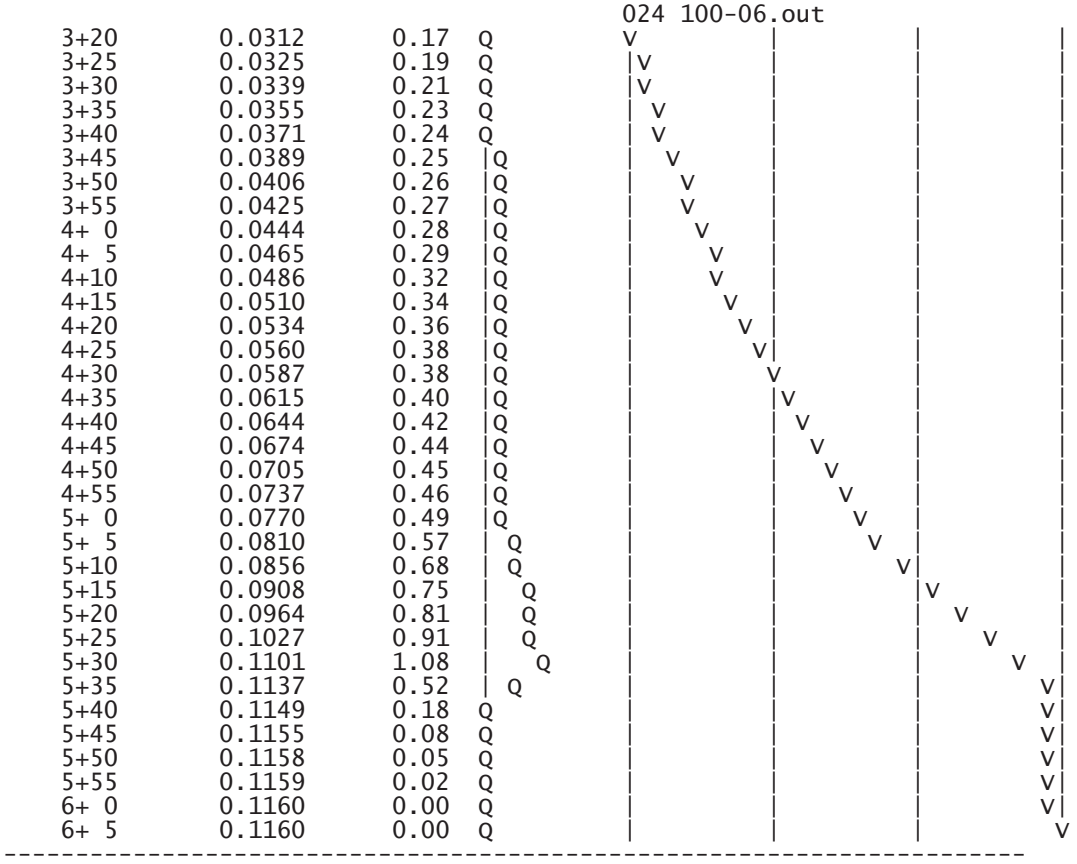
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

---

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0002 | 0.04 | Q | | | | |
| 0+10 | 0.0007 | 0.06 | Q | | | | |
| 0+15 | 0.0011 | 0.07 | Q | | | | |
| 0+20 | 0.0016 | 0.07 | Q | | | | |
| 0+25 | 0.0020 | 0.07 | Q | | | | |
| 0+30 | 0.0026 | 0.08 | Q | | | | |
| 0+35 | 0.0032 | 0.09 | QV | | | | |
| 0+40 | 0.0038 | 0.09 | QV | | | | |
| 0+45 | 0.0044 | 0.09 | QV | | | | |
| 0+50 | 0.0050 | 0.09 | QV | | | | |
| 0+55 | 0.0056 | 0.09 | QV | | | | |
| 1+ 0 | 0.0063 | 0.10 | Q V | | | | |
| 1+ 5 | 0.0071 | 0.11 | Q V | | | | |
| 1+10 | 0.0078 | 0.11 | Q V | | | | |
| 1+15 | 0.0086 | 0.11 | Q V | | | | |
| 1+20 | 0.0093 | 0.11 | Q V | | | | |
| 1+25 | 0.0101 | 0.11 | Q V | | | | |
| 1+30 | 0.0108 | 0.11 | Q V | | | | |
| 1+35 | 0.0116 | 0.11 | Q V | | | | |
| 1+40 | 0.0123 | 0.11 | Q V | | | | |
| 1+45 | 0.0131 | 0.11 | Q V | | | | |
| 1+50 | 0.0138 | 0.11 | Q V | | | | |
| 1+55 | 0.0146 | 0.11 | Q V | | | | |
| 2+ 0 | 0.0155 | 0.13 | Q V | | | | |
| 2+ 5 | 0.0162 | 0.11 | Q V | | | | |
| 2+10 | 0.0171 | 0.13 | Q V | | | | |
| 2+15 | 0.0180 | 0.13 | Q V | | | | |
| 2+20 | 0.0189 | 0.13 | Q V | | | | |
| 2+25 | 0.0198 | 0.13 | Q V | | | | |
| 2+30 | 0.0207 | 0.13 | Q V | | | | |
| 2+35 | 0.0216 | 0.13 | Q V | | | | |
| 2+40 | 0.0225 | 0.13 | Q V | | | | |
| 2+45 | 0.0235 | 0.15 | Q V | | | | |
| 2+50 | 0.0245 | 0.15 | Q V | | | | |
| 2+55 | 0.0256 | 0.15 | Q V | | | | |
| 3+ 0 | 0.0266 | 0.15 | Q V | | | | |
| 3+ 5 | 0.0276 | 0.15 | Q V | | | | |
| 3+10 | 0.0288 | 0.17 | Q V | | | | |
| 3+15 | 0.0300 | 0.17 | Q V | | | | |



| | | | |
|---|---|---|---|
| 3+20 | 0.0312 | 0.17 | Q |
| 3+25 | 0.0325 | 0.19 | Q |
| 3+30 | 0.0339 | 0.21 | Q |
| 3+35 | 0.0355 | 0.23 | Q |
| 3+40 | 0.0371 | 0.24 | Q |
| 3+45 | 0.0389 | 0.25 | Q |
| 3+50 | 0.0406 | 0.26 | Q |
| 3+55 | 0.0425 | 0.27 | Q |
| 4+ 0 | 0.0444 | 0.28 | Q |
| 4+ 5 | 0.0465 | 0.29 | Q |
| 4+10 | 0.0486 | 0.32 | Q |
| 4+15 | 0.0510 | 0.34 | Q |
| 4+20 | 0.0534 | 0.36 | Q |
| 4+25 | 0.0560 | 0.38 | Q |
| 4+30 | 0.0587 | 0.38 | Q |
| 4+35 | 0.0615 | 0.40 | Q |
| 4+40 | 0.0644 | 0.42 | Q |
| 4+45 | 0.0674 | 0.44 | Q |
| 4+50 | 0.0705 | 0.45 | Q |
| 4+55 | 0.0737 | 0.46 | Q |
| 5+ 0 | 0.0770 | 0.49 | Q |
| 5+ 5 | 0.0810 | 0.57 | Q |
| 5+10 | 0.0856 | 0.68 | Q |
| 5+15 | 0.0908 | 0.75 | Q |
| 5+20 | 0.0964 | 0.81 | Q |
| 5+25 | 0.1027 | 0.91 | Q |
| 5+30 | 0.1101 | 1.08 | Q |
| 5+35 | 0.1137 | 0.52 | Q |
| 5+40 | 0.1149 | 0.18 | Q |
| 5+45 | 0.1155 | 0.08 | Q |
| 5+50 | 0.1158 | 0.05 | Q |
| 5+55 | 0.1159 | 0.02 | Q |
| 6+ 0 | 0.1160 | 0.00 | Q |
| 6+ 5 | 0.1160 | 0.00 | Q |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX2424100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 24
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.70(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.70(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 246.00(Ft.)
Length along longest watercourse measured to centroid = 132.00(Ft.)
Length along longest watercourse = 0.047 Mi.
Length along longest watercourse measured to centroid = 0.025 Mi.
Difference in elevation = 140.00(Ft.)
Slope along watercourse = 3004.8780 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.014 Hr.
Lag time = 0.84 Min.
25% of lag time = 0.21 Min.
40% of lag time = 0.34 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.70 | 1.80 | 1.26 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.70 | 4.53 | 3.17 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.530(In)

Point rain (area averaged) = 4.530(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.530(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.700 | 84.00 | 0.000 |

Total Area Entered = 0.70(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 591.773 | 77.520 | 0.547 |
| 2 0.167 | 1183.545 | 22.480 | 0.159 |
| | | Sum = 100.000 | Sum= 0.705 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.036 | ( 0.152) | 0.033 | 0.004 |
| 2 | 0.17 | 0.07 | 0.036 | ( 0.152) | 0.033 | 0.004 |
| 3 | 0.25 | 0.07 | 0.036 | ( 0.151) | 0.033 | 0.004 |
| 4 | 0.33 | 0.10 | 0.054 | ( 0.150) | 0.049 | 0.005 |
| 5 | 0.42 | 0.10 | 0.054 | ( 0.150) | 0.049 | 0.005 |
| 6 | 0.50 | 0.10 | 0.054 | ( 0.149) | 0.049 | 0.005 |
| 7 | 0.58 | 0.10 | 0.054 | ( 0.149) | 0.049 | 0.005 |
| 8 | 0.67 | 0.10 | 0.054 | ( 0.148) | 0.049 | 0.005 |
| 9 | 0.75 | 0.10 | 0.054 | ( 0.147) | 0.049 | 0.005 |
| 10 | 0.83 | 0.13 | 0.072 | ( 0.147) | 0.065 | 0.007 |
| 11 | 0.92 | 0.13 | 0.072 | ( 0.146) | 0.065 | 0.007 |
| 12 | 1.00 | 0.13 | 0.072 | ( 0.146) | 0.065 | 0.007 |
| 13 | 1.08 | 0.10 | 0.054 | ( 0.145) | 0.049 | 0.005 |
| 14 | 1.17 | 0.10 | 0.054 | ( 0.145) | 0.049 | 0.005 |
| 15 | 1.25 | 0.10 | 0.054 | ( 0.144) | 0.049 | 0.005 |
| 16 | 1.33 | 0.10 | 0.054 | ( 0.143) | 0.049 | 0.005 |
| 17 | 1.42 | 0.10 | 0.054 | ( 0.143) | 0.049 | 0.005 |
| 18 | 1.50 | 0.10 | 0.054 | ( 0.142) | 0.049 | 0.005 |
| 19 | 1.58 | 0.10 | 0.054 | ( 0.142) | 0.049 | 0.005 |
| 20 | 1.67 | 0.10 | 0.054 | ( 0.141) | 0.049 | 0.005 |
| 21 | 1.75 | 0.10 | 0.054 | ( 0.141) | 0.049 | 0.005 |
| 22 | 1.83 | 0.13 | 0.072 | ( 0.140) | 0.065 | 0.007 |
| 23 | 1.92 | 0.13 | 0.072 | ( 0.139) | 0.065 | 0.007 |
| 24 | 2.00 | 0.13 | 0.072 | ( 0.139) | 0.065 | 0.007 |
| 25 | 2.08 | 0.13 | 0.072 | ( 0.138) | 0.065 | 0.007 |
| 26 | 2.17 | 0.13 | 0.072 | ( 0.138) | 0.065 | 0.007 |
| 27 | 2.25 | 0.13 | 0.072 | ( 0.137) | 0.065 | 0.007 |
| 28 | 2.33 | 0.13 | 0.072 | ( 0.137) | 0.065 | 0.007 |
| 29 | 2.42 | 0.13 | 0.072 | ( 0.136) | 0.065 | 0.007 |
| 30 | 2.50 | 0.13 | 0.072 | ( 0.136) | 0.065 | 0.007 |
| 31 | 2.58 | 0.17 | 0.091 | ( 0.135) | 0.082 | 0.009 |
| 32 | 2.67 | 0.17 | 0.091 | ( 0.134) | 0.082 | 0.009 |
| 33 | 2.75 | 0.17 | 0.091 | ( 0.134) | 0.082 | 0.009 |
| 34 | 2.83 | 0.17 | 0.091 | ( 0.133) | 0.082 | 0.009 |
| 35 | 2.92 | 0.17 | 0.091 | ( 0.133) | 0.082 | 0.009 |
| 36 | 3.00 | 0.17 | 0.091 | ( 0.132) | 0.082 | 0.009 |
| 37 | 3.08 | 0.17 | 0.091 | ( 0.132) | 0.082 | 0.009 |
| 38 | 3.17 | 0.17 | 0.091 | ( 0.131) | 0.082 | 0.009 |
| 39 | 3.25 | 0.17 | 0.091 | ( 0.131) | 0.082 | 0.009 |
| 40 | 3.33 | 0.17 | 0.091 | ( 0.130) | 0.082 | 0.009 |
| 41 | 3.42 | 0.17 | 0.091 | ( 0.129) | 0.082 | 0.009 |
| 42 | 3.50 | 0.17 | 0.091 | ( 0.129) | 0.082 | 0.009 |
| 43 | 3.58 | 0.17 | 0.091 | ( 0.128) | 0.082 | 0.009 |
| 44 | 3.67 | 0.17 | 0.091 | ( 0.128) | 0.082 | 0.009 |
| 45 | 3.75 | 0.17 | 0.091 | ( 0.127) | 0.082 | 0.009 |
| 46 | 3.83 | 0.20 | 0.109 | ( 0.127) | 0.098 | 0.011 |
| 47 | 3.92 | 0.20 | 0.109 | ( 0.126) | 0.098 | 0.011 |
| 48 | 4.00 | 0.20 | 0.109 | ( 0.126) | 0.098 | 0.011 |
| 49 | 4.08 | 0.20 | 0.109 | ( 0.125) | 0.098 | 0.011 |
| 50 | 4.17 | 0.20 | 0.109 | ( 0.125) | 0.098 | 0.011 |
| 51 | 4.25 | 0.20 | 0.109 | ( 0.124) | 0.098 | 0.011 |
| 52 | 4.33 | 0.23 | 0.127 | ( 0.124) | 0.114 | 0.013 |
| 53 | 4.42 | 0.23 | 0.127 | ( 0.123) | 0.114 | 0.013 |
| 54 | 4.50 | 0.23 | 0.127 | ( 0.123) | 0.114 | 0.013 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 55 | 4.58 | 0.23 | 0.127 | ( | 0.122) | 0.114 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.127 | ( | 0.121) | 0.114 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.127 | ( | 0.121) | 0.114 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.145 | | 0.120 | ( 0.130) | | 0.025 |
| 59 | 4.92 | 0.27 | 0.145 | | 0.120 | ( 0.130) | | 0.025 |
| 60 | 5.00 | 0.27 | 0.145 | | 0.119 | ( 0.130) | | 0.026 |
| 61 | 5.08 | 0.20 | 0.109 | ( | 0.119) | 0.098 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.109 | ( | 0.118) | 0.098 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.109 | ( | 0.118) | 0.098 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.127 | ( | 0.117) | 0.114 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.127 | ( | 0.117) | 0.114 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.127 | ( | 0.116) | 0.114 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.145 | | 0.116 | ( 0.130) | | 0.029 |
| 68 | 5.67 | 0.27 | 0.145 | | 0.115 | ( 0.130) | | 0.030 |
| 69 | 5.75 | 0.27 | 0.145 | | 0.115 | ( 0.130) | | 0.030 |
| 70 | 5.83 | 0.27 | 0.145 | | 0.114 | ( 0.130) | | 0.031 |
| 71 | 5.92 | 0.27 | 0.145 | | 0.114 | ( 0.130) | | 0.031 |
| 72 | 6.00 | 0.27 | 0.145 | | 0.113 | ( 0.130) | | 0.032 |
| 73 | 6.08 | 0.30 | 0.163 | | 0.113 | ( 0.147) | | 0.050 |
| 74 | 6.17 | 0.30 | 0.163 | | 0.112 | ( 0.147) | | 0.051 |
| 75 | 6.25 | 0.30 | 0.163 | | 0.112 | ( 0.147) | | 0.051 |
| 76 | 6.33 | 0.30 | 0.163 | | 0.111 | ( 0.147) | | 0.052 |
| 77 | 6.42 | 0.30 | 0.163 | | 0.111 | ( 0.147) | | 0.052 |
| 78 | 6.50 | 0.30 | 0.163 | | 0.110 | ( 0.147) | | 0.053 |
| 79 | 6.58 | 0.33 | 0.181 | | 0.110 | ( 0.163) | | 0.071 |
| 80 | 6.67 | 0.33 | 0.181 | | 0.109 | ( 0.163) | | 0.072 |
| 81 | 6.75 | 0.33 | 0.181 | | 0.109 | ( 0.163) | | 0.072 |
| 82 | 6.83 | 0.33 | 0.181 | | 0.108 | ( 0.163) | | 0.073 |
| 83 | 6.92 | 0.33 | 0.181 | | 0.108 | ( 0.163) | | 0.073 |
| 84 | 7.00 | 0.33 | 0.181 | | 0.107 | ( 0.163) | | 0.074 |
| 85 | 7.08 | 0.33 | 0.181 | | 0.107 | ( 0.163) | | 0.074 |
| 86 | 7.17 | 0.33 | 0.181 | | 0.106 | ( 0.163) | | 0.075 |
| 87 | 7.25 | 0.33 | 0.181 | | 0.106 | ( 0.163) | | 0.075 |
| 88 | 7.33 | 0.37 | 0.199 | | 0.105 | ( 0.179) | | 0.094 |
| 89 | 7.42 | 0.37 | 0.199 | | 0.105 | ( 0.179) | | 0.094 |
| 90 | 7.50 | 0.37 | 0.199 | | 0.104 | ( 0.179) | | 0.095 |
| 91 | 7.58 | 0.40 | 0.217 | | 0.104 | ( 0.196) | | 0.114 |
| 92 | 7.67 | 0.40 | 0.217 | | 0.103 | ( 0.196) | | 0.114 |
| 93 | 7.75 | 0.40 | 0.217 | | 0.103 | ( 0.196) | | 0.114 |
| 94 | 7.83 | 0.43 | 0.236 | | 0.102 | ( 0.212) | | 0.133 |
| 95 | 7.92 | 0.43 | 0.236 | | 0.102 | ( 0.212) | | 0.134 |
| 96 | 8.00 | 0.43 | 0.236 | | 0.102 | ( 0.212) | | 0.134 |
| 97 | 8.08 | 0.50 | 0.272 | | 0.101 | ( 0.245) | | 0.171 |
| 98 | 8.17 | 0.50 | 0.272 | | 0.101 | ( 0.245) | | 0.171 |
| 99 | 8.25 | 0.50 | 0.272 | | 0.100 | ( 0.245) | | 0.172 |
| 100 | 8.33 | 0.50 | 0.272 | | 0.100 | ( 0.245) | | 0.172 |
| 101 | 8.42 | 0.50 | 0.272 | | 0.099 | ( 0.245) | | 0.173 |
| 102 | 8.50 | 0.50 | 0.272 | | 0.099 | ( 0.245) | | 0.173 |
| 103 | 8.58 | 0.53 | 0.290 | | 0.098 | ( 0.261) | | 0.192 |
| 104 | 8.67 | 0.53 | 0.290 | | 0.098 | ( 0.261) | | 0.192 |
| 105 | 8.75 | 0.53 | 0.290 | | 0.097 | ( 0.261) | | 0.193 |
| 106 | 8.83 | 0.57 | 0.308 | | 0.097 | ( 0.277) | | 0.211 |
| 107 | 8.92 | 0.57 | 0.308 | | 0.096 | ( 0.277) | | 0.212 |
| 108 | 9.00 | 0.57 | 0.308 | | 0.096 | ( 0.277) | | 0.212 |
| 109 | 9.08 | 0.63 | 0.344 | | 0.096 | ( 0.310) | | 0.249 |
| 110 | 9.17 | 0.63 | 0.344 | | 0.095 | ( 0.310) | | 0.249 |
| 111 | 9.25 | 0.63 | 0.344 | | 0.095 | ( 0.310) | | 0.250 |
| 112 | 9.33 | 0.67 | 0.362 | | 0.094 | ( 0.326) | | 0.268 |
| 113 | 9.42 | 0.67 | 0.362 | | 0.094 | ( 0.326) | | 0.269 |
| 114 | 9.50 | 0.67 | 0.362 | | 0.093 | ( 0.326) | | 0.269 |
| 115 | 9.58 | 0.70 | 0.381 | | 0.093 | ( 0.342) | | 0.288 |
| 116 | 9.67 | 0.70 | 0.381 | | 0.092 | ( 0.342) | | 0.288 |
| 117 | 9.75 | 0.70 | 0.381 | | 0.092 | ( 0.342) | | 0.289 |
| 118 | 9.83 | 0.73 | 0.399 | | 0.091 | ( 0.359) | | 0.307 |
| 119 | 9.92 | 0.73 | 0.399 | | 0.091 | ( 0.359) | | 0.308 |
| 120 | 10.00 | 0.73 | 0.399 | | 0.091 | ( 0.359) | | 0.308 |
| 121 | 10.08 | 0.50 | 0.272 | | 0.090 | ( 0.245) | | 0.182 |
| 122 | 10.17 | 0.50 | 0.272 | | 0.090 | ( 0.245) | | 0.182 |
| 123 | 10.25 | 0.50 | 0.272 | | 0.089 | ( 0.245) | | 0.183 |
| 124 | 10.33 | 0.50 | 0.272 | | 0.089 | ( 0.245) | | 0.183 |
| 125 | 10.42 | 0.50 | 0.272 | | 0.088 | ( 0.245) | | 0.183 |
| 126 | 10.50 | 0.50 | 0.272 | | 0.088 | ( 0.245) | | 0.184 |
| 127 | 10.58 | 0.67 | 0.362 | | 0.088 | ( 0.326) | | 0.275 |
| 128 | 10.67 | 0.67 | 0.362 | | 0.087 | ( 0.326) | | 0.275 |
| 129 | 10.75 | 0.67 | 0.362 | | 0.087 | ( 0.326) | | 0.276 |
| 130 | 10.83 | 0.67 | 0.362 | | 0.086 | ( 0.326) | | 0.276 |
| 131 | 10.92 | 0.67 | 0.362 | | 0.086 | ( 0.326) | | 0.277 |
| 132 | 11.00 | 0.67 | 0.362 | | 0.085 | ( 0.326) | | 0.277 |

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| 133 | 11.08 | 0.63 | 0.344 | 0.085 | ( 0.310) | 0.259 |
| 134 | 11.17 | 0.63 | 0.344 | 0.085 | ( 0.310) | 0.260 |
| 135 | 11.25 | 0.63 | 0.344 | 0.084 | ( 0.310) | 0.260 |
| 136 | 11.33 | 0.63 | 0.344 | 0.084 | ( 0.310) | 0.261 |
| 137 | 11.42 | 0.63 | 0.344 | 0.083 | ( 0.310) | 0.261 |
| 138 | 11.50 | 0.63 | 0.344 | 0.083 | ( 0.310) | 0.261 |
| 139 | 11.58 | 0.57 | 0.308 | 0.083 | ( 0.277) | 0.226 |
| 140 | 11.67 | 0.57 | 0.308 | 0.082 | ( 0.277) | 0.226 |
| 141 | 11.75 | 0.57 | 0.308 | 0.082 | ( 0.277) | 0.226 |
| 142 | 11.83 | 0.60 | 0.326 | 0.081 | ( 0.294) | 0.245 |
| 143 | 11.92 | 0.60 | 0.326 | 0.081 | ( 0.294) | 0.245 |
| 144 | 12.00 | 0.60 | 0.326 | 0.080 | ( 0.294) | 0.246 |
| 145 | 12.08 | 0.83 | 0.453 | 0.080 | ( 0.408) | 0.373 |
| 146 | 12.17 | 0.83 | 0.453 | 0.080 | ( 0.408) | 0.373 |
| 147 | 12.25 | 0.83 | 0.453 | 0.079 | ( 0.408) | 0.374 |
| 148 | 12.33 | 0.87 | 0.471 | 0.079 | ( 0.424) | 0.392 |
| 149 | 12.42 | 0.87 | 0.471 | 0.078 | ( 0.424) | 0.393 |
| 150 | 12.50 | 0.87 | 0.471 | 0.078 | ( 0.424) | 0.393 |
| 151 | 12.58 | 0.93 | 0.507 | 0.078 | ( 0.457) | 0.430 |
| 152 | 12.67 | 0.93 | 0.507 | 0.077 | ( 0.457) | 0.430 |
| 153 | 12.75 | 0.93 | 0.507 | 0.077 | ( 0.457) | 0.430 |
| 154 | 12.83 | 0.97 | 0.525 | 0.077 | ( 0.473) | 0.449 |
| 155 | 12.92 | 0.97 | 0.525 | 0.076 | ( 0.473) | 0.449 |
| 156 | 13.00 | 0.97 | 0.525 | 0.076 | ( 0.473) | 0.450 |
| 157 | 13.08 | 1.13 | 0.616 | 0.075 | ( 0.554) | 0.541 |
| 158 | 13.17 | 1.13 | 0.616 | 0.075 | ( 0.554) | 0.541 |
| 159 | 13.25 | 1.13 | 0.616 | 0.075 | ( 0.554) | 0.541 |
| 160 | 13.33 | 1.13 | 0.616 | 0.074 | ( 0.554) | 0.542 |
| 161 | 13.42 | 1.13 | 0.616 | 0.074 | ( 0.554) | 0.542 |
| 162 | 13.50 | 1.13 | 0.616 | 0.073 | ( 0.554) | 0.543 |
| 163 | 13.58 | 0.77 | 0.417 | 0.073 | ( 0.375) | 0.344 |
| 164 | 13.67 | 0.77 | 0.417 | 0.073 | ( 0.375) | 0.344 |
| 165 | 13.75 | 0.77 | 0.417 | 0.072 | ( 0.375) | 0.344 |
| 166 | 13.83 | 0.77 | 0.417 | 0.072 | ( 0.375) | 0.345 |
| 167 | 13.92 | 0.77 | 0.417 | 0.072 | ( 0.375) | 0.345 |
| 168 | 14.00 | 0.77 | 0.417 | 0.071 | ( 0.375) | 0.345 |
| 169 | 14.08 | 0.90 | 0.489 | 0.071 | ( 0.440) | 0.418 |
| 170 | 14.17 | 0.90 | 0.489 | 0.071 | ( 0.440) | 0.419 |
| 171 | 14.25 | 0.90 | 0.489 | 0.070 | ( 0.440) | 0.419 |
| 172 | 14.33 | 0.87 | 0.471 | 0.070 | ( 0.424) | 0.401 |
| 173 | 14.42 | 0.87 | 0.471 | 0.069 | ( 0.424) | 0.402 |
| 174 | 14.50 | 0.87 | 0.471 | 0.069 | ( 0.424) | 0.402 |
| 175 | 14.58 | 0.87 | 0.471 | 0.069 | ( 0.424) | 0.402 |
| 176 | 14.67 | 0.87 | 0.471 | 0.068 | ( 0.424) | 0.403 |
| 177 | 14.75 | 0.87 | 0.471 | 0.068 | ( 0.424) | 0.403 |
| 178 | 14.83 | 0.83 | 0.453 | 0.068 | ( 0.408) | 0.385 |
| 179 | 14.92 | 0.83 | 0.453 | 0.067 | ( 0.408) | 0.386 |
| 180 | 15.00 | 0.83 | 0.453 | 0.067 | ( 0.408) | 0.386 |
| 181 | 15.08 | 0.80 | 0.435 | 0.067 | ( 0.391) | 0.368 |
| 182 | 15.17 | 0.80 | 0.435 | 0.066 | ( 0.391) | 0.369 |
| 183 | 15.25 | 0.80 | 0.435 | 0.066 | ( 0.391) | 0.369 |
| 184 | 15.33 | 0.77 | 0.417 | 0.066 | ( 0.375) | 0.351 |
| 185 | 15.42 | 0.77 | 0.417 | 0.065 | ( 0.375) | 0.351 |
| 186 | 15.50 | 0.77 | 0.417 | 0.065 | ( 0.375) | 0.352 |
| 187 | 15.58 | 0.63 | 0.344 | 0.065 | ( 0.310) | 0.280 |
| 188 | 15.67 | 0.63 | 0.344 | 0.064 | ( 0.310) | 0.280 |
| 189 | 15.75 | 0.63 | 0.344 | 0.064 | ( 0.310) | 0.280 |
| 190 | 15.83 | 0.63 | 0.344 | 0.064 | ( 0.310) | 0.281 |
| 191 | 15.92 | 0.63 | 0.344 | 0.063 | ( 0.310) | 0.281 |
| 192 | 16.00 | 0.63 | 0.344 | 0.063 | ( 0.310) | 0.281 |
| 193 | 16.08 | 0.13 | 0.072 | 0.063 | ( 0.065) | 0.010 |
| 194 | 16.17 | 0.13 | 0.072 | 0.062 | ( 0.065) | 0.010 |
| 195 | 16.25 | 0.13 | 0.072 | 0.062 | ( 0.065) | 0.010 |
| 196 | 16.33 | 0.13 | 0.072 | 0.062 | ( 0.065) | 0.011 |
| 197 | 16.42 | 0.13 | 0.072 | 0.061 | ( 0.065) | 0.011 |
| 198 | 16.50 | 0.13 | 0.072 | 0.061 | ( 0.065) | 0.011 |
| 199 | 16.58 | 0.10 | 0.054 | ( 0.061) | 0.049 | 0.005 |
| 200 | 16.67 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 201 | 16.75 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 202 | 16.83 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 203 | 16.92 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 204 | 17.00 | 0.10 | 0.054 | ( 0.059) | 0.049 | 0.005 |
| 205 | 17.08 | 0.17 | 0.091 | 0.059 | ( 0.082) | 0.032 |
| 206 | 17.17 | 0.17 | 0.091 | 0.059 | ( 0.082) | 0.032 |
| 207 | 17.25 | 0.17 | 0.091 | 0.058 | ( 0.082) | 0.032 |
| 208 | 17.33 | 0.17 | 0.091 | 0.058 | ( 0.082) | 0.033 |
| 209 | 17.42 | 0.17 | 0.091 | 0.058 | ( 0.082) | 0.033 |
| 210 | 17.50 | 0.17 | 0.091 | 0.058 | ( 0.082) | 0.033 |

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| 211 | 17.58 | 0.17 | 0.091 | 0.057 | ( 0.082) | 0.033 |
| 212 | 17.67 | 0.17 | 0.091 | 0.057 | ( 0.082) | 0.034 |
| 213 | 17.75 | 0.17 | 0.091 | 0.057 | ( 0.082) | 0.034 |
| 214 | 17.83 | 0.13 | 0.072 | 0.056 | ( 0.065) | 0.016 |
| 215 | 17.92 | 0.13 | 0.072 | 0.056 | ( 0.065) | 0.016 |
| 216 | 18.00 | 0.13 | 0.072 | 0.056 | ( 0.065) | 0.017 |
| 217 | 18.08 | 0.13 | 0.072 | 0.056 | ( 0.065) | 0.017 |
| 218 | 18.17 | 0.13 | 0.072 | 0.055 | ( 0.065) | 0.017 |
| 219 | 18.25 | 0.13 | 0.072 | 0.055 | ( 0.065) | 0.017 |
| 220 | 18.33 | 0.13 | 0.072 | 0.055 | ( 0.065) | 0.018 |
| 221 | 18.42 | 0.13 | 0.072 | 0.054 | ( 0.065) | 0.018 |
| 222 | 18.50 | 0.13 | 0.072 | 0.054 | ( 0.065) | 0.018 |
| 223 | 18.58 | 0.10 | 0.054 | ( 0.054) | 0.049 | 0.005 |
| 224 | 18.67 | 0.10 | 0.054 | ( 0.054) | 0.049 | 0.005 |
| 225 | 18.75 | 0.10 | 0.054 | ( 0.053) | 0.049 | 0.005 |
| 226 | 18.83 | 0.07 | 0.036 | ( 0.053) | 0.033 | 0.004 |
| 227 | 18.92 | 0.07 | 0.036 | ( 0.053) | 0.033 | 0.004 |
| 228 | 19.00 | 0.07 | 0.036 | ( 0.053) | 0.033 | 0.004 |
| 229 | 19.08 | 0.10 | 0.054 | ( 0.052) | 0.049 | 0.005 |
| 230 | 19.17 | 0.10 | 0.054 | ( 0.052) | 0.049 | 0.005 |
| 231 | 19.25 | 0.10 | 0.054 | ( 0.052) | 0.049 | 0.005 |
| 232 | 19.33 | 0.13 | 0.072 | 0.052 | ( 0.065) | 0.021 |
| 233 | 19.42 | 0.13 | 0.072 | 0.051 | ( 0.065) | 0.021 |
| 234 | 19.50 | 0.13 | 0.072 | 0.051 | ( 0.065) | 0.021 |
| 235 | 19.58 | 0.10 | 0.054 | ( 0.051) | 0.049 | 0.005 |
| 236 | 19.67 | 0.10 | 0.054 | ( 0.051) | 0.049 | 0.005 |
| 237 | 19.75 | 0.10 | 0.054 | ( 0.050) | 0.049 | 0.005 |
| 238 | 19.83 | 0.07 | 0.036 | ( 0.050) | 0.033 | 0.004 |
| 239 | 19.92 | 0.07 | 0.036 | ( 0.050) | 0.033 | 0.004 |
| 240 | 20.00 | 0.07 | 0.036 | ( 0.050) | 0.033 | 0.004 |
| 241 | 20.08 | 0.10 | 0.054 | ( 0.050) | 0.049 | 0.005 |
| 242 | 20.17 | 0.10 | 0.054 | ( 0.049) | 0.049 | 0.005 |
| 243 | 20.25 | 0.10 | 0.054 | ( 0.049) | 0.049 | 0.005 |
| 244 | 20.33 | 0.10 | 0.054 | ( 0.049) | 0.049 | 0.005 |
| 245 | 20.42 | 0.10 | 0.054 | 0.049 | ( 0.049) | 0.006 |
| 246 | 20.50 | 0.10 | 0.054 | 0.049 | ( 0.049) | 0.006 |
| 247 | 20.58 | 0.10 | 0.054 | 0.048 | ( 0.049) | 0.006 |
| 248 | 20.67 | 0.10 | 0.054 | 0.048 | ( 0.049) | 0.006 |
| 249 | 20.75 | 0.10 | 0.054 | 0.048 | ( 0.049) | 0.006 |
| 250 | 20.83 | 0.07 | 0.036 | ( 0.048) | 0.033 | 0.004 |
| 251 | 20.92 | 0.07 | 0.036 | ( 0.048) | 0.033 | 0.004 |
| 252 | 21.00 | 0.07 | 0.036 | ( 0.047) | 0.033 | 0.004 |
| 253 | 21.08 | 0.10 | 0.054 | 0.047 | ( 0.049) | 0.007 |
| 254 | 21.17 | 0.10 | 0.054 | 0.047 | ( 0.049) | 0.007 |
| 255 | 21.25 | 0.10 | 0.054 | 0.047 | ( 0.049) | 0.008 |
| 256 | 21.33 | 0.07 | 0.036 | ( 0.047) | 0.033 | 0.004 |
| 257 | 21.42 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 258 | 21.50 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 259 | 21.58 | 0.10 | 0.054 | 0.046 | ( 0.049) | 0.008 |
| 260 | 21.67 | 0.10 | 0.054 | 0.046 | ( 0.049) | 0.008 |
| 261 | 21.75 | 0.10 | 0.054 | 0.046 | ( 0.049) | 0.009 |
| 262 | 21.83 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 263 | 21.92 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 264 | 22.00 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 265 | 22.08 | 0.10 | 0.054 | 0.045 | ( 0.049) | 0.009 |
| 266 | 22.17 | 0.10 | 0.054 | 0.045 | ( 0.049) | 0.009 |
| 267 | 22.25 | 0.10 | 0.054 | 0.045 | ( 0.049) | 0.009 |
| 268 | 22.33 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 269 | 22.42 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 270 | 22.50 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 271 | 22.58 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 272 | 22.67 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 273 | 22.75 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 274 | 22.83 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 275 | 22.92 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 276 | 23.00 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 277 | 23.08 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 278 | 23.17 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 279 | 23.25 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 280 | 23.33 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 281 | 23.42 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 284 | 23.67 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 285 | 23.75 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 286 | 23.83 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 287 | 23.92 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 288 | 24.00 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |

(Loss Rate Not Used)
Sum = 100.0 Sum = 33.9
Flood volume = Effective rainfall 2.83(In)
times area 0.7(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 1.70(In)
Total soil loss = 0.099(Ac.Ft)
Total rainfall = 4.53(In)
Flood volume = 7184.6 Cubic Feet
Total soil loss = 4326.1 Cubic Feet

Peak flow rate of this hydrograph = 0.383(CFS)

24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0000 | 0.00 | Q | | | | |
| 0+10 | 0.0000 | 0.00 | Q | | | | |
| 0+15 | 0.0000 | 0.00 | Q | | | | |
| 0+20 | 0.0001 | 0.00 | Q | | | | |
| 0+25 | 0.0001 | 0.00 | Q | | | | |
| 0+30 | 0.0001 | 0.00 | Q | | | | |
| 0+35 | 0.0002 | 0.00 | Q | | | | |
| 0+40 | 0.0002 | 0.00 | Q | | | | |
| 0+45 | 0.0002 | 0.00 | Q | | | | |
| 0+50 | 0.0002 | 0.00 | Q | | | | |
| 0+55 | 0.0003 | 0.01 | Q | | | | |
| 1+ 0 | 0.0003 | 0.01 | Q | | | | |
| 1+ 5 | 0.0003 | 0.00 | Q | | | | |
| 1+10 | 0.0004 | 0.00 | Q | | | | |
| 1+15 | 0.0004 | 0.00 | Q | | | | |
| 1+20 | 0.0004 | 0.00 | Q | | | | |
| 1+25 | 0.0004 | 0.00 | Q | | | | |
| 1+30 | 0.0005 | 0.00 | Q | | | | |
| 1+35 | 0.0005 | 0.00 | Q | | | | |
| 1+40 | 0.0005 | 0.00 | Q | | | | |
| 1+45 | 0.0005 | 0.00 | Q | | | | |
| 1+50 | 0.0006 | 0.00 | Q | | | | |
| 1+55 | 0.0006 | 0.01 | Q | | | | |
| 2+ 0 | 0.0007 | 0.01 | Q | | | | |
| 2+ 5 | 0.0007 | 0.01 | Q | | | | |
| 2+10 | 0.0007 | 0.01 | Q | | | | |
| 2+15 | 0.0008 | 0.01 | Q | | | | |
| 2+20 | 0.0008 | 0.01 | Q | | | | |
| 2+25 | 0.0008 | 0.01 | Q | | | | |
| 2+30 | 0.0009 | 0.01 | Q | | | | |
| 2+35 | 0.0009 | 0.01 | Q | | | | |
| 2+40 | 0.0010 | 0.01 | Q | | | | |
| 2+45 | 0.0010 | 0.01 | Q | | | | |
| 2+50 | 0.0010 | 0.01 | Q | | | | |
| 2+55 | 0.0011 | 0.01 | Q | | | | |
| 3+ 0 | 0.0011 | 0.01 | Q | | | | |
| 3+ 5 | 0.0012 | 0.01 | Q | | | | |
| 3+10 | 0.0012 | 0.01 | Q | | | | |
| 3+15 | 0.0013 | 0.01 | Q | | | | |
| 3+20 | 0.0013 | 0.01 | Q | | | | |
| 3+25 | 0.0013 | 0.01 | Q | | | | |
| 3+30 | 0.0014 | 0.01 | Q | | | | |
| 3+35 | 0.0014 | 0.01 | Q | | | | |
| 3+40 | 0.0015 | 0.01 | Q | | | | |
| 3+45 | 0.0015 | 0.01 | Q | | | | |
| 3+50 | 0.0016 | 0.01 | Q | | | | |
| 3+55 | 0.0016 | 0.01 | Q | | | | |
| 4+ 0 | 0.0017 | 0.01 | Q | | | | |
| 4+ 5 | 0.0017 | 0.01 | Q | | | | |
| 4+10 | 0.0018 | 0.01 | Q | | | | |
| 4+15 | 0.0018 | 0.01 | Q | | | | |
| 4+20 | 0.0019 | 0.01 | Q | | | | |
| 4+25 | 0.0020 | 0.01 | Q | | | | |
| 4+30 | 0.0020 | 0.01 | Q | | | | |
| 4+35 | 0.0021 | 0.01 | Q | | | | |
| 4+40 | 0.0021 | 0.01 | Q | | | | |
| 4+45 | 0.0022 | 0.01 | Q | | | | |

```
 4+50       0.0023      0.02  Q          |          |          |          |
 4+55       0.0024      0.02  Q          |          |          |          |
 5+ 0       0.0026      0.02  Q          |          |          |          |
 5+ 5       0.0026      0.01  Q          |          |          |          |
 5+10       0.0027      0.01  Q          |          |          |          |
 5+15       0.0027      0.01  Q          |          |          |          |
 5+20       0.0028      0.01  Q          |          |          |          |
 5+25       0.0029      0.01  Q          |          |          |          |
 5+30       0.0029      0.01  Q          |          |          |          |
 5+35       0.0030      0.02  Q          |          |          |          |
 5+40       0.0032      0.02  Q          |          |          |          |
 5+45       0.0033      0.02  Q          |          |          |          |
 5+50       0.0035      0.02  Q          |          |          |          |
 5+55       0.0036      0.02  Q          |          |          |          |
 6+ 0       0.0038      0.02  Q          |          |          |          |
 6+ 5       0.0040      0.03  Q          |          |          |          |
 6+10       0.0043      0.04  QV         |          |          |          |
 6+15       0.0045      0.04  QV         |          |          |          |
 6+20       0.0048      0.04  QV         |          |          |          |
 6+25       0.0050      0.04  QV         |          |          |          |
 6+30       0.0053      0.04  QV         |          |          |          |
 6+35       0.0056      0.05  QV         |          |          |          |
 6+40       0.0059      0.05  QV         |          |          |          |
 6+45       0.0063      0.05  QV         |          |          |          |
 6+50       0.0066      0.05  QV         |          |          |          |
 6+55       0.0070      0.05  QV         |          |          |          |
 7+ 0       0.0074      0.05  QV         |          |          |          |
 7+ 5       0.0077      0.05  QV         |          |          |          |
 7+10       0.0081      0.05  QV         |          |          |          |
 7+15       0.0084      0.05  Q V        |          |          |          |
 7+20       0.0089      0.06  Q V        |          |          |          |
 7+25       0.0093      0.07  Q V        |          |          |          |
 7+30       0.0098      0.07  Q V        |          |          |          |
 7+35       0.0103      0.08  Q V        |          |          |          |
 7+40       0.0109      0.08  Q V        |          |          |          |
 7+45       0.0114      0.08  Q V        |          |          |          |
 7+50       0.0121      0.09  Q V        |          |          |          |
 7+55       0.0127      0.09  Q  V       |          |          |          |
 8+ 0       0.0134      0.09  Q  V       |          |          |          |
 8+ 5       0.0142      0.11  Q  V       |          |          |          |
 8+10       0.0150      0.12  Q  V       |          |          |          |
 8+15       0.0158      0.12  Q  V       |          |          |          |
 8+20       0.0167      0.12  Q   V      |          |          |          |
 8+25       0.0175      0.12  Q   V      |          |          |          |
 8+30       0.0183      0.12  Q   V      |          |          |          |
 8+35       0.0193      0.13  Q   V      |          |          |          |
 8+40       0.0202      0.14  Q   V      |          |          |          |
 8+45       0.0211      0.14  Q    V     |          |          |          |
 8+50       0.0221      0.15  Q    V     |          |          |          |
 8+55       0.0232      0.15  Q    V     |          |          |          |
 9+ 0       0.0242      0.15  Q    V     |          |          |          |
 9+ 5       0.0254      0.17  Q     V    |          |          |          |
 9+10       0.0266      0.18  Q     V    |          |          |          |
 9+15       0.0278      0.18  Q     V    |          |          |          |
 9+20       0.0291      0.19  Q      V   |          |          |          |
 9+25       0.0304      0.19  Q      V   |          |          |          |
 9+30       0.0317      0.19  Q      V   |          |          |          |
 9+35       0.0331      0.20  Q       V  |          |          |          |
 9+40       0.0345      0.20  Q       V  |          |          |          |
 9+45       0.0359      0.20  Q       V  |          |          |          |
 9+50       0.0373      0.21  Q        V |          |          |          |
 9+55       0.0388      0.22  Q        V |          |          |          |
10+ 0       0.0403      0.22  Q        V |          |          |          |
10+ 5       0.0413      0.15  Q         V          |          |          |
10+10       0.0422      0.13  Q         V          |          |          |
10+15       0.0431      0.13  Q         V          |          |          |
10+20       0.0440      0.13  Q         V          |          |          |
10+25       0.0449      0.13  Q         V          |          |          |
10+30       0.0458      0.13  Q         |V         |          |          |
10+35       0.0470      0.18  Q         |V         |          |          |
10+40       0.0484      0.19  Q         |V         |          |          |
10+45       0.0497      0.19  Q         | V        |          |          |
10+50       0.0510      0.19  Q         | V        |          |          |
10+55       0.0524      0.20  Q         | V        |          |          |
11+ 0       0.0537      0.20  Q         |  V       |          |          |
11+ 5       0.0550      0.19  Q         |  V       |          |          |
11+10       0.0563      0.18  Q         |  V       |          |          |
11+15       0.0575      0.18  Q         |  V       |          |          |
```

```
11+20       0.0588      0.18  Q          |   V     |         |          |
11+25       0.0601      0.18  Q          |   V     |         |          |
11+30       0.0613      0.18  Q          |   V     |         |          |
11+35       0.0625      0.16  Q          |    V    |         |          |
11+40       0.0636      0.16  Q          |    V    |         |          |
11+45       0.0647      0.16  Q          |    V    |         |          |
11+50       0.0658      0.17  Q          |    V    |         |          |
11+55       0.0670      0.17  Q          |     V   |         |          |
12+ 0       0.0682      0.17  Q          |     V   |         |          |
12+ 5       0.0699      0.24  Q          |     V   |         |          |
12+10       0.0717      0.26  |Q         |      V  |         |          |
12+15       0.0735      0.26  |Q         |      V  |         |          |
12+20       0.0754      0.27  |Q         |       V |         |          |
12+25       0.0773      0.28  |Q         |       V |         |          |
12+30       0.0792      0.28  |Q         |        V|         |          |
12+35       0.0813      0.30  |Q         |        V|         |          |
12+40       0.0834      0.30  |Q         |         V         |          |
12+45       0.0855      0.30  |Q         |         V         |          |
12+50       0.0876      0.31  |Q         |         |V        |          |
12+55       0.0898      0.32  |Q         |         |V        |          |
13+ 0       0.0920      0.32  |Q         |         | V       |          |
13+ 5       0.0945      0.37  |Q         |         | V       |          |
13+10       0.0972      0.38  |Q         |         |  V      |          |
13+15       0.0998      0.38  |Q         |         |   V     |          |
13+20       0.1024      0.38  |Q         |         |   V     |          |
13+25       0.1051      0.38  |Q         |         |    V    |          |
13+30       0.1077      0.38  |Q         |         |     V   |          |
13+35       0.1096      0.27  |Q         |         |     V   |          |
13+40       0.1113      0.24  Q          |         |     V   |          |
13+45       0.1129      0.24  Q          |         |      V  |          |
13+50       0.1146      0.24  Q          |         |      V  |          |
13+55       0.1163      0.24  Q          |         |       V |          |
14+ 0       0.1180      0.24  Q          |         |       V |          |
14+ 5       0.1199      0.28  |Q         |         |        V|          |
14+10       0.1220      0.30  |Q         |         |        V|          |
14+15       0.1240      0.30  |Q         |         |         V          |
14+20       0.1260      0.29  |Q         |         |         V          |
14+25       0.1279      0.28  |Q         |         |          |V        |
14+30       0.1299      0.28  |Q         |         |          |V        |
14+35       0.1318      0.28  |Q         |         |          |V        |
14+40       0.1338      0.28  |Q         |         |          | V       |
14+45       0.1357      0.28  |Q         |         |          | V       |
14+50       0.1376      0.27  |Q         |         |          |  V      |
14+55       0.1395      0.27  |Q         |         |          |  V      |
15+ 0       0.1414      0.27  |Q         |         |          |   V     |
15+ 5       0.1432      0.26  |Q         |         |          |   V     |
15+10       0.1450      0.26  |Q         |         |          |    V    |
15+15       0.1468      0.26  |Q         |         |          |    V    |
15+20       0.1485      0.25  |Q         |         |          |     V   |
15+25       0.1502      0.25  Q          |         |          |     V   |
15+30       0.1519      0.25  Q          |         |          |     V   |
15+35       0.1534      0.21  Q          |         |          |      V  |
15+40       0.1547      0.20  Q          |         |          |      V  |
15+45       0.1561      0.20  Q          |         |          |      V  |
15+50       0.1574      0.20  Q          |         |          |       V |
15+55       0.1588      0.20  Q          |         |          |       V |
16+ 0       0.1602      0.20  Q          |         |          |       V |
16+ 5       0.1605      0.05  Q          |         |          |       V |
16+10       0.1606      0.01  Q          |         |          |       V |
16+15       0.1606      0.01  Q          |         |          |       V |
16+20       0.1607      0.01  Q          |         |          |       V |
16+25       0.1607      0.01  Q          |         |          |       V |
16+30       0.1608      0.01  Q          |         |          |       V |
16+35       0.1608      0.00  Q          |         |          |       V |
16+40       0.1608      0.00  Q          |         |          |        V|
16+45       0.1609      0.00  Q          |         |          |        V|
16+50       0.1609      0.00  Q          |         |          |        V|
16+55       0.1609      0.00  Q          |         |          |        V|
17+ 0       0.1609      0.00  Q          |         |          |        V|
17+ 5       0.1611      0.02  Q          |         |          |        V|
17+10       0.1612      0.02  Q          |         |          |        V|
17+15       0.1614      0.02  Q          |         |          |        V|
17+20       0.1615      0.02  Q          |         |          |        V|
17+25       0.1617      0.02  Q          |         |          |        V|
17+30       0.1619      0.02  Q          |         |          |        V|
17+35       0.1620      0.02  Q          |         |          |        V|
17+40       0.1622      0.02  Q          |         |          |        V|
17+45       0.1623      0.02  Q          |         |          |        V|
```

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+50 | 0.1624 | 0.01 | Q | \| | \| | \| | V\| |
| 17+55 | 0.1625 | 0.01 | Q | \| | \| | \| | V\| |
| 18+ 0 | 0.1626 | 0.01 | Q | \| | \| | \| | V\| |
| 18+ 5 | 0.1627 | 0.01 | Q | \| | \| | \| | V\| |
| 18+10 | 0.1628 | 0.01 | Q | \| | \| | \| | V\| |
| 18+15 | 0.1629 | 0.01 | Q | \| | \| | \| | V\| |
| 18+20 | 0.1629 | 0.01 | Q | \| | \| | \| | V\| |
| 18+25 | 0.1630 | 0.01 | Q | \| | \| | \| | V\| |
| 18+30 | 0.1631 | 0.01 | Q | \| | \| | \| | V\| |
| 18+35 | 0.1632 | 0.01 | Q | \| | \| | \| | V\| |
| 18+40 | 0.1632 | 0.00 | Q | \| | \| | \| | V\| |
| 18+45 | 0.1632 | 0.00 | Q | \| | \| | \| | V\| |
| 18+50 | 0.1632 | 0.00 | Q | \| | \| | \| | V\| |
| 18+55 | 0.1632 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 0 | 0.1633 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 5 | 0.1633 | 0.00 | Q | \| | \| | \| | V\| |
| 19+10 | 0.1633 | 0.00 | Q | \| | \| | \| | V\| |
| 19+15 | 0.1633 | 0.00 | Q | \| | \| | \| | V\| |
| 19+20 | 0.1634 | 0.01 | Q | \| | \| | \| | V\| |
| 19+25 | 0.1635 | 0.01 | Q | \| | \| | \| | V\| |
| 19+30 | 0.1636 | 0.01 | Q | \| | \| | \| | V\| |
| 19+35 | 0.1637 | 0.01 | Q | \| | \| | \| | V\| |
| 19+40 | 0.1637 | 0.00 | Q | \| | \| | \| | V\| |
| 19+45 | 0.1637 | 0.00 | Q | \| | \| | \| | V\| |
| 19+50 | 0.1638 | 0.00 | Q | \| | \| | \| | V\| |
| 19+55 | 0.1638 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 0 | 0.1638 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 5 | 0.1638 | 0.00 | Q | \| | \| | \| | V\| |
| 20+10 | 0.1638 | 0.00 | Q | \| | \| | \| | V\| |
| 20+15 | 0.1639 | 0.00 | Q | \| | \| | \| | V\| |
| 20+20 | 0.1639 | 0.00 | Q | \| | \| | \| | V\| |
| 20+25 | 0.1639 | 0.00 | Q | \| | \| | \| | V\| |
| 20+30 | 0.1639 | 0.00 | Q | \| | \| | \| | V\| |
| 20+35 | 0.1640 | 0.00 | Q | \| | \| | \| | V\| |
| 20+40 | 0.1640 | 0.00 | Q | \| | \| | \| | V\| |
| 20+45 | 0.1640 | 0.00 | Q | \| | \| | \| | V\| |
| 20+50 | 0.1641 | 0.00 | Q | \| | \| | \| | V\| |
| 20+55 | 0.1641 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 0 | 0.1641 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 5 | 0.1641 | 0.00 | Q | \| | \| | \| | V\| |
| 21+10 | 0.1642 | 0.01 | Q | \| | \| | \| | V\| |
| 21+15 | 0.1642 | 0.01 | Q | \| | \| | \| | V\| |
| 21+20 | 0.1642 | 0.00 | Q | \| | \| | \| | V\| |
| 21+25 | 0.1642 | 0.00 | Q | \| | \| | \| | V\| |
| 21+30 | 0.1643 | 0.00 | Q | \| | \| | \| | V\| |
| 21+35 | 0.1643 | 0.01 | Q | \| | \| | \| | V\| |
| 21+40 | 0.1643 | 0.01 | Q | \| | \| | \| | V\| |
| 21+45 | 0.1644 | 0.01 | Q | \| | \| | \| | V\| |
| 21+50 | 0.1644 | 0.00 | Q | \| | \| | \| | V\| |
| 21+55 | 0.1644 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 0 | 0.1644 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 5 | 0.1645 | 0.01 | Q | \| | \| | \| | V\| |
| 22+10 | 0.1645 | 0.01 | Q | \| | \| | \| | V\| |
| 22+15 | 0.1646 | 0.01 | Q | \| | \| | \| | V\| |
| 22+20 | 0.1646 | 0.00 | Q | \| | \| | \| | V\| |
| 22+25 | 0.1646 | 0.00 | Q | \| | \| | \| | V\| |
| 22+30 | 0.1646 | 0.00 | Q | \| | \| | \| | V\| |
| 22+35 | 0.1646 | 0.00 | Q | \| | \| | \| | V\| |
| 22+40 | 0.1647 | 0.00 | Q | \| | \| | \| | V\| |
| 22+45 | 0.1647 | 0.00 | Q | \| | \| | \| | V\| |
| 22+50 | 0.1647 | 0.00 | Q | \| | \| | \| | V\| |
| 22+55 | 0.1647 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 0 | 0.1647 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 5 | 0.1647 | 0.00 | Q | \| | \| | \| | V\| |
| 23+10 | 0.1648 | 0.00 | Q | \| | \| | \| | V\| |
| 23+15 | 0.1648 | 0.00 | Q | \| | \| | \| | V\| |
| 23+20 | 0.1648 | 0.00 | Q | \| | \| | \| | V\| |
| 23+25 | 0.1648 | 0.00 | Q | \| | \| | \| | V\| |
| 23+30 | 0.1648 | 0.00 | Q | \| | \| | \| | V\| |
| 23+35 | 0.1648 | 0.00 | Q | \| | \| | \| | V\| |
| 23+40 | 0.1649 | 0.00 | Q | \| | \| | \| | V\| |
| 23+45 | 0.1649 | 0.00 | Q | \| | \| | \| | V\| |
| 23+50 | 0.1649 | 0.00 | Q | \| | \| | \| | V\| |
| 23+55 | 0.1649 | 0.00 | Q | \| | \| | \| | V\| |
| 24+ 0 | 0.1649 | 0.00 | Q | \| | \| | \| | V\| |
| 24+ 5 | 0.1649 | 0.00 | Q | \| | \| | \| | V\| |

U n i t  H y d r o g r a p h  A n a l y s i s

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014, Version 9.0
Study date 12/21/17 File: EX251100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 25
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 11.00(Ac.) = 0.017 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 11.00(Ac.) = 0.017 Sq. Mi.
Length along longest watercourse = 956.00(Ft.)
Length along longest watercourse measured to centroid = 574.00(Ft.)
Length along longest watercourse = 0.181 Mi.
Length along longest watercourse measured to centroid = 0.109 Mi.
Difference in elevation = 144.00(Ft.)
Slope along watercourse = 795.3138 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.053 Hr.
Lag time = 3.18 Min.
25% of lag time = 0.80 Min.
40% of lag time = 1.27 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 11.00 | 0.49 | 5.39 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 11.00 | 1.20 | 13.20 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.490(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 11.000 | 83.85 | 0.000 |

Total Area Entered = 11.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.8 | 93.3 | 0.087 | 0.000 | 0.087 | 1.000 | 0.087 |
| | | | | | Sum (F) = | 0.087 |

Area averaged mean soil loss (F) (In/Hr) = 0.087

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 156.994 | 32.426 | 3.595 |
| 2 0.167 | 313.988 | 53.790 | 5.963 |
| 3 0.250 | 470.982 | 11.033 | 1.223 |
| 4 0.333 | 627.976 | 2.066 | 0.229 |
| 5 0.417 | 784.970 | 0.685 | 0.076 |
| | Sum = 100.000 | Sum= | 11.086 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 4.20 | 0.605 | 0.087 | ( 0.544) | 0.518 |
| 2 0.17 | 4.30 | 0.619 | 0.087 | ( 0.557) | 0.532 |
| 3 0.25 | 5.00 | 0.720 | 0.087 | ( 0.648) | 0.633 |
| 4 0.33 | 5.00 | 0.720 | 0.087 | ( 0.648) | 0.633 |
| 5 0.42 | 5.80 | 0.835 | 0.087 | ( 0.752) | 0.748 |
| 6 0.50 | 6.50 | 0.936 | 0.087 | ( 0.842) | 0.849 |
| 7 0.58 | 7.40 | 1.065 | 0.087 | ( 0.959) | 0.979 |
| 8 0.67 | 8.60 | 1.238 | 0.087 | ( 1.114) | 1.151 |
| 9 0.75 | 12.30 | 1.771 | 0.087 | ( 1.594) | 1.684 |
| 10 0.83 | 29.10 | 4.190 | 0.087 | ( 3.771) | 4.103 |
| 11 0.92 | 6.80 | 0.979 | 0.087 | ( 0.881) | 0.892 |
| 12 1.00 | 5.00 | 0.720 | 0.087 | ( 0.648) | 0.633 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 13.4 |

Flood volume = Effective rainfall 1.11(In)
times area 11.0(Ac.)/[(In)/(Ft.)] = 1.0(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.080(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 44438.5 Cubic Feet
Total soil loss = 3472.7 Cubic Feet

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Peak flow rate of this hydrograph = 30.087(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 10.0 20.0 30.0 40.0 |
|---|---|---|---|
| 0+ 5 | 0.0128 | 1.86 | VQ |
| 0+10 | 0.0473 | 5.00 | V Q |
| 0+15 | 0.0892 | 6.09 | V Q |
| 0+20 | 0.1362 | 6.82 | VQ |
| 0+25 | 0.1872 | 7.40 | Q |
| 0+30 | 0.2455 | 8.48 | QV |
| 0+35 | 0.3123 | 9.69 | Q V |
| 0+40 | 0.3897 | 11.24 | Q V |
| 0+45 | 0.4887 | 14.37 | Q V |
| 0+50 | 0.6712 | 26.50 | Q |
| 0+55 | 0.8784 | 30.09 | Q V |
| 1+ 0 | 0.9686 | 13.09 | Q V |
| 1+ 5 | 1.0095 | 5.94 | Q V |
| 1+10 | 1.0184 | 1.29 | Q V |
| 1+15 | 1.0198 | 0.21 | Q V |
| 1+20 | 1.0202 | 0.05 | Q V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX253100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 25
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 11.00(Ac.) = 0.017 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 11.00(Ac.) = 0.017 Sq. Mi.
Length along longest watercourse = 956.00(Ft.)
Length along longest watercourse measured to centroid = 574.00(Ft.)
Length along longest watercourse = 0.181 Mi.
Length along longest watercourse measured to centroid = 0.109 Mi.
Difference in elevation = 144.00(Ft.)
Slope along watercourse = 795.3138 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.053 Hr.
Lag time = 3.18 Min.
25% of lag time = 0.80 Min.
40% of lag time = 1.27 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 11.00 | 0.80 | 8.80 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 11.00 | 1.80 | 19.80 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 11.000 | 83.85 | 0.000 |

Total Area Entered = 11.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.8 | 93.3 | 0.087 | 0.000 | 0.087 | 1.000 | 0.087 |
| | | | | | Sum (F) = | 0.087 |

Area averaged mean soil loss (F) (In/Hr) = 0.087

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 156.994 | 32.426 | 3.595 |
| 2 | 0.167 | 313.988 | 53.790 | 5.963 |
| 3 | 0.250 | 470.982 | 11.033 | 1.223 |
| 4 | 0.333 | 627.976 | 2.066 | 0.229 |
| 5 | 0.417 | 784.970 | 0.685 | 0.076 |
| | | | Sum = 100.000 | Sum= 11.086 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.281 | 0.087 | ( 0.253) | 0.194 |
| 2 | 0.17 | 1.30 | 0.281 | 0.087 | ( 0.253) | 0.194 |
| 3 | 0.25 | 1.10 | 0.238 | 0.087 | ( 0.214) | 0.151 |
| 4 | 0.33 | 1.50 | 0.324 | 0.087 | ( 0.292) | 0.237 |
| 5 | 0.42 | 1.50 | 0.324 | 0.087 | ( 0.292) | 0.237 |
| 6 | 0.50 | 1.80 | 0.389 | 0.087 | ( 0.350) | 0.302 |
| 7 | 0.58 | 1.50 | 0.324 | 0.087 | ( 0.292) | 0.237 |
| 8 | 0.67 | 1.80 | 0.389 | 0.087 | ( 0.350) | 0.302 |
| 9 | 0.75 | 1.80 | 0.389 | 0.087 | ( 0.350) | 0.302 |
| 10 | 0.83 | 1.50 | 0.324 | 0.087 | ( 0.292) | 0.237 |
| 11 | 0.92 | 1.60 | 0.346 | 0.087 | ( 0.311) | 0.259 |
| 12 | 1.00 | 1.80 | 0.389 | 0.087 | ( 0.350) | 0.302 |
| 13 | 1.08 | 2.20 | 0.475 | 0.087 | ( 0.428) | 0.388 |
| 14 | 1.17 | 2.20 | 0.475 | 0.087 | ( 0.428) | 0.388 |
| 15 | 1.25 | 2.20 | 0.475 | 0.087 | ( 0.428) | 0.388 |
| 16 | 1.33 | 2.00 | 0.432 | 0.087 | ( 0.389) | 0.345 |
| 17 | 1.42 | 2.60 | 0.562 | 0.087 | ( 0.505) | 0.475 |
| 18 | 1.50 | 2.70 | 0.583 | 0.087 | ( 0.525) | 0.496 |
| 19 | 1.58 | 2.40 | 0.518 | 0.087 | ( 0.467) | 0.431 |
| 20 | 1.67 | 2.70 | 0.583 | 0.087 | ( 0.525) | 0.496 |
| 21 | 1.75 | 3.30 | 0.713 | 0.087 | ( 0.641) | 0.626 |
| 22 | 1.83 | 3.10 | 0.670 | 0.087 | ( 0.603) | 0.583 |
| 23 | 1.92 | 2.90 | 0.626 | 0.087 | ( 0.564) | 0.539 |
| 24 | 2.00 | 3.00 | 0.648 | 0.087 | ( 0.583) | 0.561 |
| 25 | 2.08 | 3.10 | 0.670 | 0.087 | ( 0.603) | 0.583 |
| 26 | 2.17 | 4.20 | 0.907 | 0.087 | ( 0.816) | 0.820 |
| 27 | 2.25 | 5.00 | 1.080 | 0.087 | ( 0.972) | 0.993 |
| 28 | 2.33 | 3.50 | 0.756 | 0.087 | ( 0.680) | 0.669 |
| 29 | 2.42 | 6.80 | 1.469 | 0.087 | ( 1.322) | 1.382 |
| 30 | 2.50 | 7.30 | 1.577 | 0.087 | ( 1.419) | 1.490 |
| 31 | 2.58 | 8.20 | 1.771 | 0.087 | ( 1.594) | 1.684 |
| 32 | 2.67 | 5.90 | 1.274 | 0.087 | ( 1.147) | 1.187 |
| 33 | 2.75 | 2.00 | 0.432 | 0.087 | ( 0.389) | 0.345 |
| 34 | 2.83 | 1.80 | 0.389 | 0.087 | ( 0.350) | 0.302 |
| 35 | 2.92 | 1.80 | 0.389 | 0.087 | ( 0.350) | 0.302 |
| 36 | 3.00 | 0.60 | 0.130 | 0.087 | ( 0.117) | 0.043 |
| | | (Loss Rate Not Used) | | | |
| Sum = | | 100.0 | | | Sum = 18.5 |

Flood volume = Effective rainfall 1.54(In)
times area 11.0(Ac.)/[(In)/(Ft.)] = 1.4(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.239(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 61452.4 Cubic Feet
Total soil loss = 10418.1 Cubic Feet

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Peak flow rate of this hydrograph = 16.865(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 5.0 10.0 15.0 20.0 |
|---|---|---|---|
| 0+ 5 | 0.0048 | 0.70 | VQ |
| 0+10 | 0.0176 | 1.85 | V Q |
| 0+15 | 0.0309 | 1.94 | V Q |
| 0+20 | 0.0449 | 2.03 | V Q |
| 0+25 | 0.0622 | 2.51 | V Q |
| 0+30 | 0.0817 | 2.84 | V Q |
| 0+35 | 0.1025 | 3.01 | V Q |
| 0+40 | 0.1227 | 2.94 | V Q |
| 0+45 | 0.1452 | 3.26 | V Q |
| 0+50 | 0.1665 | 3.10 | V Q |
| 0+55 | 0.1858 | 2.80 | Q |
| 1+ 0 | 0.2066 | 3.01 | VQ |
| 1+ 5 | 0.2313 | 3.59 | VQ |
| 1+10 | 0.2599 | 4.16 | VQ |
| 1+15 | 0.2894 | 4.28 | Q |
| 1+20 | 0.3179 | 4.14 | QV |
| 1+25 | 0.3479 | 4.36 | QV |
| 1+30 | 0.3835 | 5.16 | Q |
| 1+35 | 0.4193 | 5.20 | QV |
| 1+40 | 0.4544 | 5.10 | Q V |
| 1+45 | 0.4950 | 5.89 | Q V |
| 1+50 | 0.5402 | 6.57 | Q V |
| 1+55 | 0.5838 | 6.33 | Q V |
| 2+ 0 | 0.6260 | 6.13 | Q V |
| 2+ 5 | 0.6693 | 6.28 | Q V |
| 2+10 | 0.7194 | 7.28 | Q V |
| 2+15 | 0.7838 | 9.35 | Q V |
| 2+20 | 0.8493 | 9.51 | Q V |
| 2+25 | 0.9210 | 10.41 | Q V |
| 2+30 | 1.0223 | 14.71 | VQ |
| 2+35 | 1.1385 | 16.86 | VQ |
| 2+40 | 1.2522 | 16.51 | Q V |
| 2+45 | 1.3268 | 10.83 | Q V |
| 2+50 | 1.3619 | 5.10 | Q V |
| 2+55 | 1.3874 | 3.71 | Q V |
| 3+ 0 | 1.4046 | 2.49 | Q V |
| 3+ 5 | 1.4095 | 0.72 | Q V |
| 3+10 | 1.4105 | 0.14 | Q V |
| 3+15 | 1.4107 | 0.03 | Q V |
| 3+20 | 1.4108 | 0.00 | Q V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX256100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 25
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 11.00(Ac.) = 0.017 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 11.00(Ac.) = 0.017 Sq. Mi.
Length along longest watercourse = 956.00(Ft.)
Length along longest watercourse measured to centroid = 574.00(Ft.)
Length along longest watercourse = 0.181 Mi.
Length along longest watercourse measured to centroid = 0.109 Mi.
Difference in elevation = 144.00(Ft.)
Slope along watercourse = 795.3138 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.053 Hr.
Lag time = 3.18 Min.
25% of lag time = 0.80 Min.
40% of lag time = 1.27 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 11.00 | 1.12 | 12.32 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 11.00 | 2.50 | 27.50 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.120(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 11.000 | 83.85 | 0.000 |

Total Area Entered = 11.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.8 | 93.3 | 0.087 | 0.000 | 0.087 | 1.000 | 0.087 |
| | | | | | Sum (F) = | 0.087 |

Area averaged mean soil loss (F) (In/Hr) = 0.087

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 156.994 | 32.426 | 3.595 |
| 2 0.167 | 313.988 | 53.790 | 5.963 |
| 3 0.250 | 470.982 | 11.033 | 1.223 |
| 4 0.333 | 627.976 | 2.066 | 0.229 |
| 5 0.417 | 784.970 | 0.685 | 0.076 |
| | Sum = 100.000 | Sum= | 11.086 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.087 | ( 0.135) | 0.063 |
| 2 | 0.17 | 0.60 | 0.180 | 0.087 | ( 0.162) | 0.093 |
| 3 | 0.25 | 0.60 | 0.180 | 0.087 | ( 0.162) | 0.093 |
| 4 | 0.33 | 0.60 | 0.180 | 0.087 | ( 0.162) | 0.093 |
| 5 | 0.42 | 0.60 | 0.180 | 0.087 | ( 0.162) | 0.093 |
| 6 | 0.50 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 7 | 0.58 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 8 | 0.67 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 9 | 0.75 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 10 | 0.83 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 11 | 0.92 | 0.70 | 0.210 | 0.087 | ( 0.189) | 0.123 |
| 12 | 1.00 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 13 | 1.08 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 14 | 1.17 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 15 | 1.25 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 16 | 1.33 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 17 | 1.42 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 18 | 1.50 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 19 | 1.58 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 20 | 1.67 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 21 | 1.75 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 22 | 1.83 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 23 | 1.92 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 24 | 2.00 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 25 | 2.08 | 0.80 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 26 | 2.17 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 27 | 2.25 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 28 | 2.33 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 29 | 2.42 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 30 | 2.50 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 31 | 2.58 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 32 | 2.67 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 |
| 33 | 2.75 | 1.00 | 0.300 | 0.087 | ( 0.270) | 0.213 |
| 34 | 2.83 | 1.00 | 0.300 | 0.087 | ( 0.270) | 0.213 |
| 35 | 2.92 | 1.00 | 0.300 | 0.087 | ( 0.270) | 0.213 |
| 36 | 3.00 | 1.00 | 0.300 | 0.087 | ( 0.270) | 0.213 |
| 37 | 3.08 | 1.00 | 0.300 | 0.087 | ( 0.270) | 0.213 |
| 38 | 3.17 | 1.10 | 0.330 | 0.087 | ( 0.297) | 0.243 |
| 39 | 3.25 | 1.10 | 0.330 | 0.087 | ( 0.297) | 0.243 |
| 40 | 3.33 | 1.10 | 0.330 | 0.087 | ( 0.297) | 0.243 |
| 41 | 3.42 | 1.20 | 0.360 | 0.087 | ( 0.324) | 0.273 |
| 42 | 3.50 | 1.30 | 0.390 | 0.087 | ( 0.351) | 0.303 |
| 43 | 3.58 | 1.40 | 0.420 | 0.087 | ( 0.378) | 0.333 |
| 44 | 3.67 | 1.40 | 0.420 | 0.087 | ( 0.378) | 0.333 |
| 45 | 3.75 | 1.50 | 0.450 | 0.087 | ( 0.405) | 0.363 |
| 46 | 3.83 | 1.50 | 0.450 | 0.087 | ( 0.405) | 0.363 |
| 47 | 3.92 | 1.60 | 0.480 | 0.087 | ( 0.432) | 0.393 |
| 48 | 4.00 | 1.60 | 0.480 | 0.087 | ( 0.432) | 0.393 |
| 49 | 4.08 | 1.70 | 0.510 | 0.087 | ( 0.459) | 0.423 |
| 50 | 4.17 | 1.80 | 0.540 | 0.087 | ( 0.486) | 0.453 |
| 51 | 4.25 | 1.90 | 0.570 | 0.087 | ( 0.513) | 0.483 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 52 | 4.33 | 2.00 | 0.600 | 0.087 | ( 0.540) | 0.513 | |
| 53 | 4.42 | 2.10 | 0.630 | 0.087 | ( 0.567) | 0.543 | |
| 54 | 4.50 | 2.10 | 0.630 | 0.087 | ( 0.567) | 0.543 | |
| 55 | 4.58 | 2.20 | 0.660 | 0.087 | ( 0.594) | 0.573 | |
| 56 | 4.67 | 2.30 | 0.690 | 0.087 | ( 0.621) | 0.603 | |
| 57 | 4.75 | 2.40 | 0.720 | 0.087 | ( 0.648) | 0.633 | |
| 58 | 4.83 | 2.40 | 0.720 | 0.087 | ( 0.648) | 0.633 | |
| 59 | 4.92 | 2.50 | 0.750 | 0.087 | ( 0.675) | 0.663 | |
| 60 | 5.00 | 2.60 | 0.780 | 0.087 | ( 0.702) | 0.693 | |
| 61 | 5.08 | 3.10 | 0.930 | 0.087 | ( 0.837) | 0.843 | |
| 62 | 5.17 | 3.60 | 1.080 | 0.087 | ( 0.972) | 0.993 | |
| 63 | 5.25 | 3.90 | 1.170 | 0.087 | ( 1.053) | 1.083 | |
| 64 | 5.33 | 4.20 | 1.260 | 0.087 | ( 1.134) | 1.173 | |
| 65 | 5.42 | 4.70 | 1.410 | 0.087 | ( 1.269) | 1.323 | |
| 66 | 5.50 | 5.60 | 1.680 | 0.087 | ( 1.512) | 1.593 | |
| 67 | 5.58 | 1.90 | 0.570 | 0.087 | ( 0.513) | 0.483 | |
| 68 | 5.67 | 0.90 | 0.270 | 0.087 | ( 0.243) | 0.183 | |
| 69 | 5.75 | 0.60 | 0.180 | 0.087 | ( 0.162) | 0.093 | |
| 70 | 5.83 | 0.50 | 0.150 | 0.087 | ( 0.135) | 0.063 | |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.087) | 0.081 | 0.009 | |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.087) | 0.054 | 0.006 | |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.8

Flood volume = Effective rainfall 1.98(In)
times area 11.0(Ac.)/[(In)/(Ft.)] = 1.8(Ac.Ft)
Total soil loss = 0.52(In)
Total soil loss = 0.475(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 79114.5 Cubic Feet
Total soil loss = 20706.7 Cubic Feet

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Peak flow rate of this hydrograph = 15.381(CFS)

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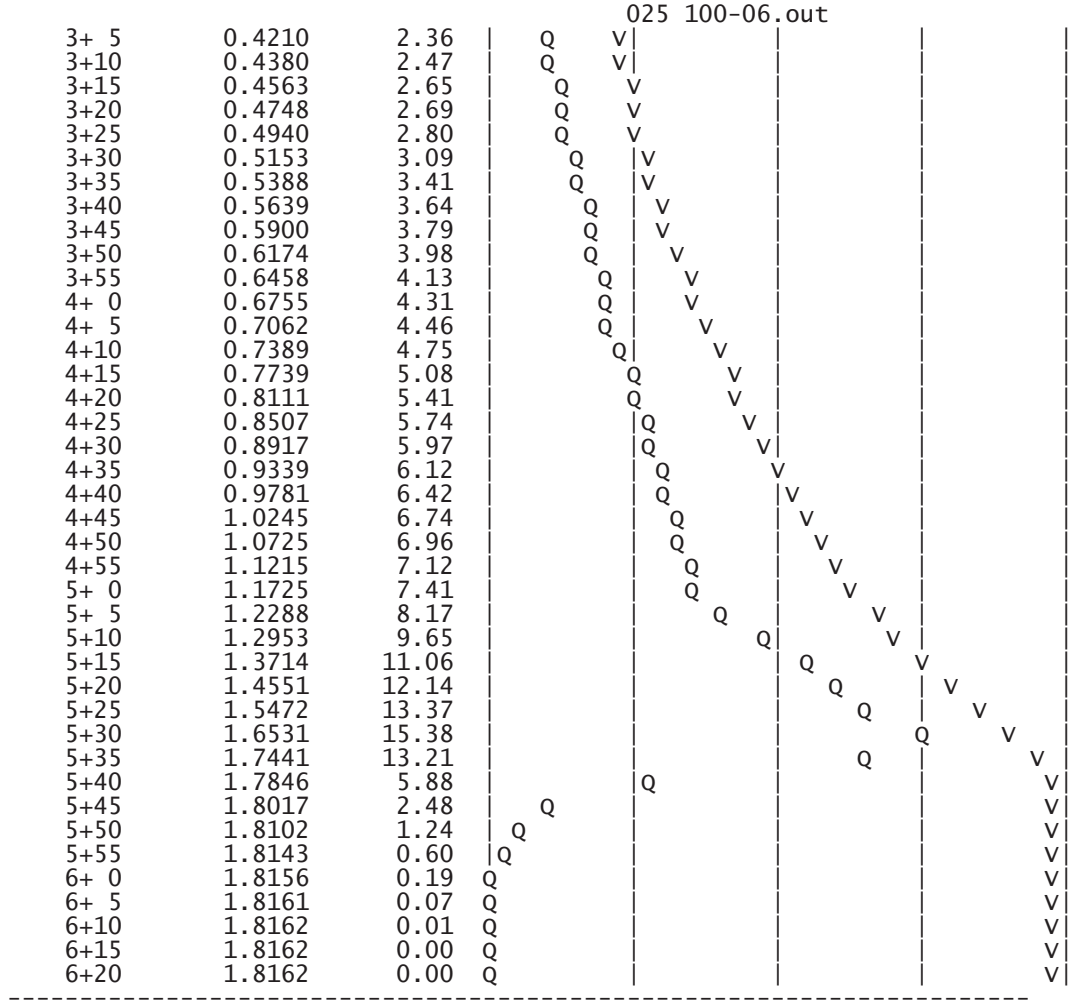
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 5.0 | 10.0 | 15.0 | 20.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0016 | 0.23 | Q | | | | |
| 0+10 | 0.0065 | 0.71 | VQ | | | | |
| 0+15 | 0.0131 | 0.97 | VQ | | | | |
| 0+20 | 0.0201 | 1.02 | V Q | | | | |
| 0+25 | 0.0272 | 1.03 | V Q | | | | |
| 0+30 | 0.0351 | 1.14 | V Q | | | | |
| 0+35 | 0.0441 | 1.32 | V Q | | | | |
| 0+40 | 0.0535 | 1.36 | \|VQ | | | | |
| 0+45 | 0.0629 | 1.36 | \|VQ | | | | |
| 0+50 | 0.0723 | 1.36 | \|VQ | | | | |
| 0+55 | 0.0817 | 1.36 | \|VQ | | | | |
| 1+ 0 | 0.0918 | 1.47 | \| Q | | | | |
| 1+ 5 | 0.1032 | 1.65 | \| VQ | | | | |
| 1+10 | 0.1148 | 1.69 | \| VQ | | | | |
| 1+15 | 0.1265 | 1.69 | \| VQ | | | | |
| 1+20 | 0.1382 | 1.70 | \| Q | | | | |
| 1+25 | 0.1498 | 1.70 | \| Q | | | | |
| 1+30 | 0.1615 | 1.70 | \| Q | | | | |
| 1+35 | 0.1732 | 1.70 | \| Q | | | | |
| 1+40 | 0.1849 | 1.70 | \| QV | | | | |
| 1+45 | 0.1966 | 1.70 | \| QV | | | | |
| 1+50 | 0.2083 | 1.70 | \| QV | | | | |
| 1+55 | 0.2200 | 1.70 | \| QV | | | | |
| 2+ 0 | 0.2324 | 1.81 | \| Q V | | | | |
| 2+ 5 | 0.2453 | 1.88 | \| Q V | | | | |
| 2+10 | 0.2580 | 1.84 | \| Q V | | | | |
| 2+15 | 0.2717 | 1.99 | \| Q V | | | | |
| 2+20 | 0.2857 | 2.02 | \| Q V | | | | |
| 2+25 | 0.2996 | 2.03 | \| Q V | | | | |
| 2+30 | 0.3136 | 2.03 | \| Q V | | | | |
| 2+35 | 0.3276 | 2.03 | \| Q V | | | | |
| 2+40 | 0.3416 | 2.03 | \| Q V | | | | |
| 2+45 | 0.3563 | 2.14 | \| Q V | | | | |
| 2+50 | 0.3723 | 2.32 | \| Q V | | | | |
| 2+55 | 0.3885 | 2.35 | \| Q V | | | | |
| 3+ 0 | 0.4047 | 2.36 | \| Q V | | | | |



| | | | |
|---|---|---|---|
| 3+ 5 | 0.4210 | 2.36 | |
| 3+10 | 0.4380 | 2.47 | |
| 3+15 | 0.4563 | 2.65 | |
| 3+20 | 0.4748 | 2.69 | |
| 3+25 | 0.4940 | 2.80 | |
| 3+30 | 0.5153 | 3.09 | |
| 3+35 | 0.5388 | 3.41 | |
| 3+40 | 0.5639 | 3.64 | |
| 3+45 | 0.5900 | 3.79 | |
| 3+50 | 0.6174 | 3.98 | |
| 3+55 | 0.6458 | 4.13 | |
| 4+ 0 | 0.6755 | 4.31 | |
| 4+ 5 | 0.7062 | 4.46 | |
| 4+10 | 0.7389 | 4.75 | |
| 4+15 | 0.7739 | 5.08 | |
| 4+20 | 0.8111 | 5.41 | |
| 4+25 | 0.8507 | 5.74 | |
| 4+30 | 0.8917 | 5.97 | |
| 4+35 | 0.9339 | 6.12 | |
| 4+40 | 0.9781 | 6.42 | |
| 4+45 | 1.0245 | 6.74 | |
| 4+50 | 1.0725 | 6.96 | |
| 4+55 | 1.1215 | 7.12 | |
| 5+ 0 | 1.1725 | 7.41 | |
| 5+ 5 | 1.2288 | 8.17 | |
| 5+10 | 1.2953 | 9.65 | |
| 5+15 | 1.3714 | 11.06 | |
| 5+20 | 1.4551 | 12.14 | |
| 5+25 | 1.5472 | 13.37 | |
| 5+30 | 1.6531 | 15.38 | |
| 5+35 | 1.7441 | 13.21 | |
| 5+40 | 1.7846 | 5.88 | |
| 5+45 | 1.8017 | 2.48 | |
| 5+50 | 1.8102 | 1.24 | |
| 5+55 | 1.8143 | 0.60 | |
| 6+ 0 | 1.8156 | 0.19 | |
| 6+ 5 | 1.8161 | 0.07 | |
| 6+10 | 1.8162 | 0.01 | |
| 6+15 | 1.8162 | 0.00 | |
| 6+20 | 1.8162 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX2524100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 25
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 11.00(Ac.) = 0.017 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 11.00(Ac.) = 0.017 Sq. Mi.
Length along longest watercourse = 956.00(Ft.)
Length along longest watercourse measured to centroid = 574.00(Ft.)
Length along longest watercourse = 0.181 Mi.
Length along longest watercourse measured to centroid = 0.109 Mi.
Difference in elevation = 144.00(Ft.)
Slope along watercourse = 795.3138 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.053 Hr.
Lag time = 3.18 Min.
25% of lag time = 0.80 Min.
40% of lag time = 1.27 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 11.00 | 1.80 | 19.80 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 11.00 | 4.54 | 49.94 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.540(In)

Point rain (area averaged) = 4.540(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.540(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 11.000 | 83.85 | 0.000 |

Total Area Entered = 11.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.8 | 93.3 | 0.087 | 0.000 | 0.087 | 1.000 | 0.087 |
| | | | | | Sum (F) = | 0.087 |

Area averaged mean soil loss (F) (In/Hr) = 0.087

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 156.994 | 32.426 | 3.595 |
| 2 | 0.167 | 313.988 | 53.790 | 5.963 |
| 3 | 0.250 | 470.982 | 11.033 | 1.223 |
| 4 | 0.333 | 627.976 | 2.066 | 0.229 |
| 5 | 0.417 | 784.970 | 0.685 | 0.076 |
| | | | Sum = 100.000 | Sum= 11.086 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.036 | ( 0.154) | 0.033 | 0.004 |
| 2 | 0.17 | 0.07 | 0.036 | ( 0.154) | 0.033 | 0.004 |
| 3 | 0.25 | 0.07 | 0.036 | ( 0.153) | 0.033 | 0.004 |
| 4 | 0.33 | 0.10 | 0.054 | ( 0.152) | 0.049 | 0.005 |
| 5 | 0.42 | 0.10 | 0.054 | ( 0.152) | 0.049 | 0.005 |
| 6 | 0.50 | 0.10 | 0.054 | ( 0.151) | 0.049 | 0.005 |
| 7 | 0.58 | 0.10 | 0.054 | ( 0.151) | 0.049 | 0.005 |
| 8 | 0.67 | 0.10 | 0.054 | ( 0.150) | 0.049 | 0.005 |
| 9 | 0.75 | 0.10 | 0.054 | ( 0.149) | 0.049 | 0.005 |
| 10 | 0.83 | 0.13 | 0.073 | ( 0.149) | 0.065 | 0.007 |
| 11 | 0.92 | 0.13 | 0.073 | ( 0.148) | 0.065 | 0.007 |
| 12 | 1.00 | 0.13 | 0.073 | ( 0.148) | 0.065 | 0.007 |
| 13 | 1.08 | 0.10 | 0.054 | ( 0.147) | 0.049 | 0.005 |
| 14 | 1.17 | 0.10 | 0.054 | ( 0.147) | 0.049 | 0.005 |
| 15 | 1.25 | 0.10 | 0.054 | ( 0.146) | 0.049 | 0.005 |
| 16 | 1.33 | 0.10 | 0.054 | ( 0.145) | 0.049 | 0.005 |
| 17 | 1.42 | 0.10 | 0.054 | ( 0.145) | 0.049 | 0.005 |
| 18 | 1.50 | 0.10 | 0.054 | ( 0.144) | 0.049 | 0.005 |
| 19 | 1.58 | 0.10 | 0.054 | ( 0.144) | 0.049 | 0.005 |
| 20 | 1.67 | 0.10 | 0.054 | ( 0.143) | 0.049 | 0.005 |
| 21 | 1.75 | 0.10 | 0.054 | ( 0.142) | 0.049 | 0.005 |
| 22 | 1.83 | 0.13 | 0.073 | ( 0.142) | 0.065 | 0.007 |
| 23 | 1.92 | 0.13 | 0.073 | ( 0.141) | 0.065 | 0.007 |
| 24 | 2.00 | 0.13 | 0.073 | ( 0.141) | 0.065 | 0.007 |
| 25 | 2.08 | 0.13 | 0.073 | ( 0.140) | 0.065 | 0.007 |
| 26 | 2.17 | 0.13 | 0.073 | ( 0.140) | 0.065 | 0.007 |
| 27 | 2.25 | 0.13 | 0.073 | ( 0.139) | 0.065 | 0.007 |
| 28 | 2.33 | 0.13 | 0.073 | ( 0.138) | 0.065 | 0.007 |
| 29 | 2.42 | 0.13 | 0.073 | ( 0.138) | 0.065 | 0.007 |
| 30 | 2.50 | 0.13 | 0.073 | ( 0.137) | 0.065 | 0.007 |
| 31 | 2.58 | 0.17 | 0.091 | ( 0.137) | 0.082 | 0.009 |
| 32 | 2.67 | 0.17 | 0.091 | ( 0.136) | 0.082 | 0.009 |
| 33 | 2.75 | 0.17 | 0.091 | ( 0.136) | 0.082 | 0.009 |
| 34 | 2.83 | 0.17 | 0.091 | ( 0.135) | 0.082 | 0.009 |
| 35 | 2.92 | 0.17 | 0.091 | ( 0.135) | 0.082 | 0.009 |
| 36 | 3.00 | 0.17 | 0.091 | ( 0.134) | 0.082 | 0.009 |
| 37 | 3.08 | 0.17 | 0.091 | ( 0.133) | 0.082 | 0.009 |
| 38 | 3.17 | 0.17 | 0.091 | ( 0.133) | 0.082 | 0.009 |
| 39 | 3.25 | 0.17 | 0.091 | ( 0.132) | 0.082 | 0.009 |
| 40 | 3.33 | 0.17 | 0.091 | ( 0.132) | 0.082 | 0.009 |
| 41 | 3.42 | 0.17 | 0.091 | ( 0.131) | 0.082 | 0.009 |
| 42 | 3.50 | 0.17 | 0.091 | ( 0.131) | 0.082 | 0.009 |
| 43 | 3.58 | 0.17 | 0.091 | ( 0.130) | 0.082 | 0.009 |
| 44 | 3.67 | 0.17 | 0.091 | ( 0.130) | 0.082 | 0.009 |
| 45 | 3.75 | 0.17 | 0.091 | ( 0.129) | 0.082 | 0.009 |
| 46 | 3.83 | 0.20 | 0.109 | ( 0.129) | 0.098 | 0.011 |
| 47 | 3.92 | 0.20 | 0.109 | ( 0.128) | 0.098 | 0.011 |
| 48 | 4.00 | 0.20 | 0.109 | ( 0.127) | 0.098 | 0.011 |
| 49 | 4.08 | 0.20 | 0.109 | ( 0.127) | 0.098 | 0.011 |
| 50 | 4.17 | 0.20 | 0.109 | ( 0.126) | 0.098 | 0.011 |
| 51 | 4.25 | 0.20 | 0.109 | ( 0.126) | 0.098 | 0.011 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 52 | 4.33 | 0.23 | 0.127 | ( | 0.125) | 0.114 | | 0.013 |
| 53 | 4.42 | 0.23 | 0.127 | ( | 0.125) | 0.114 | | 0.013 |
| 54 | 4.50 | 0.23 | 0.127 | ( | 0.124) | 0.114 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.127 | ( | 0.124) | 0.114 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.127 | ( | 0.123) | 0.114 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.127 | ( | 0.123) | 0.114 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.145 | | 0.122 | ( 0.131) | | 0.023 |
| 59 | 4.92 | 0.27 | 0.145 | | 0.122 | ( 0.131) | | 0.024 |
| 60 | 5.00 | 0.27 | 0.145 | | 0.121 | ( 0.131) | | 0.024 |
| 61 | 5.08 | 0.20 | 0.109 | ( | 0.120) | 0.098 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.109 | ( | 0.120) | 0.098 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.109 | ( | 0.119) | 0.098 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.127 | ( | 0.119) | 0.114 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.127 | ( | 0.118) | 0.114 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.127 | ( | 0.118) | 0.114 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.145 | | 0.117 | ( 0.131) | | 0.028 |
| 68 | 5.67 | 0.27 | 0.145 | | 0.117 | ( 0.131) | | 0.028 |
| 69 | 5.75 | 0.27 | 0.145 | | 0.116 | ( 0.131) | | 0.029 |
| 70 | 5.83 | 0.27 | 0.145 | | 0.116 | ( 0.131) | | 0.029 |
| 71 | 5.92 | 0.27 | 0.145 | | 0.115 | ( 0.131) | | 0.030 |
| 72 | 6.00 | 0.27 | 0.145 | | 0.115 | ( 0.131) | | 0.030 |
| 73 | 6.08 | 0.30 | 0.163 | | 0.114 | ( 0.147) | | 0.049 |
| 74 | 6.17 | 0.30 | 0.163 | | 0.114 | ( 0.147) | | 0.050 |
| 75 | 6.25 | 0.30 | 0.163 | | 0.113 | ( 0.147) | | 0.050 |
| 76 | 6.33 | 0.30 | 0.163 | | 0.113 | ( 0.147) | | 0.051 |
| 77 | 6.42 | 0.30 | 0.163 | | 0.112 | ( 0.147) | | 0.051 |
| 78 | 6.50 | 0.30 | 0.163 | | 0.112 | ( 0.147) | | 0.052 |
| 79 | 6.58 | 0.33 | 0.182 | | 0.111 | ( 0.163) | | 0.070 |
| 80 | 6.67 | 0.33 | 0.182 | | 0.111 | ( 0.163) | | 0.071 |
| 81 | 6.75 | 0.33 | 0.182 | | 0.110 | ( 0.163) | | 0.071 |
| 82 | 6.83 | 0.33 | 0.182 | | 0.110 | ( 0.163) | | 0.072 |
| 83 | 6.92 | 0.33 | 0.182 | | 0.109 | ( 0.163) | | 0.072 |
| 84 | 7.00 | 0.33 | 0.182 | | 0.109 | ( 0.163) | | 0.073 |
| 85 | 7.08 | 0.33 | 0.182 | | 0.108 | ( 0.163) | | 0.073 |
| 86 | 7.17 | 0.33 | 0.182 | | 0.108 | ( 0.163) | | 0.074 |
| 87 | 7.25 | 0.33 | 0.182 | | 0.107 | ( 0.163) | | 0.074 |
| 88 | 7.33 | 0.37 | 0.200 | | 0.107 | ( 0.180) | | 0.093 |
| 89 | 7.42 | 0.37 | 0.200 | | 0.106 | ( 0.180) | | 0.093 |
| 90 | 7.50 | 0.37 | 0.200 | | 0.106 | ( 0.180) | | 0.094 |
| 91 | 7.58 | 0.40 | 0.218 | | 0.105 | ( 0.196) | | 0.113 |
| 92 | 7.67 | 0.40 | 0.218 | | 0.105 | ( 0.196) | | 0.113 |
| 93 | 7.75 | 0.40 | 0.218 | | 0.104 | ( 0.196) | | 0.114 |
| 94 | 7.83 | 0.43 | 0.236 | | 0.104 | ( 0.212) | | 0.132 |
| 95 | 7.92 | 0.43 | 0.236 | | 0.103 | ( 0.212) | | 0.133 |
| 96 | 8.00 | 0.43 | 0.236 | | 0.103 | ( 0.212) | | 0.133 |
| 97 | 8.08 | 0.50 | 0.272 | | 0.102 | ( 0.245) | | 0.170 |
| 98 | 8.17 | 0.50 | 0.272 | | 0.102 | ( 0.245) | | 0.170 |
| 99 | 8.25 | 0.50 | 0.272 | | 0.101 | ( 0.245) | | 0.171 |
| 100 | 8.33 | 0.50 | 0.272 | | 0.101 | ( 0.245) | | 0.171 |
| 101 | 8.42 | 0.50 | 0.272 | | 0.101 | ( 0.245) | | 0.172 |
| 102 | 8.50 | 0.50 | 0.272 | | 0.100 | ( 0.245) | | 0.172 |
| 103 | 8.58 | 0.53 | 0.291 | | 0.100 | ( 0.261) | | 0.191 |
| 104 | 8.67 | 0.53 | 0.291 | | 0.099 | ( 0.261) | | 0.191 |
| 105 | 8.75 | 0.53 | 0.291 | | 0.099 | ( 0.261) | | 0.192 |
| 106 | 8.83 | 0.57 | 0.309 | | 0.098 | ( 0.278) | | 0.211 |
| 107 | 8.92 | 0.57 | 0.309 | | 0.098 | ( 0.278) | | 0.211 |
| 108 | 9.00 | 0.57 | 0.309 | | 0.097 | ( 0.278) | | 0.211 |
| 109 | 9.08 | 0.63 | 0.345 | | 0.097 | ( 0.311) | | 0.248 |
| 110 | 9.17 | 0.63 | 0.345 | | 0.096 | ( 0.311) | | 0.249 |
| 111 | 9.25 | 0.63 | 0.345 | | 0.096 | ( 0.311) | | 0.249 |
| 112 | 9.33 | 0.67 | 0.363 | | 0.095 | ( 0.327) | | 0.268 |
| 113 | 9.42 | 0.67 | 0.363 | | 0.095 | ( 0.327) | | 0.268 |
| 114 | 9.50 | 0.67 | 0.363 | | 0.095 | ( 0.327) | | 0.269 |
| 115 | 9.58 | 0.70 | 0.381 | | 0.094 | ( 0.343) | | 0.287 |
| 116 | 9.67 | 0.70 | 0.381 | | 0.094 | ( 0.343) | | 0.288 |
| 117 | 9.75 | 0.70 | 0.381 | | 0.093 | ( 0.343) | | 0.288 |
| 118 | 9.83 | 0.73 | 0.400 | | 0.093 | ( 0.360) | | 0.307 |
| 119 | 9.92 | 0.73 | 0.400 | | 0.092 | ( 0.360) | | 0.307 |
| 120 | 10.00 | 0.73 | 0.400 | | 0.092 | ( 0.360) | | 0.308 |
| 121 | 10.08 | 0.50 | 0.272 | | 0.091 | ( 0.245) | | 0.181 |
| 122 | 10.17 | 0.50 | 0.272 | | 0.091 | ( 0.245) | | 0.181 |
| 123 | 10.25 | 0.50 | 0.272 | | 0.091 | ( 0.245) | | 0.182 |
| 124 | 10.33 | 0.50 | 0.272 | | 0.090 | ( 0.245) | | 0.182 |
| 125 | 10.42 | 0.50 | 0.272 | | 0.090 | ( 0.245) | | 0.183 |
| 126 | 10.50 | 0.50 | 0.272 | | 0.089 | ( 0.245) | | 0.183 |
| 127 | 10.58 | 0.67 | 0.363 | | 0.089 | ( 0.327) | | 0.274 |
| 128 | 10.67 | 0.67 | 0.363 | | 0.088 | ( 0.327) | | 0.275 |
| 129 | 10.75 | 0.67 | 0.363 | | 0.088 | ( 0.327) | | 0.275 |

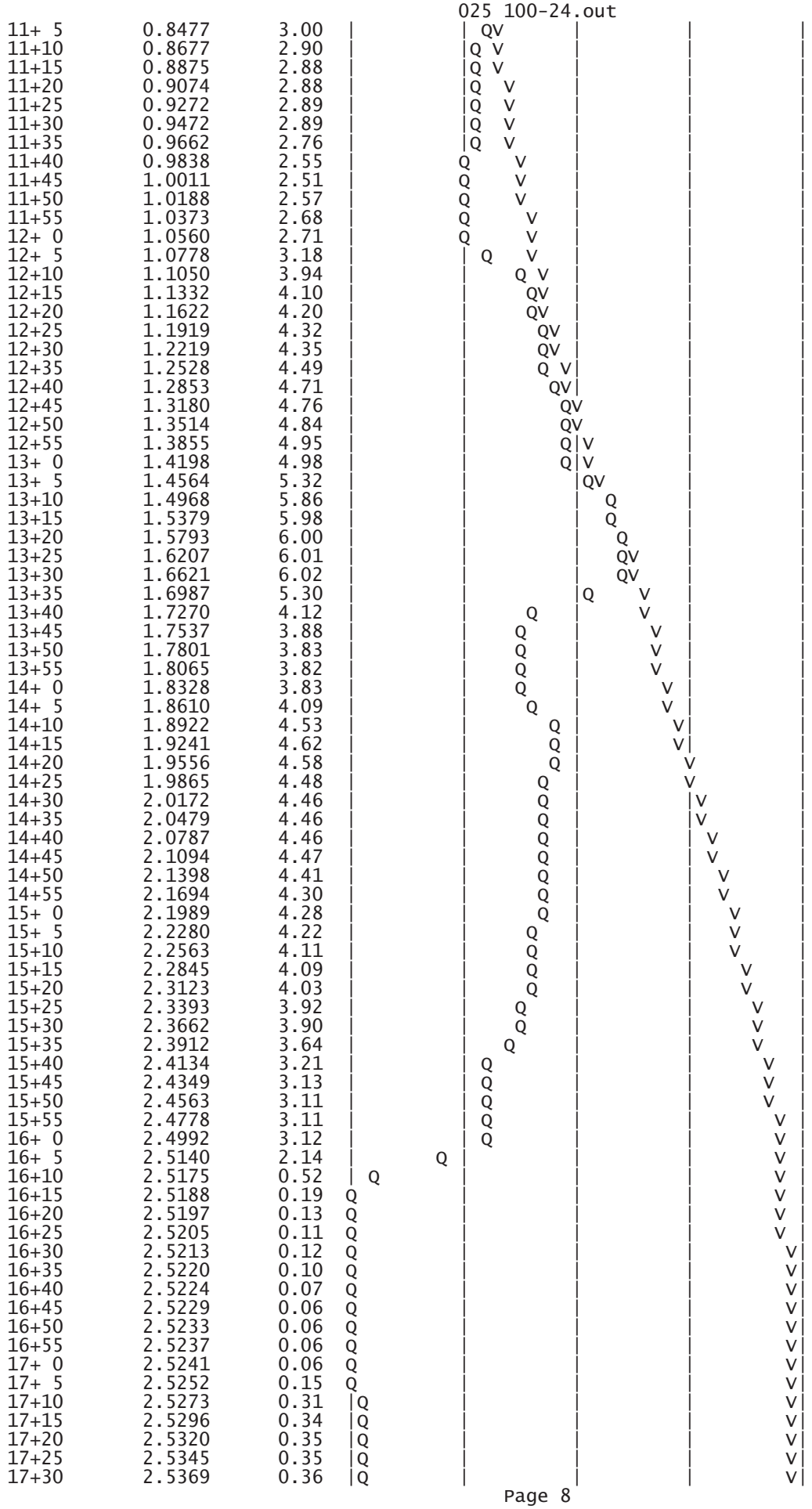
| | | | | | | |
|---|---|---|---|---|---|---|
| 130 | 10.83 | 0.67 | 0.363 | 0.087 | ( 0.327) | 0.276 |
| 131 | 10.92 | 0.67 | 0.363 | 0.087 | ( 0.327) | 0.276 |
| 132 | 11.00 | 0.67 | 0.363 | 0.087 | ( 0.327) | 0.277 |
| 133 | 11.08 | 0.63 | 0.345 | 0.086 | ( 0.311) | 0.259 |
| 134 | 11.17 | 0.63 | 0.345 | 0.086 | ( 0.311) | 0.259 |
| 135 | 11.25 | 0.63 | 0.345 | 0.085 | ( 0.311) | 0.260 |
| 136 | 11.33 | 0.63 | 0.345 | 0.085 | ( 0.311) | 0.260 |
| 137 | 11.42 | 0.63 | 0.345 | 0.084 | ( 0.311) | 0.261 |
| 138 | 11.50 | 0.63 | 0.345 | 0.084 | ( 0.311) | 0.261 |
| 139 | 11.58 | 0.57 | 0.309 | 0.084 | ( 0.278) | 0.225 |
| 140 | 11.67 | 0.57 | 0.309 | 0.083 | ( 0.278) | 0.225 |
| 141 | 11.75 | 0.57 | 0.309 | 0.083 | ( 0.278) | 0.226 |
| 142 | 11.83 | 0.60 | 0.327 | 0.082 | ( 0.294) | 0.244 |
| 143 | 11.92 | 0.60 | 0.327 | 0.082 | ( 0.294) | 0.245 |
| 144 | 12.00 | 0.60 | 0.327 | 0.082 | ( 0.294) | 0.245 |
| 145 | 12.08 | 0.83 | 0.454 | 0.081 | ( 0.409) | 0.373 |
| 146 | 12.17 | 0.83 | 0.454 | 0.081 | ( 0.409) | 0.373 |
| 147 | 12.25 | 0.83 | 0.454 | 0.080 | ( 0.409) | 0.374 |
| 148 | 12.33 | 0.87 | 0.472 | 0.080 | ( 0.425) | 0.392 |
| 149 | 12.42 | 0.87 | 0.472 | 0.080 | ( 0.425) | 0.393 |
| 150 | 12.50 | 0.87 | 0.472 | 0.079 | ( 0.425) | 0.393 |
| 151 | 12.58 | 0.93 | 0.508 | 0.079 | ( 0.458) | 0.430 |
| 152 | 12.67 | 0.93 | 0.508 | 0.078 | ( 0.458) | 0.430 |
| 153 | 12.75 | 0.93 | 0.508 | 0.078 | ( 0.458) | 0.430 |
| 154 | 12.83 | 0.97 | 0.527 | 0.078 | ( 0.474) | 0.449 |
| 155 | 12.92 | 0.97 | 0.527 | 0.077 | ( 0.474) | 0.449 |
| 156 | 13.00 | 0.97 | 0.527 | 0.077 | ( 0.474) | 0.450 |
| 157 | 13.08 | 1.13 | 0.617 | 0.076 | ( 0.556) | 0.541 |
| 158 | 13.17 | 1.13 | 0.617 | 0.076 | ( 0.556) | 0.541 |
| 159 | 13.25 | 1.13 | 0.617 | 0.076 | ( 0.556) | 0.542 |
| 160 | 13.33 | 1.13 | 0.617 | 0.075 | ( 0.556) | 0.542 |
| 161 | 13.42 | 1.13 | 0.617 | 0.075 | ( 0.556) | 0.543 |
| 162 | 13.50 | 1.13 | 0.617 | 0.074 | ( 0.556) | 0.543 |
| 163 | 13.58 | 0.77 | 0.418 | 0.074 | ( 0.376) | 0.344 |
| 164 | 13.67 | 0.77 | 0.418 | 0.074 | ( 0.376) | 0.344 |
| 165 | 13.75 | 0.77 | 0.418 | 0.073 | ( 0.376) | 0.344 |
| 166 | 13.83 | 0.77 | 0.418 | 0.073 | ( 0.376) | 0.345 |
| 167 | 13.92 | 0.77 | 0.418 | 0.073 | ( 0.376) | 0.345 |
| 168 | 14.00 | 0.77 | 0.418 | 0.072 | ( 0.376) | 0.345 |
| 169 | 14.08 | 0.90 | 0.490 | 0.072 | ( 0.441) | 0.418 |
| 170 | 14.17 | 0.90 | 0.490 | 0.072 | ( 0.441) | 0.419 |
| 171 | 14.25 | 0.90 | 0.490 | 0.071 | ( 0.441) | 0.419 |
| 172 | 14.33 | 0.87 | 0.472 | 0.071 | ( 0.425) | 0.401 |
| 173 | 14.42 | 0.87 | 0.472 | 0.070 | ( 0.425) | 0.402 |
| 174 | 14.50 | 0.87 | 0.472 | 0.070 | ( 0.425) | 0.402 |
| 175 | 14.58 | 0.87 | 0.472 | 0.070 | ( 0.425) | 0.402 |
| 176 | 14.67 | 0.87 | 0.472 | 0.069 | ( 0.425) | 0.403 |
| 177 | 14.75 | 0.87 | 0.472 | 0.069 | ( 0.425) | 0.403 |
| 178 | 14.83 | 0.83 | 0.454 | 0.069 | ( 0.409) | 0.385 |
| 179 | 14.92 | 0.83 | 0.454 | 0.068 | ( 0.409) | 0.386 |
| 180 | 15.00 | 0.83 | 0.454 | 0.068 | ( 0.409) | 0.386 |
| 181 | 15.08 | 0.80 | 0.436 | 0.068 | ( 0.392) | 0.368 |
| 182 | 15.17 | 0.80 | 0.436 | 0.067 | ( 0.392) | 0.369 |
| 183 | 15.25 | 0.80 | 0.436 | 0.067 | ( 0.392) | 0.369 |
| 184 | 15.33 | 0.77 | 0.418 | 0.067 | ( 0.376) | 0.351 |
| 185 | 15.42 | 0.77 | 0.418 | 0.066 | ( 0.376) | 0.351 |
| 186 | 15.50 | 0.77 | 0.418 | 0.066 | ( 0.376) | 0.352 |
| 187 | 15.58 | 0.63 | 0.345 | 0.066 | ( 0.311) | 0.280 |
| 188 | 15.67 | 0.63 | 0.345 | 0.065 | ( 0.311) | 0.280 |
| 189 | 15.75 | 0.63 | 0.345 | 0.065 | ( 0.311) | 0.280 |
| 190 | 15.83 | 0.63 | 0.345 | 0.065 | ( 0.311) | 0.281 |
| 191 | 15.92 | 0.63 | 0.345 | 0.064 | ( 0.311) | 0.281 |
| 192 | 16.00 | 0.63 | 0.345 | 0.064 | ( 0.311) | 0.281 |
| 193 | 16.08 | 0.13 | 0.073 | 0.064 | ( 0.065) | 0.009 |
| 194 | 16.17 | 0.13 | 0.073 | 0.063 | ( 0.065) | 0.009 |
| 195 | 16.25 | 0.13 | 0.073 | 0.063 | ( 0.065) | 0.010 |
| 196 | 16.33 | 0.13 | 0.073 | 0.063 | ( 0.065) | 0.010 |
| 197 | 16.42 | 0.13 | 0.073 | 0.062 | ( 0.065) | 0.010 |
| 198 | 16.50 | 0.13 | 0.073 | 0.062 | ( 0.065) | 0.011 |
| 199 | 16.58 | 0.10 | 0.054 | ( 0.062) | 0.049 | 0.005 |
| 200 | 16.67 | 0.10 | 0.054 | ( 0.061) | 0.049 | 0.005 |
| 201 | 16.75 | 0.10 | 0.054 | ( 0.061) | 0.049 | 0.005 |
| 202 | 16.83 | 0.10 | 0.054 | ( 0.061) | 0.049 | 0.005 |
| 203 | 16.92 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 204 | 17.00 | 0.10 | 0.054 | ( 0.060) | 0.049 | 0.005 |
| 205 | 17.08 | 0.17 | 0.091 | 0.060 | ( 0.082) | 0.031 |
| 206 | 17.17 | 0.17 | 0.091 | 0.059 | ( 0.082) | 0.031 |
| 207 | 17.25 | 0.17 | 0.091 | 0.059 | ( 0.082) | 0.032 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 208 | 17.33 | 0.17 | 0.091 | | 0.059 | ( | 0.082) | 0.032 |
| 209 | 17.42 | 0.17 | 0.091 | | 0.059 | ( | 0.082) | 0.032 |
| 210 | 17.50 | 0.17 | 0.091 | | 0.058 | ( | 0.082) | 0.033 |
| 211 | 17.58 | 0.17 | 0.091 | | 0.058 | ( | 0.082) | 0.033 |
| 212 | 17.67 | 0.17 | 0.091 | | 0.058 | ( | 0.082) | 0.033 |
| 213 | 17.75 | 0.17 | 0.091 | | 0.057 | ( | 0.082) | 0.033 |
| 214 | 17.83 | 0.13 | 0.073 | | 0.057 | ( | 0.065) | 0.016 |
| 215 | 17.92 | 0.13 | 0.073 | | 0.057 | ( | 0.065) | 0.016 |
| 216 | 18.00 | 0.13 | 0.073 | | 0.057 | ( | 0.065) | 0.016 |
| 217 | 18.08 | 0.13 | 0.073 | | 0.056 | ( | 0.065) | 0.016 |
| 218 | 18.17 | 0.13 | 0.073 | | 0.056 | ( | 0.065) | 0.017 |
| 219 | 18.25 | 0.13 | 0.073 | | 0.056 | ( | 0.065) | 0.017 |
| 220 | 18.33 | 0.13 | 0.073 | | 0.055 | ( | 0.065) | 0.017 |
| 221 | 18.42 | 0.13 | 0.073 | | 0.055 | ( | 0.065) | 0.017 |
| 222 | 18.50 | 0.13 | 0.073 | | 0.055 | ( | 0.065) | 0.018 |
| 223 | 18.58 | 0.10 | 0.054 | ( | 0.055) | | 0.049 | 0.005 |
| 224 | 18.67 | 0.10 | 0.054 | ( | 0.054) | | 0.049 | 0.005 |
| 225 | 18.75 | 0.10 | 0.054 | ( | 0.054) | | 0.049 | 0.005 |
| 226 | 18.83 | 0.07 | 0.036 | ( | 0.054) | | 0.033 | 0.004 |
| 227 | 18.92 | 0.07 | 0.036 | ( | 0.054) | | 0.033 | 0.004 |
| 228 | 19.00 | 0.07 | 0.036 | ( | 0.053) | | 0.033 | 0.004 |
| 229 | 19.08 | 0.10 | 0.054 | ( | 0.053) | | 0.049 | 0.005 |
| 230 | 19.17 | 0.10 | 0.054 | ( | 0.053) | | 0.049 | 0.005 |
| 231 | 19.25 | 0.10 | 0.054 | ( | 0.053) | | 0.049 | 0.005 |
| 232 | 19.33 | 0.13 | 0.073 | | 0.052 | ( | 0.065) | 0.020 |
| 233 | 19.42 | 0.13 | 0.073 | | 0.052 | ( | 0.065) | 0.021 |
| 234 | 19.50 | 0.13 | 0.073 | | 0.052 | ( | 0.065) | 0.021 |
| 235 | 19.58 | 0.10 | 0.054 | ( | 0.052) | | 0.049 | 0.005 |
| 236 | 19.67 | 0.10 | 0.054 | ( | 0.051) | | 0.049 | 0.005 |
| 237 | 19.75 | 0.10 | 0.054 | ( | 0.051) | | 0.049 | 0.005 |
| 238 | 19.83 | 0.07 | 0.036 | ( | 0.051) | | 0.033 | 0.004 |
| 239 | 19.92 | 0.07 | 0.036 | ( | 0.051) | | 0.033 | 0.004 |
| 240 | 20.00 | 0.07 | 0.036 | ( | 0.051) | | 0.033 | 0.004 |
| 241 | 20.08 | 0.10 | 0.054 | ( | 0.050) | | 0.049 | 0.005 |
| 242 | 20.17 | 0.10 | 0.054 | ( | 0.050) | | 0.049 | 0.005 |
| 243 | 20.25 | 0.10 | 0.054 | ( | 0.050) | | 0.049 | 0.005 |
| 244 | 20.33 | 0.10 | 0.054 | ( | 0.050) | | 0.049 | 0.005 |
| 245 | 20.42 | 0.10 | 0.054 | ( | 0.049) | | 0.049 | 0.005 |
| 246 | 20.50 | 0.10 | 0.054 | ( | 0.049) | | 0.049 | 0.005 |
| 247 | 20.58 | 0.10 | 0.054 | | 0.049 | ( | 0.049) | 0.005 |
| 248 | 20.67 | 0.10 | 0.054 | | 0.049 | ( | 0.049) | 0.006 |
| 249 | 20.75 | 0.10 | 0.054 | | 0.049 | ( | 0.049) | 0.006 |
| 250 | 20.83 | 0.07 | 0.036 | ( | 0.048) | | 0.033 | 0.004 |
| 251 | 20.92 | 0.07 | 0.036 | ( | 0.048) | | 0.033 | 0.004 |
| 252 | 21.00 | 0.07 | 0.036 | ( | 0.048) | | 0.033 | 0.004 |
| 253 | 21.08 | 0.10 | 0.054 | | 0.048 | ( | 0.049) | 0.007 |
| 254 | 21.17 | 0.10 | 0.054 | | 0.048 | ( | 0.049) | 0.007 |
| 255 | 21.25 | 0.10 | 0.054 | | 0.047 | ( | 0.049) | 0.007 |
| 256 | 21.33 | 0.07 | 0.036 | ( | 0.047) | | 0.033 | 0.004 |
| 257 | 21.42 | 0.07 | 0.036 | ( | 0.047) | | 0.033 | 0.004 |
| 258 | 21.50 | 0.07 | 0.036 | ( | 0.047) | | 0.033 | 0.004 |
| 259 | 21.58 | 0.10 | 0.054 | | 0.047 | ( | 0.049) | 0.008 |
| 260 | 21.67 | 0.10 | 0.054 | | 0.047 | ( | 0.049) | 0.008 |
| 261 | 21.75 | 0.10 | 0.054 | | 0.046 | ( | 0.049) | 0.008 |
| 262 | 21.83 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 263 | 21.92 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 264 | 22.00 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 265 | 22.08 | 0.10 | 0.054 | | 0.046 | ( | 0.049) | 0.009 |
| 266 | 22.17 | 0.10 | 0.054 | | 0.046 | ( | 0.049) | 0.009 |
| 267 | 22.25 | 0.10 | 0.054 | | 0.045 | ( | 0.049) | 0.009 |
| 268 | 22.33 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 269 | 22.42 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 270 | 22.50 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 271 | 22.58 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 272 | 22.67 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 273 | 22.75 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 274 | 22.83 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 275 | 22.92 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 276 | 23.00 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 277 | 23.08 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 278 | 23.17 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 279 | 23.25 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 280 | 23.33 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 281 | 23.42 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 284 | 23.67 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |
| 285 | 23.75 | 0.07 | 0.036 | ( | 0.044) | | 0.033 | 0.004 |

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286  23.83     0.07      0.036       (  0.044)       0.033        0.004
287  23.92     0.07      0.036       (  0.044)       0.033        0.004
288  24.00     0.07      0.036       (  0.043)       0.033        0.004
              (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    33.8
       Flood volume = Effective rainfall      2.82(In)
        times area      11.0(Ac.)/[(In)/(Ft.)] =       2.6(Ac.Ft)
       Total soil loss =      1.72(In)
       Total soil loss =     1.576(Ac.Ft)
       Total rainfall =      4.54(In)
       Flood volume =      112632.9 Cubic Feet
       Total soil loss =       68645.4 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =      6.018(CFS)
       ---------------------------------------------------------------------
       +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
       ---------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))

       ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5       10.0
 ----------------------------------------------------------------------------
   0+ 5       0.0001      0.01  Q          |         |         |         |
   0+10       0.0003      0.03  Q          |         |         |         |
   0+15       0.0006      0.04  Q          |         |         |         |
   0+20       0.0009      0.05  Q          |         |         |         |
   0+25       0.0013      0.06  Q          |         |         |         |
   0+30       0.0017      0.06  Q          |         |         |         |
   0+35       0.0021      0.06  Q          |         |         |         |
   0+40       0.0026      0.06  Q          |         |         |         |
   0+45       0.0030      0.06  Q          |         |         |         |
   0+50       0.0034      0.07  Q          |         |         |         |
   0+55       0.0040      0.08  Q          |         |         |         |
   1+ 0       0.0045      0.08  Q          |         |         |         |
   1+ 5       0.0050      0.07  Q          |         |         |         |
   1+10       0.0055      0.06  Q          |         |         |         |
   1+15       0.0059      0.06  Q          |         |         |         |
   1+20       0.0063      0.06  Q          |         |         |         |
   1+25       0.0067      0.06  Q          |         |         |         |
   1+30       0.0071      0.06  Q          |         |         |         |
   1+35       0.0076      0.06  Q          |         |         |         |
   1+40       0.0080      0.06  Q          |         |         |         |
   1+45       0.0084      0.06  Q          |         |         |         |
   1+50       0.0088      0.07  Q          |         |         |         |
   1+55       0.0094      0.08  Q          |         |         |         |
   2+ 0       0.0099      0.08  Q          |         |         |         |
   2+ 5       0.0105      0.08  Q          |         |         |         |
   2+10       0.0110      0.08  Q          |         |         |         |
   2+15       0.0116      0.08  Q          |         |         |         |
   2+20       0.0122      0.08  Q          |         |         |         |
   2+25       0.0127      0.08  Q          |         |         |         |
   2+30       0.0133      0.08  Q          |         |         |         |
   2+35       0.0139      0.09  Q          |         |         |         |
   2+40       0.0145      0.10  Q          |         |         |         |
   2+45       0.0152      0.10  Q          |         |         |         |
   2+50       0.0159      0.10  Q          |         |         |         |
   2+55       0.0166      0.10  Q          |         |         |         |
   3+ 0       0.0173      0.10  Q          |         |         |         |
   3+ 5       0.0180      0.10  Q          |         |         |         |
   3+10       0.0187      0.10  Q          |         |         |         |
   3+15       0.0194      0.10  Q          |         |         |         |
   3+20       0.0201      0.10  Q          |         |         |         |
   3+25       0.0208      0.10  Q          |         |         |         |
   3+30       0.0215      0.10  Q          |         |         |         |
   3+35       0.0222      0.10  Q          |         |         |         |
   3+40       0.0229      0.10  Q          |         |         |         |
   3+45       0.0235      0.10  Q          |         |         |         |
   3+50       0.0243      0.11  Q          |         |         |         |
   3+55       0.0251      0.12  Q          |         |         |         |
   4+ 0       0.0259      0.12  Q          |         |         |         |
   4+ 5       0.0268      0.12  Q          |         |         |         |
   4+10       0.0276      0.12  Q          |         |         |         |
   4+15       0.0284      0.12  Q          |         |         |         |
   4+20       0.0293      0.13  Q          |         |         |         |
   4+25       0.0303      0.14  Q          |         |         |         |
   4+30       0.0312      0.14  Q          |         |         |         |
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 4+35       0.0322      0.14  Q          |          |          |          |
 4+40       0.0332      0.14  Q          |          |          |          |
 4+45       0.0341      0.14  Q          |          |          |          |
 4+50       0.0354      0.18  Q          |          |          |          |
 4+55       0.0370      0.24  Q          |          |          |          |
 5+ 0       0.0388      0.26  VQ         |          |          |          |
 5+ 5       0.0403      0.22  Q          |          |          |          |
 5+10       0.0413      0.14  Q          |          |          |          |
 5+15       0.0422      0.12  Q          |          |          |          |
 5+20       0.0431      0.13  Q          |          |          |          |
 5+25       0.0440      0.14  Q          |          |          |          |
 5+30       0.0450      0.14  Q          |          |          |          |
 5+35       0.0463      0.20  Q          |          |          |          |
 5+40       0.0483      0.29  VQ         |          |          |          |
 5+45       0.0505      0.31  VQ         |          |          |          |
 5+50       0.0527      0.32  VQ         |          |          |          |
 5+55       0.0549      0.33  VQ         |          |          |          |
 6+ 0       0.0572      0.33  VQ         |          |          |          |
 6+ 5       0.0600      0.40  VQ         |          |          |          |
 6+10       0.0636      0.52  V Q        |          |          |          |
 6+15       0.0673      0.55  |VQ        |          |          |          |
 6+20       0.0712      0.56  |VQ        |          |          |          |
 6+25       0.0750      0.56  |VQ        |          |          |          |
 6+30       0.0790      0.57  |VQ        |          |          |          |
 6+35       0.0834      0.64  |VQ        |          |          |          |
 6+40       0.0885      0.75  |V Q       |          |          |          |
 6+45       0.0939      0.78  |V Q       |          |          |          |
 6+50       0.0994      0.79  |V Q       |          |          |          |
 6+55       0.1049      0.80  |V Q       |          |          |          |
 7+ 0       0.1104      0.80  |V Q       |          |          |          |
 7+ 5       0.1160      0.81  |V Q       |          |          |          |
 7+10       0.1216      0.81  |V Q       |          |          |          |
 7+15       0.1272      0.82  |V Q       |          |          |          |
 7+20       0.1333      0.89  | VQ       |          |          |          |
 7+25       0.1403      1.00  | V Q      |          |          |          |
 7+30       0.1474      1.03  | V Q      |          |          |          |
 7+35       0.1550      1.11  | V Q      |          |          |          |
 7+40       0.1634      1.22  | V Q      |          |          |          |
 7+45       0.1720      1.25  | V Q      |          |          |          |
 7+50       0.1811      1.32  | V  Q     |          |          |          |
 7+55       0.1910      1.44  | V  Q     |          |          |          |
 8+ 0       0.2011      1.47  |  V Q     |          |          |          |
 8+ 5       0.2122      1.61  |  V  Q    |          |          |          |
 8+10       0.2248      1.83  |  V   Q   |          |          |          |
 8+15       0.2378      1.88  |  V   Q   |          |          |          |
 8+20       0.2508      1.89  |  V   Q   |          |          |          |
 8+25       0.2639      1.90  |   V  Q   |          |          |          |
 8+30       0.2770      1.91  |   V  Q   |          |          |          |
 8+35       0.2906      1.98  |   V  Q   |          |          |          |
 8+40       0.3051      2.09  |   V   Q  |          |          |          |
 8+45       0.3196      2.12  |   V   Q  |          |          |          |
 8+50       0.3347      2.19  |    V  Q  |          |          |          |
 8+55       0.3506      2.31  |    V   Q|          |          |          |
 9+ 0       0.3667      2.34  |    V   Q|          |          |          |
 9+ 5       0.3838      2.48  |    V   Q|          |          |          |
 9+10       0.4023      2.70  |     V   Q          |          |          |
 9+15       0.4213      2.75  |     V   Q          |          |          |
 9+20       0.4407      2.83  |     V   |Q         |          |          |
 9+25       0.4610      2.94  |      V  |Q         |          |          |
 9+30       0.4815      2.97  |      V  |Q         |          |          |
 9+35       0.5024      3.04  |      V  | Q        |          |          |
 9+40       0.5242      3.16  |       V | Q        |          |          |
 9+45       0.5461      3.19  |       V | Q        |          |          |
 9+50       0.5686      3.26  |       V |  Q       |          |          |
 9+55       0.5918      3.38  |        V|  Q       |          |          |
10+ 0       0.6153      3.40  |        V|  Q       |          |          |
10+ 5       0.6356      2.95  |        V|Q         |          |          |
10+10       0.6508      2.20  |       Q V          |          |          |
10+15       0.6649      2.05  |       Q V          |          |          |
10+20       0.6789      2.03  |       Q V          |          |          |
10+25       0.6928      2.02  |       Q V          |          |          |
10+30       0.7068      2.03  |       Q V          |          |          |
10+35       0.7230      2.36  |        Q|V         |          |          |
10+40       0.7431      2.91  |         |Q         |          |          |
10+45       0.7639      3.02  |         |VQ        |          |          |
10+50       0.7849      3.05  |         | Q        |          |          |
10+55       0.8059      3.06  |         | Q        |          |          |
11+ 0       0.8270      3.06  |         | Q        |          |          |
```



| | | | |
|---|---|---|---|
| 11+ 5 | 0.8477 | 3.00 | |
| 11+10 | 0.8677 | 2.90 | |
| 11+15 | 0.8875 | 2.88 | |
| 11+20 | 0.9074 | 2.88 | |
| 11+25 | 0.9272 | 2.89 | |
| 11+30 | 0.9472 | 2.89 | |
| 11+35 | 0.9662 | 2.76 | |
| 11+40 | 0.9838 | 2.55 | |
| 11+45 | 1.0011 | 2.51 | |
| 11+50 | 1.0188 | 2.57 | |
| 11+55 | 1.0373 | 2.68 | |
| 12+ 0 | 1.0560 | 2.71 | |
| 12+ 5 | 1.0778 | 3.18 | |
| 12+10 | 1.1050 | 3.94 | |
| 12+15 | 1.1332 | 4.10 | |
| 12+20 | 1.1622 | 4.20 | |
| 12+25 | 1.1919 | 4.32 | |
| 12+30 | 1.2219 | 4.35 | |
| 12+35 | 1.2528 | 4.49 | |
| 12+40 | 1.2853 | 4.71 | |
| 12+45 | 1.3180 | 4.76 | |
| 12+50 | 1.3514 | 4.84 | |
| 12+55 | 1.3855 | 4.95 | |
| 13+ 0 | 1.4198 | 4.98 | |
| 13+ 5 | 1.4564 | 5.32 | |
| 13+10 | 1.4968 | 5.86 | |
| 13+15 | 1.5379 | 5.98 | |
| 13+20 | 1.5793 | 6.00 | |
| 13+25 | 1.6207 | 6.01 | |
| 13+30 | 1.6621 | 6.02 | |
| 13+35 | 1.6987 | 5.30 | |
| 13+40 | 1.7270 | 4.12 | |
| 13+45 | 1.7537 | 3.88 | |
| 13+50 | 1.7801 | 3.83 | |
| 13+55 | 1.8065 | 3.82 | |
| 14+ 0 | 1.8328 | 3.83 | |
| 14+ 5 | 1.8610 | 4.09 | |
| 14+10 | 1.8922 | 4.53 | |
| 14+15 | 1.9241 | 4.62 | |
| 14+20 | 1.9556 | 4.58 | |
| 14+25 | 1.9865 | 4.48 | |
| 14+30 | 2.0172 | 4.46 | |
| 14+35 | 2.0479 | 4.46 | |
| 14+40 | 2.0787 | 4.46 | |
| 14+45 | 2.1094 | 4.47 | |
| 14+50 | 2.1398 | 4.41 | |
| 14+55 | 2.1694 | 4.30 | |
| 15+ 0 | 2.1989 | 4.28 | |
| 15+ 5 | 2.2280 | 4.22 | |
| 15+10 | 2.2563 | 4.11 | |
| 15+15 | 2.2845 | 4.09 | |
| 15+20 | 2.3123 | 4.03 | |
| 15+25 | 2.3393 | 3.92 | |
| 15+30 | 2.3662 | 3.90 | |
| 15+35 | 2.3912 | 3.64 | |
| 15+40 | 2.4134 | 3.21 | |
| 15+45 | 2.4349 | 3.13 | |
| 15+50 | 2.4563 | 3.11 | |
| 15+55 | 2.4778 | 3.11 | |
| 16+ 0 | 2.4992 | 3.12 | |
| 16+ 5 | 2.5140 | 2.14 | |
| 16+10 | 2.5175 | 0.52 | |
| 16+15 | 2.5188 | 0.19 | |
| 16+20 | 2.5197 | 0.13 | |
| 16+25 | 2.5205 | 0.11 | |
| 16+30 | 2.5213 | 0.12 | |
| 16+35 | 2.5220 | 0.10 | |
| 16+40 | 2.5224 | 0.07 | |
| 16+45 | 2.5229 | 0.06 | |
| 16+50 | 2.5233 | 0.06 | |
| 16+55 | 2.5237 | 0.06 | |
| 17+ 0 | 2.5241 | 0.06 | |
| 17+ 5 | 2.5252 | 0.15 | |
| 17+10 | 2.5273 | 0.31 | |
| 17+15 | 2.5296 | 0.34 | |
| 17+20 | 2.5320 | 0.35 | |
| 17+25 | 2.5345 | 0.35 | |
| 17+30 | 2.5369 | 0.36 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+35 | 2.5394 | 0.36 | \|Q | \| | \| | \| | V\| |
| 17+40 | 2.5419 | 0.36 | \|Q | \| | \| | \| | V\| |
| 17+45 | 2.5445 | 0.37 | \|Q | \| | \| | \| | V\| |
| 17+50 | 2.5466 | 0.31 | \|Q | \| | \| | \| | V\| |
| 17+55 | 2.5479 | 0.20 | Q | \| | \| | \| | V\| |
| 18+ 0 | 2.5492 | 0.18 | Q | \| | \| | \| | V\| |
| 18+ 5 | 2.5504 | 0.18 | Q | \| | \| | \| | V\| |
| 18+10 | 2.5517 | 0.18 | Q | \| | \| | \| | V\| |
| 18+15 | 2.5530 | 0.18 | Q | \| | \| | \| | V\| |
| 18+20 | 2.5543 | 0.19 | Q | \| | \| | \| | V\| |
| 18+25 | 2.5556 | 0.19 | Q | \| | \| | \| | V\| |
| 18+30 | 2.5569 | 0.19 | Q | \| | \| | \| | V\| |
| 18+35 | 2.5580 | 0.15 | Q | \| | \| | \| | V\| |
| 18+40 | 2.5585 | 0.08 | Q | \| | \| | \| | V\| |
| 18+45 | 2.5589 | 0.06 | Q | \| | \| | \| | V\| |
| 18+50 | 2.5593 | 0.05 | Q | \| | \| | \| | V\| |
| 18+55 | 2.5596 | 0.04 | Q | \| | \| | \| | V\| |
| 19+ 0 | 2.5599 | 0.04 | Q | \| | \| | \| | V\| |
| 19+ 5 | 2.5602 | 0.05 | Q | \| | \| | \| | V\| |
| 19+10 | 2.5606 | 0.06 | Q | \| | \| | \| | V\| |
| 19+15 | 2.5610 | 0.06 | Q | \| | \| | \| | V\| |
| 19+20 | 2.5618 | 0.11 | Q | \| | \| | \| | V\| |
| 19+25 | 2.5632 | 0.20 | Q | \| | \| | \| | V\| |
| 19+30 | 2.5647 | 0.22 | Q | \| | \| | \| | V\| |
| 19+35 | 2.5659 | 0.17 | Q | \| | \| | \| | V\| |
| 19+40 | 2.5665 | 0.08 | Q | \| | \| | \| | V\| |
| 19+45 | 2.5670 | 0.07 | Q | \| | \| | \| | V\| |
| 19+50 | 2.5673 | 0.06 | Q | \| | \| | \| | V\| |
| 19+55 | 2.5676 | 0.04 | Q | \| | \| | \| | V\| |
| 20+ 0 | 2.5679 | 0.04 | Q | \| | \| | \| | V\| |
| 20+ 5 | 2.5682 | 0.05 | Q | \| | \| | \| | V\| |
| 20+10 | 2.5686 | 0.06 | Q | \| | \| | \| | V\| |
| 20+15 | 2.5691 | 0.06 | Q | \| | \| | \| | V\| |
| 20+20 | 2.5695 | 0.06 | Q | \| | \| | \| | V\| |
| 20+25 | 2.5699 | 0.06 | Q | \| | \| | \| | V\| |
| 20+30 | 2.5703 | 0.06 | Q | \| | \| | \| | V\| |
| 20+35 | 2.5707 | 0.06 | Q | \| | \| | \| | V\| |
| 20+40 | 2.5711 | 0.06 | Q | \| | \| | \| | V\| |
| 20+45 | 2.5716 | 0.06 | Q | \| | \| | \| | V\| |
| 20+50 | 2.5720 | 0.06 | Q | \| | \| | \| | V\| |
| 20+55 | 2.5723 | 0.04 | Q | \| | \| | \| | V\| |
| 21+ 0 | 2.5726 | 0.04 | Q | \| | \| | \| | V\| |
| 21+ 5 | 2.5729 | 0.05 | Q | \| | \| | \| | V\| |
| 21+10 | 2.5734 | 0.07 | Q | \| | \| | \| | V\| |
| 21+15 | 2.5739 | 0.08 | Q | \| | \| | \| | V\| |
| 21+20 | 2.5744 | 0.07 | Q | \| | \| | \| | V\| |
| 21+25 | 2.5747 | 0.05 | Q | \| | \| | \| | V\| |
| 21+30 | 2.5750 | 0.04 | Q | \| | \| | \| | V\| |
| 21+35 | 2.5753 | 0.06 | Q | \| | \| | \| | V\| |
| 21+40 | 2.5759 | 0.08 | Q | \| | \| | \| | V\| |
| 21+45 | 2.5765 | 0.09 | Q | \| | \| | \| | V\| |
| 21+50 | 2.5770 | 0.07 | Q | \| | \| | \| | V\| |
| 21+55 | 2.5773 | 0.05 | Q | \| | \| | \| | V\| |
| 22+ 0 | 2.5776 | 0.04 | Q | \| | \| | \| | V\| |
| 22+ 5 | 2.5780 | 0.06 | Q | \| | \| | \| | V\| |
| 22+10 | 2.5786 | 0.09 | Q | \| | \| | \| | V\| |
| 22+15 | 2.5793 | 0.10 | Q | \| | \| | \| | V\| |
| 22+20 | 2.5798 | 0.08 | Q | \| | \| | \| | V\| |
| 22+25 | 2.5802 | 0.05 | Q | \| | \| | \| | V\| |
| 22+30 | 2.5805 | 0.04 | Q | \| | \| | \| | V\| |
| 22+35 | 2.5807 | 0.04 | Q | \| | \| | \| | V\| |
| 22+40 | 2.5810 | 0.04 | Q | \| | \| | \| | V\| |
| 22+45 | 2.5813 | 0.04 | Q | \| | \| | \| | V\| |
| 22+50 | 2.5816 | 0.04 | Q | \| | \| | \| | V\| |
| 22+55 | 2.5819 | 0.04 | Q | \| | \| | \| | V\| |
| 23+ 0 | 2.5821 | 0.04 | Q | \| | \| | \| | V\| |
| 23+ 5 | 2.5824 | 0.04 | Q | \| | \| | \| | V\| |
| 23+10 | 2.5827 | 0.04 | Q | \| | \| | \| | V\| |
| 23+15 | 2.5830 | 0.04 | Q | \| | \| | \| | V\| |
| 23+20 | 2.5832 | 0.04 | Q | \| | \| | \| | V\| |
| 23+25 | 2.5835 | 0.04 | Q | \| | \| | \| | V\| |
| 23+30 | 2.5838 | 0.04 | Q | \| | \| | \| | V\| |
| 23+35 | 2.5841 | 0.04 | Q | \| | \| | \| | V\| |
| 23+40 | 2.5844 | 0.04 | Q | \| | \| | \| | V\| |
| 23+45 | 2.5846 | 0.04 | Q | \| | \| | \| | V\| |
| 23+50 | 2.5849 | 0.04 | Q | \| | \| | \| | V\| |
| 23+55 | 2.5852 | 0.04 | Q | \| | \| | \| | V\| |
| 24+ 0 | 2.5855 | 0.04 | Q | \| | \| | \| | V\| |

```
   24+ 5       2.5856      0.03  Q          |          |          |         V|
   24+10       2.5857      0.01  Q          |          |          |         V|
   24+15       2.5857      0.00  Q          |          |          |         V|
   24+20       2.5857      0.00  Q          |          |          |          V
-------------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX261100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 26
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.30(Ac.) = 0.000 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.30(Ac.) = 0.000 Sq. Mi.
Length along longest watercourse = 115.00(Ft.)
Length along longest watercourse measured to centroid = 61.00(Ft.)
Length along longest watercourse = 0.022 Mi.
Length along longest watercourse measured to centroid = 0.012 Mi.
Difference in elevation = 58.00(Ft.)
Slope along watercourse = 2662.9565 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.008 Hr.
Lag time = 0.48 Min.
25% of lag time = 0.12 Min.
40% of lag time = 0.19 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.30 | 0.49 | 0.15 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.30 | 1.20 | 0.36 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.490(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.300 | 83.55 | 0.000 |

Total Area Entered = 0.30(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.5 | 93.1 | 0.089 | 0.000 | 0.089 | 1.000 | 0.089 |
| | | | | | Sum (F) = | 0.089 |

Area averaged mean soil loss (F) (In/Hr) = 0.089

Minimum soil loss rate ((In/Hr)) = 0.045
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

---

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 1035.309 | 100.000 | 0.302 |
| | | Sum = 100.000 Sum= | 0.302 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.089 | ( 0.544) | 0.515 |
| 2 | 0.17 | 4.30 | 0.619 | 0.089 | ( 0.557) | 0.530 |
| 3 | 0.25 | 5.00 | 0.720 | 0.089 | ( 0.648) | 0.631 |
| 4 | 0.33 | 5.00 | 0.720 | 0.089 | ( 0.648) | 0.631 |
| 5 | 0.42 | 5.80 | 0.835 | 0.089 | ( 0.752) | 0.746 |
| 6 | 0.50 | 6.50 | 0.936 | 0.089 | ( 0.842) | 0.847 |
| 7 | 0.58 | 7.40 | 1.066 | 0.089 | ( 0.959) | 0.976 |
| 8 | 0.67 | 8.60 | 1.238 | 0.089 | ( 1.115) | 1.149 |
| 9 | 0.75 | 12.30 | 1.771 | 0.089 | ( 1.594) | 1.682 |
| 10 | 0.83 | 29.10 | 4.190 | 0.089 | ( 3.771) | 4.101 |
| 11 | 0.92 | 6.80 | 0.979 | 0.089 | ( 0.881) | 0.890 |
| 12 | 1.00 | 5.00 | 0.720 | 0.089 | ( 0.648) | 0.631 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | | Sum = 13.3 |

Flood volume = Effective rainfall 1.11(In)
times area 0.3(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.002(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 1209.5 Cubic Feet
Total soil loss = 97.3 Cubic Feet

---

Peak flow rate of this hydrograph = 1.241(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0011 | 0.16 | QV | | | | |
| 0+10 | 0.0022 | 0.16 | Q V | | | | |
| 0+15 | 0.0035 | 0.19 | Q V | | | | |
| 0+20 | 0.0048 | 0.19 | Q V | | | | |
| 0+25 | 0.0064 | 0.23 | Q V | | | | |
| 0+30 | 0.0081 | 0.26 | \|Q \|V | | | | |
| 0+35 | 0.0102 | 0.30 | \|Q \| V | | | | |
| 0+40 | 0.0126 | 0.35 | \|Q \| V | | | | |
| 0+45 | 0.0161 | 0.51 | \| Q \| V | | | | |
| 0+50 | 0.0246 | 1.24 | \| Q \| V | | | | |
| 0+55 | 0.0265 | 0.27 | \|Q \| V | | | | |
| 1+ 0 | 0.0278 | 0.19 | Q \| V | | | | |

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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX263100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 26
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.30(Ac.) = 0.000 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.30(Ac.) = 0.000 Sq. Mi.
Length along longest watercourse = 115.00(Ft.)
Length along longest watercourse measured to centroid = 61.00(Ft.)
Length along longest watercourse = 0.022 Mi.
Length along longest watercourse measured to centroid = 0.012 Mi.
Difference in elevation = 58.00(Ft.)
Slope along watercourse = 2662.9565 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.008 Hr.
Lag time = 0.48 Min.
25% of lag time = 0.12 Min.
40% of lag time = 0.19 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.30 | 0.80 | 0.24 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.30 | 1.80 | 0.54 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.300 | 83.55 | 0.000 |

Total Area Entered = 0.30(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.5 | 93.1 | 0.089 | 0.000 | 0.089 | 1.000 | 0.089 |
| | | | | | Sum (F) = | 0.089 |

Area averaged mean soil loss (F) (In/Hr) = 0.089

Minimum soil loss rate ((In/Hr)) = 0.045
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 1035.309 | 100.000 | 0.302 |
| | | Sum = 100.000 Sum= | 0.302 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.281 | 0.089 | ( 0.253) | 0.191 |
| 2 | 0.17 | 1.30 | 0.281 | 0.089 | ( 0.253) | 0.191 |
| 3 | 0.25 | 1.10 | 0.238 | 0.089 | ( 0.214) | 0.148 |
| 4 | 0.33 | 1.50 | 0.324 | 0.089 | ( 0.292) | 0.235 |
| 5 | 0.42 | 1.50 | 0.324 | 0.089 | ( 0.292) | 0.235 |
| 6 | 0.50 | 1.80 | 0.389 | 0.089 | ( 0.350) | 0.299 |
| 7 | 0.58 | 1.50 | 0.324 | 0.089 | ( 0.292) | 0.235 |
| 8 | 0.67 | 1.80 | 0.389 | 0.089 | ( 0.350) | 0.299 |
| 9 | 0.75 | 1.80 | 0.389 | 0.089 | ( 0.350) | 0.299 |
| 10 | 0.83 | 1.50 | 0.324 | 0.089 | ( 0.292) | 0.235 |
| 11 | 0.92 | 1.60 | 0.346 | 0.089 | ( 0.311) | 0.256 |
| 12 | 1.00 | 1.80 | 0.389 | 0.089 | ( 0.350) | 0.299 |
| 13 | 1.08 | 2.20 | 0.475 | 0.089 | ( 0.428) | 0.386 |
| 14 | 1.17 | 2.20 | 0.475 | 0.089 | ( 0.428) | 0.386 |
| 15 | 1.25 | 2.20 | 0.475 | 0.089 | ( 0.428) | 0.386 |
| 16 | 1.33 | 2.00 | 0.432 | 0.089 | ( 0.389) | 0.343 |
| 17 | 1.42 | 2.60 | 0.562 | 0.089 | ( 0.505) | 0.472 |
| 18 | 1.50 | 2.70 | 0.583 | 0.089 | ( 0.525) | 0.494 |
| 19 | 1.58 | 2.40 | 0.518 | 0.089 | ( 0.467) | 0.429 |
| 20 | 1.67 | 2.70 | 0.583 | 0.089 | ( 0.525) | 0.494 |
| 21 | 1.75 | 3.30 | 0.713 | 0.089 | ( 0.642) | 0.623 |
| 22 | 1.83 | 3.10 | 0.670 | 0.089 | ( 0.603) | 0.580 |
| 23 | 1.92 | 2.90 | 0.626 | 0.089 | ( 0.564) | 0.537 |
| 24 | 2.00 | 3.00 | 0.648 | 0.089 | ( 0.583) | 0.559 |
| 25 | 2.08 | 3.10 | 0.670 | 0.089 | ( 0.603) | 0.580 |
| 26 | 2.17 | 4.20 | 0.907 | 0.089 | ( 0.816) | 0.818 |
| 27 | 2.25 | 5.00 | 1.080 | 0.089 | ( 0.972) | 0.991 |
| 28 | 2.33 | 3.50 | 0.756 | 0.089 | ( 0.680) | 0.667 |
| 29 | 2.42 | 6.80 | 1.469 | 0.089 | ( 1.322) | 1.379 |
| 30 | 2.50 | 7.30 | 1.577 | 0.089 | ( 1.419) | 1.487 |
| 31 | 2.58 | 8.20 | 1.771 | 0.089 | ( 1.594) | 1.682 |
| 32 | 2.67 | 5.90 | 1.274 | 0.089 | ( 1.147) | 1.185 |
| 33 | 2.75 | 2.00 | 0.432 | 0.089 | ( 0.389) | 0.343 |
| 34 | 2.83 | 1.80 | 0.389 | 0.089 | ( 0.350) | 0.299 |
| 35 | 2.92 | 1.80 | 0.389 | 0.089 | ( 0.350) | 0.299 |
| 36 | 3.00 | 0.60 | 0.130 | 0.089 | ( 0.117) | 0.040 |
| | | (Loss Rate Not Used) | | | |
| Sum = | | 100.0 | | | Sum = 18.4 |

Flood volume = Effective rainfall 1.53(In)
times area 0.3(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.27(In)
Total soil loss = 0.007(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 1668.4 Cubic Feet
Total soil loss = 291.8 Cubic Feet

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Peak flow rate of this hydrograph = 0.509(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
-------------------------------------------------------------------------
  0+ 5       0.0004      0.06  Q          |         |         |         |
  0+10       0.0008      0.06  Q          |         |         |         |
  0+15       0.0011      0.04  QV         |         |         |         |
  0+20       0.0016      0.07  QV         |         |         |         |
  0+25       0.0021      0.07  Q V        |         |         |         |
  0+30       0.0027      0.09  Q V        |         |         |         |
  0+35       0.0032      0.07  Q  V       |         |         |         |
  0+40       0.0038      0.09  Q  V       |         |         |         |
  0+45       0.0044      0.09  Q   V      |         |         |         |
  0+50       0.0049      0.07  Q    V     |         |         |         |
  0+55       0.0055      0.08  Q    V     |         |         |         |
  1+ 0       0.0061      0.09  Q     V    |         |         |         |
  1+ 5       0.0069      0.12  Q      V   |         |         |         |
  1+10       0.0077      0.12  Q       V  |         |         |         |
  1+15       0.0085      0.12  Q       V  |         |         |         |
  1+20       0.0092      0.10  Q        V |         |         |         |
  1+25       0.0102      0.14  Q         V         |         |         |
  1+30       0.0112      0.15  Q         |V        |         |         |
  1+35       0.0121      0.13  Q         | V       |         |         |
  1+40       0.0132      0.15  Q         |  V      |         |         |
  1+45       0.0145      0.19  Q         |    V    |         |         |
  1+50       0.0157      0.18  Q         |     V   |         |         |
  1+55       0.0168      0.16  Q         |      V  |         |         |
  2+ 0       0.0179      0.17  Q         |       V |         |         |
  2+ 5       0.0192      0.18  Q         |         V         |         |
  2+10       0.0209      0.25  Q         |         |V        |         |
  2+15       0.0229      0.30  |Q        |         |  V      |         |
  2+20       0.0243      0.20  Q         |         |    V    |         |
  2+25       0.0272      0.42  |Q        |         |       V |         |
  2+30       0.0303      0.45  |Q        |         |         |V        |
  2+35       0.0338      0.51  | Q       |         |         |    V    |
  2+40       0.0363      0.36  |Q        |         |         |      V  |
  2+45       0.0370      0.10  Q         |         |         |       V |
  2+50       0.0376      0.09  Q         |         |         |        V|
  2+55       0.0382      0.09  Q         |         |         |        V|
  3+ 0       0.0383      0.01  Q         |         |         |         V
-------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX266100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 26
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.30(Ac.) = 0.000 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.30(Ac.) = 0.000 Sq. Mi.
Length along longest watercourse = 115.00(Ft.)
Length along longest watercourse measured to centroid = 61.00(Ft.)
Length along longest watercourse = 0.022 Mi.
Length along longest watercourse measured to centroid = 0.012 Mi.
Difference in elevation = 58.00(Ft.)
Slope along watercourse = 2662.9565 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.008 Hr.
Lag time = 0.48 Min.
25% of lag time = 0.12 Min.
40% of lag time = 0.19 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.30 | 1.12 | 0.34 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.30 | 2.50 | 0.75 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.120(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.300 | 83.55 | 0.000 |

Total Area Entered = 0.30(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.5 | 93.1 | 0.089 | 0.000 | 0.089 | 1.000 | 0.089 |
| | | | | | Sum (F) = | 0.089 |

Area averaged mean soil loss (F) (In/Hr) = 0.089

Minimum soil loss rate ((In/Hr)) = 0.045
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 1035.309 | 100.000 | 0.302 |
| | | Sum = 100.000 | Sum= 0.302 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.089 | ( 0.135) | 0.061 |
| 2 | 0.17 | 0.60 | 0.180 | 0.089 | ( 0.162) | 0.091 |
| 3 | 0.25 | 0.60 | 0.180 | 0.089 | ( 0.162) | 0.091 |
| 4 | 0.33 | 0.60 | 0.180 | 0.089 | ( 0.162) | 0.091 |
| 5 | 0.42 | 0.60 | 0.180 | 0.089 | ( 0.162) | 0.091 |
| 6 | 0.50 | 0.70 | 0.210 | 0.089 | ( 0.189) | 0.121 |
| 7 | 0.58 | 0.70 | 0.210 | 0.089 | ( 0.189) | 0.121 |
| 8 | 0.67 | 0.70 | 0.210 | 0.089 | ( 0.189) | 0.121 |
| 9 | 0.75 | 0.70 | 0.210 | 0.089 | ( 0.189) | 0.121 |
| 10 | 0.83 | 0.70 | 0.210 | 0.089 | ( 0.189) | 0.121 |
| 11 | 0.92 | 0.70 | 0.210 | 0.089 | ( 0.189) | 0.121 |
| 12 | 1.00 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 13 | 1.08 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 14 | 1.17 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 15 | 1.25 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 16 | 1.33 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 17 | 1.42 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 18 | 1.50 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 19 | 1.58 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 20 | 1.67 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 21 | 1.75 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 22 | 1.83 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 23 | 1.92 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 24 | 2.00 | 0.90 | 0.270 | 0.089 | ( 0.243) | 0.181 |
| 25 | 2.08 | 0.80 | 0.240 | 0.089 | ( 0.216) | 0.151 |
| 26 | 2.17 | 0.90 | 0.270 | 0.089 | ( 0.243) | 0.181 |
| 27 | 2.25 | 0.90 | 0.270 | 0.089 | ( 0.243) | 0.181 |
| 28 | 2.33 | 0.90 | 0.270 | 0.089 | ( 0.243) | 0.181 |
| 29 | 2.42 | 0.90 | 0.270 | 0.089 | ( 0.243) | 0.181 |
| 30 | 2.50 | 0.90 | 0.270 | 0.089 | ( 0.243) | 0.181 |
| 31 | 2.58 | 0.90 | 0.270 | 0.089 | ( 0.243) | 0.181 |
| 32 | 2.67 | 0.90 | 0.270 | 0.089 | ( 0.243) | 0.181 |
| 33 | 2.75 | 1.00 | 0.300 | 0.089 | ( 0.270) | 0.211 |
| 34 | 2.83 | 1.00 | 0.300 | 0.089 | ( 0.270) | 0.211 |
| 35 | 2.92 | 1.00 | 0.300 | 0.089 | ( 0.270) | 0.211 |
| 36 | 3.00 | 1.00 | 0.300 | 0.089 | ( 0.270) | 0.211 |
| 37 | 3.08 | 1.00 | 0.300 | 0.089 | ( 0.270) | 0.211 |
| 38 | 3.17 | 1.10 | 0.330 | 0.089 | ( 0.297) | 0.241 |
| 39 | 3.25 | 1.10 | 0.330 | 0.089 | ( 0.297) | 0.241 |
| 40 | 3.33 | 1.10 | 0.330 | 0.089 | ( 0.297) | 0.241 |
| 41 | 3.42 | 1.20 | 0.360 | 0.089 | ( 0.324) | 0.271 |
| 42 | 3.50 | 1.30 | 0.390 | 0.089 | ( 0.351) | 0.301 |
| 43 | 3.58 | 1.40 | 0.420 | 0.089 | ( 0.378) | 0.331 |
| 44 | 3.67 | 1.40 | 0.420 | 0.089 | ( 0.378) | 0.331 |
| 45 | 3.75 | 1.50 | 0.450 | 0.089 | ( 0.405) | 0.361 |
| 46 | 3.83 | 1.50 | 0.450 | 0.089 | ( 0.405) | 0.361 |
| 47 | 3.92 | 1.60 | 0.480 | 0.089 | ( 0.432) | 0.391 |
| 48 | 4.00 | 1.60 | 0.480 | 0.089 | ( 0.432) | 0.391 |
| 49 | 4.08 | 1.70 | 0.510 | 0.089 | ( 0.459) | 0.421 |
| 50 | 4.17 | 1.80 | 0.540 | 0.089 | ( 0.486) | 0.451 |
| 51 | 4.25 | 1.90 | 0.570 | 0.089 | ( 0.513) | 0.481 |
| 52 | 4.33 | 2.00 | 0.600 | 0.089 | ( 0.540) | 0.511 |
| 53 | 4.42 | 2.10 | 0.630 | 0.089 | ( 0.567) | 0.541 |
| 54 | 4.50 | 2.10 | 0.630 | 0.089 | ( 0.567) | 0.541 |
| 55 | 4.58 | 2.20 | 0.660 | 0.089 | ( 0.594) | 0.571 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 56 | 4.67 | 2.30 | 0.690 | 0.089 | ( 0.621) | 0.601 |
| 57 | 4.75 | 2.40 | 0.720 | 0.089 | ( 0.648) | 0.631 |
| 58 | 4.83 | 2.40 | 0.720 | 0.089 | ( 0.648) | 0.631 |
| 59 | 4.92 | 2.50 | 0.750 | 0.089 | ( 0.675) | 0.661 |
| 60 | 5.00 | 2.60 | 0.780 | 0.089 | ( 0.702) | 0.691 |
| 61 | 5.08 | 3.10 | 0.930 | 0.089 | ( 0.837) | 0.841 |
| 62 | 5.17 | 3.60 | 1.080 | 0.089 | ( 0.972) | 0.991 |
| 63 | 5.25 | 3.90 | 1.170 | 0.089 | ( 1.053) | 1.081 |
| 64 | 5.33 | 4.20 | 1.260 | 0.089 | ( 1.134) | 1.171 |
| 65 | 5.42 | 4.70 | 1.410 | 0.089 | ( 1.269) | 1.321 |
| 66 | 5.50 | 5.60 | 1.680 | 0.089 | ( 1.512) | 1.591 |
| 67 | 5.58 | 1.90 | 0.570 | 0.089 | ( 0.513) | 0.481 |
| 68 | 5.67 | 0.90 | 0.270 | 0.089 | ( 0.243) | 0.181 |
| 69 | 5.75 | 0.60 | 0.180 | 0.089 | ( 0.162) | 0.091 |
| 70 | 5.83 | 0.50 | 0.150 | 0.089 | ( 0.135) | 0.061 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.089) | 0.081 | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.089) | 0.054 | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.6

Flood volume = Effective rainfall 1.97(In)
times area 0.3(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.53(In)
Total soil loss = 0.013(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 2142.9 Cubic Feet
Total soil loss = 579.6 Cubic Feet

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Peak flow rate of this hydrograph = 0.481(CFS)

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6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0001 | 0.02 | Q | | | | |
| 0+10 | 0.0003 | 0.03 | Q | | | | |
| 0+15 | 0.0005 | 0.03 | Q | | | | |
| 0+20 | 0.0007 | 0.03 | Q | | | | |
| 0+25 | 0.0009 | 0.03 | Q | | | | |
| 0+30 | 0.0011 | 0.04 | Q | | | | |
| 0+35 | 0.0014 | 0.04 | QV | | | | |
| 0+40 | 0.0016 | 0.04 | QV | | | | |
| 0+45 | 0.0019 | 0.04 | QV | | | | |
| 0+50 | 0.0021 | 0.04 | QV | | | | |
| 0+55 | 0.0024 | 0.04 | QV | | | | |
| 1+ 0 | 0.0027 | 0.05 | Q V | | | | |
| 1+ 5 | 0.0030 | 0.05 | Q V | | | | |
| 1+10 | 0.0033 | 0.05 | Q V | | | | |
| 1+15 | 0.0036 | 0.05 | Q V | | | | |
| 1+20 | 0.0040 | 0.05 | Q V | | | | |
| 1+25 | 0.0043 | 0.05 | Q V | | | | |
| 1+30 | 0.0046 | 0.05 | Q V | | | | |
| 1+35 | 0.0049 | 0.05 | Q V | | | | |
| 1+40 | 0.0052 | 0.05 | Q V | | | | |
| 1+45 | 0.0055 | 0.05 | Q V | | | | |
| 1+50 | 0.0058 | 0.05 | Q V | | | | |
| 1+55 | 0.0062 | 0.05 | Q V | | | | |
| 2+ 0 | 0.0065 | 0.05 | Q V | | | | |
| 2+ 5 | 0.0068 | 0.05 | Q V | | | | |
| 2+10 | 0.0072 | 0.05 | Q V | | | | |
| 2+15 | 0.0076 | 0.05 | Q V | | | | |
| 2+20 | 0.0080 | 0.05 | Q V | | | | |
| 2+25 | 0.0084 | 0.05 | Q V | | | | |
| 2+30 | 0.0087 | 0.05 | Q V | | | | |
| 2+35 | 0.0091 | 0.05 | Q V | | | | |
| 2+40 | 0.0095 | 0.05 | Q V | | | | |
| 2+45 | 0.0099 | 0.06 | Q V | | | | |
| 2+50 | 0.0104 | 0.06 | Q V | | | | |
| 2+55 | 0.0108 | 0.06 | Q V | | | | |
| 3+ 0 | 0.0112 | 0.06 | Q V | | | | |
| 3+ 5 | 0.0117 | 0.06 | Q V | | | | |
| 3+10 | 0.0122 | 0.07 | Q V | | | | |
| 3+15 | 0.0127 | 0.07 | Q V | | | | |
| 3+20 | 0.0132 | 0.07 | Q V | | | | |

```
    3+25       0.0137      0.08  Q          |V        |         |          |
    3+30       0.0144      0.09  Q          |V        |         |          |
    3+35       0.0151      0.10  Q          | V       |         |          |
    3+40       0.0158      0.10  Q          | V       |         |          |
    3+45       0.0165      0.11  Q          |  V      |         |          |
    3+50       0.0173      0.11  Q          |   V     |         |          |
    3+55       0.0181      0.12  Q          |   V     |         |          |
    4+ 0       0.0189      0.12  Q          |    V    |         |          |
    4+ 5       0.0198      0.13  Q          |     V   |         |          |
    4+10       0.0207      0.14  Q          |     V   |         |          |
    4+15       0.0217      0.15  Q          |      V  |         |          |
    4+20       0.0228      0.15  Q          |       V |         |          |
    4+25       0.0239      0.16  Q          |        V|         |          |
    4+30       0.0250      0.16  Q          |         V         |          |
    4+35       0.0262      0.17  Q          |         |V        |          |
    4+40       0.0275      0.18  Q          |         | V       |          |
    4+45       0.0288      0.19  Q          |         |  V      |          |
    4+50       0.0301      0.19  Q          |         |   V     |          |
    4+55       0.0315      0.20  Q          |         |    V    |          |
    5+ 0       0.0329      0.21  Q          |         |     V   |          |
    5+ 5       0.0347      0.25  |Q         |         |      V  |          |
    5+10       0.0367      0.30  |Q         |         |       V |          |
    5+15       0.0390      0.33  |Q         |         |         |V         |
    5+20       0.0414      0.35  |Q         |         |         |  V       |
    5+25       0.0442      0.40  |Q         |         |         |    V     |
    5+30       0.0475      0.48  |Q         |         |         |      V   |
    5+35       0.0485      0.15  Q          |         |         |       V  |
    5+40       0.0488      0.05  Q          |         |         |       V  |
    5+45       0.0490      0.03  Q          |         |         |       V  |
    5+50       0.0492      0.02  Q          |         |         |       V  |
    5+55       0.0492      0.00  Q          |         |         |       V  |
    6+ 0       0.0492      0.00  Q          |         |         |        V
-------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX2624100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 26
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.30(Ac.) = 0.000 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.30(Ac.) = 0.000 Sq. Mi.
Length along longest watercourse = 115.00(Ft.)
Length along longest watercourse measured to centroid = 61.00(Ft.)
Length along longest watercourse = 0.022 Mi.
Length along longest watercourse measured to centroid = 0.012 Mi.
Difference in elevation = 58.00(Ft.)
Slope along watercourse = 2662.9565 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.008 Hr.
Lag time = 0.48 Min.
25% of lag time = 0.12 Min.
40% of lag time = 0.19 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.30 | 1.80 | 0.54 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.30 | 4.56 | 1.37 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.560(In)

Point rain (area averaged) = 4.560(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.560(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.300 | 83.55 | 0.000 |

Total Area Entered = 0.30(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.5 | 93.1 | 0.089 | 0.000 | 0.089 | 1.000 | 0.089 |
| | | | | | Sum (F) = | 0.089 |

Area averaged mean soil loss (F) (In/Hr) = 0.089

Minimum soil loss rate ((In/Hr)) = 0.045
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 1035.309 | 100.000 | 0.302 |
| | | Sum = 100.000 | Sum= 0.302 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.036 | ( 0.158) | 0.033 | 0.004 |
| 2 | 0.17 | 0.07 | 0.036 | ( 0.158) | 0.033 | 0.004 |
| 3 | 0.25 | 0.07 | 0.036 | ( 0.157) | 0.033 | 0.004 |
| 4 | 0.33 | 0.10 | 0.055 | ( 0.156) | 0.049 | 0.005 |
| 5 | 0.42 | 0.10 | 0.055 | ( 0.156) | 0.049 | 0.005 |
| 6 | 0.50 | 0.10 | 0.055 | ( 0.155) | 0.049 | 0.005 |
| 7 | 0.58 | 0.10 | 0.055 | ( 0.155) | 0.049 | 0.005 |
| 8 | 0.67 | 0.10 | 0.055 | ( 0.154) | 0.049 | 0.005 |
| 9 | 0.75 | 0.10 | 0.055 | ( 0.153) | 0.049 | 0.005 |
| 10 | 0.83 | 0.13 | 0.073 | ( 0.153) | 0.066 | 0.007 |
| 11 | 0.92 | 0.13 | 0.073 | ( 0.152) | 0.066 | 0.007 |
| 12 | 1.00 | 0.13 | 0.073 | ( 0.152) | 0.066 | 0.007 |
| 13 | 1.08 | 0.10 | 0.055 | ( 0.151) | 0.049 | 0.005 |
| 14 | 1.17 | 0.10 | 0.055 | ( 0.150) | 0.049 | 0.005 |
| 15 | 1.25 | 0.10 | 0.055 | ( 0.150) | 0.049 | 0.005 |
| 16 | 1.33 | 0.10 | 0.055 | ( 0.149) | 0.049 | 0.005 |
| 17 | 1.42 | 0.10 | 0.055 | ( 0.149) | 0.049 | 0.005 |
| 18 | 1.50 | 0.10 | 0.055 | ( 0.148) | 0.049 | 0.005 |
| 19 | 1.58 | 0.10 | 0.055 | ( 0.147) | 0.049 | 0.005 |
| 20 | 1.67 | 0.10 | 0.055 | ( 0.147) | 0.049 | 0.005 |
| 21 | 1.75 | 0.10 | 0.055 | ( 0.146) | 0.049 | 0.005 |
| 22 | 1.83 | 0.13 | 0.073 | ( 0.146) | 0.066 | 0.007 |
| 23 | 1.92 | 0.13 | 0.073 | ( 0.145) | 0.066 | 0.007 |
| 24 | 2.00 | 0.13 | 0.073 | ( 0.145) | 0.066 | 0.007 |
| 25 | 2.08 | 0.13 | 0.073 | ( 0.144) | 0.066 | 0.007 |
| 26 | 2.17 | 0.13 | 0.073 | ( 0.143) | 0.066 | 0.007 |
| 27 | 2.25 | 0.13 | 0.073 | ( 0.143) | 0.066 | 0.007 |
| 28 | 2.33 | 0.13 | 0.073 | ( 0.142) | 0.066 | 0.007 |
| 29 | 2.42 | 0.13 | 0.073 | ( 0.142) | 0.066 | 0.007 |
| 30 | 2.50 | 0.13 | 0.073 | ( 0.141) | 0.066 | 0.007 |
| 31 | 2.58 | 0.17 | 0.091 | ( 0.140) | 0.082 | 0.009 |
| 32 | 2.67 | 0.17 | 0.091 | ( 0.140) | 0.082 | 0.009 |
| 33 | 2.75 | 0.17 | 0.091 | ( 0.139) | 0.082 | 0.009 |
| 34 | 2.83 | 0.17 | 0.091 | ( 0.139) | 0.082 | 0.009 |
| 35 | 2.92 | 0.17 | 0.091 | ( 0.138) | 0.082 | 0.009 |
| 36 | 3.00 | 0.17 | 0.091 | ( 0.138) | 0.082 | 0.009 |
| 37 | 3.08 | 0.17 | 0.091 | ( 0.137) | 0.082 | 0.009 |
| 38 | 3.17 | 0.17 | 0.091 | ( 0.136) | 0.082 | 0.009 |
| 39 | 3.25 | 0.17 | 0.091 | ( 0.136) | 0.082 | 0.009 |
| 40 | 3.33 | 0.17 | 0.091 | ( 0.135) | 0.082 | 0.009 |
| 41 | 3.42 | 0.17 | 0.091 | ( 0.135) | 0.082 | 0.009 |
| 42 | 3.50 | 0.17 | 0.091 | ( 0.134) | 0.082 | 0.009 |
| 43 | 3.58 | 0.17 | 0.091 | ( 0.134) | 0.082 | 0.009 |
| 44 | 3.67 | 0.17 | 0.091 | ( 0.133) | 0.082 | 0.009 |
| 45 | 3.75 | 0.17 | 0.091 | ( 0.133) | 0.082 | 0.009 |
| 46 | 3.83 | 0.20 | 0.109 | ( 0.132) | 0.098 | 0.011 |
| 47 | 3.92 | 0.20 | 0.109 | ( 0.131) | 0.098 | 0.011 |
| 48 | 4.00 | 0.20 | 0.109 | ( 0.131) | 0.098 | 0.011 |
| 49 | 4.08 | 0.20 | 0.109 | ( 0.130) | 0.098 | 0.011 |
| 50 | 4.17 | 0.20 | 0.109 | ( 0.130) | 0.098 | 0.011 |
| 51 | 4.25 | 0.20 | 0.109 | ( 0.129) | 0.098 | 0.011 |
| 52 | 4.33 | 0.23 | 0.128 | ( 0.129) | 0.115 | 0.013 |
| 53 | 4.42 | 0.23 | 0.128 | ( 0.128) | 0.115 | 0.013 |
| 54 | 4.50 | 0.23 | 0.128 | ( 0.128) | 0.115 | 0.013 |
| 55 | 4.58 | 0.23 | 0.128 | ( 0.127) | 0.115 | 0.013 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 56 | 4.67 | 0.23 | 0.128 | ( | 0.126) | 0.115 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.128 | ( | 0.126) | 0.115 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.146 | | 0.125 | ( 0.131) | | 0.021 |
| 59 | 4.92 | 0.27 | 0.146 | | 0.125 | ( 0.131) | | 0.021 |
| 60 | 5.00 | 0.27 | 0.146 | | 0.124 | ( 0.131) | | 0.022 |
| 61 | 5.08 | 0.20 | 0.109 | ( | 0.124) | 0.098 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.109 | ( | 0.123) | 0.098 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.109 | ( | 0.123) | 0.098 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.128 | ( | 0.122) | 0.115 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.128 | ( | 0.122) | 0.115 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.128 | ( | 0.121) | 0.115 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.146 | | 0.121 | ( 0.131) | | 0.025 |
| 68 | 5.67 | 0.27 | 0.146 | | 0.120 | ( 0.131) | | 0.026 |
| 69 | 5.75 | 0.27 | 0.146 | | 0.119 | ( 0.131) | | 0.026 |
| 70 | 5.83 | 0.27 | 0.146 | | 0.119 | ( 0.131) | | 0.027 |
| 71 | 5.92 | 0.27 | 0.146 | | 0.118 | ( 0.131) | | 0.028 |
| 72 | 6.00 | 0.27 | 0.146 | | 0.118 | ( 0.131) | | 0.028 |
| 73 | 6.08 | 0.30 | 0.164 | | 0.117 | ( 0.148) | | 0.047 |
| 74 | 6.17 | 0.30 | 0.164 | | 0.117 | ( 0.148) | | 0.047 |
| 75 | 6.25 | 0.30 | 0.164 | | 0.116 | ( 0.148) | | 0.048 |
| 76 | 6.33 | 0.30 | 0.164 | | 0.116 | ( 0.148) | | 0.048 |
| 77 | 6.42 | 0.30 | 0.164 | | 0.115 | ( 0.148) | | 0.049 |
| 78 | 6.50 | 0.30 | 0.164 | | 0.115 | ( 0.148) | | 0.049 |
| 79 | 6.58 | 0.33 | 0.182 | | 0.114 | ( 0.164) | | 0.068 |
| 80 | 6.67 | 0.33 | 0.182 | | 0.114 | ( 0.164) | | 0.069 |
| 81 | 6.75 | 0.33 | 0.182 | | 0.113 | ( 0.164) | | 0.069 |
| 82 | 6.83 | 0.33 | 0.182 | | 0.113 | ( 0.164) | | 0.070 |
| 83 | 6.92 | 0.33 | 0.182 | | 0.112 | ( 0.164) | | 0.070 |
| 84 | 7.00 | 0.33 | 0.182 | | 0.112 | ( 0.164) | | 0.071 |
| 85 | 7.08 | 0.33 | 0.182 | | 0.111 | ( 0.164) | | 0.071 |
| 86 | 7.17 | 0.33 | 0.182 | | 0.111 | ( 0.164) | | 0.072 |
| 87 | 7.25 | 0.33 | 0.182 | | 0.110 | ( 0.164) | | 0.072 |
| 88 | 7.33 | 0.37 | 0.201 | | 0.110 | ( 0.181) | | 0.091 |
| 89 | 7.42 | 0.37 | 0.201 | | 0.109 | ( 0.181) | | 0.091 |
| 90 | 7.50 | 0.37 | 0.201 | | 0.109 | ( 0.181) | | 0.092 |
| 91 | 7.58 | 0.40 | 0.219 | | 0.108 | ( 0.197) | | 0.111 |
| 92 | 7.67 | 0.40 | 0.219 | | 0.108 | ( 0.197) | | 0.111 |
| 93 | 7.75 | 0.40 | 0.219 | | 0.107 | ( 0.197) | | 0.112 |
| 94 | 7.83 | 0.43 | 0.237 | | 0.107 | ( 0.213) | | 0.130 |
| 95 | 7.92 | 0.43 | 0.237 | | 0.106 | ( 0.213) | | 0.131 |
| 96 | 8.00 | 0.43 | 0.237 | | 0.106 | ( 0.213) | | 0.131 |
| 97 | 8.08 | 0.50 | 0.274 | | 0.105 | ( 0.246) | | 0.168 |
| 98 | 8.17 | 0.50 | 0.274 | | 0.105 | ( 0.246) | | 0.169 |
| 99 | 8.25 | 0.50 | 0.274 | | 0.104 | ( 0.246) | | 0.169 |
| 100 | 8.33 | 0.50 | 0.274 | | 0.104 | ( 0.246) | | 0.170 |
| 101 | 8.42 | 0.50 | 0.274 | | 0.103 | ( 0.246) | | 0.170 |
| 102 | 8.50 | 0.50 | 0.274 | | 0.103 | ( 0.246) | | 0.171 |
| 103 | 8.58 | 0.53 | 0.292 | | 0.102 | ( 0.263) | | 0.190 |
| 104 | 8.67 | 0.53 | 0.292 | | 0.102 | ( 0.263) | | 0.190 |
| 105 | 8.75 | 0.53 | 0.292 | | 0.101 | ( 0.263) | | 0.191 |
| 106 | 8.83 | 0.57 | 0.310 | | 0.101 | ( 0.279) | | 0.209 |
| 107 | 8.92 | 0.57 | 0.310 | | 0.100 | ( 0.279) | | 0.210 |
| 108 | 9.00 | 0.57 | 0.310 | | 0.100 | ( 0.279) | | 0.210 |
| 109 | 9.08 | 0.63 | 0.347 | | 0.099 | ( 0.312) | | 0.247 |
| 110 | 9.17 | 0.63 | 0.347 | | 0.099 | ( 0.312) | | 0.248 |
| 111 | 9.25 | 0.63 | 0.347 | | 0.098 | ( 0.312) | | 0.248 |
| 112 | 9.33 | 0.67 | 0.365 | | 0.098 | ( 0.328) | | 0.267 |
| 113 | 9.42 | 0.67 | 0.365 | | 0.098 | ( 0.328) | | 0.267 |
| 114 | 9.50 | 0.67 | 0.365 | | 0.097 | ( 0.328) | | 0.268 |
| 115 | 9.58 | 0.70 | 0.383 | | 0.097 | ( 0.345) | | 0.286 |
| 116 | 9.67 | 0.70 | 0.383 | | 0.096 | ( 0.345) | | 0.287 |
| 117 | 9.75 | 0.70 | 0.383 | | 0.096 | ( 0.345) | | 0.287 |
| 118 | 9.83 | 0.73 | 0.401 | | 0.095 | ( 0.361) | | 0.306 |
| 119 | 9.92 | 0.73 | 0.401 | | 0.095 | ( 0.361) | | 0.307 |
| 120 | 10.00 | 0.73 | 0.401 | | 0.094 | ( 0.361) | | 0.307 |
| 121 | 10.08 | 0.50 | 0.274 | | 0.094 | ( 0.246) | | 0.180 |
| 122 | 10.17 | 0.50 | 0.274 | | 0.093 | ( 0.246) | | 0.180 |
| 123 | 10.25 | 0.50 | 0.274 | | 0.093 | ( 0.246) | | 0.181 |
| 124 | 10.33 | 0.50 | 0.274 | | 0.092 | ( 0.246) | | 0.181 |
| 125 | 10.42 | 0.50 | 0.274 | | 0.092 | ( 0.246) | | 0.182 |
| 126 | 10.50 | 0.50 | 0.274 | | 0.092 | ( 0.246) | | 0.182 |
| 127 | 10.58 | 0.67 | 0.365 | | 0.091 | ( 0.328) | | 0.274 |
| 128 | 10.67 | 0.67 | 0.365 | | 0.091 | ( 0.328) | | 0.274 |
| 129 | 10.75 | 0.67 | 0.365 | | 0.090 | ( 0.328) | | 0.275 |
| 130 | 10.83 | 0.67 | 0.365 | | 0.090 | ( 0.328) | | 0.275 |
| 131 | 10.92 | 0.67 | 0.365 | | 0.089 | ( 0.328) | | 0.275 |
| 132 | 11.00 | 0.67 | 0.365 | | 0.089 | ( 0.328) | | 0.276 |
| 133 | 11.08 | 0.63 | 0.347 | | 0.089 | ( 0.312) | | 0.258 |

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|---|---|---|---|---|---|---|
| 134 | 11.17 | 0.63 | 0.347 | 0.088 | ( 0.312) | 0.258 |
| 135 | 11.25 | 0.63 | 0.347 | 0.088 | ( 0.312) | 0.259 |
| 136 | 11.33 | 0.63 | 0.347 | 0.087 | ( 0.312) | 0.259 |
| 137 | 11.42 | 0.63 | 0.347 | 0.087 | ( 0.312) | 0.260 |
| 138 | 11.50 | 0.63 | 0.347 | 0.086 | ( 0.312) | 0.260 |
| 139 | 11.58 | 0.57 | 0.310 | 0.086 | ( 0.279) | 0.224 |
| 140 | 11.67 | 0.57 | 0.310 | 0.085 | ( 0.279) | 0.225 |
| 141 | 11.75 | 0.57 | 0.310 | 0.085 | ( 0.279) | 0.225 |
| 142 | 11.83 | 0.60 | 0.328 | 0.085 | ( 0.295) | 0.244 |
| 143 | 11.92 | 0.60 | 0.328 | 0.084 | ( 0.295) | 0.244 |
| 144 | 12.00 | 0.60 | 0.328 | 0.084 | ( 0.295) | 0.245 |
| 145 | 12.08 | 0.83 | 0.456 | 0.083 | ( 0.410) | 0.373 |
| 146 | 12.17 | 0.83 | 0.456 | 0.083 | ( 0.410) | 0.373 |
| 147 | 12.25 | 0.83 | 0.456 | 0.083 | ( 0.410) | 0.373 |
| 148 | 12.33 | 0.87 | 0.474 | 0.082 | ( 0.427) | 0.392 |
| 149 | 12.42 | 0.87 | 0.474 | 0.082 | ( 0.427) | 0.393 |
| 150 | 12.50 | 0.87 | 0.474 | 0.081 | ( 0.427) | 0.393 |
| 151 | 12.58 | 0.93 | 0.511 | 0.081 | ( 0.460) | 0.430 |
| 152 | 12.67 | 0.93 | 0.511 | 0.080 | ( 0.460) | 0.430 |
| 153 | 12.75 | 0.93 | 0.511 | 0.080 | ( 0.460) | 0.431 |
| 154 | 12.83 | 0.97 | 0.529 | 0.080 | ( 0.476) | 0.449 |
| 155 | 12.92 | 0.97 | 0.529 | 0.079 | ( 0.476) | 0.450 |
| 156 | 13.00 | 0.97 | 0.529 | 0.079 | ( 0.476) | 0.450 |
| 157 | 13.08 | 1.13 | 0.620 | 0.078 | ( 0.558) | 0.542 |
| 158 | 13.17 | 1.13 | 0.620 | 0.078 | ( 0.558) | 0.542 |
| 159 | 13.25 | 1.13 | 0.620 | 0.078 | ( 0.558) | 0.542 |
| 160 | 13.33 | 1.13 | 0.620 | 0.077 | ( 0.558) | 0.543 |
| 161 | 13.42 | 1.13 | 0.620 | 0.077 | ( 0.558) | 0.543 |
| 162 | 13.50 | 1.13 | 0.620 | 0.076 | ( 0.558) | 0.544 |
| 163 | 13.58 | 0.77 | 0.420 | 0.076 | ( 0.378) | 0.343 |
| 164 | 13.67 | 0.77 | 0.420 | 0.076 | ( 0.378) | 0.344 |
| 165 | 13.75 | 0.77 | 0.420 | 0.075 | ( 0.378) | 0.344 |
| 166 | 13.83 | 0.77 | 0.420 | 0.075 | ( 0.378) | 0.345 |
| 167 | 13.92 | 0.77 | 0.420 | 0.075 | ( 0.378) | 0.345 |
| 168 | 14.00 | 0.77 | 0.420 | 0.074 | ( 0.378) | 0.345 |
| 169 | 14.08 | 0.90 | 0.492 | 0.074 | ( 0.443) | 0.419 |
| 170 | 14.17 | 0.90 | 0.492 | 0.073 | ( 0.443) | 0.419 |
| 171 | 14.25 | 0.90 | 0.492 | 0.073 | ( 0.443) | 0.419 |
| 172 | 14.33 | 0.87 | 0.474 | 0.073 | ( 0.427) | 0.402 |
| 173 | 14.42 | 0.87 | 0.474 | 0.072 | ( 0.427) | 0.402 |
| 174 | 14.50 | 0.87 | 0.474 | 0.072 | ( 0.427) | 0.402 |
| 175 | 14.58 | 0.87 | 0.474 | 0.072 | ( 0.427) | 0.403 |
| 176 | 14.67 | 0.87 | 0.474 | 0.071 | ( 0.427) | 0.403 |
| 177 | 14.75 | 0.87 | 0.474 | 0.071 | ( 0.427) | 0.403 |
| 178 | 14.83 | 0.83 | 0.456 | 0.070 | ( 0.410) | 0.386 |
| 179 | 14.92 | 0.83 | 0.456 | 0.070 | ( 0.410) | 0.386 |
| 180 | 15.00 | 0.83 | 0.456 | 0.070 | ( 0.410) | 0.386 |
| 181 | 15.08 | 0.80 | 0.438 | 0.069 | ( 0.394) | 0.368 |
| 182 | 15.17 | 0.80 | 0.438 | 0.069 | ( 0.394) | 0.369 |
| 183 | 15.25 | 0.80 | 0.438 | 0.069 | ( 0.394) | 0.369 |
| 184 | 15.33 | 0.77 | 0.420 | 0.068 | ( 0.378) | 0.351 |
| 185 | 15.42 | 0.77 | 0.420 | 0.068 | ( 0.378) | 0.352 |
| 186 | 15.50 | 0.77 | 0.420 | 0.068 | ( 0.378) | 0.352 |
| 187 | 15.58 | 0.63 | 0.347 | 0.067 | ( 0.312) | 0.279 |
| 188 | 15.67 | 0.63 | 0.347 | 0.067 | ( 0.312) | 0.280 |
| 189 | 15.75 | 0.63 | 0.347 | 0.067 | ( 0.312) | 0.280 |
| 190 | 15.83 | 0.63 | 0.347 | 0.066 | ( 0.312) | 0.280 |
| 191 | 15.92 | 0.63 | 0.347 | 0.066 | ( 0.312) | 0.281 |
| 192 | 16.00 | 0.63 | 0.347 | 0.066 | ( 0.312) | 0.281 |
| 193 | 16.08 | 0.13 | 0.073 | 0.065 | ( 0.066) | 0.008 |
| 194 | 16.17 | 0.13 | 0.073 | 0.065 | ( 0.066) | 0.008 |
| 195 | 16.25 | 0.13 | 0.073 | 0.065 | ( 0.066) | 0.008 |
| 196 | 16.33 | 0.13 | 0.073 | 0.064 | ( 0.066) | 0.009 |
| 197 | 16.42 | 0.13 | 0.073 | 0.064 | ( 0.066) | 0.009 |
| 198 | 16.50 | 0.13 | 0.073 | 0.064 | ( 0.066) | 0.009 |
| 199 | 16.58 | 0.10 | 0.055 | ( 0.063) | 0.049 | 0.005 |
| 200 | 16.67 | 0.10 | 0.055 | ( 0.063) | 0.049 | 0.005 |
| 201 | 16.75 | 0.10 | 0.055 | ( 0.063) | 0.049 | 0.005 |
| 202 | 16.83 | 0.10 | 0.055 | ( 0.062) | 0.049 | 0.005 |
| 203 | 16.92 | 0.10 | 0.055 | ( 0.062) | 0.049 | 0.005 |
| 204 | 17.00 | 0.10 | 0.055 | ( 0.062) | 0.049 | 0.005 |
| 205 | 17.08 | 0.17 | 0.091 | 0.061 | ( 0.082) | 0.030 |
| 206 | 17.17 | 0.17 | 0.091 | 0.061 | ( 0.082) | 0.030 |
| 207 | 17.25 | 0.17 | 0.091 | 0.061 | ( 0.082) | 0.030 |
| 208 | 17.33 | 0.17 | 0.091 | 0.060 | ( 0.082) | 0.031 |
| 209 | 17.42 | 0.17 | 0.091 | 0.060 | ( 0.082) | 0.031 |
| 210 | 17.50 | 0.17 | 0.091 | 0.060 | ( 0.082) | 0.031 |
| 211 | 17.58 | 0.17 | 0.091 | 0.060 | ( 0.082) | 0.032 |

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|---|---|---|---|---|---|---|---|---|
| 212 | 17.67 | 0.17 | 0.091 | | 0.059 | ( | 0.082) | 0.032 |
| 213 | 17.75 | 0.17 | 0.091 | | 0.059 | ( | 0.082) | 0.032 |
| 214 | 17.83 | 0.13 | 0.073 | | 0.059 | ( | 0.066) | 0.014 |
| 215 | 17.92 | 0.13 | 0.073 | | 0.058 | ( | 0.066) | 0.015 |
| 216 | 18.00 | 0.13 | 0.073 | | 0.058 | ( | 0.066) | 0.015 |
| 217 | 18.08 | 0.13 | 0.073 | | 0.058 | ( | 0.066) | 0.015 |
| 218 | 18.17 | 0.13 | 0.073 | | 0.058 | ( | 0.066) | 0.015 |
| 219 | 18.25 | 0.13 | 0.073 | | 0.057 | ( | 0.066) | 0.016 |
| 220 | 18.33 | 0.13 | 0.073 | | 0.057 | ( | 0.066) | 0.016 |
| 221 | 18.42 | 0.13 | 0.073 | | 0.057 | ( | 0.066) | 0.016 |
| 222 | 18.50 | 0.13 | 0.073 | | 0.056 | ( | 0.066) | 0.017 |
| 223 | 18.58 | 0.10 | 0.055 | ( | 0.056) | | 0.049 | 0.005 |
| 224 | 18.67 | 0.10 | 0.055 | ( | 0.056) | | 0.049 | 0.005 |
| 225 | 18.75 | 0.10 | 0.055 | ( | 0.056) | | 0.049 | 0.005 |
| 226 | 18.83 | 0.07 | 0.036 | ( | 0.055) | | 0.033 | 0.004 |
| 227 | 18.92 | 0.07 | 0.036 | ( | 0.055) | | 0.033 | 0.004 |
| 228 | 19.00 | 0.07 | 0.036 | ( | 0.055) | | 0.033 | 0.004 |
| 229 | 19.08 | 0.10 | 0.055 | ( | 0.055) | | 0.049 | 0.005 |
| 230 | 19.17 | 0.10 | 0.055 | ( | 0.054) | | 0.049 | 0.005 |
| 231 | 19.25 | 0.10 | 0.055 | ( | 0.054) | | 0.049 | 0.005 |
| 232 | 19.33 | 0.13 | 0.073 | | 0.054 | ( | 0.066) | 0.019 |
| 233 | 19.42 | 0.13 | 0.073 | | 0.054 | ( | 0.066) | 0.019 |
| 234 | 19.50 | 0.13 | 0.073 | | 0.053 | ( | 0.066) | 0.020 |
| 235 | 19.58 | 0.10 | 0.055 | ( | 0.053) | | 0.049 | 0.005 |
| 236 | 19.67 | 0.10 | 0.055 | ( | 0.053) | | 0.049 | 0.005 |
| 237 | 19.75 | 0.10 | 0.055 | ( | 0.053) | | 0.049 | 0.005 |
| 238 | 19.83 | 0.07 | 0.036 | ( | 0.052) | | 0.033 | 0.004 |
| 239 | 19.92 | 0.07 | 0.036 | ( | 0.052) | | 0.033 | 0.004 |
| 240 | 20.00 | 0.07 | 0.036 | ( | 0.052) | | 0.033 | 0.004 |
| 241 | 20.08 | 0.10 | 0.055 | ( | 0.052) | | 0.049 | 0.005 |
| 242 | 20.17 | 0.10 | 0.055 | ( | 0.051) | | 0.049 | 0.005 |
| 243 | 20.25 | 0.10 | 0.055 | ( | 0.051) | | 0.049 | 0.005 |
| 244 | 20.33 | 0.10 | 0.055 | ( | 0.051) | | 0.049 | 0.005 |
| 245 | 20.42 | 0.10 | 0.055 | ( | 0.051) | | 0.049 | 0.005 |
| 246 | 20.50 | 0.10 | 0.055 | ( | 0.051) | | 0.049 | 0.005 |
| 247 | 20.58 | 0.10 | 0.055 | ( | 0.050) | | 0.049 | 0.005 |
| 248 | 20.67 | 0.10 | 0.055 | ( | 0.050) | | 0.049 | 0.005 |
| 249 | 20.75 | 0.10 | 0.055 | ( | 0.050) | | 0.049 | 0.005 |
| 250 | 20.83 | 0.07 | 0.036 | ( | 0.050) | | 0.033 | 0.004 |
| 251 | 20.92 | 0.07 | 0.036 | ( | 0.049) | | 0.033 | 0.004 |
| 252 | 21.00 | 0.07 | 0.036 | ( | 0.049) | | 0.033 | 0.004 |
| 253 | 21.08 | 0.10 | 0.055 | | 0.049 | ( | 0.049) | 0.006 |
| 254 | 21.17 | 0.10 | 0.055 | | 0.049 | ( | 0.049) | 0.006 |
| 255 | 21.25 | 0.10 | 0.055 | | 0.049 | ( | 0.049) | 0.006 |
| 256 | 21.33 | 0.07 | 0.036 | ( | 0.049) | | 0.033 | 0.004 |
| 257 | 21.42 | 0.07 | 0.036 | ( | 0.048) | | 0.033 | 0.004 |
| 258 | 21.50 | 0.07 | 0.036 | ( | 0.048) | | 0.033 | 0.004 |
| 259 | 21.58 | 0.10 | 0.055 | | 0.048 | ( | 0.049) | 0.007 |
| 260 | 21.67 | 0.10 | 0.055 | | 0.048 | ( | 0.049) | 0.007 |
| 261 | 21.75 | 0.10 | 0.055 | | 0.048 | ( | 0.049) | 0.007 |
| 262 | 21.83 | 0.07 | 0.036 | ( | 0.047) | | 0.033 | 0.004 |
| 263 | 21.92 | 0.07 | 0.036 | ( | 0.047) | | 0.033 | 0.004 |
| 264 | 22.00 | 0.07 | 0.036 | ( | 0.047) | | 0.033 | 0.004 |
| 265 | 22.08 | 0.10 | 0.055 | | 0.047 | ( | 0.049) | 0.008 |
| 266 | 22.17 | 0.10 | 0.055 | | 0.047 | ( | 0.049) | 0.008 |
| 267 | 22.25 | 0.10 | 0.055 | | 0.047 | ( | 0.049) | 0.008 |
| 268 | 22.33 | 0.07 | 0.036 | ( | 0.047) | | 0.033 | 0.004 |
| 269 | 22.42 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 270 | 22.50 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 271 | 22.58 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 272 | 22.67 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 273 | 22.75 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 274 | 22.83 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 275 | 22.92 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 276 | 23.00 | 0.07 | 0.036 | ( | 0.046) | | 0.033 | 0.004 |
| 277 | 23.08 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 278 | 23.17 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 279 | 23.25 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 280 | 23.33 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 281 | 23.42 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 284 | 23.67 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 285 | 23.75 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 286 | 23.83 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 287 | 23.92 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |
| 288 | 24.00 | 0.07 | 0.036 | ( | 0.045) | | 0.033 | 0.004 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 33.7

Flood volume = Effective rainfall 2.81(In)
times area 0.3(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 1.75(In)
Total soil loss = 0.044(Ac.Ft)
Total rainfall = 4.56(In)
Flood volume = 3057.8 Cubic Feet
Total soil loss = 1908.1 Cubic Feet

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Peak flow rate of this hydrograph = 0.164(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

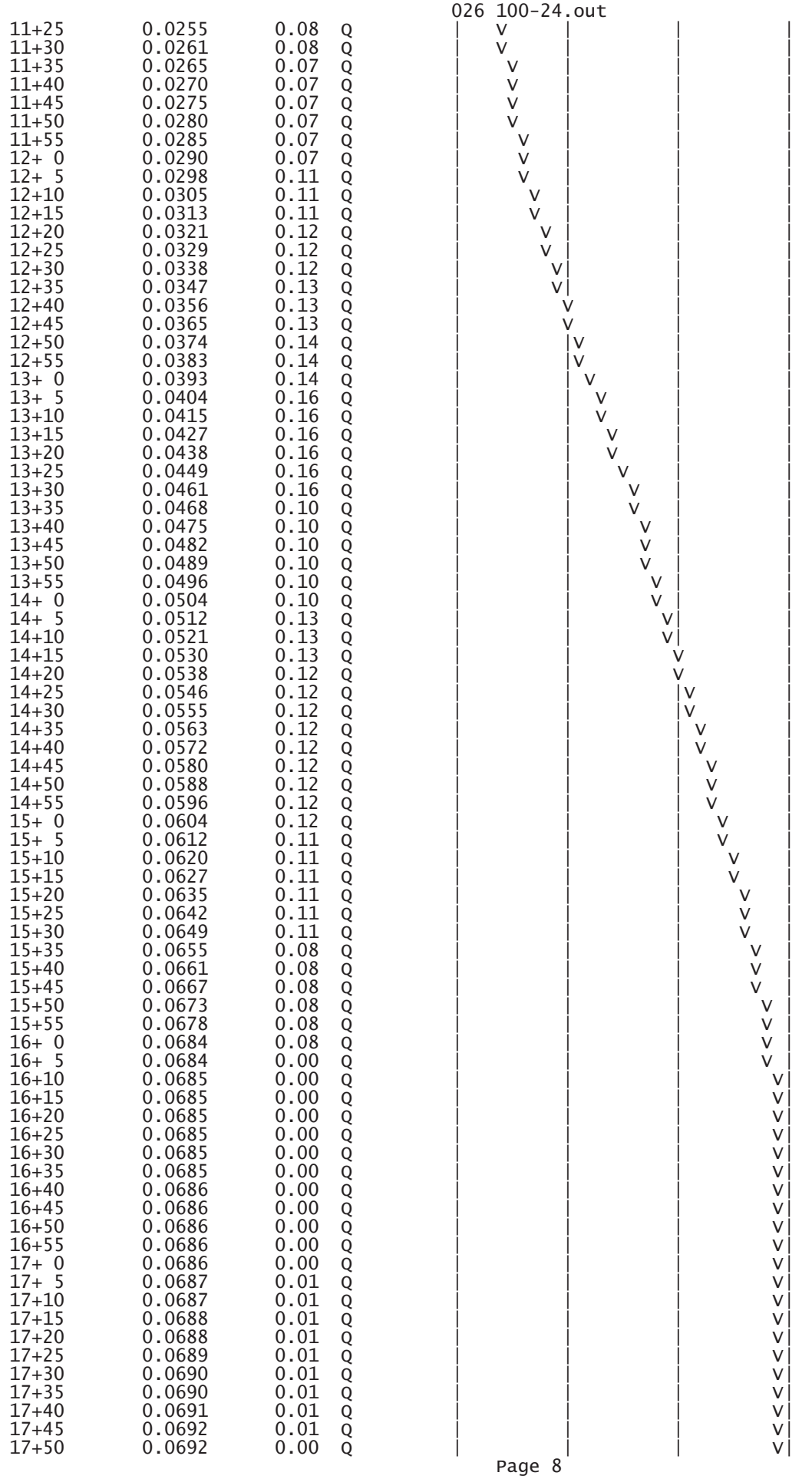
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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0000 | 0.00 | Q | | | | |
| 0+10 | 0.0000 | 0.00 | Q | | | | |
| 0+15 | 0.0000 | 0.00 | Q | | | | |
| 0+20 | 0.0000 | 0.00 | Q | | | | |
| 0+25 | 0.0000 | 0.00 | Q | | | | |
| 0+30 | 0.0001 | 0.00 | Q | | | | |
| 0+35 | 0.0001 | 0.00 | Q | | | | |
| 0+40 | 0.0001 | 0.00 | Q | | | | |
| 0+45 | 0.0001 | 0.00 | Q | | | | |
| 0+50 | 0.0001 | 0.00 | Q | | | | |
| 0+55 | 0.0001 | 0.00 | Q | | | | |
| 1+ 0 | 0.0001 | 0.00 | Q | | | | |
| 1+ 5 | 0.0001 | 0.00 | Q | | | | |
| 1+10 | 0.0002 | 0.00 | Q | | | | |
| 1+15 | 0.0002 | 0.00 | Q | | | | |
| 1+20 | 0.0002 | 0.00 | Q | | | | |
| 1+25 | 0.0002 | 0.00 | Q | | | | |
| 1+30 | 0.0002 | 0.00 | Q | | | | |
| 1+35 | 0.0002 | 0.00 | Q | | | | |
| 1+40 | 0.0002 | 0.00 | Q | | | | |
| 1+45 | 0.0002 | 0.00 | Q | | | | |
| 1+50 | 0.0003 | 0.00 | Q | | | | |
| 1+55 | 0.0003 | 0.00 | Q | | | | |
| 2+ 0 | 0.0003 | 0.00 | Q | | | | |
| 2+ 5 | 0.0003 | 0.00 | Q | | | | |
| 2+10 | 0.0003 | 0.00 | Q | | | | |
| 2+15 | 0.0003 | 0.00 | Q | | | | |
| 2+20 | 0.0003 | 0.00 | Q | | | | |
| 2+25 | 0.0004 | 0.00 | Q | | | | |
| 2+30 | 0.0004 | 0.00 | Q | | | | |
| 2+35 | 0.0004 | 0.00 | Q | | | | |
| 2+40 | 0.0004 | 0.00 | Q | | | | |
| 2+45 | 0.0004 | 0.00 | Q | | | | |
| 2+50 | 0.0005 | 0.00 | Q | | | | |
| 2+55 | 0.0005 | 0.00 | Q | | | | |
| 3+ 0 | 0.0005 | 0.00 | Q | | | | |
| 3+ 5 | 0.0005 | 0.00 | Q | | | | |
| 3+10 | 0.0005 | 0.00 | Q | | | | |
| 3+15 | 0.0005 | 0.00 | Q | | | | |
| 3+20 | 0.0006 | 0.00 | Q | | | | |
| 3+25 | 0.0006 | 0.00 | Q | | | | |
| 3+30 | 0.0006 | 0.00 | Q | | | | |
| 3+35 | 0.0006 | 0.00 | Q | | | | |
| 3+40 | 0.0006 | 0.00 | Q | | | | |
| 3+45 | 0.0007 | 0.00 | Q | | | | |
| 3+50 | 0.0007 | 0.00 | Q | | | | |
| 3+55 | 0.0007 | 0.00 | Q | | | | |
| 4+ 0 | 0.0007 | 0.00 | Q | | | | |
| 4+ 5 | 0.0008 | 0.00 | Q | | | | |
| 4+10 | 0.0008 | 0.00 | Q | | | | |
| 4+15 | 0.0008 | 0.00 | Q | | | | |
| 4+20 | 0.0008 | 0.00 | Q | | | | |
| 4+25 | 0.0009 | 0.00 | Q | | | | |
| 4+30 | 0.0009 | 0.00 | Q | | | | |
| 4+35 | 0.0009 | 0.00 | Q | | | | |
| 4+40 | 0.0009 | 0.00 | Q | | | | |
| 4+45 | 0.0010 | 0.00 | Q | | | | |
| 4+50 | 0.0010 | 0.01 | Q | | | | |

```
 4+55       0.0010      0.01  Q          |          |          |          |
 5+ 0       0.0011      0.01  Q          |          |          |          |
 5+ 5       0.0011      0.00  Q          |          |          |          |
 5+10       0.0011      0.00  Q          |          |          |          |
 5+15       0.0012      0.00  Q          |          |          |          |
 5+20       0.0012      0.00  Q          |          |          |          |
 5+25       0.0012      0.00  Q          |          |          |          |
 5+30       0.0012      0.00  Q          |          |          |          |
 5+35       0.0013      0.01  Q          |          |          |          |
 5+40       0.0013      0.01  Q          |          |          |          |
 5+45       0.0014      0.01  Q          |          |          |          |
 5+50       0.0015      0.01  Q          |          |          |          |
 5+55       0.0015      0.01  Q          |          |          |          |
 6+ 0       0.0016      0.01  Q          |          |          |          |
 6+ 5       0.0017      0.01  Q          |          |          |          |
 6+10       0.0018      0.01  QV         |          |          |          |
 6+15       0.0019      0.01  QV         |          |          |          |
 6+20       0.0020      0.01  QV         |          |          |          |
 6+25       0.0021      0.01  QV         |          |          |          |
 6+30       0.0022      0.01  QV         |          |          |          |
 6+35       0.0023      0.02  QV         |          |          |          |
 6+40       0.0025      0.02  QV         |          |          |          |
 6+45       0.0026      0.02  QV         |          |          |          |
 6+50       0.0027      0.02  QV         |          |          |          |
 6+55       0.0029      0.02  QV         |          |          |          |
 7+ 0       0.0030      0.02  QV         |          |          |          |
 7+ 5       0.0032      0.02  QV         |          |          |          |
 7+10       0.0033      0.02  QV         |          |          |          |
 7+15       0.0035      0.02  QV         |          |          |          |
 7+20       0.0037      0.03  Q V        |          |          |          |
 7+25       0.0039      0.03  Q V        |          |          |          |
 7+30       0.0041      0.03  Q V        |          |          |          |
 7+35       0.0043      0.03  Q V        |          |          |          |
 7+40       0.0045      0.03  Q V        |          |          |          |
 7+45       0.0048      0.03  Q V        |          |          |          |
 7+50       0.0050      0.04  Q V        |          |          |          |
 7+55       0.0053      0.04  Q  V       |          |          |          |
 8+ 0       0.0056      0.04  Q  V       |          |          |          |
 8+ 5       0.0059      0.05  Q  V       |          |          |          |
 8+10       0.0063      0.05  Q  V       |          |          |          |
 8+15       0.0066      0.05  Q  V       |          |          |          |
 8+20       0.0070      0.05  Q  V       |          |          |          |
 8+25       0.0073      0.05  Q   V      |          |          |          |
 8+30       0.0077      0.05  Q   V      |          |          |          |
 8+35       0.0081      0.06  Q   V      |          |          |          |
 8+40       0.0085      0.06  Q   V      |          |          |          |
 8+45       0.0089      0.06  Q    V     |          |          |          |
 8+50       0.0093      0.06  Q    V     |          |          |          |
 8+55       0.0098      0.06  Q    V     |          |          |          |
 9+ 0       0.0102      0.06  Q    V     |          |          |          |
 9+ 5       0.0107      0.07  Q     V    |          |          |          |
 9+10       0.0112      0.07  Q     V    |          |          |          |
 9+15       0.0117      0.08  Q     V    |          |          |          |
 9+20       0.0123      0.08  Q      V   |          |          |          |
 9+25       0.0129      0.08  Q      V   |          |          |          |
 9+30       0.0134      0.08  Q      V   |          |          |          |
 9+35       0.0140      0.09  Q      V   |          |          |          |
 9+40       0.0146      0.09  Q       V  |          |          |          |
 9+45       0.0152      0.09  Q       V  |          |          |          |
 9+50       0.0158      0.09  Q        V |          |          |          |
 9+55       0.0165      0.09  Q        V |          |          |          |
10+ 0       0.0171      0.09  Q        V |          |          |          |
10+ 5       0.0175      0.05  Q        V |          |          |          |
10+10       0.0179      0.05  Q         V          |          |          |
10+15       0.0182      0.05  Q         V          |          |          |
10+20       0.0186      0.05  Q         V          |          |          |
10+25       0.0190      0.05  Q         V          |          |          |
10+30       0.0194      0.06  Q         |V         |          |          |
10+35       0.0200      0.08  Q         |V         |          |          |
10+40       0.0205      0.08  Q         |V         |          |          |
10+45       0.0211      0.08  Q         | V        |          |          |
10+50       0.0217      0.08  Q         | V        |          |          |
10+55       0.0222      0.08  Q         | V        |          |          |
11+ 0       0.0228      0.08  Q         |  V       |          |          |
11+ 5       0.0234      0.08  Q         |  V       |          |          |
11+10       0.0239      0.08  Q         |  V       |          |          |
11+15       0.0244      0.08  Q         |  V       |          |          |
11+20       0.0250      0.08  Q         |   V      |          |          |
```



| | | | | |
|---|---|---|---|---|
| 11+25 | 0.0255 | 0.08 | Q | |
| 11+30 | 0.0261 | 0.08 | Q | |
| 11+35 | 0.0265 | 0.07 | Q | |
| 11+40 | 0.0270 | 0.07 | Q | |
| 11+45 | 0.0275 | 0.07 | Q | |
| 11+50 | 0.0280 | 0.07 | Q | |
| 11+55 | 0.0285 | 0.07 | Q | |
| 12+ 0 | 0.0290 | 0.07 | Q | |
| 12+ 5 | 0.0298 | 0.11 | Q | |
| 12+10 | 0.0305 | 0.11 | Q | |
| 12+15 | 0.0313 | 0.11 | Q | |
| 12+20 | 0.0321 | 0.12 | Q | |
| 12+25 | 0.0329 | 0.12 | Q | |
| 12+30 | 0.0338 | 0.12 | Q | |
| 12+35 | 0.0347 | 0.13 | Q | |
| 12+40 | 0.0356 | 0.13 | Q | |
| 12+45 | 0.0365 | 0.13 | Q | |
| 12+50 | 0.0374 | 0.14 | Q | |
| 12+55 | 0.0383 | 0.14 | Q | |
| 13+ 0 | 0.0393 | 0.14 | Q | |
| 13+ 5 | 0.0404 | 0.16 | Q | |
| 13+10 | 0.0415 | 0.16 | Q | |
| 13+15 | 0.0427 | 0.16 | Q | |
| 13+20 | 0.0438 | 0.16 | Q | |
| 13+25 | 0.0449 | 0.16 | Q | |
| 13+30 | 0.0461 | 0.16 | Q | |
| 13+35 | 0.0468 | 0.10 | Q | |
| 13+40 | 0.0475 | 0.10 | Q | |
| 13+45 | 0.0482 | 0.10 | Q | |
| 13+50 | 0.0489 | 0.10 | Q | |
| 13+55 | 0.0496 | 0.10 | Q | |
| 14+ 0 | 0.0504 | 0.10 | Q | |
| 14+ 5 | 0.0512 | 0.13 | Q | |
| 14+10 | 0.0521 | 0.13 | Q | |
| 14+15 | 0.0530 | 0.13 | Q | |
| 14+20 | 0.0538 | 0.12 | Q | |
| 14+25 | 0.0546 | 0.12 | Q | |
| 14+30 | 0.0555 | 0.12 | Q | |
| 14+35 | 0.0563 | 0.12 | Q | |
| 14+40 | 0.0572 | 0.12 | Q | |
| 14+45 | 0.0580 | 0.12 | Q | |
| 14+50 | 0.0588 | 0.12 | Q | |
| 14+55 | 0.0596 | 0.12 | Q | |
| 15+ 0 | 0.0604 | 0.12 | Q | |
| 15+ 5 | 0.0612 | 0.11 | Q | |
| 15+10 | 0.0620 | 0.11 | Q | |
| 15+15 | 0.0627 | 0.11 | Q | |
| 15+20 | 0.0635 | 0.11 | Q | |
| 15+25 | 0.0642 | 0.11 | Q | |
| 15+30 | 0.0649 | 0.11 | Q | |
| 15+35 | 0.0655 | 0.08 | Q | |
| 15+40 | 0.0661 | 0.08 | Q | |
| 15+45 | 0.0667 | 0.08 | Q | |
| 15+50 | 0.0673 | 0.08 | Q | |
| 15+55 | 0.0678 | 0.08 | Q | |
| 16+ 0 | 0.0684 | 0.08 | Q | |
| 16+ 5 | 0.0684 | 0.00 | Q | |
| 16+10 | 0.0685 | 0.00 | Q | |
| 16+15 | 0.0685 | 0.00 | Q | |
| 16+20 | 0.0685 | 0.00 | Q | |
| 16+25 | 0.0685 | 0.00 | Q | |
| 16+30 | 0.0685 | 0.00 | Q | |
| 16+35 | 0.0685 | 0.00 | Q | |
| 16+40 | 0.0686 | 0.00 | Q | |
| 16+45 | 0.0686 | 0.00 | Q | |
| 16+50 | 0.0686 | 0.00 | Q | |
| 16+55 | 0.0686 | 0.00 | Q | |
| 17+ 0 | 0.0686 | 0.00 | Q | |
| 17+ 5 | 0.0687 | 0.01 | Q | |
| 17+10 | 0.0687 | 0.01 | Q | |
| 17+15 | 0.0688 | 0.01 | Q | |
| 17+20 | 0.0688 | 0.01 | Q | |
| 17+25 | 0.0689 | 0.01 | Q | |
| 17+30 | 0.0690 | 0.01 | Q | |
| 17+35 | 0.0690 | 0.01 | Q | |
| 17+40 | 0.0691 | 0.01 | Q | |
| 17+45 | 0.0692 | 0.01 | Q | |
| 17+50 | 0.0692 | 0.00 | Q | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+55 | 0.0692 | 0.00 | Q | \| | \| | \| | V\| |
| 18+ 0 | 0.0693 | 0.00 | Q | \| | \| | \| | V\| |
| 18+ 5 | 0.0693 | 0.00 | Q | \| | \| | \| | V\| |
| 18+10 | 0.0693 | 0.00 | Q | \| | \| | \| | V\| |
| 18+15 | 0.0694 | 0.00 | Q | \| | \| | \| | V\| |
| 18+20 | 0.0694 | 0.00 | Q | \| | \| | \| | V\| |
| 18+25 | 0.0694 | 0.00 | Q | \| | \| | \| | V\| |
| 18+30 | 0.0695 | 0.01 | Q | \| | \| | \| | V\| |
| 18+35 | 0.0695 | 0.00 | Q | \| | \| | \| | V\| |
| 18+40 | 0.0695 | 0.00 | Q | \| | \| | \| | V\| |
| 18+45 | 0.0695 | 0.00 | Q | \| | \| | \| | V\| |
| 18+50 | 0.0695 | 0.00 | Q | \| | \| | \| | V\| |
| 18+55 | 0.0695 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 0 | 0.0695 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 5 | 0.0695 | 0.00 | Q | \| | \| | \| | V\| |
| 19+10 | 0.0695 | 0.00 | Q | \| | \| | \| | V\| |
| 19+15 | 0.0696 | 0.00 | Q | \| | \| | \| | V\| |
| 19+20 | 0.0696 | 0.01 | Q | \| | \| | \| | V\| |
| 19+25 | 0.0696 | 0.01 | Q | \| | \| | \| | V\| |
| 19+30 | 0.0697 | 0.01 | Q | \| | \| | \| | V\| |
| 19+35 | 0.0697 | 0.00 | Q | \| | \| | \| | V\| |
| 19+40 | 0.0697 | 0.00 | Q | \| | \| | \| | V\| |
| 19+45 | 0.0697 | 0.00 | Q | \| | \| | \| | V\| |
| 19+50 | 0.0697 | 0.00 | Q | \| | \| | \| | V\| |
| 19+55 | 0.0697 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 0 | 0.0697 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 5 | 0.0697 | 0.00 | Q | \| | \| | \| | V\| |
| 20+10 | 0.0698 | 0.00 | Q | \| | \| | \| | V\| |
| 20+15 | 0.0698 | 0.00 | Q | \| | \| | \| | V\| |
| 20+20 | 0.0698 | 0.00 | Q | \| | \| | \| | V\| |
| 20+25 | 0.0698 | 0.00 | Q | \| | \| | \| | V\| |
| 20+30 | 0.0698 | 0.00 | Q | \| | \| | \| | V\| |
| 20+35 | 0.0698 | 0.00 | Q | \| | \| | \| | V\| |
| 20+40 | 0.0698 | 0.00 | Q | \| | \| | \| | V\| |
| 20+45 | 0.0698 | 0.00 | Q | \| | \| | \| | V\| |
| 20+50 | 0.0698 | 0.00 | Q | \| | \| | \| | V\| |
| 20+55 | 0.0699 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 0 | 0.0699 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 5 | 0.0699 | 0.00 | Q | \| | \| | \| | V\| |
| 21+10 | 0.0699 | 0.00 | Q | \| | \| | \| | V\| |
| 21+15 | 0.0699 | 0.00 | Q | \| | \| | \| | V\| |
| 21+20 | 0.0699 | 0.00 | Q | \| | \| | \| | V\| |
| 21+25 | 0.0699 | 0.00 | Q | \| | \| | \| | V\| |
| 21+30 | 0.0699 | 0.00 | Q | \| | \| | \| | V\| |
| 21+35 | 0.0699 | 0.00 | Q | \| | \| | \| | V\| |
| 21+40 | 0.0700 | 0.00 | Q | \| | \| | \| | V\| |
| 21+45 | 0.0700 | 0.00 | Q | \| | \| | \| | V\| |
| 21+50 | 0.0700 | 0.00 | Q | \| | \| | \| | V\| |
| 21+55 | 0.0700 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 0 | 0.0700 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 5 | 0.0700 | 0.00 | Q | \| | \| | \| | V\| |
| 22+10 | 0.0700 | 0.00 | Q | \| | \| | \| | V\| |
| 22+15 | 0.0700 | 0.00 | Q | \| | \| | \| | V\| |
| 22+20 | 0.0700 | 0.00 | Q | \| | \| | \| | V\| |
| 22+25 | 0.0701 | 0.00 | Q | \| | \| | \| | V\| |
| 22+30 | 0.0701 | 0.00 | Q | \| | \| | \| | V\| |
| 22+35 | 0.0701 | 0.00 | Q | \| | \| | \| | V\| |
| 22+40 | 0.0701 | 0.00 | Q | \| | \| | \| | V\| |
| 22+45 | 0.0701 | 0.00 | Q | \| | \| | \| | V\| |
| 22+50 | 0.0701 | 0.00 | Q | \| | \| | \| | V\| |
| 22+55 | 0.0701 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 0 | 0.0701 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 5 | 0.0701 | 0.00 | Q | \| | \| | \| | V\| |
| 23+10 | 0.0701 | 0.00 | Q | \| | \| | \| | V\| |
| 23+15 | 0.0701 | 0.00 | Q | \| | \| | \| | V\| |
| 23+20 | 0.0701 | 0.00 | Q | \| | \| | \| | V\| |
| 23+25 | 0.0701 | 0.00 | Q | \| | \| | \| | V\| |
| 23+30 | 0.0702 | 0.00 | Q | \| | \| | \| | V\| |
| 23+35 | 0.0702 | 0.00 | Q | \| | \| | \| | V\| |
| 23+40 | 0.0702 | 0.00 | Q | \| | \| | \| | V\| |
| 23+45 | 0.0702 | 0.00 | Q | \| | \| | \| | V\| |
| 23+50 | 0.0702 | 0.00 | Q | \| | \| | \| | V\| |
| 23+55 | 0.0702 | 0.00 | Q | \| | \| | \| | V\| |
| 24+ 0 | 0.0702 | 0.00 | Q | \| | \| | \| | V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX271100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 27
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 0.10(Ac.) = 0.000 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.10(Ac.) = 0.000 Sq. Mi.
Length along longest watercourse = 50.00(Ft.)
Length along longest watercourse measured to centroid = 25.00(Ft.)
Length along longest watercourse = 0.009 Mi.
Length along longest watercourse measured to centroid = 0.005 Mi.
Difference in elevation = 24.00(Ft.)
Slope along watercourse = 2534.4000 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.004 Hr.
Lag time = 0.25 Min.
25% of lag time = 0.06 Min.
40% of lag time = 0.10 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.10 | 0.49 | 0.05 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.10 | 1.20 | 0.12 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.490(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.100 | 84.00 | 0.000 |

Total Area Entered = 0.10(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

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| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 1975.385 | 100.000 | 0.101 |
| | | Sum = 100.000 Sum= | 0.101 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.086 | ( 0.544) | 0.519 |
| 2 | 0.17 | 4.30 | 0.619 | 0.086 | ( 0.557) | 0.533 |
| 3 | 0.25 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 4 | 0.33 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 5 | 0.42 | 5.80 | 0.835 | 0.086 | ( 0.752) | 0.749 |
| 6 | 0.50 | 6.50 | 0.936 | 0.086 | ( 0.842) | 0.850 |
| 7 | 0.58 | 7.40 | 1.066 | 0.086 | ( 0.959) | 0.980 |
| 8 | 0.67 | 8.60 | 1.238 | 0.086 | ( 1.115) | 1.153 |
| 9 | 0.75 | 12.30 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 10 | 0.83 | 29.10 | 4.190 | 0.086 | ( 3.771) | 4.105 |
| 11 | 0.92 | 6.80 | 0.979 | 0.086 | ( 0.881) | 0.893 |
| 12 | 1.00 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| | (Loss Rate Not Used) | | | | | |
| Sum = | 100.0 | | | | Sum = | 13.4 |

Flood volume = Effective rainfall 1.11(In)
times area 0.1(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.001(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 404.5 Cubic Feet
Total soil loss = 31.1 Cubic Feet

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Peak flow rate of this hydrograph = 0.414(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0004 | 0.05 | QV | | | | |
| 0+10 | 0.0007 | 0.05 | Q V | | | | |
| 0+15 | 0.0012 | 0.06 | Q V | | | | |
| 0+20 | 0.0016 | 0.06 | Q V | | | | |
| 0+25 | 0.0021 | 0.08 | Q V | | | | |
| 0+30 | 0.0027 | 0.09 | Q V | | | | |
| 0+35 | 0.0034 | 0.10 | Q V | | | | |
| 0+40 | 0.0042 | 0.12 | Q V | | | | |
| 0+45 | 0.0054 | 0.17 | Q V | | | | |
| 0+50 | 0.0082 | 0.41 | Q V | | | | |
| 0+55 | 0.0088 | 0.09 | Q V | | | | |
| 1+ 0 | 0.0093 | 0.06 | Q V | | | | |

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U n i t  H y d r o g r a p h  A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 27
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.10(Ac.) = 0.000 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.10(Ac.) = 0.000 Sq. Mi.
Length along longest watercourse = 50.00(Ft.)
Length along longest watercourse measured to centroid = 25.00(Ft.)
Length along longest watercourse = 0.009 Mi.
Length along longest watercourse measured to centroid = 0.005 Mi.
Difference in elevation = 24.00(Ft.)
Slope along watercourse = 2534.4000 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.004 Hr.
Lag time = 0.25 Min.
25% of lag time = 0.06 Min.
40% of lag time = 0.10 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.10 | 0.80 | 0.08 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.10 | 1.80 | 0.18 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.100 | 84.00 | 0.000 |

Total Area Entered = 0.10(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 1975.385 | 100.000 | 0.101 |
| | | Sum = 100.000 Sum= | 0.101 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.281 | 0.086 | ( 0.253) | 0.195 |
| 2 | 0.17 | 1.30 | 0.281 | 0.086 | ( 0.253) | 0.195 |
| 3 | 0.25 | 1.10 | 0.238 | 0.086 | ( 0.214) | 0.152 |
| 4 | 0.33 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 5 | 0.42 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 6 | 0.50 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 7 | 0.58 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 8 | 0.67 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 9 | 0.75 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 10 | 0.83 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 11 | 0.92 | 1.60 | 0.346 | 0.086 | ( 0.311) | 0.260 |
| 12 | 1.00 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 13 | 1.08 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 14 | 1.17 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 15 | 1.25 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 16 | 1.33 | 2.00 | 0.432 | 0.086 | ( 0.389) | 0.346 |
| 17 | 1.42 | 2.60 | 0.562 | 0.086 | ( 0.505) | 0.476 |
| 18 | 1.50 | 2.70 | 0.583 | 0.086 | ( 0.525) | 0.497 |
| 19 | 1.58 | 2.40 | 0.518 | 0.086 | ( 0.467) | 0.433 |
| 20 | 1.67 | 2.70 | 0.583 | 0.086 | ( 0.525) | 0.497 |
| 21 | 1.75 | 3.30 | 0.713 | 0.086 | ( 0.642) | 0.627 |
| 22 | 1.83 | 3.10 | 0.670 | 0.086 | ( 0.603) | 0.584 |
| 23 | 1.92 | 2.90 | 0.626 | 0.086 | ( 0.564) | 0.541 |
| 24 | 2.00 | 3.00 | 0.648 | 0.086 | ( 0.583) | 0.562 |
| 25 | 2.08 | 3.10 | 0.670 | 0.086 | ( 0.603) | 0.584 |
| 26 | 2.17 | 4.20 | 0.907 | 0.086 | ( 0.816) | 0.821 |
| 27 | 2.25 | 5.00 | 1.080 | 0.086 | ( 0.972) | 0.994 |
| 28 | 2.33 | 3.50 | 0.756 | 0.086 | ( 0.680) | 0.670 |
| 29 | 2.42 | 6.80 | 1.469 | 0.086 | ( 1.322) | 1.383 |
| 30 | 2.50 | 7.30 | 1.577 | 0.086 | ( 1.419) | 1.491 |
| 31 | 2.58 | 8.20 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 32 | 2.67 | 5.90 | 1.274 | 0.086 | ( 1.147) | 1.189 |
| 33 | 2.75 | 2.00 | 0.432 | 0.086 | ( 0.389) | 0.346 |
| 34 | 2.83 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 35 | 2.92 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 36 | 3.00 | 0.60 | 0.130 | 0.086 | ( 0.117) | 0.044 |
| | | (Loss Rate Not Used) | | | |
| Sum = | | 100.0 | | | Sum = 18.5 |

Flood volume = Effective rainfall 1.54(In)
times area 0.1(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.002(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 560.0 Cubic Feet
Total soil loss = 93.4 Cubic Feet

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Peak flow rate of this hydrograph = 0.170(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 2.5 5.0 7.5 10.0 |
|---|---|---|---|
| 0+ 5 | 0.0001 | 0.02 | Q \| \| \| \| |
| 0+10 | 0.0003 | 0.02 | Q \| \| \| \| |
| 0+15 | 0.0004 | 0.02 | QV \| \| \| \| |
| 0+20 | 0.0005 | 0.02 | QV \| \| \| \| |
| 0+25 | 0.0007 | 0.02 | Q V \| \| \| \| |
| 0+30 | 0.0009 | 0.03 | Q V \| \| \| \| |
| 0+35 | 0.0011 | 0.02 | Q V \| \| \| \| |
| 0+40 | 0.0013 | 0.03 | Q V \| \| \| \| |
| 0+45 | 0.0015 | 0.03 | Q V \| \| \| \| |
| 0+50 | 0.0017 | 0.02 | Q V \| \| \| \| |
| 0+55 | 0.0018 | 0.03 | Q V \| \| \| \| |
| 1+ 0 | 0.0021 | 0.03 | Q V \| \| \| \| |
| 1+ 5 | 0.0023 | 0.04 | Q V \| \| \| \| |
| 1+10 | 0.0026 | 0.04 | Q V \| \| \| \| |
| 1+15 | 0.0029 | 0.04 | Q V \| \| \| \| |
| 1+20 | 0.0031 | 0.03 | Q V\| \| \| \| |
| 1+25 | 0.0034 | 0.05 | Q V \| \| \| |
| 1+30 | 0.0038 | 0.05 | Q \|V \| \| \| |
| 1+35 | 0.0041 | 0.04 | Q \| V \| \| \| |
| 1+40 | 0.0044 | 0.05 | Q \| V \| \| \| |
| 1+45 | 0.0049 | 0.06 | Q \| V \| \| \| |
| 1+50 | 0.0053 | 0.06 | Q \| V \| \| \| |
| 1+55 | 0.0056 | 0.05 | Q \| V \| \| \| |
| 2+ 0 | 0.0060 | 0.06 | Q \| V \| \| \| |
| 2+ 5 | 0.0064 | 0.06 | Q \| V \| \| \| |
| 2+10 | 0.0070 | 0.08 | Q \| \|V \| \| \| |
| 2+15 | 0.0077 | 0.10 | Q \| \| V \| \| \| |
| 2+20 | 0.0082 | 0.07 | Q \| \| V \| \| \| |
| 2+25 | 0.0091 | 0.14 | Q \| \| \| V \| \| |
| 2+30 | 0.0102 | 0.15 | Q \| \| \| \|V \| |
| 2+35 | 0.0113 | 0.17 | Q \| \| \| \| V \| |
| 2+40 | 0.0122 | 0.12 | Q \| \| \| \| V \| |
| 2+45 | 0.0124 | 0.03 | Q \| \| \| \| V \| |
| 2+50 | 0.0126 | 0.03 | Q \| \| \| \| V\| |
| 2+55 | 0.0128 | 0.03 | Q \| \| \| \| V\| |
| 3+ 0 | 0.0129 | 0.00 | Q \| \| \| \| V\| |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX276100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 27
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.10(Ac.) = 0.000 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.10(Ac.) = 0.000 Sq. Mi.
Length along longest watercourse = 50.00(Ft.)
Length along longest watercourse measured to centroid = 25.00(Ft.)
Length along longest watercourse = 0.009 Mi.
Length along longest watercourse measured to centroid = 0.005 Mi.
Difference in elevation = 24.00(Ft.)
Slope along watercourse = 2534.4000 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.004 Hr.
Lag time = 0.25 Min.
25% of lag time = 0.06 Min.
40% of lag time = 0.10 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.10 | 1.12 | 0.11 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.10 | 2.50 | 0.25 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.120(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.100 | 84.00 | 0.000 |

Total Area Entered = 0.10(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 1975.385 | 100.000 | 0.101 |
| | | Sum = 100.000 | Sum= 0.101 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.086 | ( 0.135) | 0.064 |
| 2 | 0.17 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 3 | 0.25 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 4 | 0.33 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 5 | 0.42 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 6 | 0.50 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 7 | 0.58 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 8 | 0.67 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 9 | 0.75 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 10 | 0.83 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 11 | 0.92 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 12 | 1.00 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 13 | 1.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 14 | 1.17 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 15 | 1.25 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 16 | 1.33 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 17 | 1.42 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 18 | 1.50 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 19 | 1.58 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 20 | 1.67 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 21 | 1.75 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 22 | 1.83 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 23 | 1.92 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 24 | 2.00 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 25 | 2.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 26 | 2.17 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 27 | 2.25 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 28 | 2.33 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 29 | 2.42 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 30 | 2.50 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 31 | 2.58 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 32 | 2.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 33 | 2.75 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 34 | 2.83 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 35 | 2.92 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 36 | 3.00 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 37 | 3.08 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 38 | 3.17 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 39 | 3.25 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 40 | 3.33 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 41 | 3.42 | 1.20 | 0.360 | 0.086 | ( 0.324) | 0.274 |
| 42 | 3.50 | 1.30 | 0.390 | 0.086 | ( 0.351) | 0.304 |
| 43 | 3.58 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 44 | 3.67 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 45 | 3.75 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 46 | 3.83 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 47 | 3.92 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 48 | 4.00 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 49 | 4.08 | 1.70 | 0.510 | 0.086 | ( 0.459) | 0.424 |
| 50 | 4.17 | 1.80 | 0.540 | 0.086 | ( 0.486) | 0.454 |
| 51 | 4.25 | 1.90 | 0.570 | 0.086 | ( 0.513) | 0.484 |
| 52 | 4.33 | 2.00 | 0.600 | 0.086 | ( 0.540) | 0.514 |
| 53 | 4.42 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 |
| 54 | 4.50 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 |
| 55 | 4.58 | 2.20 | 0.660 | 0.086 | ( 0.594) | 0.574 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 56 | 4.67 | 2.30 | 0.690 | 0.086 | ( 0.621) | | 0.604 |
| 57 | 4.75 | 2.40 | 0.720 | 0.086 | ( 0.648) | | 0.634 |
| 58 | 4.83 | 2.40 | 0.720 | 0.086 | ( 0.648) | | 0.634 |
| 59 | 4.92 | 2.50 | 0.750 | 0.086 | ( 0.675) | | 0.664 |
| 60 | 5.00 | 2.60 | 0.780 | 0.086 | ( 0.702) | | 0.694 |
| 61 | 5.08 | 3.10 | 0.930 | 0.086 | ( 0.837) | | 0.844 |
| 62 | 5.17 | 3.60 | 1.080 | 0.086 | ( 0.972) | | 0.994 |
| 63 | 5.25 | 3.90 | 1.170 | 0.086 | ( 1.053) | | 1.084 |
| 64 | 5.33 | 4.20 | 1.260 | 0.086 | ( 1.134) | | 1.174 |
| 65 | 5.42 | 4.70 | 1.410 | 0.086 | ( 1.269) | | 1.324 |
| 66 | 5.50 | 5.60 | 1.680 | 0.086 | ( 1.512) | | 1.594 |
| 67 | 5.58 | 1.90 | 0.570 | 0.086 | ( 0.513) | | 0.484 |
| 68 | 5.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | | 0.184 |
| 69 | 5.75 | 0.60 | 0.180 | 0.086 | ( 0.162) | | 0.094 |
| 70 | 5.83 | 0.50 | 0.150 | 0.086 | ( 0.135) | | 0.064 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.086) | 0.081 | | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.086) | 0.054 | | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.9

Flood volume = Effective rainfall 1.99(In)
times area 0.1(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.51(In)
Total soil loss = 0.004(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 721.7 Cubic Feet
Total soil loss = 185.8 Cubic Feet

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Peak flow rate of this hydrograph = 0.161(CFS)

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6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0000 | 0.01 | Q | | | | |
| 0+10 | 0.0001 | 0.01 | Q | | | | |
| 0+15 | 0.0002 | 0.01 | Q | | | | |
| 0+20 | 0.0002 | 0.01 | Q | | | | |
| 0+25 | 0.0003 | 0.01 | Q | | | | |
| 0+30 | 0.0004 | 0.01 | Q | | | | |
| 0+35 | 0.0005 | 0.01 | QV | | | | |
| 0+40 | 0.0006 | 0.01 | QV | | | | |
| 0+45 | 0.0007 | 0.01 | QV | | | | |
| 0+50 | 0.0007 | 0.01 | QV | | | | |
| 0+55 | 0.0008 | 0.01 | QV | | | | |
| 1+ 0 | 0.0009 | 0.02 | Q V | | | | |
| 1+ 5 | 0.0010 | 0.02 | Q V | | | | |
| 1+10 | 0.0011 | 0.02 | Q V | | | | |
| 1+15 | 0.0013 | 0.02 | Q V | | | | |
| 1+20 | 0.0014 | 0.02 | Q V | | | | |
| 1+25 | 0.0015 | 0.02 | Q V | | | | |
| 1+30 | 0.0016 | 0.02 | Q V | | | | |
| 1+35 | 0.0017 | 0.02 | Q V | | | | |
| 1+40 | 0.0018 | 0.02 | Q V | | | | |
| 1+45 | 0.0019 | 0.02 | Q V | | | | |
| 1+50 | 0.0020 | 0.02 | Q V | | | | |
| 1+55 | 0.0021 | 0.02 | Q V | | | | |
| 2+ 0 | 0.0022 | 0.02 | Q V | | | | |
| 2+ 5 | 0.0023 | 0.02 | Q V | | | | |
| 2+10 | 0.0025 | 0.02 | Q V | | | | |
| 2+15 | 0.0026 | 0.02 | Q V | | | | |
| 2+20 | 0.0027 | 0.02 | Q V | | | | |
| 2+25 | 0.0029 | 0.02 | Q V | | | | |
| 2+30 | 0.0030 | 0.02 | Q V | | | | |
| 2+35 | 0.0031 | 0.02 | Q V | | | | |
| 2+40 | 0.0032 | 0.02 | Q V | | | | |
| 2+45 | 0.0034 | 0.02 | Q V | | | | |
| 2+50 | 0.0035 | 0.02 | Q V | | | | |
| 2+55 | 0.0037 | 0.02 | Q V | | | | |
| 3+ 0 | 0.0038 | 0.02 | Q V | | | | |
| 3+ 5 | 0.0040 | 0.02 | Q V | | | | |
| 3+10 | 0.0042 | 0.02 | Q V | | | | |
| 3+15 | 0.0043 | 0.02 | Q V | | | | |
| 3+20 | 0.0045 | 0.02 | Q V | | | | |

```
    3+25       0.0047      0.03  Q          |V        |         |          |
    3+30       0.0049      0.03  Q          |V        |         |          |
    3+35       0.0051      0.03  Q          | V       |         |          |
    3+40       0.0054      0.03  Q          | V       |         |          |
    3+45       0.0056      0.04  Q          |  V      |         |          |
    3+50       0.0059      0.04  Q          |   V     |         |          |
    3+55       0.0061      0.04  Q          |   V     |         |          |
    4+ 0       0.0064      0.04  Q          |    V    |         |          |
    4+ 5       0.0067      0.04  Q          |     V   |         |          |
    4+10       0.0070      0.05  Q          |     V   |         |          |
    4+15       0.0074      0.05  Q          |      V  |         |          |
    4+20       0.0077      0.05  Q          |       V |         |          |
    4+25       0.0081      0.05  Q          |        V|         |          |
    4+30       0.0085      0.05  Q          |         V         |          |
    4+35       0.0089      0.06  Q          |         |V        |          |
    4+40       0.0093      0.06  Q          |         | V       |          |
    4+45       0.0097      0.06  Q          |         |  V      |          |
    4+50       0.0102      0.06  Q          |         |   V     |          |
    4+55       0.0106      0.07  Q          |         |    V    |          |
    5+ 0       0.0111      0.07  Q          |         |     V   |          |
    5+ 5       0.0117      0.09  Q          |         |      V  |          |
    5+10       0.0124      0.10  Q          |         |       V |          |
    5+15       0.0131      0.11  Q          |         |        V|          |
    5+20       0.0140      0.12  Q          |         |         |V         |
    5+25       0.0149      0.13  Q          |         |         |  V       |
    5+30       0.0160      0.16  Q          |         |         |    V     |
    5+35       0.0163      0.05  Q          |         |         |     V    |
    5+40       0.0164      0.02  Q          |         |         |     V    |
    5+45       0.0165      0.01  Q          |         |         |     V    |
    5+50       0.0166      0.01  Q          |         |         |     V    |
    5+55       0.0166      0.00  Q          |         |         |     V    |
    6+ 0       0.0166      0.00  Q          |         |         |      V
-------------------------------------------------------------------------
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX2724100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 27
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 0.10(Ac.) = 0.000 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.10(Ac.) = 0.000 Sq. Mi.
Length along longest watercourse = 50.00(Ft.)
Length along longest watercourse measured to centroid = 25.00(Ft.)
Length along longest watercourse = 0.009 Mi.
Length along longest watercourse measured to centroid = 0.005 Mi.
Difference in elevation = 24.00(Ft.)
Slope along watercourse = 2534.4000 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.004 Hr.
Lag time = 0.25 Min.
25% of lag time = 0.06 Min.
40% of lag time = 0.10 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.10 | 1.80 | 0.18 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.10 | 4.56 | 0.46 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.560(In)

Point rain (area averaged) = 4.560(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.560(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.100 | 84.00 | 0.000 |

Total Area Entered = 0.10(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 1975.385 | 100.000 | 0.101 |
| | | Sum = 100.000 | Sum= 0.101 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.036 | ( 0.152) | 0.033 | 0.004 |
| 2 | 0.17 | 0.07 | 0.036 | ( 0.152) | 0.033 | 0.004 |
| 3 | 0.25 | 0.07 | 0.036 | ( 0.151) | 0.033 | 0.004 |
| 4 | 0.33 | 0.10 | 0.055 | ( 0.150) | 0.049 | 0.005 |
| 5 | 0.42 | 0.10 | 0.055 | ( 0.150) | 0.049 | 0.005 |
| 6 | 0.50 | 0.10 | 0.055 | ( 0.149) | 0.049 | 0.005 |
| 7 | 0.58 | 0.10 | 0.055 | ( 0.149) | 0.049 | 0.005 |
| 8 | 0.67 | 0.10 | 0.055 | ( 0.148) | 0.049 | 0.005 |
| 9 | 0.75 | 0.10 | 0.055 | ( 0.147) | 0.049 | 0.005 |
| 10 | 0.83 | 0.13 | 0.073 | ( 0.147) | 0.066 | 0.007 |
| 11 | 0.92 | 0.13 | 0.073 | ( 0.146) | 0.066 | 0.007 |
| 12 | 1.00 | 0.13 | 0.073 | ( 0.146) | 0.066 | 0.007 |
| 13 | 1.08 | 0.10 | 0.055 | ( 0.145) | 0.049 | 0.005 |
| 14 | 1.17 | 0.10 | 0.055 | ( 0.145) | 0.049 | 0.005 |
| 15 | 1.25 | 0.10 | 0.055 | ( 0.144) | 0.049 | 0.005 |
| 16 | 1.33 | 0.10 | 0.055 | ( 0.143) | 0.049 | 0.005 |
| 17 | 1.42 | 0.10 | 0.055 | ( 0.143) | 0.049 | 0.005 |
| 18 | 1.50 | 0.10 | 0.055 | ( 0.142) | 0.049 | 0.005 |
| 19 | 1.58 | 0.10 | 0.055 | ( 0.142) | 0.049 | 0.005 |
| 20 | 1.67 | 0.10 | 0.055 | ( 0.141) | 0.049 | 0.005 |
| 21 | 1.75 | 0.10 | 0.055 | ( 0.141) | 0.049 | 0.005 |
| 22 | 1.83 | 0.13 | 0.073 | ( 0.140) | 0.066 | 0.007 |
| 23 | 1.92 | 0.13 | 0.073 | ( 0.139) | 0.066 | 0.007 |
| 24 | 2.00 | 0.13 | 0.073 | ( 0.139) | 0.066 | 0.007 |
| 25 | 2.08 | 0.13 | 0.073 | ( 0.138) | 0.066 | 0.007 |
| 26 | 2.17 | 0.13 | 0.073 | ( 0.138) | 0.066 | 0.007 |
| 27 | 2.25 | 0.13 | 0.073 | ( 0.137) | 0.066 | 0.007 |
| 28 | 2.33 | 0.13 | 0.073 | ( 0.137) | 0.066 | 0.007 |
| 29 | 2.42 | 0.13 | 0.073 | ( 0.136) | 0.066 | 0.007 |
| 30 | 2.50 | 0.13 | 0.073 | ( 0.136) | 0.066 | 0.007 |
| 31 | 2.58 | 0.17 | 0.091 | ( 0.135) | 0.082 | 0.009 |
| 32 | 2.67 | 0.17 | 0.091 | ( 0.134) | 0.082 | 0.009 |
| 33 | 2.75 | 0.17 | 0.091 | ( 0.134) | 0.082 | 0.009 |
| 34 | 2.83 | 0.17 | 0.091 | ( 0.133) | 0.082 | 0.009 |
| 35 | 2.92 | 0.17 | 0.091 | ( 0.133) | 0.082 | 0.009 |
| 36 | 3.00 | 0.17 | 0.091 | ( 0.132) | 0.082 | 0.009 |
| 37 | 3.08 | 0.17 | 0.091 | ( 0.132) | 0.082 | 0.009 |
| 38 | 3.17 | 0.17 | 0.091 | ( 0.131) | 0.082 | 0.009 |
| 39 | 3.25 | 0.17 | 0.091 | ( 0.131) | 0.082 | 0.009 |
| 40 | 3.33 | 0.17 | 0.091 | ( 0.130) | 0.082 | 0.009 |
| 41 | 3.42 | 0.17 | 0.091 | ( 0.129) | 0.082 | 0.009 |
| 42 | 3.50 | 0.17 | 0.091 | ( 0.129) | 0.082 | 0.009 |
| 43 | 3.58 | 0.17 | 0.091 | ( 0.128) | 0.082 | 0.009 |
| 44 | 3.67 | 0.17 | 0.091 | ( 0.128) | 0.082 | 0.009 |
| 45 | 3.75 | 0.17 | 0.091 | ( 0.127) | 0.082 | 0.009 |
| 46 | 3.83 | 0.20 | 0.109 | ( 0.127) | 0.098 | 0.011 |
| 47 | 3.92 | 0.20 | 0.109 | ( 0.126) | 0.098 | 0.011 |
| 48 | 4.00 | 0.20 | 0.109 | ( 0.126) | 0.098 | 0.011 |
| 49 | 4.08 | 0.20 | 0.109 | ( 0.125) | 0.098 | 0.011 |
| 50 | 4.17 | 0.20 | 0.109 | ( 0.125) | 0.098 | 0.011 |
| 51 | 4.25 | 0.20 | 0.109 | ( 0.124) | 0.098 | 0.011 |
| 52 | 4.33 | 0.23 | 0.128 | ( 0.124) | 0.115 | 0.013 |
| 53 | 4.42 | 0.23 | 0.128 | ( 0.123) | 0.115 | 0.013 |
| 54 | 4.50 | 0.23 | 0.128 | ( 0.123) | 0.115 | 0.013 |
| 55 | 4.58 | 0.23 | 0.128 | ( 0.122) | 0.115 | 0.013 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 56 | 4.67 | 0.23 | 0.128 | ( | 0.121) | 0.115 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.128 | ( | 0.121) | 0.115 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.146 | | 0.120 | ( 0.131) | | 0.025 |
| 59 | 4.92 | 0.27 | 0.146 | | 0.120 | ( 0.131) | | 0.026 |
| 60 | 5.00 | 0.27 | 0.146 | | 0.119 | ( 0.131) | | 0.027 |
| 61 | 5.08 | 0.20 | 0.109 | ( | 0.119) | 0.098 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.109 | ( | 0.118) | 0.098 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.109 | ( | 0.118) | 0.098 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.128 | ( | 0.117) | 0.115 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.128 | ( | 0.117) | 0.115 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.128 | ( | 0.116) | 0.115 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.146 | | 0.116 | ( 0.131) | | 0.030 |
| 68 | 5.67 | 0.27 | 0.146 | | 0.115 | ( 0.131) | | 0.031 |
| 69 | 5.75 | 0.27 | 0.146 | | 0.115 | ( 0.131) | | 0.031 |
| 70 | 5.83 | 0.27 | 0.146 | | 0.114 | ( 0.131) | | 0.032 |
| 71 | 5.92 | 0.27 | 0.146 | | 0.114 | ( 0.131) | | 0.032 |
| 72 | 6.00 | 0.27 | 0.146 | | 0.113 | ( 0.131) | | 0.033 |
| 73 | 6.08 | 0.30 | 0.164 | | 0.113 | ( 0.148) | | 0.051 |
| 74 | 6.17 | 0.30 | 0.164 | | 0.112 | ( 0.148) | | 0.052 |
| 75 | 6.25 | 0.30 | 0.164 | | 0.112 | ( 0.148) | | 0.052 |
| 76 | 6.33 | 0.30 | 0.164 | | 0.111 | ( 0.148) | | 0.053 |
| 77 | 6.42 | 0.30 | 0.164 | | 0.111 | ( 0.148) | | 0.053 |
| 78 | 6.50 | 0.30 | 0.164 | | 0.110 | ( 0.148) | | 0.054 |
| 79 | 6.58 | 0.33 | 0.182 | | 0.110 | ( 0.164) | | 0.073 |
| 80 | 6.67 | 0.33 | 0.182 | | 0.109 | ( 0.164) | | 0.073 |
| 81 | 6.75 | 0.33 | 0.182 | | 0.109 | ( 0.164) | | 0.074 |
| 82 | 6.83 | 0.33 | 0.182 | | 0.108 | ( 0.164) | | 0.074 |
| 83 | 6.92 | 0.33 | 0.182 | | 0.108 | ( 0.164) | | 0.075 |
| 84 | 7.00 | 0.33 | 0.182 | | 0.107 | ( 0.164) | | 0.075 |
| 85 | 7.08 | 0.33 | 0.182 | | 0.107 | ( 0.164) | | 0.076 |
| 86 | 7.17 | 0.33 | 0.182 | | 0.106 | ( 0.164) | | 0.076 |
| 87 | 7.25 | 0.33 | 0.182 | | 0.106 | ( 0.164) | | 0.077 |
| 88 | 7.33 | 0.37 | 0.201 | | 0.105 | ( 0.181) | | 0.095 |
| 89 | 7.42 | 0.37 | 0.201 | | 0.105 | ( 0.181) | | 0.096 |
| 90 | 7.50 | 0.37 | 0.201 | | 0.104 | ( 0.181) | | 0.096 |
| 91 | 7.58 | 0.40 | 0.219 | | 0.104 | ( 0.197) | | 0.115 |
| 92 | 7.67 | 0.40 | 0.219 | | 0.103 | ( 0.197) | | 0.115 |
| 93 | 7.75 | 0.40 | 0.219 | | 0.103 | ( 0.197) | | 0.116 |
| 94 | 7.83 | 0.43 | 0.237 | | 0.102 | ( 0.213) | | 0.135 |
| 95 | 7.92 | 0.43 | 0.237 | | 0.102 | ( 0.213) | | 0.135 |
| 96 | 8.00 | 0.43 | 0.237 | | 0.102 | ( 0.213) | | 0.136 |
| 97 | 8.08 | 0.50 | 0.274 | | 0.101 | ( 0.246) | | 0.173 |
| 98 | 8.17 | 0.50 | 0.274 | | 0.101 | ( 0.246) | | 0.173 |
| 99 | 8.25 | 0.50 | 0.274 | | 0.100 | ( 0.246) | | 0.173 |
| 100 | 8.33 | 0.50 | 0.274 | | 0.100 | ( 0.246) | | 0.174 |
| 101 | 8.42 | 0.50 | 0.274 | | 0.099 | ( 0.246) | | 0.174 |
| 102 | 8.50 | 0.50 | 0.274 | | 0.099 | ( 0.246) | | 0.175 |
| 103 | 8.58 | 0.53 | 0.292 | | 0.098 | ( 0.263) | | 0.194 |
| 104 | 8.67 | 0.53 | 0.292 | | 0.098 | ( 0.263) | | 0.194 |
| 105 | 8.75 | 0.53 | 0.292 | | 0.097 | ( 0.263) | | 0.194 |
| 106 | 8.83 | 0.57 | 0.310 | | 0.097 | ( 0.279) | | 0.213 |
| 107 | 8.92 | 0.57 | 0.310 | | 0.096 | ( 0.279) | | 0.214 |
| 108 | 9.00 | 0.57 | 0.310 | | 0.096 | ( 0.279) | | 0.214 |
| 109 | 9.08 | 0.63 | 0.347 | | 0.096 | ( 0.312) | | 0.251 |
| 110 | 9.17 | 0.63 | 0.347 | | 0.095 | ( 0.312) | | 0.251 |
| 111 | 9.25 | 0.63 | 0.347 | | 0.095 | ( 0.312) | | 0.252 |
| 112 | 9.33 | 0.67 | 0.365 | | 0.094 | ( 0.328) | | 0.271 |
| 113 | 9.42 | 0.67 | 0.365 | | 0.094 | ( 0.328) | | 0.271 |
| 114 | 9.50 | 0.67 | 0.365 | | 0.093 | ( 0.328) | | 0.272 |
| 115 | 9.58 | 0.70 | 0.383 | | 0.093 | ( 0.345) | | 0.290 |
| 116 | 9.67 | 0.70 | 0.383 | | 0.092 | ( 0.345) | | 0.291 |
| 117 | 9.75 | 0.70 | 0.383 | | 0.092 | ( 0.345) | | 0.291 |
| 118 | 9.83 | 0.73 | 0.401 | | 0.091 | ( 0.361) | | 0.310 |
| 119 | 9.92 | 0.73 | 0.401 | | 0.091 | ( 0.361) | | 0.310 |
| 120 | 10.00 | 0.73 | 0.401 | | 0.091 | ( 0.361) | | 0.311 |
| 121 | 10.08 | 0.50 | 0.274 | | 0.090 | ( 0.246) | | 0.183 |
| 122 | 10.17 | 0.50 | 0.274 | | 0.090 | ( 0.246) | | 0.184 |
| 123 | 10.25 | 0.50 | 0.274 | | 0.089 | ( 0.246) | | 0.184 |
| 124 | 10.33 | 0.50 | 0.274 | | 0.089 | ( 0.246) | | 0.185 |
| 125 | 10.42 | 0.50 | 0.274 | | 0.088 | ( 0.246) | | 0.185 |
| 126 | 10.50 | 0.50 | 0.274 | | 0.088 | ( 0.246) | | 0.186 |
| 127 | 10.58 | 0.67 | 0.365 | | 0.088 | ( 0.328) | | 0.277 |
| 128 | 10.67 | 0.67 | 0.365 | | 0.087 | ( 0.328) | | 0.278 |
| 129 | 10.75 | 0.67 | 0.365 | | 0.087 | ( 0.328) | | 0.278 |
| 130 | 10.83 | 0.67 | 0.365 | | 0.086 | ( 0.328) | | 0.279 |
| 131 | 10.92 | 0.67 | 0.365 | | 0.086 | ( 0.328) | | 0.279 |
| 132 | 11.00 | 0.67 | 0.365 | | 0.085 | ( 0.328) | | 0.279 |
| 133 | 11.08 | 0.63 | 0.347 | | 0.085 | ( 0.312) | | 0.262 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 134 | 11.17 | 0.63 | 0.347 | 0.085 | ( 0.312) | 0.262 |
| 135 | 11.25 | 0.63 | 0.347 | 0.084 | ( 0.312) | 0.262 |
| 136 | 11.33 | 0.63 | 0.347 | 0.084 | ( 0.312) | 0.263 |
| 137 | 11.42 | 0.63 | 0.347 | 0.083 | ( 0.312) | 0.263 |
| 138 | 11.50 | 0.63 | 0.347 | 0.083 | ( 0.312) | 0.264 |
| 139 | 11.58 | 0.57 | 0.310 | 0.083 | ( 0.279) | 0.228 |
| 140 | 11.67 | 0.57 | 0.310 | 0.082 | ( 0.279) | 0.228 |
| 141 | 11.75 | 0.57 | 0.310 | 0.082 | ( 0.279) | 0.228 |
| 142 | 11.83 | 0.60 | 0.328 | 0.081 | ( 0.295) | 0.247 |
| 143 | 11.92 | 0.60 | 0.328 | 0.081 | ( 0.295) | 0.247 |
| 144 | 12.00 | 0.60 | 0.328 | 0.080 | ( 0.295) | 0.248 |
| 145 | 12.08 | 0.83 | 0.456 | 0.080 | ( 0.410) | 0.376 |
| 146 | 12.17 | 0.83 | 0.456 | 0.080 | ( 0.410) | 0.376 |
| 147 | 12.25 | 0.83 | 0.456 | 0.079 | ( 0.410) | 0.377 |
| 148 | 12.33 | 0.87 | 0.474 | 0.079 | ( 0.427) | 0.395 |
| 149 | 12.42 | 0.87 | 0.474 | 0.078 | ( 0.427) | 0.396 |
| 150 | 12.50 | 0.87 | 0.474 | 0.078 | ( 0.427) | 0.396 |
| 151 | 12.58 | 0.93 | 0.511 | 0.078 | ( 0.460) | 0.433 |
| 152 | 12.67 | 0.93 | 0.511 | 0.077 | ( 0.460) | 0.433 |
| 153 | 12.75 | 0.93 | 0.511 | 0.077 | ( 0.460) | 0.434 |
| 154 | 12.83 | 0.97 | 0.529 | 0.077 | ( 0.476) | 0.452 |
| 155 | 12.92 | 0.97 | 0.529 | 0.076 | ( 0.476) | 0.453 |
| 156 | 13.00 | 0.97 | 0.529 | 0.076 | ( 0.476) | 0.453 |
| 157 | 13.08 | 1.13 | 0.620 | 0.075 | ( 0.558) | 0.545 |
| 158 | 13.17 | 1.13 | 0.620 | 0.075 | ( 0.558) | 0.545 |
| 159 | 13.25 | 1.13 | 0.620 | 0.075 | ( 0.558) | 0.546 |
| 160 | 13.33 | 1.13 | 0.620 | 0.074 | ( 0.558) | 0.546 |
| 161 | 13.42 | 1.13 | 0.620 | 0.074 | ( 0.558) | 0.546 |
| 162 | 13.50 | 1.13 | 0.620 | 0.073 | ( 0.558) | 0.547 |
| 163 | 13.58 | 0.77 | 0.420 | 0.073 | ( 0.378) | 0.346 |
| 164 | 13.67 | 0.77 | 0.420 | 0.073 | ( 0.378) | 0.347 |
| 165 | 13.75 | 0.77 | 0.420 | 0.072 | ( 0.378) | 0.347 |
| 166 | 13.83 | 0.77 | 0.420 | 0.072 | ( 0.378) | 0.348 |
| 167 | 13.92 | 0.77 | 0.420 | 0.072 | ( 0.378) | 0.348 |
| 168 | 14.00 | 0.77 | 0.420 | 0.071 | ( 0.378) | 0.348 |
| 169 | 14.08 | 0.90 | 0.492 | 0.071 | ( 0.443) | 0.422 |
| 170 | 14.17 | 0.90 | 0.492 | 0.071 | ( 0.443) | 0.422 |
| 171 | 14.25 | 0.90 | 0.492 | 0.070 | ( 0.443) | 0.422 |
| 172 | 14.33 | 0.87 | 0.474 | 0.070 | ( 0.427) | 0.404 |
| 173 | 14.42 | 0.87 | 0.474 | 0.069 | ( 0.427) | 0.405 |
| 174 | 14.50 | 0.87 | 0.474 | 0.069 | ( 0.427) | 0.405 |
| 175 | 14.58 | 0.87 | 0.474 | 0.069 | ( 0.427) | 0.405 |
| 176 | 14.67 | 0.87 | 0.474 | 0.068 | ( 0.427) | 0.406 |
| 177 | 14.75 | 0.87 | 0.474 | 0.068 | ( 0.427) | 0.406 |
| 178 | 14.83 | 0.83 | 0.456 | 0.068 | ( 0.410) | 0.388 |
| 179 | 14.92 | 0.83 | 0.456 | 0.067 | ( 0.410) | 0.389 |
| 180 | 15.00 | 0.83 | 0.456 | 0.067 | ( 0.410) | 0.389 |
| 181 | 15.08 | 0.80 | 0.438 | 0.067 | ( 0.394) | 0.371 |
| 182 | 15.17 | 0.80 | 0.438 | 0.066 | ( 0.394) | 0.371 |
| 183 | 15.25 | 0.80 | 0.438 | 0.066 | ( 0.394) | 0.372 |
| 184 | 15.33 | 0.77 | 0.420 | 0.066 | ( 0.378) | 0.354 |
| 185 | 15.42 | 0.77 | 0.420 | 0.065 | ( 0.378) | 0.354 |
| 186 | 15.50 | 0.77 | 0.420 | 0.065 | ( 0.378) | 0.355 |
| 187 | 15.58 | 0.63 | 0.347 | 0.065 | ( 0.312) | 0.282 |
| 188 | 15.67 | 0.63 | 0.347 | 0.064 | ( 0.312) | 0.282 |
| 189 | 15.75 | 0.63 | 0.347 | 0.064 | ( 0.312) | 0.283 |
| 190 | 15.83 | 0.63 | 0.347 | 0.064 | ( 0.312) | 0.283 |
| 191 | 15.92 | 0.63 | 0.347 | 0.063 | ( 0.312) | 0.283 |
| 192 | 16.00 | 0.63 | 0.347 | 0.063 | ( 0.312) | 0.284 |
| 193 | 16.08 | 0.13 | 0.073 | 0.063 | ( 0.066) | 0.010 |
| 194 | 16.17 | 0.13 | 0.073 | 0.062 | ( 0.066) | 0.011 |
| 195 | 16.25 | 0.13 | 0.073 | 0.062 | ( 0.066) | 0.011 |
| 196 | 16.33 | 0.13 | 0.073 | 0.062 | ( 0.066) | 0.011 |
| 197 | 16.42 | 0.13 | 0.073 | 0.061 | ( 0.066) | 0.012 |
| 198 | 16.50 | 0.13 | 0.073 | 0.061 | ( 0.066) | 0.012 |
| 199 | 16.58 | 0.10 | 0.055 | ( 0.061) | 0.049 | 0.005 |
| 200 | 16.67 | 0.10 | 0.055 | ( 0.060) | 0.049 | 0.005 |
| 201 | 16.75 | 0.10 | 0.055 | ( 0.060) | 0.049 | 0.005 |
| 202 | 16.83 | 0.10 | 0.055 | ( 0.060) | 0.049 | 0.005 |
| 203 | 16.92 | 0.10 | 0.055 | ( 0.060) | 0.049 | 0.005 |
| 204 | 17.00 | 0.10 | 0.055 | ( 0.059) | 0.049 | 0.005 |
| 205 | 17.08 | 0.17 | 0.091 | 0.059 | ( 0.082) | 0.032 |
| 206 | 17.17 | 0.17 | 0.091 | 0.059 | ( 0.082) | 0.033 |
| 207 | 17.25 | 0.17 | 0.091 | 0.058 | ( 0.082) | 0.033 |
| 208 | 17.33 | 0.17 | 0.091 | 0.058 | ( 0.082) | 0.033 |
| 209 | 17.42 | 0.17 | 0.091 | 0.058 | ( 0.082) | 0.033 |
| 210 | 17.50 | 0.17 | 0.091 | 0.058 | ( 0.082) | 0.034 |
| 211 | 17.58 | 0.17 | 0.091 | 0.057 | ( 0.082) | 0.034 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 212 | 17.67 | 0.17 | 0.091 | 0.057 | ( 0.082) | 0.034 |
| 213 | 17.75 | 0.17 | 0.091 | 0.057 | ( 0.082) | 0.035 |
| 214 | 17.83 | 0.13 | 0.073 | 0.056 | ( 0.066) | 0.017 |
| 215 | 17.92 | 0.13 | 0.073 | 0.056 | ( 0.066) | 0.017 |
| 216 | 18.00 | 0.13 | 0.073 | 0.056 | ( 0.066) | 0.017 |
| 217 | 18.08 | 0.13 | 0.073 | 0.056 | ( 0.066) | 0.017 |
| 218 | 18.17 | 0.13 | 0.073 | 0.055 | ( 0.066) | 0.018 |
| 219 | 18.25 | 0.13 | 0.073 | 0.055 | ( 0.066) | 0.018 |
| 220 | 18.33 | 0.13 | 0.073 | 0.055 | ( 0.066) | 0.018 |
| 221 | 18.42 | 0.13 | 0.073 | 0.054 | ( 0.066) | 0.019 |
| 222 | 18.50 | 0.13 | 0.073 | 0.054 | ( 0.066) | 0.019 |
| 223 | 18.58 | 0.10 | 0.055 | ( 0.054) | 0.049 | 0.005 |
| 224 | 18.67 | 0.10 | 0.055 | ( 0.054) | 0.049 | 0.005 |
| 225 | 18.75 | 0.10 | 0.055 | ( 0.053) | 0.049 | 0.005 |
| 226 | 18.83 | 0.07 | 0.036 | ( 0.053) | 0.033 | 0.004 |
| 227 | 18.92 | 0.07 | 0.036 | ( 0.053) | 0.033 | 0.004 |
| 228 | 19.00 | 0.07 | 0.036 | ( 0.053) | 0.033 | 0.004 |
| 229 | 19.08 | 0.10 | 0.055 | ( 0.052) | 0.049 | 0.005 |
| 230 | 19.17 | 0.10 | 0.055 | ( 0.052) | 0.049 | 0.005 |
| 231 | 19.25 | 0.10 | 0.055 | ( 0.052) | 0.049 | 0.005 |
| 232 | 19.33 | 0.13 | 0.073 | 0.052 | ( 0.066) | 0.021 |
| 233 | 19.42 | 0.13 | 0.073 | 0.051 | ( 0.066) | 0.022 |
| 234 | 19.50 | 0.13 | 0.073 | 0.051 | ( 0.066) | 0.022 |
| 235 | 19.58 | 0.10 | 0.055 | ( 0.051) | 0.049 | 0.005 |
| 236 | 19.67 | 0.10 | 0.055 | ( 0.051) | 0.049 | 0.005 |
| 237 | 19.75 | 0.10 | 0.055 | ( 0.050) | 0.049 | 0.005 |
| 238 | 19.83 | 0.07 | 0.036 | ( 0.050) | 0.033 | 0.004 |
| 239 | 19.92 | 0.07 | 0.036 | ( 0.050) | 0.033 | 0.004 |
| 240 | 20.00 | 0.07 | 0.036 | ( 0.050) | 0.033 | 0.004 |
| 241 | 20.08 | 0.10 | 0.055 | ( 0.050) | 0.049 | 0.005 |
| 242 | 20.17 | 0.10 | 0.055 | ( 0.049) | 0.049 | 0.005 |
| 243 | 20.25 | 0.10 | 0.055 | 0.049 | ( 0.049) | 0.006 |
| 244 | 20.33 | 0.10 | 0.055 | 0.049 | ( 0.049) | 0.006 |
| 245 | 20.42 | 0.10 | 0.055 | 0.049 | ( 0.049) | 0.006 |
| 246 | 20.50 | 0.10 | 0.055 | 0.049 | ( 0.049) | 0.006 |
| 247 | 20.58 | 0.10 | 0.055 | 0.048 | ( 0.049) | 0.006 |
| 248 | 20.67 | 0.10 | 0.055 | 0.048 | ( 0.049) | 0.007 |
| 249 | 20.75 | 0.10 | 0.055 | 0.048 | ( 0.049) | 0.007 |
| 250 | 20.83 | 0.07 | 0.036 | ( 0.048) | 0.033 | 0.004 |
| 251 | 20.92 | 0.07 | 0.036 | ( 0.048) | 0.033 | 0.004 |
| 252 | 21.00 | 0.07 | 0.036 | ( 0.047) | 0.033 | 0.004 |
| 253 | 21.08 | 0.10 | 0.055 | 0.047 | ( 0.049) | 0.008 |
| 254 | 21.17 | 0.10 | 0.055 | 0.047 | ( 0.049) | 0.008 |
| 255 | 21.25 | 0.10 | 0.055 | 0.047 | ( 0.049) | 0.008 |
| 256 | 21.33 | 0.07 | 0.036 | ( 0.047) | 0.033 | 0.004 |
| 257 | 21.42 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 258 | 21.50 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 259 | 21.58 | 0.10 | 0.055 | 0.046 | ( 0.049) | 0.009 |
| 260 | 21.67 | 0.10 | 0.055 | 0.046 | ( 0.049) | 0.009 |
| 261 | 21.75 | 0.10 | 0.055 | 0.046 | ( 0.049) | 0.009 |
| 262 | 21.83 | 0.07 | 0.036 | ( 0.046) | 0.033 | 0.004 |
| 263 | 21.92 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 264 | 22.00 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 265 | 22.08 | 0.10 | 0.055 | 0.045 | ( 0.049) | 0.010 |
| 266 | 22.17 | 0.10 | 0.055 | 0.045 | ( 0.049) | 0.010 |
| 267 | 22.25 | 0.10 | 0.055 | 0.045 | ( 0.049) | 0.010 |
| 268 | 22.33 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 269 | 22.42 | 0.07 | 0.036 | ( 0.045) | 0.033 | 0.004 |
| 270 | 22.50 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 271 | 22.58 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 272 | 22.67 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 273 | 22.75 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 274 | 22.83 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 275 | 22.92 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 276 | 23.00 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 277 | 23.08 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 278 | 23.17 | 0.07 | 0.036 | ( 0.044) | 0.033 | 0.004 |
| 279 | 23.25 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 280 | 23.33 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 281 | 23.42 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 284 | 23.67 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 285 | 23.75 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 286 | 23.83 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 287 | 23.92 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |
| 288 | 24.00 | 0.07 | 0.036 | ( 0.043) | 0.033 | 0.004 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 34.2

Flood volume = Effective rainfall 2.85(In)
times area 0.1(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 1.71(In)
Total soil loss = 0.014(Ac.Ft)
Total rainfall = 4.56(In)
Flood volume = 1035.9 Cubic Feet
Total soil loss = 619.4 Cubic Feet

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Peak flow rate of this hydrograph = 0.055(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

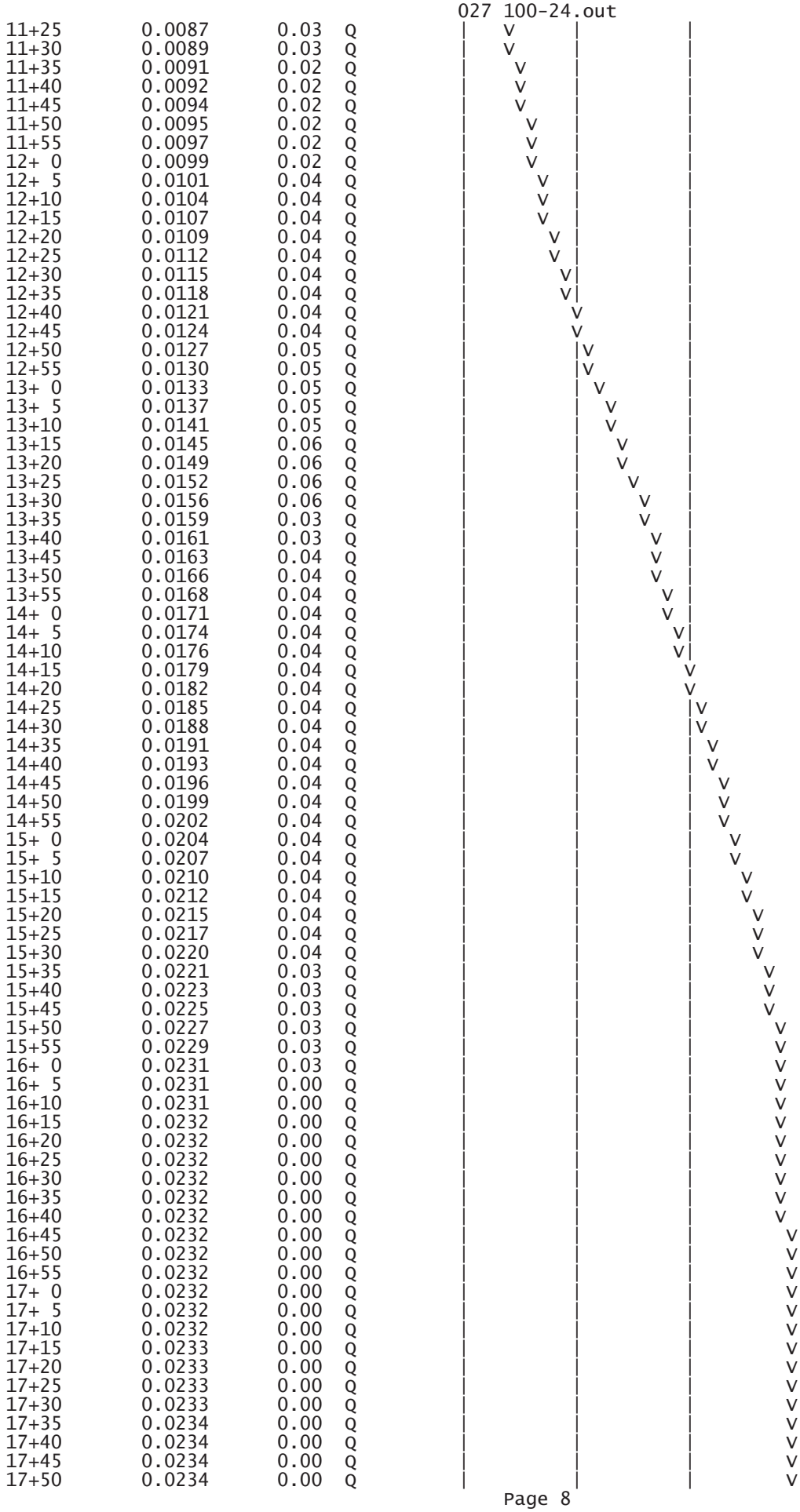
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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0000 | 0.00 | Q | | | | |
| 0+10 | 0.0000 | 0.00 | Q | | | | |
| 0+15 | 0.0000 | 0.00 | Q | | | | |
| 0+20 | 0.0000 | 0.00 | Q | | | | |
| 0+25 | 0.0000 | 0.00 | Q | | | | |
| 0+30 | 0.0000 | 0.00 | Q | | | | |
| 0+35 | 0.0000 | 0.00 | Q | | | | |
| 0+40 | 0.0000 | 0.00 | Q | | | | |
| 0+45 | 0.0000 | 0.00 | Q | | | | |
| 0+50 | 0.0000 | 0.00 | Q | | | | |
| 0+55 | 0.0000 | 0.00 | Q | | | | |
| 1+ 0 | 0.0000 | 0.00 | Q | | | | |
| 1+ 5 | 0.0000 | 0.00 | Q | | | | |
| 1+10 | 0.0001 | 0.00 | Q | | | | |
| 1+15 | 0.0001 | 0.00 | Q | | | | |
| 1+20 | 0.0001 | 0.00 | Q | | | | |
| 1+25 | 0.0001 | 0.00 | Q | | | | |
| 1+30 | 0.0001 | 0.00 | Q | | | | |
| 1+35 | 0.0001 | 0.00 | Q | | | | |
| 1+40 | 0.0001 | 0.00 | Q | | | | |
| 1+45 | 0.0001 | 0.00 | Q | | | | |
| 1+50 | 0.0001 | 0.00 | Q | | | | |
| 1+55 | 0.0001 | 0.00 | Q | | | | |
| 2+ 0 | 0.0001 | 0.00 | Q | | | | |
| 2+ 5 | 0.0001 | 0.00 | Q | | | | |
| 2+10 | 0.0001 | 0.00 | Q | | | | |
| 2+15 | 0.0001 | 0.00 | Q | | | | |
| 2+20 | 0.0001 | 0.00 | Q | | | | |
| 2+25 | 0.0001 | 0.00 | Q | | | | |
| 2+30 | 0.0001 | 0.00 | Q | | | | |
| 2+35 | 0.0001 | 0.00 | Q | | | | |
| 2+40 | 0.0001 | 0.00 | Q | | | | |
| 2+45 | 0.0001 | 0.00 | Q | | | | |
| 2+50 | 0.0002 | 0.00 | Q | | | | |
| 2+55 | 0.0002 | 0.00 | Q | | | | |
| 3+ 0 | 0.0002 | 0.00 | Q | | | | |
| 3+ 5 | 0.0002 | 0.00 | Q | | | | |
| 3+10 | 0.0002 | 0.00 | Q | | | | |
| 3+15 | 0.0002 | 0.00 | Q | | | | |
| 3+20 | 0.0002 | 0.00 | Q | | | | |
| 3+25 | 0.0002 | 0.00 | Q | | | | |
| 3+30 | 0.0002 | 0.00 | Q | | | | |
| 3+35 | 0.0002 | 0.00 | Q | | | | |
| 3+40 | 0.0002 | 0.00 | Q | | | | |
| 3+45 | 0.0002 | 0.00 | Q | | | | |
| 3+50 | 0.0002 | 0.00 | Q | | | | |
| 3+55 | 0.0002 | 0.00 | Q | | | | |
| 4+ 0 | 0.0002 | 0.00 | Q | | | | |
| 4+ 5 | 0.0003 | 0.00 | Q | | | | |
| 4+10 | 0.0003 | 0.00 | Q | | | | |
| 4+15 | 0.0003 | 0.00 | Q | | | | |
| 4+20 | 0.0003 | 0.00 | Q | | | | |
| 4+25 | 0.0003 | 0.00 | Q | | | | |
| 4+30 | 0.0003 | 0.00 | Q | | | | |
| 4+35 | 0.0003 | 0.00 | Q | | | | |
| 4+40 | 0.0003 | 0.00 | Q | | | | |
| 4+45 | 0.0003 | 0.00 | Q | | | | |
| 4+50 | 0.0003 | 0.00 | Q | | | | |

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 4+55       0.0004      0.00  Q          |          |          |          |
 5+ 0       0.0004      0.00  Q          |          |          |          |
 5+ 5       0.0004      0.00  Q          |          |          |          |
 5+10       0.0004      0.00  Q          |          |          |          |
 5+15       0.0004      0.00  Q          |          |          |          |
 5+20       0.0004      0.00  Q          |          |          |          |
 5+25       0.0004      0.00  Q          |          |          |          |
 5+30       0.0004      0.00  Q          |          |          |          |
 5+35       0.0004      0.00  Q          |          |          |          |
 5+40       0.0005      0.00  Q          |          |          |          |
 5+45       0.0005      0.00  Q          |          |          |          |
 5+50       0.0005      0.00  Q          |          |          |          |
 5+55       0.0005      0.00  Q          |          |          |          |
 6+ 0       0.0006      0.00  Q          |          |          |          |
 6+ 5       0.0006      0.01  Q          |          |          |          |
 6+10       0.0006      0.01  QV         |          |          |          |
 6+15       0.0007      0.01  QV         |          |          |          |
 6+20       0.0007      0.01  QV         |          |          |          |
 6+25       0.0007      0.01  QV         |          |          |          |
 6+30       0.0008      0.01  QV         |          |          |          |
 6+35       0.0008      0.01  QV         |          |          |          |
 6+40       0.0009      0.01  QV         |          |          |          |
 6+45       0.0009      0.01  QV         |          |          |          |
 6+50       0.0010      0.01  QV         |          |          |          |
 6+55       0.0010      0.01  QV         |          |          |          |
 7+ 0       0.0011      0.01  QV         |          |          |          |
 7+ 5       0.0011      0.01  QV         |          |          |          |
 7+10       0.0012      0.01  QV         |          |          |          |
 7+15       0.0012      0.01  Q V        |          |          |          |
 7+20       0.0013      0.01  Q V        |          |          |          |
 7+25       0.0014      0.01  Q V        |          |          |          |
 7+30       0.0014      0.01  Q V        |          |          |          |
 7+35       0.0015      0.01  Q V        |          |          |          |
 7+40       0.0016      0.01  Q V        |          |          |          |
 7+45       0.0017      0.01  Q V        |          |          |          |
 7+50       0.0018      0.01  Q V        |          |          |          |
 7+55       0.0019      0.01  Q  V       |          |          |          |
 8+ 0       0.0020      0.01  Q  V       |          |          |          |
 8+ 5       0.0021      0.02  Q  V       |          |          |          |
 8+10       0.0022      0.02  Q  V       |          |          |          |
 8+15       0.0023      0.02  Q  V       |          |          |          |
 8+20       0.0024      0.02  Q   V      |          |          |          |
 8+25       0.0026      0.02  Q   V      |          |          |          |
 8+30       0.0027      0.02  Q   V      |          |          |          |
 8+35       0.0028      0.02  Q   V      |          |          |          |
 8+40       0.0030      0.02  Q   V      |          |          |          |
 8+45       0.0031      0.02  Q    V     |          |          |          |
 8+50       0.0032      0.02  Q    V     |          |          |          |
 8+55       0.0034      0.02  Q    V     |          |          |          |
 9+ 0       0.0035      0.02  Q    V     |          |          |          |
 9+ 5       0.0037      0.03  Q     V    |          |          |          |
 9+10       0.0039      0.03  Q     V    |          |          |          |
 9+15       0.0041      0.03  Q     V    |          |          |          |
 9+20       0.0042      0.03  Q      V   |          |          |          |
 9+25       0.0044      0.03  Q      V   |          |          |          |
 9+30       0.0046      0.03  Q      V   |          |          |          |
 9+35       0.0048      0.03  Q       V  |          |          |          |
 9+40       0.0050      0.03  Q       V  |          |          |          |
 9+45       0.0052      0.03  Q       V  |          |          |          |
 9+50       0.0054      0.03  Q        V |          |          |          |
 9+55       0.0057      0.03  Q        V |          |          |          |
10+ 0       0.0059      0.03  Q        V |          |          |          |
10+ 5       0.0060      0.02  Q         V          |          |          |
10+10       0.0061      0.02  Q         V          |          |          |
10+15       0.0063      0.02  Q         V          |          |          |
10+20       0.0064      0.02  Q         V          |          |          |
10+25       0.0065      0.02  Q         V          |          |          |
10+30       0.0066      0.02  Q         |V         |          |          |
10+35       0.0068      0.03  Q         |V         |          |          |
10+40       0.0070      0.03  Q         |V         |          |          |
10+45       0.0072      0.03  Q         | V        |          |          |
10+50       0.0074      0.03  Q         | V        |          |          |
10+55       0.0076      0.03  Q         | V        |          |          |
11+ 0       0.0078      0.03  Q         |  V       |          |          |
11+ 5       0.0080      0.03  Q         |  V       |          |          |
11+10       0.0082      0.03  Q         |  V       |          |          |
11+15       0.0083      0.03  Q         |   V      |          |          |
11+20       0.0085      0.03  Q         |   V      |          |          |
```



| | | | | |
|---|---|---|---|---|
| 11+25 | 0.0087 | 0.03 | Q | |
| 11+30 | 0.0089 | 0.03 | Q | |
| 11+35 | 0.0091 | 0.02 | Q | |
| 11+40 | 0.0092 | 0.02 | Q | |
| 11+45 | 0.0094 | 0.02 | Q | |
| 11+50 | 0.0095 | 0.02 | Q | |
| 11+55 | 0.0097 | 0.02 | Q | |
| 12+ 0 | 0.0099 | 0.02 | Q | |
| 12+ 5 | 0.0101 | 0.04 | Q | |
| 12+10 | 0.0104 | 0.04 | Q | |
| 12+15 | 0.0107 | 0.04 | Q | |
| 12+20 | 0.0109 | 0.04 | Q | |
| 12+25 | 0.0112 | 0.04 | Q | |
| 12+30 | 0.0115 | 0.04 | Q | |
| 12+35 | 0.0118 | 0.04 | Q | |
| 12+40 | 0.0121 | 0.04 | Q | |
| 12+45 | 0.0124 | 0.04 | Q | |
| 12+50 | 0.0127 | 0.05 | Q | |
| 12+55 | 0.0130 | 0.05 | Q | |
| 13+ 0 | 0.0133 | 0.05 | Q | |
| 13+ 5 | 0.0137 | 0.05 | Q | |
| 13+10 | 0.0141 | 0.05 | Q | |
| 13+15 | 0.0145 | 0.06 | Q | |
| 13+20 | 0.0149 | 0.06 | Q | |
| 13+25 | 0.0152 | 0.06 | Q | |
| 13+30 | 0.0156 | 0.06 | Q | |
| 13+35 | 0.0159 | 0.03 | Q | |
| 13+40 | 0.0161 | 0.03 | Q | |
| 13+45 | 0.0163 | 0.04 | Q | |
| 13+50 | 0.0166 | 0.04 | Q | |
| 13+55 | 0.0168 | 0.04 | Q | |
| 14+ 0 | 0.0171 | 0.04 | Q | |
| 14+ 5 | 0.0174 | 0.04 | Q | |
| 14+10 | 0.0176 | 0.04 | Q | |
| 14+15 | 0.0179 | 0.04 | Q | |
| 14+20 | 0.0182 | 0.04 | Q | |
| 14+25 | 0.0185 | 0.04 | Q | |
| 14+30 | 0.0188 | 0.04 | Q | |
| 14+35 | 0.0191 | 0.04 | Q | |
| 14+40 | 0.0193 | 0.04 | Q | |
| 14+45 | 0.0196 | 0.04 | Q | |
| 14+50 | 0.0199 | 0.04 | Q | |
| 14+55 | 0.0202 | 0.04 | Q | |
| 15+ 0 | 0.0204 | 0.04 | Q | |
| 15+ 5 | 0.0207 | 0.04 | Q | |
| 15+10 | 0.0210 | 0.04 | Q | |
| 15+15 | 0.0212 | 0.04 | Q | |
| 15+20 | 0.0215 | 0.04 | Q | |
| 15+25 | 0.0217 | 0.04 | Q | |
| 15+30 | 0.0220 | 0.04 | Q | |
| 15+35 | 0.0221 | 0.03 | Q | |
| 15+40 | 0.0223 | 0.03 | Q | |
| 15+45 | 0.0225 | 0.03 | Q | |
| 15+50 | 0.0227 | 0.03 | Q | |
| 15+55 | 0.0229 | 0.03 | Q | |
| 16+ 0 | 0.0231 | 0.03 | Q | |
| 16+ 5 | 0.0231 | 0.00 | Q | |
| 16+10 | 0.0231 | 0.00 | Q | |
| 16+15 | 0.0232 | 0.00 | Q | |
| 16+20 | 0.0232 | 0.00 | Q | |
| 16+25 | 0.0232 | 0.00 | Q | |
| 16+30 | 0.0232 | 0.00 | Q | |
| 16+35 | 0.0232 | 0.00 | Q | |
| 16+40 | 0.0232 | 0.00 | Q | |
| 16+45 | 0.0232 | 0.00 | Q | |
| 16+50 | 0.0232 | 0.00 | Q | |
| 16+55 | 0.0232 | 0.00 | Q | |
| 17+ 0 | 0.0232 | 0.00 | Q | |
| 17+ 5 | 0.0232 | 0.00 | Q | |
| 17+10 | 0.0232 | 0.00 | Q | |
| 17+15 | 0.0233 | 0.00 | Q | |
| 17+20 | 0.0233 | 0.00 | Q | |
| 17+25 | 0.0233 | 0.00 | Q | |
| 17+30 | 0.0233 | 0.00 | Q | |
| 17+35 | 0.0234 | 0.00 | Q | |
| 17+40 | 0.0234 | 0.00 | Q | |
| 17+45 | 0.0234 | 0.00 | Q | |
| 17+50 | 0.0234 | 0.00 | Q | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+55 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 18+ 0 | 0.0234 | 0.00 | Q | \| | \| | \| | V\| |
| 18+ 5 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 18+10 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 18+15 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 18+20 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 18+25 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 18+30 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 18+35 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 18+40 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 18+45 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 18+50 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 18+55 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 0 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 5 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 19+10 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 19+15 | 0.0235 | 0.00 | Q | \| | \| | \| | V\| |
| 19+20 | 0.0236 | 0.00 | Q | \| | \| | \| | V\| |
| 19+25 | 0.0236 | 0.00 | Q | \| | \| | \| | V\| |
| 19+30 | 0.0236 | 0.00 | Q | \| | \| | \| | V\| |
| 19+35 | 0.0236 | 0.00 | Q | \| | \| | \| | V\| |
| 19+40 | 0.0236 | 0.00 | Q | \| | \| | \| | V\| |
| 19+45 | 0.0236 | 0.00 | Q | \| | \| | \| | V\| |
| 19+50 | 0.0236 | 0.00 | Q | \| | \| | \| | V\| |
| 19+55 | 0.0236 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 0 | 0.0236 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 5 | 0.0236 | 0.00 | Q | \| | \| | \| | V\| |
| 20+10 | 0.0236 | 0.00 | Q | \| | \| | \| | V\| |
| 20+15 | 0.0236 | 0.00 | Q | \| | \| | \| | V\| |
| 20+20 | 0.0236 | 0.00 | Q | \| | \| | \| | V\| |
| 20+25 | 0.0236 | 0.00 | Q | \| | \| | \| | V\| |
| 20+30 | 0.0236 | 0.00 | Q | \| | \| | \| | V\| |
| 20+35 | 0.0236 | 0.00 | Q | \| | \| | \| | V\| |
| 20+40 | 0.0236 | 0.00 | Q | \| | \| | \| | V\| |
| 20+45 | 0.0237 | 0.00 | Q | \| | \| | \| | V\| |
| 20+50 | 0.0237 | 0.00 | Q | \| | \| | \| | V\| |
| 20+55 | 0.0237 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 0 | 0.0237 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 5 | 0.0237 | 0.00 | Q | \| | \| | \| | V\| |
| 21+10 | 0.0237 | 0.00 | Q | \| | \| | \| | V\| |
| 21+15 | 0.0237 | 0.00 | Q | \| | \| | \| | V\| |
| 21+20 | 0.0237 | 0.00 | Q | \| | \| | \| | V\| |
| 21+25 | 0.0237 | 0.00 | Q | \| | \| | \| | V\| |
| 21+30 | 0.0237 | 0.00 | Q | \| | \| | \| | V\| |
| 21+35 | 0.0237 | 0.00 | Q | \| | \| | \| | V\| |
| 21+40 | 0.0237 | 0.00 | Q | \| | \| | \| | V\| |
| 21+45 | 0.0237 | 0.00 | Q | \| | \| | \| | V\| |
| 21+50 | 0.0237 | 0.00 | Q | \| | \| | \| | V\| |
| 21+55 | 0.0237 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 0 | 0.0237 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 5 | 0.0237 | 0.00 | Q | \| | \| | \| | V\| |
| 22+10 | 0.0237 | 0.00 | Q | \| | \| | \| | V\| |
| 22+15 | 0.0237 | 0.00 | Q | \| | \| | \| | V\| |
| 22+20 | 0.0237 | 0.00 | Q | \| | \| | \| | V\| |
| 22+25 | 0.0237 | 0.00 | Q | \| | \| | \| | V\| |
| 22+30 | 0.0237 | 0.00 | Q | \| | \| | \| | V\| |
| 22+35 | 0.0237 | 0.00 | Q | \| | \| | \| | V\| |
| 22+40 | 0.0237 | 0.00 | Q | \| | \| | \| | V\| |
| 22+45 | 0.0237 | 0.00 | Q | \| | \| | \| | V\| |
| 22+50 | 0.0237 | 0.00 | Q | \| | \| | \| | V\| |
| 22+55 | 0.0237 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 0 | 0.0238 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 5 | 0.0238 | 0.00 | Q | \| | \| | \| | V\| |
| 23+10 | 0.0238 | 0.00 | Q | \| | \| | \| | V\| |
| 23+15 | 0.0238 | 0.00 | Q | \| | \| | \| | V\| |
| 23+20 | 0.0238 | 0.00 | Q | \| | \| | \| | V\| |
| 23+25 | 0.0238 | 0.00 | Q | \| | \| | \| | V\| |
| 23+30 | 0.0238 | 0.00 | Q | \| | \| | \| | V\| |
| 23+35 | 0.0238 | 0.00 | Q | \| | \| | \| | V\| |
| 23+40 | 0.0238 | 0.00 | Q | \| | \| | \| | V\| |
| 23+45 | 0.0238 | 0.00 | Q | \| | \| | \| | V\| |
| 23+50 | 0.0238 | 0.00 | Q | \| | \| | \| | V\| |
| 23+55 | 0.0238 | 0.00 | Q | \| | \| | \| | V\| |
| 24+ 0 | 0.0238 | 0.00 | Q | \| | \| | \| | V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX281100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 28
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 29.20(Ac.) = 0.046 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 29.20(Ac.) = 0.046 Sq. Mi.
Length along longest watercourse = 1699.00(Ft.)
Length along longest watercourse measured to centroid = 946.00(Ft.)
Length along longest watercourse = 0.322 Mi.
Length along longest watercourse measured to centroid = 0.179 Mi.
Difference in elevation = 532.00(Ft.)
Slope along watercourse = 1653.3019 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.069 Hr.
Lag time = 4.17 Min.
25% of lag time = 1.04 Min.
40% of lag time = 1.67 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 29.20 | 0.49 | 14.31 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 29.20 | 1.20 | 35.04 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.490(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.97 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 29.200 | 79.11 | 0.000 |

Total Area Entered = 29.20(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 79.1 | 90.5 | 0.124 | 0.000 | 0.124 | 1.000 | 0.124 |
| | | | | | Sum (F) = | 0.124 |

Area averaged mean soil loss (F) (In/Hr) = 0.124

Minimum soil loss rate ((In/Hr)) = 0.062
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

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| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 119.927 | 21.378 | 6.291 |
| 2 | 0.167 | 239.853 | 56.067 | 16.499 |
| 3 | 0.250 | 359.780 | 15.526 | 4.569 |
| 4 | 0.333 | 479.707 | 5.040 | 1.483 |
| 5 | 0.417 | 599.634 | 1.242 | 0.365 |
| 6 | 0.500 | 719.560 | 0.748 | 0.220 |
| | | Sum = 100.000 | Sum= | 29.428 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.124 | ( 0.544) | 0.481 |
| 2 | 0.17 | 4.30 | 0.619 | 0.124 | ( 0.557) | 0.495 |
| 3 | 0.25 | 5.00 | 0.720 | 0.124 | ( 0.648) | 0.596 |
| 4 | 0.33 | 5.00 | 0.720 | 0.124 | ( 0.648) | 0.596 |
| 5 | 0.42 | 5.80 | 0.835 | 0.124 | ( 0.751) | 0.711 |
| 6 | 0.50 | 6.50 | 0.936 | 0.124 | ( 0.842) | 0.812 |
| 7 | 0.58 | 7.40 | 1.065 | 0.124 | ( 0.959) | 0.941 |
| 8 | 0.67 | 8.60 | 1.238 | 0.124 | ( 1.114) | 1.114 |
| 9 | 0.75 | 12.30 | 1.771 | 0.124 | ( 1.594) | 1.647 |
| 10 | 0.83 | 29.10 | 4.189 | 0.124 | ( 3.770) | 4.065 |
| 11 | 0.92 | 6.80 | 0.979 | 0.124 | ( 0.881) | 0.855 |
| 12 | 1.00 | 5.00 | 0.720 | 0.124 | ( 0.648) | 0.596 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | | Sum = | 12.9 |

Flood volume = Effective rainfall 1.08(In)
times area 29.2(Ac.)/[(In)/(Ft.)] = 2.6(Ac.Ft)
Total soil loss = 0.12(In)
Total soil loss = 0.302(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 114024.2 Cubic Feet
Total soil loss = 13137.4 Cubic Feet

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Peak flow rate of this hydrograph = 82.196(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 22.5 | 45.0 | 67.5 | 90.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0208 | 3.03 | VQ | | | | |
| 0+10 | 0.0970 | 11.05 | V Q | | | | |
| 0+15 | 0.1942 | 14.12 | V Q | | | | |
| 0+20 | 0.3083 | 16.56 | V Q | | | | |
| 0+25 | 0.4319 | 17.95 | VQ | | | | |
| 0+30 | 0.5747 | 20.74 | VQ | | | | |
| 0+35 | 0.7386 | 23.79 | QV | | | | |
| 0+40 | 0.9291 | 27.67 | Q V | | | | |
| 0+45 | 1.1678 | 34.66 | Q V | | | | |
| 0+50 | 1.5791 | 59.72 | V Q | | | | |
| 0+55 | 2.1452 | 82.20 | V Q | | | | |
| 1+ 0 | 2.4172 | 39.51 | Q | | | V | |
| 1+ 5 | 2.5593 | 20.62 | Q | | | | V |
| 1+10 | 2.5995 | 5.84 | Q | | | | V |
| 1+15 | 2.6139 | 2.09 | Q | | | | V |

```
    1+20       2.6167      0.41  Q          |          |          |        V|
    1+25       2.6176      0.13  Q          |          |          |         V
-------------------------------------------------------------------------
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX283100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 28
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 29.20(Ac.) = 0.046 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 29.20(Ac.) = 0.046 Sq. Mi.
Length along longest watercourse = 1699.00(Ft.)
Length along longest watercourse measured to centroid = 946.00(Ft.)
Length along longest watercourse = 0.322 Mi.
Length along longest watercourse measured to centroid = 0.179 Mi.
Difference in elevation = 532.00(Ft.)
Slope along watercourse = 1653.3019 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.069 Hr.
Lag time = 4.17 Min.
25% of lag time = 1.04 Min.
40% of lag time = 1.67 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 29.20 | 0.80 | 23.36 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 29.20 | 1.80 | 52.56 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 29.200 | 79.11 | 0.000 |

Total Area Entered = 29.20(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 79.1 | 90.5 | 0.124 | 0.000 | 0.124 | 1.000 | 0.124 |
| | | | | | Sum (F) = | 0.124 |

Area averaged mean soil loss (F) (In/Hr) = 0.124

Minimum soil loss rate ((In/Hr)) = 0.062
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 119.927 | 21.378 | 6.291 |
| 2 0.167 | 239.853 | 56.067 | 16.499 |
| 3 0.250 | 359.780 | 15.526 | 4.569 |
| 4 0.333 | 479.707 | 5.040 | 1.483 |
| 5 0.417 | 599.634 | 1.242 | 0.365 |
| 6 0.500 | 719.560 | 0.748 | 0.220 |
| | Sum = | 100.000 Sum= | 29.428 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.281 | 0.124 | ( 0.253) | 0.157 |
| 2 | 0.17 | 1.30 | 0.281 | 0.124 | ( 0.253) | 0.157 |
| 3 | 0.25 | 1.10 | 0.238 | 0.124 | ( 0.214) | 0.114 |
| 4 | 0.33 | 1.50 | 0.324 | 0.124 | ( 0.292) | 0.200 |
| 5 | 0.42 | 1.50 | 0.324 | 0.124 | ( 0.292) | 0.200 |
| 6 | 0.50 | 1.80 | 0.389 | 0.124 | ( 0.350) | 0.265 |
| 7 | 0.58 | 1.50 | 0.324 | 0.124 | ( 0.292) | 0.200 |
| 8 | 0.67 | 1.80 | 0.389 | 0.124 | ( 0.350) | 0.265 |
| 9 | 0.75 | 1.80 | 0.389 | 0.124 | ( 0.350) | 0.265 |
| 10 | 0.83 | 1.50 | 0.324 | 0.124 | ( 0.292) | 0.200 |
| 11 | 0.92 | 1.60 | 0.346 | 0.124 | ( 0.311) | 0.222 |
| 12 | 1.00 | 1.80 | 0.389 | 0.124 | ( 0.350) | 0.265 |
| 13 | 1.08 | 2.20 | 0.475 | 0.124 | ( 0.428) | 0.351 |
| 14 | 1.17 | 2.20 | 0.475 | 0.124 | ( 0.428) | 0.351 |
| 15 | 1.25 | 2.20 | 0.475 | 0.124 | ( 0.428) | 0.351 |
| 16 | 1.33 | 2.00 | 0.432 | 0.124 | ( 0.389) | 0.308 |
| 17 | 1.42 | 2.60 | 0.562 | 0.124 | ( 0.505) | 0.438 |
| 18 | 1.50 | 2.70 | 0.583 | 0.124 | ( 0.525) | 0.459 |
| 19 | 1.58 | 2.40 | 0.518 | 0.124 | ( 0.467) | 0.394 |
| 20 | 1.67 | 2.70 | 0.583 | 0.124 | ( 0.525) | 0.459 |
| 21 | 1.75 | 3.30 | 0.713 | 0.124 | ( 0.641) | 0.589 |
| 22 | 1.83 | 3.10 | 0.670 | 0.124 | ( 0.603) | 0.546 |
| 23 | 1.92 | 2.90 | 0.626 | 0.124 | ( 0.564) | 0.502 |
| 24 | 2.00 | 3.00 | 0.648 | 0.124 | ( 0.583) | 0.524 |
| 25 | 2.08 | 3.10 | 0.670 | 0.124 | ( 0.603) | 0.546 |
| 26 | 2.17 | 4.20 | 0.907 | 0.124 | ( 0.816) | 0.783 |
| 27 | 2.25 | 5.00 | 1.080 | 0.124 | ( 0.972) | 0.956 |
| 28 | 2.33 | 3.50 | 0.756 | 0.124 | ( 0.680) | 0.632 |
| 29 | 2.42 | 6.80 | 1.469 | 0.124 | ( 1.322) | 1.345 |
| 30 | 2.50 | 7.30 | 1.577 | 0.124 | ( 1.419) | 1.453 |
| 31 | 2.58 | 8.20 | 1.771 | 0.124 | ( 1.594) | 1.647 |
| 32 | 2.67 | 5.90 | 1.274 | 0.124 | ( 1.147) | 1.150 |
| 33 | 2.75 | 2.00 | 0.432 | 0.124 | ( 0.389) | 0.308 |
| 34 | 2.83 | 1.80 | 0.389 | 0.124 | ( 0.350) | 0.265 |
| 35 | 2.92 | 1.80 | 0.389 | 0.124 | ( 0.350) | 0.265 |
| 36 | 3.00 | 0.60 | 0.130 | ( 0.124) | 0.117 | 0.013 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 17.1 |

Flood volume = Effective rainfall 1.43(In)
times area 29.2(Ac.)/[(In)/(Ft.)] = 3.5(Ac.Ft)
Total soil loss = 0.37(In)
Total soil loss = 0.903(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 151421.0 Cubic Feet
Total soil loss = 39347.4 Cubic Feet

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Peak flow rate of this hydrograph = 43.507(CFS)

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3 - H O U R S T O R M

R u n o f f  H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 12.5 25.0 37.5 50.0 |
|---|---|---|---|
| 0+ 5 | 0.0068 | 0.99 | Q |
| 0+10 | 0.0314 | 3.58 | V Q |
| 0+15 | 0.0591 | 4.02 | V Q |
| 0+20 | 0.0872 | 4.08 | V Q |
| 0+25 | 0.1242 | 5.37 | V Q |
| 0+30 | 0.1665 | 6.14 | V Q |
| 0+35 | 0.2142 | 6.92 | V Q |
| 0+40 | 0.2595 | 6.57 | V Q |
| 0+45 | 0.3109 | 7.46 | V Q |
| 0+50 | 0.3610 | 7.28 | VQ |
| 0+55 | 0.4053 | 6.43 | VQ |
| 1+ 0 | 0.4519 | 6.77 | Q |
| 1+ 5 | 0.5073 | 8.05 | VQ |
| 1+10 | 0.5740 | 9.68 | VQ |
| 1+15 | 0.6438 | 10.13 | VQ |
| 1+20 | 0.7127 | 10.01 | Q |
| 1+25 | 0.7826 | 10.15 | QV |
| 1+30 | 0.8670 | 12.25 | Q |
| 1+35 | 0.9546 | 12.73 | Q |
| 1+40 | 1.0396 | 12.34 | Q V |
| 1+45 | 1.1360 | 14.00 | Q V |
| 1+50 | 1.2469 | 16.10 | Q V |
| 1+55 | 1.3556 | 15.79 | Q V |
| 2+ 0 | 1.4604 | 15.21 | Q V |
| 2+ 5 | 1.5672 | 15.51 | Q V |
| 2+10 | 1.6871 | 17.41 | Q V |
| 2+15 | 1.8422 | 22.52 | Q V |
| 2+20 | 2.0106 | 24.45 | Q V |
| 2+25 | 2.1810 | 24.74 | Q V |
| 2+30 | 2.4293 | 36.06 | VQ |
| 2+35 | 2.7182 | 41.95 | V Q |
| 2+40 | 3.0179 | 43.51 | Q |
| 2+45 | 3.2330 | 31.24 | Q V |
| 2+50 | 3.3383 | 15.28 | Q V |
| 2+55 | 3.4077 | 10.08 | Q V |
| 3+ 0 | 3.4552 | 6.90 | Q V |
| 3+ 5 | 3.4702 | 2.18 | Q V |
| 3+10 | 3.4745 | 0.62 | Q V |
| 3+15 | 3.4757 | 0.17 | Q V |
| 3+20 | 3.4761 | 0.06 | Q V |
| 3+25 | 3.4761 | 0.00 | Q V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX286100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 28
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 29.20(Ac.) = 0.046 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 29.20(Ac.) = 0.046 Sq. Mi.
Length along longest watercourse = 1699.00(Ft.)
Length along longest watercourse measured to centroid = 946.00(Ft.)
Length along longest watercourse = 0.322 Mi.
Length along longest watercourse measured to centroid = 0.179 Mi.
Difference in elevation = 532.00(Ft.)
Slope along watercourse = 1653.3019 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.069 Hr.
Lag time = 4.17 Min.
25% of lag time = 1.04 Min.
40% of lag time = 1.67 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 29.20 | 1.13 | 33.00 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 29.20 | 2.50 | 73.00 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.130(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 29.200 | 79.11 | 0.000 |

Total Area Entered = 29.20(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 79.1 | 90.5 | 0.124 | 0.000 | 0.124 | 1.000 | 0.124 |
| | | | | | Sum (F) = | 0.124 |

Area averaged mean soil loss (F) (In/Hr) = 0.124

Minimum soil loss rate ((In/Hr)) = 0.062
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 119.927 | 21.378 | 6.291 |
| 2 | 0.167 | 239.853 | 56.067 | 16.499 |
| 3 | 0.250 | 359.780 | 15.526 | 4.569 |
| 4 | 0.333 | 479.707 | 5.040 | 1.483 |
| 5 | 0.417 | 599.634 | 1.242 | 0.365 |
| 6 | 0.500 | 719.560 | 0.748 | 0.220 |
| | | | Sum = 100.000 | Sum= 29.428 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.124 | ( | 0.135) | 0.026 |
| 2 | 0.17 | 0.60 | 0.180 | 0.124 | ( | 0.162) | 0.056 |
| 3 | 0.25 | 0.60 | 0.180 | 0.124 | ( | 0.162) | 0.056 |
| 4 | 0.33 | 0.60 | 0.180 | 0.124 | ( | 0.162) | 0.056 |
| 5 | 0.42 | 0.60 | 0.180 | 0.124 | ( | 0.162) | 0.056 |
| 6 | 0.50 | 0.70 | 0.210 | 0.124 | ( | 0.189) | 0.086 |
| 7 | 0.58 | 0.70 | 0.210 | 0.124 | ( | 0.189) | 0.086 |
| 8 | 0.67 | 0.70 | 0.210 | 0.124 | ( | 0.189) | 0.086 |
| 9 | 0.75 | 0.70 | 0.210 | 0.124 | ( | 0.189) | 0.086 |
| 10 | 0.83 | 0.70 | 0.210 | 0.124 | ( | 0.189) | 0.086 |
| 11 | 0.92 | 0.70 | 0.210 | 0.124 | ( | 0.189) | 0.086 |
| 12 | 1.00 | 0.80 | 0.240 | 0.124 | ( | 0.216) | 0.116 |
| 13 | 1.08 | 0.80 | 0.240 | 0.124 | ( | 0.216) | 0.116 |
| 14 | 1.17 | 0.80 | 0.240 | 0.124 | ( | 0.216) | 0.116 |
| 15 | 1.25 | 0.80 | 0.240 | 0.124 | ( | 0.216) | 0.116 |
| 16 | 1.33 | 0.80 | 0.240 | 0.124 | ( | 0.216) | 0.116 |
| 17 | 1.42 | 0.80 | 0.240 | 0.124 | ( | 0.216) | 0.116 |
| 18 | 1.50 | 0.80 | 0.240 | 0.124 | ( | 0.216) | 0.116 |
| 19 | 1.58 | 0.80 | 0.240 | 0.124 | ( | 0.216) | 0.116 |
| 20 | 1.67 | 0.80 | 0.240 | 0.124 | ( | 0.216) | 0.116 |
| 21 | 1.75 | 0.80 | 0.240 | 0.124 | ( | 0.216) | 0.116 |
| 22 | 1.83 | 0.80 | 0.240 | 0.124 | ( | 0.216) | 0.116 |
| 23 | 1.92 | 0.80 | 0.240 | 0.124 | ( | 0.216) | 0.116 |
| 24 | 2.00 | 0.90 | 0.270 | 0.124 | ( | 0.243) | 0.146 |
| 25 | 2.08 | 0.80 | 0.240 | 0.124 | ( | 0.216) | 0.116 |
| 26 | 2.17 | 0.90 | 0.270 | 0.124 | ( | 0.243) | 0.146 |
| 27 | 2.25 | 0.90 | 0.270 | 0.124 | ( | 0.243) | 0.146 |
| 28 | 2.33 | 0.90 | 0.270 | 0.124 | ( | 0.243) | 0.146 |
| 29 | 2.42 | 0.90 | 0.270 | 0.124 | ( | 0.243) | 0.146 |
| 30 | 2.50 | 0.90 | 0.270 | 0.124 | ( | 0.243) | 0.146 |
| 31 | 2.58 | 0.90 | 0.270 | 0.124 | ( | 0.243) | 0.146 |
| 32 | 2.67 | 0.90 | 0.270 | 0.124 | ( | 0.243) | 0.146 |
| 33 | 2.75 | 1.00 | 0.300 | 0.124 | ( | 0.270) | 0.176 |
| 34 | 2.83 | 1.00 | 0.300 | 0.124 | ( | 0.270) | 0.176 |
| 35 | 2.92 | 1.00 | 0.300 | 0.124 | ( | 0.270) | 0.176 |
| 36 | 3.00 | 1.00 | 0.300 | 0.124 | ( | 0.270) | 0.176 |
| 37 | 3.08 | 1.00 | 0.300 | 0.124 | ( | 0.270) | 0.176 |
| 38 | 3.17 | 1.10 | 0.330 | 0.124 | ( | 0.297) | 0.206 |
| 39 | 3.25 | 1.10 | 0.330 | 0.124 | ( | 0.297) | 0.206 |
| 40 | 3.33 | 1.10 | 0.330 | 0.124 | ( | 0.297) | 0.206 |
| 41 | 3.42 | 1.20 | 0.360 | 0.124 | ( | 0.324) | 0.236 |
| 42 | 3.50 | 1.30 | 0.390 | 0.124 | ( | 0.351) | 0.266 |
| 43 | 3.58 | 1.40 | 0.420 | 0.124 | ( | 0.378) | 0.296 |
| 44 | 3.67 | 1.40 | 0.420 | 0.124 | ( | 0.378) | 0.296 |
| 45 | 3.75 | 1.50 | 0.450 | 0.124 | ( | 0.405) | 0.326 |
| 46 | 3.83 | 1.50 | 0.450 | 0.124 | ( | 0.405) | 0.326 |
| 47 | 3.92 | 1.60 | 0.480 | 0.124 | ( | 0.432) | 0.356 |
| 48 | 4.00 | 1.60 | 0.480 | 0.124 | ( | 0.432) | 0.356 |
| 49 | 4.08 | 1.70 | 0.510 | 0.124 | ( | 0.459) | 0.386 |
| 50 | 4.17 | 1.80 | 0.540 | 0.124 | ( | 0.486) | 0.416 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 51 | 4.25 | 1.90 | 0.570 | 0.124 | ( 0.513) | 0.446 |
| 52 | 4.33 | 2.00 | 0.600 | 0.124 | ( 0.540) | 0.476 |
| 53 | 4.42 | 2.10 | 0.630 | 0.124 | ( 0.567) | 0.506 |
| 54 | 4.50 | 2.10 | 0.630 | 0.124 | ( 0.567) | 0.506 |
| 55 | 4.58 | 2.20 | 0.660 | 0.124 | ( 0.594) | 0.536 |
| 56 | 4.67 | 2.30 | 0.690 | 0.124 | ( 0.621) | 0.566 |
| 57 | 4.75 | 2.40 | 0.720 | 0.124 | ( 0.648) | 0.596 |
| 58 | 4.83 | 2.40 | 0.720 | 0.124 | ( 0.648) | 0.596 |
| 59 | 4.92 | 2.50 | 0.750 | 0.124 | ( 0.675) | 0.626 |
| 60 | 5.00 | 2.60 | 0.780 | 0.124 | ( 0.702) | 0.656 |
| 61 | 5.08 | 3.10 | 0.930 | 0.124 | ( 0.837) | 0.806 |
| 62 | 5.17 | 3.60 | 1.080 | 0.124 | ( 0.972) | 0.956 |
| 63 | 5.25 | 3.90 | 1.170 | 0.124 | ( 1.053) | 1.046 |
| 64 | 5.33 | 4.20 | 1.260 | 0.124 | ( 1.134) | 1.136 |
| 65 | 5.42 | 4.70 | 1.410 | 0.124 | ( 1.269) | 1.286 |
| 66 | 5.50 | 5.60 | 1.680 | 0.124 | ( 1.512) | 1.556 |
| 67 | 5.58 | 1.90 | 0.570 | 0.124 | ( 0.513) | 0.446 |
| 68 | 5.67 | 0.90 | 0.270 | 0.124 | ( 0.243) | 0.146 |
| 69 | 5.75 | 0.60 | 0.180 | 0.124 | ( 0.162) | 0.056 |
| 70 | 5.83 | 0.50 | 0.150 | 0.124 | ( 0.135) | 0.026 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.124) | 0.081 | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.124) | 0.054 | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 21.2

Flood volume = Effective rainfall 1.77(In)
times area 29.2(Ac.)/[(In)/(Ft.)] = 4.3(Ac.Ft)
Total soil loss = 0.73(In)
Total soil loss = 1.787(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 187136.5 Cubic Feet
Total soil loss = 77826.9 Cubic Feet

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Peak flow rate of this hydrograph = 38.293(CFS)

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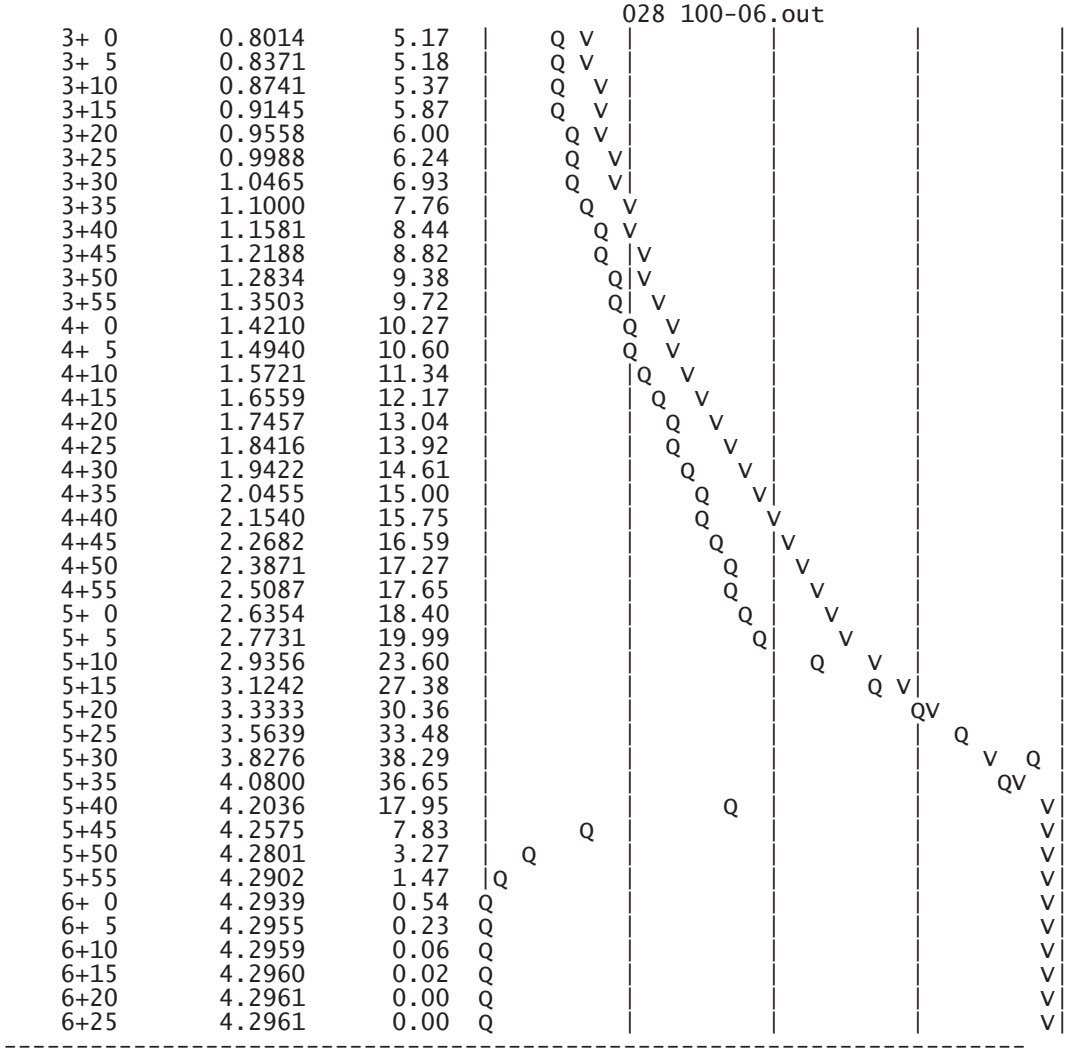
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 10.0 | 20.0 | 30.0 | 40.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0011 | 0.16 | Q | | | | |
| 0+10 | 0.0065 | 0.78 | Q | | | | |
| 0+15 | 0.0161 | 1.40 | VQ | | | | |
| 0+20 | 0.0270 | 1.57 | VQ | | | | |
| 0+25 | 0.0382 | 1.63 | VQ | | | | |
| 0+30 | 0.0508 | 1.83 | VQ | | | | |
| 0+35 | 0.0669 | 2.33 | V Q | | | | |
| 0+40 | 0.0839 | 2.47 | V Q | | | | |
| 0+45 | 0.1012 | 2.52 | V Q | | | | |
| 0+50 | 0.1186 | 2.53 | \|VQ | | | | |
| 0+55 | 0.1361 | 2.53 | \|VQ | | | | |
| 1+ 0 | 0.1548 | 2.72 | \|VQ | | | | |
| 1+ 5 | 0.1770 | 3.22 | \|V Q | | | | |
| 1+10 | 0.2001 | 3.35 | \|V Q | | | | |
| 1+15 | 0.2235 | 3.40 | \| VQ | | | | |
| 1+20 | 0.2470 | 3.41 | \| VQ | | | | |
| 1+25 | 0.2705 | 3.42 | \| VQ | | | | |
| 1+30 | 0.2940 | 3.42 | \| VQ | | | | |
| 1+35 | 0.3175 | 3.42 | \| VQ | | | | |
| 1+40 | 0.3411 | 3.42 | \| Q | | | | |
| 1+45 | 0.3646 | 3.42 | \| Q | | | | |
| 1+50 | 0.3881 | 3.42 | \| Q | | | | |
| 1+55 | 0.4117 | 3.42 | \| Q | | | | |
| 2+ 0 | 0.4365 | 3.61 | \| QV | | | | |
| 2+ 5 | 0.4634 | 3.91 | \| QV | | | | |
| 2+10 | 0.4892 | 3.74 | \| QV | | | | |
| 2+15 | 0.5177 | 4.14 | \| Q | | | | |
| 2+20 | 0.5470 | 4.25 | \| QV | | | | |
| 2+25 | 0.5765 | 4.29 | \| QV | | | | |
| 2+30 | 0.6061 | 4.29 | \| QV | | | | |
| 2+35 | 0.6357 | 4.30 | \| QV | | | | |
| 2+40 | 0.6653 | 4.30 | \| Q V | | | | |
| 2+45 | 0.6962 | 4.49 | \| Q V | | | | |
| 2+50 | 0.7306 | 4.98 | \| Q V | | | | |
| 2+55 | 0.7658 | 5.12 | \| Q V | | | | |



| | | | |
|---|---|---|---|
| 3+ 0 | 0.8014 | 5.17 | |
| 3+ 5 | 0.8371 | 5.18 | |
| 3+10 | 0.8741 | 5.37 | |
| 3+15 | 0.9145 | 5.87 | |
| 3+20 | 0.9558 | 6.00 | |
| 3+25 | 0.9988 | 6.24 | |
| 3+30 | 1.0465 | 6.93 | |
| 3+35 | 1.1000 | 7.76 | |
| 3+40 | 1.1581 | 8.44 | |
| 3+45 | 1.2188 | 8.82 | |
| 3+50 | 1.2834 | 9.38 | |
| 3+55 | 1.3503 | 9.72 | |
| 4+ 0 | 1.4210 | 10.27 | |
| 4+ 5 | 1.4940 | 10.60 | |
| 4+10 | 1.5721 | 11.34 | |
| 4+15 | 1.6559 | 12.17 | |
| 4+20 | 1.7457 | 13.04 | |
| 4+25 | 1.8416 | 13.92 | |
| 4+30 | 1.9422 | 14.61 | |
| 4+35 | 2.0455 | 15.00 | |
| 4+40 | 2.1540 | 15.75 | |
| 4+45 | 2.2682 | 16.59 | |
| 4+50 | 2.3871 | 17.27 | |
| 4+55 | 2.5087 | 17.65 | |
| 5+ 0 | 2.6354 | 18.40 | |
| 5+ 5 | 2.7731 | 19.99 | |
| 5+10 | 2.9356 | 23.60 | |
| 5+15 | 3.1242 | 27.38 | |
| 5+20 | 3.3333 | 30.36 | |
| 5+25 | 3.5639 | 33.48 | |
| 5+30 | 3.8276 | 38.29 | |
| 5+35 | 4.0800 | 36.65 | |
| 5+40 | 4.2036 | 17.95 | |
| 5+45 | 4.2575 | 7.83 | |
| 5+50 | 4.2801 | 3.27 | |
| 5+55 | 4.2902 | 1.47 | |
| 6+ 0 | 4.2939 | 0.54 | |
| 6+ 5 | 4.2955 | 0.23 | |
| 6+10 | 4.2959 | 0.06 | |
| 6+15 | 4.2960 | 0.02 | |
| 6+20 | 4.2961 | 0.00 | |
| 6+25 | 4.2961 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX2824100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 28
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 29.20(Ac.) = 0.046 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 29.20(Ac.) = 0.046 Sq. Mi.
Length along longest watercourse = 1699.00(Ft.)
Length along longest watercourse measured to centroid = 946.00(Ft.)
Length along longest watercourse = 0.322 Mi.
Length along longest watercourse measured to centroid = 0.179 Mi.
Difference in elevation = 532.00(Ft.)
Slope along watercourse = 1653.3019 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.069 Hr.
Lag time = 4.17 Min.
25% of lag time = 1.04 Min.
40% of lag time = 1.67 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 29.20 | 1.80 | 52.56 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 29.20 | 4.59 | 134.03 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.590(In)

Point rain (area averaged) = 4.590(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 4.590(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 29.200 | 79.11 | 0.000 |

Total Area Entered = 29.20(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 79.1 | 90.5 | 0.124 | 0.000 | 0.124 | 1.000 | 0.124 |
| | | | | | Sum (F) = | 0.124 |

Area averaged mean soil loss (F) (In/Hr) = 0.124

Minimum soil loss rate ((In/Hr)) = 0.062
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 119.927 | 21.378 | 6.291 |
| 2 | 0.167 | 239.853 | 56.067 | 16.499 |
| 3 | 0.250 | 359.780 | 15.526 | 4.569 |
| 4 | 0.333 | 479.707 | 5.040 | 1.483 |
| 5 | 0.417 | 599.634 | 1.242 | 0.365 |
| 6 | 0.500 | 719.560 | 0.748 | 0.220 |
| | | | Sum = 100.000 | Sum= 29.428 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.037 | ( 0.220) | 0.033 | 0.004 |
| 2 | 0.17 | 0.07 | 0.037 | ( 0.219) | 0.033 | 0.004 |
| 3 | 0.25 | 0.07 | 0.037 | ( 0.218) | 0.033 | 0.004 |
| 4 | 0.33 | 0.10 | 0.055 | ( 0.217) | 0.050 | 0.006 |
| 5 | 0.42 | 0.10 | 0.055 | ( 0.216) | 0.050 | 0.006 |
| 6 | 0.50 | 0.10 | 0.055 | ( 0.215) | 0.050 | 0.006 |
| 7 | 0.58 | 0.10 | 0.055 | ( 0.215) | 0.050 | 0.006 |
| 8 | 0.67 | 0.10 | 0.055 | ( 0.214) | 0.050 | 0.006 |
| 9 | 0.75 | 0.10 | 0.055 | ( 0.213) | 0.050 | 0.006 |
| 10 | 0.83 | 0.13 | 0.073 | ( 0.212) | 0.066 | 0.007 |
| 11 | 0.92 | 0.13 | 0.073 | ( 0.211) | 0.066 | 0.007 |
| 12 | 1.00 | 0.13 | 0.073 | ( 0.210) | 0.066 | 0.007 |
| 13 | 1.08 | 0.10 | 0.055 | ( 0.210) | 0.050 | 0.006 |
| 14 | 1.17 | 0.10 | 0.055 | ( 0.209) | 0.050 | 0.006 |
| 15 | 1.25 | 0.10 | 0.055 | ( 0.208) | 0.050 | 0.006 |
| 16 | 1.33 | 0.10 | 0.055 | ( 0.207) | 0.050 | 0.006 |
| 17 | 1.42 | 0.10 | 0.055 | ( 0.206) | 0.050 | 0.006 |
| 18 | 1.50 | 0.10 | 0.055 | ( 0.205) | 0.050 | 0.006 |
| 19 | 1.58 | 0.10 | 0.055 | ( 0.205) | 0.050 | 0.006 |
| 20 | 1.67 | 0.10 | 0.055 | ( 0.204) | 0.050 | 0.006 |
| 21 | 1.75 | 0.10 | 0.055 | ( 0.203) | 0.050 | 0.006 |
| 22 | 1.83 | 0.13 | 0.073 | ( 0.202) | 0.066 | 0.007 |
| 23 | 1.92 | 0.13 | 0.073 | ( 0.201) | 0.066 | 0.007 |
| 24 | 2.00 | 0.13 | 0.073 | ( 0.201) | 0.066 | 0.007 |
| 25 | 2.08 | 0.13 | 0.073 | ( 0.200) | 0.066 | 0.007 |
| 26 | 2.17 | 0.13 | 0.073 | ( 0.199) | 0.066 | 0.007 |
| 27 | 2.25 | 0.13 | 0.073 | ( 0.198) | 0.066 | 0.007 |
| 28 | 2.33 | 0.13 | 0.073 | ( 0.197) | 0.066 | 0.007 |
| 29 | 2.42 | 0.13 | 0.073 | ( 0.197) | 0.066 | 0.007 |
| 30 | 2.50 | 0.13 | 0.073 | ( 0.196) | 0.066 | 0.007 |
| 31 | 2.58 | 0.17 | 0.092 | ( 0.195) | 0.083 | 0.009 |
| 32 | 2.67 | 0.17 | 0.092 | ( 0.194) | 0.083 | 0.009 |
| 33 | 2.75 | 0.17 | 0.092 | ( 0.193) | 0.083 | 0.009 |
| 34 | 2.83 | 0.17 | 0.092 | ( 0.193) | 0.083 | 0.009 |
| 35 | 2.92 | 0.17 | 0.092 | ( 0.192) | 0.083 | 0.009 |
| 36 | 3.00 | 0.17 | 0.092 | ( 0.191) | 0.083 | 0.009 |
| 37 | 3.08 | 0.17 | 0.092 | ( 0.190) | 0.083 | 0.009 |
| 38 | 3.17 | 0.17 | 0.092 | ( 0.189) | 0.083 | 0.009 |
| 39 | 3.25 | 0.17 | 0.092 | ( 0.189) | 0.083 | 0.009 |
| 40 | 3.33 | 0.17 | 0.092 | ( 0.188) | 0.083 | 0.009 |
| 41 | 3.42 | 0.17 | 0.092 | ( 0.187) | 0.083 | 0.009 |
| 42 | 3.50 | 0.17 | 0.092 | ( 0.186) | 0.083 | 0.009 |
| 43 | 3.58 | 0.17 | 0.092 | ( 0.185) | 0.083 | 0.009 |
| 44 | 3.67 | 0.17 | 0.092 | ( 0.185) | 0.083 | 0.009 |
| 45 | 3.75 | 0.17 | 0.092 | ( 0.184) | 0.083 | 0.009 |
| 46 | 3.83 | 0.20 | 0.110 | ( 0.183) | 0.099 | 0.011 |
| 47 | 3.92 | 0.20 | 0.110 | ( 0.182) | 0.099 | 0.011 |
| 48 | 4.00 | 0.20 | 0.110 | ( 0.182) | 0.099 | 0.011 |
| 49 | 4.08 | 0.20 | 0.110 | ( 0.181) | 0.099 | 0.011 |
| 50 | 4.17 | 0.20 | 0.110 | ( 0.180) | 0.099 | 0.011 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 51 | 4.25 | 0.20 | 0.110 | ( | 0.179) | 0.099 | | 0.011 |
| 52 | 4.33 | 0.23 | 0.129 | ( | 0.179) | 0.116 | | 0.013 |
| 53 | 4.42 | 0.23 | 0.129 | ( | 0.178) | 0.116 | | 0.013 |
| 54 | 4.50 | 0.23 | 0.129 | ( | 0.177) | 0.116 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.129 | ( | 0.176) | 0.116 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.129 | ( | 0.175) | 0.116 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.129 | ( | 0.175) | 0.116 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.147 | ( | 0.174) | 0.132 | | 0.015 |
| 59 | 4.92 | 0.27 | 0.147 | ( | 0.173) | 0.132 | | 0.015 |
| 60 | 5.00 | 0.27 | 0.147 | ( | 0.172) | 0.132 | | 0.015 |
| 61 | 5.08 | 0.20 | 0.110 | ( | 0.172) | 0.099 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.110 | ( | 0.171) | 0.099 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.110 | ( | 0.170) | 0.099 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.129 | ( | 0.169) | 0.116 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.129 | ( | 0.169) | 0.116 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.129 | ( | 0.168) | 0.116 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.147 | ( | 0.167) | 0.132 | | 0.015 |
| 68 | 5.67 | 0.27 | 0.147 | ( | 0.167) | 0.132 | | 0.015 |
| 69 | 5.75 | 0.27 | 0.147 | ( | 0.166) | 0.132 | | 0.015 |
| 70 | 5.83 | 0.27 | 0.147 | ( | 0.165) | 0.132 | | 0.015 |
| 71 | 5.92 | 0.27 | 0.147 | ( | 0.164) | 0.132 | | 0.015 |
| 72 | 6.00 | 0.27 | 0.147 | ( | 0.164) | 0.132 | | 0.015 |
| 73 | 6.08 | 0.30 | 0.165 | ( | 0.163) | 0.149 | | 0.017 |
| 74 | 6.17 | 0.30 | 0.165 | ( | 0.162) | 0.149 | | 0.017 |
| 75 | 6.25 | 0.30 | 0.165 | ( | 0.161) | 0.149 | | 0.017 |
| 76 | 6.33 | 0.30 | 0.165 | ( | 0.161) | 0.149 | | 0.017 |
| 77 | 6.42 | 0.30 | 0.165 | ( | 0.160) | 0.149 | | 0.017 |
| 78 | 6.50 | 0.30 | 0.165 | ( | 0.159) | 0.149 | | 0.017 |
| 79 | 6.58 | 0.33 | 0.184 | | 0.159 | ( | 0.165) | 0.025 |
| 80 | 6.67 | 0.33 | 0.184 | | 0.158 | ( | 0.165) | 0.026 |
| 81 | 6.75 | 0.33 | 0.184 | | 0.157 | ( | 0.165) | 0.026 |
| 82 | 6.83 | 0.33 | 0.184 | | 0.156 | ( | 0.165) | 0.027 |
| 83 | 6.92 | 0.33 | 0.184 | | 0.156 | ( | 0.165) | 0.028 |
| 84 | 7.00 | 0.33 | 0.184 | | 0.155 | ( | 0.165) | 0.029 |
| 85 | 7.08 | 0.33 | 0.184 | | 0.154 | ( | 0.165) | 0.029 |
| 86 | 7.17 | 0.33 | 0.184 | | 0.154 | ( | 0.165) | 0.030 |
| 87 | 7.25 | 0.33 | 0.184 | | 0.153 | ( | 0.165) | 0.031 |
| 88 | 7.33 | 0.37 | 0.202 | | 0.152 | ( | 0.182) | 0.050 |
| 89 | 7.42 | 0.37 | 0.202 | | 0.152 | ( | 0.182) | 0.050 |
| 90 | 7.50 | 0.37 | 0.202 | | 0.151 | ( | 0.182) | 0.051 |
| 91 | 7.58 | 0.40 | 0.220 | | 0.150 | ( | 0.198) | 0.070 |
| 92 | 7.67 | 0.40 | 0.220 | | 0.149 | ( | 0.198) | 0.071 |
| 93 | 7.75 | 0.40 | 0.220 | | 0.149 | ( | 0.198) | 0.072 |
| 94 | 7.83 | 0.43 | 0.239 | | 0.148 | ( | 0.215) | 0.091 |
| 95 | 7.92 | 0.43 | 0.239 | | 0.147 | ( | 0.215) | 0.091 |
| 96 | 8.00 | 0.43 | 0.239 | | 0.147 | ( | 0.215) | 0.092 |
| 97 | 8.08 | 0.50 | 0.275 | | 0.146 | ( | 0.248) | 0.129 |
| 98 | 8.17 | 0.50 | 0.275 | | 0.145 | ( | 0.248) | 0.130 |
| 99 | 8.25 | 0.50 | 0.275 | | 0.145 | ( | 0.248) | 0.131 |
| 100 | 8.33 | 0.50 | 0.275 | | 0.144 | ( | 0.248) | 0.131 |
| 101 | 8.42 | 0.50 | 0.275 | | 0.143 | ( | 0.248) | 0.132 |
| 102 | 8.50 | 0.50 | 0.275 | | 0.143 | ( | 0.248) | 0.133 |
| 103 | 8.58 | 0.53 | 0.294 | | 0.142 | ( | 0.264) | 0.152 |
| 104 | 8.67 | 0.53 | 0.294 | | 0.141 | ( | 0.264) | 0.152 |
| 105 | 8.75 | 0.53 | 0.294 | | 0.141 | ( | 0.264) | 0.153 |
| 106 | 8.83 | 0.57 | 0.312 | | 0.140 | ( | 0.281) | 0.172 |
| 107 | 8.92 | 0.57 | 0.312 | | 0.139 | ( | 0.281) | 0.173 |
| 108 | 9.00 | 0.57 | 0.312 | | 0.139 | ( | 0.281) | 0.173 |
| 109 | 9.08 | 0.63 | 0.349 | | 0.138 | ( | 0.314) | 0.211 |
| 110 | 9.17 | 0.63 | 0.349 | | 0.137 | ( | 0.314) | 0.211 |
| 111 | 9.25 | 0.63 | 0.349 | | 0.137 | ( | 0.314) | 0.212 |
| 112 | 9.33 | 0.67 | 0.367 | | 0.136 | ( | 0.330) | 0.231 |
| 113 | 9.42 | 0.67 | 0.367 | | 0.135 | ( | 0.330) | 0.232 |
| 114 | 9.50 | 0.67 | 0.367 | | 0.135 | ( | 0.330) | 0.232 |
| 115 | 9.58 | 0.70 | 0.386 | | 0.134 | ( | 0.347) | 0.251 |
| 116 | 9.67 | 0.70 | 0.386 | | 0.133 | ( | 0.347) | 0.252 |
| 117 | 9.75 | 0.70 | 0.386 | | 0.133 | ( | 0.347) | 0.253 |
| 118 | 9.83 | 0.73 | 0.404 | | 0.132 | ( | 0.364) | 0.272 |
| 119 | 9.92 | 0.73 | 0.404 | | 0.132 | ( | 0.364) | 0.272 |
| 120 | 10.00 | 0.73 | 0.404 | | 0.131 | ( | 0.364) | 0.273 |
| 121 | 10.08 | 0.50 | 0.275 | | 0.130 | ( | 0.248) | 0.145 |
| 122 | 10.17 | 0.50 | 0.275 | | 0.130 | ( | 0.248) | 0.146 |
| 123 | 10.25 | 0.50 | 0.275 | | 0.129 | ( | 0.248) | 0.146 |
| 124 | 10.33 | 0.50 | 0.275 | | 0.128 | ( | 0.248) | 0.147 |
| 125 | 10.42 | 0.50 | 0.275 | | 0.128 | ( | 0.248) | 0.148 |
| 126 | 10.50 | 0.50 | 0.275 | | 0.127 | ( | 0.248) | 0.148 |
| 127 | 10.58 | 0.67 | 0.367 | | 0.126 | ( | 0.330) | 0.241 |
| 128 | 10.67 | 0.67 | 0.367 | | 0.126 | ( | 0.330) | 0.241 |

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| 129 | 10.75 | 0.67 | 0.367 | 0.125 | ( 0.330) | 0.242 |
| 130 | 10.83 | 0.67 | 0.367 | 0.125 | ( 0.330) | 0.243 |
| 131 | 10.92 | 0.67 | 0.367 | 0.124 | ( 0.330) | 0.243 |
| 132 | 11.00 | 0.67 | 0.367 | 0.123 | ( 0.330) | 0.244 |
| 133 | 11.08 | 0.63 | 0.349 | 0.123 | ( 0.314) | 0.226 |
| 134 | 11.17 | 0.63 | 0.349 | 0.122 | ( 0.314) | 0.227 |
| 135 | 11.25 | 0.63 | 0.349 | 0.122 | ( 0.314) | 0.227 |
| 136 | 11.33 | 0.63 | 0.349 | 0.121 | ( 0.314) | 0.228 |
| 137 | 11.42 | 0.63 | 0.349 | 0.120 | ( 0.314) | 0.228 |
| 138 | 11.50 | 0.63 | 0.349 | 0.120 | ( 0.314) | 0.229 |
| 139 | 11.58 | 0.57 | 0.312 | 0.119 | ( 0.281) | 0.193 |
| 140 | 11.67 | 0.57 | 0.312 | 0.119 | ( 0.281) | 0.193 |
| 141 | 11.75 | 0.57 | 0.312 | 0.118 | ( 0.281) | 0.194 |
| 142 | 11.83 | 0.60 | 0.330 | 0.117 | ( 0.297) | 0.213 |
| 143 | 11.92 | 0.60 | 0.330 | 0.117 | ( 0.297) | 0.214 |
| 144 | 12.00 | 0.60 | 0.330 | 0.116 | ( 0.297) | 0.214 |
| 145 | 12.08 | 0.83 | 0.459 | 0.116 | ( 0.413) | 0.343 |
| 146 | 12.17 | 0.83 | 0.459 | 0.115 | ( 0.413) | 0.344 |
| 147 | 12.25 | 0.83 | 0.459 | 0.115 | ( 0.413) | 0.344 |
| 148 | 12.33 | 0.87 | 0.477 | 0.114 | ( 0.430) | 0.363 |
| 149 | 12.42 | 0.87 | 0.477 | 0.113 | ( 0.430) | 0.364 |
| 150 | 12.50 | 0.87 | 0.477 | 0.113 | ( 0.430) | 0.365 |
| 151 | 12.58 | 0.93 | 0.514 | 0.112 | ( 0.463) | 0.402 |
| 152 | 12.67 | 0.93 | 0.514 | 0.112 | ( 0.463) | 0.402 |
| 153 | 12.75 | 0.93 | 0.514 | 0.111 | ( 0.463) | 0.403 |
| 154 | 12.83 | 0.97 | 0.532 | 0.111 | ( 0.479) | 0.422 |
| 155 | 12.92 | 0.97 | 0.532 | 0.110 | ( 0.479) | 0.422 |
| 156 | 13.00 | 0.97 | 0.532 | 0.109 | ( 0.479) | 0.423 |
| 157 | 13.08 | 1.13 | 0.624 | 0.109 | ( 0.562) | 0.515 |
| 158 | 13.17 | 1.13 | 0.624 | 0.108 | ( 0.562) | 0.516 |
| 159 | 13.25 | 1.13 | 0.624 | 0.108 | ( 0.562) | 0.516 |
| 160 | 13.33 | 1.13 | 0.624 | 0.107 | ( 0.562) | 0.517 |
| 161 | 13.42 | 1.13 | 0.624 | 0.107 | ( 0.562) | 0.518 |
| 162 | 13.50 | 1.13 | 0.624 | 0.106 | ( 0.562) | 0.518 |
| 163 | 13.58 | 0.77 | 0.422 | 0.106 | ( 0.380) | 0.317 |
| 164 | 13.67 | 0.77 | 0.422 | 0.105 | ( 0.380) | 0.317 |
| 165 | 13.75 | 0.77 | 0.422 | 0.105 | ( 0.380) | 0.318 |
| 166 | 13.83 | 0.77 | 0.422 | 0.104 | ( 0.380) | 0.318 |
| 167 | 13.92 | 0.77 | 0.422 | 0.103 | ( 0.380) | 0.319 |
| 168 | 14.00 | 0.77 | 0.422 | 0.103 | ( 0.380) | 0.319 |
| 169 | 14.08 | 0.90 | 0.496 | 0.102 | ( 0.446) | 0.393 |
| 170 | 14.17 | 0.90 | 0.496 | 0.102 | ( 0.446) | 0.394 |
| 171 | 14.25 | 0.90 | 0.496 | 0.101 | ( 0.446) | 0.394 |
| 172 | 14.33 | 0.87 | 0.477 | 0.101 | ( 0.430) | 0.376 |
| 173 | 14.42 | 0.87 | 0.477 | 0.100 | ( 0.430) | 0.377 |
| 174 | 14.50 | 0.87 | 0.477 | 0.100 | ( 0.430) | 0.377 |
| 175 | 14.58 | 0.87 | 0.477 | 0.099 | ( 0.430) | 0.378 |
| 176 | 14.67 | 0.87 | 0.477 | 0.099 | ( 0.430) | 0.379 |
| 177 | 14.75 | 0.87 | 0.477 | 0.098 | ( 0.430) | 0.379 |
| 178 | 14.83 | 0.83 | 0.459 | 0.098 | ( 0.413) | 0.361 |
| 179 | 14.92 | 0.83 | 0.459 | 0.097 | ( 0.413) | 0.362 |
| 180 | 15.00 | 0.83 | 0.459 | 0.097 | ( 0.413) | 0.362 |
| 181 | 15.08 | 0.80 | 0.441 | 0.096 | ( 0.397) | 0.344 |
| 182 | 15.17 | 0.80 | 0.441 | 0.096 | ( 0.397) | 0.345 |
| 183 | 15.25 | 0.80 | 0.441 | 0.095 | ( 0.397) | 0.345 |
| 184 | 15.33 | 0.77 | 0.422 | 0.095 | ( 0.380) | 0.327 |
| 185 | 15.42 | 0.77 | 0.422 | 0.094 | ( 0.380) | 0.328 |
| 186 | 15.50 | 0.77 | 0.422 | 0.094 | ( 0.380) | 0.328 |
| 187 | 15.58 | 0.63 | 0.349 | 0.093 | ( 0.314) | 0.255 |
| 188 | 15.67 | 0.63 | 0.349 | 0.093 | ( 0.314) | 0.256 |
| 189 | 15.75 | 0.63 | 0.349 | 0.092 | ( 0.314) | 0.256 |
| 190 | 15.83 | 0.63 | 0.349 | 0.092 | ( 0.314) | 0.257 |
| 191 | 15.92 | 0.63 | 0.349 | 0.091 | ( 0.314) | 0.257 |
| 192 | 16.00 | 0.63 | 0.349 | 0.091 | ( 0.314) | 0.258 |
| 193 | 16.08 | 0.13 | 0.073 | ( 0.091) | 0.066 | 0.007 |
| 194 | 16.17 | 0.13 | 0.073 | ( 0.090) | 0.066 | 0.007 |
| 195 | 16.25 | 0.13 | 0.073 | ( 0.090) | 0.066 | 0.007 |
| 196 | 16.33 | 0.13 | 0.073 | ( 0.089) | 0.066 | 0.007 |
| 197 | 16.42 | 0.13 | 0.073 | ( 0.089) | 0.066 | 0.007 |
| 198 | 16.50 | 0.13 | 0.073 | ( 0.088) | 0.066 | 0.007 |
| 199 | 16.58 | 0.10 | 0.055 | ( 0.088) | 0.050 | 0.006 |
| 200 | 16.67 | 0.10 | 0.055 | ( 0.087) | 0.050 | 0.006 |
| 201 | 16.75 | 0.10 | 0.055 | ( 0.087) | 0.050 | 0.006 |
| 202 | 16.83 | 0.10 | 0.055 | ( 0.086) | 0.050 | 0.006 |
| 203 | 16.92 | 0.10 | 0.055 | ( 0.086) | 0.050 | 0.006 |
| 204 | 17.00 | 0.10 | 0.055 | ( 0.086) | 0.050 | 0.006 |
| 205 | 17.08 | 0.17 | 0.092 | ( 0.085) | 0.083 | 0.009 |
| 206 | 17.17 | 0.17 | 0.092 | ( 0.085) | 0.083 | 0.009 |

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| 207 | 17.25 | 0.17 | 0.092 | ( 0.084) | 0.083 | 0.009 |
| 208 | 17.33 | 0.17 | 0.092 | ( 0.084) | 0.083 | 0.009 |
| 209 | 17.42 | 0.17 | 0.092 | ( 0.083) | 0.083 | 0.009 |
| 210 | 17.50 | 0.17 | 0.092 | ( 0.083) | 0.083 | 0.009 |
| 211 | 17.58 | 0.17 | 0.092 | ( 0.083) | 0.083 | 0.009 |
| 212 | 17.67 | 0.17 | 0.092 | 0.082 | ( 0.083) | 0.010 |
| 213 | 17.75 | 0.17 | 0.092 | 0.082 | ( 0.083) | 0.010 |
| 214 | 17.83 | 0.13 | 0.073 | ( 0.081) | 0.066 | 0.007 |
| 215 | 17.92 | 0.13 | 0.073 | ( 0.081) | 0.066 | 0.007 |
| 216 | 18.00 | 0.13 | 0.073 | ( 0.081) | 0.066 | 0.007 |
| 217 | 18.08 | 0.13 | 0.073 | ( 0.080) | 0.066 | 0.007 |
| 218 | 18.17 | 0.13 | 0.073 | ( 0.080) | 0.066 | 0.007 |
| 219 | 18.25 | 0.13 | 0.073 | ( 0.079) | 0.066 | 0.007 |
| 220 | 18.33 | 0.13 | 0.073 | ( 0.079) | 0.066 | 0.007 |
| 221 | 18.42 | 0.13 | 0.073 | ( 0.079) | 0.066 | 0.007 |
| 222 | 18.50 | 0.13 | 0.073 | ( 0.078) | 0.066 | 0.007 |
| 223 | 18.58 | 0.10 | 0.055 | ( 0.078) | 0.050 | 0.006 |
| 224 | 18.67 | 0.10 | 0.055 | ( 0.078) | 0.050 | 0.006 |
| 225 | 18.75 | 0.10 | 0.055 | ( 0.077) | 0.050 | 0.006 |
| 226 | 18.83 | 0.07 | 0.037 | ( 0.077) | 0.033 | 0.004 |
| 227 | 18.92 | 0.07 | 0.037 | ( 0.076) | 0.033 | 0.004 |
| 228 | 19.00 | 0.07 | 0.037 | ( 0.076) | 0.033 | 0.004 |
| 229 | 19.08 | 0.10 | 0.055 | ( 0.076) | 0.050 | 0.006 |
| 230 | 19.17 | 0.10 | 0.055 | ( 0.075) | 0.050 | 0.006 |
| 231 | 19.25 | 0.10 | 0.055 | ( 0.075) | 0.050 | 0.006 |
| 232 | 19.33 | 0.13 | 0.073 | ( 0.075) | 0.066 | 0.007 |
| 233 | 19.42 | 0.13 | 0.073 | ( 0.074) | 0.066 | 0.007 |
| 234 | 19.50 | 0.13 | 0.073 | ( 0.074) | 0.066 | 0.007 |
| 235 | 19.58 | 0.10 | 0.055 | ( 0.074) | 0.050 | 0.006 |
| 236 | 19.67 | 0.10 | 0.055 | ( 0.073) | 0.050 | 0.006 |
| 237 | 19.75 | 0.10 | 0.055 | ( 0.073) | 0.050 | 0.006 |
| 238 | 19.83 | 0.07 | 0.037 | ( 0.073) | 0.033 | 0.004 |
| 239 | 19.92 | 0.07 | 0.037 | ( 0.072) | 0.033 | 0.004 |
| 240 | 20.00 | 0.07 | 0.037 | ( 0.072) | 0.033 | 0.004 |
| 241 | 20.08 | 0.10 | 0.055 | ( 0.072) | 0.050 | 0.006 |
| 242 | 20.17 | 0.10 | 0.055 | ( 0.071) | 0.050 | 0.006 |
| 243 | 20.25 | 0.10 | 0.055 | ( 0.071) | 0.050 | 0.006 |
| 244 | 20.33 | 0.10 | 0.055 | ( 0.071) | 0.050 | 0.006 |
| 245 | 20.42 | 0.10 | 0.055 | ( 0.070) | 0.050 | 0.006 |
| 246 | 20.50 | 0.10 | 0.055 | ( 0.070) | 0.050 | 0.006 |
| 247 | 20.58 | 0.10 | 0.055 | ( 0.070) | 0.050 | 0.006 |
| 248 | 20.67 | 0.10 | 0.055 | ( 0.070) | 0.050 | 0.006 |
| 249 | 20.75 | 0.10 | 0.055 | ( 0.069) | 0.050 | 0.006 |
| 250 | 20.83 | 0.07 | 0.037 | ( 0.069) | 0.033 | 0.004 |
| 251 | 20.92 | 0.07 | 0.037 | ( 0.069) | 0.033 | 0.004 |
| 252 | 21.00 | 0.07 | 0.037 | ( 0.068) | 0.033 | 0.004 |
| 253 | 21.08 | 0.10 | 0.055 | ( 0.068) | 0.050 | 0.006 |
| 254 | 21.17 | 0.10 | 0.055 | ( 0.068) | 0.050 | 0.006 |
| 255 | 21.25 | 0.10 | 0.055 | ( 0.068) | 0.050 | 0.006 |
| 256 | 21.33 | 0.07 | 0.037 | ( 0.067) | 0.033 | 0.004 |
| 257 | 21.42 | 0.07 | 0.037 | ( 0.067) | 0.033 | 0.004 |
| 258 | 21.50 | 0.07 | 0.037 | ( 0.067) | 0.033 | 0.004 |
| 259 | 21.58 | 0.10 | 0.055 | ( 0.067) | 0.050 | 0.006 |
| 260 | 21.67 | 0.10 | 0.055 | ( 0.066) | 0.050 | 0.006 |
| 261 | 21.75 | 0.10 | 0.055 | ( 0.066) | 0.050 | 0.006 |
| 262 | 21.83 | 0.07 | 0.037 | ( 0.066) | 0.033 | 0.004 |
| 263 | 21.92 | 0.07 | 0.037 | ( 0.066) | 0.033 | 0.004 |
| 264 | 22.00 | 0.07 | 0.037 | ( 0.065) | 0.033 | 0.004 |
| 265 | 22.08 | 0.10 | 0.055 | ( 0.065) | 0.050 | 0.006 |
| 266 | 22.17 | 0.10 | 0.055 | ( 0.065) | 0.050 | 0.006 |
| 267 | 22.25 | 0.10 | 0.055 | ( 0.065) | 0.050 | 0.006 |
| 268 | 22.33 | 0.07 | 0.037 | ( 0.065) | 0.033 | 0.004 |
| 269 | 22.42 | 0.07 | 0.037 | ( 0.064) | 0.033 | 0.004 |
| 270 | 22.50 | 0.07 | 0.037 | ( 0.064) | 0.033 | 0.004 |
| 271 | 22.58 | 0.07 | 0.037 | ( 0.064) | 0.033 | 0.004 |
| 272 | 22.67 | 0.07 | 0.037 | ( 0.064) | 0.033 | 0.004 |
| 273 | 22.75 | 0.07 | 0.037 | ( 0.064) | 0.033 | 0.004 |
| 274 | 22.83 | 0.07 | 0.037 | ( 0.064) | 0.033 | 0.004 |
| 275 | 22.92 | 0.07 | 0.037 | ( 0.063) | 0.033 | 0.004 |
| 276 | 23.00 | 0.07 | 0.037 | ( 0.063) | 0.033 | 0.004 |
| 277 | 23.08 | 0.07 | 0.037 | ( 0.063) | 0.033 | 0.004 |
| 278 | 23.17 | 0.07 | 0.037 | ( 0.063) | 0.033 | 0.004 |
| 279 | 23.25 | 0.07 | 0.037 | ( 0.063) | 0.033 | 0.004 |
| 280 | 23.33 | 0.07 | 0.037 | ( 0.063) | 0.033 | 0.004 |
| 281 | 23.42 | 0.07 | 0.037 | ( 0.063) | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.037 | ( 0.062) | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.037 | ( 0.062) | 0.033 | 0.004 |
| 284 | 23.67 | 0.07 | 0.037 | ( 0.062) | 0.033 | 0.004 |

285 23.75 0.07 0.037 ( 0.062) 0.033 0.004
286 23.83 0.07 0.037 ( 0.062) 0.033 0.004
287 23.92 0.07 0.037 ( 0.062) 0.033 0.004
288 24.00 0.07 0.037 ( 0.062) 0.033 0.004
(Loss Rate Not Used)
Sum = 100.0 Sum = 29.5
Flood volume = Effective rainfall 2.46(In)
times area 29.2(Ac.)/[(In)/(Ft.)] = 6.0(Ac.Ft)
Total soil loss = 2.13(In)
Total soil loss = 5.193(Ac.Ft)
Total rainfall = 4.59(In)
Flood volume = 260273.1 Cubic Feet
Total soil loss = 226220.8 Cubic Feet

---

Peak flow rate of this hydrograph = 15.235(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

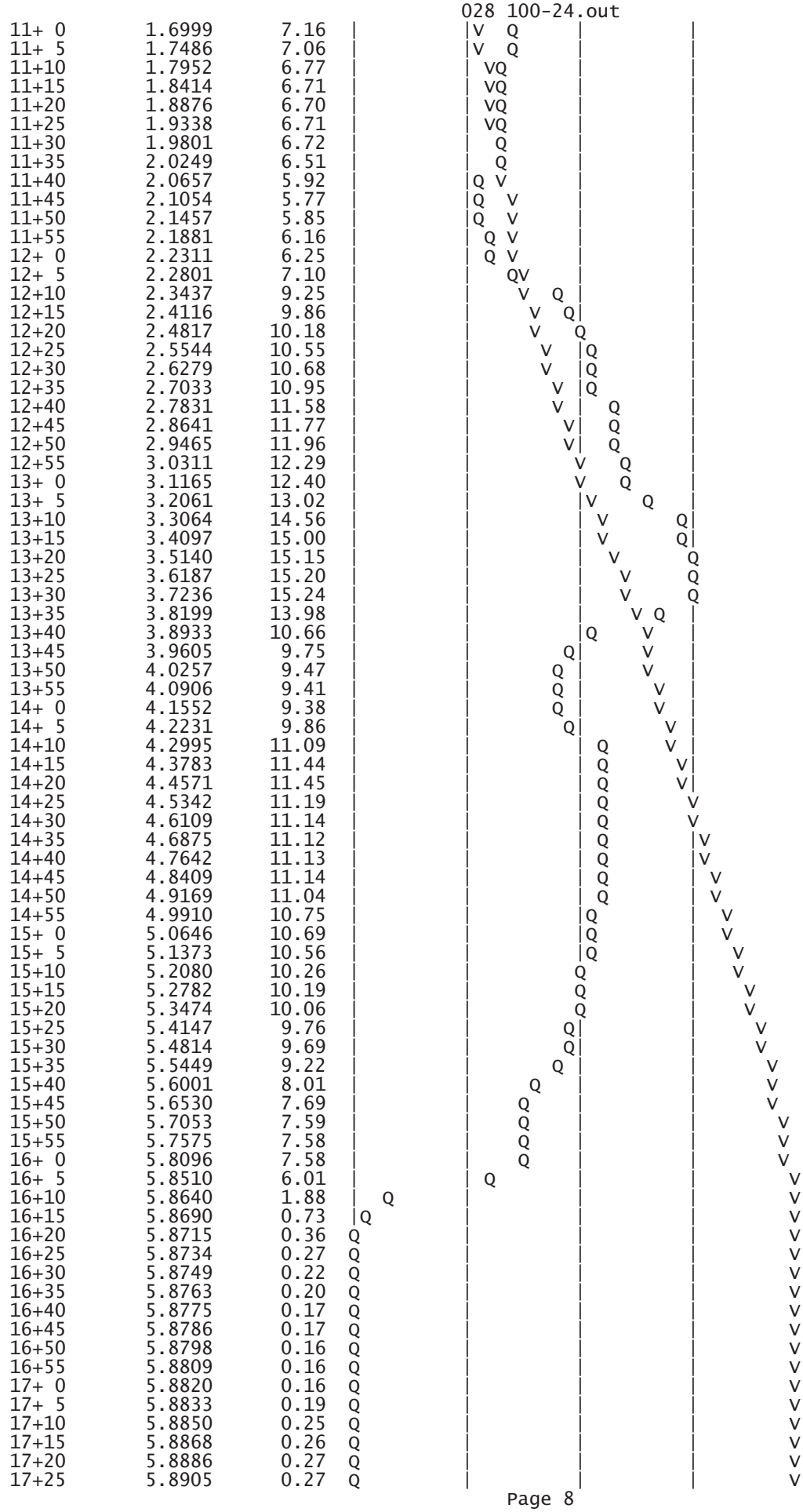
---

Hydrograph in 5 Minute intervals ((CFS))

---

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 5.0 | 10.0 | 15.0 | 20.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0002 | 0.02 | Q | | | | |
| 0+10 | 0.0007 | 0.08 | Q | | | | |
| 0+15 | 0.0014 | 0.10 | Q | | | | |
| 0+20 | 0.0022 | 0.12 | Q | | | | |
| 0+25 | 0.0033 | 0.15 | Q | | | | |
| 0+30 | 0.0044 | 0.16 | Q | | | | |
| 0+35 | 0.0055 | 0.16 | Q | | | | |
| 0+40 | 0.0066 | 0.16 | Q | | | | |
| 0+45 | 0.0077 | 0.16 | Q | | | | |
| 0+50 | 0.0089 | 0.17 | Q | | | | |
| 0+55 | 0.0103 | 0.20 | Q | | | | |
| 1+ 0 | 0.0118 | 0.21 | Q | | | | |
| 1+ 5 | 0.0132 | 0.20 | Q | | | | |
| 1+10 | 0.0144 | 0.17 | Q | | | | |
| 1+15 | 0.0155 | 0.17 | Q | | | | |
| 1+20 | 0.0166 | 0.16 | Q | | | | |
| 1+25 | 0.0177 | 0.16 | Q | | | | |
| 1+30 | 0.0189 | 0.16 | Q | | | | |
| 1+35 | 0.0200 | 0.16 | Q | | | | |
| 1+40 | 0.0211 | 0.16 | Q | | | | |
| 1+45 | 0.0222 | 0.16 | Q | | | | |
| 1+50 | 0.0234 | 0.17 | Q | | | | |
| 1+55 | 0.0248 | 0.20 | Q | | | | |
| 2+ 0 | 0.0263 | 0.21 | Q | | | | |
| 2+ 5 | 0.0278 | 0.22 | Q | | | | |
| 2+10 | 0.0292 | 0.22 | Q | | | | |
| 2+15 | 0.0307 | 0.22 | Q | | | | |
| 2+20 | 0.0322 | 0.22 | Q | | | | |
| 2+25 | 0.0337 | 0.22 | Q | | | | |
| 2+30 | 0.0352 | 0.22 | Q | | | | |
| 2+35 | 0.0368 | 0.23 | Q | | | | |
| 2+40 | 0.0385 | 0.26 | Q | | | | |
| 2+45 | 0.0404 | 0.27 | Q | | | | |
| 2+50 | 0.0422 | 0.27 | Q | | | | |
| 2+55 | 0.0441 | 0.27 | Q | | | | |
| 3+ 0 | 0.0460 | 0.27 | Q | | | | |
| 3+ 5 | 0.0478 | 0.27 | Q | | | | |
| 3+10 | 0.0497 | 0.27 | Q | | | | |
| 3+15 | 0.0515 | 0.27 | Q | | | | |
| 3+20 | 0.0534 | 0.27 | Q | | | | |
| 3+25 | 0.0553 | 0.27 | Q | | | | |
| 3+30 | 0.0571 | 0.27 | Q | | | | |
| 3+35 | 0.0590 | 0.27 | Q | | | | |
| 3+40 | 0.0608 | 0.27 | Q | | | | |
| 3+45 | 0.0627 | 0.27 | Q | | | | |
| 3+50 | 0.0647 | 0.28 | Q | | | | |
| 3+55 | 0.0668 | 0.31 | Q | | | | |
| 4+ 0 | 0.0690 | 0.32 | Q | | | | |
| 4+ 5 | 0.0712 | 0.32 | Q | | | | |
| 4+10 | 0.0735 | 0.32 | Q | | | | |
| 4+15 | 0.0757 | 0.32 | Q | | | | |
| 4+20 | 0.0780 | 0.34 | Q | | | | |
| 4+25 | 0.0805 | 0.37 | Q | | | | |

```
 4+30       0.0831      0.37  Q          |          |          |          |
 4+35       0.0857      0.38  Q          |          |          |          |
 4+40       0.0883      0.38  Q          |          |          |          |
 4+45       0.0909      0.38  Q          |          |          |          |
 4+50       0.0936      0.39  Q          |          |          |          |
 4+55       0.0965      0.42  Q          |          |          |          |
 5+ 0       0.0995      0.43  Q          |          |          |          |
 5+ 5       0.1023      0.41  Q          |          |          |          |
 5+10       0.1047      0.35  Q          |          |          |          |
 5+15       0.1070      0.33  Q          |          |          |          |
 5+20       0.1093      0.34  Q          |          |          |          |
 5+25       0.1118      0.37  Q          |          |          |          |
 5+30       0.1144      0.37  Q          |          |          |          |
 5+35       0.1171      0.39  Q          |          |          |          |
 5+40       0.1200      0.42  Q          |          |          |          |
 5+45       0.1229      0.43  Q          |          |          |          |
 5+50       0.1259      0.43  Q          |          |          |          |
 5+55       0.1289      0.43  Q          |          |          |          |
 6+ 0       0.1318      0.43  Q          |          |          |          |
 6+ 5       0.1349      0.44  Q          |          |          |          |
 6+10       0.1382      0.47  Q          |          |          |          |
 6+15       0.1415      0.48  Q          |          |          |          |
 6+20       0.1448      0.49  Q          |          |          |          |
 6+25       0.1482      0.49  Q          |          |          |          |
 6+30       0.1515      0.49  QV         |          |          |          |
 6+35       0.1552      0.54  |Q         |          |          |          |
 6+40       0.1600      0.69  |Q         |          |          |          |
 6+45       0.1651      0.74  |Q         |          |          |          |
 6+50       0.1704      0.77  |Q         |          |          |          |
 6+55       0.1759      0.80  |Q         |          |          |          |
 7+ 0       0.1815      0.82  |Q         |          |          |          |
 7+ 5       0.1873      0.84  |Q         |          |          |          |
 7+10       0.1932      0.86  |Q         |          |          |          |
 7+15       0.1993      0.88  |Q         |          |          |          |
 7+20       0.2063      1.02  |VQ        |          |          |          |
 7+25       0.2155      1.34  |VQ        |          |          |          |
 7+30       0.2255      1.45  |VQ        |          |          |          |
 7+35       0.2365      1.61  |V Q       |          |          |          |
 7+40       0.2499      1.94  |V Q       |          |          |          |
 7+45       0.2640      2.05  |V  Q      |          |          |          |
 7+50       0.2792      2.21  |V  Q      |          |          |          |
 7+55       0.2967      2.54  |V   Q     |          |          |          |
 8+ 0       0.3149      2.65  | V  Q     |          |          |          |
 8+ 5       0.3351      2.93  | V  Q     |          |          |          |
 8+10       0.3596      3.56  | V    Q   |          |          |          |
 8+15       0.3854      3.75  | V    Q   |          |          |          |
 8+20       0.4118      3.83  | V    Q   |          |          |          |
 8+25       0.4384      3.86  | V    Q   |          |          |          |
 8+30       0.4651      3.89  |  V   Q   |          |          |          |
 8+35       0.4928      4.02  |  V    Q  |          |          |          |
 8+40       0.5228      4.35  |  V    Q  |          |          |          |
 8+45       0.5534      4.45  |  V    Q  |          |          |          |
 8+50       0.5852      4.61  |  V     Q |          |          |          |
 8+55       0.6192      4.94  |   V    Q |          |          |          |
 9+ 0       0.6539      5.05  |   V     Q          |          |          |
 9+ 5       0.6906      5.33  |   V     Q          |          |          |
 9+10       0.7316      5.96  |   V     |Q         |          |          |
 9+15       0.7740      6.15  |    V    | Q        |          |          |
 9+20       0.8176      6.34  |    V    | Q        |          |          |
 9+25       0.8636      6.67  |    V    |  Q       |          |          |
 9+30       0.9103      6.79  |     V   |  Q       |          |          |
 9+35       0.9582      6.95  |     V   |  Q       |          |          |
 9+40       1.0083      7.28  |     V   |   Q      |          |          |
 9+45       1.0591      7.38  |      V  |   Q      |          |          |
 9+50       1.1111      7.54  |      V  |    Q     |          |          |
 9+55       1.1653      7.87  |      V  |    Q     |          |          |
10+ 0       1.2203      7.98  |       V |    Q     |          |          |
10+ 5       1.2700      7.22  |       V |   Q      |          |          |
10+10       1.3052      5.12  |       V Q          |          |          |
10+15       1.3366      4.56  |       VQ|          |          |          |
10+20       1.3668      4.38  |       QV|          |          |          |
10+25       1.3968      4.36  |       QV|          |          |          |
10+30       1.4267      4.35  |       QV|          |          |          |
10+35       1.4608      4.94  |        Q|          |          |          |
10+40       1.5054      6.47  |         V Q        |          |          |
10+45       1.5530      6.91  |         V  Q       |          |          |
10+50       1.6016      7.07  |         V   Q      |          |          |
10+55       1.6507      7.12  |         |V  Q      |          |          |
```



| | | | |
|---|---|---|---|
| 11+ 0 | 1.6999 | 7.16 | |
| 11+ 5 | 1.7486 | 7.06 | |
| 11+10 | 1.7952 | 6.77 | |
| 11+15 | 1.8414 | 6.71 | |
| 11+20 | 1.8876 | 6.70 | |
| 11+25 | 1.9338 | 6.71 | |
| 11+30 | 1.9801 | 6.72 | |
| 11+35 | 2.0249 | 6.51 | |
| 11+40 | 2.0657 | 5.92 | |
| 11+45 | 2.1054 | 5.77 | |
| 11+50 | 2.1457 | 5.85 | |
| 11+55 | 2.1881 | 6.16 | |
| 12+ 0 | 2.2311 | 6.25 | |
| 12+ 5 | 2.2801 | 7.10 | |
| 12+10 | 2.3437 | 9.25 | |
| 12+15 | 2.4116 | 9.86 | |
| 12+20 | 2.4817 | 10.18 | |
| 12+25 | 2.5544 | 10.55 | |
| 12+30 | 2.6279 | 10.68 | |
| 12+35 | 2.7033 | 10.95 | |
| 12+40 | 2.7831 | 11.58 | |
| 12+45 | 2.8641 | 11.77 | |
| 12+50 | 2.9465 | 11.96 | |
| 12+55 | 3.0311 | 12.29 | |
| 13+ 0 | 3.1165 | 12.40 | |
| 13+ 5 | 3.2061 | 13.02 | |
| 13+10 | 3.3064 | 14.56 | |
| 13+15 | 3.4097 | 15.00 | |
| 13+20 | 3.5140 | 15.15 | |
| 13+25 | 3.6187 | 15.20 | |
| 13+30 | 3.7236 | 15.24 | |
| 13+35 | 3.8199 | 13.98 | |
| 13+40 | 3.8933 | 10.66 | |
| 13+45 | 3.9605 | 9.75 | |
| 13+50 | 4.0257 | 9.47 | |
| 13+55 | 4.0906 | 9.41 | |
| 14+ 0 | 4.1552 | 9.38 | |
| 14+ 5 | 4.2231 | 9.86 | |
| 14+10 | 4.2995 | 11.09 | |
| 14+15 | 4.3783 | 11.44 | |
| 14+20 | 4.4571 | 11.45 | |
| 14+25 | 4.5342 | 11.19 | |
| 14+30 | 4.6109 | 11.14 | |
| 14+35 | 4.6875 | 11.12 | |
| 14+40 | 4.7642 | 11.13 | |
| 14+45 | 4.8409 | 11.14 | |
| 14+50 | 4.9169 | 11.04 | |
| 14+55 | 4.9910 | 10.75 | |
| 15+ 0 | 5.0646 | 10.69 | |
| 15+ 5 | 5.1373 | 10.56 | |
| 15+10 | 5.2080 | 10.26 | |
| 15+15 | 5.2782 | 10.19 | |
| 15+20 | 5.3474 | 10.06 | |
| 15+25 | 5.4147 | 9.76 | |
| 15+30 | 5.4814 | 9.69 | |
| 15+35 | 5.5449 | 9.22 | |
| 15+40 | 5.6001 | 8.01 | |
| 15+45 | 5.6530 | 7.69 | |
| 15+50 | 5.7053 | 7.59 | |
| 15+55 | 5.7575 | 7.58 | |
| 16+ 0 | 5.8096 | 7.58 | |
| 16+ 5 | 5.8510 | 6.01 | |
| 16+10 | 5.8640 | 1.88 | |
| 16+15 | 5.8690 | 0.73 | |
| 16+20 | 5.8715 | 0.36 | |
| 16+25 | 5.8734 | 0.27 | |
| 16+30 | 5.8749 | 0.22 | |
| 16+35 | 5.8763 | 0.20 | |
| 16+40 | 5.8775 | 0.17 | |
| 16+45 | 5.8786 | 0.17 | |
| 16+50 | 5.8798 | 0.16 | |
| 16+55 | 5.8809 | 0.16 | |
| 17+ 0 | 5.8820 | 0.16 | |
| 17+ 5 | 5.8833 | 0.19 | |
| 17+10 | 5.8850 | 0.25 | |
| 17+15 | 5.8868 | 0.26 | |
| 17+20 | 5.8886 | 0.27 | |
| 17+25 | 5.8905 | 0.27 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+30 | 5.8923 | 0.27 | Q | \| | \| | \| | V\| |
| 17+35 | 5.8942 | 0.27 | Q | \| | \| | \| | V\| |
| 17+40 | 5.8961 | 0.27 | Q | \| | \| | \| | V\| |
| 17+45 | 5.8980 | 0.28 | Q | \| | \| | \| | V\| |
| 17+50 | 5.8999 | 0.27 | Q | \| | \| | \| | V\| |
| 17+55 | 5.9015 | 0.23 | Q | \| | \| | \| | V\| |
| 18+ 0 | 5.9030 | 0.22 | Q | \| | \| | \| | V\| |
| 18+ 5 | 5.9045 | 0.22 | Q | \| | \| | \| | V\| |
| 18+10 | 5.9060 | 0.22 | Q | \| | \| | \| | V\| |
| 18+15 | 5.9075 | 0.22 | Q | \| | \| | \| | V\| |
| 18+20 | 5.9090 | 0.22 | Q | \| | \| | \| | V\| |
| 18+25 | 5.9105 | 0.22 | Q | \| | \| | \| | V\| |
| 18+30 | 5.9120 | 0.22 | Q | \| | \| | \| | V\| |
| 18+35 | 5.9134 | 0.20 | Q | \| | \| | \| | V\| |
| 18+40 | 5.9146 | 0.17 | Q | \| | \| | \| | V\| |
| 18+45 | 5.9157 | 0.17 | Q | \| | \| | \| | V\| |
| 18+50 | 5.9168 | 0.15 | Q | \| | \| | \| | V\| |
| 18+55 | 5.9176 | 0.12 | Q | \| | \| | \| | V\| |
| 19+ 0 | 5.9184 | 0.11 | Q | \| | \| | \| | V\| |
| 19+ 5 | 5.9192 | 0.12 | Q | \| | \| | \| | V\| |
| 19+10 | 5.9202 | 0.15 | Q | \| | \| | \| | V\| |
| 19+15 | 5.9213 | 0.16 | Q | \| | \| | \| | V\| |
| 19+20 | 5.9225 | 0.17 | Q | \| | \| | \| | V\| |
| 19+25 | 5.9239 | 0.20 | Q | \| | \| | \| | V\| |
| 19+30 | 5.9254 | 0.21 | Q | \| | \| | \| | V\| |
| 19+35 | 5.9268 | 0.20 | Q | \| | \| | \| | V\| |
| 19+40 | 5.9280 | 0.17 | Q | \| | \| | \| | V\| |
| 19+45 | 5.9291 | 0.17 | Q | \| | \| | \| | V\| |
| 19+50 | 5.9302 | 0.15 | Q | \| | \| | \| | V\| |
| 19+55 | 5.9310 | 0.12 | Q | \| | \| | \| | V\| |
| 20+ 0 | 5.9318 | 0.11 | Q | \| | \| | \| | V\| |
| 20+ 5 | 5.9326 | 0.12 | Q | \| | \| | \| | V\| |
| 20+10 | 5.9336 | 0.15 | Q | \| | \| | \| | V\| |
| 20+15 | 5.9347 | 0.16 | Q | \| | \| | \| | V\| |
| 20+20 | 5.9358 | 0.16 | Q | \| | \| | \| | V\| |
| 20+25 | 5.9370 | 0.16 | Q | \| | \| | \| | V\| |
| 20+30 | 5.9381 | 0.16 | Q | \| | \| | \| | V\| |
| 20+35 | 5.9392 | 0.16 | Q | \| | \| | \| | V\| |
| 20+40 | 5.9403 | 0.16 | Q | \| | \| | \| | V\| |
| 20+45 | 5.9414 | 0.16 | Q | \| | \| | \| | V\| |
| 20+50 | 5.9425 | 0.15 | Q | \| | \| | \| | V\| |
| 20+55 | 5.9433 | 0.12 | Q | \| | \| | \| | V\| |
| 21+ 0 | 5.9441 | 0.11 | Q | \| | \| | \| | V\| |
| 21+ 5 | 5.9449 | 0.12 | Q | \| | \| | \| | V\| |
| 21+10 | 5.9459 | 0.15 | Q | \| | \| | \| | V\| |
| 21+15 | 5.9470 | 0.16 | Q | \| | \| | \| | V\| |
| 21+20 | 5.9480 | 0.15 | Q | \| | \| | \| | V\| |
| 21+25 | 5.9489 | 0.12 | Q | \| | \| | \| | V\| |
| 21+30 | 5.9496 | 0.11 | Q | \| | \| | \| | V\| |
| 21+35 | 5.9505 | 0.12 | Q | \| | \| | \| | V\| |
| 21+40 | 5.9515 | 0.15 | Q | \| | \| | \| | V\| |
| 21+45 | 5.9526 | 0.16 | Q | \| | \| | \| | V\| |
| 21+50 | 5.9536 | 0.15 | Q | \| | \| | \| | V\| |
| 21+55 | 5.9545 | 0.12 | Q | \| | \| | \| | V\| |
| 22+ 0 | 5.9552 | 0.11 | Q | \| | \| | \| | V\| |
| 22+ 5 | 5.9561 | 0.12 | Q | \| | \| | \| | V\| |
| 22+10 | 5.9571 | 0.15 | Q | \| | \| | \| | V\| |
| 22+15 | 5.9582 | 0.16 | Q | \| | \| | \| | V\| |
| 22+20 | 5.9592 | 0.15 | Q | \| | \| | \| | V\| |
| 22+25 | 5.9600 | 0.12 | Q | \| | \| | \| | V\| |
| 22+30 | 5.9608 | 0.11 | Q | \| | \| | \| | V\| |
| 22+35 | 5.9616 | 0.11 | Q | \| | \| | \| | V\| |
| 22+40 | 5.9623 | 0.11 | Q | \| | \| | \| | V\| |
| 22+45 | 5.9631 | 0.11 | Q | \| | \| | \| | V\| |
| 22+50 | 5.9638 | 0.11 | Q | \| | \| | \| | V\| |
| 22+55 | 5.9645 | 0.11 | Q | \| | \| | \| | V\| |
| 23+ 0 | 5.9653 | 0.11 | Q | \| | \| | \| | V\| |
| 23+ 5 | 5.9660 | 0.11 | Q | \| | \| | \| | V\| |
| 23+10 | 5.9668 | 0.11 | Q | \| | \| | \| | V\| |
| 23+15 | 5.9675 | 0.11 | Q | \| | \| | \| | V\| |
| 23+20 | 5.9683 | 0.11 | Q | \| | \| | \| | V\| |
| 23+25 | 5.9690 | 0.11 | Q | \| | \| | \| | V\| |
| 23+30 | 5.9698 | 0.11 | Q | \| | \| | \| | V\| |
| 23+35 | 5.9705 | 0.11 | Q | \| | \| | \| | V\| |
| 23+40 | 5.9712 | 0.11 | Q | \| | \| | \| | V\| |
| 23+45 | 5.9720 | 0.11 | Q | \| | \| | \| | V\| |
| 23+50 | 5.9727 | 0.11 | Q | \| | \| | \| | V\| |
| 23+55 | 5.9735 | 0.11 | Q | \| | \| | \| | V\| |

```
   24+ 0       5.9742      0.11  Q         |          |          |        V|
   24+ 5       5.9748      0.08  Q         |          |          |        V|
   24+10       5.9750      0.02  Q         |          |          |        V|
   24+15       5.9750      0.01  Q         |          |          |        V|
   24+20       5.9750      0.00  Q         |          |          |        V|
   24+25       5.9750      0.00  Q         |          |          |        V|
-------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014, Version 9.0
Study date 12/21/17 File: EX291100.out

++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
----------------------------------------------------------------------

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 29
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 2.00(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.00(Ac.) = 0.003 Sq. Mi.
Length along longest watercourse = 596.00(Ft.)
Length along longest watercourse measured to centroid = 340.00(Ft.)
Length along longest watercourse = 0.113 Mi.
Length along longest watercourse measured to centroid = 0.064 Mi.
Difference in elevation = 182.00(Ft.)
Slope along watercourse = 1612.3490 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.032 Hr.
Lag time = 1.91 Min.
25% of lag time = 0.48 Min.
40% of lag time = 0.76 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.00 | 0.50 | 1.00 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.00 | 1.20 | 2.40 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2.000 | 84.00 | 0.000 |

Total Area Entered = 2.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

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| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 262.182 | 52.786 | 1.064 |
| 2 | 0.167 | 524.364 | 43.850 | 0.884 |
| 3 | 0.250 | 786.546 | 3.364 | 0.068 |
| | | Sum = 100.000 | Sum= | 2.016 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.086 | ( 0.544) | 0.519 |
| 2 | 0.17 | 4.30 | 0.619 | 0.086 | ( 0.557) | 0.533 |
| 3 | 0.25 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 4 | 0.33 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 5 | 0.42 | 5.80 | 0.835 | 0.086 | ( 0.752) | 0.749 |
| 6 | 0.50 | 6.50 | 0.936 | 0.086 | ( 0.842) | 0.850 |
| 7 | 0.58 | 7.40 | 1.066 | 0.086 | ( 0.959) | 0.980 |
| 8 | 0.67 | 8.60 | 1.238 | 0.086 | ( 1.115) | 1.153 |
| 9 | 0.75 | 12.30 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 10 | 0.83 | 29.10 | 4.190 | 0.086 | ( 3.771) | 4.105 |
| 11 | 0.92 | 6.80 | 0.979 | 0.086 | ( 0.881) | 0.893 |
| 12 | 1.00 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 13.4 |

Flood volume = Effective rainfall 1.11(In)
times area 2.0(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.014(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 8088.9 Cubic Feet
Total soil loss = 622.9 Cubic Feet

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Peak flow rate of this hydrograph = 5.938(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0038 | 0.55 | V Q | | | | |
| 0+10 | 0.0109 | 1.03 | \| V Q | | | | |
| 0+15 | 0.0190 | 1.18 | \| Q | | | | |
| 0+20 | 0.0278 | 1.27 | \| Q | | | | |
| 0+25 | 0.0374 | 1.40 | \| Q V | | | | |
| 0+30 | 0.0485 | 1.61 | \| Q V | | | | |
| 0+35 | 0.0612 | 1.85 | \| Q \| V | | | | |
| 0+40 | 0.0760 | 2.15 | \| Q \| V | | | | |
| 0+45 | 0.0959 | 2.88 | \| Q V | | | | |
| 0+50 | 0.1368 | 5.94 | \| \| \| Q V | | | | |
| 0+55 | 0.1691 | 4.70 | \| \| Q \| \| V | | |
| 1+ 0 | 0.1811 | 1.74 | \| Q \| \| V | |
| 1+ 5 | 0.1854 | 0.62 | \| Q \| \| V | |
| 1+10 | 0.1857 | 0.04 | Q \| \| \| V |

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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX293100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 29
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 2.00(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.00(Ac.) = 0.003 Sq. Mi.
Length along longest watercourse = 596.00(Ft.)
Length along longest watercourse measured to centroid = 340.00(Ft.)
Length along longest watercourse = 0.113 Mi.
Length along longest watercourse measured to centroid = 0.064 Mi.
Difference in elevation = 182.00(Ft.)
Slope along watercourse = 1612.3490 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.032 Hr.
Lag time = 1.91 Min.
25% of lag time = 0.48 Min.
40% of lag time = 0.76 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.00 | 0.80 | 1.60 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.00 | 1.80 | 3.60 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2.000 | 84.00 | 0.000 |

Total Area Entered = 2.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 262.182 | 52.786 | 1.064 |
| 2 0.167 | 524.364 | 43.850 | 0.884 |
| 3 0.250 | 786.546 | 3.364 | 0.068 |
| | Sum = | 100.000 Sum= | 2.016 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.281 | 0.086 | ( 0.253) | 0.195 |
| 2 | 0.17 | 1.30 | 0.281 | 0.086 | ( 0.253) | 0.195 |
| 3 | 0.25 | 1.10 | 0.238 | 0.086 | ( 0.214) | 0.152 |
| 4 | 0.33 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 5 | 0.42 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 6 | 0.50 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 7 | 0.58 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 8 | 0.67 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 9 | 0.75 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 10 | 0.83 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 11 | 0.92 | 1.60 | 0.346 | 0.086 | ( 0.311) | 0.260 |
| 12 | 1.00 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 13 | 1.08 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 14 | 1.17 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 15 | 1.25 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 16 | 1.33 | 2.00 | 0.432 | 0.086 | ( 0.389) | 0.346 |
| 17 | 1.42 | 2.60 | 0.562 | 0.086 | ( 0.505) | 0.476 |
| 18 | 1.50 | 2.70 | 0.583 | 0.086 | ( 0.525) | 0.497 |
| 19 | 1.58 | 2.40 | 0.518 | 0.086 | ( 0.467) | 0.433 |
| 20 | 1.67 | 2.70 | 0.583 | 0.086 | ( 0.525) | 0.497 |
| 21 | 1.75 | 3.30 | 0.713 | 0.086 | ( 0.642) | 0.627 |
| 22 | 1.83 | 3.10 | 0.670 | 0.086 | ( 0.603) | 0.584 |
| 23 | 1.92 | 2.90 | 0.626 | 0.086 | ( 0.564) | 0.541 |
| 24 | 2.00 | 3.00 | 0.648 | 0.086 | ( 0.583) | 0.562 |
| 25 | 2.08 | 3.10 | 0.670 | 0.086 | ( 0.603) | 0.584 |
| 26 | 2.17 | 4.20 | 0.907 | 0.086 | ( 0.816) | 0.821 |
| 27 | 2.25 | 5.00 | 1.080 | 0.086 | ( 0.972) | 0.994 |
| 28 | 2.33 | 3.50 | 0.756 | 0.086 | ( 0.680) | 0.670 |
| 29 | 2.42 | 6.80 | 1.469 | 0.086 | ( 1.322) | 1.383 |
| 30 | 2.50 | 7.30 | 1.577 | 0.086 | ( 1.419) | 1.491 |
| 31 | 2.58 | 8.20 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 32 | 2.67 | 5.90 | 1.274 | 0.086 | ( 1.147) | 1.189 |
| 33 | 2.75 | 2.00 | 0.432 | 0.086 | ( 0.389) | 0.346 |
| 34 | 2.83 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 35 | 2.92 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 36 | 3.00 | 0.60 | 0.130 | 0.086 | ( 0.117) | 0.044 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 18.5 |

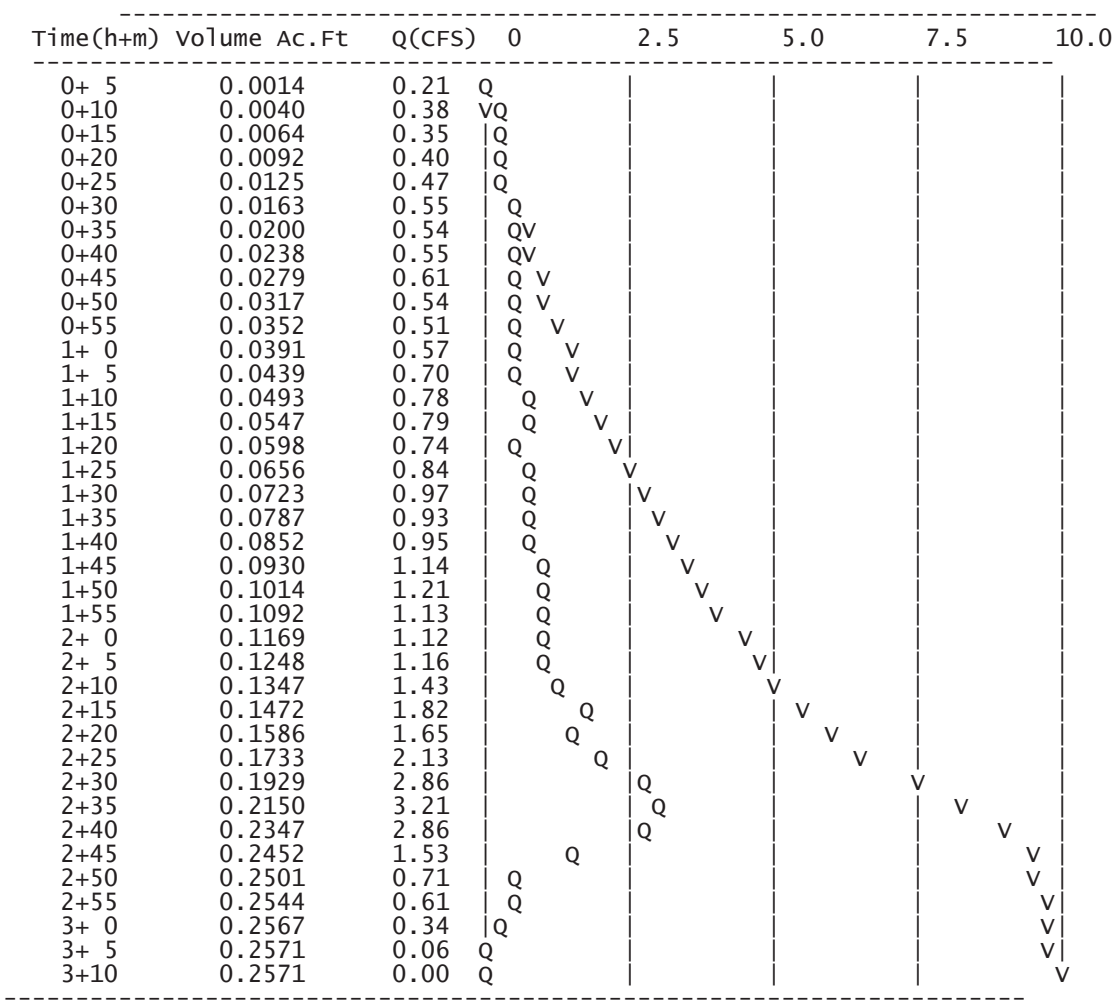
Flood volume = Effective rainfall 1.54(In)
times area 2.0(Ac.)/[(In)/(Ft.)] = 0.3(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.043(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 11199.2 Cubic Feet
Total soil loss = 1868.7 Cubic Feet

Peak flow rate of this hydrograph = 3.206(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))


Time(h+m) Volume Ac.Ft Q(CFS) 0 2.5 5.0 7.5 10.0
0+ 5 0.0014 0.21
0+10 0.0040 0.38
0+15 0.0064 0.35
0+20 0.0092 0.40
0+25 0.0125 0.47
0+30 0.0163 0.55
0+35 0.0200 0.54
0+40 0.0238 0.55
0+45 0.0279 0.61
0+50 0.0317 0.54
0+55 0.0352 0.51
1+ 0 0.0391 0.57
1+ 5 0.0439 0.70
1+10 0.0493 0.78
1+15 0.0547 0.79
1+20 0.0598 0.74
1+25 0.0656 0.84
1+30 0.0723 0.97
1+35 0.0787 0.93
1+40 0.0852 0.95
1+45 0.0930 1.14
1+50 0.1014 1.21
1+55 0.1092 1.13
2+ 0 0.1169 1.12
2+ 5 0.1248 1.16
2+10 0.1347 1.43
2+15 0.1472 1.82
2+20 0.1586 1.65
2+25 0.1733 2.13
2+30 0.1929 2.86
2+35 0.2150 3.21
2+40 0.2347 2.86
2+45 0.2452 1.53
2+50 0.2501 0.71
2+55 0.2544 0.61
3+ 0 0.2567 0.34
3+ 5 0.2571 0.06
3+10 0.2571 0.00

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX296100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 29
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 2.00(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.00(Ac.) = 0.003 Sq. Mi.
Length along longest watercourse = 596.00(Ft.)
Length along longest watercourse measured to centroid = 340.00(Ft.)
Length along longest watercourse = 0.113 Mi.
Length along longest watercourse measured to centroid = 0.064 Mi.
Difference in elevation = 182.00(Ft.)
Slope along watercourse = 1612.3490 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.032 Hr.
Lag time = 1.91 Min.
25% of lag time = 0.48 Min.
40% of lag time = 0.76 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.00 | 1.13 | 2.26 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.00 | 2.50 | 5.00 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.130(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2.000 | 84.00 | 0.000 |

Total Area Entered = 2.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 262.182 | 52.786 | 1.064 |
| 2 | 0.167 | 524.364 | 43.850 | 0.884 |
| 3 | 0.250 | 786.546 | 3.364 | 0.068 |
| | | | Sum = 100.000 Sum= | 2.016 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.086 | ( 0.135) | 0.064 |
| 2 | 0.17 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 3 | 0.25 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 4 | 0.33 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 5 | 0.42 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 6 | 0.50 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 7 | 0.58 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 8 | 0.67 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 9 | 0.75 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 10 | 0.83 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 11 | 0.92 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 12 | 1.00 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 13 | 1.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 14 | 1.17 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 15 | 1.25 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 16 | 1.33 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 17 | 1.42 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 18 | 1.50 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 19 | 1.58 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 20 | 1.67 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 21 | 1.75 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 22 | 1.83 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 23 | 1.92 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 24 | 2.00 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 25 | 2.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 26 | 2.17 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 27 | 2.25 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 28 | 2.33 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 29 | 2.42 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 30 | 2.50 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 31 | 2.58 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 32 | 2.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 33 | 2.75 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 34 | 2.83 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 35 | 2.92 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 36 | 3.00 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 37 | 3.08 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 38 | 3.17 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 39 | 3.25 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 40 | 3.33 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 41 | 3.42 | 1.20 | 0.360 | 0.086 | ( 0.324) | 0.274 |
| 42 | 3.50 | 1.30 | 0.390 | 0.086 | ( 0.351) | 0.304 |
| 43 | 3.58 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 44 | 3.67 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 45 | 3.75 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 46 | 3.83 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 47 | 3.92 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 48 | 4.00 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 49 | 4.08 | 1.70 | 0.510 | 0.086 | ( 0.459) | 0.424 |
| 50 | 4.17 | 1.80 | 0.540 | 0.086 | ( 0.486) | 0.454 |
| 51 | 4.25 | 1.90 | 0.570 | 0.086 | ( 0.513) | 0.484 |
| 52 | 4.33 | 2.00 | 0.600 | 0.086 | ( 0.540) | 0.514 |
| 53 | 4.42 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 54 | 4.50 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 |
| 55 | 4.58 | 2.20 | 0.660 | 0.086 | ( 0.594) | 0.574 |
| 56 | 4.67 | 2.30 | 0.690 | 0.086 | ( 0.621) | 0.604 |
| 57 | 4.75 | 2.40 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 58 | 4.83 | 2.40 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 59 | 4.92 | 2.50 | 0.750 | 0.086 | ( 0.675) | 0.664 |
| 60 | 5.00 | 2.60 | 0.780 | 0.086 | ( 0.702) | 0.694 |
| 61 | 5.08 | 3.10 | 0.930 | 0.086 | ( 0.837) | 0.844 |
| 62 | 5.17 | 3.60 | 1.080 | 0.086 | ( 0.972) | 0.994 |
| 63 | 5.25 | 3.90 | 1.170 | 0.086 | ( 1.053) | 1.084 |
| 64 | 5.33 | 4.20 | 1.260 | 0.086 | ( 1.134) | 1.174 |
| 65 | 5.42 | 4.70 | 1.410 | 0.086 | ( 1.269) | 1.324 |
| 66 | 5.50 | 5.60 | 1.680 | 0.086 | ( 1.512) | 1.594 |
| 67 | 5.58 | 1.90 | 0.570 | 0.086 | ( 0.513) | 0.484 |
| 68 | 5.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 69 | 5.75 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 70 | 5.83 | 0.50 | 0.150 | 0.086 | ( 0.135) | 0.064 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.086) | 0.081 | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.086) | 0.054 | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.9

Flood volume = Effective rainfall 1.99(In)
times area 2.0(Ac.)/[(In)/(Ft.)] = 0.3(Ac.Ft)
Total soil loss = 0.51(In)
Total soil loss = 0.085(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 14434.6 Cubic Feet
Total soil loss = 3715.3 Cubic Feet

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Peak flow rate of this hydrograph = 2.948(CFS)

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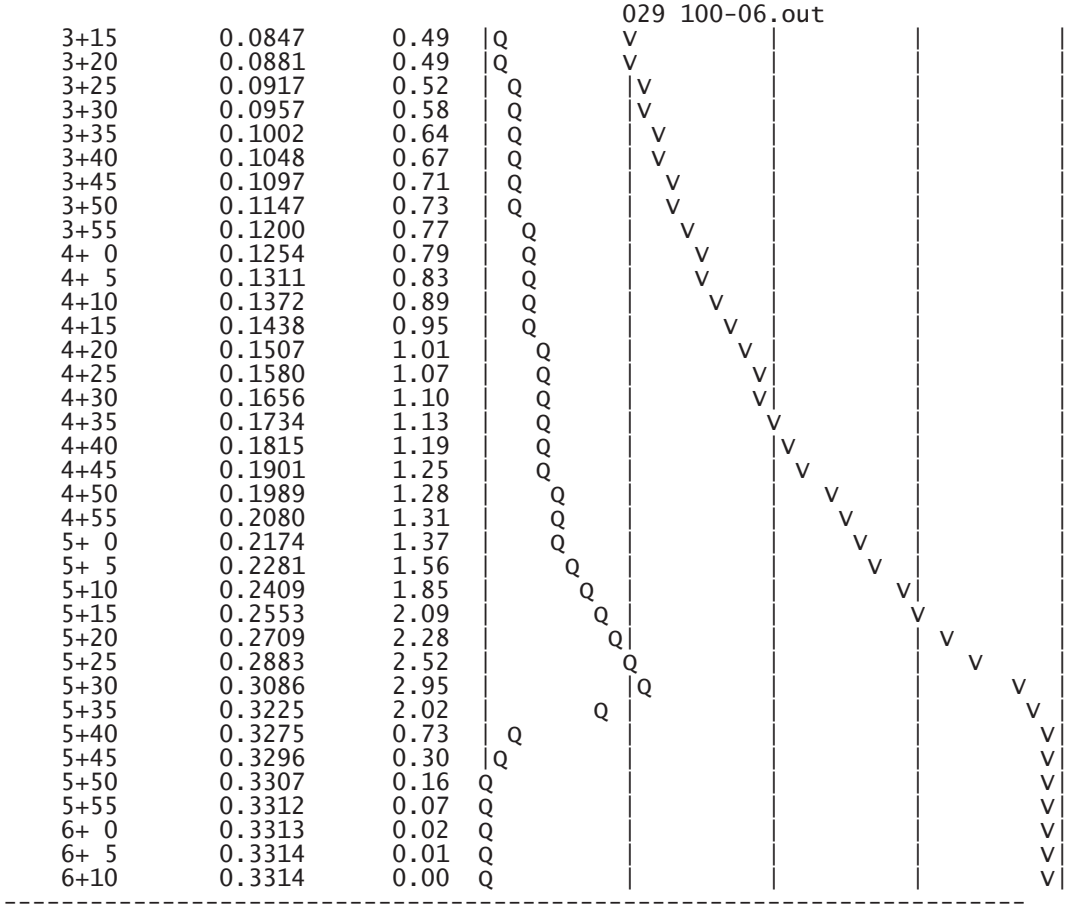
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0005 | 0.07 | Q | | | | |
| 0+10 | 0.0016 | 0.16 | Q | | | | |
| 0+15 | 0.0028 | 0.19 | Q | | | | |
| 0+20 | 0.0042 | 0.19 | Q | | | | |
| 0+25 | 0.0055 | 0.19 | Q | | | | |
| 0+30 | 0.0070 | 0.22 | Q | | | | |
| 0+35 | 0.0087 | 0.25 | QV | | | | |
| 0+40 | 0.0104 | 0.25 | \|Q | | | | |
| 0+45 | 0.0122 | 0.25 | \|Q | | | | |
| 0+50 | 0.0139 | 0.25 | \|Q | | | | |
| 0+55 | 0.0156 | 0.25 | \|Q | | | | |
| 1+ 0 | 0.0175 | 0.28 | \|QV | | | | |
| 1+ 5 | 0.0197 | 0.31 | \|QV | | | | |
| 1+10 | 0.0218 | 0.31 | \|QV | | | | |
| 1+15 | 0.0240 | 0.31 | \|QV | | | | |
| 1+20 | 0.0261 | 0.31 | \|Q V | | | | |
| 1+25 | 0.0282 | 0.31 | \|Q V | | | | |
| 1+30 | 0.0304 | 0.31 | \|Q V | | | | |
| 1+35 | 0.0325 | 0.31 | \|Q V | | | | |
| 1+40 | 0.0347 | 0.31 | \|Q V | | | | |
| 1+45 | 0.0368 | 0.31 | \|Q V | | | | |
| 1+50 | 0.0389 | 0.31 | \|Q V | | | | |
| 1+55 | 0.0411 | 0.31 | \|Q V | | | | |
| 2+ 0 | 0.0435 | 0.34 | \|Q V | | | | |
| 2+ 5 | 0.0458 | 0.34 | \|Q V | | | | |
| 2+10 | 0.0482 | 0.34 | \|Q V | | | | |
| 2+15 | 0.0507 | 0.37 | \|Q V | | | | |
| 2+20 | 0.0533 | 0.37 | \|Q V | | | | |
| 2+25 | 0.0558 | 0.37 | \|Q V | | | | |
| 2+30 | 0.0584 | 0.37 | \|Q V | | | | |
| 2+35 | 0.0609 | 0.37 | \|Q V | | | | |
| 2+40 | 0.0635 | 0.37 | \|Q V | | | | |
| 2+45 | 0.0663 | 0.40 | \|Q V | | | | |
| 2+50 | 0.0692 | 0.43 | \|Q V | | | | |
| 2+55 | 0.0722 | 0.43 | \|Q V | | | | |
| 3+ 0 | 0.0752 | 0.43 | \|Q V | | | | |
| 3+ 5 | 0.0782 | 0.43 | \|Q V | | | | |
| 3+10 | 0.0813 | 0.46 | \|Q V | | | | |



| | | | |
|---|---|---|---|
| 3+15 | 0.0847 | 0.49 | |
| 3+20 | 0.0881 | 0.49 | |
| 3+25 | 0.0917 | 0.52 | |
| 3+30 | 0.0957 | 0.58 | |
| 3+35 | 0.1002 | 0.64 | |
| 3+40 | 0.1048 | 0.67 | |
| 3+45 | 0.1097 | 0.71 | |
| 3+50 | 0.1147 | 0.73 | |
| 3+55 | 0.1200 | 0.77 | |
| 4+ 0 | 0.1254 | 0.79 | |
| 4+ 5 | 0.1311 | 0.83 | |
| 4+10 | 0.1372 | 0.89 | |
| 4+15 | 0.1438 | 0.95 | |
| 4+20 | 0.1507 | 1.01 | |
| 4+25 | 0.1580 | 1.07 | |
| 4+30 | 0.1656 | 1.10 | |
| 4+35 | 0.1734 | 1.13 | |
| 4+40 | 0.1815 | 1.19 | |
| 4+45 | 0.1901 | 1.25 | |
| 4+50 | 0.1989 | 1.28 | |
| 4+55 | 0.2080 | 1.31 | |
| 5+ 0 | 0.2174 | 1.37 | |
| 5+ 5 | 0.2281 | 1.56 | |
| 5+10 | 0.2409 | 1.85 | |
| 5+15 | 0.2553 | 2.09 | |
| 5+20 | 0.2709 | 2.28 | |
| 5+25 | 0.2883 | 2.52 | |
| 5+30 | 0.3086 | 2.95 | |
| 5+35 | 0.3225 | 2.02 | |
| 5+40 | 0.3275 | 0.73 | |
| 5+45 | 0.3296 | 0.30 | |
| 5+50 | 0.3307 | 0.16 | |
| 5+55 | 0.3312 | 0.07 | |
| 6+ 0 | 0.3313 | 0.02 | |
| 6+ 5 | 0.3314 | 0.01 | |
| 6+10 | 0.3314 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX2924100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 29
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 2.00(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.00(Ac.) = 0.003 Sq. Mi.
Length along longest watercourse = 596.00(Ft.)
Length along longest watercourse measured to centroid = 340.00(Ft.)
Length along longest watercourse = 0.113 Mi.
Length along longest watercourse measured to centroid = 0.064 Mi.
Difference in elevation = 182.00(Ft.)
Slope along watercourse = 1612.3490 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.032 Hr.
Lag time = 1.91 Min.
25% of lag time = 0.48 Min.
40% of lag time = 0.76 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.00 | 1.80 | 3.60 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.00 | 4.59 | 9.18 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.590(In)

Point rain (area averaged) = 4.590(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.590(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2.000 | 84.00 | 0.000 |

Total Area Entered = 2.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 262.182 | 52.786 | 1.064 |
| 2 | 0.167 | 524.364 | 43.850 | 0.884 |
| 3 | 0.250 | 786.546 | 3.364 | 0.068 |
| | | | Sum = 100.000 Sum= | 2.016 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.037 | ( 0.152) | 0.033 | 0.004 |
| 2 | 0.17 | 0.07 | 0.037 | ( 0.152) | 0.033 | 0.004 |
| 3 | 0.25 | 0.07 | 0.037 | ( 0.151) | 0.033 | 0.004 |
| 4 | 0.33 | 0.10 | 0.055 | ( 0.150) | 0.050 | 0.006 |
| 5 | 0.42 | 0.10 | 0.055 | ( 0.150) | 0.050 | 0.006 |
| 6 | 0.50 | 0.10 | 0.055 | ( 0.149) | 0.050 | 0.006 |
| 7 | 0.58 | 0.10 | 0.055 | ( 0.149) | 0.050 | 0.006 |
| 8 | 0.67 | 0.10 | 0.055 | ( 0.148) | 0.050 | 0.006 |
| 9 | 0.75 | 0.10 | 0.055 | ( 0.147) | 0.050 | 0.006 |
| 10 | 0.83 | 0.13 | 0.073 | ( 0.147) | 0.066 | 0.007 |
| 11 | 0.92 | 0.13 | 0.073 | ( 0.146) | 0.066 | 0.007 |
| 12 | 1.00 | 0.13 | 0.073 | ( 0.146) | 0.066 | 0.007 |
| 13 | 1.08 | 0.10 | 0.055 | ( 0.145) | 0.050 | 0.006 |
| 14 | 1.17 | 0.10 | 0.055 | ( 0.145) | 0.050 | 0.006 |
| 15 | 1.25 | 0.10 | 0.055 | ( 0.144) | 0.050 | 0.006 |
| 16 | 1.33 | 0.10 | 0.055 | ( 0.143) | 0.050 | 0.006 |
| 17 | 1.42 | 0.10 | 0.055 | ( 0.143) | 0.050 | 0.006 |
| 18 | 1.50 | 0.10 | 0.055 | ( 0.142) | 0.050 | 0.006 |
| 19 | 1.58 | 0.10 | 0.055 | ( 0.142) | 0.050 | 0.006 |
| 20 | 1.67 | 0.10 | 0.055 | ( 0.141) | 0.050 | 0.006 |
| 21 | 1.75 | 0.10 | 0.055 | ( 0.141) | 0.050 | 0.006 |
| 22 | 1.83 | 0.13 | 0.073 | ( 0.140) | 0.066 | 0.007 |
| 23 | 1.92 | 0.13 | 0.073 | ( 0.139) | 0.066 | 0.007 |
| 24 | 2.00 | 0.13 | 0.073 | ( 0.139) | 0.066 | 0.007 |
| 25 | 2.08 | 0.13 | 0.073 | ( 0.138) | 0.066 | 0.007 |
| 26 | 2.17 | 0.13 | 0.073 | ( 0.138) | 0.066 | 0.007 |
| 27 | 2.25 | 0.13 | 0.073 | ( 0.137) | 0.066 | 0.007 |
| 28 | 2.33 | 0.13 | 0.073 | ( 0.137) | 0.066 | 0.007 |
| 29 | 2.42 | 0.13 | 0.073 | ( 0.136) | 0.066 | 0.007 |
| 30 | 2.50 | 0.13 | 0.073 | ( 0.136) | 0.066 | 0.007 |
| 31 | 2.58 | 0.17 | 0.092 | ( 0.135) | 0.083 | 0.009 |
| 32 | 2.67 | 0.17 | 0.092 | ( 0.134) | 0.083 | 0.009 |
| 33 | 2.75 | 0.17 | 0.092 | ( 0.134) | 0.083 | 0.009 |
| 34 | 2.83 | 0.17 | 0.092 | ( 0.133) | 0.083 | 0.009 |
| 35 | 2.92 | 0.17 | 0.092 | ( 0.133) | 0.083 | 0.009 |
| 36 | 3.00 | 0.17 | 0.092 | ( 0.132) | 0.083 | 0.009 |
| 37 | 3.08 | 0.17 | 0.092 | ( 0.132) | 0.083 | 0.009 |
| 38 | 3.17 | 0.17 | 0.092 | ( 0.131) | 0.083 | 0.009 |
| 39 | 3.25 | 0.17 | 0.092 | ( 0.131) | 0.083 | 0.009 |
| 40 | 3.33 | 0.17 | 0.092 | ( 0.130) | 0.083 | 0.009 |
| 41 | 3.42 | 0.17 | 0.092 | ( 0.129) | 0.083 | 0.009 |
| 42 | 3.50 | 0.17 | 0.092 | ( 0.129) | 0.083 | 0.009 |
| 43 | 3.58 | 0.17 | 0.092 | ( 0.128) | 0.083 | 0.009 |
| 44 | 3.67 | 0.17 | 0.092 | ( 0.128) | 0.083 | 0.009 |
| 45 | 3.75 | 0.17 | 0.092 | ( 0.127) | 0.083 | 0.009 |
| 46 | 3.83 | 0.20 | 0.110 | ( 0.127) | 0.099 | 0.011 |
| 47 | 3.92 | 0.20 | 0.110 | ( 0.126) | 0.099 | 0.011 |
| 48 | 4.00 | 0.20 | 0.110 | ( 0.126) | 0.099 | 0.011 |
| 49 | 4.08 | 0.20 | 0.110 | ( 0.125) | 0.099 | 0.011 |
| 50 | 4.17 | 0.20 | 0.110 | ( 0.125) | 0.099 | 0.011 |
| 51 | 4.25 | 0.20 | 0.110 | ( 0.124) | 0.099 | 0.011 |
| 52 | 4.33 | 0.23 | 0.129 | ( 0.124) | 0.116 | 0.013 |
| 53 | 4.42 | 0.23 | 0.129 | ( 0.123) | 0.116 | 0.013 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 54 | 4.50 | 0.23 | 0.129 | ( 0.123) | 0.116 | 0.013 |
| 55 | 4.58 | 0.23 | 0.129 | ( 0.122) | 0.116 | 0.013 |
| 56 | 4.67 | 0.23 | 0.129 | ( 0.121) | 0.116 | 0.013 |
| 57 | 4.75 | 0.23 | 0.129 | ( 0.121) | 0.116 | 0.013 |
| 58 | 4.83 | 0.27 | 0.147 | 0.120 | ( 0.132) | 0.026 |
| 59 | 4.92 | 0.27 | 0.147 | 0.120 | ( 0.132) | 0.027 |
| 60 | 5.00 | 0.27 | 0.147 | 0.119 | ( 0.132) | 0.027 |
| 61 | 5.08 | 0.20 | 0.110 | ( 0.119) | 0.099 | 0.011 |
| 62 | 5.17 | 0.20 | 0.110 | ( 0.118) | 0.099 | 0.011 |
| 63 | 5.25 | 0.20 | 0.110 | ( 0.118) | 0.099 | 0.011 |
| 64 | 5.33 | 0.23 | 0.129 | ( 0.117) | 0.116 | 0.013 |
| 65 | 5.42 | 0.23 | 0.129 | ( 0.117) | 0.116 | 0.013 |
| 66 | 5.50 | 0.23 | 0.129 | ( 0.116) | 0.116 | 0.013 |
| 67 | 5.58 | 0.27 | 0.147 | 0.116 | ( 0.132) | 0.031 |
| 68 | 5.67 | 0.27 | 0.147 | 0.115 | ( 0.132) | 0.032 |
| 69 | 5.75 | 0.27 | 0.147 | 0.115 | ( 0.132) | 0.032 |
| 70 | 5.83 | 0.27 | 0.147 | 0.114 | ( 0.132) | 0.033 |
| 71 | 5.92 | 0.27 | 0.147 | 0.114 | ( 0.132) | 0.033 |
| 72 | 6.00 | 0.27 | 0.147 | 0.113 | ( 0.132) | 0.034 |
| 73 | 6.08 | 0.30 | 0.165 | 0.113 | ( 0.149) | 0.052 |
| 74 | 6.17 | 0.30 | 0.165 | 0.112 | ( 0.149) | 0.053 |
| 75 | 6.25 | 0.30 | 0.165 | 0.112 | ( 0.149) | 0.053 |
| 76 | 6.33 | 0.30 | 0.165 | 0.111 | ( 0.149) | 0.054 |
| 77 | 6.42 | 0.30 | 0.165 | 0.111 | ( 0.149) | 0.054 |
| 78 | 6.50 | 0.30 | 0.165 | 0.110 | ( 0.149) | 0.055 |
| 79 | 6.58 | 0.33 | 0.184 | 0.110 | ( 0.165) | 0.074 |
| 80 | 6.67 | 0.33 | 0.184 | 0.109 | ( 0.165) | 0.074 |
| 81 | 6.75 | 0.33 | 0.184 | 0.109 | ( 0.165) | 0.075 |
| 82 | 6.83 | 0.33 | 0.184 | 0.108 | ( 0.165) | 0.075 |
| 83 | 6.92 | 0.33 | 0.184 | 0.108 | ( 0.165) | 0.076 |
| 84 | 7.00 | 0.33 | 0.184 | 0.107 | ( 0.165) | 0.076 |
| 85 | 7.08 | 0.33 | 0.184 | 0.107 | ( 0.165) | 0.077 |
| 86 | 7.17 | 0.33 | 0.184 | 0.106 | ( 0.165) | 0.077 |
| 87 | 7.25 | 0.33 | 0.184 | 0.106 | ( 0.165) | 0.078 |
| 88 | 7.33 | 0.37 | 0.202 | 0.105 | ( 0.182) | 0.097 |
| 89 | 7.42 | 0.37 | 0.202 | 0.105 | ( 0.182) | 0.097 |
| 90 | 7.50 | 0.37 | 0.202 | 0.104 | ( 0.182) | 0.098 |
| 91 | 7.58 | 0.40 | 0.220 | 0.104 | ( 0.198) | 0.116 |
| 92 | 7.67 | 0.40 | 0.220 | 0.103 | ( 0.198) | 0.117 |
| 93 | 7.75 | 0.40 | 0.220 | 0.103 | ( 0.198) | 0.117 |
| 94 | 7.83 | 0.43 | 0.239 | 0.102 | ( 0.215) | 0.136 |
| 95 | 7.92 | 0.43 | 0.239 | 0.102 | ( 0.215) | 0.137 |
| 96 | 8.00 | 0.43 | 0.239 | 0.102 | ( 0.215) | 0.137 |
| 97 | 8.08 | 0.50 | 0.275 | 0.101 | ( 0.248) | 0.174 |
| 98 | 8.17 | 0.50 | 0.275 | 0.101 | ( 0.248) | 0.175 |
| 99 | 8.25 | 0.50 | 0.275 | 0.100 | ( 0.248) | 0.175 |
| 100 | 8.33 | 0.50 | 0.275 | 0.100 | ( 0.248) | 0.176 |
| 101 | 8.42 | 0.50 | 0.275 | 0.099 | ( 0.248) | 0.176 |
| 102 | 8.50 | 0.50 | 0.275 | 0.099 | ( 0.248) | 0.177 |
| 103 | 8.58 | 0.53 | 0.294 | 0.098 | ( 0.264) | 0.195 |
| 104 | 8.67 | 0.53 | 0.294 | 0.098 | ( 0.264) | 0.196 |
| 105 | 8.75 | 0.53 | 0.294 | 0.097 | ( 0.264) | 0.196 |
| 106 | 8.83 | 0.57 | 0.312 | 0.097 | ( 0.281) | 0.215 |
| 107 | 8.92 | 0.57 | 0.312 | 0.096 | ( 0.281) | 0.216 |
| 108 | 9.00 | 0.57 | 0.312 | 0.096 | ( 0.281) | 0.216 |
| 109 | 9.08 | 0.63 | 0.349 | 0.096 | ( 0.314) | 0.253 |
| 110 | 9.17 | 0.63 | 0.349 | 0.095 | ( 0.314) | 0.254 |
| 111 | 9.25 | 0.63 | 0.349 | 0.095 | ( 0.314) | 0.254 |
| 112 | 9.33 | 0.67 | 0.367 | 0.094 | ( 0.330) | 0.273 |
| 113 | 9.42 | 0.67 | 0.367 | 0.094 | ( 0.330) | 0.273 |
| 114 | 9.50 | 0.67 | 0.367 | 0.093 | ( 0.330) | 0.274 |
| 115 | 9.58 | 0.70 | 0.386 | 0.093 | ( 0.347) | 0.293 |
| 116 | 9.67 | 0.70 | 0.386 | 0.092 | ( 0.347) | 0.293 |
| 117 | 9.75 | 0.70 | 0.386 | 0.092 | ( 0.347) | 0.294 |
| 118 | 9.83 | 0.73 | 0.404 | 0.091 | ( 0.364) | 0.312 |
| 119 | 9.92 | 0.73 | 0.404 | 0.091 | ( 0.364) | 0.313 |
| 120 | 10.00 | 0.73 | 0.404 | 0.091 | ( 0.364) | 0.313 |
| 121 | 10.08 | 0.50 | 0.275 | 0.090 | ( 0.248) | 0.185 |
| 122 | 10.17 | 0.50 | 0.275 | 0.090 | ( 0.248) | 0.186 |
| 123 | 10.25 | 0.50 | 0.275 | 0.089 | ( 0.248) | 0.186 |
| 124 | 10.33 | 0.50 | 0.275 | 0.089 | ( 0.248) | 0.187 |
| 125 | 10.42 | 0.50 | 0.275 | 0.088 | ( 0.248) | 0.187 |
| 126 | 10.50 | 0.50 | 0.275 | 0.088 | ( 0.248) | 0.187 |
| 127 | 10.58 | 0.67 | 0.367 | 0.088 | ( 0.330) | 0.280 |
| 128 | 10.67 | 0.67 | 0.367 | 0.087 | ( 0.330) | 0.280 |
| 129 | 10.75 | 0.67 | 0.367 | 0.087 | ( 0.330) | 0.280 |
| 130 | 10.83 | 0.67 | 0.367 | 0.086 | ( 0.330) | 0.281 |
| 131 | 10.92 | 0.67 | 0.367 | 0.086 | ( 0.330) | 0.281 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 132 | 11.00 | 0.67 | 0.367 | 0.085 | ( 0.330) | 0.282 |
| 133 | 11.08 | 0.63 | 0.349 | 0.085 | ( 0.314) | 0.264 |
| 134 | 11.17 | 0.63 | 0.349 | 0.085 | ( 0.314) | 0.264 |
| 135 | 11.25 | 0.63 | 0.349 | 0.084 | ( 0.314) | 0.265 |
| 136 | 11.33 | 0.63 | 0.349 | 0.084 | ( 0.314) | 0.265 |
| 137 | 11.42 | 0.63 | 0.349 | 0.083 | ( 0.314) | 0.265 |
| 138 | 11.50 | 0.63 | 0.349 | 0.083 | ( 0.314) | 0.266 |
| 139 | 11.58 | 0.57 | 0.312 | 0.083 | ( 0.281) | 0.230 |
| 140 | 11.67 | 0.57 | 0.312 | 0.082 | ( 0.281) | 0.230 |
| 141 | 11.75 | 0.57 | 0.312 | 0.082 | ( 0.281) | 0.230 |
| 142 | 11.83 | 0.60 | 0.330 | 0.081 | ( 0.297) | 0.249 |
| 143 | 11.92 | 0.60 | 0.330 | 0.081 | ( 0.297) | 0.250 |
| 144 | 12.00 | 0.60 | 0.330 | 0.080 | ( 0.297) | 0.250 |
| 145 | 12.08 | 0.83 | 0.459 | 0.080 | ( 0.413) | 0.379 |
| 146 | 12.17 | 0.83 | 0.459 | 0.080 | ( 0.413) | 0.379 |
| 147 | 12.25 | 0.83 | 0.459 | 0.079 | ( 0.413) | 0.380 |
| 148 | 12.33 | 0.87 | 0.477 | 0.079 | ( 0.430) | 0.398 |
| 149 | 12.42 | 0.87 | 0.477 | 0.078 | ( 0.430) | 0.399 |
| 150 | 12.50 | 0.87 | 0.477 | 0.078 | ( 0.430) | 0.399 |
| 151 | 12.58 | 0.93 | 0.514 | 0.078 | ( 0.463) | 0.436 |
| 152 | 12.67 | 0.93 | 0.514 | 0.077 | ( 0.463) | 0.437 |
| 153 | 12.75 | 0.93 | 0.514 | 0.077 | ( 0.463) | 0.437 |
| 154 | 12.83 | 0.97 | 0.532 | 0.077 | ( 0.479) | 0.456 |
| 155 | 12.92 | 0.97 | 0.532 | 0.076 | ( 0.479) | 0.456 |
| 156 | 13.00 | 0.97 | 0.532 | 0.076 | ( 0.479) | 0.457 |
| 157 | 13.08 | 1.13 | 0.624 | 0.075 | ( 0.562) | 0.549 |
| 158 | 13.17 | 1.13 | 0.624 | 0.075 | ( 0.562) | 0.549 |
| 159 | 13.25 | 1.13 | 0.624 | 0.075 | ( 0.562) | 0.550 |
| 160 | 13.33 | 1.13 | 0.624 | 0.074 | ( 0.562) | 0.550 |
| 161 | 13.42 | 1.13 | 0.624 | 0.074 | ( 0.562) | 0.550 |
| 162 | 13.50 | 1.13 | 0.624 | 0.073 | ( 0.562) | 0.551 |
| 163 | 13.58 | 0.77 | 0.422 | 0.073 | ( 0.380) | 0.349 |
| 164 | 13.67 | 0.77 | 0.422 | 0.073 | ( 0.380) | 0.350 |
| 165 | 13.75 | 0.77 | 0.422 | 0.072 | ( 0.380) | 0.350 |
| 166 | 13.83 | 0.77 | 0.422 | 0.072 | ( 0.380) | 0.350 |
| 167 | 13.92 | 0.77 | 0.422 | 0.072 | ( 0.380) | 0.351 |
| 168 | 14.00 | 0.77 | 0.422 | 0.071 | ( 0.380) | 0.351 |
| 169 | 14.08 | 0.90 | 0.496 | 0.071 | ( 0.446) | 0.425 |
| 170 | 14.17 | 0.90 | 0.496 | 0.071 | ( 0.446) | 0.425 |
| 171 | 14.25 | 0.90 | 0.496 | 0.070 | ( 0.446) | 0.426 |
| 172 | 14.33 | 0.87 | 0.477 | 0.070 | ( 0.430) | 0.408 |
| 173 | 14.42 | 0.87 | 0.477 | 0.069 | ( 0.430) | 0.408 |
| 174 | 14.50 | 0.87 | 0.477 | 0.069 | ( 0.430) | 0.408 |
| 175 | 14.58 | 0.87 | 0.477 | 0.069 | ( 0.430) | 0.409 |
| 176 | 14.67 | 0.87 | 0.477 | 0.068 | ( 0.430) | 0.409 |
| 177 | 14.75 | 0.87 | 0.477 | 0.068 | ( 0.430) | 0.409 |
| 178 | 14.83 | 0.83 | 0.459 | 0.068 | ( 0.413) | 0.391 |
| 179 | 14.92 | 0.83 | 0.459 | 0.067 | ( 0.413) | 0.392 |
| 180 | 15.00 | 0.83 | 0.459 | 0.067 | ( 0.413) | 0.392 |
| 181 | 15.08 | 0.80 | 0.441 | 0.067 | ( 0.397) | 0.374 |
| 182 | 15.17 | 0.80 | 0.441 | 0.066 | ( 0.397) | 0.374 |
| 183 | 15.25 | 0.80 | 0.441 | 0.066 | ( 0.397) | 0.375 |
| 184 | 15.33 | 0.77 | 0.422 | 0.066 | ( 0.380) | 0.357 |
| 185 | 15.42 | 0.77 | 0.422 | 0.065 | ( 0.380) | 0.357 |
| 186 | 15.50 | 0.77 | 0.422 | 0.065 | ( 0.380) | 0.357 |
| 187 | 15.58 | 0.63 | 0.349 | 0.065 | ( 0.314) | 0.284 |
| 188 | 15.67 | 0.63 | 0.349 | 0.064 | ( 0.314) | 0.285 |
| 189 | 15.75 | 0.63 | 0.349 | 0.064 | ( 0.314) | 0.285 |
| 190 | 15.83 | 0.63 | 0.349 | 0.064 | ( 0.314) | 0.285 |
| 191 | 15.92 | 0.63 | 0.349 | 0.063 | ( 0.314) | 0.286 |
| 192 | 16.00 | 0.63 | 0.349 | 0.063 | ( 0.314) | 0.286 |
| 193 | 16.08 | 0.13 | 0.073 | 0.063 | ( 0.066) | 0.011 |
| 194 | 16.17 | 0.13 | 0.073 | 0.062 | ( 0.066) | 0.011 |
| 195 | 16.25 | 0.13 | 0.073 | 0.062 | ( 0.066) | 0.011 |
| 196 | 16.33 | 0.13 | 0.073 | 0.062 | ( 0.066) | 0.012 |
| 197 | 16.42 | 0.13 | 0.073 | 0.061 | ( 0.066) | 0.012 |
| 198 | 16.50 | 0.13 | 0.073 | 0.061 | ( 0.066) | 0.012 |
| 199 | 16.58 | 0.10 | 0.055 | ( 0.061) | 0.050 | 0.006 |
| 200 | 16.67 | 0.10 | 0.055 | ( 0.060) | 0.050 | 0.006 |
| 201 | 16.75 | 0.10 | 0.055 | ( 0.060) | 0.050 | 0.006 |
| 202 | 16.83 | 0.10 | 0.055 | ( 0.060) | 0.050 | 0.006 |
| 203 | 16.92 | 0.10 | 0.055 | ( 0.060) | 0.050 | 0.006 |
| 204 | 17.00 | 0.10 | 0.055 | ( 0.059) | 0.050 | 0.006 |
| 205 | 17.08 | 0.17 | 0.092 | 0.059 | ( 0.083) | 0.033 |
| 206 | 17.17 | 0.17 | 0.092 | 0.059 | ( 0.083) | 0.033 |
| 207 | 17.25 | 0.17 | 0.092 | 0.058 | ( 0.083) | 0.033 |
| 208 | 17.33 | 0.17 | 0.092 | 0.058 | ( 0.083) | 0.034 |
| 209 | 17.42 | 0.17 | 0.092 | 0.058 | ( 0.083) | 0.034 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 210 | 17.50 | 0.17 | 0.092 | | 0.058 | ( | 0.083) | 0.034 |
| 211 | 17.58 | 0.17 | 0.092 | | 0.057 | ( | 0.083) | 0.035 |
| 212 | 17.67 | 0.17 | 0.092 | | 0.057 | ( | 0.083) | 0.035 |
| 213 | 17.75 | 0.17 | 0.092 | | 0.057 | ( | 0.083) | 0.035 |
| 214 | 17.83 | 0.13 | 0.073 | | 0.056 | ( | 0.066) | 0.017 |
| 215 | 17.92 | 0.13 | 0.073 | | 0.056 | ( | 0.066) | 0.017 |
| 216 | 18.00 | 0.13 | 0.073 | | 0.056 | ( | 0.066) | 0.018 |
| 217 | 18.08 | 0.13 | 0.073 | | 0.056 | ( | 0.066) | 0.018 |
| 218 | 18.17 | 0.13 | 0.073 | | 0.055 | ( | 0.066) | 0.018 |
| 219 | 18.25 | 0.13 | 0.073 | | 0.055 | ( | 0.066) | 0.018 |
| 220 | 18.33 | 0.13 | 0.073 | | 0.055 | ( | 0.066) | 0.019 |
| 221 | 18.42 | 0.13 | 0.073 | | 0.054 | ( | 0.066) | 0.019 |
| 222 | 18.50 | 0.13 | 0.073 | | 0.054 | ( | 0.066) | 0.019 |
| 223 | 18.58 | 0.10 | 0.055 | ( | 0.054) | | 0.050 | 0.006 |
| 224 | 18.67 | 0.10 | 0.055 | ( | 0.054) | | 0.050 | 0.006 |
| 225 | 18.75 | 0.10 | 0.055 | ( | 0.053) | | 0.050 | 0.006 |
| 226 | 18.83 | 0.07 | 0.037 | ( | 0.053) | | 0.033 | 0.004 |
| 227 | 18.92 | 0.07 | 0.037 | ( | 0.053) | | 0.033 | 0.004 |
| 228 | 19.00 | 0.07 | 0.037 | ( | 0.053) | | 0.033 | 0.004 |
| 229 | 19.08 | 0.10 | 0.055 | ( | 0.052) | | 0.050 | 0.006 |
| 230 | 19.17 | 0.10 | 0.055 | ( | 0.052) | | 0.050 | 0.006 |
| 231 | 19.25 | 0.10 | 0.055 | ( | 0.052) | | 0.050 | 0.006 |
| 232 | 19.33 | 0.13 | 0.073 | | 0.052 | ( | 0.066) | 0.022 |
| 233 | 19.42 | 0.13 | 0.073 | | 0.051 | ( | 0.066) | 0.022 |
| 234 | 19.50 | 0.13 | 0.073 | | 0.051 | ( | 0.066) | 0.022 |
| 235 | 19.58 | 0.10 | 0.055 | ( | 0.051) | | 0.050 | 0.006 |
| 236 | 19.67 | 0.10 | 0.055 | ( | 0.051) | | 0.050 | 0.006 |
| 237 | 19.75 | 0.10 | 0.055 | ( | 0.050) | | 0.050 | 0.006 |
| 238 | 19.83 | 0.07 | 0.037 | ( | 0.050) | | 0.033 | 0.004 |
| 239 | 19.92 | 0.07 | 0.037 | ( | 0.050) | | 0.033 | 0.004 |
| 240 | 20.00 | 0.07 | 0.037 | ( | 0.050) | | 0.033 | 0.004 |
| 241 | 20.08 | 0.10 | 0.055 | ( | 0.050) | | 0.050 | 0.006 |
| 242 | 20.17 | 0.10 | 0.055 | | 0.049 | ( | 0.050) | 0.006 |
| 243 | 20.25 | 0.10 | 0.055 | | 0.049 | ( | 0.050) | 0.006 |
| 244 | 20.33 | 0.10 | 0.055 | | 0.049 | ( | 0.050) | 0.006 |
| 245 | 20.42 | 0.10 | 0.055 | | 0.049 | ( | 0.050) | 0.006 |
| 246 | 20.50 | 0.10 | 0.055 | | 0.049 | ( | 0.050) | 0.007 |
| 247 | 20.58 | 0.10 | 0.055 | | 0.048 | ( | 0.050) | 0.007 |
| 248 | 20.67 | 0.10 | 0.055 | | 0.048 | ( | 0.050) | 0.007 |
| 249 | 20.75 | 0.10 | 0.055 | | 0.048 | ( | 0.050) | 0.007 |
| 250 | 20.83 | 0.07 | 0.037 | ( | 0.048) | | 0.033 | 0.004 |
| 251 | 20.92 | 0.07 | 0.037 | ( | 0.048) | | 0.033 | 0.004 |
| 252 | 21.00 | 0.07 | 0.037 | ( | 0.047) | | 0.033 | 0.004 |
| 253 | 21.08 | 0.10 | 0.055 | | 0.047 | ( | 0.050) | 0.008 |
| 254 | 21.17 | 0.10 | 0.055 | | 0.047 | ( | 0.050) | 0.008 |
| 255 | 21.25 | 0.10 | 0.055 | | 0.047 | ( | 0.050) | 0.008 |
| 256 | 21.33 | 0.07 | 0.037 | ( | 0.047) | | 0.033 | 0.004 |
| 257 | 21.42 | 0.07 | 0.037 | ( | 0.046) | | 0.033 | 0.004 |
| 258 | 21.50 | 0.07 | 0.037 | ( | 0.046) | | 0.033 | 0.004 |
| 259 | 21.58 | 0.10 | 0.055 | | 0.046 | ( | 0.050) | 0.009 |
| 260 | 21.67 | 0.10 | 0.055 | | 0.046 | ( | 0.050) | 0.009 |
| 261 | 21.75 | 0.10 | 0.055 | | 0.046 | ( | 0.050) | 0.009 |
| 262 | 21.83 | 0.07 | 0.037 | ( | 0.046) | | 0.033 | 0.004 |
| 263 | 21.92 | 0.07 | 0.037 | ( | 0.045) | | 0.033 | 0.004 |
| 264 | 22.00 | 0.07 | 0.037 | ( | 0.045) | | 0.033 | 0.004 |
| 265 | 22.08 | 0.10 | 0.055 | | 0.045 | ( | 0.050) | 0.010 |
| 266 | 22.17 | 0.10 | 0.055 | | 0.045 | ( | 0.050) | 0.010 |
| 267 | 22.25 | 0.10 | 0.055 | | 0.045 | ( | 0.050) | 0.010 |
| 268 | 22.33 | 0.07 | 0.037 | ( | 0.045) | | 0.033 | 0.004 |
| 269 | 22.42 | 0.07 | 0.037 | ( | 0.045) | | 0.033 | 0.004 |
| 270 | 22.50 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 271 | 22.58 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 272 | 22.67 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 273 | 22.75 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 274 | 22.83 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 275 | 22.92 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 276 | 23.00 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 277 | 23.08 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 278 | 23.17 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 279 | 23.25 | 0.07 | 0.037 | ( | 0.043) | | 0.033 | 0.004 |
| 280 | 23.33 | 0.07 | 0.037 | ( | 0.043) | | 0.033 | 0.004 |
| 281 | 23.42 | 0.07 | 0.037 | ( | 0.043) | | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.037 | ( | 0.043) | | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.037 | ( | 0.043) | | 0.033 | 0.004 |
| 284 | 23.67 | 0.07 | 0.037 | ( | 0.043) | | 0.033 | 0.004 |
| 285 | 23.75 | 0.07 | 0.037 | ( | 0.043) | | 0.033 | 0.004 |
| 286 | 23.83 | 0.07 | 0.037 | ( | 0.043) | | 0.033 | 0.004 |
| 287 | 23.92 | 0.07 | 0.037 | ( | 0.043) | | 0.033 | 0.004 |

288 24.00 0.07 0.037 ( 0.043) 0.033 0.004
(Loss Rate Not Used)
Sum = 100.0 Sum = 34.6
Flood volume = Effective rainfall 2.88(In)
times area 2.0(Ac.)/[(In)/(Ft.)] = 0.5(Ac.Ft)
Total soil loss = 1.71(In)
Total soil loss = 0.285(Ac.Ft)
Total rainfall = 4.59(In)
Flood volume = 20908.9 Cubic Feet
Total soil loss = 12414.4 Cubic Feet

Peak flow rate of this hydrograph = 1.110(CFS)

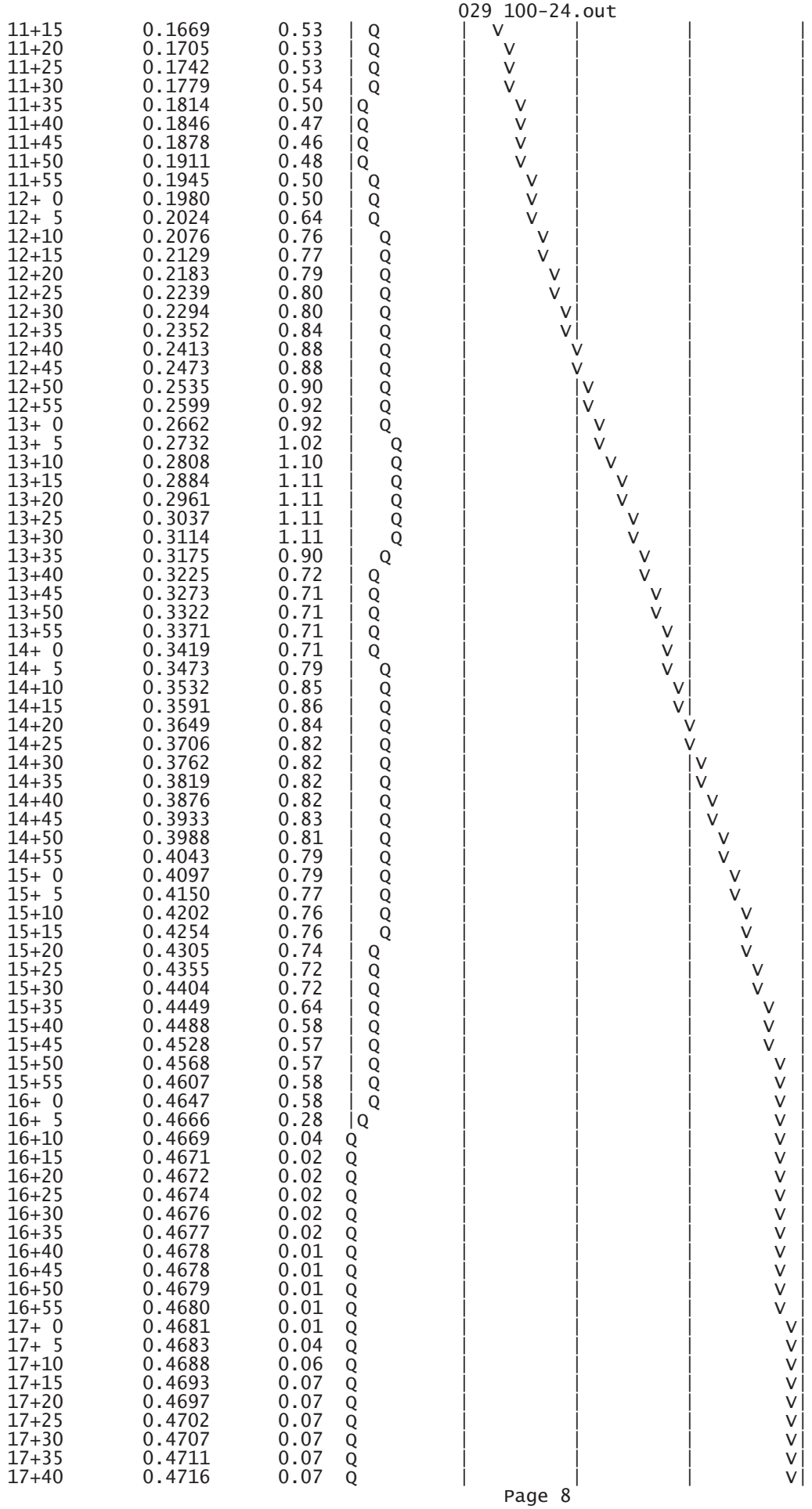
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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0000 | 0.00 | Q | | | | |
| 0+10 | 0.0001 | 0.01 | Q | | | | |
| 0+15 | 0.0001 | 0.01 | Q | | | | |
| 0+20 | 0.0002 | 0.01 | Q | | | | |
| 0+25 | 0.0003 | 0.01 | Q | | | | |
| 0+30 | 0.0003 | 0.01 | Q | | | | |
| 0+35 | 0.0004 | 0.01 | Q | | | | |
| 0+40 | 0.0005 | 0.01 | Q | | | | |
| 0+45 | 0.0006 | 0.01 | Q | | | | |
| 0+50 | 0.0007 | 0.01 | Q | | | | |
| 0+55 | 0.0008 | 0.01 | Q | | | | |
| 1+ 0 | 0.0009 | 0.01 | Q | | | | |
| 1+ 5 | 0.0010 | 0.01 | Q | | | | |
| 1+10 | 0.0010 | 0.01 | Q | | | | |
| 1+15 | 0.0011 | 0.01 | Q | | | | |
| 1+20 | 0.0012 | 0.01 | Q | | | | |
| 1+25 | 0.0013 | 0.01 | Q | | | | |
| 1+30 | 0.0013 | 0.01 | Q | | | | |
| 1+35 | 0.0014 | 0.01 | Q | | | | |
| 1+40 | 0.0015 | 0.01 | Q | | | | |
| 1+45 | 0.0016 | 0.01 | Q | | | | |
| 1+50 | 0.0017 | 0.01 | Q | | | | |
| 1+55 | 0.0018 | 0.01 | Q | | | | |
| 2+ 0 | 0.0019 | 0.01 | Q | | | | |
| 2+ 5 | 0.0020 | 0.01 | Q | | | | |
| 2+10 | 0.0021 | 0.01 | Q | | | | |
| 2+15 | 0.0022 | 0.01 | Q | | | | |
| 2+20 | 0.0023 | 0.01 | Q | | | | |
| 2+25 | 0.0024 | 0.01 | Q | | | | |
| 2+30 | 0.0025 | 0.01 | Q | | | | |
| 2+35 | 0.0026 | 0.02 | Q | | | | |
| 2+40 | 0.0027 | 0.02 | Q | | | | |
| 2+45 | 0.0028 | 0.02 | Q | | | | |
| 2+50 | 0.0030 | 0.02 | Q | | | | |
| 2+55 | 0.0031 | 0.02 | Q | | | | |
| 3+ 0 | 0.0032 | 0.02 | Q | | | | |
| 3+ 5 | 0.0034 | 0.02 | Q | | | | |
| 3+10 | 0.0035 | 0.02 | Q | | | | |
| 3+15 | 0.0036 | 0.02 | Q | | | | |
| 3+20 | 0.0037 | 0.02 | Q | | | | |
| 3+25 | 0.0039 | 0.02 | Q | | | | |
| 3+30 | 0.0040 | 0.02 | Q | | | | |
| 3+35 | 0.0041 | 0.02 | Q | | | | |
| 3+40 | 0.0042 | 0.02 | Q | | | | |
| 3+45 | 0.0044 | 0.02 | Q | | | | |
| 3+50 | 0.0045 | 0.02 | Q | | | | |
| 3+55 | 0.0047 | 0.02 | Q | | | | |
| 4+ 0 | 0.0048 | 0.02 | Q | | | | |
| 4+ 5 | 0.0050 | 0.02 | Q | | | | |
| 4+10 | 0.0051 | 0.02 | Q | | | | |
| 4+15 | 0.0053 | 0.02 | Q | | | | |
| 4+20 | 0.0054 | 0.02 | Q | | | | |
| 4+25 | 0.0056 | 0.03 | Q | | | | |
| 4+30 | 0.0058 | 0.03 | Q | | | | |
| 4+35 | 0.0060 | 0.03 | Q | | | | |
| 4+40 | 0.0062 | 0.03 | Q | | | | |

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 4+45       0.0063      0.03  Q          |          |          |          |
 4+50       0.0066      0.04  Q          |          |          |          |
 4+55       0.0070      0.05  Q          |          |          |          |
 5+ 0       0.0074      0.05  Q          |          |          |          |
 5+ 5       0.0076      0.04  Q          |          |          |          |
 5+10       0.0078      0.02  Q          |          |          |          |
 5+15       0.0079      0.02  Q          |          |          |          |
 5+20       0.0081      0.02  Q          |          |          |          |
 5+25       0.0083      0.03  Q          |          |          |          |
 5+30       0.0085      0.03  Q          |          |          |          |
 5+35       0.0088      0.05  Q          |          |          |          |
 5+40       0.0092      0.06  Q          |          |          |          |
 5+45       0.0096      0.06  Q          |          |          |          |
 5+50       0.0101      0.07  Q          |          |          |          |
 5+55       0.0105      0.07  Q          |          |          |          |
 6+ 0       0.0110      0.07  Q          |          |          |          |
 6+ 5       0.0116      0.09  Q          |          |          |          |
 6+10       0.0123      0.11  QV         |          |          |          |
 6+15       0.0131      0.11  QV         |          |          |          |
 6+20       0.0138      0.11  QV         |          |          |          |
 6+25       0.0146      0.11  QV         |          |          |          |
 6+30       0.0153      0.11  QV         |          |          |          |
 6+35       0.0162      0.13  QV         |          |          |          |
 6+40       0.0173      0.15  QV         |          |          |          |
 6+45       0.0183      0.15  QV         |          |          |          |
 6+50       0.0193      0.15  QV         |          |          |          |
 6+55       0.0204      0.15  QV         |          |          |          |
 7+ 0       0.0214      0.15  QV         |          |          |          |
 7+ 5       0.0225      0.15  QV         |          |          |          |
 7+10       0.0236      0.16  QV         |          |          |          |
 7+15       0.0246      0.16  Q V        |          |          |          |
 7+20       0.0259      0.18  Q V        |          |          |          |
 7+25       0.0272      0.19  Q V        |          |          |          |
 7+30       0.0286      0.20  Q V        |          |          |          |
 7+35       0.0300      0.22  Q V        |          |          |          |
 7+40       0.0317      0.23  Q V        |          |          |          |
 7+45       0.0333      0.24  Q V        |          |          |          |
 7+50       0.0351      0.26  |QV        |          |          |          |
 7+55       0.0369      0.27  |Q V       |          |          |          |
 8+ 0       0.0388      0.28  |Q V       |          |          |          |
 8+ 5       0.0410      0.32  |Q V       |          |          |          |
 8+10       0.0434      0.35  |Q V       |          |          |          |
 8+15       0.0459      0.35  |Q V       |          |          |          |
 8+20       0.0483      0.35  |Q  V      |          |          |          |
 8+25       0.0507      0.35  |Q  V      |          |          |          |
 8+30       0.0532      0.36  |Q  V      |          |          |          |
 8+35       0.0558      0.38  |Q  V      |          |          |          |
 8+40       0.0585      0.39  |Q  V      |          |          |          |
 8+45       0.0612      0.40  |Q   V     |          |          |          |
 8+50       0.0641      0.42  |Q   V     |          |          |          |
 8+55       0.0671      0.43  |Q   V     |          |          |          |
 9+ 0       0.0701      0.44  |Q   V     |          |          |          |
 9+ 5       0.0733      0.48  |Q    V    |          |          |          |
 9+10       0.0768      0.51  | Q   V    |          |          |          |
 9+15       0.0804      0.51  | Q   V    |          |          |          |
 9+20       0.0840      0.53  | Q    V   |          |          |          |
 9+25       0.0878      0.55  | Q    V   |          |          |          |
 9+30       0.0916      0.55  | Q    V   |          |          |          |
 9+35       0.0956      0.57  | Q    V   |          |          |          |
 9+40       0.0996      0.59  | Q     V  |          |          |          |
 9+45       0.1037      0.59  | Q     V  |          |          |          |
 9+50       0.1079      0.61  | Q     V  |          |          |          |
 9+55       0.1123      0.63  | Q      V |          |          |          |
10+ 0       0.1166      0.63  | Q      V |          |          |          |
10+ 5       0.1200      0.50  |Q        V|          |          |          |
10+10       0.1226      0.38  |Q        V|          |          |          |
10+15       0.1252      0.37  |Q        V|          |          |          |
10+20       0.1278      0.38  |Q        V|          |          |          |
10+25       0.1304      0.38  |Q        V|          |          |          |
10+30       0.1330      0.38  |Q        |V          |          |          |
10+35       0.1363      0.48  |Q        |V          |          |          |
10+40       0.1401      0.56  | Q       |V          |          |          |
10+45       0.1440      0.57  | Q       | V         |          |          |
10+50       0.1479      0.57  | Q       | V         |          |          |
10+55       0.1518      0.57  | Q       | V         |          |          |
11+ 0       0.1557      0.57  | Q       | V         |          |          |
11+ 5       0.1595      0.55  | Q       |  V        |          |          |
11+10       0.1632      0.53  | Q       |  V        |          |          |
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| | | | |
|---|---|---|---|
| 11+15 | 0.1669 | 0.53 | Q |
| 11+20 | 0.1705 | 0.53 | Q |
| 11+25 | 0.1742 | 0.53 | Q |
| 11+30 | 0.1779 | 0.54 | Q |
| 11+35 | 0.1814 | 0.50 | Q |
| 11+40 | 0.1846 | 0.47 | Q |
| 11+45 | 0.1878 | 0.46 | Q |
| 11+50 | 0.1911 | 0.48 | Q |
| 11+55 | 0.1945 | 0.50 | Q |
| 12+ 0 | 0.1980 | 0.50 | Q |
| 12+ 5 | 0.2024 | 0.64 | Q |
| 12+10 | 0.2076 | 0.76 | Q |
| 12+15 | 0.2129 | 0.77 | Q |
| 12+20 | 0.2183 | 0.79 | Q |
| 12+25 | 0.2239 | 0.80 | Q |
| 12+30 | 0.2294 | 0.80 | Q |
| 12+35 | 0.2352 | 0.84 | Q |
| 12+40 | 0.2413 | 0.88 | Q |
| 12+45 | 0.2473 | 0.88 | Q |
| 12+50 | 0.2535 | 0.90 | Q |
| 12+55 | 0.2599 | 0.92 | Q |
| 13+ 0 | 0.2662 | 0.92 | Q |
| 13+ 5 | 0.2732 | 1.02 | Q |
| 13+10 | 0.2808 | 1.10 | Q |
| 13+15 | 0.2884 | 1.11 | Q |
| 13+20 | 0.2961 | 1.11 | Q |
| 13+25 | 0.3037 | 1.11 | Q |
| 13+30 | 0.3114 | 1.11 | Q |
| 13+35 | 0.3175 | 0.90 | Q |
| 13+40 | 0.3225 | 0.72 | Q |
| 13+45 | 0.3273 | 0.71 | Q |
| 13+50 | 0.3322 | 0.71 | Q |
| 13+55 | 0.3371 | 0.71 | Q |
| 14+ 0 | 0.3419 | 0.71 | Q |
| 14+ 5 | 0.3473 | 0.79 | Q |
| 14+10 | 0.3532 | 0.85 | Q |
| 14+15 | 0.3591 | 0.86 | Q |
| 14+20 | 0.3649 | 0.84 | Q |
| 14+25 | 0.3706 | 0.82 | Q |
| 14+30 | 0.3762 | 0.82 | Q |
| 14+35 | 0.3819 | 0.82 | Q |
| 14+40 | 0.3876 | 0.82 | Q |
| 14+45 | 0.3933 | 0.83 | Q |
| 14+50 | 0.3988 | 0.81 | Q |
| 14+55 | 0.4043 | 0.79 | Q |
| 15+ 0 | 0.4097 | 0.79 | Q |
| 15+ 5 | 0.4150 | 0.77 | Q |
| 15+10 | 0.4202 | 0.76 | Q |
| 15+15 | 0.4254 | 0.76 | Q |
| 15+20 | 0.4305 | 0.74 | Q |
| 15+25 | 0.4355 | 0.72 | Q |
| 15+30 | 0.4404 | 0.72 | Q |
| 15+35 | 0.4449 | 0.64 | Q |
| 15+40 | 0.4488 | 0.58 | Q |
| 15+45 | 0.4528 | 0.57 | Q |
| 15+50 | 0.4568 | 0.57 | Q |
| 15+55 | 0.4607 | 0.58 | Q |
| 16+ 0 | 0.4647 | 0.58 | Q |
| 16+ 5 | 0.4666 | 0.28 | Q |
| 16+10 | 0.4669 | 0.04 | Q |
| 16+15 | 0.4671 | 0.02 | Q |
| 16+20 | 0.4672 | 0.02 | Q |
| 16+25 | 0.4674 | 0.02 | Q |
| 16+30 | 0.4676 | 0.02 | Q |
| 16+35 | 0.4677 | 0.02 | Q |
| 16+40 | 0.4678 | 0.01 | Q |
| 16+45 | 0.4678 | 0.01 | Q |
| 16+50 | 0.4679 | 0.01 | Q |
| 16+55 | 0.4680 | 0.01 | Q |
| 17+ 0 | 0.4681 | 0.01 | Q |
| 17+ 5 | 0.4683 | 0.04 | Q |
| 17+10 | 0.4688 | 0.06 | Q |
| 17+15 | 0.4693 | 0.07 | Q |
| 17+20 | 0.4697 | 0.07 | Q |
| 17+25 | 0.4702 | 0.07 | Q |
| 17+30 | 0.4707 | 0.07 | Q |
| 17+35 | 0.4711 | 0.07 | Q |
| 17+40 | 0.4716 | 0.07 | Q |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+45 | 0.4721 | 0.07 | Q | \| | \| | \| | V\| |
| 17+50 | 0.4725 | 0.05 | Q | \| | \| | \| | V\| |
| 17+55 | 0.4727 | 0.04 | Q | \| | \| | \| | V\| |
| 18+ 0 | 0.4730 | 0.04 | Q | \| | \| | \| | V\| |
| 18+ 5 | 0.4732 | 0.04 | Q | \| | \| | \| | V\| |
| 18+10 | 0.4735 | 0.04 | Q | \| | \| | \| | V\| |
| 18+15 | 0.4737 | 0.04 | Q | \| | \| | \| | V\| |
| 18+20 | 0.4740 | 0.04 | Q | \| | \| | \| | V\| |
| 18+25 | 0.4742 | 0.04 | Q | \| | \| | \| | V\| |
| 18+30 | 0.4745 | 0.04 | Q | \| | \| | \| | V\| |
| 18+35 | 0.4747 | 0.02 | Q | \| | \| | \| | V\| |
| 18+40 | 0.4747 | 0.01 | Q | \| | \| | \| | V\| |
| 18+45 | 0.4748 | 0.01 | Q | \| | \| | \| | V\| |
| 18+50 | 0.4749 | 0.01 | Q | \| | \| | \| | V\| |
| 18+55 | 0.4749 | 0.01 | Q | \| | \| | \| | V\| |
| 19+ 0 | 0.4750 | 0.01 | Q | \| | \| | \| | V\| |
| 19+ 5 | 0.4751 | 0.01 | Q | \| | \| | \| | V\| |
| 19+10 | 0.4751 | 0.01 | Q | \| | \| | \| | V\| |
| 19+15 | 0.4752 | 0.01 | Q | \| | \| | \| | V\| |
| 19+20 | 0.4754 | 0.03 | Q | \| | \| | \| | V\| |
| 19+25 | 0.4757 | 0.04 | Q | \| | \| | \| | V\| |
| 19+30 | 0.4760 | 0.04 | Q | \| | \| | \| | V\| |
| 19+35 | 0.4762 | 0.03 | Q | \| | \| | \| | V\| |
| 19+40 | 0.4763 | 0.01 | Q | \| | \| | \| | V\| |
| 19+45 | 0.4764 | 0.01 | Q | \| | \| | \| | V\| |
| 19+50 | 0.4764 | 0.01 | Q | \| | \| | \| | V\| |
| 19+55 | 0.4765 | 0.01 | Q | \| | \| | \| | V\| |
| 20+ 0 | 0.4765 | 0.01 | Q | \| | \| | \| | V\| |
| 20+ 5 | 0.4766 | 0.01 | Q | \| | \| | \| | V\| |
| 20+10 | 0.4767 | 0.01 | Q | \| | \| | \| | V\| |
| 20+15 | 0.4767 | 0.01 | Q | \| | \| | \| | V\| |
| 20+20 | 0.4768 | 0.01 | Q | \| | \| | \| | V\| |
| 20+25 | 0.4769 | 0.01 | Q | \| | \| | \| | V\| |
| 20+30 | 0.4770 | 0.01 | Q | \| | \| | \| | V\| |
| 20+35 | 0.4771 | 0.01 | Q | \| | \| | \| | V\| |
| 20+40 | 0.4772 | 0.01 | Q | \| | \| | \| | V\| |
| 20+45 | 0.4773 | 0.01 | Q | \| | \| | \| | V\| |
| 20+50 | 0.4774 | 0.01 | Q | \| | \| | \| | V\| |
| 20+55 | 0.4774 | 0.01 | Q | \| | \| | \| | V\| |
| 21+ 0 | 0.4775 | 0.01 | Q | \| | \| | \| | V\| |
| 21+ 5 | 0.4775 | 0.01 | Q | \| | \| | \| | V\| |
| 21+10 | 0.4777 | 0.02 | Q | \| | \| | \| | V\| |
| 21+15 | 0.4778 | 0.02 | Q | \| | \| | \| | V\| |
| 21+20 | 0.4778 | 0.01 | Q | \| | \| | \| | V\| |
| 21+25 | 0.4779 | 0.01 | Q | \| | \| | \| | V\| |
| 21+30 | 0.4780 | 0.01 | Q | \| | \| | \| | V\| |
| 21+35 | 0.4780 | 0.01 | Q | \| | \| | \| | V\| |
| 21+40 | 0.4782 | 0.02 | Q | \| | \| | \| | V\| |
| 21+45 | 0.4783 | 0.02 | Q | \| | \| | \| | V\| |
| 21+50 | 0.4784 | 0.01 | Q | \| | \| | \| | V\| |
| 21+55 | 0.4784 | 0.01 | Q | \| | \| | \| | V\| |
| 22+ 0 | 0.4785 | 0.01 | Q | \| | \| | \| | V\| |
| 22+ 5 | 0.4786 | 0.01 | Q | \| | \| | \| | V\| |
| 22+10 | 0.4787 | 0.02 | Q | \| | \| | \| | V\| |
| 22+15 | 0.4789 | 0.02 | Q | \| | \| | \| | V\| |
| 22+20 | 0.4790 | 0.01 | Q | \| | \| | \| | V\| |
| 22+25 | 0.4790 | 0.01 | Q | \| | \| | \| | V\| |
| 22+30 | 0.4791 | 0.01 | Q | \| | \| | \| | V\| |
| 22+35 | 0.4791 | 0.01 | Q | \| | \| | \| | V\| |
| 22+40 | 0.4792 | 0.01 | Q | \| | \| | \| | V\| |
| 22+45 | 0.4792 | 0.01 | Q | \| | \| | \| | V\| |
| 22+50 | 0.4793 | 0.01 | Q | \| | \| | \| | V\| |
| 22+55 | 0.4793 | 0.01 | Q | \| | \| | \| | V\| |
| 23+ 0 | 0.4794 | 0.01 | Q | \| | \| | \| | V\| |
| 23+ 5 | 0.4794 | 0.01 | Q | \| | \| | \| | V\| |
| 23+10 | 0.4795 | 0.01 | Q | \| | \| | \| | V\| |
| 23+15 | 0.4795 | 0.01 | Q | \| | \| | \| | V\| |
| 23+20 | 0.4796 | 0.01 | Q | \| | \| | \| | V\| |
| 23+25 | 0.4796 | 0.01 | Q | \| | \| | \| | V\| |
| 23+30 | 0.4797 | 0.01 | Q | \| | \| | \| | V\| |
| 23+35 | 0.4797 | 0.01 | Q | \| | \| | \| | V\| |
| 23+40 | 0.4798 | 0.01 | Q | \| | \| | \| | V\| |
| 23+45 | 0.4798 | 0.01 | Q | \| | \| | \| | V\| |
| 23+50 | 0.4799 | 0.01 | Q | \| | \| | \| | V\| |
| 23+55 | 0.4799 | 0.01 | Q | \| | \| | \| | V\| |
| 24+ 0 | 0.4800 | 0.01 | Q | \| | \| | \| | V\| |
| 24+ 5 | 0.4800 | 0.00 | Q | \| | \| | \| | V\| |
| 24+10 | 0.4800 | 0.00 | Q | \| | \| | \| | V\| |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX301100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 30
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.60(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.60(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 233.00(Ft.)
Length along longest watercourse measured to centroid = 135.00(Ft.)
Length along longest watercourse = 0.044 Mi.
Length along longest watercourse measured to centroid = 0.026 Mi.
Difference in elevation = 88.00(Ft.)
Slope along watercourse = 1994.1631 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.015 Hr.
Lag time = 0.90 Min.
25% of lag time = 0.23 Min.
40% of lag time = 0.36 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 0.50 | 0.30 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 1.20 | 0.72 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.600 | 84.00 | 0.000 |

Total Area Entered = 0.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

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| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 554.082 | 76.026 | 0.460 |
| 2 0.167 | 1108.163 | 23.974 | 0.145 |
| | | Sum = 100.000 Sum= | 0.605 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 4.20 | 0.605 | 0.086 | ( 0.544) | 0.519 |
| 2 0.17 | 4.30 | 0.619 | 0.086 | ( 0.557) | 0.533 |
| 3 0.25 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 4 0.33 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 5 0.42 | 5.80 | 0.835 | 0.086 | ( 0.752) | 0.749 |
| 6 0.50 | 6.50 | 0.936 | 0.086 | ( 0.842) | 0.850 |
| 7 0.58 | 7.40 | 1.066 | 0.086 | ( 0.959) | 0.980 |
| 8 0.67 | 8.60 | 1.238 | 0.086 | ( 1.115) | 1.153 |
| 9 0.75 | 12.30 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 10 0.83 | 29.10 | 4.190 | 0.086 | ( 3.771) | 4.105 |
| 11 0.92 | 6.80 | 0.979 | 0.086 | ( 0.881) | 0.893 |
| 12 1.00 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 13.4 |

Flood volume = Effective rainfall 1.11(In)
times area 0.6(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.004(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 2426.7 Cubic Feet
Total soil loss = 186.9 Cubic Feet

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Peak flow rate of this hydrograph = 2.132(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0016 | 0.24 | QV | | | | |
| 0+10 | 0.0039 | 0.32 | \|QV | | | | |
| 0+15 | 0.0064 | 0.37 | \|Q V | | | | |
| 0+20 | 0.0090 | 0.38 | \|Q V | | | | |
| 0+25 | 0.0120 | 0.44 | \|Q V | | | | |
| 0+30 | 0.0155 | 0.50 | \|Q \|V | | | | |
| 0+35 | 0.0194 | 0.57 | \| Q \| V | | | | |
| 0+40 | 0.0241 | 0.67 | \| Q \| V | | | | |
| 0+45 | 0.0306 | 0.94 | \| Q \| \|V | | | | |
| 0+50 | 0.0452 | 2.13 | \| Q \| \| V | | | | |
| 0+55 | 0.0522 | 1.01 | \| Q \| \| V | | | | |
| 1+ 0 | 0.0551 | 0.42 | \|Q \| \| V| | | | |
| 1+ 5 | 0.0557 | 0.09 | Q \| \| V | | | | |

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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX303100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 30
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.60(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.60(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 233.00(Ft.)
Length along longest watercourse measured to centroid = 135.00(Ft.)
Length along longest watercourse = 0.044 Mi.
Length along longest watercourse measured to centroid = 0.026 Mi.
Difference in elevation = 88.00(Ft.)
Slope along watercourse = 1994.1631 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.015 Hr.
Lag time = 0.90 Min.
25% of lag time = 0.23 Min.
40% of lag time = 0.36 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 0.80 | 0.48 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 1.80 | 1.08 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.600 | 84.00 | 0.000 |

Total Area Entered = 0.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 554.082 | 76.026 | 0.460 |
| 2 0.167 | 1108.163 | 23.974 | 0.145 |
| | | Sum = 100.000 Sum= | 0.605 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 1.30 | 0.281 | 0.086 | ( 0.253) | 0.195 |
| 2 0.17 | 1.30 | 0.281 | 0.086 | ( 0.253) | 0.195 |
| 3 0.25 | 1.10 | 0.238 | 0.086 | ( 0.214) | 0.152 |
| 4 0.33 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 5 0.42 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 6 0.50 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 7 0.58 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 8 0.67 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 9 0.75 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 10 0.83 | 1.50 | 0.324 | 0.086 | ( 0.292) | 0.238 |
| 11 0.92 | 1.60 | 0.346 | 0.086 | ( 0.311) | 0.260 |
| 12 1.00 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 13 1.08 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 14 1.17 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 15 1.25 | 2.20 | 0.475 | 0.086 | ( 0.428) | 0.389 |
| 16 1.33 | 2.00 | 0.432 | 0.086 | ( 0.389) | 0.346 |
| 17 1.42 | 2.60 | 0.562 | 0.086 | ( 0.505) | 0.476 |
| 18 1.50 | 2.70 | 0.583 | 0.086 | ( 0.525) | 0.497 |
| 19 1.58 | 2.40 | 0.518 | 0.086 | ( 0.467) | 0.433 |
| 20 1.67 | 2.70 | 0.583 | 0.086 | ( 0.525) | 0.497 |
| 21 1.75 | 3.30 | 0.713 | 0.086 | ( 0.642) | 0.627 |
| 22 1.83 | 3.10 | 0.670 | 0.086 | ( 0.603) | 0.584 |
| 23 1.92 | 2.90 | 0.626 | 0.086 | ( 0.564) | 0.541 |
| 24 2.00 | 3.00 | 0.648 | 0.086 | ( 0.583) | 0.562 |
| 25 2.08 | 3.10 | 0.670 | 0.086 | ( 0.603) | 0.584 |
| 26 2.17 | 4.20 | 0.907 | 0.086 | ( 0.816) | 0.821 |
| 27 2.25 | 5.00 | 1.080 | 0.086 | ( 0.972) | 0.994 |
| 28 2.33 | 3.50 | 0.756 | 0.086 | ( 0.680) | 0.670 |
| 29 2.42 | 6.80 | 1.469 | 0.086 | ( 1.322) | 1.383 |
| 30 2.50 | 7.30 | 1.577 | 0.086 | ( 1.419) | 1.491 |
| 31 2.58 | 8.20 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 32 2.67 | 5.90 | 1.274 | 0.086 | ( 1.147) | 1.189 |
| 33 2.75 | 2.00 | 0.432 | 0.086 | ( 0.389) | 0.346 |
| 34 2.83 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 35 2.92 | 1.80 | 0.389 | 0.086 | ( 0.350) | 0.303 |
| 36 3.00 | 0.60 | 0.130 | 0.086 | ( 0.117) | 0.044 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 18.5 |

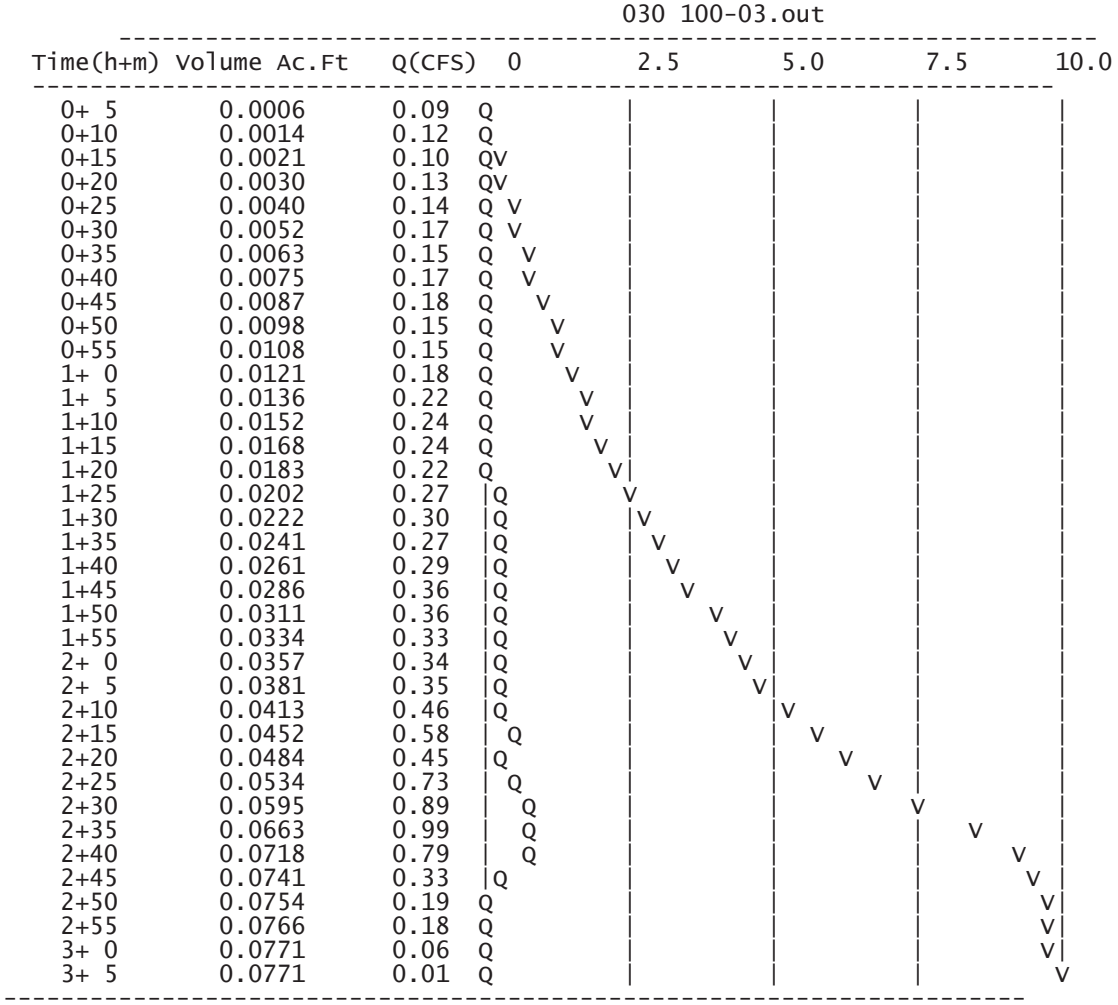
Flood volume = Effective rainfall 1.54(In)
times area 0.6(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.013(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 3359.8 Cubic Feet
Total soil loss = 560.6 Cubic Feet

Peak flow rate of this hydrograph = 0.991(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))


Time(h+m) Volume Ac.Ft Q(CFS) 0 2.5 5.0 7.5 10.0
0+ 5 0.0006 0.09
0+10 0.0014 0.12
0+15 0.0021 0.10
0+20 0.0030 0.13
0+25 0.0040 0.14
0+30 0.0052 0.17
0+35 0.0063 0.15
0+40 0.0075 0.17
0+45 0.0087 0.18
0+50 0.0098 0.15
0+55 0.0108 0.15
1+ 0 0.0121 0.18
1+ 5 0.0136 0.22
1+10 0.0152 0.24
1+15 0.0168 0.24
1+20 0.0183 0.22
1+25 0.0202 0.27
1+30 0.0222 0.30
1+35 0.0241 0.27
1+40 0.0261 0.29
1+45 0.0286 0.36
1+50 0.0311 0.36
1+55 0.0334 0.33
2+ 0 0.0357 0.34
2+ 5 0.0381 0.35
2+10 0.0413 0.46
2+15 0.0452 0.58
2+20 0.0484 0.45
2+25 0.0534 0.73
2+30 0.0595 0.89
2+35 0.0663 0.99
2+40 0.0718 0.79
2+45 0.0741 0.33
2+50 0.0754 0.19
2+55 0.0766 0.18
3+ 0 0.0771 0.06
3+ 5 0.0771 0.01

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX306100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 30
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.60(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.60(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 233.00(Ft.)
Length along longest watercourse measured to centroid = 135.00(Ft.)
Length along longest watercourse = 0.044 Mi.
Length along longest watercourse measured to centroid = 0.026 Mi.
Difference in elevation = 88.00(Ft.)
Slope along watercourse = 1994.1631 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.015 Hr.
Lag time = 0.90 Min.
25% of lag time = 0.23 Min.
40% of lag time = 0.36 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 1.13 | 0.68 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 2.50 | 1.50 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.130(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.600 | 84.00 | 0.000 |

Total Area Entered = 0.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 554.082 | 76.026 | 0.460 |
| 2 | 0.167 | 1108.163 | 23.974 | 0.145 |
| | | | Sum = 100.000 Sum= | 0.605 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.086 | ( 0.135) | 0.064 |
| 2 | 0.17 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 3 | 0.25 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 4 | 0.33 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 5 | 0.42 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 6 | 0.50 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 7 | 0.58 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 8 | 0.67 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 9 | 0.75 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 10 | 0.83 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 11 | 0.92 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 12 | 1.00 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 13 | 1.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 14 | 1.17 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 15 | 1.25 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 16 | 1.33 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 17 | 1.42 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 18 | 1.50 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 19 | 1.58 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 20 | 1.67 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 21 | 1.75 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 22 | 1.83 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 23 | 1.92 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 24 | 2.00 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 25 | 2.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 26 | 2.17 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 27 | 2.25 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 28 | 2.33 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 29 | 2.42 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 30 | 2.50 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 31 | 2.58 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 32 | 2.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 33 | 2.75 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 34 | 2.83 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 35 | 2.92 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 36 | 3.00 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 37 | 3.08 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 38 | 3.17 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 39 | 3.25 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 40 | 3.33 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 41 | 3.42 | 1.20 | 0.360 | 0.086 | ( 0.324) | 0.274 |
| 42 | 3.50 | 1.30 | 0.390 | 0.086 | ( 0.351) | 0.304 |
| 43 | 3.58 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 44 | 3.67 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 45 | 3.75 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 46 | 3.83 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 47 | 3.92 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 48 | 4.00 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 49 | 4.08 | 1.70 | 0.510 | 0.086 | ( 0.459) | 0.424 |
| 50 | 4.17 | 1.80 | 0.540 | 0.086 | ( 0.486) | 0.454 |
| 51 | 4.25 | 1.90 | 0.570 | 0.086 | ( 0.513) | 0.484 |
| 52 | 4.33 | 2.00 | 0.600 | 0.086 | ( 0.540) | 0.514 |
| 53 | 4.42 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 |
| 54 | 4.50 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 55 | 4.58 | 2.20 | 0.660 | 0.086 | ( 0.594) | | 0.574 |
| 56 | 4.67 | 2.30 | 0.690 | 0.086 | ( 0.621) | | 0.604 |
| 57 | 4.75 | 2.40 | 0.720 | 0.086 | ( 0.648) | | 0.634 |
| 58 | 4.83 | 2.40 | 0.720 | 0.086 | ( 0.648) | | 0.634 |
| 59 | 4.92 | 2.50 | 0.750 | 0.086 | ( 0.675) | | 0.664 |
| 60 | 5.00 | 2.60 | 0.780 | 0.086 | ( 0.702) | | 0.694 |
| 61 | 5.08 | 3.10 | 0.930 | 0.086 | ( 0.837) | | 0.844 |
| 62 | 5.17 | 3.60 | 1.080 | 0.086 | ( 0.972) | | 0.994 |
| 63 | 5.25 | 3.90 | 1.170 | 0.086 | ( 1.053) | | 1.084 |
| 64 | 5.33 | 4.20 | 1.260 | 0.086 | ( 1.134) | | 1.174 |
| 65 | 5.42 | 4.70 | 1.410 | 0.086 | ( 1.269) | | 1.324 |
| 66 | 5.50 | 5.60 | 1.680 | 0.086 | ( 1.512) | | 1.594 |
| 67 | 5.58 | 1.90 | 0.570 | 0.086 | ( 0.513) | | 0.484 |
| 68 | 5.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | | 0.184 |
| 69 | 5.75 | 0.60 | 0.180 | 0.086 | ( 0.162) | | 0.094 |
| 70 | 5.83 | 0.50 | 0.150 | 0.086 | ( 0.135) | | 0.064 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.086) | 0.081 | | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.086) | 0.054 | | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.9

Flood volume = Effective rainfall 1.99(In)
times area 0.6(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.51(In)
Total soil loss = 0.026(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 4330.4 Cubic Feet
Total soil loss = 1114.6 Cubic Feet

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Peak flow rate of this hydrograph = 0.925(CFS)

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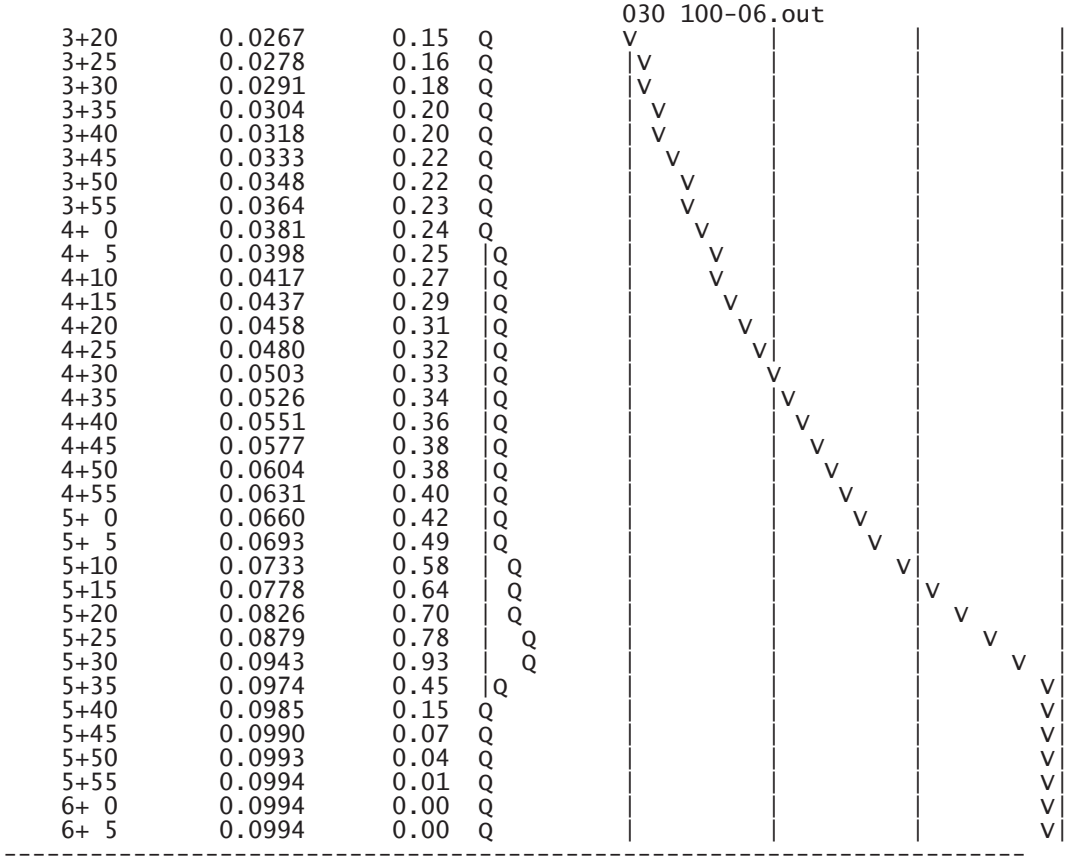
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0002 | 0.03 | Q | | | | |
| 0+10 | 0.0006 | 0.05 | Q | | | | |
| 0+15 | 0.0010 | 0.06 | Q | | | | |
| 0+20 | 0.0014 | 0.06 | Q | | | | |
| 0+25 | 0.0017 | 0.06 | Q | | | | |
| 0+30 | 0.0022 | 0.07 | Q | | | | |
| 0+35 | 0.0027 | 0.08 | QV | | | | |
| 0+40 | 0.0033 | 0.08 | QV | | | | |
| 0+45 | 0.0038 | 0.08 | QV | | | | |
| 0+50 | 0.0043 | 0.08 | QV | | | | |
| 0+55 | 0.0048 | 0.08 | QV | | | | |
| 1+ 0 | 0.0054 | 0.09 | Q V | | | | |
| 1+ 5 | 0.0061 | 0.09 | Q V | | | | |
| 1+10 | 0.0067 | 0.09 | Q V | | | | |
| 1+15 | 0.0074 | 0.09 | Q V | | | | |
| 1+20 | 0.0080 | 0.09 | Q V | | | | |
| 1+25 | 0.0086 | 0.09 | Q V | | | | |
| 1+30 | 0.0093 | 0.09 | Q V | | | | |
| 1+35 | 0.0099 | 0.09 | Q V | | | | |
| 1+40 | 0.0106 | 0.09 | Q V | | | | |
| 1+45 | 0.0112 | 0.09 | Q V | | | | |
| 1+50 | 0.0119 | 0.09 | Q V | | | | |
| 1+55 | 0.0125 | 0.09 | Q V | | | | |
| 2+ 0 | 0.0132 | 0.11 | Q V | | | | |
| 2+ 5 | 0.0139 | 0.10 | Q V | | | | |
| 2+10 | 0.0146 | 0.11 | Q V | | | | |
| 2+15 | 0.0154 | 0.11 | Q V | | | | |
| 2+20 | 0.0162 | 0.11 | Q V | | | | |
| 2+25 | 0.0169 | 0.11 | Q V | | | | |
| 2+30 | 0.0177 | 0.11 | Q V | | | | |
| 2+35 | 0.0185 | 0.11 | Q V | | | | |
| 2+40 | 0.0193 | 0.11 | Q V | | | | |
| 2+45 | 0.0201 | 0.13 | Q V | | | | |
| 2+50 | 0.0210 | 0.13 | Q V | | | | |
| 2+55 | 0.0219 | 0.13 | Q V | | | | |
| 3+ 0 | 0.0228 | 0.13 | Q V | | | | |
| 3+ 5 | 0.0237 | 0.13 | Q V | | | | |
| 3+10 | 0.0247 | 0.14 | Q V | | | | |
| 3+15 | 0.0257 | 0.15 | Q V | | | | |



| | | | |
|---|---|---|---|
| 3+20 | 0.0267 | 0.15 | Q |
| 3+25 | 0.0278 | 0.16 | Q |
| 3+30 | 0.0291 | 0.18 | Q |
| 3+35 | 0.0304 | 0.20 | Q |
| 3+40 | 0.0318 | 0.20 | Q |
| 3+45 | 0.0333 | 0.22 | Q |
| 3+50 | 0.0348 | 0.22 | Q |
| 3+55 | 0.0364 | 0.23 | Q |
| 4+ 0 | 0.0381 | 0.24 | Q |
| 4+ 5 | 0.0398 | 0.25 | Q |
| 4+10 | 0.0417 | 0.27 | Q |
| 4+15 | 0.0437 | 0.29 | Q |
| 4+20 | 0.0458 | 0.31 | Q |
| 4+25 | 0.0480 | 0.32 | Q |
| 4+30 | 0.0503 | 0.33 | Q |
| 4+35 | 0.0526 | 0.34 | Q |
| 4+40 | 0.0551 | 0.36 | Q |
| 4+45 | 0.0577 | 0.38 | Q |
| 4+50 | 0.0604 | 0.38 | Q |
| 4+55 | 0.0631 | 0.40 | Q |
| 5+ 0 | 0.0660 | 0.42 | Q |
| 5+ 5 | 0.0693 | 0.49 | Q |
| 5+10 | 0.0733 | 0.58 | Q |
| 5+15 | 0.0778 | 0.64 | Q |
| 5+20 | 0.0826 | 0.70 | Q |
| 5+25 | 0.0879 | 0.78 | Q |
| 5+30 | 0.0943 | 0.93 | Q |
| 5+35 | 0.0974 | 0.45 | Q |
| 5+40 | 0.0985 | 0.15 | Q |
| 5+45 | 0.0990 | 0.07 | Q |
| 5+50 | 0.0993 | 0.04 | Q |
| 5+55 | 0.0994 | 0.01 | Q |
| 6+ 0 | 0.0994 | 0.00 | Q |
| 6+ 5 | 0.0994 | 0.00 | Q |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX3024100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 30
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.60(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.60(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 233.00(Ft.)
Length along longest watercourse measured to centroid = 135.00(Ft.)
Length along longest watercourse = 0.044 Mi.
Length along longest watercourse measured to centroid = 0.026 Mi.
Difference in elevation = 88.00(Ft.)
Slope along watercourse = 1994.1631 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.015 Hr.
Lag time = 0.90 Min.
25% of lag time = 0.23 Min.
40% of lag time = 0.36 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 1.80 | 1.08 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 4.59 | 2.75 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.590(In)

Point rain (area averaged) = 4.590(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.590(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.600 | 84.00 | 0.000 |

Total Area Entered = 0.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 554.082 | 76.026 | 0.460 |
| 2 | 0.167 | 1108.163 | 23.974 | 0.145 |
| | | | Sum = 100.000 Sum= | 0.605 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.037 | ( 0.152) | 0.033 | 0.004 |
| 2 | 0.17 | 0.07 | 0.037 | ( 0.152) | 0.033 | 0.004 |
| 3 | 0.25 | 0.07 | 0.037 | ( 0.151) | 0.033 | 0.004 |
| 4 | 0.33 | 0.10 | 0.055 | ( 0.150) | 0.050 | 0.006 |
| 5 | 0.42 | 0.10 | 0.055 | ( 0.150) | 0.050 | 0.006 |
| 6 | 0.50 | 0.10 | 0.055 | ( 0.149) | 0.050 | 0.006 |
| 7 | 0.58 | 0.10 | 0.055 | ( 0.149) | 0.050 | 0.006 |
| 8 | 0.67 | 0.10 | 0.055 | ( 0.148) | 0.050 | 0.006 |
| 9 | 0.75 | 0.10 | 0.055 | ( 0.147) | 0.050 | 0.006 |
| 10 | 0.83 | 0.13 | 0.073 | ( 0.147) | 0.066 | 0.007 |
| 11 | 0.92 | 0.13 | 0.073 | ( 0.146) | 0.066 | 0.007 |
| 12 | 1.00 | 0.13 | 0.073 | ( 0.146) | 0.066 | 0.007 |
| 13 | 1.08 | 0.10 | 0.055 | ( 0.145) | 0.050 | 0.006 |
| 14 | 1.17 | 0.10 | 0.055 | ( 0.145) | 0.050 | 0.006 |
| 15 | 1.25 | 0.10 | 0.055 | ( 0.144) | 0.050 | 0.006 |
| 16 | 1.33 | 0.10 | 0.055 | ( 0.143) | 0.050 | 0.006 |
| 17 | 1.42 | 0.10 | 0.055 | ( 0.143) | 0.050 | 0.006 |
| 18 | 1.50 | 0.10 | 0.055 | ( 0.142) | 0.050 | 0.006 |
| 19 | 1.58 | 0.10 | 0.055 | ( 0.142) | 0.050 | 0.006 |
| 20 | 1.67 | 0.10 | 0.055 | ( 0.141) | 0.050 | 0.006 |
| 21 | 1.75 | 0.10 | 0.055 | ( 0.141) | 0.050 | 0.006 |
| 22 | 1.83 | 0.13 | 0.073 | ( 0.140) | 0.066 | 0.007 |
| 23 | 1.92 | 0.13 | 0.073 | ( 0.139) | 0.066 | 0.007 |
| 24 | 2.00 | 0.13 | 0.073 | ( 0.139) | 0.066 | 0.007 |
| 25 | 2.08 | 0.13 | 0.073 | ( 0.138) | 0.066 | 0.007 |
| 26 | 2.17 | 0.13 | 0.073 | ( 0.138) | 0.066 | 0.007 |
| 27 | 2.25 | 0.13 | 0.073 | ( 0.137) | 0.066 | 0.007 |
| 28 | 2.33 | 0.13 | 0.073 | ( 0.137) | 0.066 | 0.007 |
| 29 | 2.42 | 0.13 | 0.073 | ( 0.136) | 0.066 | 0.007 |
| 30 | 2.50 | 0.13 | 0.073 | ( 0.136) | 0.066 | 0.007 |
| 31 | 2.58 | 0.17 | 0.092 | ( 0.135) | 0.083 | 0.009 |
| 32 | 2.67 | 0.17 | 0.092 | ( 0.134) | 0.083 | 0.009 |
| 33 | 2.75 | 0.17 | 0.092 | ( 0.134) | 0.083 | 0.009 |
| 34 | 2.83 | 0.17 | 0.092 | ( 0.133) | 0.083 | 0.009 |
| 35 | 2.92 | 0.17 | 0.092 | ( 0.133) | 0.083 | 0.009 |
| 36 | 3.00 | 0.17 | 0.092 | ( 0.132) | 0.083 | 0.009 |
| 37 | 3.08 | 0.17 | 0.092 | ( 0.132) | 0.083 | 0.009 |
| 38 | 3.17 | 0.17 | 0.092 | ( 0.131) | 0.083 | 0.009 |
| 39 | 3.25 | 0.17 | 0.092 | ( 0.131) | 0.083 | 0.009 |
| 40 | 3.33 | 0.17 | 0.092 | ( 0.130) | 0.083 | 0.009 |
| 41 | 3.42 | 0.17 | 0.092 | ( 0.129) | 0.083 | 0.009 |
| 42 | 3.50 | 0.17 | 0.092 | ( 0.129) | 0.083 | 0.009 |
| 43 | 3.58 | 0.17 | 0.092 | ( 0.128) | 0.083 | 0.009 |
| 44 | 3.67 | 0.17 | 0.092 | ( 0.128) | 0.083 | 0.009 |
| 45 | 3.75 | 0.17 | 0.092 | ( 0.127) | 0.083 | 0.009 |
| 46 | 3.83 | 0.20 | 0.110 | ( 0.127) | 0.099 | 0.011 |
| 47 | 3.92 | 0.20 | 0.110 | ( 0.126) | 0.099 | 0.011 |
| 48 | 4.00 | 0.20 | 0.110 | ( 0.126) | 0.099 | 0.011 |
| 49 | 4.08 | 0.20 | 0.110 | ( 0.125) | 0.099 | 0.011 |
| 50 | 4.17 | 0.20 | 0.110 | ( 0.125) | 0.099 | 0.011 |
| 51 | 4.25 | 0.20 | 0.110 | ( 0.124) | 0.099 | 0.011 |
| 52 | 4.33 | 0.23 | 0.129 | ( 0.124) | 0.116 | 0.013 |
| 53 | 4.42 | 0.23 | 0.129 | ( 0.123) | 0.116 | 0.013 |
| 54 | 4.50 | 0.23 | 0.129 | ( 0.123) | 0.116 | 0.013 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 55 | 4.58 | 0.23 | 0.129 | ( | 0.122) | 0.116 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.129 | ( | 0.121) | 0.116 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.129 | ( | 0.121) | 0.116 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.147 | | 0.120 | ( 0.132) | | 0.026 |
| 59 | 4.92 | 0.27 | 0.147 | | 0.120 | ( 0.132) | | 0.027 |
| 60 | 5.00 | 0.27 | 0.147 | | 0.119 | ( 0.132) | | 0.027 |
| 61 | 5.08 | 0.20 | 0.110 | ( | 0.119) | 0.099 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.110 | ( | 0.118) | 0.099 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.110 | ( | 0.118) | 0.099 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.129 | ( | 0.117) | 0.116 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.129 | ( | 0.117) | 0.116 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.129 | ( | 0.116) | 0.116 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.147 | | 0.116 | ( 0.132) | | 0.031 |
| 68 | 5.67 | 0.27 | 0.147 | | 0.115 | ( 0.132) | | 0.032 |
| 69 | 5.75 | 0.27 | 0.147 | | 0.115 | ( 0.132) | | 0.032 |
| 70 | 5.83 | 0.27 | 0.147 | | 0.114 | ( 0.132) | | 0.033 |
| 71 | 5.92 | 0.27 | 0.147 | | 0.114 | ( 0.132) | | 0.033 |
| 72 | 6.00 | 0.27 | 0.147 | | 0.113 | ( 0.132) | | 0.034 |
| 73 | 6.08 | 0.30 | 0.165 | | 0.113 | ( 0.149) | | 0.052 |
| 74 | 6.17 | 0.30 | 0.165 | | 0.112 | ( 0.149) | | 0.053 |
| 75 | 6.25 | 0.30 | 0.165 | | 0.112 | ( 0.149) | | 0.053 |
| 76 | 6.33 | 0.30 | 0.165 | | 0.111 | ( 0.149) | | 0.054 |
| 77 | 6.42 | 0.30 | 0.165 | | 0.111 | ( 0.149) | | 0.054 |
| 78 | 6.50 | 0.30 | 0.165 | | 0.110 | ( 0.149) | | 0.055 |
| 79 | 6.58 | 0.33 | 0.184 | | 0.110 | ( 0.165) | | 0.074 |
| 80 | 6.67 | 0.33 | 0.184 | | 0.109 | ( 0.165) | | 0.074 |
| 81 | 6.75 | 0.33 | 0.184 | | 0.109 | ( 0.165) | | 0.075 |
| 82 | 6.83 | 0.33 | 0.184 | | 0.108 | ( 0.165) | | 0.075 |
| 83 | 6.92 | 0.33 | 0.184 | | 0.108 | ( 0.165) | | 0.076 |
| 84 | 7.00 | 0.33 | 0.184 | | 0.107 | ( 0.165) | | 0.076 |
| 85 | 7.08 | 0.33 | 0.184 | | 0.107 | ( 0.165) | | 0.077 |
| 86 | 7.17 | 0.33 | 0.184 | | 0.106 | ( 0.165) | | 0.077 |
| 87 | 7.25 | 0.33 | 0.184 | | 0.106 | ( 0.165) | | 0.078 |
| 88 | 7.33 | 0.37 | 0.202 | | 0.105 | ( 0.182) | | 0.097 |
| 89 | 7.42 | 0.37 | 0.202 | | 0.105 | ( 0.182) | | 0.097 |
| 90 | 7.50 | 0.37 | 0.202 | | 0.104 | ( 0.182) | | 0.098 |
| 91 | 7.58 | 0.40 | 0.220 | | 0.104 | ( 0.198) | | 0.116 |
| 92 | 7.67 | 0.40 | 0.220 | | 0.103 | ( 0.198) | | 0.117 |
| 93 | 7.75 | 0.40 | 0.220 | | 0.103 | ( 0.198) | | 0.117 |
| 94 | 7.83 | 0.43 | 0.239 | | 0.102 | ( 0.215) | | 0.136 |
| 95 | 7.92 | 0.43 | 0.239 | | 0.102 | ( 0.215) | | 0.137 |
| 96 | 8.00 | 0.43 | 0.239 | | 0.102 | ( 0.215) | | 0.137 |
| 97 | 8.08 | 0.50 | 0.275 | | 0.101 | ( 0.248) | | 0.174 |
| 98 | 8.17 | 0.50 | 0.275 | | 0.101 | ( 0.248) | | 0.175 |
| 99 | 8.25 | 0.50 | 0.275 | | 0.100 | ( 0.248) | | 0.175 |
| 100 | 8.33 | 0.50 | 0.275 | | 0.100 | ( 0.248) | | 0.176 |
| 101 | 8.42 | 0.50 | 0.275 | | 0.099 | ( 0.248) | | 0.176 |
| 102 | 8.50 | 0.50 | 0.275 | | 0.099 | ( 0.248) | | 0.177 |
| 103 | 8.58 | 0.53 | 0.294 | | 0.098 | ( 0.264) | | 0.195 |
| 104 | 8.67 | 0.53 | 0.294 | | 0.098 | ( 0.264) | | 0.196 |
| 105 | 8.75 | 0.53 | 0.294 | | 0.097 | ( 0.264) | | 0.196 |
| 106 | 8.83 | 0.57 | 0.312 | | 0.097 | ( 0.281) | | 0.215 |
| 107 | 8.92 | 0.57 | 0.312 | | 0.096 | ( 0.281) | | 0.216 |
| 108 | 9.00 | 0.57 | 0.312 | | 0.096 | ( 0.281) | | 0.216 |
| 109 | 9.08 | 0.63 | 0.349 | | 0.096 | ( 0.314) | | 0.253 |
| 110 | 9.17 | 0.63 | 0.349 | | 0.095 | ( 0.314) | | 0.254 |
| 111 | 9.25 | 0.63 | 0.349 | | 0.095 | ( 0.314) | | 0.254 |
| 112 | 9.33 | 0.67 | 0.367 | | 0.094 | ( 0.330) | | 0.273 |
| 113 | 9.42 | 0.67 | 0.367 | | 0.094 | ( 0.330) | | 0.273 |
| 114 | 9.50 | 0.67 | 0.367 | | 0.093 | ( 0.330) | | 0.274 |
| 115 | 9.58 | 0.70 | 0.386 | | 0.093 | ( 0.347) | | 0.293 |
| 116 | 9.67 | 0.70 | 0.386 | | 0.092 | ( 0.347) | | 0.293 |
| 117 | 9.75 | 0.70 | 0.386 | | 0.092 | ( 0.347) | | 0.294 |
| 118 | 9.83 | 0.73 | 0.404 | | 0.091 | ( 0.364) | | 0.312 |
| 119 | 9.92 | 0.73 | 0.404 | | 0.091 | ( 0.364) | | 0.313 |
| 120 | 10.00 | 0.73 | 0.404 | | 0.091 | ( 0.364) | | 0.313 |
| 121 | 10.08 | 0.50 | 0.275 | | 0.090 | ( 0.248) | | 0.185 |
| 122 | 10.17 | 0.50 | 0.275 | | 0.090 | ( 0.248) | | 0.186 |
| 123 | 10.25 | 0.50 | 0.275 | | 0.089 | ( 0.248) | | 0.186 |
| 124 | 10.33 | 0.50 | 0.275 | | 0.089 | ( 0.248) | | 0.187 |
| 125 | 10.42 | 0.50 | 0.275 | | 0.088 | ( 0.248) | | 0.187 |
| 126 | 10.50 | 0.50 | 0.275 | | 0.088 | ( 0.248) | | 0.187 |
| 127 | 10.58 | 0.67 | 0.367 | | 0.088 | ( 0.330) | | 0.280 |
| 128 | 10.67 | 0.67 | 0.367 | | 0.087 | ( 0.330) | | 0.280 |
| 129 | 10.75 | 0.67 | 0.367 | | 0.087 | ( 0.330) | | 0.280 |
| 130 | 10.83 | 0.67 | 0.367 | | 0.086 | ( 0.330) | | 0.281 |
| 131 | 10.92 | 0.67 | 0.367 | | 0.086 | ( 0.330) | | 0.281 |
| 132 | 11.00 | 0.67 | 0.367 | | 0.085 | ( 0.330) | | 0.282 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 133 | 11.08 | 0.63 | 0.349 | | 0.085 | ( 0.314) | | 0.264 |
| 134 | 11.17 | 0.63 | 0.349 | | 0.085 | ( 0.314) | | 0.264 |
| 135 | 11.25 | 0.63 | 0.349 | | 0.084 | ( 0.314) | | 0.265 |
| 136 | 11.33 | 0.63 | 0.349 | | 0.084 | ( 0.314) | | 0.265 |
| 137 | 11.42 | 0.63 | 0.349 | | 0.083 | ( 0.314) | | 0.265 |
| 138 | 11.50 | 0.63 | 0.349 | | 0.083 | ( 0.314) | | 0.266 |
| 139 | 11.58 | 0.57 | 0.312 | | 0.083 | ( 0.281) | | 0.230 |
| 140 | 11.67 | 0.57 | 0.312 | | 0.082 | ( 0.281) | | 0.230 |
| 141 | 11.75 | 0.57 | 0.312 | | 0.082 | ( 0.281) | | 0.230 |
| 142 | 11.83 | 0.60 | 0.330 | | 0.081 | ( 0.297) | | 0.249 |
| 143 | 11.92 | 0.60 | 0.330 | | 0.081 | ( 0.297) | | 0.250 |
| 144 | 12.00 | 0.60 | 0.330 | | 0.080 | ( 0.297) | | 0.250 |
| 145 | 12.08 | 0.83 | 0.459 | | 0.080 | ( 0.413) | | 0.379 |
| 146 | 12.17 | 0.83 | 0.459 | | 0.080 | ( 0.413) | | 0.379 |
| 147 | 12.25 | 0.83 | 0.459 | | 0.079 | ( 0.413) | | 0.380 |
| 148 | 12.33 | 0.87 | 0.477 | | 0.079 | ( 0.430) | | 0.398 |
| 149 | 12.42 | 0.87 | 0.477 | | 0.078 | ( 0.430) | | 0.399 |
| 150 | 12.50 | 0.87 | 0.477 | | 0.078 | ( 0.430) | | 0.399 |
| 151 | 12.58 | 0.93 | 0.514 | | 0.078 | ( 0.463) | | 0.436 |
| 152 | 12.67 | 0.93 | 0.514 | | 0.077 | ( 0.463) | | 0.437 |
| 153 | 12.75 | 0.93 | 0.514 | | 0.077 | ( 0.463) | | 0.437 |
| 154 | 12.83 | 0.97 | 0.532 | | 0.077 | ( 0.479) | | 0.456 |
| 155 | 12.92 | 0.97 | 0.532 | | 0.076 | ( 0.479) | | 0.456 |
| 156 | 13.00 | 0.97 | 0.532 | | 0.076 | ( 0.479) | | 0.457 |
| 157 | 13.08 | 1.13 | 0.624 | | 0.075 | ( 0.562) | | 0.549 |
| 158 | 13.17 | 1.13 | 0.624 | | 0.075 | ( 0.562) | | 0.549 |
| 159 | 13.25 | 1.13 | 0.624 | | 0.075 | ( 0.562) | | 0.550 |
| 160 | 13.33 | 1.13 | 0.624 | | 0.074 | ( 0.562) | | 0.550 |
| 161 | 13.42 | 1.13 | 0.624 | | 0.074 | ( 0.562) | | 0.550 |
| 162 | 13.50 | 1.13 | 0.624 | | 0.073 | ( 0.562) | | 0.551 |
| 163 | 13.58 | 0.77 | 0.422 | | 0.073 | ( 0.380) | | 0.349 |
| 164 | 13.67 | 0.77 | 0.422 | | 0.073 | ( 0.380) | | 0.350 |
| 165 | 13.75 | 0.77 | 0.422 | | 0.072 | ( 0.380) | | 0.350 |
| 166 | 13.83 | 0.77 | 0.422 | | 0.072 | ( 0.380) | | 0.350 |
| 167 | 13.92 | 0.77 | 0.422 | | 0.072 | ( 0.380) | | 0.351 |
| 168 | 14.00 | 0.77 | 0.422 | | 0.071 | ( 0.380) | | 0.351 |
| 169 | 14.08 | 0.90 | 0.496 | | 0.071 | ( 0.446) | | 0.425 |
| 170 | 14.17 | 0.90 | 0.496 | | 0.071 | ( 0.446) | | 0.425 |
| 171 | 14.25 | 0.90 | 0.496 | | 0.070 | ( 0.446) | | 0.426 |
| 172 | 14.33 | 0.87 | 0.477 | | 0.070 | ( 0.430) | | 0.408 |
| 173 | 14.42 | 0.87 | 0.477 | | 0.069 | ( 0.430) | | 0.408 |
| 174 | 14.50 | 0.87 | 0.477 | | 0.069 | ( 0.430) | | 0.408 |
| 175 | 14.58 | 0.87 | 0.477 | | 0.069 | ( 0.430) | | 0.409 |
| 176 | 14.67 | 0.87 | 0.477 | | 0.068 | ( 0.430) | | 0.409 |
| 177 | 14.75 | 0.87 | 0.477 | | 0.068 | ( 0.430) | | 0.409 |
| 178 | 14.83 | 0.83 | 0.459 | | 0.068 | ( 0.413) | | 0.391 |
| 179 | 14.92 | 0.83 | 0.459 | | 0.067 | ( 0.413) | | 0.392 |
| 180 | 15.00 | 0.83 | 0.459 | | 0.067 | ( 0.413) | | 0.392 |
| 181 | 15.08 | 0.80 | 0.441 | | 0.067 | ( 0.397) | | 0.374 |
| 182 | 15.17 | 0.80 | 0.441 | | 0.066 | ( 0.397) | | 0.374 |
| 183 | 15.25 | 0.80 | 0.441 | | 0.066 | ( 0.397) | | 0.375 |
| 184 | 15.33 | 0.77 | 0.422 | | 0.066 | ( 0.380) | | 0.357 |
| 185 | 15.42 | 0.77 | 0.422 | | 0.065 | ( 0.380) | | 0.357 |
| 186 | 15.50 | 0.77 | 0.422 | | 0.065 | ( 0.380) | | 0.357 |
| 187 | 15.58 | 0.63 | 0.349 | | 0.065 | ( 0.314) | | 0.284 |
| 188 | 15.67 | 0.63 | 0.349 | | 0.064 | ( 0.314) | | 0.285 |
| 189 | 15.75 | 0.63 | 0.349 | | 0.064 | ( 0.314) | | 0.285 |
| 190 | 15.83 | 0.63 | 0.349 | | 0.064 | ( 0.314) | | 0.285 |
| 191 | 15.92 | 0.63 | 0.349 | | 0.063 | ( 0.314) | | 0.286 |
| 192 | 16.00 | 0.63 | 0.349 | | 0.063 | ( 0.314) | | 0.286 |
| 193 | 16.08 | 0.13 | 0.073 | | 0.063 | ( 0.066) | | 0.011 |
| 194 | 16.17 | 0.13 | 0.073 | | 0.062 | ( 0.066) | | 0.011 |
| 195 | 16.25 | 0.13 | 0.073 | | 0.062 | ( 0.066) | | 0.011 |
| 196 | 16.33 | 0.13 | 0.073 | | 0.062 | ( 0.066) | | 0.012 |
| 197 | 16.42 | 0.13 | 0.073 | | 0.061 | ( 0.066) | | 0.012 |
| 198 | 16.50 | 0.13 | 0.073 | | 0.061 | ( 0.066) | | 0.012 |
| 199 | 16.58 | 0.10 | 0.055 | ( 0.061) | | 0.050 | | 0.006 |
| 200 | 16.67 | 0.10 | 0.055 | ( 0.060) | | 0.050 | | 0.006 |
| 201 | 16.75 | 0.10 | 0.055 | ( 0.060) | | 0.050 | | 0.006 |
| 202 | 16.83 | 0.10 | 0.055 | ( 0.060) | | 0.050 | | 0.006 |
| 203 | 16.92 | 0.10 | 0.055 | ( 0.060) | | 0.050 | | 0.006 |
| 204 | 17.00 | 0.10 | 0.055 | ( 0.059) | | 0.050 | | 0.006 |
| 205 | 17.08 | 0.17 | 0.092 | | 0.059 | ( 0.083) | | 0.033 |
| 206 | 17.17 | 0.17 | 0.092 | | 0.059 | ( 0.083) | | 0.033 |
| 207 | 17.25 | 0.17 | 0.092 | | 0.058 | ( 0.083) | | 0.033 |
| 208 | 17.33 | 0.17 | 0.092 | | 0.058 | ( 0.083) | | 0.034 |
| 209 | 17.42 | 0.17 | 0.092 | | 0.058 | ( 0.083) | | 0.034 |
| 210 | 17.50 | 0.17 | 0.092 | | 0.058 | ( 0.083) | | 0.034 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 211 | 17.58 | 0.17 | 0.092 | | 0.057 | ( | 0.083) | 0.035 |
| 212 | 17.67 | 0.17 | 0.092 | | 0.057 | ( | 0.083) | 0.035 |
| 213 | 17.75 | 0.17 | 0.092 | | 0.057 | ( | 0.083) | 0.035 |
| 214 | 17.83 | 0.13 | 0.073 | | 0.056 | ( | 0.066) | 0.017 |
| 215 | 17.92 | 0.13 | 0.073 | | 0.056 | ( | 0.066) | 0.017 |
| 216 | 18.00 | 0.13 | 0.073 | | 0.056 | ( | 0.066) | 0.018 |
| 217 | 18.08 | 0.13 | 0.073 | | 0.056 | ( | 0.066) | 0.018 |
| 218 | 18.17 | 0.13 | 0.073 | | 0.055 | ( | 0.066) | 0.018 |
| 219 | 18.25 | 0.13 | 0.073 | | 0.055 | ( | 0.066) | 0.018 |
| 220 | 18.33 | 0.13 | 0.073 | | 0.055 | ( | 0.066) | 0.019 |
| 221 | 18.42 | 0.13 | 0.073 | | 0.054 | ( | 0.066) | 0.019 |
| 222 | 18.50 | 0.13 | 0.073 | | 0.054 | ( | 0.066) | 0.019 |
| 223 | 18.58 | 0.10 | 0.055 | ( | 0.054) | | 0.050 | 0.006 |
| 224 | 18.67 | 0.10 | 0.055 | ( | 0.054) | | 0.050 | 0.006 |
| 225 | 18.75 | 0.10 | 0.055 | ( | 0.053) | | 0.050 | 0.006 |
| 226 | 18.83 | 0.07 | 0.037 | ( | 0.053) | | 0.033 | 0.004 |
| 227 | 18.92 | 0.07 | 0.037 | ( | 0.053) | | 0.033 | 0.004 |
| 228 | 19.00 | 0.07 | 0.037 | ( | 0.053) | | 0.033 | 0.004 |
| 229 | 19.08 | 0.10 | 0.055 | ( | 0.052) | | 0.050 | 0.006 |
| 230 | 19.17 | 0.10 | 0.055 | ( | 0.052) | | 0.050 | 0.006 |
| 231 | 19.25 | 0.10 | 0.055 | ( | 0.052) | | 0.050 | 0.006 |
| 232 | 19.33 | 0.13 | 0.073 | | 0.052 | ( | 0.066) | 0.022 |
| 233 | 19.42 | 0.13 | 0.073 | | 0.051 | ( | 0.066) | 0.022 |
| 234 | 19.50 | 0.13 | 0.073 | | 0.051 | ( | 0.066) | 0.022 |
| 235 | 19.58 | 0.10 | 0.055 | ( | 0.051) | | 0.050 | 0.006 |
| 236 | 19.67 | 0.10 | 0.055 | ( | 0.051) | | 0.050 | 0.006 |
| 237 | 19.75 | 0.10 | 0.055 | ( | 0.050) | | 0.050 | 0.006 |
| 238 | 19.83 | 0.07 | 0.037 | ( | 0.050) | | 0.033 | 0.004 |
| 239 | 19.92 | 0.07 | 0.037 | ( | 0.050) | | 0.033 | 0.004 |
| 240 | 20.00 | 0.07 | 0.037 | ( | 0.050) | | 0.033 | 0.004 |
| 241 | 20.08 | 0.10 | 0.055 | ( | 0.050) | | 0.050 | 0.006 |
| 242 | 20.17 | 0.10 | 0.055 | | 0.049 | ( | 0.050) | 0.006 |
| 243 | 20.25 | 0.10 | 0.055 | | 0.049 | ( | 0.050) | 0.006 |
| 244 | 20.33 | 0.10 | 0.055 | | 0.049 | ( | 0.050) | 0.006 |
| 245 | 20.42 | 0.10 | 0.055 | | 0.049 | ( | 0.050) | 0.006 |
| 246 | 20.50 | 0.10 | 0.055 | | 0.049 | ( | 0.050) | 0.007 |
| 247 | 20.58 | 0.10 | 0.055 | | 0.048 | ( | 0.050) | 0.007 |
| 248 | 20.67 | 0.10 | 0.055 | | 0.048 | ( | 0.050) | 0.007 |
| 249 | 20.75 | 0.10 | 0.055 | | 0.048 | ( | 0.050) | 0.007 |
| 250 | 20.83 | 0.07 | 0.037 | ( | 0.048) | | 0.033 | 0.004 |
| 251 | 20.92 | 0.07 | 0.037 | ( | 0.048) | | 0.033 | 0.004 |
| 252 | 21.00 | 0.07 | 0.037 | ( | 0.047) | | 0.033 | 0.004 |
| 253 | 21.08 | 0.10 | 0.055 | | 0.047 | ( | 0.050) | 0.008 |
| 254 | 21.17 | 0.10 | 0.055 | | 0.047 | ( | 0.050) | 0.008 |
| 255 | 21.25 | 0.10 | 0.055 | | 0.047 | ( | 0.050) | 0.008 |
| 256 | 21.33 | 0.07 | 0.037 | ( | 0.047) | | 0.033 | 0.004 |
| 257 | 21.42 | 0.07 | 0.037 | ( | 0.046) | | 0.033 | 0.004 |
| 258 | 21.50 | 0.07 | 0.037 | ( | 0.046) | | 0.033 | 0.004 |
| 259 | 21.58 | 0.10 | 0.055 | | 0.046 | ( | 0.050) | 0.009 |
| 260 | 21.67 | 0.10 | 0.055 | | 0.046 | ( | 0.050) | 0.009 |
| 261 | 21.75 | 0.10 | 0.055 | | 0.046 | ( | 0.050) | 0.009 |
| 262 | 21.83 | 0.07 | 0.037 | ( | 0.046) | | 0.033 | 0.004 |
| 263 | 21.92 | 0.07 | 0.037 | ( | 0.045) | | 0.033 | 0.004 |
| 264 | 22.00 | 0.07 | 0.037 | ( | 0.045) | | 0.033 | 0.004 |
| 265 | 22.08 | 0.10 | 0.055 | | 0.045 | ( | 0.050) | 0.010 |
| 266 | 22.17 | 0.10 | 0.055 | | 0.045 | ( | 0.050) | 0.010 |
| 267 | 22.25 | 0.10 | 0.055 | | 0.045 | ( | 0.050) | 0.010 |
| 268 | 22.33 | 0.07 | 0.037 | ( | 0.045) | | 0.033 | 0.004 |
| 269 | 22.42 | 0.07 | 0.037 | ( | 0.045) | | 0.033 | 0.004 |
| 270 | 22.50 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 271 | 22.58 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 272 | 22.67 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 273 | 22.75 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 274 | 22.83 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 275 | 22.92 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 276 | 23.00 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 277 | 23.08 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 278 | 23.17 | 0.07 | 0.037 | ( | 0.044) | | 0.033 | 0.004 |
| 279 | 23.25 | 0.07 | 0.037 | ( | 0.043) | | 0.033 | 0.004 |
| 280 | 23.33 | 0.07 | 0.037 | ( | 0.043) | | 0.033 | 0.004 |
| 281 | 23.42 | 0.07 | 0.037 | ( | 0.043) | | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.037 | ( | 0.043) | | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.037 | ( | 0.043) | | 0.033 | 0.004 |
| 284 | 23.67 | 0.07 | 0.037 | ( | 0.043) | | 0.033 | 0.004 |
| 285 | 23.75 | 0.07 | 0.037 | ( | 0.043) | | 0.033 | 0.004 |
| 286 | 23.83 | 0.07 | 0.037 | ( | 0.043) | | 0.033 | 0.004 |
| 287 | 23.92 | 0.07 | 0.037 | ( | 0.043) | | 0.033 | 0.004 |
| 288 | 24.00 | 0.07 | 0.037 | ( | 0.043) | | 0.033 | 0.004 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 34.6

Flood volume = Effective rainfall 2.88(In)
times area 0.6(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 1.71(In)
Total soil loss = 0.085(Ac.Ft)
Total rainfall = 4.59(In)
Flood volume = 6272.7 Cubic Feet
Total soil loss = 3724.3 Cubic Feet

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Peak flow rate of this hydrograph = 0.333(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

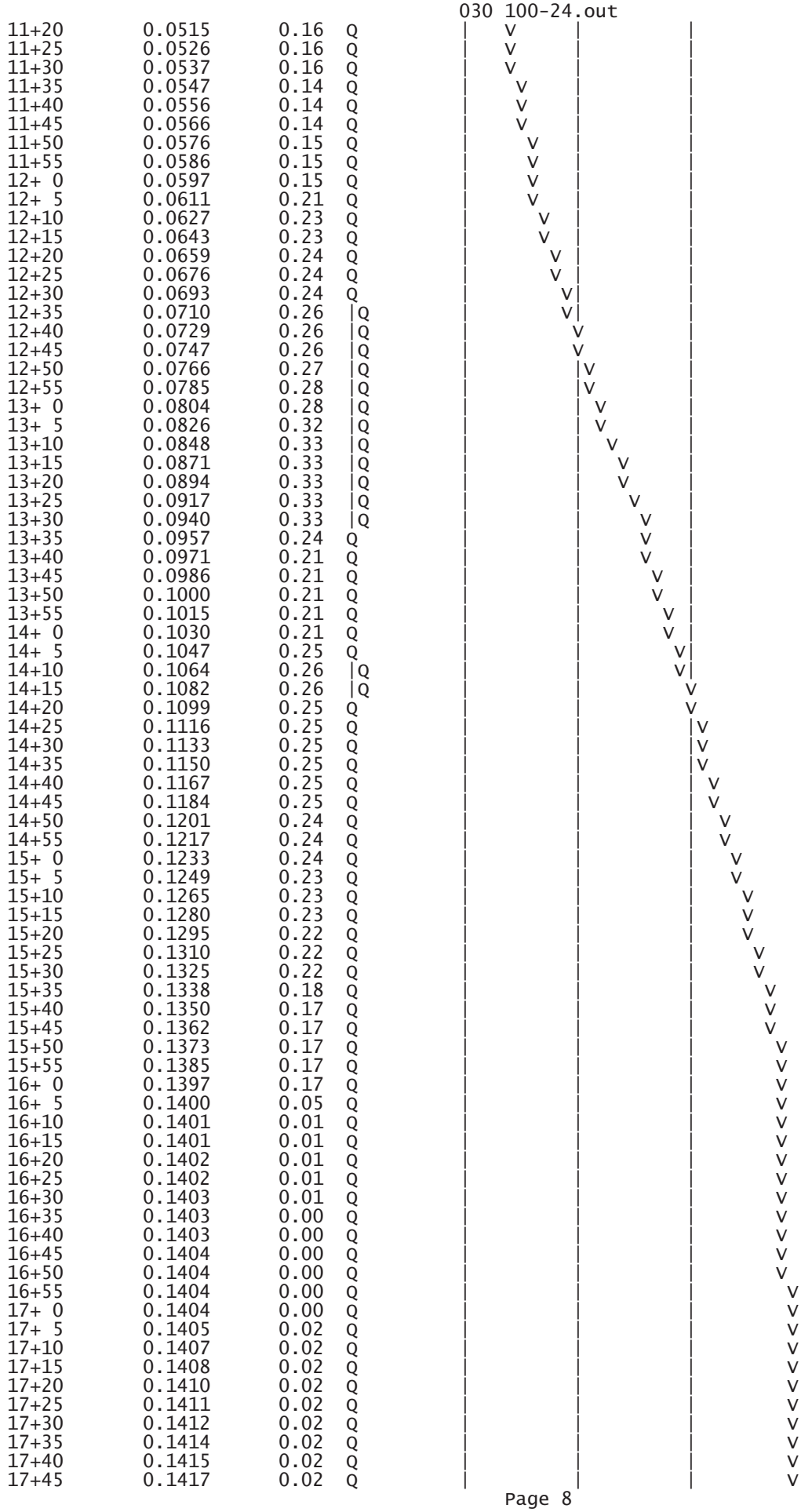
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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0000 | 0.00 | Q | | | | |
| 0+10 | 0.0000 | 0.00 | Q | | | | |
| 0+15 | 0.0000 | 0.00 | Q | | | | |
| 0+20 | 0.0001 | 0.00 | Q | | | | |
| 0+25 | 0.0001 | 0.00 | Q | | | | |
| 0+30 | 0.0001 | 0.00 | Q | | | | |
| 0+35 | 0.0001 | 0.00 | Q | | | | |
| 0+40 | 0.0002 | 0.00 | Q | | | | |
| 0+45 | 0.0002 | 0.00 | Q | | | | |
| 0+50 | 0.0002 | 0.00 | Q | | | | |
| 0+55 | 0.0002 | 0.00 | Q | | | | |
| 1+ 0 | 0.0003 | 0.00 | Q | | | | |
| 1+ 5 | 0.0003 | 0.00 | Q | | | | |
| 1+10 | 0.0003 | 0.00 | Q | | | | |
| 1+15 | 0.0003 | 0.00 | Q | | | | |
| 1+20 | 0.0004 | 0.00 | Q | | | | |
| 1+25 | 0.0004 | 0.00 | Q | | | | |
| 1+30 | 0.0004 | 0.00 | Q | | | | |
| 1+35 | 0.0004 | 0.00 | Q | | | | |
| 1+40 | 0.0005 | 0.00 | Q | | | | |
| 1+45 | 0.0005 | 0.00 | Q | | | | |
| 1+50 | 0.0005 | 0.00 | Q | | | | |
| 1+55 | 0.0005 | 0.00 | Q | | | | |
| 2+ 0 | 0.0006 | 0.00 | Q | | | | |
| 2+ 5 | 0.0006 | 0.00 | Q | | | | |
| 2+10 | 0.0006 | 0.00 | Q | | | | |
| 2+15 | 0.0007 | 0.00 | Q | | | | |
| 2+20 | 0.0007 | 0.00 | Q | | | | |
| 2+25 | 0.0007 | 0.00 | Q | | | | |
| 2+30 | 0.0008 | 0.00 | Q | | | | |
| 2+35 | 0.0008 | 0.01 | Q | | | | |
| 2+40 | 0.0008 | 0.01 | Q | | | | |
| 2+45 | 0.0009 | 0.01 | Q | | | | |
| 2+50 | 0.0009 | 0.01 | Q | | | | |
| 2+55 | 0.0009 | 0.01 | Q | | | | |
| 3+ 0 | 0.0010 | 0.01 | Q | | | | |
| 3+ 5 | 0.0010 | 0.01 | Q | | | | |
| 3+10 | 0.0011 | 0.01 | Q | | | | |
| 3+15 | 0.0011 | 0.01 | Q | | | | |
| 3+20 | 0.0011 | 0.01 | Q | | | | |
| 3+25 | 0.0012 | 0.01 | Q | | | | |
| 3+30 | 0.0012 | 0.01 | Q | | | | |
| 3+35 | 0.0012 | 0.01 | Q | | | | |
| 3+40 | 0.0013 | 0.01 | Q | | | | |
| 3+45 | 0.0013 | 0.01 | Q | | | | |
| 3+50 | 0.0014 | 0.01 | Q | | | | |
| 3+55 | 0.0014 | 0.01 | Q | | | | |
| 4+ 0 | 0.0015 | 0.01 | Q | | | | |
| 4+ 5 | 0.0015 | 0.01 | Q | | | | |
| 4+10 | 0.0015 | 0.01 | Q | | | | |
| 4+15 | 0.0016 | 0.01 | Q | | | | |
| 4+20 | 0.0016 | 0.01 | Q | | | | |
| 4+25 | 0.0017 | 0.01 | Q | | | | |
| 4+30 | 0.0018 | 0.01 | Q | | | | |
| 4+35 | 0.0018 | 0.01 | Q | | | | |
| 4+40 | 0.0019 | 0.01 | Q | | | | |
| 4+45 | 0.0019 | 0.01 | Q | | | | |

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 4+50       0.0020      0.01  Q          |          |          |          |
 4+55       0.0021      0.02  Q          |          |          |          |
 5+ 0       0.0022      0.02  Q          |          |          |          |
 5+ 5       0.0023      0.01  Q          |          |          |          |
 5+10       0.0023      0.01  Q          |          |          |          |
 5+15       0.0024      0.01  Q          |          |          |          |
 5+20       0.0024      0.01  Q          |          |          |          |
 5+25       0.0025      0.01  Q          |          |          |          |
 5+30       0.0026      0.01  Q          |          |          |          |
 5+35       0.0027      0.02  Q          |          |          |          |
 5+40       0.0028      0.02  Q          |          |          |          |
 5+45       0.0029      0.02  Q          |          |          |          |
 5+50       0.0031      0.02  Q          |          |          |          |
 5+55       0.0032      0.02  Q          |          |          |          |
 6+ 0       0.0033      0.02  Q          |          |          |          |
 6+ 5       0.0035      0.03  Q          |          |          |          |
 6+10       0.0038      0.03  QV         |          |          |          |
 6+15       0.0040      0.03  QV         |          |          |          |
 6+20       0.0042      0.03  QV         |          |          |          |
 6+25       0.0044      0.03  QV         |          |          |          |
 6+30       0.0047      0.03  QV         |          |          |          |
 6+35       0.0049      0.04  QV         |          |          |          |
 6+40       0.0053      0.04  QV         |          |          |          |
 6+45       0.0056      0.05  QV         |          |          |          |
 6+50       0.0059      0.05  QV         |          |          |          |
 6+55       0.0062      0.05  QV         |          |          |          |
 7+ 0       0.0065      0.05  QV         |          |          |          |
 7+ 5       0.0068      0.05  QV         |          |          |          |
 7+10       0.0072      0.05  QV         |          |          |          |
 7+15       0.0075      0.05  Q V        |          |          |          |
 7+20       0.0079      0.06  Q V        |          |          |          |
 7+25       0.0083      0.06  Q V        |          |          |          |
 7+30       0.0087      0.06  Q V        |          |          |          |
 7+35       0.0091      0.07  Q V        |          |          |          |
 7+40       0.0096      0.07  Q V        |          |          |          |
 7+45       0.0101      0.07  Q V        |          |          |          |
 7+50       0.0107      0.08  Q V        |          |          |          |
 7+55       0.0112      0.08  Q  V       |          |          |          |
 8+ 0       0.0118      0.08  Q  V       |          |          |          |
 8+ 5       0.0125      0.10  Q  V       |          |          |          |
 8+10       0.0132      0.11  Q  V       |          |          |          |
 8+15       0.0140      0.11  Q  V       |          |          |          |
 8+20       0.0147      0.11  Q   V      |          |          |          |
 8+25       0.0154      0.11  Q   V      |          |          |          |
 8+30       0.0162      0.11  Q   V      |          |          |          |
 8+35       0.0169      0.12  Q   V      |          |          |          |
 8+40       0.0178      0.12  Q   V      |          |          |          |
 8+45       0.0186      0.12  Q    V     |          |          |          |
 8+50       0.0195      0.13  Q    V     |          |          |          |
 8+55       0.0204      0.13  Q    V     |          |          |          |
 9+ 0       0.0213      0.13  Q    V     |          |          |          |
 9+ 5       0.0223      0.15  Q     V    |          |          |          |
 9+10       0.0233      0.15  Q     V    |          |          |          |
 9+15       0.0244      0.15  Q     V    |          |          |          |
 9+20       0.0255      0.16  Q      V   |          |          |          |
 9+25       0.0267      0.17  Q      V   |          |          |          |
 9+30       0.0278      0.17  Q      V   |          |          |          |
 9+35       0.0290      0.17  Q       V  |          |          |          |
 9+40       0.0302      0.18  Q       V  |          |          |          |
 9+45       0.0314      0.18  Q       V  |          |          |          |
 9+50       0.0327      0.19  Q        V |          |          |          |
 9+55       0.0340      0.19  Q        V |          |          |          |
10+ 0       0.0353      0.19  Q        V |          |          |          |
10+ 5       0.0362      0.13  Q         V          |          |          |
10+10       0.0370      0.11  Q         V          |          |          |
10+15       0.0378      0.11  Q         V          |          |          |
10+20       0.0386      0.11  Q         V          |          |          |
10+25       0.0393      0.11  Q         V          |          |          |
10+30       0.0401      0.11  Q         |V         |          |          |
10+35       0.0412      0.16  Q         |V         |          |          |
10+40       0.0424      0.17  Q         |V         |          |          |
10+45       0.0435      0.17  Q         | V        |          |          |
10+50       0.0447      0.17  Q         | V        |          |          |
10+55       0.0459      0.17  Q         | V        |          |          |
11+ 0       0.0470      0.17  Q         |  V       |          |          |
11+ 5       0.0482      0.16  Q         |  V       |          |          |
11+10       0.0493      0.16  Q         |  V       |          |          |
11+15       0.0504      0.16  Q         |  V       |          |          |
```



| | | | |
|---|---|---|---|
| 11+20 | 0.0515 | 0.16 | Q |
| 11+25 | 0.0526 | 0.16 | Q |
| 11+30 | 0.0537 | 0.16 | Q |
| 11+35 | 0.0547 | 0.14 | Q |
| 11+40 | 0.0556 | 0.14 | Q |
| 11+45 | 0.0566 | 0.14 | Q |
| 11+50 | 0.0576 | 0.15 | Q |
| 11+55 | 0.0586 | 0.15 | Q |
| 12+ 0 | 0.0597 | 0.15 | Q |
| 12+ 5 | 0.0611 | 0.21 | Q |
| 12+10 | 0.0627 | 0.23 | Q |
| 12+15 | 0.0643 | 0.23 | Q |
| 12+20 | 0.0659 | 0.24 | Q |
| 12+25 | 0.0676 | 0.24 | Q |
| 12+30 | 0.0693 | 0.24 | Q |
| 12+35 | 0.0710 | 0.26 | \|Q |
| 12+40 | 0.0729 | 0.26 | \|Q |
| 12+45 | 0.0747 | 0.26 | \|Q |
| 12+50 | 0.0766 | 0.27 | \|Q |
| 12+55 | 0.0785 | 0.28 | \|Q |
| 13+ 0 | 0.0804 | 0.28 | \|Q |
| 13+ 5 | 0.0826 | 0.32 | \|Q |
| 13+10 | 0.0848 | 0.33 | \|Q |
| 13+15 | 0.0871 | 0.33 | \|Q |
| 13+20 | 0.0894 | 0.33 | \|Q |
| 13+25 | 0.0917 | 0.33 | \|Q |
| 13+30 | 0.0940 | 0.33 | \|Q |
| 13+35 | 0.0957 | 0.24 | Q |
| 13+40 | 0.0971 | 0.21 | Q |
| 13+45 | 0.0986 | 0.21 | Q |
| 13+50 | 0.1000 | 0.21 | Q |
| 13+55 | 0.1015 | 0.21 | Q |
| 14+ 0 | 0.1030 | 0.21 | Q |
| 14+ 5 | 0.1047 | 0.25 | Q |
| 14+10 | 0.1064 | 0.26 | \|Q |
| 14+15 | 0.1082 | 0.26 | \|Q |
| 14+20 | 0.1099 | 0.25 | Q |
| 14+25 | 0.1116 | 0.25 | Q |
| 14+30 | 0.1133 | 0.25 | Q |
| 14+35 | 0.1150 | 0.25 | Q |
| 14+40 | 0.1167 | 0.25 | Q |
| 14+45 | 0.1184 | 0.25 | Q |
| 14+50 | 0.1201 | 0.24 | Q |
| 14+55 | 0.1217 | 0.24 | Q |
| 15+ 0 | 0.1233 | 0.24 | Q |
| 15+ 5 | 0.1249 | 0.23 | Q |
| 15+10 | 0.1265 | 0.23 | Q |
| 15+15 | 0.1280 | 0.23 | Q |
| 15+20 | 0.1295 | 0.22 | Q |
| 15+25 | 0.1310 | 0.22 | Q |
| 15+30 | 0.1325 | 0.22 | Q |
| 15+35 | 0.1338 | 0.18 | Q |
| 15+40 | 0.1350 | 0.17 | Q |
| 15+45 | 0.1362 | 0.17 | Q |
| 15+50 | 0.1373 | 0.17 | Q |
| 15+55 | 0.1385 | 0.17 | Q |
| 16+ 0 | 0.1397 | 0.17 | Q |
| 16+ 5 | 0.1400 | 0.05 | Q |
| 16+10 | 0.1401 | 0.01 | Q |
| 16+15 | 0.1401 | 0.01 | Q |
| 16+20 | 0.1402 | 0.01 | Q |
| 16+25 | 0.1402 | 0.01 | Q |
| 16+30 | 0.1403 | 0.01 | Q |
| 16+35 | 0.1403 | 0.00 | Q |
| 16+40 | 0.1403 | 0.00 | Q |
| 16+45 | 0.1404 | 0.00 | Q |
| 16+50 | 0.1404 | 0.00 | Q |
| 16+55 | 0.1404 | 0.00 | Q |
| 17+ 0 | 0.1404 | 0.00 | Q |
| 17+ 5 | 0.1405 | 0.02 | Q |
| 17+10 | 0.1407 | 0.02 | Q |
| 17+15 | 0.1408 | 0.02 | Q |
| 17+20 | 0.1410 | 0.02 | Q |
| 17+25 | 0.1411 | 0.02 | Q |
| 17+30 | 0.1412 | 0.02 | Q |
| 17+35 | 0.1414 | 0.02 | Q |
| 17+40 | 0.1415 | 0.02 | Q |
| 17+45 | 0.1417 | 0.02 | Q |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+50 | 0.1418 | 0.01 | Q | \| | \| | \| | V\| |
| 17+55 | 0.1418 | 0.01 | Q | \| | \| | \| | V\| |
| 18+ 0 | 0.1419 | 0.01 | Q | \| | \| | \| | V\| |
| 18+ 5 | 0.1420 | 0.01 | Q | \| | \| | \| | V\| |
| 18+10 | 0.1421 | 0.01 | Q | \| | \| | \| | V\| |
| 18+15 | 0.1421 | 0.01 | Q | \| | \| | \| | V\| |
| 18+20 | 0.1422 | 0.01 | Q | \| | \| | \| | V\| |
| 18+25 | 0.1423 | 0.01 | Q | \| | \| | \| | V\| |
| 18+30 | 0.1424 | 0.01 | Q | \| | \| | \| | V\| |
| 18+35 | 0.1424 | 0.01 | Q | \| | \| | \| | V\| |
| 18+40 | 0.1424 | 0.00 | Q | \| | \| | \| | V\| |
| 18+45 | 0.1425 | 0.00 | Q | \| | \| | \| | V\| |
| 18+50 | 0.1425 | 0.00 | Q | \| | \| | \| | V\| |
| 18+55 | 0.1425 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 0 | 0.1425 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 5 | 0.1425 | 0.00 | Q | \| | \| | \| | V\| |
| 19+10 | 0.1425 | 0.00 | Q | \| | \| | \| | V\| |
| 19+15 | 0.1426 | 0.00 | Q | \| | \| | \| | V\| |
| 19+20 | 0.1426 | 0.01 | Q | \| | \| | \| | V\| |
| 19+25 | 0.1427 | 0.01 | Q | \| | \| | \| | V\| |
| 19+30 | 0.1428 | 0.01 | Q | \| | \| | \| | V\| |
| 19+35 | 0.1429 | 0.01 | Q | \| | \| | \| | V\| |
| 19+40 | 0.1429 | 0.00 | Q | \| | \| | \| | V\| |
| 19+45 | 0.1429 | 0.00 | Q | \| | \| | \| | V\| |
| 19+50 | 0.1429 | 0.00 | Q | \| | \| | \| | V\| |
| 19+55 | 0.1429 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 0 | 0.1430 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 5 | 0.1430 | 0.00 | Q | \| | \| | \| | V\| |
| 20+10 | 0.1430 | 0.00 | Q | \| | \| | \| | V\| |
| 20+15 | 0.1430 | 0.00 | Q | \| | \| | \| | V\| |
| 20+20 | 0.1431 | 0.00 | Q | \| | \| | \| | V\| |
| 20+25 | 0.1431 | 0.00 | Q | \| | \| | \| | V\| |
| 20+30 | 0.1431 | 0.00 | Q | \| | \| | \| | V\| |
| 20+35 | 0.1431 | 0.00 | Q | \| | \| | \| | V\| |
| 20+40 | 0.1432 | 0.00 | Q | \| | \| | \| | V\| |
| 20+45 | 0.1432 | 0.00 | Q | \| | \| | \| | V\| |
| 20+50 | 0.1432 | 0.00 | Q | \| | \| | \| | V\| |
| 20+55 | 0.1432 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 0 | 0.1432 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 5 | 0.1433 | 0.00 | Q | \| | \| | \| | V\| |
| 21+10 | 0.1433 | 0.00 | Q | \| | \| | \| | V\| |
| 21+15 | 0.1433 | 0.00 | Q | \| | \| | \| | V\| |
| 21+20 | 0.1434 | 0.00 | Q | \| | \| | \| | V\| |
| 21+25 | 0.1434 | 0.00 | Q | \| | \| | \| | V\| |
| 21+30 | 0.1434 | 0.00 | Q | \| | \| | \| | V\| |
| 21+35 | 0.1434 | 0.00 | Q | \| | \| | \| | V\| |
| 21+40 | 0.1435 | 0.01 | Q | \| | \| | \| | V\| |
| 21+45 | 0.1435 | 0.01 | Q | \| | \| | \| | V\| |
| 21+50 | 0.1435 | 0.00 | Q | \| | \| | \| | V\| |
| 21+55 | 0.1435 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 0 | 0.1436 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 5 | 0.1436 | 0.01 | Q | \| | \| | \| | V\| |
| 22+10 | 0.1436 | 0.01 | Q | \| | \| | \| | V\| |
| 22+15 | 0.1437 | 0.01 | Q | \| | \| | \| | V\| |
| 22+20 | 0.1437 | 0.00 | Q | \| | \| | \| | V\| |
| 22+25 | 0.1437 | 0.00 | Q | \| | \| | \| | V\| |
| 22+30 | 0.1437 | 0.00 | Q | \| | \| | \| | V\| |
| 22+35 | 0.1437 | 0.00 | Q | \| | \| | \| | V\| |
| 22+40 | 0.1438 | 0.00 | Q | \| | \| | \| | V\| |
| 22+45 | 0.1438 | 0.00 | Q | \| | \| | \| | V\| |
| 22+50 | 0.1438 | 0.00 | Q | \| | \| | \| | V\| |
| 22+55 | 0.1438 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 0 | 0.1438 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 5 | 0.1438 | 0.00 | Q | \| | \| | \| | V\| |
| 23+10 | 0.1438 | 0.00 | Q | \| | \| | \| | V\| |
| 23+15 | 0.1439 | 0.00 | Q | \| | \| | \| | V\| |
| 23+20 | 0.1439 | 0.00 | Q | \| | \| | \| | V\| |
| 23+25 | 0.1439 | 0.00 | Q | \| | \| | \| | V\| |
| 23+30 | 0.1439 | 0.00 | Q | \| | \| | \| | V\| |
| 23+35 | 0.1439 | 0.00 | Q | \| | \| | \| | V\| |
| 23+40 | 0.1439 | 0.00 | Q | \| | \| | \| | V\| |
| 23+45 | 0.1440 | 0.00 | Q | \| | \| | \| | V\| |
| 23+50 | 0.1440 | 0.00 | Q | \| | \| | \| | V\| |
| 23+55 | 0.1440 | 0.00 | Q | \| | \| | \| | V\| |
| 24+ 0 | 0.1440 | 0.00 | Q | \| | \| | \| | V\| |
| 24+ 5 | 0.1440 | 0.00 | Q | \| | \| | \| | V\| |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 04/18/19 File: EX31A1100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRING - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 31.1
100-YEAR STORM EVENT
BY: JTS, DATE: 04-18-19

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Drainage Area = 97.60(Ac.) = 0.153 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 97.60(Ac.) = 0.153 Sq. Mi.
Length along longest watercourse = 3369.00(Ft.)
Length along longest watercourse measured to centroid = 1689.00(Ft.)
Length along longest watercourse = 0.638 Mi.
Length along longest watercourse measured to centroid = 0.320 Mi.
Difference in elevation = 242.00(Ft.)
Slope along watercourse = 379.2698 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.149 Hr.
Lag time = 8.92 Min.
25% of lag time = 2.23 Min.
40% of lag time = 3.57 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 97.60 | 0.50 | 48.80 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 97.60 | 1.20 | 117.12 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.91 %
Adjusted average point rain = 1.199(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 97.600 | 82.90 | 0.000 |

Total Area Entered = 97.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 82.9 | 92.7 | 0.094 | 0.000 | 0.094 | 1.000 | 0.094 |
| | | | | | Sum (F) = | 0.094 |

Area averaged mean soil loss (F) (In/Hr) = 0.094
Minimum soil loss rate ((In/Hr)) = 0.047

(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 56.078 | 5.054 | 4.972 |
| 2 | 0.167 | 112.156 | 27.339 | 26.891 |
| 3 | 0.250 | 168.234 | 35.945 | 35.356 |
| 4 | 0.333 | 224.312 | 13.144 | 12.929 |
| 5 | 0.417 | 280.390 | 7.598 | 7.474 |
| 6 | 0.500 | 336.467 | 4.786 | 4.707 |
| 7 | 0.583 | 392.545 | 2.868 | 2.821 |
| 8 | 0.667 | 448.623 | 1.405 | 1.382 |
| 9 | 0.750 | 504.701 | 0.627 | 0.616 |
| 10 | 0.833 | 560.779 | 0.433 | 0.426 |
| 11 | 0.917 | 616.857 | 0.402 | 0.395 |
| 12 | 1.000 | 672.935 | 0.270 | 0.265 |
| 13 | 1.083 | 729.013 | 0.130 | 0.128 |
| | | | Sum = 100.000 | Sum= 98.363 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.604 | 0.094 | ( 0.544) | 0.510 |
| 2 | 0.17 | 4.30 | 0.619 | 0.094 | ( 0.557) | 0.524 |
| 3 | 0.25 | 5.00 | 0.719 | 0.094 | ( 0.647) | 0.625 |
| 4 | 0.33 | 5.00 | 0.719 | 0.094 | ( 0.647) | 0.625 |
| 5 | 0.42 | 5.80 | 0.834 | 0.094 | ( 0.751) | 0.740 |
| 6 | 0.50 | 6.50 | 0.935 | 0.094 | ( 0.842) | 0.841 |
| 7 | 0.58 | 7.40 | 1.065 | 0.094 | ( 0.958) | 0.970 |
| 8 | 0.67 | 8.60 | 1.237 | 0.094 | ( 1.114) | 1.143 |
| 9 | 0.75 | 12.30 | 1.770 | 0.094 | ( 1.593) | 1.675 |
| 10 | 0.83 | 29.10 | 4.187 | 0.094 | ( 3.768) | 4.092 |
| 11 | 0.92 | 6.80 | 0.978 | 0.094 | ( 0.881) | 0.884 |
| 12 | 1.00 | 5.00 | 0.719 | 0.094 | ( 0.647) | 0.625 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 13.3 |

Flood volume = Effective rainfall 1.10(In)
times area 97.6(Ac.)/[(In)/(Ft.)] = 9.0(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.768(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 391331.9 Cubic Feet
Total soil loss = 33437.7 Cubic Feet

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Peak flow rate of this hydrograph = 210.832(CFS)

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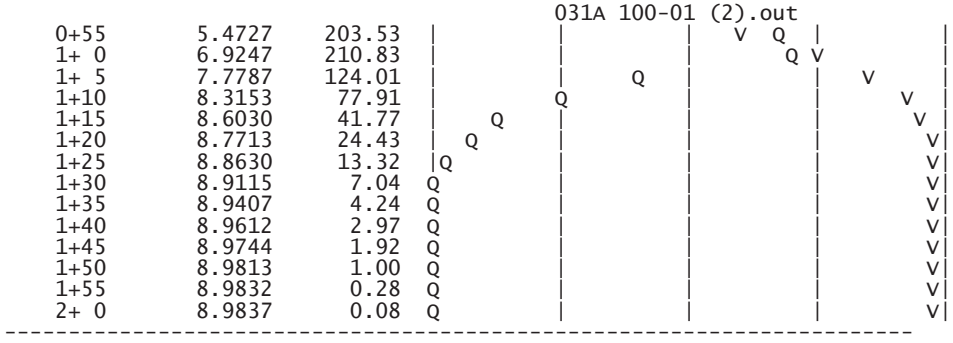
1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 75.0 | 150.0 | 225.0 | 300.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0175 | 2.54 | Q | | | | |
| 0+10 | 0.1299 | 16.33 | V Q | | | | |
| 0+15 | 0.3727 | 35.25 | V Q | | | | |
| 0+20 | 0.6831 | 45.07 | V Q | | | | |
| 0+25 | 1.0494 | 53.20 | V Q | | | | |
| 0+30 | 1.4669 | 60.61 | V Q | | | | |
| 0+35 | 1.9510 | 70.29 | VQ | | | | |
| 0+40 | 2.5082 | 80.91 | QV | | | | |
| 0+45 | 3.1663 | 95.56 | Q V | | | | |
| 0+50 | 4.0710 | 131.35 | QV | | | | |


0+55 5.4727 203.53
1+ 0 6.9247 210.83
1+ 5 7.7787 124.01
1+10 8.3153 77.91
1+15 8.6030 41.77
1+20 8.7713 24.43
1+25 8.8630 13.32
1+30 8.9115 7.04
1+35 8.9407 4.24
1+40 8.9612 2.97
1+45 8.9744 1.92
1+50 8.9813 1.00
1+55 8.9832 0.28
2+ 0 8.9837 0.08

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 04/18/19 File: EX31A3100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRING - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 31.1
100-YEAR STORM EVENT
BY: JTS, DATE: 04-18-19

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Drainage Area = 97.60(Ac.) = 0.153 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 97.60(Ac.) = 0.153 Sq. Mi.
Length along longest watercourse = 3369.00(Ft.)
Length along longest watercourse measured to centroid = 1689.00(Ft.)
Length along longest watercourse = 0.638 Mi.
Length along longest watercourse measured to centroid = 0.320 Mi.
Difference in elevation = 242.00(Ft.)
Slope along watercourse = 379.2698 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.149 Hr.
Lag time = 8.92 Min.
25% of lag time = 2.23 Min.
40% of lag time = 3.57 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 97.60 | 0.81 | 79.06 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 97.60 | 1.81 | 176.66 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.810(In)
Area Averaged 100-Year Rainfall = 1.810(In)

Point rain (area averaged) = 1.810(In)
Areal adjustment factor = 99.96 %
Adjusted average point rain = 1.809(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 97.600 | 82.90 | 0.000 |

Total Area Entered = 97.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 82.9 | 92.7 | 0.094 | 0.000 | 0.094 | 1.000 | 0.094 |
| | | | | | Sum (F) = | 0.094 |

Area averaged mean soil loss (F) (In/Hr) = 0.094
Minimum soil loss rate ((In/Hr)) = 0.047

(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 56.078 | 5.054 | 4.972 |
| 2 | 0.167 | 112.156 | 27.339 | 26.891 |
| 3 | 0.250 | 168.234 | 35.945 | 35.356 |
| 4 | 0.333 | 224.312 | 13.144 | 12.929 |
| 5 | 0.417 | 280.390 | 7.598 | 7.474 |
| 6 | 0.500 | 336.467 | 4.786 | 4.707 |
| 7 | 0.583 | 392.545 | 2.868 | 2.821 |
| 8 | 0.667 | 448.623 | 1.405 | 1.382 |
| 9 | 0.750 | 504.701 | 0.627 | 0.616 |
| 10 | 0.833 | 560.779 | 0.433 | 0.426 |
| 11 | 0.917 | 616.857 | 0.402 | 0.395 |
| 12 | 1.000 | 672.935 | 0.270 | 0.265 |
| 13 | 1.083 | 729.013 | 0.130 | 0.128 |
| | | | Sum = 100.000 | Sum= 98.363 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.282 | 0.094 | ( 0.254) | 0.188 |
| 2 | 0.17 | 1.30 | 0.282 | 0.094 | ( 0.254) | 0.188 |
| 3 | 0.25 | 1.10 | 0.239 | 0.094 | ( 0.215) | 0.144 |
| 4 | 0.33 | 1.50 | 0.326 | 0.094 | ( 0.293) | 0.231 |
| 5 | 0.42 | 1.50 | 0.326 | 0.094 | ( 0.293) | 0.231 |
| 6 | 0.50 | 1.80 | 0.391 | 0.094 | ( 0.352) | 0.296 |
| 7 | 0.58 | 1.50 | 0.326 | 0.094 | ( 0.293) | 0.231 |
| 8 | 0.67 | 1.80 | 0.391 | 0.094 | ( 0.352) | 0.296 |
| 9 | 0.75 | 1.80 | 0.391 | 0.094 | ( 0.352) | 0.296 |
| 10 | 0.83 | 1.50 | 0.326 | 0.094 | ( 0.293) | 0.231 |
| 11 | 0.92 | 1.60 | 0.347 | 0.094 | ( 0.313) | 0.253 |
| 12 | 1.00 | 1.80 | 0.391 | 0.094 | ( 0.352) | 0.296 |
| 13 | 1.08 | 2.20 | 0.478 | 0.094 | ( 0.430) | 0.383 |
| 14 | 1.17 | 2.20 | 0.478 | 0.094 | ( 0.430) | 0.383 |
| 15 | 1.25 | 2.20 | 0.478 | 0.094 | ( 0.430) | 0.383 |
| 16 | 1.33 | 2.00 | 0.434 | 0.094 | ( 0.391) | 0.340 |
| 17 | 1.42 | 2.60 | 0.564 | 0.094 | ( 0.508) | 0.470 |
| 18 | 1.50 | 2.70 | 0.586 | 0.094 | ( 0.528) | 0.492 |
| 19 | 1.58 | 2.40 | 0.521 | 0.094 | ( 0.469) | 0.427 |
| 20 | 1.67 | 2.70 | 0.586 | 0.094 | ( 0.528) | 0.492 |
| 21 | 1.75 | 3.30 | 0.716 | 0.094 | ( 0.645) | 0.622 |
| 22 | 1.83 | 3.10 | 0.673 | 0.094 | ( 0.606) | 0.579 |
| 23 | 1.92 | 2.90 | 0.630 | 0.094 | ( 0.567) | 0.535 |
| 24 | 2.00 | 3.00 | 0.651 | 0.094 | ( 0.586) | 0.557 |
| 25 | 2.08 | 3.10 | 0.673 | 0.094 | ( 0.606) | 0.579 |
| 26 | 2.17 | 4.20 | 0.912 | 0.094 | ( 0.821) | 0.817 |
| 27 | 2.25 | 5.00 | 1.086 | 0.094 | ( 0.977) | 0.991 |
| 28 | 2.33 | 3.50 | 0.760 | 0.094 | ( 0.684) | 0.665 |
| 29 | 2.42 | 6.80 | 1.476 | 0.094 | ( 1.329) | 1.382 |
| 30 | 2.50 | 7.30 | 1.585 | 0.094 | ( 1.426) | 1.491 |
| 31 | 2.58 | 8.20 | 1.780 | 0.094 | ( 1.602) | 1.686 |
| 32 | 2.67 | 5.90 | 1.281 | 0.094 | ( 1.153) | 1.187 |
| 33 | 2.75 | 2.00 | 0.434 | 0.094 | ( 0.391) | 0.340 |
| 34 | 2.83 | 1.80 | 0.391 | 0.094 | ( 0.352) | 0.296 |
| 35 | 2.92 | 1.80 | 0.391 | 0.094 | ( 0.352) | 0.296 |
| 36 | 3.00 | 0.60 | 0.130 | 0.094 | ( 0.117) | 0.036 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 18.3 |

Flood volume = Effective rainfall 1.53(In)
times area 97.6(Ac.)/[(In)/(Ft.)] = 12.4(Ac.Ft)
Total soil loss = 0.28(In)
Total soil loss = 2.303(Ac.Ft)
Total rainfall = 1.81(In)
Flood volume = 540674.4 Cubic Feet
Total soil loss = 100313.1 Cubic Feet

Peak flow rate of this hydrograph = 135.644(CFS)

3 - H O U R  S T O R M
R u n o f f  H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 50.0 100.0 150.0 200.0 |
|---|---|---|---|
| 0+ 5 | 0.0064 | 0.93 | Q |
| 0+10 | 0.0477 | 5.99 | VQ |
| 0+15 | 0.1332 | 12.42 | V Q |
| 0+20 | 0.2304 | 14.11 | V Q |
| 0+25 | 0.3428 | 16.32 | V Q |
| 0+30 | 0.4808 | 20.04 | V Q |
| 0+35 | 0.6377 | 22.79 | V Q |
| 0+40 | 0.8056 | 24.37 | V Q |
| 0+45 | 0.9783 | 25.07 | V Q |
| 0+50 | 1.1639 | 26.96 | V Q |
| 0+55 | 1.3439 | 26.14 | VQ |
| 1+ 0 | 1.5167 | 25.09 | VQ |
| 1+ 5 | 1.7018 | 26.87 | Q |
| 1+10 | 1.9132 | 30.69 | Q |
| 1+15 | 2.1492 | 34.28 | Q |
| 1+20 | 2.3936 | 35.48 | Q |
| 1+25 | 2.6401 | 35.80 | QV |
| 1+30 | 2.9047 | 38.42 | Q V |
| 1+35 | 3.2010 | 43.02 | Q V |
| 1+40 | 3.5031 | 43.86 | Q V |
| 1+45 | 3.8135 | 45.07 | Q V |
| 1+50 | 4.1615 | 50.53 | Q V |
| 1+55 | 4.5373 | 54.56 | Q V |
| 2+ 0 | 4.9097 | 54.08 | Q V |
| 2+ 5 | 5.2807 | 53.87 | Q V |
| 2+10 | 5.6683 | 56.28 | Q V |
| 2+15 | 6.1129 | 64.56 | Q V |
| 2+20 | 6.6392 | 76.41 | Q V |
| 2+25 | 7.1945 | 80.63 | Q V |
| 2+30 | 7.8356 | 93.10 | Q V |
| 2+35 | 8.6666 | 120.65 | Q V |
| 2+40 | 9.6008 | 135.64 | Q V |
| 2+45 | 10.5028 | 130.97 | Q V |
| 2+50 | 11.1673 | 96.49 | Q V |
| 2+55 | 11.5989 | 62.67 | Q V |
| 3+ 0 | 11.9250 | 47.35 | Q V |
| 3+ 5 | 12.1457 | 32.05 | Q V |
| 3+10 | 12.2610 | 16.74 | Q V |
| 3+15 | 12.3244 | 9.20 | Q V |
| 3+20 | 12.3620 | 5.46 | Q V |
| 3+25 | 12.3852 | 3.37 | Q V |
| 3+30 | 12.3986 | 1.95 | Q V |
| 3+35 | 12.4057 | 1.02 | Q V |
| 3+40 | 12.4092 | 0.51 | Q V |
| 3+45 | 12.4109 | 0.25 | Q V |
| 3+50 | 12.4118 | 0.13 | Q V |
| 3+55 | 12.4121 | 0.05 | Q V |
| 4+ 0 | 12.4122 | 0.00 | Q V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 04/18/19 File: EX31A6100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRING - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 31.1
100-YEAR STORM EVENT
BY: JTS, DATE: 04-18-19

---

Drainage Area = 97.60(Ac.) = 0.153 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 97.60(Ac.) = 0.153 Sq. Mi.
Length along longest watercourse = 3369.00(Ft.)
Length along longest watercourse measured to centroid = 1689.00(Ft.)
Length along longest watercourse = 0.638 Mi.
Length along longest watercourse measured to centroid = 0.320 Mi.
Difference in elevation = 242.00(Ft.)
Slope along watercourse = 379.2698 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.149 Hr.
Lag time = 8.92 Min.
25% of lag time = 2.23 Min.
40% of lag time = 3.57 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 97.60 | 1.14 | 111.26 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 97.60 | 2.50 | 244.00 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.140(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 99.97 %
Adjusted average point rain = 2.499(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 97.600 | 82.90 | 0.000 |

Total Area Entered = 97.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 82.9 | 92.7 | 0.094 | 0.000 | 0.094 | 1.000 | 0.094 |
| | | | | | Sum (F) = | 0.094 |

Area averaged mean soil loss (F) (In/Hr) = 0.094
Minimum soil loss rate ((In/Hr)) = 0.047

(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 56.078 | 5.054 | 4.972 |
| 2 | 0.167 | 112.156 | 27.339 | 26.891 |
| 3 | 0.250 | 168.234 | 35.945 | 35.356 |
| 4 | 0.333 | 224.312 | 13.144 | 12.929 |
| 5 | 0.417 | 280.390 | 7.598 | 7.474 |
| 6 | 0.500 | 336.467 | 4.786 | 4.707 |
| 7 | 0.583 | 392.545 | 2.868 | 2.821 |
| 8 | 0.667 | 448.623 | 1.405 | 1.382 |
| 9 | 0.750 | 504.701 | 0.627 | 0.616 |
| 10 | 0.833 | 560.779 | 0.433 | 0.426 |
| 11 | 0.917 | 616.857 | 0.402 | 0.395 |
| 12 | 1.000 | 672.935 | 0.270 | 0.265 |
| 13 | 1.083 | 729.013 | 0.130 | 0.128 |
| | | | Sum = 100.000 Sum= | 98.363 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.094 | ( 0.135) | 0.056 |
| 2 | 0.17 | 0.60 | 0.180 | 0.094 | ( 0.162) | 0.086 |
| 3 | 0.25 | 0.60 | 0.180 | 0.094 | ( 0.162) | 0.086 |
| 4 | 0.33 | 0.60 | 0.180 | 0.094 | ( 0.162) | 0.086 |
| 5 | 0.42 | 0.60 | 0.180 | 0.094 | ( 0.162) | 0.086 |
| 6 | 0.50 | 0.70 | 0.210 | 0.094 | ( 0.189) | 0.116 |
| 7 | 0.58 | 0.70 | 0.210 | 0.094 | ( 0.189) | 0.116 |
| 8 | 0.67 | 0.70 | 0.210 | 0.094 | ( 0.189) | 0.116 |
| 9 | 0.75 | 0.70 | 0.210 | 0.094 | ( 0.189) | 0.116 |
| 10 | 0.83 | 0.70 | 0.210 | 0.094 | ( 0.189) | 0.116 |
| 11 | 0.92 | 0.70 | 0.210 | 0.094 | ( 0.189) | 0.116 |
| 12 | 1.00 | 0.80 | 0.240 | 0.094 | ( 0.216) | 0.146 |
| 13 | 1.08 | 0.80 | 0.240 | 0.094 | ( 0.216) | 0.146 |
| 14 | 1.17 | 0.80 | 0.240 | 0.094 | ( 0.216) | 0.146 |
| 15 | 1.25 | 0.80 | 0.240 | 0.094 | ( 0.216) | 0.146 |
| 16 | 1.33 | 0.80 | 0.240 | 0.094 | ( 0.216) | 0.146 |
| 17 | 1.42 | 0.80 | 0.240 | 0.094 | ( 0.216) | 0.146 |
| 18 | 1.50 | 0.80 | 0.240 | 0.094 | ( 0.216) | 0.146 |
| 19 | 1.58 | 0.80 | 0.240 | 0.094 | ( 0.216) | 0.146 |
| 20 | 1.67 | 0.80 | 0.240 | 0.094 | ( 0.216) | 0.146 |
| 21 | 1.75 | 0.80 | 0.240 | 0.094 | ( 0.216) | 0.146 |
| 22 | 1.83 | 0.80 | 0.240 | 0.094 | ( 0.216) | 0.146 |
| 23 | 1.92 | 0.80 | 0.240 | 0.094 | ( 0.216) | 0.146 |
| 24 | 2.00 | 0.90 | 0.270 | 0.094 | ( 0.243) | 0.176 |
| 25 | 2.08 | 0.80 | 0.240 | 0.094 | ( 0.216) | 0.146 |
| 26 | 2.17 | 0.90 | 0.270 | 0.094 | ( 0.243) | 0.176 |
| 27 | 2.25 | 0.90 | 0.270 | 0.094 | ( 0.243) | 0.176 |
| 28 | 2.33 | 0.90 | 0.270 | 0.094 | ( 0.243) | 0.176 |
| 29 | 2.42 | 0.90 | 0.270 | 0.094 | ( 0.243) | 0.176 |
| 30 | 2.50 | 0.90 | 0.270 | 0.094 | ( 0.243) | 0.176 |
| 31 | 2.58 | 0.90 | 0.270 | 0.094 | ( 0.243) | 0.176 |
| 32 | 2.67 | 0.90 | 0.270 | 0.094 | ( 0.243) | 0.176 |
| 33 | 2.75 | 1.00 | 0.300 | 0.094 | ( 0.270) | 0.206 |
| 34 | 2.83 | 1.00 | 0.300 | 0.094 | ( 0.270) | 0.206 |
| 35 | 2.92 | 1.00 | 0.300 | 0.094 | ( 0.270) | 0.206 |
| 36 | 3.00 | 1.00 | 0.300 | 0.094 | ( 0.270) | 0.206 |
| 37 | 3.08 | 1.00 | 0.300 | 0.094 | ( 0.270) | 0.206 |
| 38 | 3.17 | 1.10 | 0.330 | 0.094 | ( 0.297) | 0.236 |
| 39 | 3.25 | 1.10 | 0.330 | 0.094 | ( 0.297) | 0.236 |
| 40 | 3.33 | 1.10 | 0.330 | 0.094 | ( 0.297) | 0.236 |
| 41 | 3.42 | 1.20 | 0.360 | 0.094 | ( 0.324) | 0.265 |
| 42 | 3.50 | 1.30 | 0.390 | 0.094 | ( 0.351) | 0.295 |
| 43 | 3.58 | 1.40 | 0.420 | 0.094 | ( 0.378) | 0.325 |
| 44 | 3.67 | 1.40 | 0.420 | 0.094 | ( 0.378) | 0.325 |
| 45 | 3.75 | 1.50 | 0.450 | 0.094 | ( 0.405) | 0.355 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 46 | 3.83 | 1.50 | 0.450 | 0.094 | ( 0.405) | 0.355 |
| 47 | 3.92 | 1.60 | 0.480 | 0.094 | ( 0.432) | 0.385 |
| 48 | 4.00 | 1.60 | 0.480 | 0.094 | ( 0.432) | 0.385 |
| 49 | 4.08 | 1.70 | 0.510 | 0.094 | ( 0.459) | 0.415 |
| 50 | 4.17 | 1.80 | 0.540 | 0.094 | ( 0.486) | 0.445 |
| 51 | 4.25 | 1.90 | 0.570 | 0.094 | ( 0.513) | 0.475 |
| 52 | 4.33 | 2.00 | 0.600 | 0.094 | ( 0.540) | 0.505 |
| 53 | 4.42 | 2.10 | 0.630 | 0.094 | ( 0.567) | 0.535 |
| 54 | 4.50 | 2.10 | 0.630 | 0.094 | ( 0.567) | 0.535 |
| 55 | 4.58 | 2.20 | 0.660 | 0.094 | ( 0.594) | 0.565 |
| 56 | 4.67 | 2.30 | 0.690 | 0.094 | ( 0.621) | 0.595 |
| 57 | 4.75 | 2.40 | 0.720 | 0.094 | ( 0.648) | 0.625 |
| 58 | 4.83 | 2.40 | 0.720 | 0.094 | ( 0.648) | 0.625 |
| 59 | 4.92 | 2.50 | 0.750 | 0.094 | ( 0.675) | 0.655 |
| 60 | 5.00 | 2.60 | 0.780 | 0.094 | ( 0.702) | 0.685 |
| 61 | 5.08 | 3.10 | 0.930 | 0.094 | ( 0.837) | 0.835 |
| 62 | 5.17 | 3.60 | 1.080 | 0.094 | ( 0.972) | 0.985 |
| 63 | 5.25 | 3.90 | 1.170 | 0.094 | ( 1.053) | 1.075 |
| 64 | 5.33 | 4.20 | 1.260 | 0.094 | ( 1.134) | 1.165 |
| 65 | 5.42 | 4.70 | 1.410 | 0.094 | ( 1.269) | 1.315 |
| 66 | 5.50 | 5.60 | 1.679 | 0.094 | ( 1.511) | 1.585 |
| 67 | 5.58 | 1.90 | 0.570 | 0.094 | ( 0.513) | 0.475 |
| 68 | 5.67 | 0.90 | 0.270 | 0.094 | ( 0.243) | 0.176 |
| 69 | 5.75 | 0.60 | 0.180 | 0.094 | ( 0.162) | 0.086 |
| 70 | 5.83 | 0.50 | 0.150 | 0.094 | ( 0.135) | 0.056 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.094) | 0.081 | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.094) | 0.054 | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.2

Flood volume = Effective rainfall 1.94(In)
times area 97.6(Ac.)/[(In)/(Ft.)] = 15.8(Ac.Ft)
Total soil loss = 0.56(In)
Total soil loss = 4.569(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 686385.2 Cubic Feet
Total soil loss = 199037.7 Cubic Feet

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Peak flow rate of this hydrograph = 123.740(CFS)

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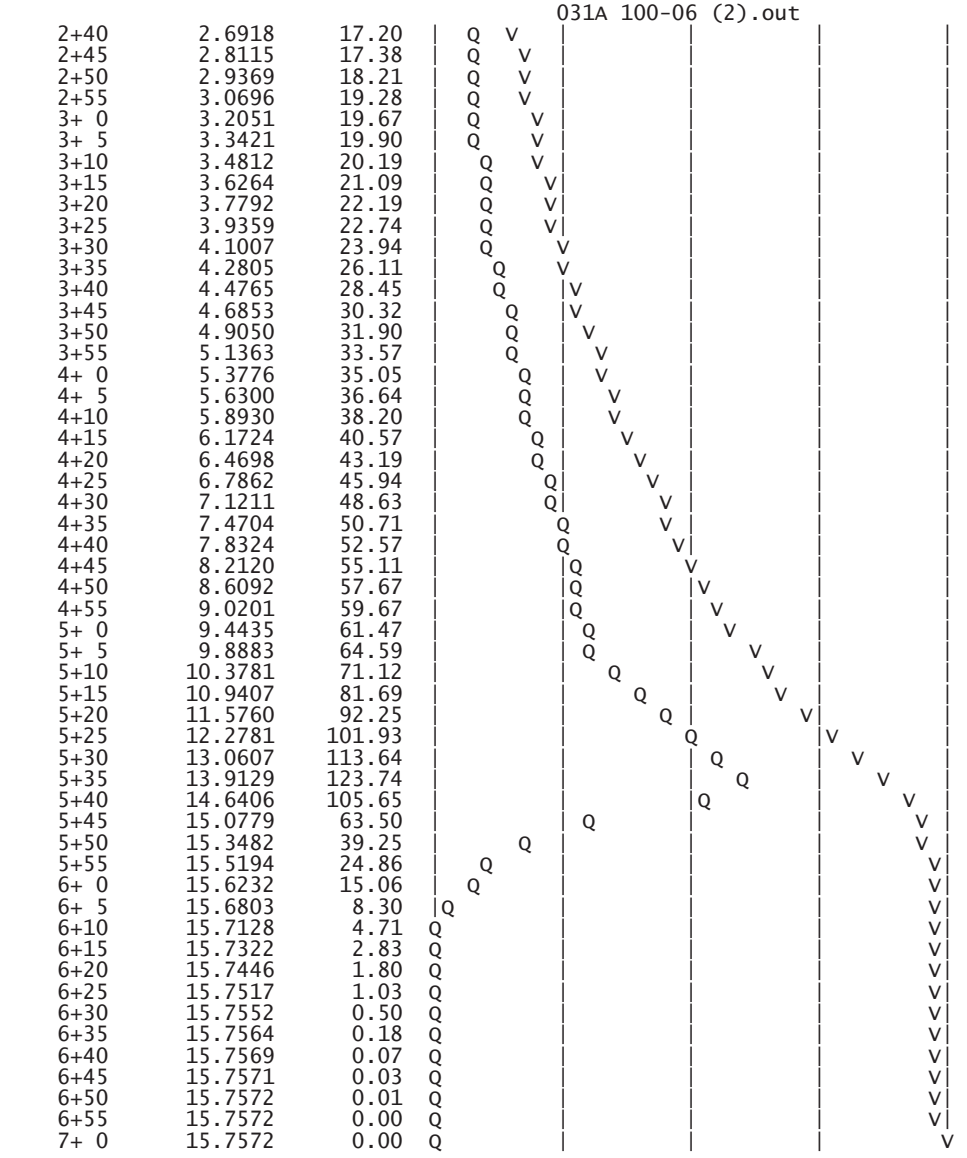
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 50.0 | 100.0 | 150.0 | 200.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0019 | 0.28 | Q | | | | |
| 0+10 | 0.0151 | 1.92 | Q | | | | |
| 0+15 | 0.0475 | 4.69 | Q | | | | |
| 0+20 | 0.0920 | 6.47 | VQ | | | | |
| 0+25 | 0.1421 | 7.28 | VQ | | | | |
| 0+30 | 0.1966 | 7.91 | VQ | | | | |
| 0+35 | 0.2587 | 9.02 | VQ | | | | |
| 0+40 | 0.3293 | 10.24 | V Q | | | | |
| 0+45 | 0.4030 | 10.70 | \|VQ | | | | |
| 0+50 | 0.4785 | 10.97 | \|VQ | | | | |
| 0+55 | 0.5553 | 11.15 | \|VQ | | | | |
| 1+ 0 | 0.6338 | 11.41 | \|VQ | | | | |
| 1+ 5 | 0.7183 | 12.27 | \|VQ | | | | |
| 1+10 | 0.8103 | 13.35 | \| Q | | | | |
| 1+15 | 0.9050 | 13.75 | \| Q | | | | |
| 1+20 | 1.0013 | 13.99 | \| Q | | | | |
| 1+25 | 1.0987 | 14.14 | \| Q | | | | |
| 1+30 | 1.1967 | 14.23 | \| QV | | | | |
| 1+35 | 1.2949 | 14.27 | \| QV | | | | |
| 1+40 | 1.3933 | 14.29 | \| QV | | | | |
| 1+45 | 1.4918 | 14.30 | \| QV | | | | |
| 1+50 | 1.5904 | 14.31 | \| Q V | | | | |
| 1+55 | 1.6890 | 14.32 | \| Q V | | | | |
| 2+ 0 | 1.7887 | 14.47 | \| Q V | | | | |
| 2+ 5 | 1.8929 | 15.13 | \| QV | | | | |
| 2+10 | 1.9998 | 15.53 | \| Q V | | | | |
| 2+15 | 2.1077 | 15.67 | \| Q V | | | | |
| 2+20 | 2.2218 | 16.56 | \| Q V | | | | |
| 2+25 | 2.3380 | 16.87 | \| Q V | | | | |
| 2+30 | 2.4553 | 17.04 | \| Q V | | | | |
| 2+35 | 2.5733 | 17.13 | \| Q V | | | | |



| | | | |
|---|---|---|---|
| 2+40 | 2.6918 | 17.20 | |
| 2+45 | 2.8115 | 17.38 | |
| 2+50 | 2.9369 | 18.21 | |
| 2+55 | 3.0696 | 19.28 | |
| 3+ 0 | 3.2051 | 19.67 | |
| 3+ 5 | 3.3421 | 19.90 | |
| 3+10 | 3.4812 | 20.19 | |
| 3+15 | 3.6264 | 21.09 | |
| 3+20 | 3.7792 | 22.19 | |
| 3+25 | 3.9359 | 22.74 | |
| 3+30 | 4.1007 | 23.94 | |
| 3+35 | 4.2805 | 26.11 | |
| 3+40 | 4.4765 | 28.45 | |
| 3+45 | 4.6853 | 30.32 | |
| 3+50 | 4.9050 | 31.90 | |
| 3+55 | 5.1363 | 33.57 | |
| 4+ 0 | 5.3776 | 35.05 | |
| 4+ 5 | 5.6300 | 36.64 | |
| 4+10 | 5.8930 | 38.20 | |
| 4+15 | 6.1724 | 40.57 | |
| 4+20 | 6.4698 | 43.19 | |
| 4+25 | 6.7862 | 45.94 | |
| 4+30 | 7.1211 | 48.63 | |
| 4+35 | 7.4704 | 50.71 | |
| 4+40 | 7.8324 | 52.57 | |
| 4+45 | 8.2120 | 55.11 | |
| 4+50 | 8.6092 | 57.67 | |
| 4+55 | 9.0201 | 59.67 | |
| 5+ 0 | 9.4435 | 61.47 | |
| 5+ 5 | 9.8883 | 64.59 | |
| 5+10 | 10.3781 | 71.12 | |
| 5+15 | 10.9407 | 81.69 | |
| 5+20 | 11.5760 | 92.25 | |
| 5+25 | 12.2781 | 101.93 | |
| 5+30 | 13.0607 | 113.64 | |
| 5+35 | 13.9129 | 123.74 | |
| 5+40 | 14.6406 | 105.65 | |
| 5+45 | 15.0779 | 63.50 | |
| 5+50 | 15.3482 | 39.25 | |
| 5+55 | 15.5194 | 24.86 | |
| 6+ 0 | 15.6232 | 15.06 | |
| 6+ 5 | 15.6803 | 8.30 | |
| 6+10 | 15.7128 | 4.71 | |
| 6+15 | 15.7322 | 2.83 | |
| 6+20 | 15.7446 | 1.80 | |
| 6+25 | 15.7517 | 1.03 | |
| 6+30 | 15.7552 | 0.50 | |
| 6+35 | 15.7564 | 0.18 | |
| 6+40 | 15.7569 | 0.07 | |
| 6+45 | 15.7571 | 0.03 | |
| 6+50 | 15.7572 | 0.01 | |
| 6+55 | 15.7572 | 0.00 | |
| 7+ 0 | 15.7572 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 04/18/19 File: EX31A24100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRING - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 31.1
100-YEAR STORM EVENT
BY: JTS, DATE: 04-18-19

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Drainage Area = 97.60(Ac.) = 0.153 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 97.60(Ac.) = 0.153 Sq. Mi.
Length along longest watercourse = 3369.00(Ft.)
Length along longest watercourse measured to centroid = 1689.00(Ft.)
Length along longest watercourse = 0.638 Mi.
Length along longest watercourse measured to centroid = 0.320 Mi.
Difference in elevation = 242.00(Ft.)
Slope along watercourse = 379.2698 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.149 Hr.
Lag time = 8.92 Min.
25% of lag time = 2.23 Min.
40% of lag time = 3.57 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 97.60 | 1.80 | 175.68 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 97.60 | 4.69 | 457.74 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.690(In)

Point rain (area averaged) = 4.690(In)
Areal adjustment factor = 99.98 %
Adjusted average point rain = 4.689(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 97.600 | 82.90 | 0.000 |

Total Area Entered = 97.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 82.9 | 92.7 | 0.094 | 0.000 | 0.094 | 1.000 | 0.094 |
| | | | | | Sum (F) = | 0.094 |

Area averaged mean soil loss (F) (In/Hr) = 0.094
Minimum soil loss rate ((In/Hr)) = 0.047

(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 56.078 | 5.054 | 4.972 |
| 2 | 0.167 | 112.156 | 27.339 | 26.891 |
| 3 | 0.250 | 168.234 | 35.945 | 35.356 |
| 4 | 0.333 | 224.312 | 13.144 | 12.929 |
| 5 | 0.417 | 280.390 | 7.598 | 7.474 |
| 6 | 0.500 | 336.467 | 4.786 | 4.707 |
| 7 | 0.583 | 392.545 | 2.868 | 2.821 |
| 8 | 0.667 | 448.623 | 1.405 | 1.382 |
| 9 | 0.750 | 504.701 | 0.627 | 0.616 |
| 10 | 0.833 | 560.779 | 0.433 | 0.426 |
| 11 | 0.917 | 616.857 | 0.402 | 0.395 |
| 12 | 1.000 | 672.935 | 0.270 | 0.265 |
| 13 | 1.083 | 729.013 | 0.130 | 0.128 |
| | | | Sum = 100.000 | Sum= 98.363 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.038 | ( 0.167) | 0.034 | 0.004 |
| 2 | 0.17 | 0.07 | 0.038 | ( 0.167) | 0.034 | 0.004 |
| 3 | 0.25 | 0.07 | 0.038 | ( 0.166) | 0.034 | 0.004 |
| 4 | 0.33 | 0.10 | 0.056 | ( 0.165) | 0.051 | 0.006 |
| 5 | 0.42 | 0.10 | 0.056 | ( 0.165) | 0.051 | 0.006 |
| 6 | 0.50 | 0.10 | 0.056 | ( 0.164) | 0.051 | 0.006 |
| 7 | 0.58 | 0.10 | 0.056 | ( 0.163) | 0.051 | 0.006 |
| 8 | 0.67 | 0.10 | 0.056 | ( 0.163) | 0.051 | 0.006 |
| 9 | 0.75 | 0.10 | 0.056 | ( 0.162) | 0.051 | 0.006 |
| 10 | 0.83 | 0.13 | 0.075 | ( 0.162) | 0.068 | 0.008 |
| 11 | 0.92 | 0.13 | 0.075 | ( 0.161) | 0.068 | 0.008 |
| 12 | 1.00 | 0.13 | 0.075 | ( 0.160) | 0.068 | 0.008 |
| 13 | 1.08 | 0.10 | 0.056 | ( 0.160) | 0.051 | 0.006 |
| 14 | 1.17 | 0.10 | 0.056 | ( 0.159) | 0.051 | 0.006 |
| 15 | 1.25 | 0.10 | 0.056 | ( 0.158) | 0.051 | 0.006 |
| 16 | 1.33 | 0.10 | 0.056 | ( 0.158) | 0.051 | 0.006 |
| 17 | 1.42 | 0.10 | 0.056 | ( 0.157) | 0.051 | 0.006 |
| 18 | 1.50 | 0.10 | 0.056 | ( 0.156) | 0.051 | 0.006 |
| 19 | 1.58 | 0.10 | 0.056 | ( 0.156) | 0.051 | 0.006 |
| 20 | 1.67 | 0.10 | 0.056 | ( 0.155) | 0.051 | 0.006 |
| 21 | 1.75 | 0.10 | 0.056 | ( 0.155) | 0.051 | 0.006 |
| 22 | 1.83 | 0.13 | 0.075 | ( 0.154) | 0.068 | 0.008 |
| 23 | 1.92 | 0.13 | 0.075 | ( 0.153) | 0.068 | 0.008 |
| 24 | 2.00 | 0.13 | 0.075 | ( 0.153) | 0.068 | 0.008 |
| 25 | 2.08 | 0.13 | 0.075 | ( 0.152) | 0.068 | 0.008 |
| 26 | 2.17 | 0.13 | 0.075 | ( 0.152) | 0.068 | 0.008 |
| 27 | 2.25 | 0.13 | 0.075 | ( 0.151) | 0.068 | 0.008 |
| 28 | 2.33 | 0.13 | 0.075 | ( 0.150) | 0.068 | 0.008 |
| 29 | 2.42 | 0.13 | 0.075 | ( 0.150) | 0.068 | 0.008 |
| 30 | 2.50 | 0.13 | 0.075 | ( 0.149) | 0.068 | 0.008 |
| 31 | 2.58 | 0.17 | 0.094 | ( 0.148) | 0.084 | 0.009 |
| 32 | 2.67 | 0.17 | 0.094 | ( 0.148) | 0.084 | 0.009 |
| 33 | 2.75 | 0.17 | 0.094 | ( 0.147) | 0.084 | 0.009 |
| 34 | 2.83 | 0.17 | 0.094 | ( 0.147) | 0.084 | 0.009 |
| 35 | 2.92 | 0.17 | 0.094 | ( 0.146) | 0.084 | 0.009 |
| 36 | 3.00 | 0.17 | 0.094 | ( 0.145) | 0.084 | 0.009 |
| 37 | 3.08 | 0.17 | 0.094 | ( 0.145) | 0.084 | 0.009 |
| 38 | 3.17 | 0.17 | 0.094 | ( 0.144) | 0.084 | 0.009 |
| 39 | 3.25 | 0.17 | 0.094 | ( 0.144) | 0.084 | 0.009 |
| 40 | 3.33 | 0.17 | 0.094 | ( 0.143) | 0.084 | 0.009 |
| 41 | 3.42 | 0.17 | 0.094 | ( 0.142) | 0.084 | 0.009 |
| 42 | 3.50 | 0.17 | 0.094 | ( 0.142) | 0.084 | 0.009 |
| 43 | 3.58 | 0.17 | 0.094 | ( 0.141) | 0.084 | 0.009 |
| 44 | 3.67 | 0.17 | 0.094 | ( 0.141) | 0.084 | 0.009 |
| 45 | 3.75 | 0.17 | 0.094 | ( 0.140) | 0.084 | 0.009 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 46 | 3.83 | 0.20 | 0.113 | ( | 0.139) | 0.101 | | 0.011 |
| 47 | 3.92 | 0.20 | 0.113 | ( | 0.139) | 0.101 | | 0.011 |
| 48 | 4.00 | 0.20 | 0.113 | ( | 0.138) | 0.101 | | 0.011 |
| 49 | 4.08 | 0.20 | 0.113 | ( | 0.138) | 0.101 | | 0.011 |
| 50 | 4.17 | 0.20 | 0.113 | ( | 0.137) | 0.101 | | 0.011 |
| 51 | 4.25 | 0.20 | 0.113 | ( | 0.137) | 0.101 | | 0.011 |
| 52 | 4.33 | 0.23 | 0.131 | ( | 0.136) | 0.118 | | 0.013 |
| 53 | 4.42 | 0.23 | 0.131 | ( | 0.135) | 0.118 | | 0.013 |
| 54 | 4.50 | 0.23 | 0.131 | ( | 0.135) | 0.118 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.131 | ( | 0.134) | 0.118 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.131 | ( | 0.134) | 0.118 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.131 | ( | 0.133) | 0.118 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.150 | | 0.132 | ( 0.135) | | 0.018 |
| 59 | 4.92 | 0.27 | 0.150 | | 0.132 | ( 0.135) | | 0.018 |
| 60 | 5.00 | 0.27 | 0.150 | | 0.131 | ( 0.135) | | 0.019 |
| 61 | 5.08 | 0.20 | 0.113 | ( | 0.131) | 0.101 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.113 | ( | 0.130) | 0.101 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.113 | ( | 0.130) | 0.101 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.131 | ( | 0.129) | 0.118 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.131 | ( | 0.128) | 0.118 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.131 | ( | 0.128) | 0.118 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.150 | | 0.127 | ( 0.135) | | 0.023 |
| 68 | 5.67 | 0.27 | 0.150 | | 0.127 | ( 0.135) | | 0.023 |
| 69 | 5.75 | 0.27 | 0.150 | | 0.126 | ( 0.135) | | 0.024 |
| 70 | 5.83 | 0.27 | 0.150 | | 0.126 | ( 0.135) | | 0.024 |
| 71 | 5.92 | 0.27 | 0.150 | | 0.125 | ( 0.135) | | 0.025 |
| 72 | 6.00 | 0.27 | 0.150 | | 0.125 | ( 0.135) | | 0.025 |
| 73 | 6.08 | 0.30 | 0.169 | | 0.124 | ( 0.152) | | 0.045 |
| 74 | 6.17 | 0.30 | 0.169 | | 0.123 | ( 0.152) | | 0.045 |
| 75 | 6.25 | 0.30 | 0.169 | | 0.123 | ( 0.152) | | 0.046 |
| 76 | 6.33 | 0.30 | 0.169 | | 0.122 | ( 0.152) | | 0.046 |
| 77 | 6.42 | 0.30 | 0.169 | | 0.122 | ( 0.152) | | 0.047 |
| 78 | 6.50 | 0.30 | 0.169 | | 0.121 | ( 0.152) | | 0.048 |
| 79 | 6.58 | 0.33 | 0.188 | | 0.121 | ( 0.169) | | 0.067 |
| 80 | 6.67 | 0.33 | 0.188 | | 0.120 | ( 0.169) | | 0.067 |
| 81 | 6.75 | 0.33 | 0.188 | | 0.120 | ( 0.169) | | 0.068 |
| 82 | 6.83 | 0.33 | 0.188 | | 0.119 | ( 0.169) | | 0.068 |
| 83 | 6.92 | 0.33 | 0.188 | | 0.119 | ( 0.169) | | 0.069 |
| 84 | 7.00 | 0.33 | 0.188 | | 0.118 | ( 0.169) | | 0.070 |
| 85 | 7.08 | 0.33 | 0.188 | | 0.117 | ( 0.169) | | 0.070 |
| 86 | 7.17 | 0.33 | 0.188 | | 0.117 | ( 0.169) | | 0.071 |
| 87 | 7.25 | 0.33 | 0.188 | | 0.116 | ( 0.169) | | 0.071 |
| 88 | 7.33 | 0.37 | 0.206 | | 0.116 | ( 0.186) | | 0.090 |
| 89 | 7.42 | 0.37 | 0.206 | | 0.115 | ( 0.186) | | 0.091 |
| 90 | 7.50 | 0.37 | 0.206 | | 0.115 | ( 0.186) | | 0.091 |
| 91 | 7.58 | 0.40 | 0.225 | | 0.114 | ( 0.203) | | 0.111 |
| 92 | 7.67 | 0.40 | 0.225 | | 0.114 | ( 0.203) | | 0.111 |
| 93 | 7.75 | 0.40 | 0.225 | | 0.113 | ( 0.203) | | 0.112 |
| 94 | 7.83 | 0.43 | 0.244 | | 0.113 | ( 0.219) | | 0.131 |
| 95 | 7.92 | 0.43 | 0.244 | | 0.112 | ( 0.219) | | 0.132 |
| 96 | 8.00 | 0.43 | 0.244 | | 0.112 | ( 0.219) | | 0.132 |
| 97 | 8.08 | 0.50 | 0.281 | | 0.111 | ( 0.253) | | 0.170 |
| 98 | 8.17 | 0.50 | 0.281 | | 0.111 | ( 0.253) | | 0.171 |
| 99 | 8.25 | 0.50 | 0.281 | | 0.110 | ( 0.253) | | 0.171 |
| 100 | 8.33 | 0.50 | 0.281 | | 0.110 | ( 0.253) | | 0.172 |
| 101 | 8.42 | 0.50 | 0.281 | | 0.109 | ( 0.253) | | 0.172 |
| 102 | 8.50 | 0.50 | 0.281 | | 0.109 | ( 0.253) | | 0.173 |
| 103 | 8.58 | 0.53 | 0.300 | | 0.108 | ( 0.270) | | 0.192 |
| 104 | 8.67 | 0.53 | 0.300 | | 0.108 | ( 0.270) | | 0.193 |
| 105 | 8.75 | 0.53 | 0.300 | | 0.107 | ( 0.270) | | 0.193 |
| 106 | 8.83 | 0.57 | 0.319 | | 0.107 | ( 0.287) | | 0.212 |
| 107 | 8.92 | 0.57 | 0.319 | | 0.106 | ( 0.287) | | 0.213 |
| 108 | 9.00 | 0.57 | 0.319 | | 0.106 | ( 0.287) | | 0.213 |
| 109 | 9.08 | 0.63 | 0.356 | | 0.105 | ( 0.321) | | 0.251 |
| 110 | 9.17 | 0.63 | 0.356 | | 0.105 | ( 0.321) | | 0.252 |
| 111 | 9.25 | 0.63 | 0.356 | | 0.104 | ( 0.321) | | 0.252 |
| 112 | 9.33 | 0.67 | 0.375 | | 0.104 | ( 0.338) | | 0.272 |
| 113 | 9.42 | 0.67 | 0.375 | | 0.103 | ( 0.338) | | 0.272 |
| 114 | 9.50 | 0.67 | 0.375 | | 0.103 | ( 0.338) | | 0.273 |
| 115 | 9.58 | 0.70 | 0.394 | | 0.102 | ( 0.354) | | 0.292 |
| 116 | 9.67 | 0.70 | 0.394 | | 0.102 | ( 0.354) | | 0.292 |
| 117 | 9.75 | 0.70 | 0.394 | | 0.101 | ( 0.354) | | 0.293 |
| 118 | 9.83 | 0.73 | 0.413 | | 0.101 | ( 0.371) | | 0.312 |
| 119 | 9.92 | 0.73 | 0.413 | | 0.100 | ( 0.371) | | 0.312 |
| 120 | 10.00 | 0.73 | 0.413 | | 0.100 | ( 0.371) | | 0.313 |
| 121 | 10.08 | 0.50 | 0.281 | | 0.099 | ( 0.253) | | 0.182 |
| 122 | 10.17 | 0.50 | 0.281 | | 0.099 | ( 0.253) | | 0.183 |
| 123 | 10.25 | 0.50 | 0.281 | | 0.098 | ( 0.253) | | 0.183 |
| 124 | 10.33 | 0.50 | 0.281 | | 0.098 | ( 0.253) | | 0.184 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 125 | 10.42 | 0.50 | 0.281 | 0.097 | ( 0.253) | 0.184 |
| 126 | 10.50 | 0.50 | 0.281 | 0.097 | ( 0.253) | 0.185 |
| 127 | 10.58 | 0.67 | 0.375 | 0.096 | ( 0.338) | 0.279 |
| 128 | 10.67 | 0.67 | 0.375 | 0.096 | ( 0.338) | 0.279 |
| 129 | 10.75 | 0.67 | 0.375 | 0.095 | ( 0.338) | 0.280 |
| 130 | 10.83 | 0.67 | 0.375 | 0.095 | ( 0.338) | 0.280 |
| 131 | 10.92 | 0.67 | 0.375 | 0.094 | ( 0.338) | 0.281 |
| 132 | 11.00 | 0.67 | 0.375 | 0.094 | ( 0.338) | 0.281 |
| 133 | 11.08 | 0.63 | 0.356 | 0.094 | ( 0.321) | 0.263 |
| 134 | 11.17 | 0.63 | 0.356 | 0.093 | ( 0.321) | 0.263 |
| 135 | 11.25 | 0.63 | 0.356 | 0.093 | ( 0.321) | 0.264 |
| 136 | 11.33 | 0.63 | 0.356 | 0.092 | ( 0.321) | 0.264 |
| 137 | 11.42 | 0.63 | 0.356 | 0.092 | ( 0.321) | 0.265 |
| 138 | 11.50 | 0.63 | 0.356 | 0.091 | ( 0.321) | 0.265 |
| 139 | 11.58 | 0.57 | 0.319 | 0.091 | ( 0.287) | 0.228 |
| 140 | 11.67 | 0.57 | 0.319 | 0.090 | ( 0.287) | 0.229 |
| 141 | 11.75 | 0.57 | 0.319 | 0.090 | ( 0.287) | 0.229 |
| 142 | 11.83 | 0.60 | 0.338 | 0.089 | ( 0.304) | 0.248 |
| 143 | 11.92 | 0.60 | 0.338 | 0.089 | ( 0.304) | 0.249 |
| 144 | 12.00 | 0.60 | 0.338 | 0.089 | ( 0.304) | 0.249 |
| 145 | 12.08 | 0.83 | 0.469 | 0.088 | ( 0.422) | 0.381 |
| 146 | 12.17 | 0.83 | 0.469 | 0.088 | ( 0.422) | 0.381 |
| 147 | 12.25 | 0.83 | 0.469 | 0.087 | ( 0.422) | 0.382 |
| 148 | 12.33 | 0.87 | 0.488 | 0.087 | ( 0.439) | 0.401 |
| 149 | 12.42 | 0.87 | 0.488 | 0.086 | ( 0.439) | 0.401 |
| 150 | 12.50 | 0.87 | 0.488 | 0.086 | ( 0.439) | 0.402 |
| 151 | 12.58 | 0.93 | 0.525 | 0.085 | ( 0.473) | 0.440 |
| 152 | 12.67 | 0.93 | 0.525 | 0.085 | ( 0.473) | 0.440 |
| 153 | 12.75 | 0.93 | 0.525 | 0.085 | ( 0.473) | 0.441 |
| 154 | 12.83 | 0.97 | 0.544 | 0.084 | ( 0.490) | 0.460 |
| 155 | 12.92 | 0.97 | 0.544 | 0.084 | ( 0.490) | 0.460 |
| 156 | 13.00 | 0.97 | 0.544 | 0.083 | ( 0.490) | 0.461 |
| 157 | 13.08 | 1.13 | 0.638 | 0.083 | ( 0.574) | 0.555 |
| 158 | 13.17 | 1.13 | 0.638 | 0.083 | ( 0.574) | 0.555 |
| 159 | 13.25 | 1.13 | 0.638 | 0.082 | ( 0.574) | 0.556 |
| 160 | 13.33 | 1.13 | 0.638 | 0.082 | ( 0.574) | 0.556 |
| 161 | 13.42 | 1.13 | 0.638 | 0.081 | ( 0.574) | 0.556 |
| 162 | 13.50 | 1.13 | 0.638 | 0.081 | ( 0.574) | 0.557 |
| 163 | 13.58 | 0.77 | 0.431 | 0.080 | ( 0.388) | 0.351 |
| 164 | 13.67 | 0.77 | 0.431 | 0.080 | ( 0.388) | 0.351 |
| 165 | 13.75 | 0.77 | 0.431 | 0.080 | ( 0.388) | 0.352 |
| 166 | 13.83 | 0.77 | 0.431 | 0.079 | ( 0.388) | 0.352 |
| 167 | 13.92 | 0.77 | 0.431 | 0.079 | ( 0.388) | 0.353 |
| 168 | 14.00 | 0.77 | 0.431 | 0.078 | ( 0.388) | 0.353 |
| 169 | 14.08 | 0.90 | 0.506 | 0.078 | ( 0.456) | 0.428 |
| 170 | 14.17 | 0.90 | 0.506 | 0.078 | ( 0.456) | 0.429 |
| 171 | 14.25 | 0.90 | 0.506 | 0.077 | ( 0.456) | 0.429 |
| 172 | 14.33 | 0.87 | 0.488 | 0.077 | ( 0.439) | 0.411 |
| 173 | 14.42 | 0.87 | 0.488 | 0.076 | ( 0.439) | 0.411 |
| 174 | 14.50 | 0.87 | 0.488 | 0.076 | ( 0.439) | 0.412 |
| 175 | 14.58 | 0.87 | 0.488 | 0.076 | ( 0.439) | 0.412 |
| 176 | 14.67 | 0.87 | 0.488 | 0.075 | ( 0.439) | 0.412 |
| 177 | 14.75 | 0.87 | 0.488 | 0.075 | ( 0.439) | 0.413 |
| 178 | 14.83 | 0.83 | 0.469 | 0.074 | ( 0.422) | 0.394 |
| 179 | 14.92 | 0.83 | 0.469 | 0.074 | ( 0.422) | 0.395 |
| 180 | 15.00 | 0.83 | 0.469 | 0.074 | ( 0.422) | 0.395 |
| 181 | 15.08 | 0.80 | 0.450 | 0.073 | ( 0.405) | 0.377 |
| 182 | 15.17 | 0.80 | 0.450 | 0.073 | ( 0.405) | 0.377 |
| 183 | 15.25 | 0.80 | 0.450 | 0.073 | ( 0.405) | 0.378 |
| 184 | 15.33 | 0.77 | 0.431 | 0.072 | ( 0.388) | 0.359 |
| 185 | 15.42 | 0.77 | 0.431 | 0.072 | ( 0.388) | 0.360 |
| 186 | 15.50 | 0.77 | 0.431 | 0.071 | ( 0.388) | 0.360 |
| 187 | 15.58 | 0.63 | 0.356 | 0.071 | ( 0.321) | 0.285 |
| 188 | 15.67 | 0.63 | 0.356 | 0.071 | ( 0.321) | 0.286 |
| 189 | 15.75 | 0.63 | 0.356 | 0.070 | ( 0.321) | 0.286 |
| 190 | 15.83 | 0.63 | 0.356 | 0.070 | ( 0.321) | 0.286 |
| 191 | 15.92 | 0.63 | 0.356 | 0.070 | ( 0.321) | 0.287 |
| 192 | 16.00 | 0.63 | 0.356 | 0.069 | ( 0.321) | 0.287 |
| 193 | 16.08 | 0.13 | 0.075 | ( 0.069) | 0.068 | 0.008 |
| 194 | 16.17 | 0.13 | 0.075 | ( 0.069) | 0.068 | 0.008 |
| 195 | 16.25 | 0.13 | 0.075 | ( 0.068) | 0.068 | 0.008 |
| 196 | 16.33 | 0.13 | 0.075 | ( 0.068) | 0.068 | 0.008 |
| 197 | 16.42 | 0.13 | 0.075 | ( 0.068) | 0.068 | 0.008 |
| 198 | 16.50 | 0.13 | 0.075 | 0.067 | ( 0.068) | 0.008 |
| 199 | 16.58 | 0.10 | 0.056 | ( 0.067) | 0.051 | 0.006 |
| 200 | 16.67 | 0.10 | 0.056 | ( 0.067) | 0.051 | 0.006 |
| 201 | 16.75 | 0.10 | 0.056 | ( 0.066) | 0.051 | 0.006 |
| 202 | 16.83 | 0.10 | 0.056 | ( 0.066) | 0.051 | 0.006 |
| 203 | 16.92 | 0.10 | 0.056 | ( 0.066) | 0.051 | 0.006 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 204 | 17.00 | 0.10 | 0.056 | ( | 0.065) | 0.051 | | 0.006 |
| 205 | 17.08 | 0.17 | 0.094 | | 0.065 | ( 0.084) | | 0.029 |
| 206 | 17.17 | 0.17 | 0.094 | | 0.065 | ( 0.084) | | 0.029 |
| 207 | 17.25 | 0.17 | 0.094 | | 0.064 | ( 0.084) | | 0.030 |
| 208 | 17.33 | 0.17 | 0.094 | | 0.064 | ( 0.084) | | 0.030 |
| 209 | 17.42 | 0.17 | 0.094 | | 0.064 | ( 0.084) | | 0.030 |
| 210 | 17.50 | 0.17 | 0.094 | | 0.063 | ( 0.084) | | 0.031 |
| 211 | 17.58 | 0.17 | 0.094 | | 0.063 | ( 0.084) | | 0.031 |
| 212 | 17.67 | 0.17 | 0.094 | | 0.063 | ( 0.084) | | 0.031 |
| 213 | 17.75 | 0.17 | 0.094 | | 0.062 | ( 0.084) | | 0.031 |
| 214 | 17.83 | 0.13 | 0.075 | | 0.062 | ( 0.068) | | 0.013 |
| 215 | 17.92 | 0.13 | 0.075 | | 0.062 | ( 0.068) | | 0.013 |
| 216 | 18.00 | 0.13 | 0.075 | | 0.061 | ( 0.068) | | 0.014 |
| 217 | 18.08 | 0.13 | 0.075 | | 0.061 | ( 0.068) | | 0.014 |
| 218 | 18.17 | 0.13 | 0.075 | | 0.061 | ( 0.068) | | 0.014 |
| 219 | 18.25 | 0.13 | 0.075 | | 0.060 | ( 0.068) | | 0.015 |
| 220 | 18.33 | 0.13 | 0.075 | | 0.060 | ( 0.068) | | 0.015 |
| 221 | 18.42 | 0.13 | 0.075 | | 0.060 | ( 0.068) | | 0.015 |
| 222 | 18.50 | 0.13 | 0.075 | | 0.060 | ( 0.068) | | 0.015 |
| 223 | 18.58 | 0.10 | 0.056 | ( | 0.059) | 0.051 | | 0.006 |
| 224 | 18.67 | 0.10 | 0.056 | ( | 0.059) | 0.051 | | 0.006 |
| 225 | 18.75 | 0.10 | 0.056 | ( | 0.059) | 0.051 | | 0.006 |
| 226 | 18.83 | 0.07 | 0.038 | ( | 0.058) | 0.034 | | 0.004 |
| 227 | 18.92 | 0.07 | 0.038 | ( | 0.058) | 0.034 | | 0.004 |
| 228 | 19.00 | 0.07 | 0.038 | ( | 0.058) | 0.034 | | 0.004 |
| 229 | 19.08 | 0.10 | 0.056 | ( | 0.058) | 0.051 | | 0.006 |
| 230 | 19.17 | 0.10 | 0.056 | ( | 0.057) | 0.051 | | 0.006 |
| 231 | 19.25 | 0.10 | 0.056 | ( | 0.057) | 0.051 | | 0.006 |
| 232 | 19.33 | 0.13 | 0.075 | | 0.057 | ( 0.068) | | 0.018 |
| 233 | 19.42 | 0.13 | 0.075 | | 0.057 | ( 0.068) | | 0.018 |
| 234 | 19.50 | 0.13 | 0.075 | | 0.056 | ( 0.068) | | 0.019 |
| 235 | 19.58 | 0.10 | 0.056 | ( | 0.056) | 0.051 | | 0.006 |
| 236 | 19.67 | 0.10 | 0.056 | ( | 0.056) | 0.051 | | 0.006 |
| 237 | 19.75 | 0.10 | 0.056 | ( | 0.056) | 0.051 | | 0.006 |
| 238 | 19.83 | 0.07 | 0.038 | ( | 0.055) | 0.034 | | 0.004 |
| 239 | 19.92 | 0.07 | 0.038 | ( | 0.055) | 0.034 | | 0.004 |
| 240 | 20.00 | 0.07 | 0.038 | ( | 0.055) | 0.034 | | 0.004 |
| 241 | 20.08 | 0.10 | 0.056 | ( | 0.055) | 0.051 | | 0.006 |
| 242 | 20.17 | 0.10 | 0.056 | ( | 0.054) | 0.051 | | 0.006 |
| 243 | 20.25 | 0.10 | 0.056 | ( | 0.054) | 0.051 | | 0.006 |
| 244 | 20.33 | 0.10 | 0.056 | ( | 0.054) | 0.051 | | 0.006 |
| 245 | 20.42 | 0.10 | 0.056 | ( | 0.054) | 0.051 | | 0.006 |
| 246 | 20.50 | 0.10 | 0.056 | ( | 0.053) | 0.051 | | 0.006 |
| 247 | 20.58 | 0.10 | 0.056 | ( | 0.053) | 0.051 | | 0.006 |
| 248 | 20.67 | 0.10 | 0.056 | ( | 0.053) | 0.051 | | 0.006 |
| 249 | 20.75 | 0.10 | 0.056 | ( | 0.053) | 0.051 | | 0.006 |
| 250 | 20.83 | 0.07 | 0.038 | ( | 0.053) | 0.034 | | 0.004 |
| 251 | 20.92 | 0.07 | 0.038 | ( | 0.052) | 0.034 | | 0.004 |
| 252 | 21.00 | 0.07 | 0.038 | ( | 0.052) | 0.034 | | 0.004 |
| 253 | 21.08 | 0.10 | 0.056 | ( | 0.052) | 0.051 | | 0.006 |
| 254 | 21.17 | 0.10 | 0.056 | ( | 0.052) | 0.051 | | 0.006 |
| 255 | 21.25 | 0.10 | 0.056 | ( | 0.051) | 0.051 | | 0.006 |
| 256 | 21.33 | 0.07 | 0.038 | ( | 0.051) | 0.034 | | 0.004 |
| 257 | 21.42 | 0.07 | 0.038 | ( | 0.051) | 0.034 | | 0.004 |
| 258 | 21.50 | 0.07 | 0.038 | ( | 0.051) | 0.034 | | 0.004 |
| 259 | 21.58 | 0.10 | 0.056 | ( | 0.051) | 0.051 | | 0.006 |
| 260 | 21.67 | 0.10 | 0.056 | | 0.051 | ( 0.051) | | 0.006 |
| 261 | 21.75 | 0.10 | 0.056 | | 0.050 | ( 0.051) | | 0.006 |
| 262 | 21.83 | 0.07 | 0.038 | ( | 0.050) | 0.034 | | 0.004 |
| 263 | 21.92 | 0.07 | 0.038 | ( | 0.050) | 0.034 | | 0.004 |
| 264 | 22.00 | 0.07 | 0.038 | ( | 0.050) | 0.034 | | 0.004 |
| 265 | 22.08 | 0.10 | 0.056 | | 0.050 | ( 0.051) | | 0.007 |
| 266 | 22.17 | 0.10 | 0.056 | | 0.050 | ( 0.051) | | 0.007 |
| 267 | 22.25 | 0.10 | 0.056 | | 0.049 | ( 0.051) | | 0.007 |
| 268 | 22.33 | 0.07 | 0.038 | ( | 0.049) | 0.034 | | 0.004 |
| 269 | 22.42 | 0.07 | 0.038 | ( | 0.049) | 0.034 | | 0.004 |
| 270 | 22.50 | 0.07 | 0.038 | ( | 0.049) | 0.034 | | 0.004 |
| 271 | 22.58 | 0.07 | 0.038 | ( | 0.049) | 0.034 | | 0.004 |
| 272 | 22.67 | 0.07 | 0.038 | ( | 0.049) | 0.034 | | 0.004 |
| 273 | 22.75 | 0.07 | 0.038 | ( | 0.048) | 0.034 | | 0.004 |
| 274 | 22.83 | 0.07 | 0.038 | ( | 0.048) | 0.034 | | 0.004 |
| 275 | 22.92 | 0.07 | 0.038 | ( | 0.048) | 0.034 | | 0.004 |
| 276 | 23.00 | 0.07 | 0.038 | ( | 0.048) | 0.034 | | 0.004 |
| 277 | 23.08 | 0.07 | 0.038 | ( | 0.048) | 0.034 | | 0.004 |
| 278 | 23.17 | 0.07 | 0.038 | ( | 0.048) | 0.034 | | 0.004 |
| 279 | 23.25 | 0.07 | 0.038 | ( | 0.048) | 0.034 | | 0.004 |
| 280 | 23.33 | 0.07 | 0.038 | ( | 0.048) | 0.034 | | 0.004 |
| 281 | 23.42 | 0.07 | 0.038 | ( | 0.048) | 0.034 | | 0.004 |
| 282 | 23.50 | 0.07 | 0.038 | ( | 0.048) | 0.034 | | 0.004 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 283 | 23.58 | 0.07 | 0.038 | ( | 0.047) | 0.034 | 0.004 |
| 284 | 23.67 | 0.07 | 0.038 | ( | 0.047) | 0.034 | 0.004 |
| 285 | 23.75 | 0.07 | 0.038 | ( | 0.047) | 0.034 | 0.004 |
| 286 | 23.83 | 0.07 | 0.038 | ( | 0.047) | 0.034 | 0.004 |
| 287 | 23.92 | 0.07 | 0.038 | ( | 0.047) | 0.034 | 0.004 |
| 288 | 24.00 | 0.07 | 0.038 | ( | 0.047) | 0.034 | 0.004 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 34.3

Flood volume = Effective rainfall 2.86(In)
times area 97.6(Ac.)/[(In)/(Ft.)] = 23.2(Ac.Ft)
Total soil loss = 1.83(In)
Total soil loss = 14.917(Ac.Ft)
Total rainfall = 4.69(In)
Flood volume = 1011492.3 Cubic Feet
Total soil loss = 649801.6 Cubic Feet

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Peak flow rate of this hydrograph = 54.114(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

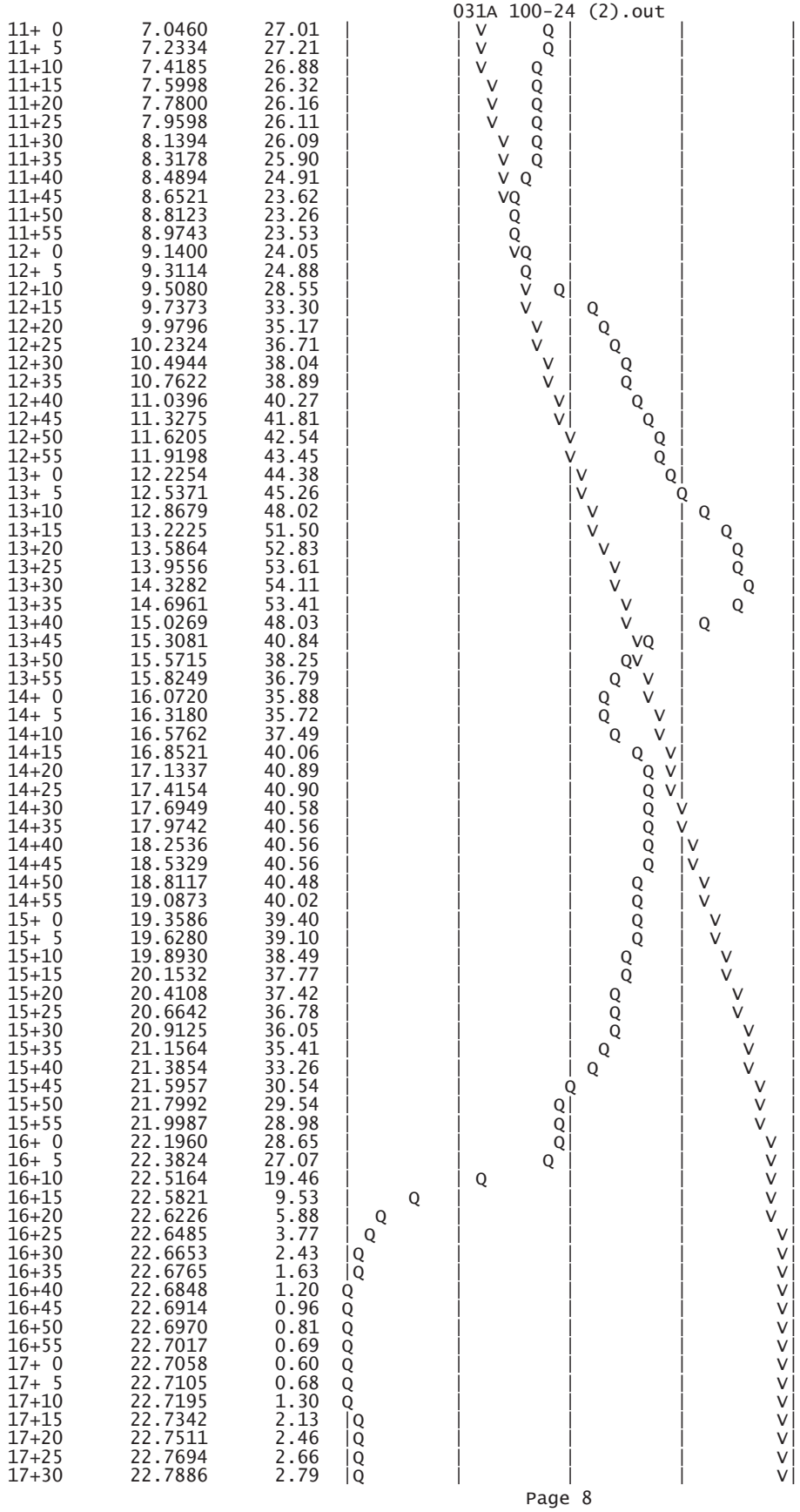
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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 15.0 | 30.0 | 45.0 | 60.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0001 | 0.02 | Q | | | | |
| 0+10 | 0.0010 | 0.12 | Q | | | | |
| 0+15 | 0.0027 | 0.25 | Q | | | | |
| 0+20 | 0.0048 | 0.31 | Q | | | | |
| 0+25 | 0.0075 | 0.39 | Q | | | | |
| 0+30 | 0.0108 | 0.47 | Q | | | | |
| 0+35 | 0.0143 | 0.51 | Q | | | | |
| 0+40 | 0.0179 | 0.53 | Q | | | | |
| 0+45 | 0.0216 | 0.54 | Q | | | | |
| 0+50 | 0.0254 | 0.55 | Q | | | | |
| 0+55 | 0.0296 | 0.61 | Q | | | | |
| 1+ 0 | 0.0343 | 0.68 | Q | | | | |
| 1+ 5 | 0.0390 | 0.69 | Q | | | | |
| 1+10 | 0.0436 | 0.66 | Q | | | | |
| 1+15 | 0.0477 | 0.60 | Q | | | | |
| 1+20 | 0.0517 | 0.58 | Q | | | | |
| 1+25 | 0.0556 | 0.57 | Q | | | | |
| 1+30 | 0.0595 | 0.56 | Q | | | | |
| 1+35 | 0.0634 | 0.56 | Q | | | | |
| 1+40 | 0.0672 | 0.56 | Q | | | | |
| 1+45 | 0.0710 | 0.56 | Q | | | | |
| 1+50 | 0.0749 | 0.56 | Q | | | | |
| 1+55 | 0.0791 | 0.61 | Q | | | | |
| 2+ 0 | 0.0838 | 0.68 | Q | | | | |
| 2+ 5 | 0.0887 | 0.70 | Q | | | | |
| 2+10 | 0.0936 | 0.72 | Q | | | | |
| 2+15 | 0.0986 | 0.73 | Q | | | | |
| 2+20 | 0.1037 | 0.73 | Q | | | | |
| 2+25 | 0.1087 | 0.73 | Q | | | | |
| 2+30 | 0.1138 | 0.74 | Q | | | | |
| 2+35 | 0.1189 | 0.75 | Q | | | | |
| 2+40 | 0.1244 | 0.80 | Q | | | | |
| 2+45 | 0.1304 | 0.86 | Q | | | | |
| 2+50 | 0.1365 | 0.89 | Q | | | | |
| 2+55 | 0.1427 | 0.90 | Q | | | | |
| 3+ 0 | 0.1490 | 0.91 | Q | | | | |
| 3+ 5 | 0.1553 | 0.92 | Q | | | | |
| 3+10 | 0.1616 | 0.92 | Q | | | | |
| 3+15 | 0.1680 | 0.92 | Q | | | | |
| 3+20 | 0.1743 | 0.92 | Q | | | | |
| 3+25 | 0.1807 | 0.92 | Q | | | | |
| 3+30 | 0.1870 | 0.92 | Q | | | | |
| 3+35 | 0.1934 | 0.92 | Q | | | | |
| 3+40 | 0.1997 | 0.92 | Q | | | | |
| 3+45 | 0.2061 | 0.92 | Q | | | | |
| 3+50 | 0.2125 | 0.93 | Q | | | | |
| 3+55 | 0.2193 | 0.98 | Q | | | | |
| 4+ 0 | 0.2265 | 1.05 | Q | | | | |
| 4+ 5 | 0.2339 | 1.07 | Q | | | | |
| 4+10 | 0.2414 | 1.09 | Q | | | | |
| 4+15 | 0.2490 | 1.10 | Q | | | | |
| 4+20 | 0.2566 | 1.11 | Q | | | | |

| | | | |
|---|---|---|---|
| 4+25 | 0.2646 | 1.16 | Q |
| 4+30 | 0.2731 | 1.23 | Q |
| 4+35 | 0.2818 | 1.26 | Q |
| 4+40 | 0.2905 | 1.27 | Q |
| 4+45 | 0.2993 | 1.28 | Q |
| 4+50 | 0.3083 | 1.31 | Q |
| 4+55 | 0.3182 | 1.43 | Q |
| 5+ 0 | 0.3293 | 1.61 | VQ |
| 5+ 5 | 0.3408 | 1.67 | VQ |
| 5+10 | 0.3513 | 1.53 | VQ |
| 5+15 | 0.3602 | 1.30 | Q |
| 5+20 | 0.3687 | 1.23 | Q |
| 5+25 | 0.3772 | 1.23 | Q |
| 5+30 | 0.3859 | 1.27 | Q |
| 5+35 | 0.3951 | 1.32 | Q |
| 5+40 | 0.4060 | 1.59 | VQ |
| 5+45 | 0.4195 | 1.95 | VQ |
| 5+50 | 0.4340 | 2.12 | VQ |
| 5+55 | 0.4494 | 2.23 | VQ |
| 6+ 0 | 0.4654 | 2.33 | VQ |
| 6+ 5 | 0.4826 | 2.50 | VQ |
| 6+10 | 0.5037 | 3.07 | V Q |
| 6+15 | 0.5299 | 3.79 | V Q |
| 6+20 | 0.5580 | 4.09 | V Q |
| 6+25 | 0.5876 | 4.29 | \|VQ |
| 6+30 | 0.6181 | 4.43 | \|VQ |
| 6+35 | 0.6501 | 4.64 | \|V Q |
| 6+40 | 0.6860 | 5.22 | \|V Q |
| 6+45 | 0.7270 | 5.95 | \|V Q |
| 6+50 | 0.7700 | 6.25 | \|V  Q |
| 6+55 | 0.8145 | 6.45 | \|V  Q |
| 7+ 0 | 0.8600 | 6.60 | \|V  Q |
| 7+ 5 | 0.9062 | 6.71 | \|V  Q |
| 7+10 | 0.9529 | 6.79 | \|V  Q |
| 7+15 | 1.0001 | 6.85 | \|V  Q |
| 7+20 | 1.0484 | 7.01 | \|V  Q |
| 7+25 | 1.1005 | 7.57 | \|V   Q |
| 7+30 | 1.1576 | 8.29 | \|V   Q |
| 7+35 | 1.2174 | 8.68 | \| V  Q |
| 7+40 | 1.2820 | 9.38 | \| V   Q |
| 7+45 | 1.3522 | 10.18 | \| V   Q |
| 7+50 | 1.4253 | 10.62 | \| V    Q |
| 7+55 | 1.5035 | 11.35 | \| V    Q |
| 8+ 0 | 1.5872 | 12.16 | \| V     Q |
| 8+ 5 | 1.6747 | 12.70 | \| V     Q |
| 8+10 | 1.7707 | 13.94 | \|  V     Q\| |
| 8+15 | 1.8769 | 15.42 | \|  V      Q |
| 8+20 | 1.9872 | 16.02 | \|  V      Q |
| 8+25 | 2.1001 | 16.38 | \|  V      Q |
| 8+30 | 2.2146 | 16.63 | \|  V      \|Q |
| 8+35 | 2.3309 | 16.89 | \|   V     \|Q |
| 8+40 | 2.4515 | 17.50 | \|   V     \|Q |
| 8+45 | 2.5771 | 18.24 | \|   V     \| Q |
| 8+50 | 2.7055 | 18.65 | \|   V     \| Q |
| 8+55 | 2.8389 | 19.36 | \|   V     \| Q |
| 9+ 0 | 2.9778 | 20.17 | \|    V     \|  Q |
| 9+ 5 | 3.1204 | 20.71 | \|    V     \|  Q |
| 9+10 | 3.2714 | 21.93 | \|    V     \|   Q |
| 9+15 | 3.4326 | 23.41 | \|    V     \|    Q |
| 9+20 | 3.5986 | 24.10 | \|     V    \|     Q |
| 9+25 | 3.7705 | 24.96 | \|     V    \|     Q |
| 9+30 | 3.9487 | 25.87 | \|     V    \|      Q |
| 9+35 | 4.1303 | 26.37 | \|      V   \|      Q |
| 9+40 | 4.3171 | 27.12 | \|      V   \|       Q |
| 9+45 | 4.5096 | 27.95 | \|      V   \|       Q |
| 9+50 | 4.7053 | 28.41 | \|       V  \|       Q |
| 9+55 | 4.9060 | 29.14 | \|       V  \|        Q\| |
| 10+ 0 | 5.1123 | 29.96 | \|       V  \|        Q\| |
| 10+ 5 | 5.3166 | 29.67 | \|        V\|        Q\| |
| 10+10 | 5.4981 | 26.35 | \|        V\|       Q  \| |
| 10+15 | 5.6487 | 21.86 | \|        V\|   Q      \| |
| 10+20 | 5.7883 | 20.27 | \|        V\|  Q       \| |
| 10+25 | 5.9217 | 19.37 | \|         V Q         \| |
| 10+30 | 6.0513 | 18.82 | \|         V Q         \| |
| 10+35 | 6.1820 | 18.97 | \|         V Q         \| |
| 10+40 | 6.3291 | 21.37 | \|         V   Q       \| |
| 10+45 | 6.4990 | 24.66 | \|         \|V    Q    \| |
| 10+50 | 6.6771 | 25.86 | \|         \|V     Q   \| |
| 10+55 | 6.8600 | 26.56 | \|         \|V     Q   \| |



| | | | |
|---|---|---|---|
| 11+ 0 | 7.0460 | 27.01 | |
| 11+ 5 | 7.2334 | 27.21 | |
| 11+10 | 7.4185 | 26.88 | |
| 11+15 | 7.5998 | 26.32 | |
| 11+20 | 7.7800 | 26.16 | |
| 11+25 | 7.9598 | 26.11 | |
| 11+30 | 8.1394 | 26.09 | |
| 11+35 | 8.3178 | 25.90 | |
| 11+40 | 8.4894 | 24.91 | |
| 11+45 | 8.6521 | 23.62 | |
| 11+50 | 8.8123 | 23.26 | |
| 11+55 | 8.9743 | 23.53 | |
| 12+ 0 | 9.1400 | 24.05 | |
| 12+ 5 | 9.3114 | 24.88 | |
| 12+10 | 9.5080 | 28.55 | |
| 12+15 | 9.7373 | 33.30 | |
| 12+20 | 9.9796 | 35.17 | |
| 12+25 | 10.2324 | 36.71 | |
| 12+30 | 10.4944 | 38.04 | |
| 12+35 | 10.7622 | 38.89 | |
| 12+40 | 11.0396 | 40.27 | |
| 12+45 | 11.3275 | 41.81 | |
| 12+50 | 11.6205 | 42.54 | |
| 12+55 | 11.9198 | 43.45 | |
| 13+ 0 | 12.2254 | 44.38 | |
| 13+ 5 | 12.5371 | 45.26 | |
| 13+10 | 12.8679 | 48.02 | |
| 13+15 | 13.2225 | 51.50 | |
| 13+20 | 13.5864 | 52.83 | |
| 13+25 | 13.9556 | 53.61 | |
| 13+30 | 14.3282 | 54.11 | |
| 13+35 | 14.6961 | 53.41 | |
| 13+40 | 15.0269 | 48.03 | |
| 13+45 | 15.3081 | 40.84 | |
| 13+50 | 15.5715 | 38.25 | |
| 13+55 | 15.8249 | 36.79 | |
| 14+ 0 | 16.0720 | 35.88 | |
| 14+ 5 | 16.3180 | 35.72 | |
| 14+10 | 16.5762 | 37.49 | |
| 14+15 | 16.8521 | 40.06 | |
| 14+20 | 17.1337 | 40.89 | |
| 14+25 | 17.4154 | 40.90 | |
| 14+30 | 17.6949 | 40.58 | |
| 14+35 | 17.9742 | 40.56 | |
| 14+40 | 18.2536 | 40.56 | |
| 14+45 | 18.5329 | 40.56 | |
| 14+50 | 18.8117 | 40.48 | |
| 14+55 | 19.0873 | 40.02 | |
| 15+ 0 | 19.3586 | 39.40 | |
| 15+ 5 | 19.6280 | 39.10 | |
| 15+10 | 19.8930 | 38.49 | |
| 15+15 | 20.1532 | 37.77 | |
| 15+20 | 20.4108 | 37.42 | |
| 15+25 | 20.6642 | 36.78 | |
| 15+30 | 20.9125 | 36.05 | |
| 15+35 | 21.1564 | 35.41 | |
| 15+40 | 21.3854 | 33.26 | |
| 15+45 | 21.5957 | 30.54 | |
| 15+50 | 21.7992 | 29.54 | |
| 15+55 | 21.9987 | 28.98 | |
| 16+ 0 | 22.1960 | 28.65 | |
| 16+ 5 | 22.3824 | 27.07 | |
| 16+10 | 22.5164 | 19.46 | |
| 16+15 | 22.5821 | 9.53 | |
| 16+20 | 22.6226 | 5.88 | |
| 16+25 | 22.6485 | 3.77 | |
| 16+30 | 22.6653 | 2.43 | |
| 16+35 | 22.6765 | 1.63 | |
| 16+40 | 22.6848 | 1.20 | |
| 16+45 | 22.6914 | 0.96 | |
| 16+50 | 22.6970 | 0.81 | |
| 16+55 | 22.7017 | 0.69 | |
| 17+ 0 | 22.7058 | 0.60 | |
| 17+ 5 | 22.7105 | 0.68 | |
| 17+10 | 22.7195 | 1.30 | |
| 17+15 | 22.7342 | 2.13 | |
| 17+20 | 22.7511 | 2.46 | |
| 17+25 | 22.7694 | 2.66 | |
| 17+30 | 22.7886 | 2.79 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+35 | 22.8085 | 2.89 | \|Q | \| | \| | \| | V\| |
| 17+40 | 22.8288 | 2.95 | \|Q | \| | \| | \| | V\| |
| 17+45 | 22.8495 | 3.00 | \|Q | \| | \| | \| | V\| |
| 17+50 | 22.8697 | 2.94 | \|Q | \| | \| | \| | V\| |
| 17+55 | 22.8868 | 2.48 | \|Q | \| | \| | \| | V\| |
| 18+ 0 | 22.8996 | 1.85 | \|Q | \| | \| | \| | V\| |
| 18+ 5 | 22.9109 | 1.64 | \|Q | \| | \| | \| | V\| |
| 18+10 | 22.9214 | 1.53 | \|Q | \| | \| | \| | V\| |
| 18+15 | 22.9316 | 1.47 | Q | \| | \| | \| | V\| |
| 18+20 | 22.9416 | 1.45 | Q | \| | \| | \| | V\| |
| 18+25 | 22.9516 | 1.45 | Q | \| | \| | \| | V\| |
| 18+30 | 22.9617 | 1.47 | Q | \| | \| | \| | V\| |
| 18+35 | 22.9716 | 1.44 | Q | \| | \| | \| | V\| |
| 18+40 | 22.9798 | 1.19 | Q | \| | \| | \| | V\| |
| 18+45 | 22.9857 | 0.85 | Q | \| | \| | \| | V\| |
| 18+50 | 22.9906 | 0.72 | Q | \| | \| | \| | V\| |
| 18+55 | 22.9947 | 0.60 | Q | \| | \| | \| | V\| |
| 19+ 0 | 22.9981 | 0.48 | Q | \| | \| | \| | V\| |
| 19+ 5 | 23.0011 | 0.44 | Q | \| | \| | \| | V\| |
| 19+10 | 23.0043 | 0.47 | Q | \| | \| | \| | V\| |
| 19+15 | 23.0079 | 0.52 | Q | \| | \| | \| | V\| |
| 19+20 | 23.0120 | 0.60 | Q | \| | \| | \| | V\| |
| 19+25 | 23.0185 | 0.94 | Q | \| | \| | \| | V\| |
| 19+30 | 23.0281 | 1.40 | Q | \| | \| | \| | V\| |
| 19+35 | 23.0386 | 1.52 | \|Q | \| | \| | \| | V\| |
| 19+40 | 23.0473 | 1.27 | Q | \| | \| | \| | V\| |
| 19+45 | 23.0534 | 0.88 | Q | \| | \| | \| | V\| |
| 19+50 | 23.0585 | 0.74 | Q | \| | \| | \| | V\| |
| 19+55 | 23.0626 | 0.61 | Q | \| | \| | \| | V\| |
| 20+ 0 | 23.0660 | 0.49 | Q | \| | \| | \| | V\| |
| 20+ 5 | 23.0691 | 0.44 | Q | \| | \| | \| | V\| |
| 20+10 | 23.0723 | 0.47 | Q | \| | \| | \| | V\| |
| 20+15 | 23.0759 | 0.52 | Q | \| | \| | \| | V\| |
| 20+20 | 23.0796 | 0.54 | Q | \| | \| | \| | V\| |
| 20+25 | 23.0833 | 0.54 | Q | \| | \| | \| | V\| |
| 20+30 | 23.0871 | 0.55 | Q | \| | \| | \| | V\| |
| 20+35 | 23.0908 | 0.55 | Q | \| | \| | \| | V\| |
| 20+40 | 23.0946 | 0.55 | Q | \| | \| | \| | V\| |
| 20+45 | 23.0984 | 0.55 | Q | \| | \| | \| | V\| |
| 20+50 | 23.1022 | 0.54 | Q | \| | \| | \| | V\| |
| 20+55 | 23.1056 | 0.49 | Q | \| | \| | \| | V\| |
| 21+ 0 | 23.1085 | 0.43 | Q | \| | \| | \| | V\| |
| 21+ 5 | 23.1114 | 0.41 | Q | \| | \| | \| | V\| |
| 21+10 | 23.1145 | 0.45 | Q | \| | \| | \| | V\| |
| 21+15 | 23.1179 | 0.51 | Q | \| | \| | \| | V\| |
| 21+20 | 23.1215 | 0.52 | Q | \| | \| | \| | V\| |
| 21+25 | 23.1248 | 0.48 | Q | \| | \| | \| | V\| |
| 21+30 | 23.1277 | 0.42 | Q | \| | \| | \| | V\| |
| 21+35 | 23.1305 | 0.41 | Q | \| | \| | \| | V\| |
| 21+40 | 23.1336 | 0.45 | Q | \| | \| | \| | V\| |
| 21+45 | 23.1371 | 0.51 | Q | \| | \| | \| | V\| |
| 21+50 | 23.1407 | 0.53 | Q | \| | \| | \| | V\| |
| 21+55 | 23.1441 | 0.49 | Q | \| | \| | \| | V\| |
| 22+ 0 | 23.1470 | 0.42 | Q | \| | \| | \| | V\| |
| 22+ 5 | 23.1498 | 0.42 | Q | \| | \| | \| | V\| |
| 22+10 | 23.1531 | 0.48 | Q | \| | \| | \| | V\| |
| 22+15 | 23.1571 | 0.58 | Q | \| | \| | \| | V\| |
| 22+20 | 23.1613 | 0.60 | Q | \| | \| | \| | V\| |
| 22+25 | 23.1650 | 0.54 | Q | \| | \| | \| | V\| |
| 22+30 | 23.1681 | 0.45 | Q | \| | \| | \| | V\| |
| 22+35 | 23.1710 | 0.42 | Q | \| | \| | \| | V\| |
| 22+40 | 23.1737 | 0.40 | Q | \| | \| | \| | V\| |
| 22+45 | 23.1764 | 0.38 | Q | \| | \| | \| | V\| |
| 22+50 | 23.1790 | 0.38 | Q | \| | \| | \| | V\| |
| 22+55 | 23.1815 | 0.37 | Q | \| | \| | \| | V\| |
| 23+ 0 | 23.1841 | 0.37 | Q | \| | \| | \| | V\| |
| 23+ 5 | 23.1867 | 0.37 | Q | \| | \| | \| | V\| |
| 23+10 | 23.1892 | 0.37 | Q | \| | \| | \| | V\| |
| 23+15 | 23.1917 | 0.37 | Q | \| | \| | \| | V\| |
| 23+20 | 23.1943 | 0.37 | Q | \| | \| | \| | V\| |
| 23+25 | 23.1968 | 0.37 | Q | \| | \| | \| | V\| |
| 23+30 | 23.1994 | 0.37 | Q | \| | \| | \| | V\| |
| 23+35 | 23.2019 | 0.37 | Q | \| | \| | \| | V\| |
| 23+40 | 23.2045 | 0.37 | Q | \| | \| | \| | V\| |
| 23+45 | 23.2070 | 0.37 | Q | \| | \| | \| | V\| |
| 23+50 | 23.2095 | 0.37 | Q | \| | \| | \| | V\| |
| 23+55 | 23.2121 | 0.37 | Q | \| | \| | \| | V\| |
| 24+ 0 | 23.2146 | 0.37 | Q | \| | \| | \| | V\| |
| 24+ 5 | 23.2170 | 0.35 | Q | \| | \| | \| | V\| |

```
   24+10      23.2188      0.25  Q          |          |          |         V|
   24+15      23.2196      0.12  Q          |          |          |         V|
   24+20      23.2200      0.07  Q          |          |          |         V|
   24+25      23.2203      0.04  Q          |          |          |         V|
   24+30      23.2205      0.02  Q          |          |          |         V|
   24+35      23.2206      0.01  Q          |          |          |         V|
   24+40      23.2206      0.01  Q          |          |          |         V|
   24+45      23.2206      0.00  Q          |          |          |         V|
   24+50      23.2207      0.00  Q          |          |          |         V|
   24+55      23.2207      0.00  Q          |          |          |         V|
   25+ 0      23.2207      0.00  Q          |          |          |          V
-------------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 04/18/19 File: EX31B1100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRING - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 31.2
100-YEAR STORM EVENT
BY: JTS, DATE: 04-18-19

---

Drainage Area = 72.40(Ac.) = 0.113 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 72.40(Ac.) = 0.113 Sq. Mi.
Length along longest watercourse = 3708.00(Ft.)
Length along longest watercourse measured to centroid = 1484.00(Ft.)
Length along longest watercourse = 0.702 Mi.
Length along longest watercourse measured to centroid = 0.281 Mi.
Difference in elevation = 380.00(Ft.)
Slope along watercourse = 541.1003 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.137 Hr.
Lag time = 8.23 Min.
25% of lag time = 2.06 Min.
40% of lag time = 3.29 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.00 | 0.50 | 0.00 |
| 0.00 | 0.01 | 0.00 |
| 72.40 | 0.01 | 0.72 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 72.40 | 1.20 | 86.88 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.010(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.93 %
Adjusted average point rain = 1.199(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 72.400 | 85.70 | 0.000 |

Total Area Entered = 72.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 85.7 | 94.3 | 0.074 | 0.000 | 0.074 | 1.000 | 0.074 |
| | | | | | Sum (F) = | 0.074 |

Area averaged mean soil loss (F) (In/Hr) = 0.074
Minimum soil loss rate ((In/Hr)) = 0.037
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 60.764 | 5.700 | 4.159 |
| 2 | 0.167 | 121.528 | 32.422 | 23.657 |
| 3 | 0.250 | 182.292 | 33.676 | 24.572 |
| 4 | 0.333 | 243.056 | 12.260 | 8.946 |
| 5 | 0.417 | 303.820 | 7.072 | 5.160 |
| 6 | 0.500 | 364.584 | 4.239 | 3.093 |
| 7 | 0.583 | 425.348 | 2.295 | 1.675 |
| 8 | 0.667 | 486.112 | 0.884 | 0.645 |
| 9 | 0.750 | 546.876 | 0.545 | 0.398 |
| 10 | 0.833 | 607.640 | 0.424 | 0.309 |
| 11 | 0.917 | 668.404 | 0.330 | 0.241 |
| 12 | 1.000 | 729.167 | 0.153 | 0.112 |
| | | Sum = 100.000 | Sum= | 72.966 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.604 | 0.074 | ( 0.544) | 0.530 |
| 2 | 0.17 | 4.30 | 0.619 | 0.074 | ( 0.557) | 0.544 |
| 3 | 0.25 | 5.00 | 0.720 | 0.074 | ( 0.648) | 0.645 |
| 4 | 0.33 | 5.00 | 0.720 | 0.074 | ( 0.648) | 0.645 |
| 5 | 0.42 | 5.80 | 0.835 | 0.074 | ( 0.751) | 0.760 |
| 6 | 0.50 | 6.50 | 0.935 | 0.074 | ( 0.842) | 0.861 |
| 7 | 0.58 | 7.40 | 1.065 | 0.074 | ( 0.958) | 0.991 |
| 8 | 0.67 | 8.60 | 1.238 | 0.074 | ( 1.114) | 1.163 |
| 9 | 0.75 | 12.30 | 1.770 | 0.074 | ( 1.593) | 1.696 |
| 10 | 0.83 | 29.10 | 4.188 | 0.074 | ( 3.769) | 4.113 |
| 11 | 0.92 | 6.80 | 0.979 | 0.074 | ( 0.881) | 0.904 |
| 12 | 1.00 | 5.00 | 0.720 | 0.074 | ( 0.648) | 0.645 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 13.5 |

Flood volume = Effective rainfall 1.12(In)
times area 72.4(Ac.)/[(In)/(Ft.)] = 6.8(Ac.Ft)
Total soil loss = 0.07(In)
Total soil loss = 0.449(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 295624.8 Cubic Feet
Total soil loss = 19542.7 Cubic Feet

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Peak flow rate of this hydrograph = 163.240(CFS)

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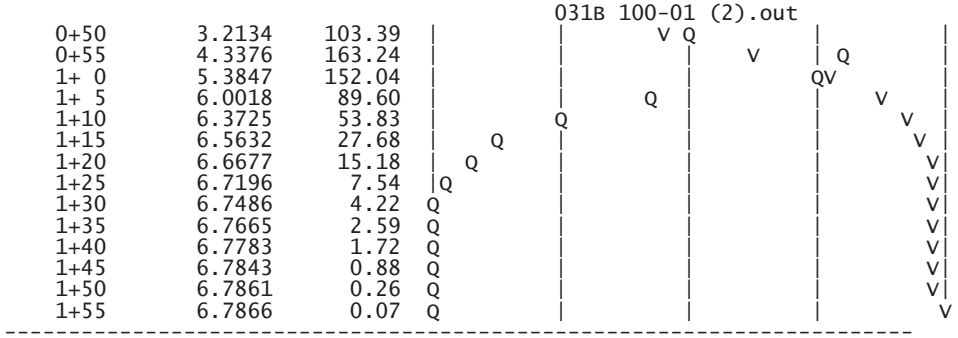
1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

---

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 50.0 | 100.0 | 150.0 | 200.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0152 | 2.21 | Q | \| | \| | \| | \| |
| 0+10 | 0.1172 | 14.81 | V Q | \| | \| | \| | \| |
| 0+15 | 0.3142 | 28.60 | \|V Q | \| | \| | \| | \| |
| 0+20 | 0.5627 | 36.08 | \| V Q | \| | \| | \| | \| |
| 0+25 | 0.8513 | 41.90 | \| V Q | \| | \| | \| | \| |
| 0+30 | 1.1796 | 47.66 | \| V Q\| | \| | \| | \| | \| |
| 0+35 | 1.5575 | 54.87 | \| VQ | \| | \| | \| | \| |
| 0+40 | 1.9902 | 62.84 | \| \|VQ | \| | \| | \| | \| |
| 0+45 | 2.5013 | 74.21 | \| \| Q | \| | \| | \| | \| |


0+50 3.2134 103.39
0+55 4.3376 163.24
1+ 0 5.3847 152.04
1+ 5 6.0018 89.60
1+10 6.3725 53.83
1+15 6.5632 27.68
1+20 6.6677 15.18
1+25 6.7196 7.54
1+30 6.7486 4.22
1+35 6.7665 2.59
1+40 6.7783 1.72
1+45 6.7843 0.88
1+50 6.7861 0.26
1+55 6.7866 0.07

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 04/18/19 File: EX31B3100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRING - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 31.2
100-YEAR STORM EVENT
BY: JTS, DATE: 04-18-19

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Drainage Area for Depth-Area Areal Adjustment = 72.40(Ac.) = 0.113 Sq. Mi.
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Length along longest watercourse measured to centroid = 1484.00(Ft.)
Length along longest watercourse = 0.702 Mi.
Length along longest watercourse measured to centroid = 0.281 Mi.
Difference in elevation = 380.00(Ft.)
Slope along watercourse = 541.1003 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.137 Hr.
Lag time = 8.23 Min.
25% of lag time = 2.06 Min.
40% of lag time = 3.29 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 72.40 | 0.81 | 58.64 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 72.40 | 1.81 | 131.04 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.810(In)
Area Averaged 100-Year Rainfall = 1.810(In)

Point rain (area averaged) = 1.810(In)
Areal adjustment factor = 99.97 %
Adjusted average point rain = 1.809(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 72.400 | 85.70 | 0.000 |

Total Area Entered = 72.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 85.7 | 94.3 | 0.074 | 0.000 | 0.074 | 1.000 | 0.074 |
| | | | | | Sum (F) = | 0.074 |

Area averaged mean soil loss (F) (In/Hr) = 0.074
Minimum soil loss rate ((In/Hr)) = 0.037

(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 60.764 | 5.700 | 4.159 |
| 2 | 0.167 | 121.528 | 32.422 | 23.657 |
| 3 | 0.250 | 182.292 | 33.676 | 24.572 |
| 4 | 0.333 | 243.056 | 12.260 | 8.946 |
| 5 | 0.417 | 303.820 | 7.072 | 5.160 |
| 6 | 0.500 | 364.584 | 4.239 | 3.093 |
| 7 | 0.583 | 425.348 | 2.295 | 1.675 |
| 8 | 0.667 | 486.112 | 0.884 | 0.645 |
| 9 | 0.750 | 546.876 | 0.545 | 0.398 |
| 10 | 0.833 | 607.640 | 0.424 | 0.309 |
| 11 | 0.917 | 668.404 | 0.330 | 0.241 |
| 12 | 1.000 | 729.167 | 0.153 | 0.112 |
| | | | Sum = 100.000 | Sum= 72.966 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.282 | 0.074 | ( | 0.254) | 0.208 |
| 2 | 0.17 | 1.30 | 0.282 | 0.074 | ( | 0.254) | 0.208 |
| 3 | 0.25 | 1.10 | 0.239 | 0.074 | ( | 0.215) | 0.164 |
| 4 | 0.33 | 1.50 | 0.326 | 0.074 | ( | 0.293) | 0.251 |
| 5 | 0.42 | 1.50 | 0.326 | 0.074 | ( | 0.293) | 0.251 |
| 6 | 0.50 | 1.80 | 0.391 | 0.074 | ( | 0.352) | 0.316 |
| 7 | 0.58 | 1.50 | 0.326 | 0.074 | ( | 0.293) | 0.251 |
| 8 | 0.67 | 1.80 | 0.391 | 0.074 | ( | 0.352) | 0.316 |
| 9 | 0.75 | 1.80 | 0.391 | 0.074 | ( | 0.352) | 0.316 |
| 10 | 0.83 | 1.50 | 0.326 | 0.074 | ( | 0.293) | 0.251 |
| 11 | 0.92 | 1.60 | 0.347 | 0.074 | ( | 0.313) | 0.273 |
| 12 | 1.00 | 1.80 | 0.391 | 0.074 | ( | 0.352) | 0.316 |
| 13 | 1.08 | 2.20 | 0.478 | 0.074 | ( | 0.430) | 0.403 |
| 14 | 1.17 | 2.20 | 0.478 | 0.074 | ( | 0.430) | 0.403 |
| 15 | 1.25 | 2.20 | 0.478 | 0.074 | ( | 0.430) | 0.403 |
| 16 | 1.33 | 2.00 | 0.434 | 0.074 | ( | 0.391) | 0.360 |
| 17 | 1.42 | 2.60 | 0.565 | 0.074 | ( | 0.508) | 0.490 |
| 18 | 1.50 | 2.70 | 0.586 | 0.074 | ( | 0.528) | 0.512 |
| 19 | 1.58 | 2.40 | 0.521 | 0.074 | ( | 0.469) | 0.447 |
| 20 | 1.67 | 2.70 | 0.586 | 0.074 | ( | 0.528) | 0.512 |
| 21 | 1.75 | 3.30 | 0.717 | 0.074 | ( | 0.645) | 0.642 |
| 22 | 1.83 | 3.10 | 0.673 | 0.074 | ( | 0.606) | 0.599 |
| 23 | 1.92 | 2.90 | 0.630 | 0.074 | ( | 0.567) | 0.555 |
| 24 | 2.00 | 3.00 | 0.651 | 0.074 | ( | 0.586) | 0.577 |
| 25 | 2.08 | 3.10 | 0.673 | 0.074 | ( | 0.606) | 0.599 |
| 26 | 2.17 | 4.20 | 0.912 | 0.074 | ( | 0.821) | 0.838 |
| 27 | 2.25 | 5.00 | 1.086 | 0.074 | ( | 0.977) | 1.011 |
| 28 | 2.33 | 3.50 | 0.760 | 0.074 | ( | 0.684) | 0.686 |
| 29 | 2.42 | 6.80 | 1.476 | 0.074 | ( | 1.329) | 1.402 |
| 30 | 2.50 | 7.30 | 1.585 | 0.074 | ( | 1.427) | 1.511 |
| 31 | 2.58 | 8.20 | 1.780 | 0.074 | ( | 1.602) | 1.706 |
| 32 | 2.67 | 5.90 | 1.281 | 0.074 | ( | 1.153) | 1.207 |
| 33 | 2.75 | 2.00 | 0.434 | 0.074 | ( | 0.391) | 0.360 |
| 34 | 2.83 | 1.80 | 0.391 | 0.074 | ( | 0.352) | 0.316 |
| 35 | 2.92 | 1.80 | 0.391 | 0.074 | ( | 0.352) | 0.316 |
| 36 | 3.00 | 0.60 | 0.130 | 0.074 | ( | 0.117) | 0.056 |
| | | (Loss Rate Not Used) | | | | | |
| Sum = | | 100.0 | | | | Sum = | 19.0 |

Flood volume = Effective rainfall 1.59(In)
times area 72.4(Ac.)/[(In)/(Ft.)] = 9.6(Ac.Ft)
Total soil loss = 0.22(In)
Total soil loss = 1.346(Ac.Ft)
Total rainfall = 1.81(In)
Flood volume = 416910.9 Cubic Feet
Total soil loss = 58628.1 Cubic Feet

Peak flow rate of this hydrograph = 104.169(CFS)

3 - H O U R  S T O R M
R u n o f f  H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 50.0 | 100.0 | 150.0 | 200.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0060 | 0.87 | Q | | | | |
| 0+10 | 0.0458 | 5.79 | VQ | | | | |
| 0+15 | 0.1196 | 10.72 | V Q | | | | |
| 0+20 | 0.2016 | 11.91 | V Q | | | | |
| 0+25 | 0.2979 | 13.97 | VQ | | | | |
| 0+30 | 0.4124 | 16.63 | V Q | | | | |
| 0+35 | 0.5420 | 18.81 | VQ | | | | |
| 0+40 | 0.6768 | 19.58 | VQ | | | | |
| 0+45 | 0.8172 | 20.39 | VQ | | | | |
| 0+50 | 0.9664 | 21.65 | Q | | | | |
| 0+55 | 1.1092 | 20.74 | Q | | | | |
| 1+ 0 | 1.2478 | 20.12 | QV | | | | |
| 1+ 5 | 1.3966 | 21.61 | QV | | | | |
| 1+10 | 1.5667 | 24.70 | Q V | | | | |
| 1+15 | 1.7539 | 27.18 | Q V | | | | |
| 1+20 | 1.9466 | 27.98 | Q V | | | | |
| 1+25 | 2.1400 | 28.08 | Q V | | | | |
| 1+30 | 2.3503 | 30.53 | Q V | | | | |
| 1+35 | 2.5828 | 33.76 | Q V | | | | |
| 1+40 | 2.8171 | 34.02 | Q V | | | | |
| 1+45 | 3.0601 | 35.29 | Q V | | | | |
| 1+50 | 3.3335 | 39.69 | Q V | | | | |
| 1+55 | 3.6242 | 42.21 | Q V | | | | |
| 2+ 0 | 3.9108 | 41.62 | Q V | | | | |
| 2+ 5 | 4.1973 | 41.59 | Q V | | | | |
| 2+10 | 4.4970 | 43.53 | Q V | | | | |
| 2+15 | 4.8451 | 50.54 | Q V | | | | |
| 2+20 | 5.2540 | 59.38 | Q V | | | | |
| 2+25 | 5.6754 | 61.19 | Q V | | | | |
| 2+30 | 6.1816 | 73.49 | Q V | | | | |
| 2+35 | 6.8239 | 93.27 | Q V | | | | |
| 2+40 | 7.5414 | 104.17 | Q V | | | | |
| 2+45 | 8.2145 | 97.74 | Q V | | | | |
| 2+50 | 8.6927 | 69.43 | Q V | | | | |
| 2+55 | 9.0067 | 45.60 | Q V | | | | |
| 3+ 0 | 9.2445 | 34.53 | Q V | | | | |
| 3+ 5 | 9.3992 | 22.47 | Q V | | | | |
| 3+10 | 9.4777 | 11.39 | Q V | | | | |
| 3+15 | 9.5194 | 6.06 | Q V | | | | |
| 3+20 | 9.5439 | 3.56 | Q V | | | | |
| 3+25 | 9.5577 | 2.00 | Q V | | | | |
| 3+30 | 9.5647 | 1.02 | Q V | | | | |
| 3+35 | 9.5681 | 0.48 | Q V | | | | |
| 3+40 | 9.5697 | 0.24 | Q V | | | | |
| 3+45 | 9.5706 | 0.13 | Q V | | | | |
| 3+50 | 9.5709 | 0.05 | Q V | | | | |
| 3+55 | 9.5710 | 0.01 | Q V | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 04/18/19 File: EX31B6100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRING - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 31.2
100-YEAR STORM EVENT
BY: JTS, DATE: 04-18-19

---

Drainage Area = 72.40(Ac.) = 0.113 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 72.40(Ac.) = 0.113 Sq. Mi.
Length along longest watercourse = 3708.00(Ft.)
Length along longest watercourse measured to centroid = 1484.00(Ft.)
Length along longest watercourse = 0.702 Mi.
Length along longest watercourse measured to centroid = 0.281 Mi.
Difference in elevation = 380.00(Ft.)
Slope along watercourse = 541.1003 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.137 Hr.
Lag time = 8.23 Min.
25% of lag time = 2.06 Min.
40% of lag time = 3.29 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 72.40 | 1.14 | 82.54 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 72.40 | 2.50 | 181.00 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.140(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 99.98 %
Adjusted average point rain = 2.499(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 72.400 | 85.70 | 0.000 |

Total Area Entered = 72.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 85.7 | 94.3 | 0.074 | 0.000 | 0.074 | 1.000 | 0.074 |
| | | | | | Sum (F) = | 0.074 |

Area averaged mean soil loss (F) (In/Hr) = 0.074
Minimum soil loss rate ((In/Hr)) = 0.037

(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 60.764 | 5.700 | 4.159 |
| 2 | 0.167 | 121.528 | 32.422 | 23.657 |
| 3 | 0.250 | 182.292 | 33.676 | 24.572 |
| 4 | 0.333 | 243.056 | 12.260 | 8.946 |
| 5 | 0.417 | 303.820 | 7.072 | 5.160 |
| 6 | 0.500 | 364.584 | 4.239 | 3.093 |
| 7 | 0.583 | 425.348 | 2.295 | 1.675 |
| 8 | 0.667 | 486.112 | 0.884 | 0.645 |
| 9 | 0.750 | 546.876 | 0.545 | 0.398 |
| 10 | 0.833 | 607.640 | 0.424 | 0.309 |
| 11 | 0.917 | 668.404 | 0.330 | 0.241 |
| 12 | 1.000 | 729.167 | 0.153 | 0.112 |
| | | | Sum = 100.000 | Sum= 72.966 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.074 | ( 0.135) | 0.076 |
| 2 | 0.17 | 0.60 | 0.180 | 0.074 | ( 0.162) | 0.106 |
| 3 | 0.25 | 0.60 | 0.180 | 0.074 | ( 0.162) | 0.106 |
| 4 | 0.33 | 0.60 | 0.180 | 0.074 | ( 0.162) | 0.106 |
| 5 | 0.42 | 0.60 | 0.180 | 0.074 | ( 0.162) | 0.106 |
| 6 | 0.50 | 0.70 | 0.210 | 0.074 | ( 0.189) | 0.136 |
| 7 | 0.58 | 0.70 | 0.210 | 0.074 | ( 0.189) | 0.136 |
| 8 | 0.67 | 0.70 | 0.210 | 0.074 | ( 0.189) | 0.136 |
| 9 | 0.75 | 0.70 | 0.210 | 0.074 | ( 0.189) | 0.136 |
| 10 | 0.83 | 0.70 | 0.210 | 0.074 | ( 0.189) | 0.136 |
| 11 | 0.92 | 0.70 | 0.210 | 0.074 | ( 0.189) | 0.136 |
| 12 | 1.00 | 0.80 | 0.240 | 0.074 | ( 0.216) | 0.166 |
| 13 | 1.08 | 0.80 | 0.240 | 0.074 | ( 0.216) | 0.166 |
| 14 | 1.17 | 0.80 | 0.240 | 0.074 | ( 0.216) | 0.166 |
| 15 | 1.25 | 0.80 | 0.240 | 0.074 | ( 0.216) | 0.166 |
| 16 | 1.33 | 0.80 | 0.240 | 0.074 | ( 0.216) | 0.166 |
| 17 | 1.42 | 0.80 | 0.240 | 0.074 | ( 0.216) | 0.166 |
| 18 | 1.50 | 0.80 | 0.240 | 0.074 | ( 0.216) | 0.166 |
| 19 | 1.58 | 0.80 | 0.240 | 0.074 | ( 0.216) | 0.166 |
| 20 | 1.67 | 0.80 | 0.240 | 0.074 | ( 0.216) | 0.166 |
| 21 | 1.75 | 0.80 | 0.240 | 0.074 | ( 0.216) | 0.166 |
| 22 | 1.83 | 0.80 | 0.240 | 0.074 | ( 0.216) | 0.166 |
| 23 | 1.92 | 0.80 | 0.240 | 0.074 | ( 0.216) | 0.166 |
| 24 | 2.00 | 0.90 | 0.270 | 0.074 | ( 0.243) | 0.196 |
| 25 | 2.08 | 0.80 | 0.240 | 0.074 | ( 0.216) | 0.166 |
| 26 | 2.17 | 0.90 | 0.270 | 0.074 | ( 0.243) | 0.196 |
| 27 | 2.25 | 0.90 | 0.270 | 0.074 | ( 0.243) | 0.196 |
| 28 | 2.33 | 0.90 | 0.270 | 0.074 | ( 0.243) | 0.196 |
| 29 | 2.42 | 0.90 | 0.270 | 0.074 | ( 0.243) | 0.196 |
| 30 | 2.50 | 0.90 | 0.270 | 0.074 | ( 0.243) | 0.196 |
| 31 | 2.58 | 0.90 | 0.270 | 0.074 | ( 0.243) | 0.196 |
| 32 | 2.67 | 0.90 | 0.270 | 0.074 | ( 0.243) | 0.196 |
| 33 | 2.75 | 1.00 | 0.300 | 0.074 | ( 0.270) | 0.226 |
| 34 | 2.83 | 1.00 | 0.300 | 0.074 | ( 0.270) | 0.226 |
| 35 | 2.92 | 1.00 | 0.300 | 0.074 | ( 0.270) | 0.226 |
| 36 | 3.00 | 1.00 | 0.300 | 0.074 | ( 0.270) | 0.226 |
| 37 | 3.08 | 1.00 | 0.300 | 0.074 | ( 0.270) | 0.226 |
| 38 | 3.17 | 1.10 | 0.330 | 0.074 | ( 0.297) | 0.256 |
| 39 | 3.25 | 1.10 | 0.330 | 0.074 | ( 0.297) | 0.256 |
| 40 | 3.33 | 1.10 | 0.330 | 0.074 | ( 0.297) | 0.256 |
| 41 | 3.42 | 1.20 | 0.360 | 0.074 | ( 0.324) | 0.286 |
| 42 | 3.50 | 1.30 | 0.390 | 0.074 | ( 0.351) | 0.316 |
| 43 | 3.58 | 1.40 | 0.420 | 0.074 | ( 0.378) | 0.346 |
| 44 | 3.67 | 1.40 | 0.420 | 0.074 | ( 0.378) | 0.346 |
| 45 | 3.75 | 1.50 | 0.450 | 0.074 | ( 0.405) | 0.376 |
| 46 | 3.83 | 1.50 | 0.450 | 0.074 | ( 0.405) | 0.376 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 47 | 3.92 | 1.60 | 0.480 | 0.074 | ( | 0.432) | 0.406 |
| 48 | 4.00 | 1.60 | 0.480 | 0.074 | ( | 0.432) | 0.406 |
| 49 | 4.08 | 1.70 | 0.510 | 0.074 | ( | 0.459) | 0.436 |
| 50 | 4.17 | 1.80 | 0.540 | 0.074 | ( | 0.486) | 0.466 |
| 51 | 4.25 | 1.90 | 0.570 | 0.074 | ( | 0.513) | 0.495 |
| 52 | 4.33 | 2.00 | 0.600 | 0.074 | ( | 0.540) | 0.525 |
| 53 | 4.42 | 2.10 | 0.630 | 0.074 | ( | 0.567) | 0.555 |
| 54 | 4.50 | 2.10 | 0.630 | 0.074 | ( | 0.567) | 0.555 |
| 55 | 4.58 | 2.20 | 0.660 | 0.074 | ( | 0.594) | 0.585 |
| 56 | 4.67 | 2.30 | 0.690 | 0.074 | ( | 0.621) | 0.615 |
| 57 | 4.75 | 2.40 | 0.720 | 0.074 | ( | 0.648) | 0.645 |
| 58 | 4.83 | 2.40 | 0.720 | 0.074 | ( | 0.648) | 0.645 |
| 59 | 4.92 | 2.50 | 0.750 | 0.074 | ( | 0.675) | 0.675 |
| 60 | 5.00 | 2.60 | 0.780 | 0.074 | ( | 0.702) | 0.705 |
| 61 | 5.08 | 3.10 | 0.930 | 0.074 | ( | 0.837) | 0.855 |
| 62 | 5.17 | 3.60 | 1.080 | 0.074 | ( | 0.972) | 1.005 |
| 63 | 5.25 | 3.90 | 1.170 | 0.074 | ( | 1.053) | 1.095 |
| 64 | 5.33 | 4.20 | 1.260 | 0.074 | ( | 1.134) | 1.185 |
| 65 | 5.42 | 4.70 | 1.410 | 0.074 | ( | 1.269) | 1.335 |
| 66 | 5.50 | 5.60 | 1.680 | 0.074 | ( | 1.512) | 1.605 |
| 67 | 5.58 | 1.90 | 0.570 | 0.074 | ( | 0.513) | 0.495 |
| 68 | 5.67 | 0.90 | 0.270 | 0.074 | ( | 0.243) | 0.196 |
| 69 | 5.75 | 0.60 | 0.180 | 0.074 | ( | 0.162) | 0.106 |
| 70 | 5.83 | 0.50 | 0.150 | 0.074 | ( | 0.135) | 0.076 |
| 71 | 5.92 | 0.30 | 0.090 | 0.074 | ( | 0.081) | 0.016 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.074) | | 0.054 | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 24.7

Flood volume = Effective rainfall 2.05(In)
times area 72.4(Ac.)/[(In)/(Ft.)] = 12.4(Ac.Ft)
Total soil loss = 0.44(In)
Total soil loss = 2.682(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 540056.5 Cubic Feet
Total soil loss = 116810.0 Cubic Feet

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Peak flow rate of this hydrograph = 94.840(CFS)

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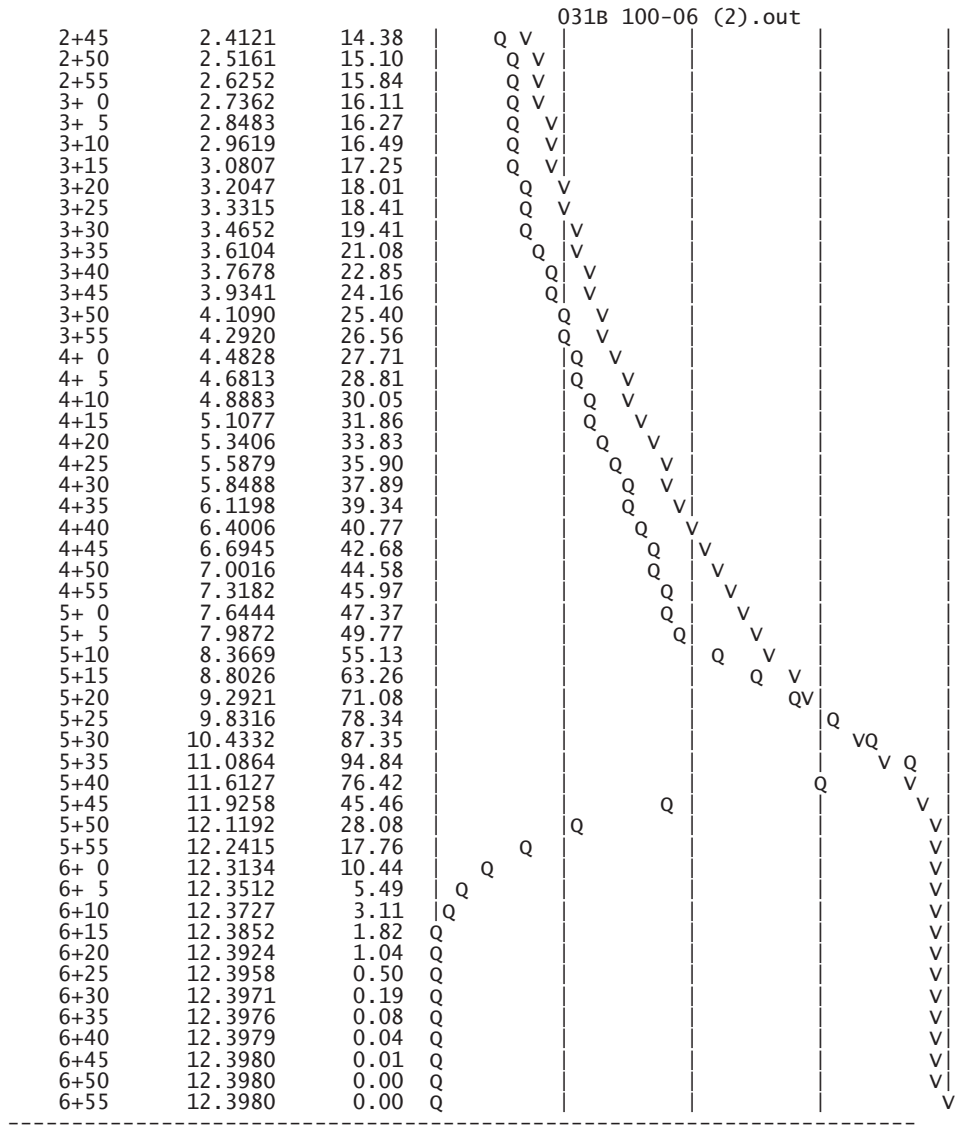
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 25.0 | 50.0 | 75.0 | 100.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0022 | 0.31 | Q | | | | |
| 0+10 | 0.0175 | 2.23 | Q | | | | |
| 0+15 | 0.0506 | 4.80 | VQ | | | | |
| 0+20 | 0.0933 | 6.21 | V Q | | | | |
| 0+25 | 0.1406 | 6.87 | V Q | | | | |
| 0+30 | 0.1915 | 7.38 | V Q | | | | |
| 0+35 | 0.2488 | 8.31 | V Q | | | | |
| 0+40 | 0.3118 | 9.15 | V Q | | | | |
| 0+45 | 0.3770 | 9.47 | V Q | | | | |
| 0+50 | 0.4435 | 9.66 | V Q | | | | |
| 0+55 | 0.5108 | 9.78 | V Q | | | | |
| 1+ 0 | 0.5795 | 9.97 | V Q | | | | |
| 1+ 5 | 0.6532 | 10.70 | V Q | | | | |
| 1+10 | 0.7320 | 11.45 | V Q | | | | |
| 1+15 | 0.8128 | 11.73 | V Q | | | | |
| 1+20 | 0.8947 | 11.89 | V Q | | | | |
| 1+25 | 0.9773 | 11.99 | VQ | | | | |
| 1+30 | 1.0602 | 12.04 | VQ | | | | |
| 1+35 | 1.1432 | 12.06 | VQ | | | | |
| 1+40 | 1.2263 | 12.07 | VQ | | | | |
| 1+45 | 1.3095 | 12.08 | Q | | | | |
| 1+50 | 1.3927 | 12.08 | Q | | | | |
| 1+55 | 1.4759 | 12.09 | Q | | | | |
| 2+ 0 | 1.5601 | 12.21 | QV | | | | |
| 2+ 5 | 1.6482 | 12.80 | Q | | | | |
| 2+10 | 1.7374 | 12.95 | Q | | | | |
| 2+15 | 1.8282 | 13.19 | Q | | | | |
| 2+20 | 1.9234 | 13.81 | QV | | | | |
| 2+25 | 2.0199 | 14.02 | QV | | | | |
| 2+30 | 2.1173 | 14.13 | QV | | | | |
| 2+35 | 2.2150 | 14.20 | Q V | | | | |
| 2+40 | 2.3131 | 14.24 | Q V | | | | |



| | | | |
|---|---|---|---|
| 2+45 | 2.4121 | 14.38 | |
| 2+50 | 2.5161 | 15.10 | |
| 2+55 | 2.6252 | 15.84 | |
| 3+ 0 | 2.7362 | 16.11 | |
| 3+ 5 | 2.8483 | 16.27 | |
| 3+10 | 2.9619 | 16.49 | |
| 3+15 | 3.0807 | 17.25 | |
| 3+20 | 3.2047 | 18.01 | |
| 3+25 | 3.3315 | 18.41 | |
| 3+30 | 3.4652 | 19.41 | |
| 3+35 | 3.6104 | 21.08 | |
| 3+40 | 3.7678 | 22.85 | |
| 3+45 | 3.9341 | 24.16 | |
| 3+50 | 4.1090 | 25.40 | |
| 3+55 | 4.2920 | 26.56 | |
| 4+ 0 | 4.4828 | 27.71 | |
| 4+ 5 | 4.6813 | 28.81 | |
| 4+10 | 4.8883 | 30.05 | |
| 4+15 | 5.1077 | 31.86 | |
| 4+20 | 5.3406 | 33.83 | |
| 4+25 | 5.5879 | 35.90 | |
| 4+30 | 5.8488 | 37.89 | |
| 4+35 | 6.1198 | 39.34 | |
| 4+40 | 6.4006 | 40.77 | |
| 4+45 | 6.6945 | 42.68 | |
| 4+50 | 7.0016 | 44.58 | |
| 4+55 | 7.3182 | 45.97 | |
| 5+ 0 | 7.6444 | 47.37 | |
| 5+ 5 | 7.9872 | 49.77 | |
| 5+10 | 8.3669 | 55.13 | |
| 5+15 | 8.8026 | 63.26 | |
| 5+20 | 9.2921 | 71.08 | |
| 5+25 | 9.8316 | 78.34 | |
| 5+30 | 10.4332 | 87.35 | |
| 5+35 | 11.0864 | 94.84 | |
| 5+40 | 11.6127 | 76.42 | |
| 5+45 | 11.9258 | 45.46 | |
| 5+50 | 12.1192 | 28.08 | |
| 5+55 | 12.2415 | 17.76 | |
| 6+ 0 | 12.3134 | 10.44 | |
| 6+ 5 | 12.3512 | 5.49 | |
| 6+10 | 12.3727 | 3.11 | |
| 6+15 | 12.3852 | 1.82 | |
| 6+20 | 12.3924 | 1.04 | |
| 6+25 | 12.3958 | 0.50 | |
| 6+30 | 12.3971 | 0.19 | |
| 6+35 | 12.3976 | 0.08 | |
| 6+40 | 12.3979 | 0.04 | |
| 6+45 | 12.3980 | 0.01 | |
| 6+50 | 12.3980 | 0.00 | |
| 6+55 | 12.3980 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 04/18/19 File: EX31B24100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRING - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 31.2
100-YEAR STORM EVENT
BY: JTS, DATE: 04-18-19

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Length along longest watercourse = 0.702 Mi.
Length along longest watercourse measured to centroid = 0.281 Mi.
Difference in elevation = 380.00(Ft.)
Slope along watercourse = 541.1003 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.137 Hr.
Lag time = 8.23 Min.
25% of lag time = 2.06 Min.
40% of lag time = 3.29 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 72.40 | 1.80 | 130.32 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 72.40 | 4.69 | 339.56 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.690(In)

Point rain (area averaged) = 4.690(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 4.689(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 72.400 | 85.70 | 0.000 |

Total Area Entered = 72.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 85.7 | 94.3 | 0.074 | 0.000 | 0.074 | 1.000 | 0.074 |
| | | | | | Sum (F) = | 0.074 |

Area averaged mean soil loss (F) (In/Hr) = 0.074
Minimum soil loss rate ((In/Hr)) = 0.037

(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 60.764 | 5.700 | 4.159 |
| 2 | 0.167 | 121.528 | 32.422 | 23.657 |
| 3 | 0.250 | 182.292 | 33.676 | 24.572 |
| 4 | 0.333 | 243.056 | 12.260 | 8.946 |
| 5 | 0.417 | 303.820 | 7.072 | 5.160 |
| 6 | 0.500 | 364.584 | 4.239 | 3.093 |
| 7 | 0.583 | 425.348 | 2.295 | 1.675 |
| 8 | 0.667 | 486.112 | 0.884 | 0.645 |
| 9 | 0.750 | 546.876 | 0.545 | 0.398 |
| 10 | 0.833 | 607.640 | 0.424 | 0.309 |
| 11 | 0.917 | 668.404 | 0.330 | 0.241 |
| 12 | 1.000 | 729.167 | 0.153 | 0.112 |
| | | | Sum = 100.000 | Sum= 72.966 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.038 | ( 0.132) | 0.034 | 0.004 |
| 2 | 0.17 | 0.07 | 0.038 | ( 0.131) | 0.034 | 0.004 |
| 3 | 0.25 | 0.07 | 0.038 | ( 0.131) | 0.034 | 0.004 |
| 4 | 0.33 | 0.10 | 0.056 | ( 0.130) | 0.051 | 0.006 |
| 5 | 0.42 | 0.10 | 0.056 | ( 0.130) | 0.051 | 0.006 |
| 6 | 0.50 | 0.10 | 0.056 | ( 0.129) | 0.051 | 0.006 |
| 7 | 0.58 | 0.10 | 0.056 | ( 0.129) | 0.051 | 0.006 |
| 8 | 0.67 | 0.10 | 0.056 | ( 0.128) | 0.051 | 0.006 |
| 9 | 0.75 | 0.10 | 0.056 | ( 0.128) | 0.051 | 0.006 |
| 10 | 0.83 | 0.13 | 0.075 | ( 0.127) | 0.068 | 0.008 |
| 11 | 0.92 | 0.13 | 0.075 | ( 0.127) | 0.068 | 0.008 |
| 12 | 1.00 | 0.13 | 0.075 | ( 0.126) | 0.068 | 0.008 |
| 13 | 1.08 | 0.10 | 0.056 | ( 0.126) | 0.051 | 0.006 |
| 14 | 1.17 | 0.10 | 0.056 | ( 0.125) | 0.051 | 0.006 |
| 15 | 1.25 | 0.10 | 0.056 | ( 0.125) | 0.051 | 0.006 |
| 16 | 1.33 | 0.10 | 0.056 | ( 0.124) | 0.051 | 0.006 |
| 17 | 1.42 | 0.10 | 0.056 | ( 0.124) | 0.051 | 0.006 |
| 18 | 1.50 | 0.10 | 0.056 | ( 0.123) | 0.051 | 0.006 |
| 19 | 1.58 | 0.10 | 0.056 | ( 0.123) | 0.051 | 0.006 |
| 20 | 1.67 | 0.10 | 0.056 | ( 0.122) | 0.051 | 0.006 |
| 21 | 1.75 | 0.10 | 0.056 | ( 0.122) | 0.051 | 0.006 |
| 22 | 1.83 | 0.13 | 0.075 | ( 0.121) | 0.068 | 0.008 |
| 23 | 1.92 | 0.13 | 0.075 | ( 0.121) | 0.068 | 0.008 |
| 24 | 2.00 | 0.13 | 0.075 | ( 0.120) | 0.068 | 0.008 |
| 25 | 2.08 | 0.13 | 0.075 | ( 0.120) | 0.068 | 0.008 |
| 26 | 2.17 | 0.13 | 0.075 | ( 0.119) | 0.068 | 0.008 |
| 27 | 2.25 | 0.13 | 0.075 | ( 0.119) | 0.068 | 0.008 |
| 28 | 2.33 | 0.13 | 0.075 | ( 0.118) | 0.068 | 0.008 |
| 29 | 2.42 | 0.13 | 0.075 | ( 0.118) | 0.068 | 0.008 |
| 30 | 2.50 | 0.13 | 0.075 | ( 0.117) | 0.068 | 0.008 |
| 31 | 2.58 | 0.17 | 0.094 | ( 0.117) | 0.084 | 0.009 |
| 32 | 2.67 | 0.17 | 0.094 | ( 0.116) | 0.084 | 0.009 |
| 33 | 2.75 | 0.17 | 0.094 | ( 0.116) | 0.084 | 0.009 |
| 34 | 2.83 | 0.17 | 0.094 | ( 0.116) | 0.084 | 0.009 |
| 35 | 2.92 | 0.17 | 0.094 | ( 0.115) | 0.084 | 0.009 |
| 36 | 3.00 | 0.17 | 0.094 | ( 0.115) | 0.084 | 0.009 |
| 37 | 3.08 | 0.17 | 0.094 | ( 0.114) | 0.084 | 0.009 |
| 38 | 3.17 | 0.17 | 0.094 | ( 0.114) | 0.084 | 0.009 |
| 39 | 3.25 | 0.17 | 0.094 | ( 0.113) | 0.084 | 0.009 |
| 40 | 3.33 | 0.17 | 0.094 | ( 0.113) | 0.084 | 0.009 |
| 41 | 3.42 | 0.17 | 0.094 | ( 0.112) | 0.084 | 0.009 |
| 42 | 3.50 | 0.17 | 0.094 | ( 0.112) | 0.084 | 0.009 |
| 43 | 3.58 | 0.17 | 0.094 | ( 0.111) | 0.084 | 0.009 |
| 44 | 3.67 | 0.17 | 0.094 | ( 0.111) | 0.084 | 0.009 |
| 45 | 3.75 | 0.17 | 0.094 | ( 0.110) | 0.084 | 0.009 |
| 46 | 3.83 | 0.20 | 0.113 | ( 0.110) | 0.101 | 0.011 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 47 | 3.92 | 0.20 | 0.113 | ( | 0.109) | 0.101 | | 0.011 |
| 48 | 4.00 | 0.20 | 0.113 | ( | 0.109) | 0.101 | | 0.011 |
| 49 | 4.08 | 0.20 | 0.113 | ( | 0.108) | 0.101 | | 0.011 |
| 50 | 4.17 | 0.20 | 0.113 | ( | 0.108) | 0.101 | | 0.011 |
| 51 | 4.25 | 0.20 | 0.113 | ( | 0.108) | 0.101 | | 0.011 |
| 52 | 4.33 | 0.23 | 0.131 | | 0.107 | ( 0.118) | | 0.024 |
| 53 | 4.42 | 0.23 | 0.131 | | 0.107 | ( 0.118) | | 0.025 |
| 54 | 4.50 | 0.23 | 0.131 | | 0.106 | ( 0.118) | | 0.025 |
| 55 | 4.58 | 0.23 | 0.131 | | 0.106 | ( 0.118) | | 0.026 |
| 56 | 4.67 | 0.23 | 0.131 | | 0.105 | ( 0.118) | | 0.026 |
| 57 | 4.75 | 0.23 | 0.131 | | 0.105 | ( 0.118) | | 0.026 |
| 58 | 4.83 | 0.27 | 0.150 | | 0.104 | ( 0.135) | | 0.046 |
| 59 | 4.92 | 0.27 | 0.150 | | 0.104 | ( 0.135) | | 0.046 |
| 60 | 5.00 | 0.27 | 0.150 | | 0.103 | ( 0.135) | | 0.047 |
| 61 | 5.08 | 0.20 | 0.113 | ( | 0.103) | 0.101 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.113 | ( | 0.103) | 0.101 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.113 | ( | 0.102) | 0.101 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.131 | | 0.102 | ( 0.118) | | 0.030 |
| 65 | 5.42 | 0.23 | 0.131 | | 0.101 | ( 0.118) | | 0.030 |
| 66 | 5.50 | 0.23 | 0.131 | | 0.101 | ( 0.118) | | 0.031 |
| 67 | 5.58 | 0.27 | 0.150 | | 0.100 | ( 0.135) | | 0.050 |
| 68 | 5.67 | 0.27 | 0.150 | | 0.100 | ( 0.135) | | 0.050 |
| 69 | 5.75 | 0.27 | 0.150 | | 0.099 | ( 0.135) | | 0.051 |
| 70 | 5.83 | 0.27 | 0.150 | | 0.099 | ( 0.135) | | 0.051 |
| 71 | 5.92 | 0.27 | 0.150 | | 0.099 | ( 0.135) | | 0.051 |
| 72 | 6.00 | 0.27 | 0.150 | | 0.098 | ( 0.135) | | 0.052 |
| 73 | 6.08 | 0.30 | 0.169 | | 0.098 | ( 0.152) | | 0.071 |
| 74 | 6.17 | 0.30 | 0.169 | | 0.097 | ( 0.152) | | 0.072 |
| 75 | 6.25 | 0.30 | 0.169 | | 0.097 | ( 0.152) | | 0.072 |
| 76 | 6.33 | 0.30 | 0.169 | | 0.096 | ( 0.152) | | 0.072 |
| 77 | 6.42 | 0.30 | 0.169 | | 0.096 | ( 0.152) | | 0.073 |
| 78 | 6.50 | 0.30 | 0.169 | | 0.096 | ( 0.152) | | 0.073 |
| 79 | 6.58 | 0.33 | 0.188 | | 0.095 | ( 0.169) | | 0.092 |
| 80 | 6.67 | 0.33 | 0.188 | | 0.095 | ( 0.169) | | 0.093 |
| 81 | 6.75 | 0.33 | 0.188 | | 0.094 | ( 0.169) | | 0.093 |
| 82 | 6.83 | 0.33 | 0.188 | | 0.094 | ( 0.169) | | 0.094 |
| 83 | 6.92 | 0.33 | 0.188 | | 0.093 | ( 0.169) | | 0.094 |
| 84 | 7.00 | 0.33 | 0.188 | | 0.093 | ( 0.169) | | 0.095 |
| 85 | 7.08 | 0.33 | 0.188 | | 0.093 | ( 0.169) | | 0.095 |
| 86 | 7.17 | 0.33 | 0.188 | | 0.092 | ( 0.169) | | 0.095 |
| 87 | 7.25 | 0.33 | 0.188 | | 0.092 | ( 0.169) | | 0.096 |
| 88 | 7.33 | 0.37 | 0.206 | | 0.091 | ( 0.186) | | 0.115 |
| 89 | 7.42 | 0.37 | 0.206 | | 0.091 | ( 0.186) | | 0.115 |
| 90 | 7.50 | 0.37 | 0.206 | | 0.090 | ( 0.186) | | 0.116 |
| 91 | 7.58 | 0.40 | 0.225 | | 0.090 | ( 0.203) | | 0.135 |
| 92 | 7.67 | 0.40 | 0.225 | | 0.090 | ( 0.203) | | 0.135 |
| 93 | 7.75 | 0.40 | 0.225 | | 0.089 | ( 0.203) | | 0.136 |
| 94 | 7.83 | 0.43 | 0.244 | | 0.089 | ( 0.219) | | 0.155 |
| 95 | 7.92 | 0.43 | 0.244 | | 0.088 | ( 0.219) | | 0.155 |
| 96 | 8.00 | 0.43 | 0.244 | | 0.088 | ( 0.219) | | 0.156 |
| 97 | 8.08 | 0.50 | 0.281 | | 0.088 | ( 0.253) | | 0.194 |
| 98 | 8.17 | 0.50 | 0.281 | | 0.087 | ( 0.253) | | 0.194 |
| 99 | 8.25 | 0.50 | 0.281 | | 0.087 | ( 0.253) | | 0.195 |
| 100 | 8.33 | 0.50 | 0.281 | | 0.086 | ( 0.253) | | 0.195 |
| 101 | 8.42 | 0.50 | 0.281 | | 0.086 | ( 0.253) | | 0.195 |
| 102 | 8.50 | 0.50 | 0.281 | | 0.086 | ( 0.253) | | 0.196 |
| 103 | 8.58 | 0.53 | 0.300 | | 0.085 | ( 0.270) | | 0.215 |
| 104 | 8.67 | 0.53 | 0.300 | | 0.085 | ( 0.270) | | 0.215 |
| 105 | 8.75 | 0.53 | 0.300 | | 0.084 | ( 0.270) | | 0.216 |
| 106 | 8.83 | 0.57 | 0.319 | | 0.084 | ( 0.287) | | 0.235 |
| 107 | 8.92 | 0.57 | 0.319 | | 0.084 | ( 0.287) | | 0.235 |
| 108 | 9.00 | 0.57 | 0.319 | | 0.083 | ( 0.287) | | 0.236 |
| 109 | 9.08 | 0.63 | 0.356 | | 0.083 | ( 0.321) | | 0.274 |
| 110 | 9.17 | 0.63 | 0.356 | | 0.082 | ( 0.321) | | 0.274 |
| 111 | 9.25 | 0.63 | 0.356 | | 0.082 | ( 0.321) | | 0.274 |
| 112 | 9.33 | 0.67 | 0.375 | | 0.082 | ( 0.338) | | 0.294 |
| 113 | 9.42 | 0.67 | 0.375 | | 0.081 | ( 0.338) | | 0.294 |
| 114 | 9.50 | 0.67 | 0.375 | | 0.081 | ( 0.338) | | 0.294 |
| 115 | 9.58 | 0.70 | 0.394 | | 0.080 | ( 0.355) | | 0.313 |
| 116 | 9.67 | 0.70 | 0.394 | | 0.080 | ( 0.355) | | 0.314 |
| 117 | 9.75 | 0.70 | 0.394 | | 0.080 | ( 0.355) | | 0.314 |
| 118 | 9.83 | 0.73 | 0.413 | | 0.079 | ( 0.371) | | 0.333 |
| 119 | 9.92 | 0.73 | 0.413 | | 0.079 | ( 0.371) | | 0.334 |
| 120 | 10.00 | 0.73 | 0.413 | | 0.079 | ( 0.371) | | 0.334 |
| 121 | 10.08 | 0.50 | 0.281 | | 0.078 | ( 0.253) | | 0.203 |
| 122 | 10.17 | 0.50 | 0.281 | | 0.078 | ( 0.253) | | 0.204 |
| 123 | 10.25 | 0.50 | 0.281 | | 0.077 | ( 0.253) | | 0.204 |
| 124 | 10.33 | 0.50 | 0.281 | | 0.077 | ( 0.253) | | 0.204 |
| 125 | 10.42 | 0.50 | 0.281 | | 0.077 | ( 0.253) | | 0.205 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 126 | 10.50 | 0.50 | 0.281 | 0.076 | ( 0.253) | 0.205 |
| 127 | 10.58 | 0.67 | 0.375 | 0.076 | ( 0.338) | 0.299 |
| 128 | 10.67 | 0.67 | 0.375 | 0.076 | ( 0.338) | 0.300 |
| 129 | 10.75 | 0.67 | 0.375 | 0.075 | ( 0.338) | 0.300 |
| 130 | 10.83 | 0.67 | 0.375 | 0.075 | ( 0.338) | 0.300 |
| 131 | 10.92 | 0.67 | 0.375 | 0.074 | ( 0.338) | 0.301 |
| 132 | 11.00 | 0.67 | 0.375 | 0.074 | ( 0.338) | 0.301 |
| 133 | 11.08 | 0.63 | 0.356 | 0.074 | ( 0.321) | 0.283 |
| 134 | 11.17 | 0.63 | 0.356 | 0.073 | ( 0.321) | 0.283 |
| 135 | 11.25 | 0.63 | 0.356 | 0.073 | ( 0.321) | 0.283 |
| 136 | 11.33 | 0.63 | 0.356 | 0.073 | ( 0.321) | 0.284 |
| 137 | 11.42 | 0.63 | 0.356 | 0.072 | ( 0.321) | 0.284 |
| 138 | 11.50 | 0.63 | 0.356 | 0.072 | ( 0.321) | 0.285 |
| 139 | 11.58 | 0.57 | 0.319 | 0.072 | ( 0.287) | 0.247 |
| 140 | 11.67 | 0.57 | 0.319 | 0.071 | ( 0.287) | 0.248 |
| 141 | 11.75 | 0.57 | 0.319 | 0.071 | ( 0.287) | 0.248 |
| 142 | 11.83 | 0.60 | 0.338 | 0.070 | ( 0.304) | 0.267 |
| 143 | 11.92 | 0.60 | 0.338 | 0.070 | ( 0.304) | 0.268 |
| 144 | 12.00 | 0.60 | 0.338 | 0.070 | ( 0.304) | 0.268 |
| 145 | 12.08 | 0.83 | 0.469 | 0.069 | ( 0.422) | 0.400 |
| 146 | 12.17 | 0.83 | 0.469 | 0.069 | ( 0.422) | 0.400 |
| 147 | 12.25 | 0.83 | 0.469 | 0.069 | ( 0.422) | 0.400 |
| 148 | 12.33 | 0.87 | 0.488 | 0.068 | ( 0.439) | 0.419 |
| 149 | 12.42 | 0.87 | 0.488 | 0.068 | ( 0.439) | 0.420 |
| 150 | 12.50 | 0.87 | 0.488 | 0.068 | ( 0.439) | 0.420 |
| 151 | 12.58 | 0.93 | 0.525 | 0.067 | ( 0.473) | 0.458 |
| 152 | 12.67 | 0.93 | 0.525 | 0.067 | ( 0.473) | 0.458 |
| 153 | 12.75 | 0.93 | 0.525 | 0.067 | ( 0.473) | 0.459 |
| 154 | 12.83 | 0.97 | 0.544 | 0.066 | ( 0.490) | 0.478 |
| 155 | 12.92 | 0.97 | 0.544 | 0.066 | ( 0.490) | 0.478 |
| 156 | 13.00 | 0.97 | 0.544 | 0.066 | ( 0.490) | 0.478 |
| 157 | 13.08 | 1.13 | 0.638 | 0.065 | ( 0.574) | 0.572 |
| 158 | 13.17 | 1.13 | 0.638 | 0.065 | ( 0.574) | 0.573 |
| 159 | 13.25 | 1.13 | 0.638 | 0.065 | ( 0.574) | 0.573 |
| 160 | 13.33 | 1.13 | 0.638 | 0.064 | ( 0.574) | 0.573 |
| 161 | 13.42 | 1.13 | 0.638 | 0.064 | ( 0.574) | 0.574 |
| 162 | 13.50 | 1.13 | 0.638 | 0.064 | ( 0.574) | 0.574 |
| 163 | 13.58 | 0.77 | 0.431 | 0.063 | ( 0.388) | 0.368 |
| 164 | 13.67 | 0.77 | 0.431 | 0.063 | ( 0.388) | 0.368 |
| 165 | 13.75 | 0.77 | 0.431 | 0.063 | ( 0.388) | 0.369 |
| 166 | 13.83 | 0.77 | 0.431 | 0.062 | ( 0.388) | 0.369 |
| 167 | 13.92 | 0.77 | 0.431 | 0.062 | ( 0.388) | 0.369 |
| 168 | 14.00 | 0.77 | 0.431 | 0.062 | ( 0.388) | 0.370 |
| 169 | 14.08 | 0.90 | 0.506 | 0.061 | ( 0.456) | 0.445 |
| 170 | 14.17 | 0.90 | 0.506 | 0.061 | ( 0.456) | 0.445 |
| 171 | 14.25 | 0.90 | 0.506 | 0.061 | ( 0.456) | 0.446 |
| 172 | 14.33 | 0.87 | 0.488 | 0.061 | ( 0.439) | 0.427 |
| 173 | 14.42 | 0.87 | 0.488 | 0.060 | ( 0.439) | 0.427 |
| 174 | 14.50 | 0.87 | 0.488 | 0.060 | ( 0.439) | 0.428 |
| 175 | 14.58 | 0.87 | 0.488 | 0.060 | ( 0.439) | 0.428 |
| 176 | 14.67 | 0.87 | 0.488 | 0.059 | ( 0.439) | 0.428 |
| 177 | 14.75 | 0.87 | 0.488 | 0.059 | ( 0.439) | 0.429 |
| 178 | 14.83 | 0.83 | 0.469 | 0.059 | ( 0.422) | 0.410 |
| 179 | 14.92 | 0.83 | 0.469 | 0.058 | ( 0.422) | 0.411 |
| 180 | 15.00 | 0.83 | 0.469 | 0.058 | ( 0.422) | 0.411 |
| 181 | 15.08 | 0.80 | 0.450 | 0.058 | ( 0.405) | 0.392 |
| 182 | 15.17 | 0.80 | 0.450 | 0.057 | ( 0.405) | 0.393 |
| 183 | 15.25 | 0.80 | 0.450 | 0.057 | ( 0.405) | 0.393 |
| 184 | 15.33 | 0.77 | 0.431 | 0.057 | ( 0.388) | 0.375 |
| 185 | 15.42 | 0.77 | 0.431 | 0.057 | ( 0.388) | 0.375 |
| 186 | 15.50 | 0.77 | 0.431 | 0.056 | ( 0.388) | 0.375 |
| 187 | 15.58 | 0.63 | 0.356 | 0.056 | ( 0.321) | 0.300 |
| 188 | 15.67 | 0.63 | 0.356 | 0.056 | ( 0.321) | 0.301 |
| 189 | 15.75 | 0.63 | 0.356 | 0.055 | ( 0.321) | 0.301 |
| 190 | 15.83 | 0.63 | 0.356 | 0.055 | ( 0.321) | 0.301 |
| 191 | 15.92 | 0.63 | 0.356 | 0.055 | ( 0.321) | 0.302 |
| 192 | 16.00 | 0.63 | 0.356 | 0.055 | ( 0.321) | 0.302 |
| 193 | 16.08 | 0.13 | 0.075 | 0.054 | ( 0.068) | 0.021 |
| 194 | 16.17 | 0.13 | 0.075 | 0.054 | ( 0.068) | 0.021 |
| 195 | 16.25 | 0.13 | 0.075 | 0.054 | ( 0.068) | 0.021 |
| 196 | 16.33 | 0.13 | 0.075 | 0.053 | ( 0.068) | 0.022 |
| 197 | 16.42 | 0.13 | 0.075 | 0.053 | ( 0.068) | 0.022 |
| 198 | 16.50 | 0.13 | 0.075 | 0.053 | ( 0.068) | 0.022 |
| 199 | 16.58 | 0.10 | 0.056 | ( 0.053) | 0.051 | 0.006 |
| 200 | 16.67 | 0.10 | 0.056 | ( 0.052) | 0.051 | 0.006 |
| 201 | 16.75 | 0.10 | 0.056 | ( 0.052) | 0.051 | 0.006 |
| 202 | 16.83 | 0.10 | 0.056 | ( 0.052) | 0.051 | 0.006 |
| 203 | 16.92 | 0.10 | 0.056 | ( 0.052) | 0.051 | 0.006 |
| 204 | 17.00 | 0.10 | 0.056 | ( 0.051) | 0.051 | 0.006 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 205 | 17.08 | 0.17 | 0.094 | 0.051 | ( 0.084) | 0.043 |
| 206 | 17.17 | 0.17 | 0.094 | 0.051 | ( 0.084) | 0.043 |
| 207 | 17.25 | 0.17 | 0.094 | 0.051 | ( 0.084) | 0.043 |
| 208 | 17.33 | 0.17 | 0.094 | 0.050 | ( 0.084) | 0.043 |
| 209 | 17.42 | 0.17 | 0.094 | 0.050 | ( 0.084) | 0.044 |
| 210 | 17.50 | 0.17 | 0.094 | 0.050 | ( 0.084) | 0.044 |
| 211 | 17.58 | 0.17 | 0.094 | 0.050 | ( 0.084) | 0.044 |
| 212 | 17.67 | 0.17 | 0.094 | 0.049 | ( 0.084) | 0.044 |
| 213 | 17.75 | 0.17 | 0.094 | 0.049 | ( 0.084) | 0.045 |
| 214 | 17.83 | 0.13 | 0.075 | 0.049 | ( 0.068) | 0.026 |
| 215 | 17.92 | 0.13 | 0.075 | 0.049 | ( 0.068) | 0.026 |
| 216 | 18.00 | 0.13 | 0.075 | 0.048 | ( 0.068) | 0.027 |
| 217 | 18.08 | 0.13 | 0.075 | 0.048 | ( 0.068) | 0.027 |
| 218 | 18.17 | 0.13 | 0.075 | 0.048 | ( 0.068) | 0.027 |
| 219 | 18.25 | 0.13 | 0.075 | 0.048 | ( 0.068) | 0.027 |
| 220 | 18.33 | 0.13 | 0.075 | 0.047 | ( 0.068) | 0.028 |
| 221 | 18.42 | 0.13 | 0.075 | 0.047 | ( 0.068) | 0.028 |
| 222 | 18.50 | 0.13 | 0.075 | 0.047 | ( 0.068) | 0.028 |
| 223 | 18.58 | 0.10 | 0.056 | 0.047 | ( 0.051) | 0.010 |
| 224 | 18.67 | 0.10 | 0.056 | 0.047 | ( 0.051) | 0.010 |
| 225 | 18.75 | 0.10 | 0.056 | 0.046 | ( 0.051) | 0.010 |
| 226 | 18.83 | 0.07 | 0.038 | ( 0.046) | 0.034 | 0.004 |
| 227 | 18.92 | 0.07 | 0.038 | ( 0.046) | 0.034 | 0.004 |
| 228 | 19.00 | 0.07 | 0.038 | ( 0.046) | 0.034 | 0.004 |
| 229 | 19.08 | 0.10 | 0.056 | 0.045 | ( 0.051) | 0.011 |
| 230 | 19.17 | 0.10 | 0.056 | 0.045 | ( 0.051) | 0.011 |
| 231 | 19.25 | 0.10 | 0.056 | 0.045 | ( 0.051) | 0.011 |
| 232 | 19.33 | 0.13 | 0.075 | 0.045 | ( 0.068) | 0.030 |
| 233 | 19.42 | 0.13 | 0.075 | 0.045 | ( 0.068) | 0.030 |
| 234 | 19.50 | 0.13 | 0.075 | 0.044 | ( 0.068) | 0.031 |
| 235 | 19.58 | 0.10 | 0.056 | 0.044 | ( 0.051) | 0.012 |
| 236 | 19.67 | 0.10 | 0.056 | 0.044 | ( 0.051) | 0.012 |
| 237 | 19.75 | 0.10 | 0.056 | 0.044 | ( 0.051) | 0.013 |
| 238 | 19.83 | 0.07 | 0.038 | ( 0.044) | 0.034 | 0.004 |
| 239 | 19.92 | 0.07 | 0.038 | ( 0.043) | 0.034 | 0.004 |
| 240 | 20.00 | 0.07 | 0.038 | ( 0.043) | 0.034 | 0.004 |
| 241 | 20.08 | 0.10 | 0.056 | 0.043 | ( 0.051) | 0.013 |
| 242 | 20.17 | 0.10 | 0.056 | 0.043 | ( 0.051) | 0.013 |
| 243 | 20.25 | 0.10 | 0.056 | 0.043 | ( 0.051) | 0.014 |
| 244 | 20.33 | 0.10 | 0.056 | 0.042 | ( 0.051) | 0.014 |
| 245 | 20.42 | 0.10 | 0.056 | 0.042 | ( 0.051) | 0.014 |
| 246 | 20.50 | 0.10 | 0.056 | 0.042 | ( 0.051) | 0.014 |
| 247 | 20.58 | 0.10 | 0.056 | 0.042 | ( 0.051) | 0.014 |
| 248 | 20.67 | 0.10 | 0.056 | 0.042 | ( 0.051) | 0.015 |
| 249 | 20.75 | 0.10 | 0.056 | 0.042 | ( 0.051) | 0.015 |
| 250 | 20.83 | 0.07 | 0.038 | ( 0.041) | 0.034 | 0.004 |
| 251 | 20.92 | 0.07 | 0.038 | ( 0.041) | 0.034 | 0.004 |
| 252 | 21.00 | 0.07 | 0.038 | ( 0.041) | 0.034 | 0.004 |
| 253 | 21.08 | 0.10 | 0.056 | 0.041 | ( 0.051) | 0.015 |
| 254 | 21.17 | 0.10 | 0.056 | 0.041 | ( 0.051) | 0.016 |
| 255 | 21.25 | 0.10 | 0.056 | 0.041 | ( 0.051) | 0.016 |
| 256 | 21.33 | 0.07 | 0.038 | ( 0.040) | 0.034 | 0.004 |
| 257 | 21.42 | 0.07 | 0.038 | ( 0.040) | 0.034 | 0.004 |
| 258 | 21.50 | 0.07 | 0.038 | ( 0.040) | 0.034 | 0.004 |
| 259 | 21.58 | 0.10 | 0.056 | 0.040 | ( 0.051) | 0.016 |
| 260 | 21.67 | 0.10 | 0.056 | 0.040 | ( 0.051) | 0.016 |
| 261 | 21.75 | 0.10 | 0.056 | 0.040 | ( 0.051) | 0.017 |
| 262 | 21.83 | 0.07 | 0.038 | ( 0.040) | 0.034 | 0.004 |
| 263 | 21.92 | 0.07 | 0.038 | ( 0.039) | 0.034 | 0.004 |
| 264 | 22.00 | 0.07 | 0.038 | ( 0.039) | 0.034 | 0.004 |
| 265 | 22.08 | 0.10 | 0.056 | 0.039 | ( 0.051) | 0.017 |
| 266 | 22.17 | 0.10 | 0.056 | 0.039 | ( 0.051) | 0.017 |
| 267 | 22.25 | 0.10 | 0.056 | 0.039 | ( 0.051) | 0.017 |
| 268 | 22.33 | 0.07 | 0.038 | ( 0.039) | 0.034 | 0.004 |
| 269 | 22.42 | 0.07 | 0.038 | ( 0.039) | 0.034 | 0.004 |
| 270 | 22.50 | 0.07 | 0.038 | ( 0.039) | 0.034 | 0.004 |
| 271 | 22.58 | 0.07 | 0.038 | ( 0.038) | 0.034 | 0.004 |
| 272 | 22.67 | 0.07 | 0.038 | ( 0.038) | 0.034 | 0.004 |
| 273 | 22.75 | 0.07 | 0.038 | ( 0.038) | 0.034 | 0.004 |
| 274 | 22.83 | 0.07 | 0.038 | ( 0.038) | 0.034 | 0.004 |
| 275 | 22.92 | 0.07 | 0.038 | ( 0.038) | 0.034 | 0.004 |
| 276 | 23.00 | 0.07 | 0.038 | ( 0.038) | 0.034 | 0.004 |
| 277 | 23.08 | 0.07 | 0.038 | ( 0.038) | 0.034 | 0.004 |
| 278 | 23.17 | 0.07 | 0.038 | ( 0.038) | 0.034 | 0.004 |
| 279 | 23.25 | 0.07 | 0.038 | ( 0.038) | 0.034 | 0.004 |
| 280 | 23.33 | 0.07 | 0.038 | ( 0.038) | 0.034 | 0.004 |
| 281 | 23.42 | 0.07 | 0.038 | ( 0.038) | 0.034 | 0.004 |
| 282 | 23.50 | 0.07 | 0.038 | ( 0.037) | 0.034 | 0.004 |
| 283 | 23.58 | 0.07 | 0.038 | ( 0.037) | 0.034 | 0.004 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 284 | 23.67 | 0.07 | 0.038 | ( | 0.037) | 0.034 | 0.004 |
| 285 | 23.75 | 0.07 | 0.038 | ( | 0.037) | 0.034 | 0.004 |
| 286 | 23.83 | 0.07 | 0.038 | ( | 0.037) | 0.034 | 0.004 |
| 287 | 23.92 | 0.07 | 0.038 | ( | 0.037) | 0.034 | 0.004 |
| 288 | 24.00 | 0.07 | 0.038 | ( | 0.037) | 0.034 | 0.004 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 37.6

Flood volume = Effective rainfall 3.13(In)
times area 72.4(Ac.)/[(In)/(Ft.)] = 18.9(Ac.Ft)
Total soil loss = 1.55(In)
Total soil loss = 9.380(Ac.Ft)
Total rainfall = 4.69(In)
Flood volume = 823835.5 Cubic Feet
Total soil loss = 408578.5 Cubic Feet

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Peak flow rate of this hydrograph = 41.526(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

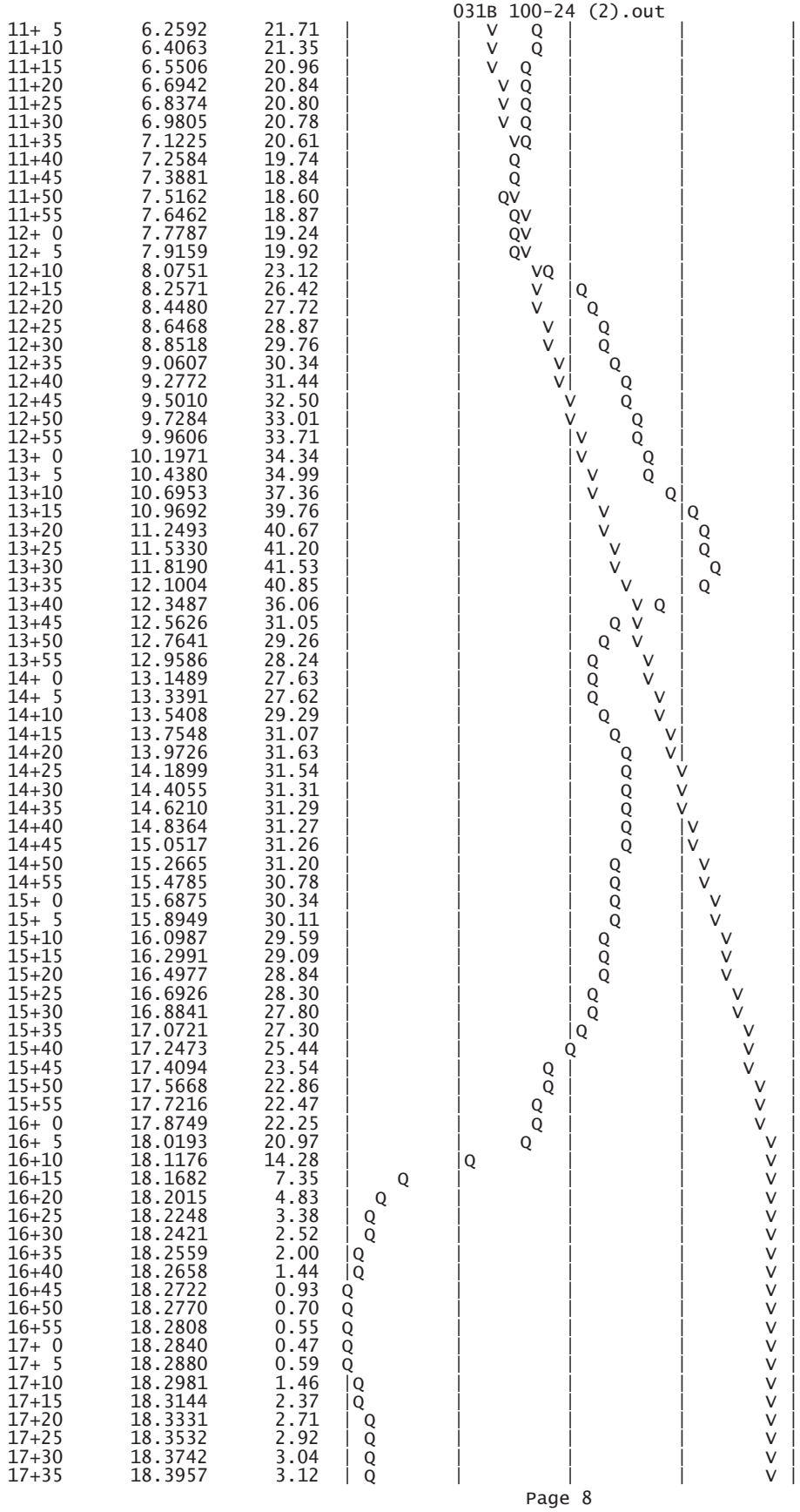
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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 12.5 | 25.0 | 37.5 | 50.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0001 | 0.02 | Q | | | | |
| 0+10 | 0.0008 | 0.10 | Q | | | | |
| 0+15 | 0.0022 | 0.20 | Q | | | | |
| 0+20 | 0.0038 | 0.24 | Q | | | | |
| 0+25 | 0.0059 | 0.30 | Q | | | | |
| 0+30 | 0.0084 | 0.36 | Q | | | | |
| 0+35 | 0.0110 | 0.38 | Q | | | | |
| 0+40 | 0.0137 | 0.39 | Q | | | | |
| 0+45 | 0.0165 | 0.40 | Q | | | | |
| 0+50 | 0.0193 | 0.41 | Q | | | | |
| 0+55 | 0.0225 | 0.46 | Q | | | | |
| 1+ 0 | 0.0260 | 0.51 | Q | | | | |
| 1+ 5 | 0.0296 | 0.52 | Q | | | | |
| 1+10 | 0.0329 | 0.48 | Q | | | | |
| 1+15 | 0.0360 | 0.44 | Q | | | | |
| 1+20 | 0.0389 | 0.43 | Q | | | | |
| 1+25 | 0.0418 | 0.42 | Q | | | | |
| 1+30 | 0.0447 | 0.42 | Q | | | | |
| 1+35 | 0.0475 | 0.41 | Q | | | | |
| 1+40 | 0.0504 | 0.41 | Q | | | | |
| 1+45 | 0.0532 | 0.41 | Q | | | | |
| 1+50 | 0.0561 | 0.42 | Q | | | | |
| 1+55 | 0.0593 | 0.46 | Q | | | | |
| 2+ 0 | 0.0628 | 0.51 | Q | | | | |
| 2+ 5 | 0.0664 | 0.53 | Q | | | | |
| 2+10 | 0.0701 | 0.54 | Q | | | | |
| 2+15 | 0.0738 | 0.54 | Q | | | | |
| 2+20 | 0.0776 | 0.54 | Q | | | | |
| 2+25 | 0.0813 | 0.55 | Q | | | | |
| 2+30 | 0.0851 | 0.55 | Q | | | | |
| 2+35 | 0.0889 | 0.55 | Q | | | | |
| 2+40 | 0.0931 | 0.60 | Q | | | | |
| 2+45 | 0.0975 | 0.65 | Q | | | | |
| 2+50 | 0.1021 | 0.66 | Q | | | | |
| 2+55 | 0.1067 | 0.67 | Q | | | | |
| 3+ 0 | 0.1114 | 0.68 | Q | | | | |
| 3+ 5 | 0.1161 | 0.68 | Q | | | | |
| 3+10 | 0.1208 | 0.68 | Q | | | | |
| 3+15 | 0.1255 | 0.68 | Q | | | | |
| 3+20 | 0.1302 | 0.68 | Q | | | | |
| 3+25 | 0.1349 | 0.68 | Q | | | | |
| 3+30 | 0.1396 | 0.68 | Q | | | | |
| 3+35 | 0.1443 | 0.68 | Q | | | | |
| 3+40 | 0.1490 | 0.68 | Q | | | | |
| 3+45 | 0.1538 | 0.68 | Q | | | | |
| 3+50 | 0.1585 | 0.69 | Q | | | | |
| 3+55 | 0.1636 | 0.74 | Q | | | | |
| 4+ 0 | 0.1690 | 0.78 | Q | | | | |
| 4+ 5 | 0.1745 | 0.80 | Q | | | | |
| 4+10 | 0.1801 | 0.81 | Q | | | | |
| 4+15 | 0.1857 | 0.82 | Q | | | | |
| 4+20 | 0.1917 | 0.87 | Q | | | | |
| 4+25 | 0.1998 | 1.18 | Q | | | | |

```
 4+30       0.2103      1.51  VQ        |         |         |         |
 4+35       0.2217      1.65  VQ        |         |         |         |
 4+40       0.2337      1.75  VQ        |         |         |         |
 4+45       0.2462      1.82  VQ        |         |         |         |
 4+50       0.2597      1.95  VQ        |         |         |         |
 4+55       0.2764      2.44  VQ        |         |         |         |
 5+ 0       0.2967      2.93  V Q       |         |         |         |
 5+ 5       0.3172      2.99  V Q       |         |         |         |
 5+10       0.3329      2.27  VQ        |         |         |         |
 5+15       0.3431      1.47  VQ        |         |         |         |
 5+20       0.3518      1.27  VQ        |         |         |         |
 5+25       0.3624      1.54  VQ        |         |         |         |
 5+30       0.3755      1.90  VQ        |         |         |         |
 5+35       0.3901      2.12  VQ        |         |         |         |
 5+40       0.4085      2.66  V Q       |         |         |         |
 5+45       0.4305      3.20  V Q       |         |         |         |
 5+50       0.4541      3.42  V Q       |         |         |         |
 5+55       0.4785      3.55  |VQ       |         |         |         |
 6+ 0       0.5036      3.64  |VQ       |         |         |         |
 6+ 5       0.5297      3.79  |V Q      |         |         |         |
 6+10       0.5592      4.28  |V Q      |         |         |         |
 6+15       0.5922      4.79  |V Q      |         |         |         |
 6+20       0.6266      4.99  |V Q      |         |         |         |
 6+25       0.6618      5.12  |V  Q     |         |         |         |
 6+30       0.6978      5.22  |V  Q     |         |         |         |
 6+35       0.7347      5.36  |V  Q     |         |         |         |
 6+40       0.7749      5.84  |V  Q     |         |         |         |
 6+45       0.8186      6.34  |V   Q    |         |         |         |
 6+50       0.8637      6.55  |V   Q    |         |         |         |
 6+55       0.9097      6.68  |V   Q    |         |         |         |
 7+ 0       0.9564      6.77  | V  Q    |         |         |         |
 7+ 5       1.0034      6.84  | V  Q    |         |         |         |
 7+10       1.0508      6.88  | V  Q    |         |         |         |
 7+15       1.0985      6.92  | V  Q    |         |         |         |
 7+20       1.1469      7.03  | V  Q    |         |         |         |
 7+25       1.1986      7.51  | V   Q   |         |         |         |
 7+30       1.2537      8.00  | V   Q   |         |         |         |
 7+35       1.3108      8.28  | V   Q   |         |         |         |
 7+40       1.3717      8.85  | V    Q  |         |         |         |
 7+45       1.4365      9.40  |  V   Q  |         |         |         |
 7+50       1.5034      9.71  |  V   Q  |         |         |         |
 7+55       1.5742     10.29  |  V    Q |         |         |         |
 8+ 0       1.6490     10.85  |  V    Q |         |         |         |
 8+ 5       1.7264     11.24  |  V    Q |         |         |         |
 8+10       1.8109     12.27  |  V     Q|         |         |         |
 8+15       1.9024     13.29  |   V     Q         |         |         |
 8+20       1.9967     13.69  |   V     Q         |         |         |
 8+25       2.0927     13.93  |   V     |Q        |         |         |
 8+30       2.1897     14.09  |   V     |Q        |         |         |
 8+35       2.2880     14.27  |   V     |Q        |         |         |
 8+40       2.3897     14.77  |    V    |Q        |         |         |
 8+45       2.4949     15.28  |    V    | Q       |         |         |
 8+50       2.6021     15.56  |    V    | Q       |         |         |
 8+55       2.7132     16.14  |    V    | Q       |         |         |
 9+ 0       2.8282     16.69  |    V    |  Q      |         |         |
 9+ 5       2.9458     17.08  |     V   |  Q      |         |         |
 9+10       3.0705     18.10  |     V   |   Q     |         |         |
 9+15       3.2022     19.12  |     V   |    Q    |         |         |
 9+20       3.3372     19.60  |      V  |    Q    |         |         |
 9+25       3.4769     20.28  |      V  |     Q   |         |         |
 9+30       3.6208     20.90  |      V  |     Q   |         |         |
 9+35       3.7671     21.24  |      V  |     Q   |         |         |
 9+40       3.9175     21.84  |       V |      Q  |         |         |
 9+45       4.0718     22.40  |       V |      Q  |         |         |
 9+50       4.2283     22.72  |       V |       Q |         |         |
 9+55       4.3888     23.31  |        V|       Q |         |         |
10+ 0       4.5532     23.87  |        V|        Q|         |         |
10+ 5       4.7155     23.56  |        V|       Q |         |         |
10+10       4.8573     20.59  |         V     Q   |         |         |
10+15       4.9775     17.46  |         V  Q      |         |         |
10+20       5.0901     16.35  |         V  Q      |         |         |
10+25       5.1983     15.71  |         V Q       |         |         |
10+30       5.3040     15.34  |         |VQ       |         |         |
10+35       5.4110     15.55  |         |VQ       |         |         |
10+40       5.5330     17.71  |         |V  Q     |         |         |
10+45       5.6708     20.00  |         |V   Q    |         |         |
10+50       5.8142     20.82  |         | V   Q   |         |         |
10+55       5.9609     21.30  |         | V    Q  |         |         |
11+ 0       6.1097     21.61  |         | V    Q  |         |         |
```



| | | | |
|---|---|---|---|
| 11+ 5 | 6.2592 | 21.71 | |
| 11+10 | 6.4063 | 21.35 | |
| 11+15 | 6.5506 | 20.96 | |
| 11+20 | 6.6942 | 20.84 | |
| 11+25 | 6.8374 | 20.80 | |
| 11+30 | 6.9805 | 20.78 | |
| 11+35 | 7.1225 | 20.61 | |
| 11+40 | 7.2584 | 19.74 | |
| 11+45 | 7.3881 | 18.84 | |
| 11+50 | 7.5162 | 18.60 | |
| 11+55 | 7.6462 | 18.87 | |
| 12+ 0 | 7.7787 | 19.24 | |
| 12+ 5 | 7.9159 | 19.92 | |
| 12+10 | 8.0751 | 23.12 | |
| 12+15 | 8.2571 | 26.42 | |
| 12+20 | 8.4480 | 27.72 | |
| 12+25 | 8.6468 | 28.87 | |
| 12+30 | 8.8518 | 29.76 | |
| 12+35 | 9.0607 | 30.34 | |
| 12+40 | 9.2772 | 31.44 | |
| 12+45 | 9.5010 | 32.50 | |
| 12+50 | 9.7284 | 33.01 | |
| 12+55 | 9.9606 | 33.71 | |
| 13+ 0 | 10.1971 | 34.34 | |
| 13+ 5 | 10.4380 | 34.99 | |
| 13+10 | 10.6953 | 37.36 | |
| 13+15 | 10.9692 | 39.76 | |
| 13+20 | 11.2493 | 40.67 | |
| 13+25 | 11.5330 | 41.20 | |
| 13+30 | 11.8190 | 41.53 | |
| 13+35 | 12.1004 | 40.85 | |
| 13+40 | 12.3487 | 36.06 | |
| 13+45 | 12.5626 | 31.05 | |
| 13+50 | 12.7641 | 29.26 | |
| 13+55 | 12.9586 | 28.24 | |
| 14+ 0 | 13.1489 | 27.63 | |
| 14+ 5 | 13.3391 | 27.62 | |
| 14+10 | 13.5408 | 29.29 | |
| 14+15 | 13.7548 | 31.07 | |
| 14+20 | 13.9726 | 31.63 | |
| 14+25 | 14.1899 | 31.54 | |
| 14+30 | 14.4055 | 31.31 | |
| 14+35 | 14.6210 | 31.29 | |
| 14+40 | 14.8364 | 31.27 | |
| 14+45 | 15.0517 | 31.26 | |
| 14+50 | 15.2665 | 31.20 | |
| 14+55 | 15.4785 | 30.78 | |
| 15+ 0 | 15.6875 | 30.34 | |
| 15+ 5 | 15.8949 | 30.11 | |
| 15+10 | 16.0987 | 29.59 | |
| 15+15 | 16.2991 | 29.09 | |
| 15+20 | 16.4977 | 28.84 | |
| 15+25 | 16.6926 | 28.30 | |
| 15+30 | 16.8841 | 27.80 | |
| 15+35 | 17.0721 | 27.30 | |
| 15+40 | 17.2473 | 25.44 | |
| 15+45 | 17.4094 | 23.54 | |
| 15+50 | 17.5668 | 22.86 | |
| 15+55 | 17.7216 | 22.47 | |
| 16+ 0 | 17.8749 | 22.25 | |
| 16+ 5 | 18.0193 | 20.97 | |
| 16+10 | 18.1176 | 14.28 | |
| 16+15 | 18.1682 | 7.35 | |
| 16+20 | 18.2015 | 4.83 | |
| 16+25 | 18.2248 | 3.38 | |
| 16+30 | 18.2421 | 2.52 | |
| 16+35 | 18.2559 | 2.00 | |
| 16+40 | 18.2658 | 1.44 | |
| 16+45 | 18.2722 | 0.93 | |
| 16+50 | 18.2770 | 0.70 | |
| 16+55 | 18.2808 | 0.55 | |
| 17+ 0 | 18.2840 | 0.47 | |
| 17+ 5 | 18.2880 | 0.59 | |
| 17+10 | 18.2981 | 1.46 | |
| 17+15 | 18.3144 | 2.37 | |
| 17+20 | 18.3331 | 2.71 | |
| 17+25 | 18.3532 | 2.92 | |
| 17+30 | 18.3742 | 3.04 | |
| 17+35 | 18.3957 | 3.12 | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 17+40 | 18.4175 | 3.17 | \| Q | \| | \| | V \| |
| 17+45 | 18.4395 | 3.20 | \| Q | \| | \| | V \| |
| 17+50 | 18.4612 | 3.15 | \| Q | \| | \| | V\| |
| 17+55 | 18.4800 | 2.73 | \| Q | \| | \| | V\| |
| 18+ 0 | 18.4958 | 2.29 | \|Q | \| | \| | V\| |
| 18+ 5 | 18.5106 | 2.14 | \|Q | \| | \| | V\| |
| 18+10 | 18.5248 | 2.06 | \|Q | \| | \| | V\| |
| 18+15 | 18.5388 | 2.02 | \|Q | \| | \| | V\| |
| 18+20 | 18.5526 | 2.01 | \|Q | \| | \| | V\| |
| 18+25 | 18.5665 | 2.01 | \|Q | \| | \| | V\| |
| 18+30 | 18.5804 | 2.02 | \|Q | \| | \| | V\| |
| 18+35 | 18.5939 | 1.96 | \|Q | \| | \| | V\| |
| 18+40 | 18.6044 | 1.53 | \|Q | \| | \| | V\| |
| 18+45 | 18.6118 | 1.08 | Q | \| | \| | V\| |
| 18+50 | 18.6180 | 0.90 | Q | \| | \| | V\| |
| 18+55 | 18.6226 | 0.67 | Q | \| | \| | V\| |
| 19+ 0 | 18.6258 | 0.46 | Q | \| | \| | V\| |
| 19+ 5 | 18.6286 | 0.40 | Q | \| | \| | V\| |
| 19+10 | 18.6322 | 0.53 | Q | \| | \| | V\| |
| 19+15 | 18.6370 | 0.69 | Q | \| | \| | V\| |
| 19+20 | 18.6426 | 0.82 | Q | \| | \| | V\| |
| 19+25 | 18.6516 | 1.31 | \|Q | \| | \| | V\| |
| 19+30 | 18.6640 | 1.80 | \|Q | \| | \| | V\| |
| 19+35 | 18.6772 | 1.91 | \|Q | \| | \| | V\| |
| 19+40 | 18.6881 | 1.59 | \|Q | \| | \| | V\| |
| 19+45 | 18.6964 | 1.20 | Q | \| | \| | V\| |
| 19+50 | 18.7036 | 1.04 | Q | \| | \| | V\| |
| 19+55 | 18.7088 | 0.76 | Q | \| | \| | V\| |
| 20+ 0 | 18.7123 | 0.50 | Q | \| | \| | V\| |
| 20+ 5 | 18.7153 | 0.44 | Q | \| | \| | V\| |
| 20+10 | 18.7195 | 0.61 | Q | \| | \| | V\| |
| 20+15 | 18.7251 | 0.82 | Q | \| | \| | V\| |
| 20+20 | 18.7313 | 0.90 | Q | \| | \| | V\| |
| 20+25 | 18.7378 | 0.95 | Q | \| | \| | V\| |
| 20+30 | 18.7446 | 0.98 | Q | \| | \| | V\| |
| 20+35 | 18.7515 | 1.01 | Q | \| | \| | V\| |
| 20+40 | 18.7586 | 1.03 | Q | \| | \| | V\| |
| 20+45 | 18.7658 | 1.04 | Q | \| | \| | V\| |
| 20+50 | 18.7727 | 1.01 | Q | \| | \| | V\| |
| 20+55 | 18.7780 | 0.76 | Q | \| | \| | V\| |
| 21+ 0 | 18.7814 | 0.50 | Q | \| | \| | V\| |
| 21+ 5 | 18.7845 | 0.45 | Q | \| | \| | V\| |
| 21+10 | 18.7891 | 0.67 | Q | \| | \| | V\| |
| 21+15 | 18.7954 | 0.93 | Q | \| | \| | V\| |
| 21+20 | 18.8021 | 0.97 | Q | \| | \| | V\| |
| 21+25 | 18.8073 | 0.75 | Q | \| | \| | V\| |
| 21+30 | 18.8106 | 0.49 | Q | \| | \| | V\| |
| 21+35 | 18.8137 | 0.45 | Q | \| | \| | V\| |
| 21+40 | 18.8184 | 0.69 | Q | \| | \| | V\| |
| 21+45 | 18.8251 | 0.97 | Q | \| | \| | V\| |
| 21+50 | 18.8321 | 1.02 | Q | \| | \| | V\| |
| 21+55 | 18.8375 | 0.78 | Q | \| | \| | V\| |
| 22+ 0 | 18.8409 | 0.50 | Q | \| | \| | V\| |
| 22+ 5 | 18.8441 | 0.46 | Q | \| | \| | V\| |
| 22+10 | 18.8491 | 0.72 | Q | \| | \| | V\| |
| 22+15 | 18.8560 | 1.01 | Q | \| | \| | V\| |
| 22+20 | 18.8634 | 1.07 | Q | \| | \| | V\| |
| 22+25 | 18.8690 | 0.81 | Q | \| | \| | V\| |
| 22+30 | 18.8725 | 0.52 | Q | \| | \| | V\| |
| 22+35 | 18.8754 | 0.41 | Q | \| | \| | V\| |
| 22+40 | 18.8778 | 0.35 | Q | \| | \| | V\| |
| 22+45 | 18.8799 | 0.31 | Q | \| | \| | V\| |
| 22+50 | 18.8819 | 0.29 | Q | \| | \| | V\| |
| 22+55 | 18.8839 | 0.29 | Q | \| | \| | V\| |
| 23+ 0 | 18.8858 | 0.28 | Q | \| | \| | V\| |
| 23+ 5 | 18.8878 | 0.28 | Q | \| | \| | V\| |
| 23+10 | 18.8897 | 0.28 | Q | \| | \| | V\| |
| 23+15 | 18.8916 | 0.27 | Q | \| | \| | V\| |
| 23+20 | 18.8934 | 0.27 | Q | \| | \| | V\| |
| 23+25 | 18.8953 | 0.27 | Q | \| | \| | V\| |
| 23+30 | 18.8972 | 0.27 | Q | \| | \| | V\| |
| 23+35 | 18.8991 | 0.27 | Q | \| | \| | V\| |
| 23+40 | 18.9010 | 0.27 | Q | \| | \| | V\| |
| 23+45 | 18.9029 | 0.27 | Q | \| | \| | V\| |
| 23+50 | 18.9048 | 0.27 | Q | \| | \| | V\| |
| 23+55 | 18.9066 | 0.27 | Q | \| | \| | V\| |
| 24+ 0 | 18.9085 | 0.27 | Q | \| | \| | V\| |
| 24+ 5 | 18.9103 | 0.26 | Q | \| | \| | V\| |
| 24+10 | 18.9115 | 0.17 | Q | \| | \| | V\| |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 24+15 | 18.9120 | 0.08 | Q | \| | \| | \| | V\| |
| 24+20 | 18.9123 | 0.04 | Q | \| | \| | \| | V\| |
| 24+25 | 18.9125 | 0.02 | Q | \| | \| | \| | V\| |
| 24+30 | 18.9126 | 0.01 | Q | \| | \| | \| | V\| |
| 24+35 | 18.9126 | 0.01 | Q | \| | \| | \| | V\| |
| 24+40 | 18.9126 | 0.00 | Q | \| | \| | \| | V\| |
| 24+45 | 18.9126 | 0.00 | Q | \| | \| | \| | V\| |
| 24+50 | 18.9127 | 0.00 | Q | \| | \| | \| | V\| |
| 24+55 | 18.9127 | 0.00 | Q | \| | \| | \| | V\| |

U n i t  H y d r o g r a p h  A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 31.3
100-YEAR STORM EVENT
BY: JTS, DATE: 04-18-19

---

Drainage Area = 25.00(Ac.) = 0.039 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 25.00(Ac.) = 0.039 Sq. Mi.
Length along longest watercourse = 1434.00(Ft.)
Length along longest watercourse measured to centroid = 695.00(Ft.)
Length along longest watercourse = 0.272 Mi.
Length along longest watercourse measured to centroid = 0.132 Mi.
Difference in elevation = 166.00(Ft.)
Slope along watercourse = 611.2134 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.070 Hr.
Lag time = 4.20 Min.
25% of lag time = 1.05 Min.
40% of lag time = 1.68 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 25.00 | 0.50 | 12.50 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 25.00 | 1.20 | 30.00 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.98 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 25.000 | 83.72 | 0.000 |

Total Area Entered = 25.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.7 | 93.2 | 0.088 | 0.000 | 0.088 | 1.000 | 0.088 |
| | | | | | Sum (F) = | 0.088 |

Area averaged mean soil loss (F) (In/Hr) = 0.088
Minimum soil loss rate ((In/Hr)) = 0.044

(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

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| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 119.035 | 21.079 | 5.311 |
| 2 | 0.167 | 238.070 | 56.091 | 14.132 |
| 3 | 0.250 | 357.105 | 15.641 | 3.941 |
| 4 | 0.333 | 476.140 | 5.143 | 1.296 |
| 5 | 0.417 | 595.175 | 1.268 | 0.319 |
| 6 | 0.500 | 714.211 | 0.778 | 0.196 |
| | | | Sum = 100.000 | Sum= 25.195 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.088 | ( 0.544) | 0.517 |
| 2 | 0.17 | 4.30 | 0.619 | 0.088 | ( 0.557) | 0.531 |
| 3 | 0.25 | 5.00 | 0.720 | 0.088 | ( 0.648) | 0.632 |
| 4 | 0.33 | 5.00 | 0.720 | 0.088 | ( 0.648) | 0.632 |
| 5 | 0.42 | 5.80 | 0.835 | 0.088 | ( 0.752) | 0.747 |
| 6 | 0.50 | 6.50 | 0.936 | 0.088 | ( 0.842) | 0.848 |
| 7 | 0.58 | 7.40 | 1.065 | 0.088 | ( 0.959) | 0.977 |
| 8 | 0.67 | 8.60 | 1.238 | 0.088 | ( 1.114) | 1.150 |
| 9 | 0.75 | 12.30 | 1.771 | 0.088 | ( 1.594) | 1.683 |
| 10 | 0.83 | 29.10 | 4.189 | 0.088 | ( 3.771) | 4.101 |
| 11 | 0.92 | 6.80 | 0.979 | 0.088 | ( 0.881) | 0.891 |
| 12 | 1.00 | 5.00 | 0.720 | 0.088 | ( 0.648) | 0.632 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 13.3 |

Flood volume = Effective rainfall 1.11(In)
times area 25.0(Ac.)/[(In)/(Ft.)] = 2.3(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.183(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 100890.8 Cubic Feet
Total soil loss = 7984.5 Cubic Feet

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Peak flow rate of this hydrograph = 71.332(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 20.0 40.0 60.0 80.0 |
|---|---|---|---|
| 0+ 5 | 0.0189 | 2.75 | VQ |
| 0+10 | 0.0887 | 10.13 | \|V Q |
| 0+15 | 0.1775 | 12.90 | \| V Q |
| 0+20 | 0.2812 | 15.06 | \| V Q |
| 0+25 | 0.3931 | 16.25 | \| V Q |
| 0+30 | 0.5216 | 18.65 | \| Q |
| 0+35 | 0.6679 | 21.25 | \| QV |
| 0+40 | 0.8371 | 24.57 | \| Q V |
| 0+45 | 1.0473 | 30.52 | \| Q V |
| 0+50 | 1.4041 | 51.81 | \| VQ |
| 0+55 | 1.8954 | 71.33 | \| V Q |
| 1+ 0 | 2.1355 | 34.87 | \| Q V |
| 1+ 5 | 2.2631 | 18.53 | \| Q V |
| 1+10 | 2.2995 | 5.29 | \| Q V |
| 1+15 | 2.3127 | 1.91 | Q V |
| 1+20 | 2.3153 | 0.38 | Q V |
| 1+25 | 2.3161 | 0.12 | Q V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 31.3
100-YEAR STORM EVENT
BY: JTS, DATE: 04-18-19

---

Drainage Area = 25.00(Ac.) = 0.039 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 25.00(Ac.) = 0.039 Sq. Mi.
Length along longest watercourse = 1434.00(Ft.)
Length along longest watercourse measured to centroid = 695.00(Ft.)
Length along longest watercourse = 0.272 Mi.
Length along longest watercourse measured to centroid = 0.132 Mi.
Difference in elevation = 166.00(Ft.)
Slope along watercourse = 611.2134 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.070 Hr.
Lag time = 4.20 Min.
25% of lag time = 1.05 Min.
40% of lag time = 1.68 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 25.00 | 0.80 | 20.00 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 25.00 | 1.81 | 45.25 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.810(In)

Point rain (area averaged) = 1.810(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.810(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 25.000 | 83.72 | 0.000 |

Total Area Entered = 25.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.7 | 93.2 | 0.088 | 0.000 | 0.088 | 1.000 | 0.088 |
| | | | | | Sum (F) = | 0.088 |

Area averaged mean soil loss (F) (In/Hr) = 0.088
Minimum soil loss rate ((In/Hr)) = 0.044

(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 119.035 | 21.079 | 5.311 |
| 2 | 0.167 | 238.070 | 56.091 | 14.132 |
| 3 | 0.250 | 357.105 | 15.641 | 3.941 |
| 4 | 0.333 | 476.140 | 5.143 | 1.296 |
| 5 | 0.417 | 595.175 | 1.268 | 0.319 |
| 6 | 0.500 | 714.211 | 0.778 | 0.196 |
| | | | Sum = 100.000 | Sum= 25.195 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.282 | 0.088 | ( 0.254) | 0.194 |
| 2 | 0.17 | 1.30 | 0.282 | 0.088 | ( 0.254) | 0.194 |
| 3 | 0.25 | 1.10 | 0.239 | 0.088 | ( 0.215) | 0.151 |
| 4 | 0.33 | 1.50 | 0.326 | 0.088 | ( 0.293) | 0.238 |
| 5 | 0.42 | 1.50 | 0.326 | 0.088 | ( 0.293) | 0.238 |
| 6 | 0.50 | 1.80 | 0.391 | 0.088 | ( 0.352) | 0.303 |
| 7 | 0.58 | 1.50 | 0.326 | 0.088 | ( 0.293) | 0.238 |
| 8 | 0.67 | 1.80 | 0.391 | 0.088 | ( 0.352) | 0.303 |
| 9 | 0.75 | 1.80 | 0.391 | 0.088 | ( 0.352) | 0.303 |
| 10 | 0.83 | 1.50 | 0.326 | 0.088 | ( 0.293) | 0.238 |
| 11 | 0.92 | 1.60 | 0.347 | 0.088 | ( 0.313) | 0.259 |
| 12 | 1.00 | 1.80 | 0.391 | 0.088 | ( 0.352) | 0.303 |
| 13 | 1.08 | 2.20 | 0.478 | 0.088 | ( 0.430) | 0.390 |
| 14 | 1.17 | 2.20 | 0.478 | 0.088 | ( 0.430) | 0.390 |
| 15 | 1.25 | 2.20 | 0.478 | 0.088 | ( 0.430) | 0.390 |
| 16 | 1.33 | 2.00 | 0.434 | 0.088 | ( 0.391) | 0.346 |
| 17 | 1.42 | 2.60 | 0.565 | 0.088 | ( 0.508) | 0.477 |
| 18 | 1.50 | 2.70 | 0.586 | 0.088 | ( 0.528) | 0.498 |
| 19 | 1.58 | 2.40 | 0.521 | 0.088 | ( 0.469) | 0.433 |
| 20 | 1.67 | 2.70 | 0.586 | 0.088 | ( 0.528) | 0.498 |
| 21 | 1.75 | 3.30 | 0.717 | 0.088 | ( 0.645) | 0.629 |
| 22 | 1.83 | 3.10 | 0.673 | 0.088 | ( 0.606) | 0.585 |
| 23 | 1.92 | 2.90 | 0.630 | 0.088 | ( 0.567) | 0.542 |
| 24 | 2.00 | 3.00 | 0.652 | 0.088 | ( 0.586) | 0.564 |
| 25 | 2.08 | 3.10 | 0.673 | 0.088 | ( 0.606) | 0.585 |
| 26 | 2.17 | 4.20 | 0.912 | 0.088 | ( 0.821) | 0.824 |
| 27 | 2.25 | 5.00 | 1.086 | 0.088 | ( 0.977) | 0.998 |
| 28 | 2.33 | 3.50 | 0.760 | 0.088 | ( 0.684) | 0.672 |
| 29 | 2.42 | 6.80 | 1.477 | 0.088 | ( 1.329) | 1.389 |
| 30 | 2.50 | 7.30 | 1.585 | 0.088 | ( 1.427) | 1.497 |
| 31 | 2.58 | 8.20 | 1.781 | 0.088 | ( 1.603) | 1.693 |
| 32 | 2.67 | 5.90 | 1.281 | 0.088 | ( 1.153) | 1.193 |
| 33 | 2.75 | 2.00 | 0.434 | 0.088 | ( 0.391) | 0.346 |
| 34 | 2.83 | 1.80 | 0.391 | 0.088 | ( 0.352) | 0.303 |
| 35 | 2.92 | 1.80 | 0.391 | 0.088 | ( 0.352) | 0.303 |
| 36 | 3.00 | 0.60 | 0.130 | 0.088 | ( 0.117) | 0.042 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 18.6 |

Flood volume = Effective rainfall 1.55(In)
times area 25.0(Ac.)/[(In)/(Ft.)] = 3.2(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.550(Ac.Ft)
Total rainfall = 1.81(In)
Flood volume = 140285.9 Cubic Feet
Total soil loss = 23953.6 Cubic Feet

Peak flow rate of this hydrograph = 38.393(CFS)

3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 10.0 20.0 30.0 40.0 |
|---|---|---|---|
| 0+ 5 | 0.0071 | 1.03 | VQ |
| 0+10 | 0.0331 | 3.78 | V Q |
| 0+15 | 0.0629 | 4.32 | V Q |
| 0+20 | 0.0933 | 4.42 | V Q |
| 0+25 | 0.1314 | 5.53 | V Q |
| 0+30 | 0.1741 | 6.21 | V Q |
| 0+35 | 0.2215 | 6.88 | V Q |
| 0+40 | 0.2668 | 6.58 | V Q |
| 0+45 | 0.3174 | 7.35 | V Q |
| 0+50 | 0.3670 | 7.19 | V Q |
| 0+55 | 0.4115 | 6.46 | VQ |
| 1+ 0 | 0.4580 | 6.75 | VQ |
| 1+ 5 | 0.5120 | 7.84 | VQ |
| 1+10 | 0.5757 | 9.25 | V Q |
| 1+15 | 0.6421 | 9.64 | V Q |
| 1+20 | 0.7078 | 9.54 | VQ |
| 1+25 | 0.7743 | 9.66 | Q |
| 1+30 | 0.8533 | 11.46 | VQ |
| 1+35 | 0.9351 | 11.88 | Q |
| 1+40 | 1.0146 | 11.54 | QV |
| 1+45 | 1.1038 | 12.96 | QV |
| 1+50 | 1.2056 | 14.78 | Q |
| 1+55 | 1.3056 | 14.52 | Q V |
| 2+ 0 | 1.4022 | 14.02 | Q V |
| 2+ 5 | 1.5005 | 14.27 | Q V |
| 2+10 | 1.6099 | 15.89 | Q V |
| 2+15 | 1.7496 | 20.28 | QV |
| 2+20 | 1.9009 | 21.98 | Q V |
| 2+25 | 2.0537 | 22.18 | Q V |
| 2+30 | 2.2735 | 31.92 | V Q |
| 2+35 | 2.5283 | 37.00 | V Q |
| 2+40 | 2.7927 | 38.39 | V Q |
| 2+45 | 2.9849 | 27.91 | Q V |
| 2+50 | 3.0824 | 14.16 | Q V |
| 2+55 | 3.1488 | 9.64 | Q V |
| 3+ 0 | 3.1961 | 6.87 | Q V |
| 3+ 5 | 3.2135 | 2.53 | Q V |
| 3+10 | 3.2185 | 0.72 | Q V |
| 3+15 | 3.2200 | 0.21 | Q V |
| 3+20 | 3.2205 | 0.07 | Q V |
| 3+25 | 3.2205 | 0.01 | Q V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 31.3
100-YEAR STORM EVENT
BY: JTS, DATE: 04-18-19

---

Drainage Area = 25.00(Ac.) = 0.039 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 25.00(Ac.) = 0.039 Sq. Mi.
Length along longest watercourse = 1434.00(Ft.)
Length along longest watercourse measured to centroid = 695.00(Ft.)
Length along longest watercourse = 0.272 Mi.
Length along longest watercourse measured to centroid = 0.132 Mi.
Difference in elevation = 166.00(Ft.)
Slope along watercourse = 611.2134 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.070 Hr.
Lag time = 4.20 Min.
25% of lag time = 1.05 Min.
40% of lag time = 1.68 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 25.00 | 1.14 | 28.50 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 25.00 | 2.50 | 62.50 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.140(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 25.000 | 83.72 | 0.000 |

Total Area Entered = 25.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.7 | 93.2 | 0.088 | 0.000 | 0.088 | 1.000 | 0.088 |
| | | | | | Sum (F) = | 0.088 |

Area averaged mean soil loss (F) (In/Hr) = 0.088
Minimum soil loss rate ((In/Hr)) = 0.044

(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 119.035 | 21.079 | 5.311 |
| 2 | 0.167 | 238.070 | 56.091 | 14.132 |
| 3 | 0.250 | 357.105 | 15.641 | 3.941 |
| 4 | 0.333 | 476.140 | 5.143 | 1.296 |
| 5 | 0.417 | 595.175 | 1.268 | 0.319 |
| 6 | 0.500 | 714.211 | 0.778 | 0.196 |
| | | | Sum = 100.000 | Sum= 25.195 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.088 | ( 0.135) | 0.062 |
| 2 | 0.17 | 0.60 | 0.180 | 0.088 | ( 0.162) | 0.092 |
| 3 | 0.25 | 0.60 | 0.180 | 0.088 | ( 0.162) | 0.092 |
| 4 | 0.33 | 0.60 | 0.180 | 0.088 | ( 0.162) | 0.092 |
| 5 | 0.42 | 0.60 | 0.180 | 0.088 | ( 0.162) | 0.092 |
| 6 | 0.50 | 0.70 | 0.210 | 0.088 | ( 0.189) | 0.122 |
| 7 | 0.58 | 0.70 | 0.210 | 0.088 | ( 0.189) | 0.122 |
| 8 | 0.67 | 0.70 | 0.210 | 0.088 | ( 0.189) | 0.122 |
| 9 | 0.75 | 0.70 | 0.210 | 0.088 | ( 0.189) | 0.122 |
| 10 | 0.83 | 0.70 | 0.210 | 0.088 | ( 0.189) | 0.122 |
| 11 | 0.92 | 0.70 | 0.210 | 0.088 | ( 0.189) | 0.122 |
| 12 | 1.00 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 13 | 1.08 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 14 | 1.17 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 15 | 1.25 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 16 | 1.33 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 17 | 1.42 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 18 | 1.50 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 19 | 1.58 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 20 | 1.67 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 21 | 1.75 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 22 | 1.83 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 23 | 1.92 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 24 | 2.00 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 25 | 2.08 | 0.80 | 0.240 | 0.088 | ( 0.216) | 0.152 |
| 26 | 2.17 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 27 | 2.25 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 28 | 2.33 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 29 | 2.42 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 30 | 2.50 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 31 | 2.58 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 32 | 2.67 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 33 | 2.75 | 1.00 | 0.300 | 0.088 | ( 0.270) | 0.212 |
| 34 | 2.83 | 1.00 | 0.300 | 0.088 | ( 0.270) | 0.212 |
| 35 | 2.92 | 1.00 | 0.300 | 0.088 | ( 0.270) | 0.212 |
| 36 | 3.00 | 1.00 | 0.300 | 0.088 | ( 0.270) | 0.212 |
| 37 | 3.08 | 1.00 | 0.300 | 0.088 | ( 0.270) | 0.212 |
| 38 | 3.17 | 1.10 | 0.330 | 0.088 | ( 0.297) | 0.242 |
| 39 | 3.25 | 1.10 | 0.330 | 0.088 | ( 0.297) | 0.242 |
| 40 | 3.33 | 1.10 | 0.330 | 0.088 | ( 0.297) | 0.242 |
| 41 | 3.42 | 1.20 | 0.360 | 0.088 | ( 0.324) | 0.272 |
| 42 | 3.50 | 1.30 | 0.390 | 0.088 | ( 0.351) | 0.302 |
| 43 | 3.58 | 1.40 | 0.420 | 0.088 | ( 0.378) | 0.332 |
| 44 | 3.67 | 1.40 | 0.420 | 0.088 | ( 0.378) | 0.332 |
| 45 | 3.75 | 1.50 | 0.450 | 0.088 | ( 0.405) | 0.362 |
| 46 | 3.83 | 1.50 | 0.450 | 0.088 | ( 0.405) | 0.362 |
| 47 | 3.92 | 1.60 | 0.480 | 0.088 | ( 0.432) | 0.392 |
| 48 | 4.00 | 1.60 | 0.480 | 0.088 | ( 0.432) | 0.392 |
| 49 | 4.08 | 1.70 | 0.510 | 0.088 | ( 0.459) | 0.422 |
| 50 | 4.17 | 1.80 | 0.540 | 0.088 | ( 0.486) | 0.452 |
| 51 | 4.25 | 1.90 | 0.570 | 0.088 | ( 0.513) | 0.482 |
| 52 | 4.33 | 2.00 | 0.600 | 0.088 | ( 0.540) | 0.512 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 53 | 4.42 | 2.10 | 0.630 | 0.088 | ( 0.567) | 0.542 |
| 54 | 4.50 | 2.10 | 0.630 | 0.088 | ( 0.567) | 0.542 |
| 55 | 4.58 | 2.20 | 0.660 | 0.088 | ( 0.594) | 0.572 |
| 56 | 4.67 | 2.30 | 0.690 | 0.088 | ( 0.621) | 0.602 |
| 57 | 4.75 | 2.40 | 0.720 | 0.088 | ( 0.648) | 0.632 |
| 58 | 4.83 | 2.40 | 0.720 | 0.088 | ( 0.648) | 0.632 |
| 59 | 4.92 | 2.50 | 0.750 | 0.088 | ( 0.675) | 0.662 |
| 60 | 5.00 | 2.60 | 0.780 | 0.088 | ( 0.702) | 0.692 |
| 61 | 5.08 | 3.10 | 0.930 | 0.088 | ( 0.837) | 0.842 |
| 62 | 5.17 | 3.60 | 1.080 | 0.088 | ( 0.972) | 0.992 |
| 63 | 5.25 | 3.90 | 1.170 | 0.088 | ( 1.053) | 1.082 |
| 64 | 5.33 | 4.20 | 1.260 | 0.088 | ( 1.134) | 1.172 |
| 65 | 5.42 | 4.70 | 1.410 | 0.088 | ( 1.269) | 1.322 |
| 66 | 5.50 | 5.60 | 1.680 | 0.088 | ( 1.512) | 1.592 |
| 67 | 5.58 | 1.90 | 0.570 | 0.088 | ( 0.513) | 0.482 |
| 68 | 5.67 | 0.90 | 0.270 | 0.088 | ( 0.243) | 0.182 |
| 69 | 5.75 | 0.60 | 0.180 | 0.088 | ( 0.162) | 0.092 |
| 70 | 5.83 | 0.50 | 0.150 | 0.088 | ( 0.135) | 0.062 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.088) | 0.081 | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.088) | 0.054 | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.7

Flood volume = Effective rainfall 1.98(In)
times area 25.0(Ac.)/[(In)/(Ft.)] = 4.1(Ac.Ft)
Total soil loss = 0.52(In)
Total soil loss = 1.093(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 179258.1 Cubic Feet
Total soil loss = 47597.4 Cubic Feet

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Peak flow rate of this hydrograph = 33.655(CFS)

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6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 10.0 20.0 30.0 40.0 |
|---|---|---|---|
| 0+ 5 | 0.0023 | 0.33 | Q |
| 0+10 | 0.0117 | 1.37 | VQ |
| 0+15 | 0.0257 | 2.03 | V Q |
| 0+20 | 0.0411 | 2.23 | V Q |
| 0+25 | 0.0568 | 2.29 | V Q |
| 0+30 | 0.0739 | 2.47 | V Q |
| 0+35 | 0.0939 | 2.90 | V Q |
| 0+40 | 0.1147 | 3.02 | V Q |
| 0+45 | 0.1357 | 3.06 | V Q |
| 0+50 | 0.1569 | 3.07 | V Q |
| 0+55 | 0.1781 | 3.08 | V Q |
| 1+ 0 | 0.2003 | 3.23 | V Q |
| 1+ 5 | 0.2255 | 3.66 | VQ |
| 1+10 | 0.2516 | 3.78 | VQ |
| 1+15 | 0.2778 | 3.82 | VQ |
| 1+20 | 0.3042 | 3.83 | VQ |
| 1+25 | 0.3306 | 3.83 | Q |
| 1+30 | 0.3570 | 3.83 | Q |
| 1+35 | 0.3833 | 3.83 | Q |
| 1+40 | 0.4097 | 3.83 | Q |
| 1+45 | 0.4361 | 3.83 | QV |
| 1+50 | 0.4625 | 3.83 | QV |
| 1+55 | 0.4889 | 3.83 | QV |
| 2+ 0 | 0.5164 | 3.99 | Q V |
| 2+ 5 | 0.5457 | 4.26 | QV |
| 2+10 | 0.5740 | 4.11 | QV |
| 2+15 | 0.6047 | 4.45 | QV |
| 2+20 | 0.6360 | 4.54 | Q V |
| 2+25 | 0.6675 | 4.58 | Q V |
| 2+30 | 0.6990 | 4.58 | Q V |
| 2+35 | 0.7306 | 4.59 | Q V |
| 2+40 | 0.7622 | 4.59 | Q V |
| 2+45 | 0.7949 | 4.75 | Q V |
| 2+50 | 0.8305 | 5.17 | Q V |
| 2+55 | 0.8670 | 5.29 | Q V |
| 3+ 0 | 0.9037 | 5.33 | Q V |
| 3+ 5 | 0.9404 | 5.34 | Q V |
| 3+10 | 0.9783 | 5.50 | Q V |

| | | | |
|---|---|---|---|
| 3+15 | 1.0192 | 5.93 | |
| 3+20 | 1.0608 | 6.05 | |
| 3+25 | 1.1038 | 6.24 | |
| 3+30 | 1.1509 | 6.84 | |
| 3+35 | 1.2028 | 7.54 | |
| 3+40 | 1.2588 | 8.13 | |
| 3+45 | 1.3170 | 8.45 | |
| 3+50 | 1.3785 | 8.93 | |
| 3+55 | 1.4421 | 9.22 | |
| 4+ 0 | 1.5088 | 9.69 | |
| 4+ 5 | 1.5775 | 9.98 | |
| 4+10 | 1.6506 | 10.61 | |
| 4+15 | 1.7286 | 11.32 | |
| 4+20 | 1.8117 | 12.07 | |
| 4+25 | 1.8999 | 12.82 | |
| 4+30 | 1.9923 | 13.41 | |
| 4+35 | 2.0870 | 13.75 | |
| 4+40 | 2.1860 | 14.38 | |
| 4+45 | 2.2900 | 15.10 | |
| 4+50 | 2.3981 | 15.69 | |
| 4+55 | 2.5084 | 16.01 | |
| 5+ 0 | 2.6231 | 16.65 | |
| 5+ 5 | 2.7471 | 18.01 | |
| 5+10 | 2.8923 | 21.09 | |
| 5+15 | 3.0599 | 24.33 | |
| 5+20 | 3.2450 | 26.88 | |
| 5+25 | 3.4485 | 29.55 | |
| 5+30 | 3.6803 | 33.66 | |
| 5+35 | 3.9030 | 32.34 | |
| 5+40 | 4.0157 | 16.36 | |
| 5+45 | 4.0686 | 7.68 | |
| 5+50 | 4.0943 | 3.74 | |
| 5+55 | 4.1080 | 1.99 | |
| 6+ 0 | 4.1127 | 0.68 | |
| 6+ 5 | 4.1145 | 0.27 | |
| 6+10 | 4.1150 | 0.07 | |
| 6+15 | 4.1152 | 0.02 | |
| 6+20 | 4.1152 | 0.00 | |
| 6+25 | 4.1152 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 04/18/19 File: EX31C24100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 31.3
100-YEAR STORM EVENT
BY: JTS, DATE: 04-18-19

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Drainage Area = 25.00(Ac.) = 0.039 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 25.00(Ac.) = 0.039 Sq. Mi.
Length along longest watercourse = 1434.00(Ft.)
Length along longest watercourse measured to centroid = 695.00(Ft.)
Length along longest watercourse = 0.272 Mi.
Length along longest watercourse measured to centroid = 0.132 Mi.
Difference in elevation = 166.00(Ft.)
Slope along watercourse = 611.2134 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.070 Hr.
Lag time = 4.20 Min.
25% of lag time = 1.05 Min.
40% of lag time = 1.68 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 25.00 | 1.80 | 45.00 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 25.00 | 4.66 | 116.50 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.660(In)

Point rain (area averaged) = 4.660(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.660(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 25.000 | 83.72 | 0.000 |

Total Area Entered = 25.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.7 | 93.2 | 0.088 | 0.000 | 0.088 | 1.000 | 0.088 |
| | | | | | Sum (F) = | 0.088 |

Area averaged mean soil loss (F) (In/Hr) = 0.088
Minimum soil loss rate ((In/Hr)) = 0.044

(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 119.035 | 21.079 | 5.311 |
| 2 | 0.167 | 238.070 | 56.091 | 14.132 |
| 3 | 0.250 | 357.105 | 15.641 | 3.941 |
| 4 | 0.333 | 476.140 | 5.143 | 1.296 |
| 5 | 0.417 | 595.175 | 1.268 | 0.319 |
| 6 | 0.500 | 714.211 | 0.778 | 0.196 |
| | | | Sum = 100.000 | Sum= 25.195 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.037 | ( 0.156) | 0.034 | 0.004 |
| 2 | 0.17 | 0.07 | 0.037 | ( 0.155) | 0.034 | 0.004 |
| 3 | 0.25 | 0.07 | 0.037 | ( 0.155) | 0.034 | 0.004 |
| 4 | 0.33 | 0.10 | 0.056 | ( 0.154) | 0.050 | 0.006 |
| 5 | 0.42 | 0.10 | 0.056 | ( 0.154) | 0.050 | 0.006 |
| 6 | 0.50 | 0.10 | 0.056 | ( 0.153) | 0.050 | 0.006 |
| 7 | 0.58 | 0.10 | 0.056 | ( 0.152) | 0.050 | 0.006 |
| 8 | 0.67 | 0.10 | 0.056 | ( 0.152) | 0.050 | 0.006 |
| 9 | 0.75 | 0.10 | 0.056 | ( 0.151) | 0.050 | 0.006 |
| 10 | 0.83 | 0.13 | 0.075 | ( 0.151) | 0.067 | 0.007 |
| 11 | 0.92 | 0.13 | 0.075 | ( 0.150) | 0.067 | 0.007 |
| 12 | 1.00 | 0.13 | 0.075 | ( 0.149) | 0.067 | 0.007 |
| 13 | 1.08 | 0.10 | 0.056 | ( 0.149) | 0.050 | 0.006 |
| 14 | 1.17 | 0.10 | 0.056 | ( 0.148) | 0.050 | 0.006 |
| 15 | 1.25 | 0.10 | 0.056 | ( 0.148) | 0.050 | 0.006 |
| 16 | 1.33 | 0.10 | 0.056 | ( 0.147) | 0.050 | 0.006 |
| 17 | 1.42 | 0.10 | 0.056 | ( 0.146) | 0.050 | 0.006 |
| 18 | 1.50 | 0.10 | 0.056 | ( 0.146) | 0.050 | 0.006 |
| 19 | 1.58 | 0.10 | 0.056 | ( 0.145) | 0.050 | 0.006 |
| 20 | 1.67 | 0.10 | 0.056 | ( 0.145) | 0.050 | 0.006 |
| 21 | 1.75 | 0.10 | 0.056 | ( 0.144) | 0.050 | 0.006 |
| 22 | 1.83 | 0.13 | 0.075 | ( 0.144) | 0.067 | 0.007 |
| 23 | 1.92 | 0.13 | 0.075 | ( 0.143) | 0.067 | 0.007 |
| 24 | 2.00 | 0.13 | 0.075 | ( 0.142) | 0.067 | 0.007 |
| 25 | 2.08 | 0.13 | 0.075 | ( 0.142) | 0.067 | 0.007 |
| 26 | 2.17 | 0.13 | 0.075 | ( 0.141) | 0.067 | 0.007 |
| 27 | 2.25 | 0.13 | 0.075 | ( 0.141) | 0.067 | 0.007 |
| 28 | 2.33 | 0.13 | 0.075 | ( 0.140) | 0.067 | 0.007 |
| 29 | 2.42 | 0.13 | 0.075 | ( 0.140) | 0.067 | 0.007 |
| 30 | 2.50 | 0.13 | 0.075 | ( 0.139) | 0.067 | 0.007 |
| 31 | 2.58 | 0.17 | 0.093 | ( 0.138) | 0.084 | 0.009 |
| 32 | 2.67 | 0.17 | 0.093 | ( 0.138) | 0.084 | 0.009 |
| 33 | 2.75 | 0.17 | 0.093 | ( 0.137) | 0.084 | 0.009 |
| 34 | 2.83 | 0.17 | 0.093 | ( 0.137) | 0.084 | 0.009 |
| 35 | 2.92 | 0.17 | 0.093 | ( 0.136) | 0.084 | 0.009 |
| 36 | 3.00 | 0.17 | 0.093 | ( 0.136) | 0.084 | 0.009 |
| 37 | 3.08 | 0.17 | 0.093 | ( 0.135) | 0.084 | 0.009 |
| 38 | 3.17 | 0.17 | 0.093 | ( 0.134) | 0.084 | 0.009 |
| 39 | 3.25 | 0.17 | 0.093 | ( 0.134) | 0.084 | 0.009 |
| 40 | 3.33 | 0.17 | 0.093 | ( 0.133) | 0.084 | 0.009 |
| 41 | 3.42 | 0.17 | 0.093 | ( 0.133) | 0.084 | 0.009 |
| 42 | 3.50 | 0.17 | 0.093 | ( 0.132) | 0.084 | 0.009 |
| 43 | 3.58 | 0.17 | 0.093 | ( 0.132) | 0.084 | 0.009 |
| 44 | 3.67 | 0.17 | 0.093 | ( 0.131) | 0.084 | 0.009 |
| 45 | 3.75 | 0.17 | 0.093 | ( 0.131) | 0.084 | 0.009 |
| 46 | 3.83 | 0.20 | 0.112 | ( 0.130) | 0.101 | 0.011 |
| 47 | 3.92 | 0.20 | 0.112 | ( 0.129) | 0.101 | 0.011 |
| 48 | 4.00 | 0.20 | 0.112 | ( 0.129) | 0.101 | 0.011 |
| 49 | 4.08 | 0.20 | 0.112 | ( 0.128) | 0.101 | 0.011 |
| 50 | 4.17 | 0.20 | 0.112 | ( 0.128) | 0.101 | 0.011 |
| 51 | 4.25 | 0.20 | 0.112 | ( 0.127) | 0.101 | 0.011 |
| 52 | 4.33 | 0.23 | 0.130 | ( 0.127) | 0.117 | 0.013 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 53 | 4.42 | 0.23 | 0.130 | ( 0.126) | 0.117 | 0.013 |
| 54 | 4.50 | 0.23 | 0.130 | ( 0.126) | 0.117 | 0.013 |
| 55 | 4.58 | 0.23 | 0.130 | ( 0.125) | 0.117 | 0.013 |
| 56 | 4.67 | 0.23 | 0.130 | ( 0.125) | 0.117 | 0.013 |
| 57 | 4.75 | 0.23 | 0.130 | ( 0.124) | 0.117 | 0.013 |
| 58 | 4.83 | 0.27 | 0.149 | 0.123 | ( 0.134) | 0.026 |
| 59 | 4.92 | 0.27 | 0.149 | 0.123 | ( 0.134) | 0.026 |
| 60 | 5.00 | 0.27 | 0.149 | 0.122 | ( 0.134) | 0.027 |
| 61 | 5.08 | 0.20 | 0.112 | ( 0.122) | 0.101 | 0.011 |
| 62 | 5.17 | 0.20 | 0.112 | ( 0.121) | 0.101 | 0.011 |
| 63 | 5.25 | 0.20 | 0.112 | ( 0.121) | 0.101 | 0.011 |
| 64 | 5.33 | 0.23 | 0.130 | ( 0.120) | 0.117 | 0.013 |
| 65 | 5.42 | 0.23 | 0.130 | ( 0.120) | 0.117 | 0.013 |
| 66 | 5.50 | 0.23 | 0.130 | ( 0.119) | 0.117 | 0.013 |
| 67 | 5.58 | 0.27 | 0.149 | 0.119 | ( 0.134) | 0.030 |
| 68 | 5.67 | 0.27 | 0.149 | 0.118 | ( 0.134) | 0.031 |
| 69 | 5.75 | 0.27 | 0.149 | 0.118 | ( 0.134) | 0.031 |
| 70 | 5.83 | 0.27 | 0.149 | 0.117 | ( 0.134) | 0.032 |
| 71 | 5.92 | 0.27 | 0.149 | 0.117 | ( 0.134) | 0.032 |
| 72 | 6.00 | 0.27 | 0.149 | 0.116 | ( 0.134) | 0.033 |
| 73 | 6.08 | 0.30 | 0.168 | 0.116 | ( 0.151) | 0.052 |
| 74 | 6.17 | 0.30 | 0.168 | 0.115 | ( 0.151) | 0.053 |
| 75 | 6.25 | 0.30 | 0.168 | 0.115 | ( 0.151) | 0.053 |
| 76 | 6.33 | 0.30 | 0.168 | 0.114 | ( 0.151) | 0.054 |
| 77 | 6.42 | 0.30 | 0.168 | 0.114 | ( 0.151) | 0.054 |
| 78 | 6.50 | 0.30 | 0.168 | 0.113 | ( 0.151) | 0.055 |
| 79 | 6.58 | 0.33 | 0.186 | 0.113 | ( 0.168) | 0.074 |
| 80 | 6.67 | 0.33 | 0.186 | 0.112 | ( 0.168) | 0.074 |
| 81 | 6.75 | 0.33 | 0.186 | 0.112 | ( 0.168) | 0.075 |
| 82 | 6.83 | 0.33 | 0.186 | 0.111 | ( 0.168) | 0.075 |
| 83 | 6.92 | 0.33 | 0.186 | 0.111 | ( 0.168) | 0.076 |
| 84 | 7.00 | 0.33 | 0.186 | 0.110 | ( 0.168) | 0.076 |
| 85 | 7.08 | 0.33 | 0.186 | 0.110 | ( 0.168) | 0.077 |
| 86 | 7.17 | 0.33 | 0.186 | 0.109 | ( 0.168) | 0.077 |
| 87 | 7.25 | 0.33 | 0.186 | 0.109 | ( 0.168) | 0.078 |
| 88 | 7.33 | 0.37 | 0.205 | 0.108 | ( 0.185) | 0.097 |
| 89 | 7.42 | 0.37 | 0.205 | 0.108 | ( 0.185) | 0.097 |
| 90 | 7.50 | 0.37 | 0.205 | 0.107 | ( 0.185) | 0.098 |
| 91 | 7.58 | 0.40 | 0.224 | 0.107 | ( 0.201) | 0.117 |
| 92 | 7.67 | 0.40 | 0.224 | 0.106 | ( 0.201) | 0.118 |
| 93 | 7.75 | 0.40 | 0.224 | 0.106 | ( 0.201) | 0.118 |
| 94 | 7.83 | 0.43 | 0.242 | 0.105 | ( 0.218) | 0.137 |
| 95 | 7.92 | 0.43 | 0.242 | 0.105 | ( 0.218) | 0.138 |
| 96 | 8.00 | 0.43 | 0.242 | 0.104 | ( 0.218) | 0.138 |
| 97 | 8.08 | 0.50 | 0.280 | 0.104 | ( 0.252) | 0.176 |
| 98 | 8.17 | 0.50 | 0.280 | 0.103 | ( 0.252) | 0.176 |
| 99 | 8.25 | 0.50 | 0.280 | 0.103 | ( 0.252) | 0.177 |
| 100 | 8.33 | 0.50 | 0.280 | 0.102 | ( 0.252) | 0.177 |
| 101 | 8.42 | 0.50 | 0.280 | 0.102 | ( 0.252) | 0.178 |
| 102 | 8.50 | 0.50 | 0.280 | 0.101 | ( 0.252) | 0.178 |
| 103 | 8.58 | 0.53 | 0.298 | 0.101 | ( 0.268) | 0.197 |
| 104 | 8.67 | 0.53 | 0.298 | 0.100 | ( 0.268) | 0.198 |
| 105 | 8.75 | 0.53 | 0.298 | 0.100 | ( 0.268) | 0.198 |
| 106 | 8.83 | 0.57 | 0.317 | 0.099 | ( 0.285) | 0.218 |
| 107 | 8.92 | 0.57 | 0.317 | 0.099 | ( 0.285) | 0.218 |
| 108 | 9.00 | 0.57 | 0.317 | 0.098 | ( 0.285) | 0.218 |
| 109 | 9.08 | 0.63 | 0.354 | 0.098 | ( 0.319) | 0.256 |
| 110 | 9.17 | 0.63 | 0.354 | 0.097 | ( 0.319) | 0.257 |
| 111 | 9.25 | 0.63 | 0.354 | 0.097 | ( 0.319) | 0.257 |
| 112 | 9.33 | 0.67 | 0.373 | 0.097 | ( 0.336) | 0.276 |
| 113 | 9.42 | 0.67 | 0.373 | 0.096 | ( 0.336) | 0.277 |
| 114 | 9.50 | 0.67 | 0.373 | 0.096 | ( 0.336) | 0.277 |
| 115 | 9.58 | 0.70 | 0.391 | 0.095 | ( 0.352) | 0.296 |
| 116 | 9.67 | 0.70 | 0.391 | 0.095 | ( 0.352) | 0.297 |
| 117 | 9.75 | 0.70 | 0.391 | 0.094 | ( 0.352) | 0.297 |
| 118 | 9.83 | 0.73 | 0.410 | 0.094 | ( 0.369) | 0.316 |
| 119 | 9.92 | 0.73 | 0.410 | 0.093 | ( 0.369) | 0.317 |
| 120 | 10.00 | 0.73 | 0.410 | 0.093 | ( 0.369) | 0.317 |
| 121 | 10.08 | 0.50 | 0.280 | 0.092 | ( 0.252) | 0.187 |
| 122 | 10.17 | 0.50 | 0.280 | 0.092 | ( 0.252) | 0.188 |
| 123 | 10.25 | 0.50 | 0.280 | 0.092 | ( 0.252) | 0.188 |
| 124 | 10.33 | 0.50 | 0.280 | 0.091 | ( 0.252) | 0.188 |
| 125 | 10.42 | 0.50 | 0.280 | 0.091 | ( 0.252) | 0.189 |
| 126 | 10.50 | 0.50 | 0.280 | 0.090 | ( 0.252) | 0.189 |
| 127 | 10.58 | 0.67 | 0.373 | 0.090 | ( 0.336) | 0.283 |
| 128 | 10.67 | 0.67 | 0.373 | 0.089 | ( 0.336) | 0.283 |
| 129 | 10.75 | 0.67 | 0.373 | 0.089 | ( 0.336) | 0.284 |
| 130 | 10.83 | 0.67 | 0.373 | 0.088 | ( 0.336) | 0.284 |
| 131 | 10.92 | 0.67 | 0.373 | 0.088 | ( 0.336) | 0.285 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 132 | 11.00 | 0.67 | 0.373 | 0.088 | ( 0.336) | 0.285 |
| 133 | 11.08 | 0.63 | 0.354 | 0.087 | ( 0.319) | 0.267 |
| 134 | 11.17 | 0.63 | 0.354 | 0.087 | ( 0.319) | 0.267 |
| 135 | 11.25 | 0.63 | 0.354 | 0.086 | ( 0.319) | 0.268 |
| 136 | 11.33 | 0.63 | 0.354 | 0.086 | ( 0.319) | 0.268 |
| 137 | 11.42 | 0.63 | 0.354 | 0.085 | ( 0.319) | 0.269 |
| 138 | 11.50 | 0.63 | 0.354 | 0.085 | ( 0.319) | 0.269 |
| 139 | 11.58 | 0.57 | 0.317 | 0.085 | ( 0.285) | 0.232 |
| 140 | 11.67 | 0.57 | 0.317 | 0.084 | ( 0.285) | 0.233 |
| 141 | 11.75 | 0.57 | 0.317 | 0.084 | ( 0.285) | 0.233 |
| 142 | 11.83 | 0.60 | 0.336 | 0.083 | ( 0.302) | 0.252 |
| 143 | 11.92 | 0.60 | 0.336 | 0.083 | ( 0.302) | 0.253 |
| 144 | 12.00 | 0.60 | 0.336 | 0.083 | ( 0.302) | 0.253 |
| 145 | 12.08 | 0.83 | 0.466 | 0.082 | ( 0.419) | 0.384 |
| 146 | 12.17 | 0.83 | 0.466 | 0.082 | ( 0.419) | 0.384 |
| 147 | 12.25 | 0.83 | 0.466 | 0.081 | ( 0.419) | 0.385 |
| 148 | 12.33 | 0.87 | 0.485 | 0.081 | ( 0.436) | 0.404 |
| 149 | 12.42 | 0.87 | 0.485 | 0.080 | ( 0.436) | 0.404 |
| 150 | 12.50 | 0.87 | 0.485 | 0.080 | ( 0.436) | 0.405 |
| 151 | 12.58 | 0.93 | 0.522 | 0.080 | ( 0.470) | 0.442 |
| 152 | 12.67 | 0.93 | 0.522 | 0.079 | ( 0.470) | 0.443 |
| 153 | 12.75 | 0.93 | 0.522 | 0.079 | ( 0.470) | 0.443 |
| 154 | 12.83 | 0.97 | 0.541 | 0.078 | ( 0.486) | 0.462 |
| 155 | 12.92 | 0.97 | 0.541 | 0.078 | ( 0.486) | 0.462 |
| 156 | 13.00 | 0.97 | 0.541 | 0.078 | ( 0.486) | 0.463 |
| 157 | 13.08 | 1.13 | 0.634 | 0.077 | ( 0.570) | 0.556 |
| 158 | 13.17 | 1.13 | 0.634 | 0.077 | ( 0.570) | 0.557 |
| 159 | 13.25 | 1.13 | 0.634 | 0.077 | ( 0.570) | 0.557 |
| 160 | 13.33 | 1.13 | 0.634 | 0.076 | ( 0.570) | 0.558 |
| 161 | 13.42 | 1.13 | 0.634 | 0.076 | ( 0.570) | 0.558 |
| 162 | 13.50 | 1.13 | 0.634 | 0.075 | ( 0.570) | 0.558 |
| 163 | 13.58 | 0.77 | 0.429 | 0.075 | ( 0.386) | 0.354 |
| 164 | 13.67 | 0.77 | 0.429 | 0.075 | ( 0.386) | 0.354 |
| 165 | 13.75 | 0.77 | 0.429 | 0.074 | ( 0.386) | 0.354 |
| 166 | 13.83 | 0.77 | 0.429 | 0.074 | ( 0.386) | 0.355 |
| 167 | 13.92 | 0.77 | 0.429 | 0.073 | ( 0.386) | 0.355 |
| 168 | 14.00 | 0.77 | 0.429 | 0.073 | ( 0.386) | 0.356 |
| 169 | 14.08 | 0.90 | 0.503 | 0.073 | ( 0.453) | 0.431 |
| 170 | 14.17 | 0.90 | 0.503 | 0.072 | ( 0.453) | 0.431 |
| 171 | 14.25 | 0.90 | 0.503 | 0.072 | ( 0.453) | 0.431 |
| 172 | 14.33 | 0.87 | 0.485 | 0.072 | ( 0.436) | 0.413 |
| 173 | 14.42 | 0.87 | 0.485 | 0.071 | ( 0.436) | 0.413 |
| 174 | 14.50 | 0.87 | 0.485 | 0.071 | ( 0.436) | 0.414 |
| 175 | 14.58 | 0.87 | 0.485 | 0.071 | ( 0.436) | 0.414 |
| 176 | 14.67 | 0.87 | 0.485 | 0.070 | ( 0.436) | 0.414 |
| 177 | 14.75 | 0.87 | 0.485 | 0.070 | ( 0.436) | 0.415 |
| 178 | 14.83 | 0.83 | 0.466 | 0.069 | ( 0.419) | 0.397 |
| 179 | 14.92 | 0.83 | 0.466 | 0.069 | ( 0.419) | 0.397 |
| 180 | 15.00 | 0.83 | 0.466 | 0.069 | ( 0.419) | 0.397 |
| 181 | 15.08 | 0.80 | 0.447 | 0.068 | ( 0.403) | 0.379 |
| 182 | 15.17 | 0.80 | 0.447 | 0.068 | ( 0.403) | 0.379 |
| 183 | 15.25 | 0.80 | 0.447 | 0.068 | ( 0.403) | 0.380 |
| 184 | 15.33 | 0.77 | 0.429 | 0.067 | ( 0.386) | 0.361 |
| 185 | 15.42 | 0.77 | 0.429 | 0.067 | ( 0.386) | 0.362 |
| 186 | 15.50 | 0.77 | 0.429 | 0.067 | ( 0.386) | 0.362 |
| 187 | 15.58 | 0.63 | 0.354 | 0.066 | ( 0.319) | 0.288 |
| 188 | 15.67 | 0.63 | 0.354 | 0.066 | ( 0.319) | 0.288 |
| 189 | 15.75 | 0.63 | 0.354 | 0.066 | ( 0.319) | 0.289 |
| 190 | 15.83 | 0.63 | 0.354 | 0.065 | ( 0.319) | 0.289 |
| 191 | 15.92 | 0.63 | 0.354 | 0.065 | ( 0.319) | 0.289 |
| 192 | 16.00 | 0.63 | 0.354 | 0.065 | ( 0.319) | 0.290 |
| 193 | 16.08 | 0.13 | 0.075 | 0.064 | ( 0.067) | 0.010 |
| 194 | 16.17 | 0.13 | 0.075 | 0.064 | ( 0.067) | 0.011 |
| 195 | 16.25 | 0.13 | 0.075 | 0.064 | ( 0.067) | 0.011 |
| 196 | 16.33 | 0.13 | 0.075 | 0.063 | ( 0.067) | 0.011 |
| 197 | 16.42 | 0.13 | 0.075 | 0.063 | ( 0.067) | 0.012 |
| 198 | 16.50 | 0.13 | 0.075 | 0.063 | ( 0.067) | 0.012 |
| 199 | 16.58 | 0.10 | 0.056 | ( 0.062) | 0.050 | 0.006 |
| 200 | 16.67 | 0.10 | 0.056 | ( 0.062) | 0.050 | 0.006 |
| 201 | 16.75 | 0.10 | 0.056 | ( 0.062) | 0.050 | 0.006 |
| 202 | 16.83 | 0.10 | 0.056 | ( 0.061) | 0.050 | 0.006 |
| 203 | 16.92 | 0.10 | 0.056 | ( 0.061) | 0.050 | 0.006 |
| 204 | 17.00 | 0.10 | 0.056 | ( 0.061) | 0.050 | 0.006 |
| 205 | 17.08 | 0.17 | 0.093 | 0.060 | ( 0.084) | 0.033 |
| 206 | 17.17 | 0.17 | 0.093 | 0.060 | ( 0.084) | 0.033 |
| 207 | 17.25 | 0.17 | 0.093 | 0.060 | ( 0.084) | 0.033 |
| 208 | 17.33 | 0.17 | 0.093 | 0.060 | ( 0.084) | 0.034 |
| 209 | 17.42 | 0.17 | 0.093 | 0.059 | ( 0.084) | 0.034 |
| 210 | 17.50 | 0.17 | 0.093 | 0.059 | ( 0.084) | 0.034 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 211 | 17.58 | 0.17 | 0.093 | 0.059 | ( 0.084) | 0.035 |
| 212 | 17.67 | 0.17 | 0.093 | 0.058 | ( 0.084) | 0.035 |
| 213 | 17.75 | 0.17 | 0.093 | 0.058 | ( 0.084) | 0.035 |
| 214 | 17.83 | 0.13 | 0.075 | 0.058 | ( 0.067) | 0.017 |
| 215 | 17.92 | 0.13 | 0.075 | 0.058 | ( 0.067) | 0.017 |
| 216 | 18.00 | 0.13 | 0.075 | 0.057 | ( 0.067) | 0.017 |
| 217 | 18.08 | 0.13 | 0.075 | 0.057 | ( 0.067) | 0.018 |
| 218 | 18.17 | 0.13 | 0.075 | 0.057 | ( 0.067) | 0.018 |
| 219 | 18.25 | 0.13 | 0.075 | 0.056 | ( 0.067) | 0.018 |
| 220 | 18.33 | 0.13 | 0.075 | 0.056 | ( 0.067) | 0.018 |
| 221 | 18.42 | 0.13 | 0.075 | 0.056 | ( 0.067) | 0.019 |
| 222 | 18.50 | 0.13 | 0.075 | 0.056 | ( 0.067) | 0.019 |
| 223 | 18.58 | 0.10 | 0.056 | ( 0.055) | 0.050 | 0.006 |
| 224 | 18.67 | 0.10 | 0.056 | ( 0.055) | 0.050 | 0.006 |
| 225 | 18.75 | 0.10 | 0.056 | ( 0.055) | 0.050 | 0.006 |
| 226 | 18.83 | 0.07 | 0.037 | ( 0.055) | 0.034 | 0.004 |
| 227 | 18.92 | 0.07 | 0.037 | ( 0.054) | 0.034 | 0.004 |
| 228 | 19.00 | 0.07 | 0.037 | ( 0.054) | 0.034 | 0.004 |
| 229 | 19.08 | 0.10 | 0.056 | ( 0.054) | 0.050 | 0.006 |
| 230 | 19.17 | 0.10 | 0.056 | ( 0.053) | 0.050 | 0.006 |
| 231 | 19.25 | 0.10 | 0.056 | ( 0.053) | 0.050 | 0.006 |
| 232 | 19.33 | 0.13 | 0.075 | 0.053 | ( 0.067) | 0.022 |
| 233 | 19.42 | 0.13 | 0.075 | 0.053 | ( 0.067) | 0.022 |
| 234 | 19.50 | 0.13 | 0.075 | 0.052 | ( 0.067) | 0.022 |
| 235 | 19.58 | 0.10 | 0.056 | ( 0.052) | 0.050 | 0.006 |
| 236 | 19.67 | 0.10 | 0.056 | ( 0.052) | 0.050 | 0.006 |
| 237 | 19.75 | 0.10 | 0.056 | ( 0.052) | 0.050 | 0.006 |
| 238 | 19.83 | 0.07 | 0.037 | ( 0.052) | 0.034 | 0.004 |
| 239 | 19.92 | 0.07 | 0.037 | ( 0.051) | 0.034 | 0.004 |
| 240 | 20.00 | 0.07 | 0.037 | ( 0.051) | 0.034 | 0.004 |
| 241 | 20.08 | 0.10 | 0.056 | ( 0.051) | 0.050 | 0.006 |
| 242 | 20.17 | 0.10 | 0.056 | ( 0.051) | 0.050 | 0.006 |
| 243 | 20.25 | 0.10 | 0.056 | ( 0.050) | 0.050 | 0.006 |
| 244 | 20.33 | 0.10 | 0.056 | 0.050 | ( 0.050) | 0.006 |
| 245 | 20.42 | 0.10 | 0.056 | 0.050 | ( 0.050) | 0.006 |
| 246 | 20.50 | 0.10 | 0.056 | 0.050 | ( 0.050) | 0.006 |
| 247 | 20.58 | 0.10 | 0.056 | 0.050 | ( 0.050) | 0.006 |
| 248 | 20.67 | 0.10 | 0.056 | 0.049 | ( 0.050) | 0.007 |
| 249 | 20.75 | 0.10 | 0.056 | 0.049 | ( 0.050) | 0.007 |
| 250 | 20.83 | 0.07 | 0.037 | ( 0.049) | 0.034 | 0.004 |
| 251 | 20.92 | 0.07 | 0.037 | ( 0.049) | 0.034 | 0.004 |
| 252 | 21.00 | 0.07 | 0.037 | ( 0.049) | 0.034 | 0.004 |
| 253 | 21.08 | 0.10 | 0.056 | 0.048 | ( 0.050) | 0.008 |
| 254 | 21.17 | 0.10 | 0.056 | 0.048 | ( 0.050) | 0.008 |
| 255 | 21.25 | 0.10 | 0.056 | 0.048 | ( 0.050) | 0.008 |
| 256 | 21.33 | 0.07 | 0.037 | ( 0.048) | 0.034 | 0.004 |
| 257 | 21.42 | 0.07 | 0.037 | ( 0.048) | 0.034 | 0.004 |
| 258 | 21.50 | 0.07 | 0.037 | ( 0.047) | 0.034 | 0.004 |
| 259 | 21.58 | 0.10 | 0.056 | 0.047 | ( 0.050) | 0.009 |
| 260 | 21.67 | 0.10 | 0.056 | 0.047 | ( 0.050) | 0.009 |
| 261 | 21.75 | 0.10 | 0.056 | 0.047 | ( 0.050) | 0.009 |
| 262 | 21.83 | 0.07 | 0.037 | ( 0.047) | 0.034 | 0.004 |
| 263 | 21.92 | 0.07 | 0.037 | ( 0.047) | 0.034 | 0.004 |
| 264 | 22.00 | 0.07 | 0.037 | ( 0.046) | 0.034 | 0.004 |
| 265 | 22.08 | 0.10 | 0.056 | 0.046 | ( 0.050) | 0.010 |
| 266 | 22.17 | 0.10 | 0.056 | 0.046 | ( 0.050) | 0.010 |
| 267 | 22.25 | 0.10 | 0.056 | 0.046 | ( 0.050) | 0.010 |
| 268 | 22.33 | 0.07 | 0.037 | ( 0.046) | 0.034 | 0.004 |
| 269 | 22.42 | 0.07 | 0.037 | ( 0.046) | 0.034 | 0.004 |
| 270 | 22.50 | 0.07 | 0.037 | ( 0.046) | 0.034 | 0.004 |
| 271 | 22.58 | 0.07 | 0.037 | ( 0.045) | 0.034 | 0.004 |
| 272 | 22.67 | 0.07 | 0.037 | ( 0.045) | 0.034 | 0.004 |
| 273 | 22.75 | 0.07 | 0.037 | ( 0.045) | 0.034 | 0.004 |
| 274 | 22.83 | 0.07 | 0.037 | ( 0.045) | 0.034 | 0.004 |
| 275 | 22.92 | 0.07 | 0.037 | ( 0.045) | 0.034 | 0.004 |
| 276 | 23.00 | 0.07 | 0.037 | ( 0.045) | 0.034 | 0.004 |
| 277 | 23.08 | 0.07 | 0.037 | ( 0.045) | 0.034 | 0.004 |
| 278 | 23.17 | 0.07 | 0.037 | ( 0.045) | 0.034 | 0.004 |
| 279 | 23.25 | 0.07 | 0.037 | ( 0.045) | 0.034 | 0.004 |
| 280 | 23.33 | 0.07 | 0.037 | ( 0.044) | 0.034 | 0.004 |
| 281 | 23.42 | 0.07 | 0.037 | ( 0.044) | 0.034 | 0.004 |
| 282 | 23.50 | 0.07 | 0.037 | ( 0.044) | 0.034 | 0.004 |
| 283 | 23.58 | 0.07 | 0.037 | ( 0.044) | 0.034 | 0.004 |
| 284 | 23.67 | 0.07 | 0.037 | ( 0.044) | 0.034 | 0.004 |
| 285 | 23.75 | 0.07 | 0.037 | ( 0.044) | 0.034 | 0.004 |
| 286 | 23.83 | 0.07 | 0.037 | ( 0.044) | 0.034 | 0.004 |
| 287 | 23.92 | 0.07 | 0.037 | ( 0.044) | 0.034 | 0.004 |
| 288 | 24.00 | 0.07 | 0.037 | ( 0.044) | 0.034 | 0.004 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 34.9

Flood volume = Effective rainfall 2.91(In)
times area 25.0(Ac.)/[(In)/(Ft.)] = 6.1(Ac.Ft)
Total soil loss = 1.75(In)
Total soil loss = 3.641(Ac.Ft)
Total rainfall = 4.66(In)
Flood volume = 264274.3 Cubic Feet
Total soil loss = 158600.0 Cubic Feet

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Peak flow rate of this hydrograph = 14.065(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

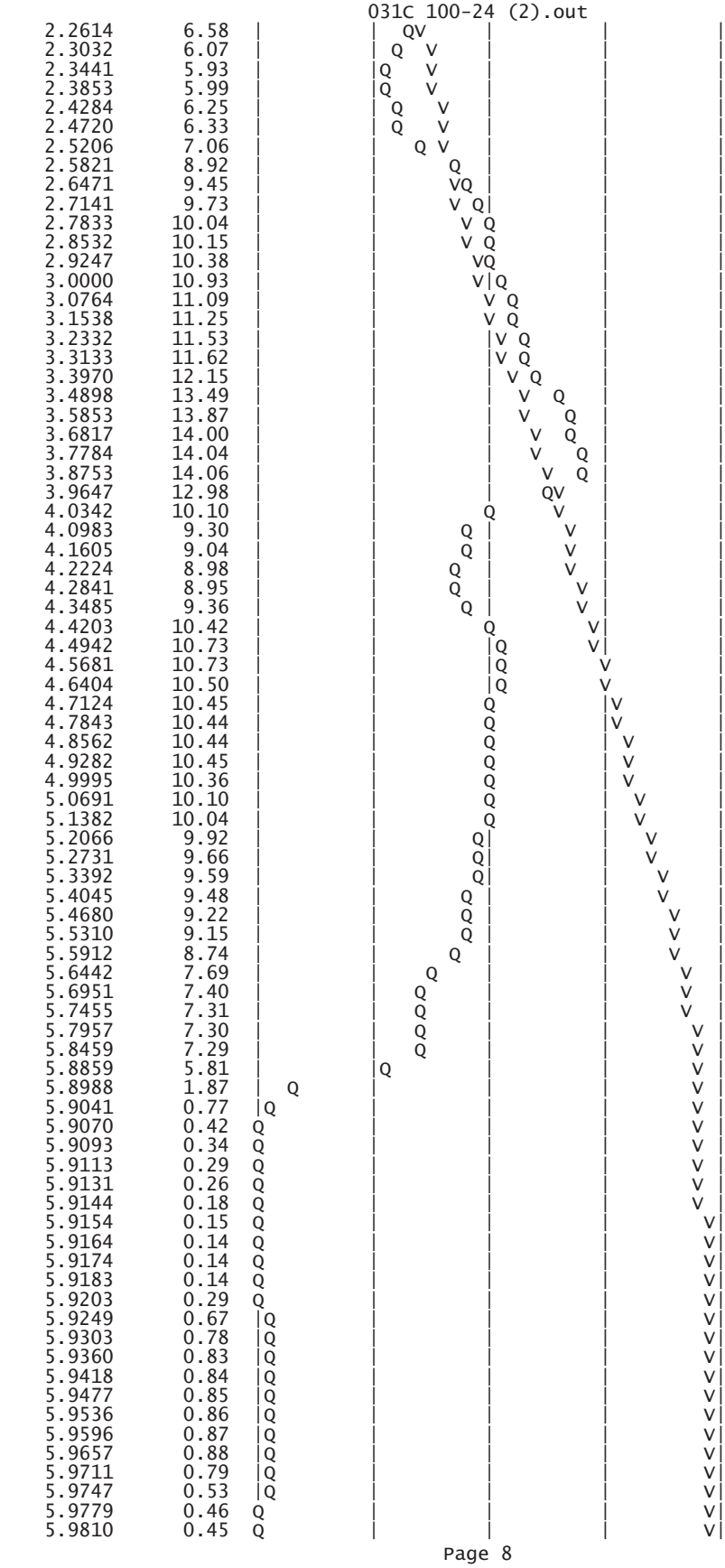
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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 5.0 | 10.0 | 15.0 | 20.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0001 | 0.02 | Q | | | | |
| 0+10 | 0.0006 | 0.07 | Q | | | | |
| 0+15 | 0.0012 | 0.09 | Q | | | | |
| 0+20 | 0.0019 | 0.10 | Q | | | | |
| 0+25 | 0.0028 | 0.13 | Q | | | | |
| 0+30 | 0.0038 | 0.14 | Q | | | | |
| 0+35 | 0.0047 | 0.14 | Q | | | | |
| 0+40 | 0.0057 | 0.14 | Q | | | | |
| 0+45 | 0.0067 | 0.14 | Q | | | | |
| 0+50 | 0.0077 | 0.15 | Q | | | | |
| 0+55 | 0.0089 | 0.18 | Q | | | | |
| 1+ 0 | 0.0102 | 0.18 | Q | | | | |
| 1+ 5 | 0.0114 | 0.18 | Q | | | | |
| 1+10 | 0.0125 | 0.15 | Q | | | | |
| 1+15 | 0.0135 | 0.14 | Q | | | | |
| 1+20 | 0.0144 | 0.14 | Q | | | | |
| 1+25 | 0.0154 | 0.14 | Q | | | | |
| 1+30 | 0.0164 | 0.14 | Q | | | | |
| 1+35 | 0.0174 | 0.14 | Q | | | | |
| 1+40 | 0.0183 | 0.14 | Q | | | | |
| 1+45 | 0.0193 | 0.14 | Q | | | | |
| 1+50 | 0.0203 | 0.15 | Q | | | | |
| 1+55 | 0.0216 | 0.18 | Q | | | | |
| 2+ 0 | 0.0228 | 0.18 | Q | | | | |
| 2+ 5 | 0.0241 | 0.19 | Q | | | | |
| 2+10 | 0.0254 | 0.19 | Q | | | | |
| 2+15 | 0.0267 | 0.19 | Q | | | | |
| 2+20 | 0.0280 | 0.19 | Q | | | | |
| 2+25 | 0.0293 | 0.19 | Q | | | | |
| 2+30 | 0.0306 | 0.19 | Q | | | | |
| 2+35 | 0.0320 | 0.20 | Q | | | | |
| 2+40 | 0.0335 | 0.22 | Q | | | | |
| 2+45 | 0.0351 | 0.23 | Q | | | | |
| 2+50 | 0.0367 | 0.23 | Q | | | | |
| 2+55 | 0.0383 | 0.23 | Q | | | | |
| 3+ 0 | 0.0399 | 0.23 | Q | | | | |
| 3+ 5 | 0.0416 | 0.23 | Q | | | | |
| 3+10 | 0.0432 | 0.23 | Q | | | | |
| 3+15 | 0.0448 | 0.23 | Q | | | | |
| 3+20 | 0.0464 | 0.23 | Q | | | | |
| 3+25 | 0.0480 | 0.23 | Q | | | | |
| 3+30 | 0.0496 | 0.23 | Q | | | | |
| 3+35 | 0.0513 | 0.23 | Q | | | | |
| 3+40 | 0.0529 | 0.23 | Q | | | | |
| 3+45 | 0.0545 | 0.23 | Q | | | | |
| 3+50 | 0.0562 | 0.24 | Q | | | | |
| 3+55 | 0.0581 | 0.27 | Q | | | | |
| 4+ 0 | 0.0600 | 0.28 | Q | | | | |
| 4+ 5 | 0.0619 | 0.28 | Q | | | | |
| 4+10 | 0.0638 | 0.28 | Q | | | | |
| 4+15 | 0.0658 | 0.28 | Q | | | | |
| 4+20 | 0.0678 | 0.29 | Q | | | | |
| 4+25 | 0.0700 | 0.32 | Q | | | | |
| 4+30 | 0.0722 | 0.33 | Q | | | | |
| 4+35 | 0.0745 | 0.33 | Q | | | | |
| 4+40 | 0.0767 | 0.33 | Q | | | | |
| 4+45 | 0.0790 | 0.33 | Q | | | | |
| 4+50 | 0.0817 | 0.40 | Q | | | | |
| 4+55 | 0.0857 | 0.58 | VQ | | | | |

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 5+ 0       0.0901      0.64  VQ        |         |         |         |
 5+ 5       0.0941      0.58  VQ        |         |         |         |
 5+10       0.0966      0.37  Q         |         |         |         |
 5+15       0.0987      0.31  Q         |         |         |         |
 5+20       0.1008      0.30  Q         |         |         |         |
 5+25       0.1030      0.32  Q         |         |         |         |
 5+30       0.1053      0.33  Q         |         |         |         |
 5+35       0.1082      0.42  Q         |         |         |         |
 5+40       0.1128      0.67  VQ        |         |         |         |
 5+45       0.1179      0.75  VQ        |         |         |         |
 5+50       0.1233      0.78  VQ        |         |         |         |
 5+55       0.1288      0.80  VQ        |         |         |         |
 6+ 0       0.1344      0.82  VQ        |         |         |         |
 6+ 5       0.1408      0.93  VQ        |         |         |         |
 6+10       0.1491      1.21  V Q       |         |         |         |
 6+15       0.1580      1.29  |VQ       |         |         |         |
 6+20       0.1672      1.33  |VQ       |         |         |         |
 6+25       0.1765      1.35  |VQ       |         |         |         |
 6+30       0.1859      1.36  |VQ       |         |         |         |
 6+35       0.1960      1.48  |VQ       |         |         |         |
 6+40       0.2081      1.75  |V Q      |         |         |         |
 6+45       0.2208      1.84  |V Q      |         |         |         |
 6+50       0.2337      1.88  |V Q      |         |         |         |
 6+55       0.2467      1.89  |V Q      |         |         |         |
 7+ 0       0.2599      1.91  |V Q      |         |         |         |
 7+ 5       0.2731      1.92  |V Q      |         |         |         |
 7+10       0.2865      1.94  |V Q      |         |         |         |
 7+15       0.2999      1.95  |V Q      |         |         |         |
 7+20       0.3141      2.06  | V Q     |         |         |         |
 7+25       0.3301      2.34  | V Q     |         |         |         |
 7+30       0.3468      2.42  | V Q     |         |         |         |
 7+35       0.3644      2.56  | V  Q    |         |         |         |
 7+40       0.3840      2.84  | V  Q    |         |         |         |
 7+45       0.4042      2.93  | V  Q    |         |         |         |
 7+50       0.4253      3.06  | V   Q   |         |         |         |
 7+55       0.4483      3.35  | V   Q   |         |         |         |
 8+ 0       0.4720      3.44  |  V  Q   |         |         |         |
 8+ 5       0.4973      3.67  |  V   Q  |         |         |         |
 8+10       0.5263      4.22  |  V    Q |         |         |         |
 8+15       0.5565      4.38  |  V    Q |         |         |         |
 8+20       0.5870      4.44  |  V    Q |         |         |         |
 8+25       0.6178      4.46  |   V   Q |         |         |         |
 8+30       0.6486      4.48  |   V   Q |         |         |         |
 8+35       0.6803      4.59  |   V    Q|         |         |         |
 8+40       0.7138      4.87  |   V    Q|         |         |         |
 8+45       0.7479      4.95  |   V    Q|         |         |         |
 8+50       0.7830      5.09  |    V    Q         |         |         |
 8+55       0.8200      5.37  |    V    Q         |         |         |
 9+ 0       0.8576      5.46  |    V    Q         |         |         |
 9+ 5       0.8968      5.69  |    V    |Q        |         |         |
 9+10       0.9397      6.24  |     V   | Q       |         |         |
 9+15       0.9838      6.40  |     V   | Q       |         |         |
 9+20       1.0290      6.56  |     V   |  Q      |         |         |
 9+25       1.0762      6.85  |      V  |  Q      |         |         |
 9+30       1.1240      6.94  |      V  |  Q      |         |         |
 9+35       1.1727      7.07  |      V  |   Q     |         |         |
 9+40       1.2233      7.36  |       V |   Q     |         |         |
 9+45       1.2746      7.44  |       V |   Q     |         |         |
 9+50       1.3268      7.58  |       V |    Q    |         |         |
 9+55       1.3809      7.86  |        V|    Q    |         |         |
10+ 0       1.4357      7.95  |        V|    Q    |         |         |
10+ 5       1.4859      7.29  |        V|   Q     |         |         |
10+10       1.5235      5.46  |         Q         |         |         |
10+15       1.5577      4.96  |        QV         |         |         |
10+20       1.5908      4.81  |        QV         |         |         |
10+25       1.6237      4.78  |        QV         |         |         |
10+30       1.6565      4.76  |        QV         |         |         |
10+35       1.6927      5.27  |         QV        |         |         |
10+40       1.7382      6.60  |         |V Q      |         |         |
10+45       1.7862      6.97  |         |V Q      |         |         |
10+50       1.8351      7.11  |         | V Q     |         |         |
10+55       1.8844      7.15  |         | V Q     |         |         |
11+ 0       1.9338      7.18  |         | V Q     |         |         |
11+ 5       1.9826      7.09  |         |  VQ     |         |         |
11+10       2.0297      6.84  |         |  Q      |         |         |
11+15       2.0763      6.77  |         |  Q      |         |         |
11+20       2.1229      6.76  |         |  Q      |         |         |
11+25       2.1695      6.76  |         |  QV     |         |         |
11+30       2.2161      6.77  |         |  QV     |         |         |
```

| | | | |
|---|---|---|---|
| 11+35 | 2.2614 | 6.58 |  |
| 11+40 | 2.3032 | 6.07 | |
| 11+45 | 2.3441 | 5.93 | |
| 11+50 | 2.3853 | 5.99 | |
| 11+55 | 2.4284 | 6.25 | |
| 12+ 0 | 2.4720 | 6.33 | |
| 12+ 5 | 2.5206 | 7.06 | |
| 12+10 | 2.5821 | 8.92 | |
| 12+15 | 2.6471 | 9.45 | |
| 12+20 | 2.7141 | 9.73 | |
| 12+25 | 2.7833 | 10.04 | |
| 12+30 | 2.8532 | 10.15 | |
| 12+35 | 2.9247 | 10.38 | |
| 12+40 | 3.0000 | 10.93 | |
| 12+45 | 3.0764 | 11.09 | |
| 12+50 | 3.1538 | 11.25 | |
| 12+55 | 3.2332 | 11.53 | |
| 13+ 0 | 3.3133 | 11.62 | |
| 13+ 5 | 3.3970 | 12.15 | |
| 13+10 | 3.4898 | 13.49 | |
| 13+15 | 3.5853 | 13.87 | |
| 13+20 | 3.6817 | 14.00 | |
| 13+25 | 3.7784 | 14.04 | |
| 13+30 | 3.8753 | 14.06 | |
| 13+35 | 3.9647 | 12.98 | |
| 13+40 | 4.0342 | 10.10 | |
| 13+45 | 4.0983 | 9.30 | |
| 13+50 | 4.1605 | 9.04 | |
| 13+55 | 4.2224 | 8.98 | |
| 14+ 0 | 4.2841 | 8.95 | |
| 14+ 5 | 4.3485 | 9.36 | |
| 14+10 | 4.4203 | 10.42 | |
| 14+15 | 4.4942 | 10.73 | |
| 14+20 | 4.5681 | 10.73 | |
| 14+25 | 4.6404 | 10.50 | |
| 14+30 | 4.7124 | 10.45 | |
| 14+35 | 4.7843 | 10.44 | |
| 14+40 | 4.8562 | 10.44 | |
| 14+45 | 4.9282 | 10.45 | |
| 14+50 | 4.9995 | 10.36 | |
| 14+55 | 5.0691 | 10.10 | |
| 15+ 0 | 5.1382 | 10.04 | |
| 15+ 5 | 5.2066 | 9.92 | |
| 15+10 | 5.2731 | 9.66 | |
| 15+15 | 5.3392 | 9.59 | |
| 15+20 | 5.4045 | 9.48 | |
| 15+25 | 5.4680 | 9.22 | |
| 15+30 | 5.5310 | 9.15 | |
| 15+35 | 5.5912 | 8.74 | |
| 15+40 | 5.6442 | 7.69 | |
| 15+45 | 5.6951 | 7.40 | |
| 15+50 | 5.7455 | 7.31 | |
| 15+55 | 5.7957 | 7.30 | |
| 16+ 0 | 5.8459 | 7.29 | |
| 16+ 5 | 5.8859 | 5.81 | |
| 16+10 | 5.8988 | 1.87 | |
| 16+15 | 5.9041 | 0.77 | |
| 16+20 | 5.9070 | 0.42 | |
| 16+25 | 5.9093 | 0.34 | |
| 16+30 | 5.9113 | 0.29 | |
| 16+35 | 5.9131 | 0.26 | |
| 16+40 | 5.9144 | 0.18 | |
| 16+45 | 5.9154 | 0.15 | |
| 16+50 | 5.9164 | 0.14 | |
| 16+55 | 5.9174 | 0.14 | |
| 17+ 0 | 5.9183 | 0.14 | |
| 17+ 5 | 5.9203 | 0.29 | |
| 17+10 | 5.9249 | 0.67 | |
| 17+15 | 5.9303 | 0.78 | |
| 17+20 | 5.9360 | 0.83 | |
| 17+25 | 5.9418 | 0.84 | |
| 17+30 | 5.9477 | 0.85 | |
| 17+35 | 5.9536 | 0.86 | |
| 17+40 | 5.9596 | 0.87 | |
| 17+45 | 5.9657 | 0.88 | |
| 17+50 | 5.9711 | 0.79 | |
| 17+55 | 5.9747 | 0.53 | |
| 18+ 0 | 5.9779 | 0.46 | |
| 18+ 5 | 5.9810 | 0.45 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 18+10 | 5.9840 | 0.45 | Q | \| | \| | \| | V\| |
| 18+15 | 5.9871 | 0.45 | Q | \| | \| | \| | V\| |
| 18+20 | 5.9903 | 0.46 | Q | \| | \| | \| | V\| |
| 18+25 | 5.9935 | 0.46 | Q | \| | \| | \| | V\| |
| 18+30 | 5.9967 | 0.47 | Q | \| | \| | \| | V\| |
| 18+35 | 5.9995 | 0.41 | Q | \| | \| | \| | V\| |
| 18+40 | 6.0010 | 0.22 | Q | \| | \| | \| | V\| |
| 18+45 | 6.0021 | 0.17 | Q | \| | \| | \| | V\| |
| 18+50 | 6.0031 | 0.14 | Q | \| | \| | \| | V\| |
| 18+55 | 6.0038 | 0.11 | Q | \| | \| | \| | V\| |
| 19+ 0 | 6.0045 | 0.10 | Q | \| | \| | \| | V\| |
| 19+ 5 | 6.0052 | 0.10 | Q | \| | \| | \| | V\| |
| 19+10 | 6.0061 | 0.13 | Q | \| | \| | \| | V\| |
| 19+15 | 6.0071 | 0.14 | Q | \| | \| | \| | V\| |
| 19+20 | 6.0086 | 0.22 | Q | \| | \| | \| | V\| |
| 19+25 | 6.0117 | 0.45 | Q | \| | \| | \| | V\| |
| 19+30 | 6.0153 | 0.52 | \|Q | \| | \| | \| | V\| |
| 19+35 | 6.0185 | 0.46 | Q | \| | \| | \| | V\| |
| 19+40 | 6.0201 | 0.23 | Q | \| | \| | \| | V\| |
| 19+45 | 6.0213 | 0.17 | Q | \| | \| | \| | V\| |
| 19+50 | 6.0222 | 0.14 | Q | \| | \| | \| | V\| |
| 19+55 | 6.0230 | 0.11 | Q | \| | \| | \| | V\| |
| 20+ 0 | 6.0236 | 0.10 | Q | \| | \| | \| | V\| |
| 20+ 5 | 6.0244 | 0.10 | Q | \| | \| | \| | V\| |
| 20+10 | 6.0253 | 0.13 | Q | \| | \| | \| | V\| |
| 20+15 | 6.0262 | 0.14 | Q | \| | \| | \| | V\| |
| 20+20 | 6.0272 | 0.14 | Q | \| | \| | \| | V\| |
| 20+25 | 6.0282 | 0.14 | Q | \| | \| | \| | V\| |
| 20+30 | 6.0292 | 0.15 | Q | \| | \| | \| | V\| |
| 20+35 | 6.0303 | 0.15 | Q | \| | \| | \| | V\| |
| 20+40 | 6.0314 | 0.16 | Q | \| | \| | \| | V\| |
| 20+45 | 6.0325 | 0.16 | Q | \| | \| | \| | V\| |
| 20+50 | 6.0335 | 0.15 | Q | \| | \| | \| | V\| |
| 20+55 | 6.0343 | 0.11 | Q | \| | \| | \| | V\| |
| 21+ 0 | 6.0350 | 0.10 | Q | \| | \| | \| | V\| |
| 21+ 5 | 6.0358 | 0.12 | Q | \| | \| | \| | V\| |
| 21+10 | 6.0370 | 0.17 | Q | \| | \| | \| | V\| |
| 21+15 | 6.0382 | 0.19 | Q | \| | \| | \| | V\| |
| 21+20 | 6.0394 | 0.17 | Q | \| | \| | \| | V\| |
| 21+25 | 6.0403 | 0.12 | Q | \| | \| | \| | V\| |
| 21+30 | 6.0410 | 0.10 | Q | \| | \| | \| | V\| |
| 21+35 | 6.0418 | 0.12 | Q | \| | \| | \| | V\| |
| 21+40 | 6.0431 | 0.19 | Q | \| | \| | \| | V\| |
| 21+45 | 6.0446 | 0.21 | Q | \| | \| | \| | V\| |
| 21+50 | 6.0459 | 0.19 | Q | \| | \| | \| | V\| |
| 21+55 | 6.0468 | 0.12 | Q | \| | \| | \| | V\| |
| 22+ 0 | 6.0475 | 0.10 | Q | \| | \| | \| | V\| |
| 22+ 5 | 6.0484 | 0.13 | Q | \| | \| | \| | V\| |
| 22+10 | 6.0498 | 0.21 | Q | \| | \| | \| | V\| |
| 22+15 | 6.0514 | 0.24 | Q | \| | \| | \| | V\| |
| 22+20 | 6.0529 | 0.21 | Q | \| | \| | \| | V\| |
| 22+25 | 6.0538 | 0.13 | Q | \| | \| | \| | V\| |
| 22+30 | 6.0545 | 0.11 | Q | \| | \| | \| | V\| |
| 22+35 | 6.0552 | 0.10 | Q | \| | \| | \| | V\| |
| 22+40 | 6.0558 | 0.10 | Q | \| | \| | \| | V\| |
| 22+45 | 6.0565 | 0.09 | Q | \| | \| | \| | V\| |
| 22+50 | 6.0571 | 0.09 | Q | \| | \| | \| | V\| |
| 22+55 | 6.0578 | 0.09 | Q | \| | \| | \| | V\| |
| 23+ 0 | 6.0584 | 0.09 | Q | \| | \| | \| | V\| |
| 23+ 5 | 6.0591 | 0.09 | Q | \| | \| | \| | V\| |
| 23+10 | 6.0597 | 0.09 | Q | \| | \| | \| | V\| |
| 23+15 | 6.0604 | 0.09 | Q | \| | \| | \| | V\| |
| 23+20 | 6.0610 | 0.09 | Q | \| | \| | \| | V\| |
| 23+25 | 6.0616 | 0.09 | Q | \| | \| | \| | V\| |
| 23+30 | 6.0623 | 0.09 | Q | \| | \| | \| | V\| |
| 23+35 | 6.0629 | 0.09 | Q | \| | \| | \| | V\| |
| 23+40 | 6.0636 | 0.09 | Q | \| | \| | \| | V\| |
| 23+45 | 6.0642 | 0.09 | Q | \| | \| | \| | V\| |
| 23+50 | 6.0649 | 0.09 | Q | \| | \| | \| | V\| |
| 23+55 | 6.0655 | 0.09 | Q | \| | \| | \| | V\| |
| 24+ 0 | 6.0662 | 0.09 | Q | \| | \| | \| | V\| |
| 24+ 5 | 6.0667 | 0.07 | Q | \| | \| | \| | V\| |
| 24+10 | 6.0668 | 0.02 | Q | \| | \| | \| | V\| |
| 24+15 | 6.0669 | 0.01 | Q | \| | \| | \| | V\| |
| 24+20 | 6.0669 | 0.00 | Q | \| | \| | \| | V\| |
| 24+25 | 6.0669 | 0.00 | Q | \| | \| | \| | V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 04/23/18 File: EX32A1100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 32.1
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 40.00(Ac.) = 0.063 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 40.00(Ac.) = 0.063 Sq. Mi.
Length along longest watercourse = 3673.00(Ft.)
Length along longest watercourse measured to centroid = 2072.00(Ft.)
Length along longest watercourse = 0.696 Mi.
Length along longest watercourse measured to centroid = 0.392 Mi.
Difference in elevation = 296.00(Ft.)
Slope along watercourse = 425.5050 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.162 Hr.
Lag time = 9.74 Min.
25% of lag time = 2.44 Min.
40% of lag time = 3.90 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 40.00 | 0.50 | 20.00 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 40.00 | 1.20 | 48.00 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.96 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 40.000 | 88.70 | 0.040 |

Total Area Entered = 40.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 88.7 | 95.5 | 0.059 | 0.040 | 0.057 | 1.000 | 0.057 |
| | | | | | Sum (F) = | 0.057 |

Area averaged mean soil loss (F) (In/Hr) = 0.057

Minimum soil loss rate ((In/Hr)) = 0.028
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.868

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

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| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 51.321 | 4.441 | 1.790 |
| 2 | 0.167 | 102.642 | 21.831 | 8.801 |
| 3 | 0.250 | 153.964 | 37.883 | 15.272 |
| 4 | 0.333 | 205.285 | 14.260 | 5.749 |
| 5 | 0.417 | 256.606 | 8.197 | 3.304 |
| 6 | 0.500 | 307.927 | 5.306 | 2.139 |
| 7 | 0.583 | 359.249 | 3.441 | 1.387 |
| 8 | 0.667 | 410.570 | 2.071 | 0.835 |
| 9 | 0.750 | 461.891 | 0.901 | 0.363 |
| 10 | 0.833 | 513.212 | 0.537 | 0.216 |
| 11 | 0.917 | 564.534 | 0.369 | 0.149 |
| 12 | 1.000 | 615.855 | 0.374 | 0.151 |
| 13 | 1.083 | 667.176 | 0.249 | 0.100 |
| 14 | 1.167 | 718.497 | 0.140 | 0.056 |
| | | Sum = 100.000 | Sum= | 40.313 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.057 | ( 0.525) | 0.548 |
| 2 | 0.17 | 4.30 | 0.619 | 0.057 | ( 0.537) | 0.562 |
| 3 | 0.25 | 5.00 | 0.720 | 0.057 | ( 0.625) | 0.663 |
| 4 | 0.33 | 5.00 | 0.720 | 0.057 | ( 0.625) | 0.663 |
| 5 | 0.42 | 5.80 | 0.835 | 0.057 | ( 0.725) | 0.778 |
| 6 | 0.50 | 6.50 | 0.936 | 0.057 | ( 0.812) | 0.879 |
| 7 | 0.58 | 7.40 | 1.065 | 0.057 | ( 0.925) | 1.009 |
| 8 | 0.67 | 8.60 | 1.238 | 0.057 | ( 1.075) | 1.181 |
| 9 | 0.75 | 12.30 | 1.771 | 0.057 | ( 1.537) | 1.714 |
| 10 | 0.83 | 29.10 | 4.189 | 0.057 | ( 3.636) | 4.132 |
| 11 | 0.92 | 6.80 | 0.979 | 0.057 | ( 0.850) | 0.922 |
| 12 | 1.00 | 5.00 | 0.720 | 0.057 | ( 0.625) | 0.663 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 13.7 |

Flood volume = Effective rainfall 1.14(In)
times area 40.0(Ac.)/[(In)/(Ft.)] = 3.8(Ac.Ft)
Total soil loss = 0.06(In)
Total soil loss = 0.189(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 165952.0 Cubic Feet
Total soil loss = 8224.8 Cubic Feet

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Peak flow rate of this hydrograph = 90.789(CFS)

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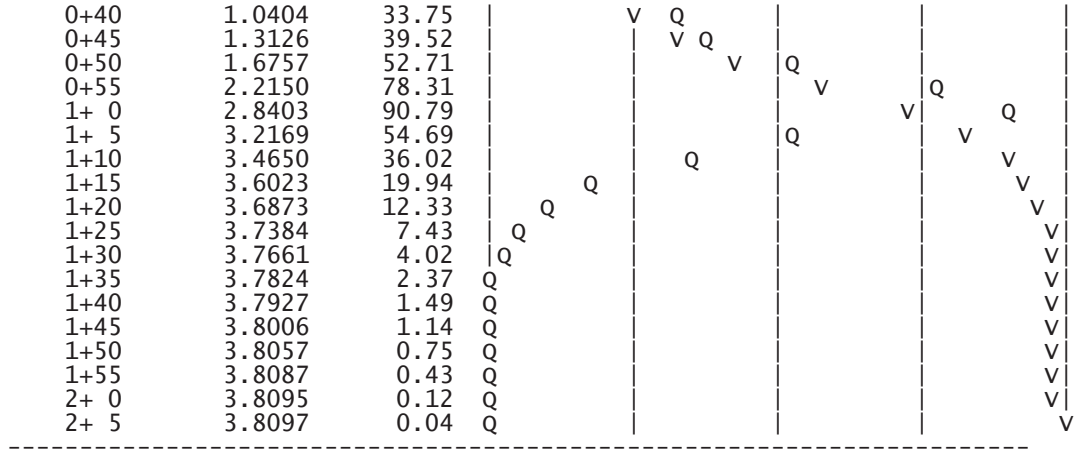
1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 25.0 | 50.0 | 75.0 | 100.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0068 | 0.98 | Q | | | | |
| 0+10 | 0.0469 | 5.83 | V Q | | | | |
| 0+15 | 0.1469 | 14.51 | \|V Q | | | | |
| 0+20 | 0.2761 | 18.77 | \| V Q | | | | |
| 0+25 | 0.4305 | 22.41 | \| V Q | | | | |
| 0+30 | 0.6054 | 25.40 | \| V Q | | | | |
| 0+35 | 0.8080 | 29.41 | \| V \|Q | | | | |


0+40 1.0404 33.75
0+45 1.3126 39.52
0+50 1.6757 52.71
0+55 2.2150 78.31
1+ 0 2.8403 90.79
1+ 5 3.2169 54.69
1+10 3.4650 36.02
1+15 3.6023 19.94
1+20 3.6873 12.33
1+25 3.7384 7.43
1+30 3.7661 4.02
1+35 3.7824 2.37
1+40 3.7927 1.49
1+45 3.8006 1.14
1+50 3.8057 0.75
1+55 3.8087 0.43
2+ 0 3.8095 0.12
2+ 5 3.8097 0.04

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 04/23/18 File: EX32A3100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

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Drainage Area for Depth-Area Areal Adjustment = 40.00(Ac.) = 0.063 Sq. Mi.
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Length along longest watercourse measured to centroid = 2072.00(Ft.)
Length along longest watercourse = 0.696 Mi.
Length along longest watercourse measured to centroid = 0.392 Mi.
Difference in elevation = 296.00(Ft.)
Slope along watercourse = 425.5050 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.162 Hr.
Lag time = 9.74 Min.
25% of lag time = 2.44 Min.
40% of lag time = 3.90 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 40.00 | 0.80 | 32.00 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 40.00 | 1.81 | 72.40 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.810(In)

Point rain (area averaged) = 1.810(In)
Areal adjustment factor = 99.98 %
Adjusted average point rain = 1.810(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 40.000 | 88.70 | 0.040 |

Total Area Entered = 40.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 88.7 | 95.5 | 0.059 | 0.040 | 0.057 | 1.000 | 0.057 |
| | | | | | Sum (F) = | 0.057 |

Area averaged mean soil loss (F) (In/Hr) = 0.057

Minimum soil loss rate ((In/Hr)) = 0.028
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.868

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 51.321 | 4.441 | 1.790 |
| 2 0.167 | 102.642 | 21.831 | 8.801 |
| 3 0.250 | 153.964 | 37.883 | 15.272 |
| 4 0.333 | 205.285 | 14.260 | 5.749 |
| 5 0.417 | 256.606 | 8.197 | 3.304 |
| 6 0.500 | 307.927 | 5.306 | 2.139 |
| 7 0.583 | 359.249 | 3.441 | 1.387 |
| 8 0.667 | 410.570 | 2.071 | 0.835 |
| 9 0.750 | 461.891 | 0.901 | 0.363 |
| 10 0.833 | 513.212 | 0.537 | 0.216 |
| 11 0.917 | 564.534 | 0.369 | 0.149 |
| 12 1.000 | 615.855 | 0.374 | 0.151 |
| 13 1.083 | 667.176 | 0.249 | 0.100 |
| 14 1.167 | 718.497 | 0.140 | 0.056 |
| | | Sum = 100.000 | Sum= 40.313 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 1.30 | 0.282 | 0.057 | ( 0.245) | 0.226 |
| 2 0.17 | 1.30 | 0.282 | 0.057 | ( 0.245) | 0.226 |
| 3 0.25 | 1.10 | 0.239 | 0.057 | ( 0.207) | 0.182 |
| 4 0.33 | 1.50 | 0.326 | 0.057 | ( 0.283) | 0.269 |
| 5 0.42 | 1.50 | 0.326 | 0.057 | ( 0.283) | 0.269 |
| 6 0.50 | 1.80 | 0.391 | 0.057 | ( 0.339) | 0.334 |
| 7 0.58 | 1.50 | 0.326 | 0.057 | ( 0.283) | 0.269 |
| 8 0.67 | 1.80 | 0.391 | 0.057 | ( 0.339) | 0.334 |
| 9 0.75 | 1.80 | 0.391 | 0.057 | ( 0.339) | 0.334 |
| 10 0.83 | 1.50 | 0.326 | 0.057 | ( 0.283) | 0.269 |
| 11 0.92 | 1.60 | 0.347 | 0.057 | ( 0.302) | 0.291 |
| 12 1.00 | 1.80 | 0.391 | 0.057 | ( 0.339) | 0.334 |
| 13 1.08 | 2.20 | 0.478 | 0.057 | ( 0.415) | 0.421 |
| 14 1.17 | 2.20 | 0.478 | 0.057 | ( 0.415) | 0.421 |
| 15 1.25 | 2.20 | 0.478 | 0.057 | ( 0.415) | 0.421 |
| 16 1.33 | 2.00 | 0.434 | 0.057 | ( 0.377) | 0.378 |
| 17 1.42 | 2.60 | 0.565 | 0.057 | ( 0.490) | 0.508 |
| 18 1.50 | 2.70 | 0.586 | 0.057 | ( 0.509) | 0.530 |
| 19 1.58 | 2.40 | 0.521 | 0.057 | ( 0.452) | 0.465 |
| 20 1.67 | 2.70 | 0.586 | 0.057 | ( 0.509) | 0.530 |
| 21 1.75 | 3.30 | 0.717 | 0.057 | ( 0.622) | 0.660 |
| 22 1.83 | 3.10 | 0.673 | 0.057 | ( 0.584) | 0.617 |
| 23 1.92 | 2.90 | 0.630 | 0.057 | ( 0.547) | 0.573 |
| 24 2.00 | 3.00 | 0.651 | 0.057 | ( 0.565) | 0.595 |
| 25 2.08 | 3.10 | 0.673 | 0.057 | ( 0.584) | 0.617 |
| 26 2.17 | 4.20 | 0.912 | 0.057 | ( 0.792) | 0.855 |
| 27 2.25 | 5.00 | 1.086 | 0.057 | ( 0.942) | 1.029 |
| 28 2.33 | 3.50 | 0.760 | 0.057 | ( 0.660) | 0.703 |
| 29 2.42 | 6.80 | 1.477 | 0.057 | ( 1.282) | 1.420 |
| 30 2.50 | 7.30 | 1.585 | 0.057 | ( 1.376) | 1.529 |
| 31 2.58 | 8.20 | 1.781 | 0.057 | ( 1.546) | 1.724 |
| 32 2.67 | 5.90 | 1.281 | 0.057 | ( 1.112) | 1.225 |
| 33 2.75 | 2.00 | 0.434 | 0.057 | ( 0.377) | 0.378 |
| 34 2.83 | 1.80 | 0.391 | 0.057 | ( 0.339) | 0.334 |
| 35 2.92 | 1.80 | 0.391 | 0.057 | ( 0.339) | 0.334 |
| 36 3.00 | 0.60 | 0.130 | 0.057 | ( 0.113) | 0.074 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 19.7 |

Flood volume = Effective rainfall 1.64(In)
times area 40.0(Ac.)/[(In)/(Ft.)] = 5.5(Ac.Ft)
Total soil loss = 0.17(In)
Total soil loss = 0.566(Ac.Ft)

Total rainfall = 1.81(In)
Flood volume = 238091.6 Cubic Feet
Total soil loss = 24674.4 Cubic Feet

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Peak flow rate of this hydrograph = 55.741(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 15.0 30.0 45.0 60.0 |
|---|---|---|---|
| 0+ 5 | 0.0028 | 0.40 | Q |
| 0+10 | 0.0193 | 2.39 | VQ |
| 0+15 | 0.0589 | 5.76 | V Q |
| 0+20 | 0.1060 | 6.83 | V Q |
| 0+25 | 0.1589 | 7.68 | \|V Q |
| 0+30 | 0.2233 | 9.36 | \|V Q |
| 0+35 | 0.2955 | 10.48 | \| V Q |
| 0+40 | 0.3741 | 11.40 | \| V Q |
| 0+45 | 0.4537 | 11.57 | \| V Q |
| 0+50 | 0.5392 | 12.42 | \| V Q |
| 0+55 | 0.6238 | 12.27 | \| V Q |
| 1+ 0 | 0.7048 | 11.77 | \| V Q |
| 1+ 5 | 0.7902 | 12.40 | \| V Q |
| 1+10 | 0.8854 | 13.82 | \| V Q\| |
| 1+15 | 0.9913 | 15.38 | \| V Q |
| 1+20 | 1.1010 | 15.93 | \| V Q |
| 1+25 | 1.2123 | 15.84 | \| V Q |
| 1+30 | 1.3288 | 16.92 | \| V\|Q |
| 1+35 | 1.4590 | 18.90 | \| V Q |
| 1+40 | 1.5930 | 19.46 | \| \|VQ |
| 1+45 | 1.7292 | 19.78 | \| \| VQ |
| 1+50 | 1.8792 | 21.78 | \| \| VQ |
| 1+55 | 2.0423 | 23.68 | \| \| VQ |
| 2+ 0 | 2.2051 | 23.64 | \| \| QV |
| 2+ 5 | 2.3669 | 23.50 | \| \| Q V |
| 2+10 | 2.5351 | 24.41 | \| \| Q V \| |
| 2+15 | 2.7229 | 27.27 | \| \| QV\| |
| 2+20 | 2.9436 | 32.05 | \| \|Q |
| 2+25 | 3.1818 | 34.58 | \| \| Q |
| 2+30 | 3.4432 | 37.96 | \| \| Q |
| 2+35 | 3.7839 | 49.47 | \| \| V \| Q |
| 2+40 | 4.1678 | 55.74 | \| \| V Q |
| 2+45 | 4.5505 | 55.57 | \| \| \| V Q |
| 2+50 | 4.8480 | 43.20 | \| \| Q \| V |
| 2+55 | 5.0458 | 28.72 | \| \| Q\| \| V |
| 3+ 0 | 5.1986 | 22.19 | \| Q \| \| V |
| 3+ 5 | 5.3106 | 16.26 | \| Q \| \| V |
| 3+10 | 5.3750 | 9.34 | \| Q \| \| V\| |
| 3+15 | 5.4109 | 5.22 | \| Q \| \| V\| |
| 3+20 | 5.4325 | 3.13 | \| Q \| \| V\| |
| 3+25 | 5.4460 | 1.97 | \|Q \| \| V\| |
| 3+30 | 5.4547 | 1.26 | Q \| \| V\| |
| 3+35 | 5.4599 | 0.76 | Q \| \| V\| |
| 3+40 | 5.4628 | 0.43 | Q \| \| V\| |
| 3+45 | 5.4644 | 0.22 | Q \| \| V\| |
| 3+50 | 5.4652 | 0.12 | Q \| \| V\| |
| 3+55 | 5.4656 | 0.06 | Q \| \| V\| |
| 4+ 0 | 5.4658 | 0.03 | Q \| \| V\| |
| 4+ 5 | 5.4658 | 0.00 | Q \| \| V |

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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 04/23/18 File: EX32A6100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 32.1
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 40.00(Ac.) = 0.063 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 40.00(Ac.) = 0.063 Sq. Mi.
Length along longest watercourse = 3673.00(Ft.)
Length along longest watercourse measured to centroid = 2072.00(Ft.)
Length along longest watercourse = 0.696 Mi.
Length along longest watercourse measured to centroid = 0.392 Mi.
Difference in elevation = 296.00(Ft.)
Slope along watercourse = 425.5050 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.162 Hr.
Lag time = 9.74 Min.
25% of lag time = 2.44 Min.
40% of lag time = 3.90 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 40.00 | 1.14 | 45.60 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 40.00 | 2.50 | 100.00 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.140(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 40.000 | 88.70 | 0.040 |

Total Area Entered = 40.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 88.7 | 95.5 | 0.059 | 0.040 | 0.057 | 1.000 | 0.057 |
| | | | | | Sum (F) = | 0.057 |

Area averaged mean soil loss (F) (In/Hr) = 0.057

Minimum soil loss rate ((In/Hr)) = 0.028
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.868

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 51.321 | 4.441 | 1.790 |
| 2 0.167 | 102.642 | 21.831 | 8.801 |
| 3 0.250 | 153.964 | 37.883 | 15.272 |
| 4 0.333 | 205.285 | 14.260 | 5.749 |
| 5 0.417 | 256.606 | 8.197 | 3.304 |
| 6 0.500 | 307.927 | 5.306 | 2.139 |
| 7 0.583 | 359.249 | 3.441 | 1.387 |
| 8 0.667 | 410.570 | 2.071 | 0.835 |
| 9 0.750 | 461.891 | 0.901 | 0.363 |
| 10 0.833 | 513.212 | 0.537 | 0.216 |
| 11 0.917 | 564.534 | 0.369 | 0.149 |
| 12 1.000 | 615.855 | 0.374 | 0.151 |
| 13 1.083 | 667.176 | 0.249 | 0.100 |
| 14 1.167 | 718.497 | 0.140 | 0.056 |
| | Sum = 100.000 | Sum= | 40.313 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.057 | ( 0.130) | 0.093 |
| 2 | 0.17 | 0.60 | 0.180 | 0.057 | ( 0.156) | 0.123 |
| 3 | 0.25 | 0.60 | 0.180 | 0.057 | ( 0.156) | 0.123 |
| 4 | 0.33 | 0.60 | 0.180 | 0.057 | ( 0.156) | 0.123 |
| 5 | 0.42 | 0.60 | 0.180 | 0.057 | ( 0.156) | 0.123 |
| 6 | 0.50 | 0.70 | 0.210 | 0.057 | ( 0.182) | 0.153 |
| 7 | 0.58 | 0.70 | 0.210 | 0.057 | ( 0.182) | 0.153 |
| 8 | 0.67 | 0.70 | 0.210 | 0.057 | ( 0.182) | 0.153 |
| 9 | 0.75 | 0.70 | 0.210 | 0.057 | ( 0.182) | 0.153 |
| 10 | 0.83 | 0.70 | 0.210 | 0.057 | ( 0.182) | 0.153 |
| 11 | 0.92 | 0.70 | 0.210 | 0.057 | ( 0.182) | 0.153 |
| 12 | 1.00 | 0.80 | 0.240 | 0.057 | ( 0.208) | 0.183 |
| 13 | 1.08 | 0.80 | 0.240 | 0.057 | ( 0.208) | 0.183 |
| 14 | 1.17 | 0.80 | 0.240 | 0.057 | ( 0.208) | 0.183 |
| 15 | 1.25 | 0.80 | 0.240 | 0.057 | ( 0.208) | 0.183 |
| 16 | 1.33 | 0.80 | 0.240 | 0.057 | ( 0.208) | 0.183 |
| 17 | 1.42 | 0.80 | 0.240 | 0.057 | ( 0.208) | 0.183 |
| 18 | 1.50 | 0.80 | 0.240 | 0.057 | ( 0.208) | 0.183 |
| 19 | 1.58 | 0.80 | 0.240 | 0.057 | ( 0.208) | 0.183 |
| 20 | 1.67 | 0.80 | 0.240 | 0.057 | ( 0.208) | 0.183 |
| 21 | 1.75 | 0.80 | 0.240 | 0.057 | ( 0.208) | 0.183 |
| 22 | 1.83 | 0.80 | 0.240 | 0.057 | ( 0.208) | 0.183 |
| 23 | 1.92 | 0.80 | 0.240 | 0.057 | ( 0.208) | 0.183 |
| 24 | 2.00 | 0.90 | 0.270 | 0.057 | ( 0.234) | 0.213 |
| 25 | 2.08 | 0.80 | 0.240 | 0.057 | ( 0.208) | 0.183 |
| 26 | 2.17 | 0.90 | 0.270 | 0.057 | ( 0.234) | 0.213 |
| 27 | 2.25 | 0.90 | 0.270 | 0.057 | ( 0.234) | 0.213 |
| 28 | 2.33 | 0.90 | 0.270 | 0.057 | ( 0.234) | 0.213 |
| 29 | 2.42 | 0.90 | 0.270 | 0.057 | ( 0.234) | 0.213 |
| 30 | 2.50 | 0.90 | 0.270 | 0.057 | ( 0.234) | 0.213 |
| 31 | 2.58 | 0.90 | 0.270 | 0.057 | ( 0.234) | 0.213 |
| 32 | 2.67 | 0.90 | 0.270 | 0.057 | ( 0.234) | 0.213 |
| 33 | 2.75 | 1.00 | 0.300 | 0.057 | ( 0.260) | 0.243 |
| 34 | 2.83 | 1.00 | 0.300 | 0.057 | ( 0.260) | 0.243 |
| 35 | 2.92 | 1.00 | 0.300 | 0.057 | ( 0.260) | 0.243 |
| 36 | 3.00 | 1.00 | 0.300 | 0.057 | ( 0.260) | 0.243 |
| 37 | 3.08 | 1.00 | 0.300 | 0.057 | ( 0.260) | 0.243 |
| 38 | 3.17 | 1.10 | 0.330 | 0.057 | ( 0.286) | 0.273 |
| 39 | 3.25 | 1.10 | 0.330 | 0.057 | ( 0.286) | 0.273 |
| 40 | 3.33 | 1.10 | 0.330 | 0.057 | ( 0.286) | 0.273 |
| 41 | 3.42 | 1.20 | 0.360 | 0.057 | ( 0.312) | 0.303 |
| 42 | 3.50 | 1.30 | 0.390 | 0.057 | ( 0.338) | 0.333 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 43 | 3.58 | 1.40 | 0.420 | 0.057 | ( 0.365) | 0.363 |
| 44 | 3.67 | 1.40 | 0.420 | 0.057 | ( 0.365) | 0.363 |
| 45 | 3.75 | 1.50 | 0.450 | 0.057 | ( 0.391) | 0.393 |
| 46 | 3.83 | 1.50 | 0.450 | 0.057 | ( 0.391) | 0.393 |
| 47 | 3.92 | 1.60 | 0.480 | 0.057 | ( 0.417) | 0.423 |
| 48 | 4.00 | 1.60 | 0.480 | 0.057 | ( 0.417) | 0.423 |
| 49 | 4.08 | 1.70 | 0.510 | 0.057 | ( 0.443) | 0.453 |
| 50 | 4.17 | 1.80 | 0.540 | 0.057 | ( 0.469) | 0.483 |
| 51 | 4.25 | 1.90 | 0.570 | 0.057 | ( 0.495) | 0.513 |
| 52 | 4.33 | 2.00 | 0.600 | 0.057 | ( 0.521) | 0.543 |
| 53 | 4.42 | 2.10 | 0.630 | 0.057 | ( 0.547) | 0.573 |
| 54 | 4.50 | 2.10 | 0.630 | 0.057 | ( 0.547) | 0.573 |
| 55 | 4.58 | 2.20 | 0.660 | 0.057 | ( 0.573) | 0.603 |
| 56 | 4.67 | 2.30 | 0.690 | 0.057 | ( 0.599) | 0.633 |
| 57 | 4.75 | 2.40 | 0.720 | 0.057 | ( 0.625) | 0.663 |
| 58 | 4.83 | 2.40 | 0.720 | 0.057 | ( 0.625) | 0.663 |
| 59 | 4.92 | 2.50 | 0.750 | 0.057 | ( 0.651) | 0.693 |
| 60 | 5.00 | 2.60 | 0.780 | 0.057 | ( 0.677) | 0.723 |
| 61 | 5.08 | 3.10 | 0.930 | 0.057 | ( 0.807) | 0.873 |
| 62 | 5.17 | 3.60 | 1.080 | 0.057 | ( 0.937) | 1.023 |
| 63 | 5.25 | 3.90 | 1.170 | 0.057 | ( 1.015) | 1.113 |
| 64 | 5.33 | 4.20 | 1.260 | 0.057 | ( 1.094) | 1.203 |
| 65 | 5.42 | 4.70 | 1.410 | 0.057 | ( 1.224) | 1.353 |
| 66 | 5.50 | 5.60 | 1.680 | 0.057 | ( 1.458) | 1.623 |
| 67 | 5.58 | 1.90 | 0.570 | 0.057 | ( 0.495) | 0.513 |
| 68 | 5.67 | 0.90 | 0.270 | 0.057 | ( 0.234) | 0.213 |
| 69 | 5.75 | 0.60 | 0.180 | 0.057 | ( 0.156) | 0.123 |
| 70 | 5.83 | 0.50 | 0.150 | 0.057 | ( 0.130) | 0.093 |
| 71 | 5.92 | 0.30 | 0.090 | 0.057 | ( 0.078) | 0.033 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.057) | 0.052 | 0.008 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 25.9

Flood volume = Effective rainfall 2.16(In)
times area 40.0(Ac.)/[(In)/(Ft.)] = 7.2(Ac.Ft)
Total soil loss = 0.34(In)
Total soil loss = 1.132(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 313656.6 Cubic Feet
Total soil loss = 49293.5 Cubic Feet

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Peak flow rate of this hydrograph = 51.176(CFS)

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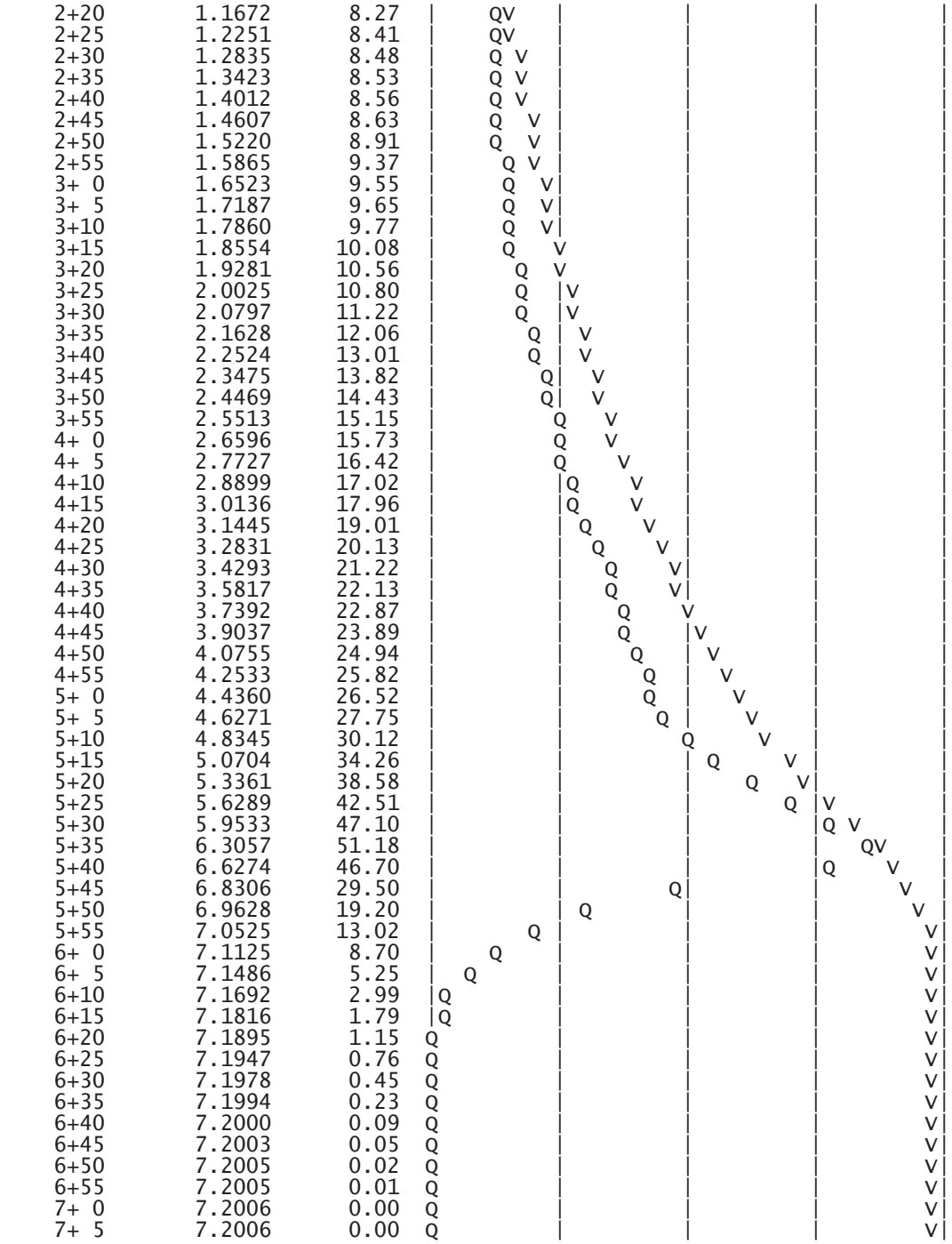
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 15.0 | 30.0 | 45.0 | 60.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0012 | 0.17 | Q | | | | |
| 0+10 | 0.0083 | 1.04 | Q | | | | |
| 0+15 | 0.0272 | 2.73 | VQ | | | | |
| 0+20 | 0.0528 | 3.73 | V Q | | | | |
| 0+25 | 0.0818 | 4.21 | V Q | | | | |
| 0+30 | 0.1132 | 4.56 | V Q | | | | |
| 0+35 | 0.1478 | 5.02 | V Q | | | | |
| 0+40 | 0.1864 | 5.60 | \|V Q | | | | |
| 0+45 | 0.2265 | 5.83 | \|V Q | | | | |
| 0+50 | 0.2675 | 5.96 | \|V Q | | | | |
| 0+55 | 0.3092 | 6.04 | \|V Q | | | | |
| 1+ 0 | 0.3516 | 6.16 | \|V Q | | | | |
| 1+ 5 | 0.3961 | 6.46 | \| V Q | | | | |
| 1+10 | 0.4439 | 6.94 | \| V Q | | | | |
| 1+15 | 0.4929 | 7.12 | \| V Q | | | | |
| 1+20 | 0.5426 | 7.22 | \| VQ | | | | |
| 1+25 | 0.5929 | 7.29 | \| VQ | | | | |
| 1+30 | 0.6434 | 7.34 | \| VQ | | | | |
| 1+35 | 0.6941 | 7.36 | \| VQ | | | | |
| 1+40 | 0.7449 | 7.37 | \| Q | | | | |
| 1+45 | 0.7957 | 7.38 | \| Q | | | | |
| 1+50 | 0.8466 | 7.38 | \| Q | | | | |
| 1+55 | 0.8975 | 7.39 | \| Q | | | | |
| 2+ 0 | 0.9487 | 7.45 | \| QV | | | | |
| 2+ 5 | 1.0015 | 7.66 | \| Q | | | | |
| 2+10 | 1.0559 | 7.91 | \| Q | | | | |
| 2+15 | 1.1102 | 7.88 | \| QV | | | | |



| | | | |
|---|---|---|---|
| 2+20 | 1.1672 | 8.27 | |
| 2+25 | 1.2251 | 8.41 | |
| 2+30 | 1.2835 | 8.48 | |
| 2+35 | 1.3423 | 8.53 | |
| 2+40 | 1.4012 | 8.56 | |
| 2+45 | 1.4607 | 8.63 | |
| 2+50 | 1.5220 | 8.91 | |
| 2+55 | 1.5865 | 9.37 | |
| 3+ 0 | 1.6523 | 9.55 | |
| 3+ 5 | 1.7187 | 9.65 | |
| 3+10 | 1.7860 | 9.77 | |
| 3+15 | 1.8554 | 10.08 | |
| 3+20 | 1.9281 | 10.56 | |
| 3+25 | 2.0025 | 10.80 | |
| 3+30 | 2.0797 | 11.22 | |
| 3+35 | 2.1628 | 12.06 | |
| 3+40 | 2.2524 | 13.01 | |
| 3+45 | 2.3475 | 13.82 | |
| 3+50 | 2.4469 | 14.43 | |
| 3+55 | 2.5513 | 15.15 | |
| 4+ 0 | 2.6596 | 15.73 | |
| 4+ 5 | 2.7727 | 16.42 | |
| 4+10 | 2.8899 | 17.02 | |
| 4+15 | 3.0136 | 17.96 | |
| 4+20 | 3.1445 | 19.01 | |
| 4+25 | 3.2831 | 20.13 | |
| 4+30 | 3.4293 | 21.22 | |
| 4+35 | 3.5817 | 22.13 | |
| 4+40 | 3.7392 | 22.87 | |
| 4+45 | 3.9037 | 23.89 | |
| 4+50 | 4.0755 | 24.94 | |
| 4+55 | 4.2533 | 25.82 | |
| 5+ 0 | 4.4360 | 26.52 | |
| 5+ 5 | 4.6271 | 27.75 | |
| 5+10 | 4.8345 | 30.12 | |
| 5+15 | 5.0704 | 34.26 | |
| 5+20 | 5.3361 | 38.58 | |
| 5+25 | 5.6289 | 42.51 | |
| 5+30 | 5.9533 | 47.10 | |
| 5+35 | 6.3057 | 51.18 | |
| 5+40 | 6.6274 | 46.70 | |
| 5+45 | 6.8306 | 29.50 | |
| 5+50 | 6.9628 | 19.20 | |
| 5+55 | 7.0525 | 13.02 | |
| 6+ 0 | 7.1125 | 8.70 | |
| 6+ 5 | 7.1486 | 5.25 | |
| 6+10 | 7.1692 | 2.99 | |
| 6+15 | 7.1816 | 1.79 | |
| 6+20 | 7.1895 | 1.15 | |
| 6+25 | 7.1947 | 0.76 | |
| 6+30 | 7.1978 | 0.45 | |
| 6+35 | 7.1994 | 0.23 | |
| 6+40 | 7.2000 | 0.09 | |
| 6+45 | 7.2003 | 0.05 | |
| 6+50 | 7.2005 | 0.02 | |
| 6+55 | 7.2005 | 0.01 | |
| 7+ 0 | 7.2006 | 0.00 | |
| 7+ 5 | 7.2006 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 04/23/18 File: EX32A24100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 32.1
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 40.00(Ac.) = 0.063 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 40.00(Ac.) = 0.063 Sq. Mi.
Length along longest watercourse = 3673.00(Ft.)
Length along longest watercourse measured to centroid = 2072.00(Ft.)
Length along longest watercourse = 0.696 Mi.
Length along longest watercourse measured to centroid = 0.392 Mi.
Difference in elevation = 296.00(Ft.)
Slope along watercourse = 425.5050 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.162 Hr.
Lag time = 9.74 Min.
25% of lag time = 2.44 Min.
40% of lag time = 3.90 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 40.00 | 1.80 | 72.00 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 40.00 | 4.66 | 186.40 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.660(In)

Point rain (area averaged) = 4.660(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 4.660(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 40.000 | 88.70 | 0.040 |

Total Area Entered = 40.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 88.7 | 95.5 | 0.059 | 0.040 | 0.057 | 1.000 | 0.057 |
| | | | | | Sum (F) = | 0.057 |

Area averaged mean soil loss (F) (In/Hr) = 0.057

Minimum soil loss rate ((In/Hr)) = 0.028
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.868

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 51.321 | 4.441 | 1.790 |
| 2 | 0.167 | 102.642 | 21.831 | 8.801 |
| 3 | 0.250 | 153.964 | 37.883 | 15.272 |
| 4 | 0.333 | 205.285 | 14.260 | 5.749 |
| 5 | 0.417 | 256.606 | 8.197 | 3.304 |
| 6 | 0.500 | 307.927 | 5.306 | 2.139 |
| 7 | 0.583 | 359.249 | 3.441 | 1.387 |
| 8 | 0.667 | 410.570 | 2.071 | 0.835 |
| 9 | 0.750 | 461.891 | 0.901 | 0.363 |
| 10 | 0.833 | 513.212 | 0.537 | 0.216 |
| 11 | 0.917 | 564.534 | 0.369 | 0.149 |
| 12 | 1.000 | 615.855 | 0.374 | 0.151 |
| 13 | 1.083 | 667.176 | 0.249 | 0.100 |
| 14 | 1.167 | 718.497 | 0.140 | 0.056 |
| | | Sum = 100.000 | Sum= | 40.313 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.037 | ( 0.100) | 0.032 | 0.005 |
| 2 | 0.17 | 0.07 | 0.037 | ( 0.100) | 0.032 | 0.005 |
| 3 | 0.25 | 0.07 | 0.037 | ( 0.100) | 0.032 | 0.005 |
| 4 | 0.33 | 0.10 | 0.056 | ( 0.099) | 0.049 | 0.007 |
| 5 | 0.42 | 0.10 | 0.056 | ( 0.099) | 0.049 | 0.007 |
| 6 | 0.50 | 0.10 | 0.056 | ( 0.098) | 0.049 | 0.007 |
| 7 | 0.58 | 0.10 | 0.056 | ( 0.098) | 0.049 | 0.007 |
| 8 | 0.67 | 0.10 | 0.056 | ( 0.098) | 0.049 | 0.007 |
| 9 | 0.75 | 0.10 | 0.056 | ( 0.097) | 0.049 | 0.007 |
| 10 | 0.83 | 0.13 | 0.075 | ( 0.097) | 0.065 | 0.010 |
| 11 | 0.92 | 0.13 | 0.075 | ( 0.097) | 0.065 | 0.010 |
| 12 | 1.00 | 0.13 | 0.075 | ( 0.096) | 0.065 | 0.010 |
| 13 | 1.08 | 0.10 | 0.056 | ( 0.096) | 0.049 | 0.007 |
| 14 | 1.17 | 0.10 | 0.056 | ( 0.095) | 0.049 | 0.007 |
| 15 | 1.25 | 0.10 | 0.056 | ( 0.095) | 0.049 | 0.007 |
| 16 | 1.33 | 0.10 | 0.056 | ( 0.095) | 0.049 | 0.007 |
| 17 | 1.42 | 0.10 | 0.056 | ( 0.094) | 0.049 | 0.007 |
| 18 | 1.50 | 0.10 | 0.056 | ( 0.094) | 0.049 | 0.007 |
| 19 | 1.58 | 0.10 | 0.056 | ( 0.094) | 0.049 | 0.007 |
| 20 | 1.67 | 0.10 | 0.056 | ( 0.093) | 0.049 | 0.007 |
| 21 | 1.75 | 0.10 | 0.056 | ( 0.093) | 0.049 | 0.007 |
| 22 | 1.83 | 0.13 | 0.075 | ( 0.092) | 0.065 | 0.010 |
| 23 | 1.92 | 0.13 | 0.075 | ( 0.092) | 0.065 | 0.010 |
| 24 | 2.00 | 0.13 | 0.075 | ( 0.092) | 0.065 | 0.010 |
| 25 | 2.08 | 0.13 | 0.075 | ( 0.091) | 0.065 | 0.010 |
| 26 | 2.17 | 0.13 | 0.075 | ( 0.091) | 0.065 | 0.010 |
| 27 | 2.25 | 0.13 | 0.075 | ( 0.091) | 0.065 | 0.010 |
| 28 | 2.33 | 0.13 | 0.075 | ( 0.090) | 0.065 | 0.010 |
| 29 | 2.42 | 0.13 | 0.075 | ( 0.090) | 0.065 | 0.010 |
| 30 | 2.50 | 0.13 | 0.075 | ( 0.089) | 0.065 | 0.010 |
| 31 | 2.58 | 0.17 | 0.093 | ( 0.089) | 0.081 | 0.012 |
| 32 | 2.67 | 0.17 | 0.093 | ( 0.089) | 0.081 | 0.012 |
| 33 | 2.75 | 0.17 | 0.093 | ( 0.088) | 0.081 | 0.012 |
| 34 | 2.83 | 0.17 | 0.093 | ( 0.088) | 0.081 | 0.012 |
| 35 | 2.92 | 0.17 | 0.093 | ( 0.088) | 0.081 | 0.012 |
| 36 | 3.00 | 0.17 | 0.093 | ( 0.087) | 0.081 | 0.012 |
| 37 | 3.08 | 0.17 | 0.093 | ( 0.087) | 0.081 | 0.012 |
| 38 | 3.17 | 0.17 | 0.093 | ( 0.087) | 0.081 | 0.012 |
| 39 | 3.25 | 0.17 | 0.093 | ( 0.086) | 0.081 | 0.012 |
| 40 | 3.33 | 0.17 | 0.093 | ( 0.086) | 0.081 | 0.012 |
| 41 | 3.42 | 0.17 | 0.093 | ( 0.085) | 0.081 | 0.012 |
| 42 | 3.50 | 0.17 | 0.093 | ( 0.085) | 0.081 | 0.012 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 43 | 3.58 | 0.17 | 0.093 | ( | 0.085) | 0.081 | | 0.012 |
| 44 | 3.67 | 0.17 | 0.093 | ( | 0.084) | 0.081 | | 0.012 |
| 45 | 3.75 | 0.17 | 0.093 | ( | 0.084) | 0.081 | | 0.012 |
| 46 | 3.83 | 0.20 | 0.112 | | 0.084 | ( 0.097) | | 0.028 |
| 47 | 3.92 | 0.20 | 0.112 | | 0.083 | ( 0.097) | | 0.028 |
| 48 | 4.00 | 0.20 | 0.112 | | 0.083 | ( 0.097) | | 0.029 |
| 49 | 4.08 | 0.20 | 0.112 | | 0.083 | ( 0.097) | | 0.029 |
| 50 | 4.17 | 0.20 | 0.112 | | 0.082 | ( 0.097) | | 0.030 |
| 51 | 4.25 | 0.20 | 0.112 | | 0.082 | ( 0.097) | | 0.030 |
| 52 | 4.33 | 0.23 | 0.130 | | 0.082 | ( 0.113) | | 0.049 |
| 53 | 4.42 | 0.23 | 0.130 | | 0.081 | ( 0.113) | | 0.049 |
| 54 | 4.50 | 0.23 | 0.130 | | 0.081 | ( 0.113) | | 0.050 |
| 55 | 4.58 | 0.23 | 0.130 | | 0.081 | ( 0.113) | | 0.050 |
| 56 | 4.67 | 0.23 | 0.130 | | 0.080 | ( 0.113) | | 0.050 |
| 57 | 4.75 | 0.23 | 0.130 | | 0.080 | ( 0.113) | | 0.051 |
| 58 | 4.83 | 0.27 | 0.149 | | 0.080 | ( 0.129) | | 0.070 |
| 59 | 4.92 | 0.27 | 0.149 | | 0.079 | ( 0.129) | | 0.070 |
| 60 | 5.00 | 0.27 | 0.149 | | 0.079 | ( 0.129) | | 0.070 |
| 61 | 5.08 | 0.20 | 0.112 | | 0.078 | ( 0.097) | | 0.033 |
| 62 | 5.17 | 0.20 | 0.112 | | 0.078 | ( 0.097) | | 0.034 |
| 63 | 5.25 | 0.20 | 0.112 | | 0.078 | ( 0.097) | | 0.034 |
| 64 | 5.33 | 0.23 | 0.130 | | 0.077 | ( 0.113) | | 0.053 |
| 65 | 5.42 | 0.23 | 0.130 | | 0.077 | ( 0.113) | | 0.053 |
| 66 | 5.50 | 0.23 | 0.130 | | 0.077 | ( 0.113) | | 0.054 |
| 67 | 5.58 | 0.27 | 0.149 | | 0.076 | ( 0.129) | | 0.073 |
| 68 | 5.67 | 0.27 | 0.149 | | 0.076 | ( 0.129) | | 0.073 |
| 69 | 5.75 | 0.27 | 0.149 | | 0.076 | ( 0.129) | | 0.073 |
| 70 | 5.83 | 0.27 | 0.149 | | 0.075 | ( 0.129) | | 0.074 |
| 71 | 5.92 | 0.27 | 0.149 | | 0.075 | ( 0.129) | | 0.074 |
| 72 | 6.00 | 0.27 | 0.149 | | 0.075 | ( 0.129) | | 0.074 |
| 73 | 6.08 | 0.30 | 0.168 | | 0.074 | ( 0.146) | | 0.093 |
| 74 | 6.17 | 0.30 | 0.168 | | 0.074 | ( 0.146) | | 0.094 |
| 75 | 6.25 | 0.30 | 0.168 | | 0.074 | ( 0.146) | | 0.094 |
| 76 | 6.33 | 0.30 | 0.168 | | 0.073 | ( 0.146) | | 0.094 |
| 77 | 6.42 | 0.30 | 0.168 | | 0.073 | ( 0.146) | | 0.095 |
| 78 | 6.50 | 0.30 | 0.168 | | 0.073 | ( 0.146) | | 0.095 |
| 79 | 6.58 | 0.33 | 0.186 | | 0.072 | ( 0.162) | | 0.114 |
| 80 | 6.67 | 0.33 | 0.186 | | 0.072 | ( 0.162) | | 0.114 |
| 81 | 6.75 | 0.33 | 0.186 | | 0.072 | ( 0.162) | | 0.115 |
| 82 | 6.83 | 0.33 | 0.186 | | 0.071 | ( 0.162) | | 0.115 |
| 83 | 6.92 | 0.33 | 0.186 | | 0.071 | ( 0.162) | | 0.115 |
| 84 | 7.00 | 0.33 | 0.186 | | 0.071 | ( 0.162) | | 0.116 |
| 85 | 7.08 | 0.33 | 0.186 | | 0.071 | ( 0.162) | | 0.116 |
| 86 | 7.17 | 0.33 | 0.186 | | 0.070 | ( 0.162) | | 0.116 |
| 87 | 7.25 | 0.33 | 0.186 | | 0.070 | ( 0.162) | | 0.117 |
| 88 | 7.33 | 0.37 | 0.205 | | 0.070 | ( 0.178) | | 0.135 |
| 89 | 7.42 | 0.37 | 0.205 | | 0.069 | ( 0.178) | | 0.136 |
| 90 | 7.50 | 0.37 | 0.205 | | 0.069 | ( 0.178) | | 0.136 |
| 91 | 7.58 | 0.40 | 0.224 | | 0.069 | ( 0.194) | | 0.155 |
| 92 | 7.67 | 0.40 | 0.224 | | 0.068 | ( 0.194) | | 0.155 |
| 93 | 7.75 | 0.40 | 0.224 | | 0.068 | ( 0.194) | | 0.156 |
| 94 | 7.83 | 0.43 | 0.242 | | 0.068 | ( 0.210) | | 0.175 |
| 95 | 7.92 | 0.43 | 0.242 | | 0.067 | ( 0.210) | | 0.175 |
| 96 | 8.00 | 0.43 | 0.242 | | 0.067 | ( 0.210) | | 0.175 |
| 97 | 8.08 | 0.50 | 0.280 | | 0.067 | ( 0.243) | | 0.213 |
| 98 | 8.17 | 0.50 | 0.280 | | 0.066 | ( 0.243) | | 0.213 |
| 99 | 8.25 | 0.50 | 0.280 | | 0.066 | ( 0.243) | | 0.213 |
| 100 | 8.33 | 0.50 | 0.280 | | 0.066 | ( 0.243) | | 0.214 |
| 101 | 8.42 | 0.50 | 0.280 | | 0.065 | ( 0.243) | | 0.214 |
| 102 | 8.50 | 0.50 | 0.280 | | 0.065 | ( 0.243) | | 0.214 |
| 103 | 8.58 | 0.53 | 0.298 | | 0.065 | ( 0.259) | | 0.233 |
| 104 | 8.67 | 0.53 | 0.298 | | 0.065 | ( 0.259) | | 0.234 |
| 105 | 8.75 | 0.53 | 0.298 | | 0.064 | ( 0.259) | | 0.234 |
| 106 | 8.83 | 0.57 | 0.317 | | 0.064 | ( 0.275) | | 0.253 |
| 107 | 8.92 | 0.57 | 0.317 | | 0.064 | ( 0.275) | | 0.253 |
| 108 | 9.00 | 0.57 | 0.317 | | 0.063 | ( 0.275) | | 0.253 |
| 109 | 9.08 | 0.63 | 0.354 | | 0.063 | ( 0.307) | | 0.291 |
| 110 | 9.17 | 0.63 | 0.354 | | 0.063 | ( 0.307) | | 0.291 |
| 111 | 9.25 | 0.63 | 0.354 | | 0.062 | ( 0.307) | | 0.292 |
| 112 | 9.33 | 0.67 | 0.373 | | 0.062 | ( 0.324) | | 0.311 |
| 113 | 9.42 | 0.67 | 0.373 | | 0.062 | ( 0.324) | | 0.311 |
| 114 | 9.50 | 0.67 | 0.373 | | 0.062 | ( 0.324) | | 0.311 |
| 115 | 9.58 | 0.70 | 0.391 | | 0.061 | ( 0.340) | | 0.330 |
| 116 | 9.67 | 0.70 | 0.391 | | 0.061 | ( 0.340) | | 0.330 |
| 117 | 9.75 | 0.70 | 0.391 | | 0.061 | ( 0.340) | | 0.331 |
| 118 | 9.83 | 0.73 | 0.410 | | 0.060 | ( 0.356) | | 0.350 |
| 119 | 9.92 | 0.73 | 0.410 | | 0.060 | ( 0.356) | | 0.350 |
| 120 | 10.00 | 0.73 | 0.410 | | 0.060 | ( 0.356) | | 0.350 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 121 | 10.08 | 0.50 | 0.280 | 0.060 | ( 0.243) | 0.220 |
| 122 | 10.17 | 0.50 | 0.280 | 0.059 | ( 0.243) | 0.220 |
| 123 | 10.25 | 0.50 | 0.280 | 0.059 | ( 0.243) | 0.221 |
| 124 | 10.33 | 0.50 | 0.280 | 0.059 | ( 0.243) | 0.221 |
| 125 | 10.42 | 0.50 | 0.280 | 0.058 | ( 0.243) | 0.221 |
| 126 | 10.50 | 0.50 | 0.280 | 0.058 | ( 0.243) | 0.221 |
| 127 | 10.58 | 0.67 | 0.373 | 0.058 | ( 0.324) | 0.315 |
| 128 | 10.67 | 0.67 | 0.373 | 0.058 | ( 0.324) | 0.315 |
| 129 | 10.75 | 0.67 | 0.373 | 0.057 | ( 0.324) | 0.316 |
| 130 | 10.83 | 0.67 | 0.373 | 0.057 | ( 0.324) | 0.316 |
| 131 | 10.92 | 0.67 | 0.373 | 0.057 | ( 0.324) | 0.316 |
| 132 | 11.00 | 0.67 | 0.373 | 0.056 | ( 0.324) | 0.316 |
| 133 | 11.08 | 0.63 | 0.354 | 0.056 | ( 0.307) | 0.298 |
| 134 | 11.17 | 0.63 | 0.354 | 0.056 | ( 0.307) | 0.298 |
| 135 | 11.25 | 0.63 | 0.354 | 0.056 | ( 0.307) | 0.299 |
| 136 | 11.33 | 0.63 | 0.354 | 0.055 | ( 0.307) | 0.299 |
| 137 | 11.42 | 0.63 | 0.354 | 0.055 | ( 0.307) | 0.299 |
| 138 | 11.50 | 0.63 | 0.354 | 0.055 | ( 0.307) | 0.299 |
| 139 | 11.58 | 0.57 | 0.317 | 0.054 | ( 0.275) | 0.262 |
| 140 | 11.67 | 0.57 | 0.317 | 0.054 | ( 0.275) | 0.263 |
| 141 | 11.75 | 0.57 | 0.317 | 0.054 | ( 0.275) | 0.263 |
| 142 | 11.83 | 0.60 | 0.335 | 0.054 | ( 0.291) | 0.282 |
| 143 | 11.92 | 0.60 | 0.335 | 0.053 | ( 0.291) | 0.282 |
| 144 | 12.00 | 0.60 | 0.335 | 0.053 | ( 0.291) | 0.282 |
| 145 | 12.08 | 0.83 | 0.466 | 0.053 | ( 0.404) | 0.413 |
| 146 | 12.17 | 0.83 | 0.466 | 0.053 | ( 0.404) | 0.413 |
| 147 | 12.25 | 0.83 | 0.466 | 0.052 | ( 0.404) | 0.414 |
| 148 | 12.33 | 0.87 | 0.485 | 0.052 | ( 0.421) | 0.433 |
| 149 | 12.42 | 0.87 | 0.485 | 0.052 | ( 0.421) | 0.433 |
| 150 | 12.50 | 0.87 | 0.485 | 0.052 | ( 0.421) | 0.433 |
| 151 | 12.58 | 0.93 | 0.522 | 0.051 | ( 0.453) | 0.471 |
| 152 | 12.67 | 0.93 | 0.522 | 0.051 | ( 0.453) | 0.471 |
| 153 | 12.75 | 0.93 | 0.522 | 0.051 | ( 0.453) | 0.471 |
| 154 | 12.83 | 0.97 | 0.541 | 0.051 | ( 0.469) | 0.490 |
| 155 | 12.92 | 0.97 | 0.541 | 0.050 | ( 0.469) | 0.490 |
| 156 | 13.00 | 0.97 | 0.541 | 0.050 | ( 0.469) | 0.490 |
| 157 | 13.08 | 1.13 | 0.634 | 0.050 | ( 0.550) | 0.584 |
| 158 | 13.17 | 1.13 | 0.634 | 0.050 | ( 0.550) | 0.584 |
| 159 | 13.25 | 1.13 | 0.634 | 0.049 | ( 0.550) | 0.584 |
| 160 | 13.33 | 1.13 | 0.634 | 0.049 | ( 0.550) | 0.585 |
| 161 | 13.42 | 1.13 | 0.634 | 0.049 | ( 0.550) | 0.585 |
| 162 | 13.50 | 1.13 | 0.634 | 0.049 | ( 0.550) | 0.585 |
| 163 | 13.58 | 0.77 | 0.429 | 0.048 | ( 0.372) | 0.380 |
| 164 | 13.67 | 0.77 | 0.429 | 0.048 | ( 0.372) | 0.381 |
| 165 | 13.75 | 0.77 | 0.429 | 0.048 | ( 0.372) | 0.381 |
| 166 | 13.83 | 0.77 | 0.429 | 0.048 | ( 0.372) | 0.381 |
| 167 | 13.92 | 0.77 | 0.429 | 0.047 | ( 0.372) | 0.381 |
| 168 | 14.00 | 0.77 | 0.429 | 0.047 | ( 0.372) | 0.382 |
| 169 | 14.08 | 0.90 | 0.503 | 0.047 | ( 0.437) | 0.456 |
| 170 | 14.17 | 0.90 | 0.503 | 0.047 | ( 0.437) | 0.457 |
| 171 | 14.25 | 0.90 | 0.503 | 0.046 | ( 0.437) | 0.457 |
| 172 | 14.33 | 0.87 | 0.485 | 0.046 | ( 0.421) | 0.439 |
| 173 | 14.42 | 0.87 | 0.485 | 0.046 | ( 0.421) | 0.439 |
| 174 | 14.50 | 0.87 | 0.485 | 0.046 | ( 0.421) | 0.439 |
| 175 | 14.58 | 0.87 | 0.485 | 0.045 | ( 0.421) | 0.439 |
| 176 | 14.67 | 0.87 | 0.485 | 0.045 | ( 0.421) | 0.439 |
| 177 | 14.75 | 0.87 | 0.485 | 0.045 | ( 0.421) | 0.440 |
| 178 | 14.83 | 0.83 | 0.466 | 0.045 | ( 0.404) | 0.421 |
| 179 | 14.92 | 0.83 | 0.466 | 0.044 | ( 0.404) | 0.421 |
| 180 | 15.00 | 0.83 | 0.466 | 0.044 | ( 0.404) | 0.422 |
| 181 | 15.08 | 0.80 | 0.447 | 0.044 | ( 0.388) | 0.403 |
| 182 | 15.17 | 0.80 | 0.447 | 0.044 | ( 0.388) | 0.404 |
| 183 | 15.25 | 0.80 | 0.447 | 0.044 | ( 0.388) | 0.404 |
| 184 | 15.33 | 0.77 | 0.429 | 0.043 | ( 0.372) | 0.385 |
| 185 | 15.42 | 0.77 | 0.429 | 0.043 | ( 0.372) | 0.386 |
| 186 | 15.50 | 0.77 | 0.429 | 0.043 | ( 0.372) | 0.386 |
| 187 | 15.58 | 0.63 | 0.354 | 0.043 | ( 0.307) | 0.311 |
| 188 | 15.67 | 0.63 | 0.354 | 0.042 | ( 0.307) | 0.312 |
| 189 | 15.75 | 0.63 | 0.354 | 0.042 | ( 0.307) | 0.312 |
| 190 | 15.83 | 0.63 | 0.354 | 0.042 | ( 0.307) | 0.312 |
| 191 | 15.92 | 0.63 | 0.354 | 0.042 | ( 0.307) | 0.312 |
| 192 | 16.00 | 0.63 | 0.354 | 0.042 | ( 0.307) | 0.313 |
| 193 | 16.08 | 0.13 | 0.075 | 0.041 | ( 0.065) | 0.033 |
| 194 | 16.17 | 0.13 | 0.075 | 0.041 | ( 0.065) | 0.033 |
| 195 | 16.25 | 0.13 | 0.075 | 0.041 | ( 0.065) | 0.034 |
| 196 | 16.33 | 0.13 | 0.075 | 0.041 | ( 0.065) | 0.034 |
| 197 | 16.42 | 0.13 | 0.075 | 0.041 | ( 0.065) | 0.034 |
| 198 | 16.50 | 0.13 | 0.075 | 0.040 | ( 0.065) | 0.034 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 199 | 16.58 | 0.10 | 0.056 | 0.040 | ( 0.049) | 0.016 |
| 200 | 16.67 | 0.10 | 0.056 | 0.040 | ( 0.049) | 0.016 |
| 201 | 16.75 | 0.10 | 0.056 | 0.040 | ( 0.049) | 0.016 |
| 202 | 16.83 | 0.10 | 0.056 | 0.040 | ( 0.049) | 0.016 |
| 203 | 16.92 | 0.10 | 0.056 | 0.039 | ( 0.049) | 0.017 |
| 204 | 17.00 | 0.10 | 0.056 | 0.039 | ( 0.049) | 0.017 |
| 205 | 17.08 | 0.17 | 0.093 | 0.039 | ( 0.081) | 0.054 |
| 206 | 17.17 | 0.17 | 0.093 | 0.039 | ( 0.081) | 0.054 |
| 207 | 17.25 | 0.17 | 0.093 | 0.039 | ( 0.081) | 0.055 |
| 208 | 17.33 | 0.17 | 0.093 | 0.038 | ( 0.081) | 0.055 |
| 209 | 17.42 | 0.17 | 0.093 | 0.038 | ( 0.081) | 0.055 |
| 210 | 17.50 | 0.17 | 0.093 | 0.038 | ( 0.081) | 0.055 |
| 211 | 17.58 | 0.17 | 0.093 | 0.038 | ( 0.081) | 0.055 |
| 212 | 17.67 | 0.17 | 0.093 | 0.038 | ( 0.081) | 0.056 |
| 213 | 17.75 | 0.17 | 0.093 | 0.037 | ( 0.081) | 0.056 |
| 214 | 17.83 | 0.13 | 0.075 | 0.037 | ( 0.065) | 0.037 |
| 215 | 17.92 | 0.13 | 0.075 | 0.037 | ( 0.065) | 0.038 |
| 216 | 18.00 | 0.13 | 0.075 | 0.037 | ( 0.065) | 0.038 |
| 217 | 18.08 | 0.13 | 0.075 | 0.037 | ( 0.065) | 0.038 |
| 218 | 18.17 | 0.13 | 0.075 | 0.036 | ( 0.065) | 0.038 |
| 219 | 18.25 | 0.13 | 0.075 | 0.036 | ( 0.065) | 0.038 |
| 220 | 18.33 | 0.13 | 0.075 | 0.036 | ( 0.065) | 0.038 |
| 221 | 18.42 | 0.13 | 0.075 | 0.036 | ( 0.065) | 0.039 |
| 222 | 18.50 | 0.13 | 0.075 | 0.036 | ( 0.065) | 0.039 |
| 223 | 18.58 | 0.10 | 0.056 | 0.036 | ( 0.049) | 0.020 |
| 224 | 18.67 | 0.10 | 0.056 | 0.035 | ( 0.049) | 0.020 |
| 225 | 18.75 | 0.10 | 0.056 | 0.035 | ( 0.049) | 0.021 |
| 226 | 18.83 | 0.07 | 0.037 | ( 0.035) | 0.032 | 0.005 |
| 227 | 18.92 | 0.07 | 0.037 | ( 0.035) | 0.032 | 0.005 |
| 228 | 19.00 | 0.07 | 0.037 | ( 0.035) | 0.032 | 0.005 |
| 229 | 19.08 | 0.10 | 0.056 | 0.035 | ( 0.049) | 0.021 |
| 230 | 19.17 | 0.10 | 0.056 | 0.034 | ( 0.049) | 0.021 |
| 231 | 19.25 | 0.10 | 0.056 | 0.034 | ( 0.049) | 0.022 |
| 232 | 19.33 | 0.13 | 0.075 | 0.034 | ( 0.065) | 0.040 |
| 233 | 19.42 | 0.13 | 0.075 | 0.034 | ( 0.065) | 0.041 |
| 234 | 19.50 | 0.13 | 0.075 | 0.034 | ( 0.065) | 0.041 |
| 235 | 19.58 | 0.10 | 0.056 | 0.034 | ( 0.049) | 0.022 |
| 236 | 19.67 | 0.10 | 0.056 | 0.033 | ( 0.049) | 0.022 |
| 237 | 19.75 | 0.10 | 0.056 | 0.033 | ( 0.049) | 0.023 |
| 238 | 19.83 | 0.07 | 0.037 | ( 0.033) | 0.032 | 0.005 |
| 239 | 19.92 | 0.07 | 0.037 | ( 0.033) | 0.032 | 0.005 |
| 240 | 20.00 | 0.07 | 0.037 | ( 0.033) | 0.032 | 0.005 |
| 241 | 20.08 | 0.10 | 0.056 | 0.033 | ( 0.049) | 0.023 |
| 242 | 20.17 | 0.10 | 0.056 | 0.033 | ( 0.049) | 0.023 |
| 243 | 20.25 | 0.10 | 0.056 | 0.032 | ( 0.049) | 0.023 |
| 244 | 20.33 | 0.10 | 0.056 | 0.032 | ( 0.049) | 0.024 |
| 245 | 20.42 | 0.10 | 0.056 | 0.032 | ( 0.049) | 0.024 |
| 246 | 20.50 | 0.10 | 0.056 | 0.032 | ( 0.049) | 0.024 |
| 247 | 20.58 | 0.10 | 0.056 | 0.032 | ( 0.049) | 0.024 |
| 248 | 20.67 | 0.10 | 0.056 | 0.032 | ( 0.049) | 0.024 |
| 249 | 20.75 | 0.10 | 0.056 | 0.032 | ( 0.049) | 0.024 |
| 250 | 20.83 | 0.07 | 0.037 | 0.032 | ( 0.032) | 0.006 |
| 251 | 20.92 | 0.07 | 0.037 | 0.031 | ( 0.032) | 0.006 |
| 252 | 21.00 | 0.07 | 0.037 | 0.031 | ( 0.032) | 0.006 |
| 253 | 21.08 | 0.10 | 0.056 | 0.031 | ( 0.049) | 0.025 |
| 254 | 21.17 | 0.10 | 0.056 | 0.031 | ( 0.049) | 0.025 |
| 255 | 21.25 | 0.10 | 0.056 | 0.031 | ( 0.049) | 0.025 |
| 256 | 21.33 | 0.07 | 0.037 | 0.031 | ( 0.032) | 0.006 |
| 257 | 21.42 | 0.07 | 0.037 | 0.031 | ( 0.032) | 0.007 |
| 258 | 21.50 | 0.07 | 0.037 | 0.031 | ( 0.032) | 0.007 |
| 259 | 21.58 | 0.10 | 0.056 | 0.030 | ( 0.049) | 0.025 |
| 260 | 21.67 | 0.10 | 0.056 | 0.030 | ( 0.049) | 0.026 |
| 261 | 21.75 | 0.10 | 0.056 | 0.030 | ( 0.049) | 0.026 |
| 262 | 21.83 | 0.07 | 0.037 | 0.030 | ( 0.032) | 0.007 |
| 263 | 21.92 | 0.07 | 0.037 | 0.030 | ( 0.032) | 0.007 |
| 264 | 22.00 | 0.07 | 0.037 | 0.030 | ( 0.032) | 0.007 |
| 265 | 22.08 | 0.10 | 0.056 | 0.030 | ( 0.049) | 0.026 |
| 266 | 22.17 | 0.10 | 0.056 | 0.030 | ( 0.049) | 0.026 |
| 267 | 22.25 | 0.10 | 0.056 | 0.030 | ( 0.049) | 0.026 |
| 268 | 22.33 | 0.07 | 0.037 | 0.030 | ( 0.032) | 0.008 |
| 269 | 22.42 | 0.07 | 0.037 | 0.029 | ( 0.032) | 0.008 |
| 270 | 22.50 | 0.07 | 0.037 | 0.029 | ( 0.032) | 0.008 |
| 271 | 22.58 | 0.07 | 0.037 | 0.029 | ( 0.032) | 0.008 |
| 272 | 22.67 | 0.07 | 0.037 | 0.029 | ( 0.032) | 0.008 |
| 273 | 22.75 | 0.07 | 0.037 | 0.029 | ( 0.032) | 0.008 |
| 274 | 22.83 | 0.07 | 0.037 | 0.029 | ( 0.032) | 0.008 |
| 275 | 22.92 | 0.07 | 0.037 | 0.029 | ( 0.032) | 0.008 |
| 276 | 23.00 | 0.07 | 0.037 | 0.029 | ( 0.032) | 0.008 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 277 | 23.08 | 0.07 | 0.037 | 0.029 | ( 0.032) | 0.008 |
| 278 | 23.17 | 0.07 | 0.037 | 0.029 | ( 0.032) | 0.009 |
| 279 | 23.25 | 0.07 | 0.037 | 0.029 | ( 0.032) | 0.009 |
| 280 | 23.33 | 0.07 | 0.037 | 0.029 | ( 0.032) | 0.009 |
| 281 | 23.42 | 0.07 | 0.037 | 0.029 | ( 0.032) | 0.009 |
| 282 | 23.50 | 0.07 | 0.037 | 0.029 | ( 0.032) | 0.009 |
| 283 | 23.58 | 0.07 | 0.037 | 0.028 | ( 0.032) | 0.009 |
| 284 | 23.67 | 0.07 | 0.037 | 0.028 | ( 0.032) | 0.009 |
| 285 | 23.75 | 0.07 | 0.037 | 0.028 | ( 0.032) | 0.009 |
| 286 | 23.83 | 0.07 | 0.037 | 0.028 | ( 0.032) | 0.009 |
| 287 | 23.92 | 0.07 | 0.037 | 0.028 | ( 0.032) | 0.009 |
| 288 | 24.00 | 0.07 | 0.037 | 0.028 | ( 0.032) | 0.009 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 40.9

Flood volume = Effective rainfall 3.41(In)
times area 40.0(Ac.)/[(In)/(Ft.)] = 11.4(Ac.Ft)
Total soil loss = 1.25(In)
Total soil loss = 4.161(Ac.Ft)
Total rainfall = 4.66(In)
Flood volume = 495305.7 Cubic Feet
Total soil loss = 181273.4 Cubic Feet

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Peak flow rate of this hydrograph = 23.255(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

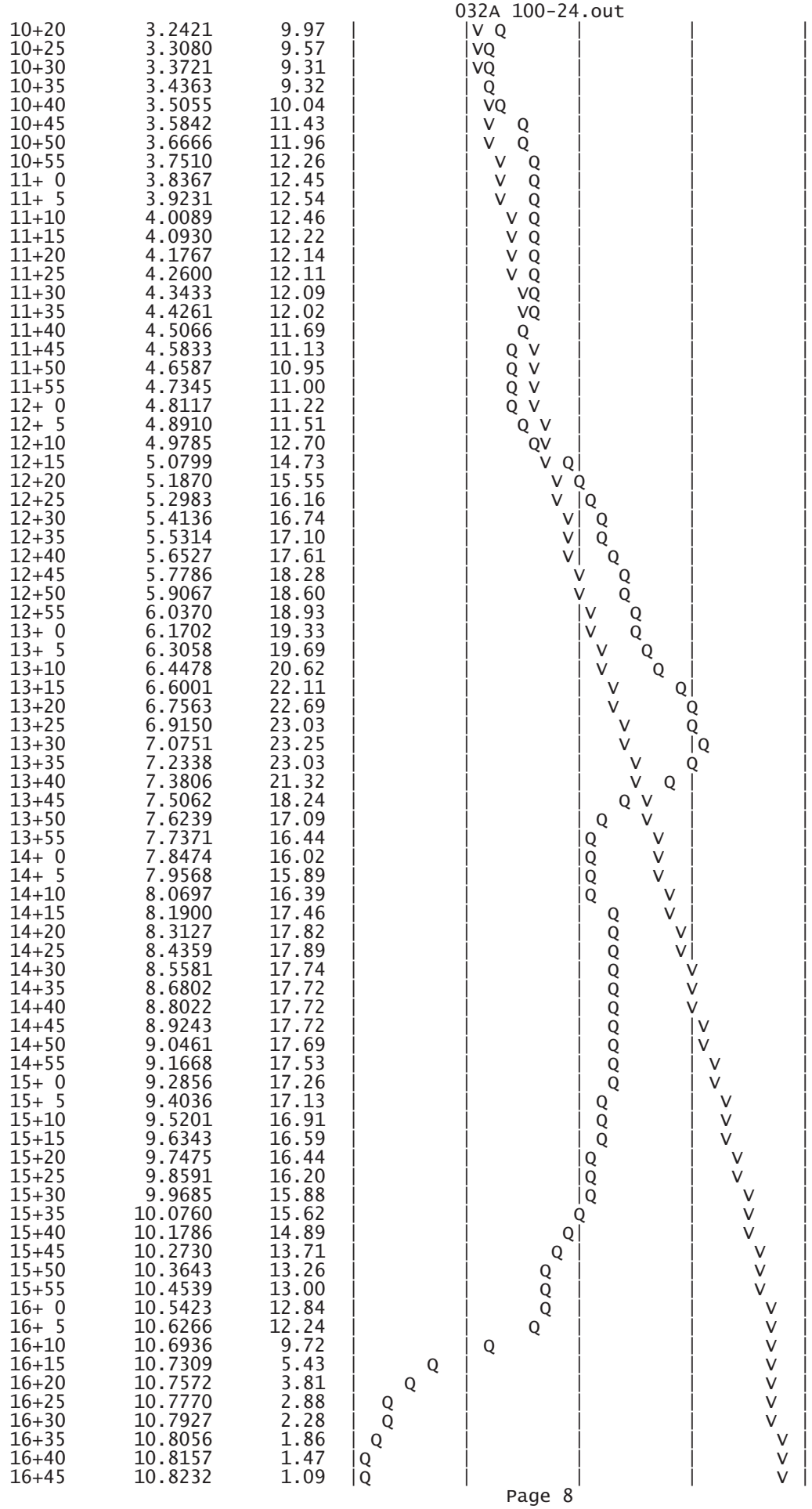
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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 7.5 | 15.0 | 22.5 | 30.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0001 | 0.01 | Q | | | | |
| 0+10 | 0.0004 | 0.05 | Q | | | | |
| 0+15 | 0.0013 | 0.13 | Q | | | | |
| 0+20 | 0.0024 | 0.16 | Q | | | | |
| 0+25 | 0.0038 | 0.20 | Q | | | | |
| 0+30 | 0.0055 | 0.25 | Q | | | | |
| 0+35 | 0.0073 | 0.27 | Q | | | | |
| 0+40 | 0.0092 | 0.28 | Q | | | | |
| 0+45 | 0.0112 | 0.29 | Q | | | | |
| 0+50 | 0.0132 | 0.30 | Q | | | | |
| 0+55 | 0.0154 | 0.32 | Q | | | | |
| 1+ 0 | 0.0179 | 0.36 | Q | | | | |
| 1+ 5 | 0.0204 | 0.37 | Q | | | | |
| 1+10 | 0.0229 | 0.36 | Q | | | | |
| 1+15 | 0.0251 | 0.32 | Q | | | | |
| 1+20 | 0.0273 | 0.31 | Q | | | | |
| 1+25 | 0.0294 | 0.31 | Q | | | | |
| 1+30 | 0.0315 | 0.30 | Q | | | | |
| 1+35 | 0.0336 | 0.30 | Q | | | | |
| 1+40 | 0.0357 | 0.30 | Q | | | | |
| 1+45 | 0.0377 | 0.30 | Q | | | | |
| 1+50 | 0.0398 | 0.30 | Q | | | | |
| 1+55 | 0.0420 | 0.32 | Q | | | | |
| 2+ 0 | 0.0445 | 0.36 | Q | | | | |
| 2+ 5 | 0.0471 | 0.38 | Q | | | | |
| 2+10 | 0.0498 | 0.38 | Q | | | | |
| 2+15 | 0.0524 | 0.39 | Q | | | | |
| 2+20 | 0.0551 | 0.39 | Q | | | | |
| 2+25 | 0.0579 | 0.39 | Q | | | | |
| 2+30 | 0.0606 | 0.40 | Q | | | | |
| 2+35 | 0.0633 | 0.40 | Q | | | | |
| 2+40 | 0.0662 | 0.42 | Q | | | | |
| 2+45 | 0.0694 | 0.46 | Q | | | | |
| 2+50 | 0.0727 | 0.47 | Q | | | | |
| 2+55 | 0.0760 | 0.48 | Q | | | | |
| 3+ 0 | 0.0794 | 0.49 | Q | | | | |
| 3+ 5 | 0.0828 | 0.49 | Q | | | | |
| 3+10 | 0.0862 | 0.49 | Q | | | | |
| 3+15 | 0.0896 | 0.49 | Q | | | | |
| 3+20 | 0.0930 | 0.50 | Q | | | | |
| 3+25 | 0.0964 | 0.50 | Q | | | | |
| 3+30 | 0.0998 | 0.50 | Q | | | | |
| 3+35 | 0.1032 | 0.50 | Q | | | | |
| 3+40 | 0.1066 | 0.50 | Q | | | | |
| 3+45 | 0.1100 | 0.50 | Q | | | | |

```
 3+50       0.1137      0.52  Q          |          |          |          |
 3+55       0.1182      0.66  Q          |          |          |          |
 4+ 0       0.1245      0.91  VQ         |          |          |          |
 4+ 5       0.1315      1.01  VQ         |          |          |          |
 4+10       0.1389      1.07  VQ         |          |          |          |
 4+15       0.1466      1.12  VQ         |          |          |          |
 4+20       0.1548      1.19  VQ         |          |          |          |
 4+25       0.1643      1.38  VQ         |          |          |          |
 4+30       0.1759      1.68  V Q        |          |          |          |
 4+35       0.1883      1.81  V Q        |          |          |          |
 4+40       0.2013      1.89  V Q        |          |          |          |
 4+45       0.2147      1.94  V Q        |          |          |          |
 4+50       0.2286      2.02  V Q        |          |          |          |
 4+55       0.2438      2.21  V Q        |          |          |          |
 5+ 0       0.2611      2.52  V  Q       |          |          |          |
 5+ 5       0.2789      2.58  V  Q       |          |          |          |
 5+10       0.2949      2.33  |V Q       |          |          |          |
 5+15       0.3074      1.81  |VQ        |          |          |          |
 5+20       0.3189      1.67  |VQ        |          |          |          |
 5+25       0.3309      1.74  |VQ        |          |          |          |
 5+30       0.3445      1.97  |VQ        |          |          |          |
 5+35       0.3588      2.08  |VQ        |          |          |          |
 5+40       0.3745      2.29  |V Q       |          |          |          |
 5+45       0.3925      2.61  |V Q       |          |          |          |
 5+50       0.4115      2.76  |V Q       |          |          |          |
 5+55       0.4311      2.84  |V Q       |          |          |          |
 6+ 0       0.4510      2.90  |V Q       |          |          |          |
 6+ 5       0.4714      2.97  |V Q       |          |          |          |
 6+10       0.4932      3.16  |V  Q      |          |          |          |
 6+15       0.5171      3.47  |V  Q      |          |          |          |
 6+20       0.5419      3.60  |V  Q      |          |          |          |
 6+25       0.5672      3.68  |V  Q      |          |          |          |
 6+30       0.5929      3.73  | V Q      |          |          |          |
 6+35       0.6191      3.81  | V  Q     |          |          |          |
 6+40       0.6467      4.00  | V  Q     |          |          |          |
 6+45       0.6763      4.30  | V  Q     |          |          |          |
 6+50       0.7068      4.43  | V  Q     |          |          |          |
 6+55       0.7379      4.51  | V   Q    |          |          |          |
 7+ 0       0.7693      4.56  | V   Q    |          |          |          |
 7+ 5       0.8010      4.60  | V   Q    |          |          |          |
 7+10       0.8329      4.63  | V   Q    |          |          |          |
 7+15       0.8650      4.65  |  V  Q    |          |          |          |
 7+20       0.8973      4.70  |  V  Q    |          |          |          |
 7+25       0.9310      4.88  |  V  Q    |          |          |          |
 7+30       0.9667      5.18  |  V  Q    |          |          |          |
 7+35       1.0034      5.34  |  V   Q   |          |          |          |
 7+40       1.0419      5.58  |  V   Q   |          |          |          |
 7+45       1.0826      5.92  |  V   Q   |          |          |          |
 7+50       1.1246      6.10  |  V    Q  |          |          |          |
 7+55       1.1683      6.35  |   V   Q  |          |          |          |
 8+ 0       1.2144      6.69  |   V   Q  |          |          |          |
 8+ 5       1.2620      6.91  |   V    Q |          |          |          |
 8+10       1.3125      7.33  |   V    Q |          |          |          |
 8+15       1.3673      7.96  |   V     Q|          |          |          |
 8+20       1.4240      8.22  |    V    Q|          |          |          |
 8+25       1.4816      8.38  |    V    |Q         |          |          |
 8+30       1.5400      8.48  |    V    |Q         |          |          |
 8+35       1.5991      8.58  |    V    |Q         |          |          |
 8+40       1.6597      8.79  |    V    |Q         |          |          |
 8+45       1.7224      9.11  |     V   | Q        |          |          |
 8+50       1.7862      9.27  |     V   | Q        |          |          |
 8+55       1.8518      9.51  |     V   | Q        |          |          |
 9+ 0       1.9196      9.86  |     V   |  Q       |          |          |
 9+ 5       1.9890     10.07  |     V   |  Q       |          |          |
 9+10       2.0613     10.49  |      V  |  Q       |          |          |
 9+15       2.1379     11.12  |      V  |   Q      |          |          |
 9+20       2.2164     11.41  |      V  |    Q     |          |          |
 9+25       2.2972     11.73  |       V |    Q     |          |          |
 9+30       2.3806     12.11  |       V |     Q    |          |          |
 9+35       2.4655     12.32  |       V |     Q    |          |          |
 9+40       2.5523     12.60  |       V |     Q    |          |          |
 9+45       2.6415     12.95  |        V|      Q   |          |          |
 9+50       2.7320     13.14  |        V|      Q   |          |          |
 9+55       2.8242     13.40  |        V|      Q   |          |          |
10+ 0       2.9189     13.75  |         V       Q  |          |          |
10+ 5       3.0130     13.67  |         V       Q  |          |          |
10+10       3.0999     12.61  |         V     Q    |          |          |
10+15       3.1734     10.68  |         |V  Q      |          |          |
```



| | | | |
|---|---|---|---|
| 10+20 | 3.2421 | 9.97 | V Q |
| 10+25 | 3.3080 | 9.57 | VQ |
| 10+30 | 3.3721 | 9.31 | VQ |
| 10+35 | 3.4363 | 9.32 | Q |
| 10+40 | 3.5055 | 10.04 | VQ |
| 10+45 | 3.5842 | 11.43 | V Q |
| 10+50 | 3.6666 | 11.96 | V Q |
| 10+55 | 3.7510 | 12.26 | V Q |
| 11+ 0 | 3.8367 | 12.45 | V Q |
| 11+ 5 | 3.9231 | 12.54 | V Q |
| 11+10 | 4.0089 | 12.46 | V Q |
| 11+15 | 4.0930 | 12.22 | V Q |
| 11+20 | 4.1767 | 12.14 | V Q |
| 11+25 | 4.2600 | 12.11 | V Q |
| 11+30 | 4.3433 | 12.09 | VQ |
| 11+35 | 4.4261 | 12.02 | VQ |
| 11+40 | 4.5066 | 11.69 | Q |
| 11+45 | 4.5833 | 11.13 | Q V |
| 11+50 | 4.6587 | 10.95 | Q V |
| 11+55 | 4.7345 | 11.00 | Q V |
| 12+ 0 | 4.8117 | 11.22 | Q V |
| 12+ 5 | 4.8910 | 11.51 | Q V |
| 12+10 | 4.9785 | 12.70 | QV |
| 12+15 | 5.0799 | 14.73 | V Q |
| 12+20 | 5.1870 | 15.55 | V Q |
| 12+25 | 5.2983 | 16.16 | V Q |
| 12+30 | 5.4136 | 16.74 | V Q |
| 12+35 | 5.5314 | 17.10 | V Q |
| 12+40 | 5.6527 | 17.61 | V Q |
| 12+45 | 5.7786 | 18.28 | V Q |
| 12+50 | 5.9067 | 18.60 | V Q |
| 12+55 | 6.0370 | 18.93 | V Q |
| 13+ 0 | 6.1702 | 19.33 | V Q |
| 13+ 5 | 6.3058 | 19.69 | V Q |
| 13+10 | 6.4478 | 20.62 | V Q |
| 13+15 | 6.6001 | 22.11 | V Q |
| 13+20 | 6.7563 | 22.69 | V Q |
| 13+25 | 6.9150 | 23.03 | V Q |
| 13+30 | 7.0751 | 23.25 | V Q |
| 13+35 | 7.2338 | 23.03 | V Q |
| 13+40 | 7.3806 | 21.32 | V Q |
| 13+45 | 7.5062 | 18.24 | Q V |
| 13+50 | 7.6239 | 17.09 | Q V |
| 13+55 | 7.7371 | 16.44 | Q V |
| 14+ 0 | 7.8474 | 16.02 | Q V |
| 14+ 5 | 7.9568 | 15.89 | Q V |
| 14+10 | 8.0697 | 16.39 | Q V |
| 14+15 | 8.1900 | 17.46 | Q V |
| 14+20 | 8.3127 | 17.82 | Q V |
| 14+25 | 8.4359 | 17.89 | Q V |
| 14+30 | 8.5581 | 17.74 | Q V |
| 14+35 | 8.6802 | 17.72 | Q V |
| 14+40 | 8.8022 | 17.72 | Q V |
| 14+45 | 8.9243 | 17.72 | Q V |
| 14+50 | 9.0461 | 17.69 | Q V |
| 14+55 | 9.1668 | 17.53 | Q V |
| 15+ 0 | 9.2856 | 17.26 | Q V |
| 15+ 5 | 9.4036 | 17.13 | Q V |
| 15+10 | 9.5201 | 16.91 | Q V |
| 15+15 | 9.6343 | 16.59 | Q V |
| 15+20 | 9.7475 | 16.44 | Q V |
| 15+25 | 9.8591 | 16.20 | Q V |
| 15+30 | 9.9685 | 15.88 | Q V |
| 15+35 | 10.0760 | 15.62 | Q V |
| 15+40 | 10.1786 | 14.89 | Q V |
| 15+45 | 10.2730 | 13.71 | Q V |
| 15+50 | 10.3643 | 13.26 | Q V |
| 15+55 | 10.4539 | 13.00 | Q V |
| 16+ 0 | 10.5423 | 12.84 | Q V |
| 16+ 5 | 10.6266 | 12.24 | Q V |
| 16+10 | 10.6936 | 9.72 | Q V |
| 16+15 | 10.7309 | 5.43 | Q V |
| 16+20 | 10.7572 | 3.81 | Q V |
| 16+25 | 10.7770 | 2.88 | Q V |
| 16+30 | 10.7927 | 2.28 | Q V |
| 16+35 | 10.8056 | 1.86 | Q V |
| 16+40 | 10.8157 | 1.47 | Q V |
| 16+45 | 10.8232 | 1.09 | Q V |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 16+50 | 10.8296 | 0.93 | \|Q | \| | \| | \| | V \| |
| 16+55 | 10.8353 | 0.83 | \|Q | \| | \| | \| | V \| |
| 17+ 0 | 10.8405 | 0.76 | \|Q | \| | \| | \| | V \| |
| 17+ 5 | 10.8459 | 0.78 | \|Q | \| | \| | \| | V \| |
| 17+10 | 10.8534 | 1.09 | \|Q | \| | \| | \| | V \| |
| 17+15 | 10.8648 | 1.66 | \| Q | \| | \| | \| | V \| |
| 17+20 | 10.8777 | 1.88 | \| Q | \| | \| | \| | V \| |
| 17+25 | 10.8916 | 2.00 | \| Q | \| | \| | \| | V \| |
| 17+30 | 10.9059 | 2.09 | \| Q | \| | \| | \| | V \| |
| 17+35 | 10.9207 | 2.15 | \| Q | \| | \| | \| | V \| |
| 17+40 | 10.9358 | 2.18 | \| Q | \| | \| | \| | V \| |
| 17+45 | 10.9510 | 2.21 | \| Q | \| | \| | \| | V \| |
| 17+50 | 10.9660 | 2.19 | \| Q | \| | \| | \| | V \| |
| 17+55 | 10.9800 | 2.04 | \| Q | \| | \| | \| | V \| |
| 18+ 0 | 10.9922 | 1.77 | \| Q | \| | \| | \| | V \| |
| 18+ 5 | 11.0037 | 1.67 | \| Q | \| | \| | \| | V \| |
| 18+10 | 11.0148 | 1.62 | \| Q | \| | \| | \| | V \| |
| 18+15 | 11.0258 | 1.58 | \| Q | \| | \| | \| | V \| |
| 18+20 | 11.0365 | 1.57 | \| Q | \| | \| | \| | V \| |
| 18+25 | 11.0473 | 1.56 | \| Q | \| | \| | \| | V \| |
| 18+30 | 11.0580 | 1.56 | \| Q | \| | \| | \| | V \| |
| 18+35 | 11.0685 | 1.53 | \| Q | \| | \| | \| | V \| |
| 18+40 | 11.0779 | 1.37 | \|Q | \| | \| | \| | V \| |
| 18+45 | 11.0854 | 1.09 | \|Q | \| | \| | \| | V \| |
| 18+50 | 11.0920 | 0.96 | \|Q | \| | \| | \| | V\| |
| 18+55 | 11.0973 | 0.76 | \|Q | \| | \| | \| | V\| |
| 19+ 0 | 11.1006 | 0.48 | Q | \| | \| | \| | V\| |
| 19+ 5 | 11.1033 | 0.40 | Q | \| | \| | \| | V\| |
| 19+10 | 11.1066 | 0.48 | Q | \| | \| | \| | V\| |
| 19+15 | 11.1113 | 0.69 | Q | \| | \| | \| | V\| |
| 19+20 | 11.1168 | 0.79 | \|Q | \| | \| | \| | V\| |
| 19+25 | 11.1237 | 1.00 | \|Q | \| | \| | \| | V\| |
| 19+30 | 11.1328 | 1.32 | \|Q | \| | \| | \| | V\| |
| 19+35 | 11.1425 | 1.42 | \|Q | \| | \| | \| | V\| |
| 19+40 | 11.1517 | 1.33 | \|Q | \| | \| | \| | V\| |
| 19+45 | 11.1592 | 1.09 | \|Q | \| | \| | \| | V\| |
| 19+50 | 11.1661 | 0.99 | \|Q | \| | \| | \| | V\| |
| 19+55 | 11.1715 | 0.79 | \|Q | \| | \| | \| | V\| |
| 20+ 0 | 11.1749 | 0.50 | Q | \| | \| | \| | V\| |
| 20+ 5 | 11.1778 | 0.41 | Q | \| | \| | \| | V\| |
| 20+10 | 11.1812 | 0.50 | Q | \| | \| | \| | V\| |
| 20+15 | 11.1863 | 0.74 | Q | \| | \| | \| | V\| |
| 20+20 | 11.1919 | 0.82 | \|Q | \| | \| | \| | V\| |
| 20+25 | 11.1979 | 0.87 | \|Q | \| | \| | \| | V\| |
| 20+30 | 11.2042 | 0.90 | \|Q | \| | \| | \| | V\| |
| 20+35 | 11.2106 | 0.93 | \|Q | \| | \| | \| | V\| |
| 20+40 | 11.2171 | 0.95 | \|Q | \| | \| | \| | V\| |
| 20+45 | 11.2237 | 0.96 | \|Q | \| | \| | \| | V\| |
| 20+50 | 11.2301 | 0.93 | \|Q | \| | \| | \| | V\| |
| 20+55 | 11.2354 | 0.77 | \|Q | \| | \| | \| | V\| |
| 21+ 0 | 11.2388 | 0.50 | Q | \| | \| | \| | V\| |
| 21+ 5 | 11.2418 | 0.43 | Q | \| | \| | \| | V\| |
| 21+10 | 11.2455 | 0.54 | Q | \| | \| | \| | V\| |
| 21+15 | 11.2509 | 0.79 | \|Q | \| | \| | \| | V\| |
| 21+20 | 11.2567 | 0.84 | \|Q | \| | \| | \| | V\| |
| 21+25 | 11.2617 | 0.73 | Q | \| | \| | \| | V\| |
| 21+30 | 11.2650 | 0.48 | Q | \| | \| | \| | V\| |
| 21+35 | 11.2680 | 0.43 | Q | \| | \| | \| | V\| |
| 21+40 | 11.2718 | 0.55 | Q | \| | \| | \| | V\| |
| 21+45 | 11.2773 | 0.81 | \|Q | \| | \| | \| | V\| |
| 21+50 | 11.2833 | 0.86 | \|Q | \| | \| | \| | V\| |
| 21+55 | 11.2884 | 0.75 | Q | \| | \| | \| | V\| |
| 22+ 0 | 11.2919 | 0.50 | Q | \| | \| | \| | V\| |
| 22+ 5 | 11.2951 | 0.46 | Q | \| | \| | \| | V\| |
| 22+10 | 11.2990 | 0.58 | Q | \| | \| | \| | V\| |
| 22+15 | 11.3048 | 0.83 | \|Q | \| | \| | \| | V\| |
| 22+20 | 11.3109 | 0.89 | \|Q | \| | \| | \| | V\| |
| 22+25 | 11.3162 | 0.77 | \|Q | \| | \| | \| | V\| |
| 22+30 | 11.3198 | 0.53 | Q | \| | \| | \| | V\| |
| 22+35 | 11.3229 | 0.45 | Q | \| | \| | \| | V\| |
| 22+40 | 11.3257 | 0.40 | Q | \| | \| | \| | V\| |
| 22+45 | 11.3283 | 0.37 | Q | \| | \| | \| | V\| |
| 22+50 | 11.3307 | 0.35 | Q | \| | \| | \| | V\| |
| 22+55 | 11.3331 | 0.34 | Q | \| | \| | \| | V\| |
| 23+ 0 | 11.3354 | 0.34 | Q | \| | \| | \| | V\| |
| 23+ 5 | 11.3378 | 0.34 | Q | \| | \| | \| | V\| |
| 23+10 | 11.3401 | 0.34 | Q | \| | \| | \| | V\| |
| 23+15 | 11.3425 | 0.34 | Q | \| | \| | \| | V\| |

```
   23+20      11.3448      0.34  Q          |          |          |         V|
   23+25      11.3472      0.34  Q          |          |          |         V|
   23+30      11.3496      0.35  Q          |          |          |         V|
   23+35      11.3520      0.35  Q          |          |          |         V|
   23+40      11.3544      0.35  Q          |          |          |         V|
   23+45      11.3569      0.35  Q          |          |          |         V|
   23+50      11.3593      0.36  Q          |          |          |         V|
   23+55      11.3618      0.36  Q          |          |          |         V|
   24+ 0      11.3642      0.36  Q          |          |          |         V|
   24+ 5      11.3666      0.34  Q          |          |          |         V|
   24+10      11.3684      0.27  Q          |          |          |         V|
   24+15      11.3693      0.13  Q          |          |          |         V|
   24+20      11.3698      0.08  Q          |          |          |         V|
   24+25      11.3702      0.05  Q          |          |          |         V|
   24+30      11.3704      0.03  Q          |          |          |         V|
   24+35      11.3705      0.02  Q          |          |          |         V|
   24+40      11.3706      0.01  Q          |          |          |         V|
   24+45      11.3706      0.01  Q          |          |          |         V|
   24+50      11.3706      0.00  Q          |          |          |         V|
   24+55      11.3706      0.00  Q          |          |          |         V|
   25+ 0      11.3707      0.00  Q          |          |          |         V|
   25+ 5      11.3707      0.00  Q          |          |          |          V
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 04/23/18 File: EX32B100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 32.2
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 7.40(Ac.) = 0.012 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 7.40(Ac.) = 0.012 Sq. Mi.
Length along longest watercourse = 930.00(Ft.)
Length along longest watercourse measured to centroid = 494.00(Ft.)
Length along longest watercourse = 0.176 Mi.
Length along longest watercourse measured to centroid = 0.094 Mi.
Difference in elevation = 323.00(Ft.)
Slope along watercourse = 1833.8065 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.042 Hr.
Lag time = 2.54 Min.
25% of lag time = 0.63 Min.
40% of lag time = 1.02 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 7.40 | 0.50 | 3.70 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 7.40 | 1.20 | 8.88 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 7.400 | 86.21 | 0.000 |

Total Area Entered = 7.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 86.2 | 94.5 | 0.072 | 0.000 | 0.072 | 1.000 | 0.072 |
| | | | | | Sum (F) = | 0.072 |

Area averaged mean soil loss (F) (In/Hr) = 0.072

Minimum soil loss rate ((In/Hr)) = 0.036
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 196.851 | 41.642 | 3.106 |
| 2 | 0.167 | 393.703 | 50.313 | 3.752 |
| 3 | 0.250 | 590.554 | 6.874 | 0.513 |
| 4 | 0.333 | 787.406 | 1.171 | 0.087 |
| | | | Sum = 100.000 Sum= | 7.458 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.072 | ( 0.544) | 0.533 |
| 2 | 0.17 | 4.30 | 0.619 | 0.072 | ( 0.557) | 0.547 |
| 3 | 0.25 | 5.00 | 0.720 | 0.072 | ( 0.648) | 0.648 |
| 4 | 0.33 | 5.00 | 0.720 | 0.072 | ( 0.648) | 0.648 |
| 5 | 0.42 | 5.80 | 0.835 | 0.072 | ( 0.752) | 0.763 |
| 6 | 0.50 | 6.50 | 0.936 | 0.072 | ( 0.842) | 0.864 |
| 7 | 0.58 | 7.40 | 1.066 | 0.072 | ( 0.959) | 0.994 |
| 8 | 0.67 | 8.60 | 1.238 | 0.072 | ( 1.114) | 1.167 |
| 9 | 0.75 | 12.30 | 1.771 | 0.072 | ( 1.594) | 1.699 |
| 10 | 0.83 | 29.10 | 4.190 | 0.072 | ( 3.771) | 4.118 |
| 11 | 0.92 | 6.80 | 0.979 | 0.072 | ( 0.881) | 0.907 |
| 12 | 1.00 | 5.00 | 0.720 | 0.072 | ( 0.648) | 0.648 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 13.5 |

Flood volume = Effective rainfall 1.13(In)
times area 7.4(Ac.)/[(In)/(Ft.)] = 0.7(Ac.Ft)
Total soil loss = 0.07(In)
Total soil loss = 0.044(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 30306.0 Cubic Feet
Total soil loss = 1926.2 Cubic Feet

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Peak flow rate of this hydrograph = 19.862(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 5.0 10.0 15.0 20.0 |
|---|---|---|---|
| 0+ 5 | 0.0114 | 1.66 | V Q |
| 0+10 | 0.0369 | 3.70 | V Q |
| 0+15 | 0.0668 | 4.34 | V Q |
| 0+20 | 0.0997 | 4.78 | V Q |
| 0+25 | 0.1354 | 5.19 | V Q |
| 0+30 | 0.1763 | 5.94 | VQ |
| 0+35 | 0.2230 | 6.78 | VQ |
| 0+40 | 0.2772 | 7.87 | Q |
| 0+45 | 0.3478 | 10.25 | VQ |
| 0+50 | 0.4845 | 19.86 | V Q |
| 0+55 | 0.6172 | 19.25 | V Q |
| 1+ 0 | 0.6701 | 7.68 | Q V |
| 1+ 5 | 0.6925 | 3.26 | Q V |
| 1+10 | 0.6953 | 0.41 | Q V |
| 1+15 | 0.6957 | 0.06 | Q V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 32.2
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 7.40(Ac.) = 0.012 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 7.40(Ac.) = 0.012 Sq. Mi.
Length along longest watercourse = 930.00(Ft.)
Length along longest watercourse measured to centroid = 494.00(Ft.)
Length along longest watercourse = 0.176 Mi.
Length along longest watercourse measured to centroid = 0.094 Mi.
Difference in elevation = 323.00(Ft.)
Slope along watercourse = 1833.8065 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.042 Hr.
Lag time = 2.54 Min.
25% of lag time = 0.63 Min.
40% of lag time = 1.02 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 7.40 | 0.80 | 5.92 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 7.40 | 1.81 | 13.39 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.810(In)

Point rain (area averaged) = 1.810(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.810(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 7.400 | 86.21 | 0.000 |

Total Area Entered = 7.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 86.2 | 94.5 | 0.072 | 0.000 | 0.072 | 1.000 | 0.072 |
| | | | | | Sum (F) = | 0.072 |

Area averaged mean soil loss (F) (In/Hr) = 0.072

Minimum soil loss rate ((In/Hr)) = 0.036
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 196.851 | 41.642 | 3.106 |
| 2 | 0.167 | 393.703 | 50.313 | 3.752 |
| 3 | 0.250 | 590.554 | 6.874 | 0.513 |
| 4 | 0.333 | 787.406 | 1.171 | 0.087 |
| | | Sum = 100.000 | Sum= | 7.458 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.282 | 0.072 | ( 0.254) | 0.211 |
| 2 | 0.17 | 1.30 | 0.282 | 0.072 | ( 0.254) | 0.211 |
| 3 | 0.25 | 1.10 | 0.239 | 0.072 | ( 0.215) | 0.167 |
| 4 | 0.33 | 1.50 | 0.326 | 0.072 | ( 0.293) | 0.254 |
| 5 | 0.42 | 1.50 | 0.326 | 0.072 | ( 0.293) | 0.254 |
| 6 | 0.50 | 1.80 | 0.391 | 0.072 | ( 0.352) | 0.319 |
| 7 | 0.58 | 1.50 | 0.326 | 0.072 | ( 0.293) | 0.254 |
| 8 | 0.67 | 1.80 | 0.391 | 0.072 | ( 0.352) | 0.319 |
| 9 | 0.75 | 1.80 | 0.391 | 0.072 | ( 0.352) | 0.319 |
| 10 | 0.83 | 1.50 | 0.326 | 0.072 | ( 0.293) | 0.254 |
| 11 | 0.92 | 1.60 | 0.348 | 0.072 | ( 0.313) | 0.276 |
| 12 | 1.00 | 1.80 | 0.391 | 0.072 | ( 0.352) | 0.319 |
| 13 | 1.08 | 2.20 | 0.478 | 0.072 | ( 0.430) | 0.406 |
| 14 | 1.17 | 2.20 | 0.478 | 0.072 | ( 0.430) | 0.406 |
| 15 | 1.25 | 2.20 | 0.478 | 0.072 | ( 0.430) | 0.406 |
| 16 | 1.33 | 2.00 | 0.434 | 0.072 | ( 0.391) | 0.363 |
| 17 | 1.42 | 2.60 | 0.565 | 0.072 | ( 0.508) | 0.493 |
| 18 | 1.50 | 2.70 | 0.586 | 0.072 | ( 0.528) | 0.515 |
| 19 | 1.58 | 2.40 | 0.521 | 0.072 | ( 0.469) | 0.450 |
| 20 | 1.67 | 2.70 | 0.586 | 0.072 | ( 0.528) | 0.515 |
| 21 | 1.75 | 3.30 | 0.717 | 0.072 | ( 0.645) | 0.645 |
| 22 | 1.83 | 3.10 | 0.673 | 0.072 | ( 0.606) | 0.602 |
| 23 | 1.92 | 2.90 | 0.630 | 0.072 | ( 0.567) | 0.558 |
| 24 | 2.00 | 3.00 | 0.652 | 0.072 | ( 0.586) | 0.580 |
| 25 | 2.08 | 3.10 | 0.673 | 0.072 | ( 0.606) | 0.602 |
| 26 | 2.17 | 4.20 | 0.912 | 0.072 | ( 0.821) | 0.841 |
| 27 | 2.25 | 5.00 | 1.086 | 0.072 | ( 0.977) | 1.014 |
| 28 | 2.33 | 3.50 | 0.760 | 0.072 | ( 0.684) | 0.688 |
| 29 | 2.42 | 6.80 | 1.477 | 0.072 | ( 1.329) | 1.405 |
| 30 | 2.50 | 7.30 | 1.586 | 0.072 | ( 1.427) | 1.514 |
| 31 | 2.58 | 8.20 | 1.781 | 0.072 | ( 1.603) | 1.709 |
| 32 | 2.67 | 5.90 | 1.281 | 0.072 | ( 1.153) | 1.210 |
| 33 | 2.75 | 2.00 | 0.434 | 0.072 | ( 0.391) | 0.363 |
| 34 | 2.83 | 1.80 | 0.391 | 0.072 | ( 0.352) | 0.319 |
| 35 | 2.92 | 1.80 | 0.391 | 0.072 | ( 0.352) | 0.319 |
| 36 | 3.00 | 0.60 | 0.130 | 0.072 | ( 0.117) | 0.059 |
| | | (Loss Rate Not Used) | | | |
| Sum = | | 100.0 | | | Sum = 19.1 |

Flood volume = Effective rainfall 1.59(In)
times area 7.4(Ac.)/[(In)/(Ft.)] = 1.0(Ac.Ft)
Total soil loss = 0.22(In)
Total soil loss = 0.133(Ac.Ft)
Total rainfall = 1.81(In)
Flood volume = 42840.0 Cubic Feet
Total soil loss = 5778.7 Cubic Feet

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Peak flow rate of this hydrograph = 11.775(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 5.0 | 10.0 | 15.0 | 20.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0045 | 0.65 | VQ | | | | |
| 0+10 | 0.0145 | 1.45 | V Q | | | | |
| 0+15 | 0.0242 | 1.42 | V Q | | | | |
| 0+20 | 0.0349 | 1.54 | V Q | | | | |
| 0+25 | 0.0476 | 1.85 | V Q | | | | |
| 0+30 | 0.0620 | 2.09 | V Q | | | | |
| 0+35 | 0.0767 | 2.14 | VQ | | | | |
| 0+40 | 0.0914 | 2.13 | VQ | | | | |
| 0+45 | 0.1076 | 2.35 | Q | | | | |
| 0+50 | 0.1226 | 2.17 | Q | | | | |
| 0+55 | 0.1363 | 2.00 | QV | | | | |
| 1+ 0 | 0.1514 | 2.19 | Q V | | | | |
| 1+ 5 | 0.1695 | 2.62 | QV | | | | |
| 1+10 | 0.1900 | 2.97 | Q V | | | | |
| 1+15 | 0.2108 | 3.02 | Q V | | | | |
| 1+20 | 0.2307 | 2.90 | Q V | | | | |
| 1+25 | 0.2523 | 3.14 | Q V | | | | |
| 1+30 | 0.2776 | 3.67 | Q V | | | | |
| 1+35 | 0.3025 | 3.61 | Q V | | | | |
| 1+40 | 0.3272 | 3.59 | Q V | | | | |
| 1+45 | 0.3563 | 4.21 | Q V | | | | |
| 1+50 | 0.3879 | 4.59 | Q V | | | | |
| 1+55 | 0.4180 | 4.37 | Q V | | | | |
| 2+ 0 | 0.4473 | 4.26 | Q V | | | | |
| 2+ 5 | 0.4775 | 4.39 | Q V | | | | |
| 2+10 | 0.5135 | 5.22 | Q V | | | | |
| 2+15 | 0.5594 | 6.67 | Q V | | | | |
| 2+20 | 0.6037 | 6.43 | Q V | | | | |
| 2+25 | 0.6556 | 7.54 | Q V | | | | |
| 2+30 | 0.7274 | 10.42 | Q V | | | | |
| 2+35 | 0.8085 | 11.78 | Q V | | | | |
| 2+40 | 0.8848 | 11.08 | Q V | | | | |
| 2+45 | 0.9307 | 6.68 | Q V | | | | |
| 2+50 | 0.9523 | 3.12 | Q V | | | | |
| 2+55 | 0.9693 | 2.48 | Q V | | | | |
| 3+ 0 | 0.9802 | 1.58 | Q V | | | | |
| 3+ 5 | 0.9830 | 0.41 | Q V | | | | |
| 3+10 | 0.9834 | 0.06 | Q V | | | | |
| 3+15 | 0.9835 | 0.01 | Q V | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 04/23/18 File: EX32B6100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 32.2
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 7.40(Ac.) = 0.012 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 7.40(Ac.) = 0.012 Sq. Mi.
Length along longest watercourse = 930.00(Ft.)
Length along longest watercourse measured to centroid = 494.00(Ft.)
Length along longest watercourse = 0.176 Mi.
Length along longest watercourse measured to centroid = 0.094 Mi.
Difference in elevation = 323.00(Ft.)
Slope along watercourse = 1833.8065 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.042 Hr.
Lag time = 2.54 Min.
25% of lag time = 0.63 Min.
40% of lag time = 1.02 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 7.40 | 1.14 | 8.44 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 7.40 | 2.50 | 18.50 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.140(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 7.400 | 86.21 | 0.000 |

Total Area Entered = 7.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 86.2 | 94.5 | 0.072 | 0.000 | 0.072 | 1.000 | 0.072 |
| | | | | | Sum (F) = | 0.072 |

Area averaged mean soil loss (F) (In/Hr) = 0.072

Minimum soil loss rate ((In/Hr)) = 0.036
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 196.851 | 41.642 | 3.106 |
| 2 0.167 | 393.703 | 50.313 | 3.752 |
| 3 0.250 | 590.554 | 6.874 | 0.513 |
| 4 0.333 | 787.406 | 1.171 | 0.087 |
| | | Sum = 100.000 Sum= | 7.458 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.072 | ( 0.135) | 0.078 |
| 2 | 0.17 | 0.60 | 0.180 | 0.072 | ( 0.162) | 0.108 |
| 3 | 0.25 | 0.60 | 0.180 | 0.072 | ( 0.162) | 0.108 |
| 4 | 0.33 | 0.60 | 0.180 | 0.072 | ( 0.162) | 0.108 |
| 5 | 0.42 | 0.60 | 0.180 | 0.072 | ( 0.162) | 0.108 |
| 6 | 0.50 | 0.70 | 0.210 | 0.072 | ( 0.189) | 0.138 |
| 7 | 0.58 | 0.70 | 0.210 | 0.072 | ( 0.189) | 0.138 |
| 8 | 0.67 | 0.70 | 0.210 | 0.072 | ( 0.189) | 0.138 |
| 9 | 0.75 | 0.70 | 0.210 | 0.072 | ( 0.189) | 0.138 |
| 10 | 0.83 | 0.70 | 0.210 | 0.072 | ( 0.189) | 0.138 |
| 11 | 0.92 | 0.70 | 0.210 | 0.072 | ( 0.189) | 0.138 |
| 12 | 1.00 | 0.80 | 0.240 | 0.072 | ( 0.216) | 0.168 |
| 13 | 1.08 | 0.80 | 0.240 | 0.072 | ( 0.216) | 0.168 |
| 14 | 1.17 | 0.80 | 0.240 | 0.072 | ( 0.216) | 0.168 |
| 15 | 1.25 | 0.80 | 0.240 | 0.072 | ( 0.216) | 0.168 |
| 16 | 1.33 | 0.80 | 0.240 | 0.072 | ( 0.216) | 0.168 |
| 17 | 1.42 | 0.80 | 0.240 | 0.072 | ( 0.216) | 0.168 |
| 18 | 1.50 | 0.80 | 0.240 | 0.072 | ( 0.216) | 0.168 |
| 19 | 1.58 | 0.80 | 0.240 | 0.072 | ( 0.216) | 0.168 |
| 20 | 1.67 | 0.80 | 0.240 | 0.072 | ( 0.216) | 0.168 |
| 21 | 1.75 | 0.80 | 0.240 | 0.072 | ( 0.216) | 0.168 |
| 22 | 1.83 | 0.80 | 0.240 | 0.072 | ( 0.216) | 0.168 |
| 23 | 1.92 | 0.80 | 0.240 | 0.072 | ( 0.216) | 0.168 |
| 24 | 2.00 | 0.90 | 0.270 | 0.072 | ( 0.243) | 0.198 |
| 25 | 2.08 | 0.80 | 0.240 | 0.072 | ( 0.216) | 0.168 |
| 26 | 2.17 | 0.90 | 0.270 | 0.072 | ( 0.243) | 0.198 |
| 27 | 2.25 | 0.90 | 0.270 | 0.072 | ( 0.243) | 0.198 |
| 28 | 2.33 | 0.90 | 0.270 | 0.072 | ( 0.243) | 0.198 |
| 29 | 2.42 | 0.90 | 0.270 | 0.072 | ( 0.243) | 0.198 |
| 30 | 2.50 | 0.90 | 0.270 | 0.072 | ( 0.243) | 0.198 |
| 31 | 2.58 | 0.90 | 0.270 | 0.072 | ( 0.243) | 0.198 |
| 32 | 2.67 | 0.90 | 0.270 | 0.072 | ( 0.243) | 0.198 |
| 33 | 2.75 | 1.00 | 0.300 | 0.072 | ( 0.270) | 0.228 |
| 34 | 2.83 | 1.00 | 0.300 | 0.072 | ( 0.270) | 0.228 |
| 35 | 2.92 | 1.00 | 0.300 | 0.072 | ( 0.270) | 0.228 |
| 36 | 3.00 | 1.00 | 0.300 | 0.072 | ( 0.270) | 0.228 |
| 37 | 3.08 | 1.00 | 0.300 | 0.072 | ( 0.270) | 0.228 |
| 38 | 3.17 | 1.10 | 0.330 | 0.072 | ( 0.297) | 0.258 |
| 39 | 3.25 | 1.10 | 0.330 | 0.072 | ( 0.297) | 0.258 |
| 40 | 3.33 | 1.10 | 0.330 | 0.072 | ( 0.297) | 0.258 |
| 41 | 3.42 | 1.20 | 0.360 | 0.072 | ( 0.324) | 0.288 |
| 42 | 3.50 | 1.30 | 0.390 | 0.072 | ( 0.351) | 0.318 |
| 43 | 3.58 | 1.40 | 0.420 | 0.072 | ( 0.378) | 0.348 |
| 44 | 3.67 | 1.40 | 0.420 | 0.072 | ( 0.378) | 0.348 |
| 45 | 3.75 | 1.50 | 0.450 | 0.072 | ( 0.405) | 0.378 |
| 46 | 3.83 | 1.50 | 0.450 | 0.072 | ( 0.405) | 0.378 |
| 47 | 3.92 | 1.60 | 0.480 | 0.072 | ( 0.432) | 0.408 |
| 48 | 4.00 | 1.60 | 0.480 | 0.072 | ( 0.432) | 0.408 |
| 49 | 4.08 | 1.70 | 0.510 | 0.072 | ( 0.459) | 0.438 |
| 50 | 4.17 | 1.80 | 0.540 | 0.072 | ( 0.486) | 0.468 |
| 51 | 4.25 | 1.90 | 0.570 | 0.072 | ( 0.513) | 0.498 |
| 52 | 4.33 | 2.00 | 0.600 | 0.072 | ( 0.540) | 0.528 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 53 | 4.42 | 2.10 | 0.630 | 0.072 | ( 0.567) | 0.558 |
| 54 | 4.50 | 2.10 | 0.630 | 0.072 | ( 0.567) | 0.558 |
| 55 | 4.58 | 2.20 | 0.660 | 0.072 | ( 0.594) | 0.588 |
| 56 | 4.67 | 2.30 | 0.690 | 0.072 | ( 0.621) | 0.618 |
| 57 | 4.75 | 2.40 | 0.720 | 0.072 | ( 0.648) | 0.648 |
| 58 | 4.83 | 2.40 | 0.720 | 0.072 | ( 0.648) | 0.648 |
| 59 | 4.92 | 2.50 | 0.750 | 0.072 | ( 0.675) | 0.678 |
| 60 | 5.00 | 2.60 | 0.780 | 0.072 | ( 0.702) | 0.708 |
| 61 | 5.08 | 3.10 | 0.930 | 0.072 | ( 0.837) | 0.858 |
| 62 | 5.17 | 3.60 | 1.080 | 0.072 | ( 0.972) | 1.008 |
| 63 | 5.25 | 3.90 | 1.170 | 0.072 | ( 1.053) | 1.098 |
| 64 | 5.33 | 4.20 | 1.260 | 0.072 | ( 1.134) | 1.188 |
| 65 | 5.42 | 4.70 | 1.410 | 0.072 | ( 1.269) | 1.338 |
| 66 | 5.50 | 5.60 | 1.680 | 0.072 | ( 1.512) | 1.608 |
| 67 | 5.58 | 1.90 | 0.570 | 0.072 | ( 0.513) | 0.498 |
| 68 | 5.67 | 0.90 | 0.270 | 0.072 | ( 0.243) | 0.198 |
| 69 | 5.75 | 0.60 | 0.180 | 0.072 | ( 0.162) | 0.108 |
| 70 | 5.83 | 0.50 | 0.150 | 0.072 | ( 0.135) | 0.078 |
| 71 | 5.92 | 0.30 | 0.090 | 0.072 | ( 0.081) | 0.018 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.072) | 0.054 | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 24.9

Flood volume = Effective rainfall 2.07(In)
times area 7.4(Ac.)/[(In)/(Ft.)] = 1.3(Ac.Ft)
Total soil loss = 0.43(In)
Total soil loss = 0.264(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 55635.6 Cubic Feet
Total soil loss = 11517.7 Cubic Feet

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Peak flow rate of this hydrograph = 10.727(CFS)

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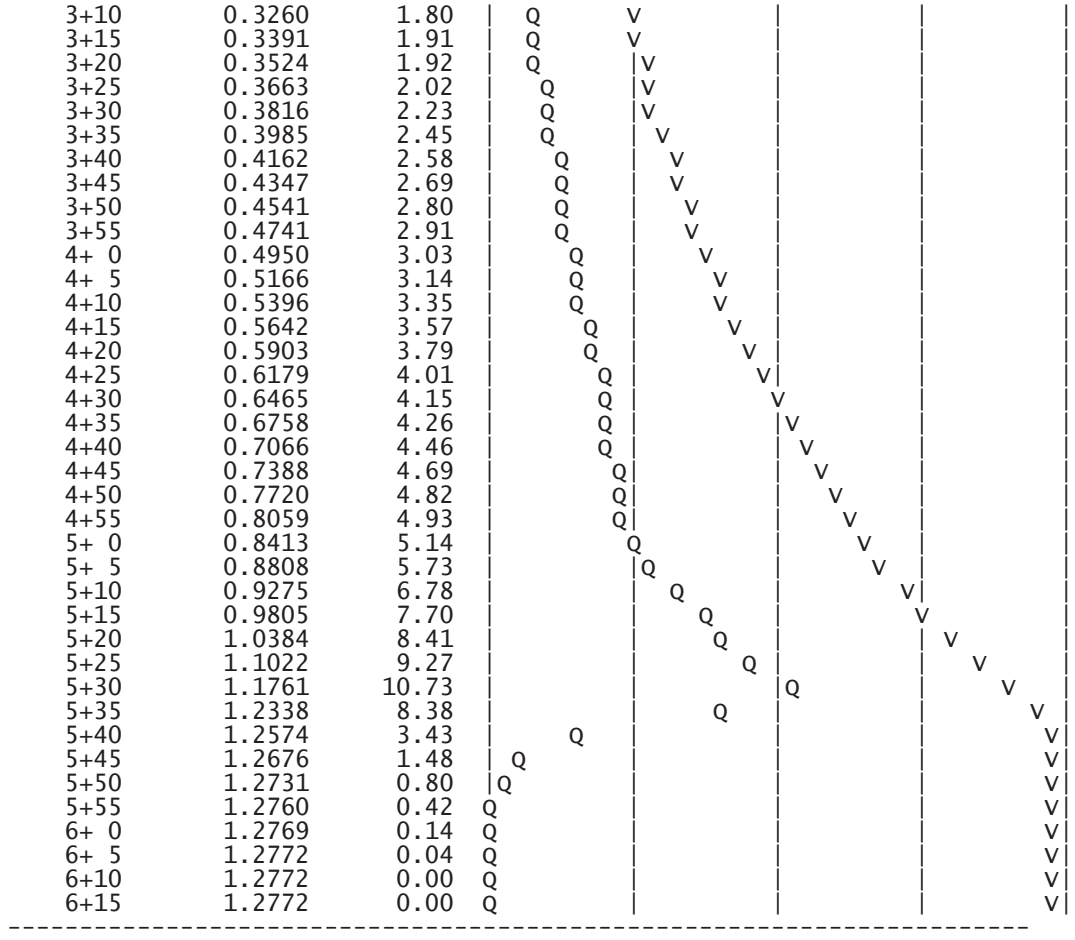
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 5.0 | 10.0 | 15.0 | 20.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0017 | 0.24 | Q | \| | \| | \| | \| |
| 0+10 | 0.0060 | 0.63 | VQ | \| | \| | \| | \| |
| 0+15 | 0.0114 | 0.78 | VQ | \| | \| | \| | \| |
| 0+20 | 0.0170 | 0.81 | VQ | \| | \| | \| | \| |
| 0+25 | 0.0225 | 0.81 | VQ | \| | \| | \| | \| |
| 0+30 | 0.0287 | 0.90 | VQ | \| | \| | \| | \| |
| 0+35 | 0.0357 | 1.01 | \|VQ | \| | \| | \| | \| |
| 0+40 | 0.0428 | 1.03 | \|VQ | \| | \| | \| | \| |
| 0+45 | 0.0499 | 1.03 | \|VQ | \| | \| | \| | \| |
| 0+50 | 0.0570 | 1.03 | \|VQ | \| | \| | \| | \| |
| 0+55 | 0.0641 | 1.03 | \| Q | \| | \| | \| | \| |
| 1+ 0 | 0.0719 | 1.13 | \| Q | \| | \| | \| | \| |
| 1+ 5 | 0.0804 | 1.24 | \| Q | \| | \| | \| | \| |
| 1+10 | 0.0890 | 1.25 | \| Q | \| | \| | \| | \| |
| 1+15 | 0.0977 | 1.26 | \| QV | \| | \| | \| | \| |
| 1+20 | 0.1063 | 1.26 | \| QV | \| | \| | \| | \| |
| 1+25 | 0.1150 | 1.26 | \| QV | \| | \| | \| | \| |
| 1+30 | 0.1236 | 1.26 | \| QV | \| | \| | \| | \| |
| 1+35 | 0.1323 | 1.26 | \| Q V | \| | \| | \| | \| |
| 1+40 | 0.1409 | 1.26 | \| Q V | \| | \| | \| | \| |
| 1+45 | 0.1496 | 1.26 | \| Q V | \| | \| | \| | \| |
| 1+50 | 0.1582 | 1.26 | \| Q V | \| | \| | \| | \| |
| 1+55 | 0.1669 | 1.26 | \| Q V | \| | \| | \| | \| |
| 2+ 0 | 0.1761 | 1.35 | \| Q V | \| | \| | \| | \| |
| 2+ 5 | 0.1856 | 1.37 | \| Q V | \| | \| | \| | \| |
| 2+10 | 0.1950 | 1.36 | \| Q V | \| | \| | \| | \| |
| 2+15 | 0.2050 | 1.46 | \| Q V | \| | \| | \| | \| |
| 2+20 | 0.2152 | 1.48 | \| Q V | \| | \| | \| | \| |
| 2+25 | 0.2254 | 1.48 | \| Q V | \| | \| | \| | \| |
| 2+30 | 0.2356 | 1.48 | \| Q V | \| | \| | \| | \| |
| 2+35 | 0.2458 | 1.48 | \| Q V | \| | \| | \| | \| |
| 2+40 | 0.2560 | 1.48 | \| Q V | \| | \| | \| | \| |
| 2+45 | 0.2668 | 1.57 | \| Q V | \| | \| | \| | \| |
| 2+50 | 0.2784 | 1.69 | \| Q V | \| | \| | \| | \| |
| 2+55 | 0.2901 | 1.70 | \| Q V\| | \| | \| | \| | \| |
| 3+ 0 | 0.3019 | 1.70 | \| Q V\| | \| | \| | \| | \| |
| 3+ 5 | 0.3136 | 1.70 | \| Q V\| | \| | \| | \| | \| |



| | | | |
|---|---|---|---|
| 3+10 | 0.3260 | 1.80 | |
| 3+15 | 0.3391 | 1.91 | |
| 3+20 | 0.3524 | 1.92 | |
| 3+25 | 0.3663 | 2.02 | |
| 3+30 | 0.3816 | 2.23 | |
| 3+35 | 0.3985 | 2.45 | |
| 3+40 | 0.4162 | 2.58 | |
| 3+45 | 0.4347 | 2.69 | |
| 3+50 | 0.4541 | 2.80 | |
| 3+55 | 0.4741 | 2.91 | |
| 4+ 0 | 0.4950 | 3.03 | |
| 4+ 5 | 0.5166 | 3.14 | |
| 4+10 | 0.5396 | 3.35 | |
| 4+15 | 0.5642 | 3.57 | |
| 4+20 | 0.5903 | 3.79 | |
| 4+25 | 0.6179 | 4.01 | |
| 4+30 | 0.6465 | 4.15 | |
| 4+35 | 0.6758 | 4.26 | |
| 4+40 | 0.7066 | 4.46 | |
| 4+45 | 0.7388 | 4.69 | |
| 4+50 | 0.7720 | 4.82 | |
| 4+55 | 0.8059 | 4.93 | |
| 5+ 0 | 0.8413 | 5.14 | |
| 5+ 5 | 0.8808 | 5.73 | |
| 5+10 | 0.9275 | 6.78 | |
| 5+15 | 0.9805 | 7.70 | |
| 5+20 | 1.0384 | 8.41 | |
| 5+25 | 1.1022 | 9.27 | |
| 5+30 | 1.1761 | 10.73 | |
| 5+35 | 1.2338 | 8.38 | |
| 5+40 | 1.2574 | 3.43 | |
| 5+45 | 1.2676 | 1.48 | |
| 5+50 | 1.2731 | 0.80 | |
| 5+55 | 1.2760 | 0.42 | |
| 6+ 0 | 1.2769 | 0.14 | |
| 6+ 5 | 1.2772 | 0.04 | |
| 6+10 | 1.2772 | 0.00 | |
| 6+15 | 1.2772 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 32.2
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 7.40(Ac.) = 0.012 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 7.40(Ac.) = 0.012 Sq. Mi.
Length along longest watercourse = 930.00(Ft.)
Length along longest watercourse measured to centroid = 494.00(Ft.)
Length along longest watercourse = 0.176 Mi.
Length along longest watercourse measured to centroid = 0.094 Mi.
Difference in elevation = 323.00(Ft.)
Slope along watercourse = 1833.8065 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.042 Hr.
Lag time = 2.54 Min.
25% of lag time = 0.63 Min.
40% of lag time = 1.02 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 7.40 | 1.80 | 13.32 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 7.40 | 4.66 | 34.48 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.660(In)

Point rain (area averaged) = 4.660(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.660(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 7.400 | 86.21 | 0.000 |

Total Area Entered = 7.40(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 86.2 | 94.5 | 0.072 | 0.000 | 0.072 | 1.000 | 0.072 |
| | | | | | Sum (F) = | 0.072 |

Area averaged mean soil loss (F) (In/Hr) = 0.072

Minimum soil loss rate ((In/Hr)) = 0.036
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 196.851 | 41.642 | 3.106 |
| 2 0.167 | 393.703 | 50.313 | 3.752 |
| 3 0.250 | 590.554 | 6.874 | 0.513 |
| 4 0.333 | 787.406 | 1.171 | 0.087 |
| | | Sum = 100.000 Sum= | 7.458 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.037 | ( 0.127) | 0.034 | 0.004 |
| 2 | 0.17 | 0.07 | 0.037 | ( 0.127) | 0.034 | 0.004 |
| 3 | 0.25 | 0.07 | 0.037 | ( 0.126) | 0.034 | 0.004 |
| 4 | 0.33 | 0.10 | 0.056 | ( 0.126) | 0.050 | 0.006 |
| 5 | 0.42 | 0.10 | 0.056 | ( 0.125) | 0.050 | 0.006 |
| 6 | 0.50 | 0.10 | 0.056 | ( 0.125) | 0.050 | 0.006 |
| 7 | 0.58 | 0.10 | 0.056 | ( 0.124) | 0.050 | 0.006 |
| 8 | 0.67 | 0.10 | 0.056 | ( 0.124) | 0.050 | 0.006 |
| 9 | 0.75 | 0.10 | 0.056 | ( 0.123) | 0.050 | 0.006 |
| 10 | 0.83 | 0.13 | 0.075 | ( 0.123) | 0.067 | 0.007 |
| 11 | 0.92 | 0.13 | 0.075 | ( 0.122) | 0.067 | 0.007 |
| 12 | 1.00 | 0.13 | 0.075 | ( 0.122) | 0.067 | 0.007 |
| 13 | 1.08 | 0.10 | 0.056 | ( 0.121) | 0.050 | 0.006 |
| 14 | 1.17 | 0.10 | 0.056 | ( 0.121) | 0.050 | 0.006 |
| 15 | 1.25 | 0.10 | 0.056 | ( 0.120) | 0.050 | 0.006 |
| 16 | 1.33 | 0.10 | 0.056 | ( 0.120) | 0.050 | 0.006 |
| 17 | 1.42 | 0.10 | 0.056 | ( 0.119) | 0.050 | 0.006 |
| 18 | 1.50 | 0.10 | 0.056 | ( 0.119) | 0.050 | 0.006 |
| 19 | 1.58 | 0.10 | 0.056 | ( 0.118) | 0.050 | 0.006 |
| 20 | 1.67 | 0.10 | 0.056 | ( 0.118) | 0.050 | 0.006 |
| 21 | 1.75 | 0.10 | 0.056 | ( 0.117) | 0.050 | 0.006 |
| 22 | 1.83 | 0.13 | 0.075 | ( 0.117) | 0.067 | 0.007 |
| 23 | 1.92 | 0.13 | 0.075 | ( 0.117) | 0.067 | 0.007 |
| 24 | 2.00 | 0.13 | 0.075 | ( 0.116) | 0.067 | 0.007 |
| 25 | 2.08 | 0.13 | 0.075 | ( 0.116) | 0.067 | 0.007 |
| 26 | 2.17 | 0.13 | 0.075 | ( 0.115) | 0.067 | 0.007 |
| 27 | 2.25 | 0.13 | 0.075 | ( 0.115) | 0.067 | 0.007 |
| 28 | 2.33 | 0.13 | 0.075 | ( 0.114) | 0.067 | 0.007 |
| 29 | 2.42 | 0.13 | 0.075 | ( 0.114) | 0.067 | 0.007 |
| 30 | 2.50 | 0.13 | 0.075 | ( 0.113) | 0.067 | 0.007 |
| 31 | 2.58 | 0.17 | 0.093 | ( 0.113) | 0.084 | 0.009 |
| 32 | 2.67 | 0.17 | 0.093 | ( 0.112) | 0.084 | 0.009 |
| 33 | 2.75 | 0.17 | 0.093 | ( 0.112) | 0.084 | 0.009 |
| 34 | 2.83 | 0.17 | 0.093 | ( 0.111) | 0.084 | 0.009 |
| 35 | 2.92 | 0.17 | 0.093 | ( 0.111) | 0.084 | 0.009 |
| 36 | 3.00 | 0.17 | 0.093 | ( 0.110) | 0.084 | 0.009 |
| 37 | 3.08 | 0.17 | 0.093 | ( 0.110) | 0.084 | 0.009 |
| 38 | 3.17 | 0.17 | 0.093 | ( 0.110) | 0.084 | 0.009 |
| 39 | 3.25 | 0.17 | 0.093 | ( 0.109) | 0.084 | 0.009 |
| 40 | 3.33 | 0.17 | 0.093 | ( 0.109) | 0.084 | 0.009 |
| 41 | 3.42 | 0.17 | 0.093 | ( 0.108) | 0.084 | 0.009 |
| 42 | 3.50 | 0.17 | 0.093 | ( 0.108) | 0.084 | 0.009 |
| 43 | 3.58 | 0.17 | 0.093 | ( 0.107) | 0.084 | 0.009 |
| 44 | 3.67 | 0.17 | 0.093 | ( 0.107) | 0.084 | 0.009 |
| 45 | 3.75 | 0.17 | 0.093 | ( 0.106) | 0.084 | 0.009 |
| 46 | 3.83 | 0.20 | 0.112 | ( 0.106) | 0.101 | 0.011 |
| 47 | 3.92 | 0.20 | 0.112 | ( 0.106) | 0.101 | 0.011 |
| 48 | 4.00 | 0.20 | 0.112 | ( 0.105) | 0.101 | 0.011 |
| 49 | 4.08 | 0.20 | 0.112 | ( 0.105) | 0.101 | 0.011 |
| 50 | 4.17 | 0.20 | 0.112 | ( 0.104) | 0.101 | 0.011 |
| 51 | 4.25 | 0.20 | 0.112 | ( 0.104) | 0.101 | 0.011 |
| 52 | 4.33 | 0.23 | 0.130 | 0.103 | ( 0.117) | 0.027 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 53 | 4.42 | 0.23 | 0.130 | 0.103 | ( 0.117) | 0.028 |
| 54 | 4.50 | 0.23 | 0.130 | 0.102 | ( 0.117) | 0.028 |
| 55 | 4.58 | 0.23 | 0.130 | 0.102 | ( 0.117) | 0.029 |
| 56 | 4.67 | 0.23 | 0.130 | 0.102 | ( 0.117) | 0.029 |
| 57 | 4.75 | 0.23 | 0.130 | 0.101 | ( 0.117) | 0.029 |
| 58 | 4.83 | 0.27 | 0.149 | 0.101 | ( 0.134) | 0.048 |
| 59 | 4.92 | 0.27 | 0.149 | 0.100 | ( 0.134) | 0.049 |
| 60 | 5.00 | 0.27 | 0.149 | 0.100 | ( 0.134) | 0.049 |
| 61 | 5.08 | 0.20 | 0.112 | 0.099 | ( 0.101) | 0.012 |
| 62 | 5.17 | 0.20 | 0.112 | 0.099 | ( 0.101) | 0.013 |
| 63 | 5.25 | 0.20 | 0.112 | 0.098 | ( 0.101) | 0.013 |
| 64 | 5.33 | 0.23 | 0.130 | 0.098 | ( 0.117) | 0.032 |
| 65 | 5.42 | 0.23 | 0.130 | 0.098 | ( 0.117) | 0.033 |
| 66 | 5.50 | 0.23 | 0.130 | 0.097 | ( 0.117) | 0.033 |
| 67 | 5.58 | 0.27 | 0.149 | 0.097 | ( 0.134) | 0.052 |
| 68 | 5.67 | 0.27 | 0.149 | 0.096 | ( 0.134) | 0.053 |
| 69 | 5.75 | 0.27 | 0.149 | 0.096 | ( 0.134) | 0.053 |
| 70 | 5.83 | 0.27 | 0.149 | 0.095 | ( 0.134) | 0.054 |
| 71 | 5.92 | 0.27 | 0.149 | 0.095 | ( 0.134) | 0.054 |
| 72 | 6.00 | 0.27 | 0.149 | 0.095 | ( 0.134) | 0.054 |
| 73 | 6.08 | 0.30 | 0.168 | 0.094 | ( 0.151) | 0.074 |
| 74 | 6.17 | 0.30 | 0.168 | 0.094 | ( 0.151) | 0.074 |
| 75 | 6.25 | 0.30 | 0.168 | 0.093 | ( 0.151) | 0.074 |
| 76 | 6.33 | 0.30 | 0.168 | 0.093 | ( 0.151) | 0.075 |
| 77 | 6.42 | 0.30 | 0.168 | 0.093 | ( 0.151) | 0.075 |
| 78 | 6.50 | 0.30 | 0.168 | 0.092 | ( 0.151) | 0.076 |
| 79 | 6.58 | 0.33 | 0.186 | 0.092 | ( 0.168) | 0.095 |
| 80 | 6.67 | 0.33 | 0.186 | 0.091 | ( 0.168) | 0.095 |
| 81 | 6.75 | 0.33 | 0.186 | 0.091 | ( 0.168) | 0.095 |
| 82 | 6.83 | 0.33 | 0.186 | 0.090 | ( 0.168) | 0.096 |
| 83 | 6.92 | 0.33 | 0.186 | 0.090 | ( 0.168) | 0.096 |
| 84 | 7.00 | 0.33 | 0.186 | 0.090 | ( 0.168) | 0.097 |
| 85 | 7.08 | 0.33 | 0.186 | 0.089 | ( 0.168) | 0.097 |
| 86 | 7.17 | 0.33 | 0.186 | 0.089 | ( 0.168) | 0.098 |
| 87 | 7.25 | 0.33 | 0.186 | 0.088 | ( 0.168) | 0.098 |
| 88 | 7.33 | 0.37 | 0.205 | 0.088 | ( 0.185) | 0.117 |
| 89 | 7.42 | 0.37 | 0.205 | 0.088 | ( 0.185) | 0.117 |
| 90 | 7.50 | 0.37 | 0.205 | 0.087 | ( 0.185) | 0.118 |
| 91 | 7.58 | 0.40 | 0.224 | 0.087 | ( 0.201) | 0.137 |
| 92 | 7.67 | 0.40 | 0.224 | 0.086 | ( 0.201) | 0.137 |
| 93 | 7.75 | 0.40 | 0.224 | 0.086 | ( 0.201) | 0.138 |
| 94 | 7.83 | 0.43 | 0.242 | 0.086 | ( 0.218) | 0.157 |
| 95 | 7.92 | 0.43 | 0.242 | 0.085 | ( 0.218) | 0.157 |
| 96 | 8.00 | 0.43 | 0.242 | 0.085 | ( 0.218) | 0.157 |
| 97 | 8.08 | 0.50 | 0.280 | 0.084 | ( 0.252) | 0.195 |
| 98 | 8.17 | 0.50 | 0.280 | 0.084 | ( 0.252) | 0.196 |
| 99 | 8.25 | 0.50 | 0.280 | 0.084 | ( 0.252) | 0.196 |
| 100 | 8.33 | 0.50 | 0.280 | 0.083 | ( 0.252) | 0.196 |
| 101 | 8.42 | 0.50 | 0.280 | 0.083 | ( 0.252) | 0.197 |
| 102 | 8.50 | 0.50 | 0.280 | 0.083 | ( 0.252) | 0.197 |
| 103 | 8.58 | 0.53 | 0.298 | 0.082 | ( 0.268) | 0.216 |
| 104 | 8.67 | 0.53 | 0.298 | 0.082 | ( 0.268) | 0.216 |
| 105 | 8.75 | 0.53 | 0.298 | 0.081 | ( 0.268) | 0.217 |
| 106 | 8.83 | 0.57 | 0.317 | 0.081 | ( 0.285) | 0.236 |
| 107 | 8.92 | 0.57 | 0.317 | 0.081 | ( 0.285) | 0.236 |
| 108 | 9.00 | 0.57 | 0.317 | 0.080 | ( 0.285) | 0.237 |
| 109 | 9.08 | 0.63 | 0.354 | 0.080 | ( 0.319) | 0.274 |
| 110 | 9.17 | 0.63 | 0.354 | 0.079 | ( 0.319) | 0.275 |
| 111 | 9.25 | 0.63 | 0.354 | 0.079 | ( 0.319) | 0.275 |
| 112 | 9.33 | 0.67 | 0.373 | 0.079 | ( 0.336) | 0.294 |
| 113 | 9.42 | 0.67 | 0.373 | 0.078 | ( 0.336) | 0.294 |
| 114 | 9.50 | 0.67 | 0.373 | 0.078 | ( 0.336) | 0.295 |
| 115 | 9.58 | 0.70 | 0.391 | 0.078 | ( 0.352) | 0.314 |
| 116 | 9.67 | 0.70 | 0.391 | 0.077 | ( 0.352) | 0.314 |
| 117 | 9.75 | 0.70 | 0.391 | 0.077 | ( 0.352) | 0.315 |
| 118 | 9.83 | 0.73 | 0.410 | 0.076 | ( 0.369) | 0.334 |
| 119 | 9.92 | 0.73 | 0.410 | 0.076 | ( 0.369) | 0.334 |
| 120 | 10.00 | 0.73 | 0.410 | 0.076 | ( 0.369) | 0.334 |
| 121 | 10.08 | 0.50 | 0.280 | 0.075 | ( 0.252) | 0.204 |
| 122 | 10.17 | 0.50 | 0.280 | 0.075 | ( 0.252) | 0.205 |
| 123 | 10.25 | 0.50 | 0.280 | 0.075 | ( 0.252) | 0.205 |
| 124 | 10.33 | 0.50 | 0.280 | 0.074 | ( 0.252) | 0.205 |
| 125 | 10.42 | 0.50 | 0.280 | 0.074 | ( 0.252) | 0.206 |
| 126 | 10.50 | 0.50 | 0.280 | 0.074 | ( 0.252) | 0.206 |
| 127 | 10.58 | 0.67 | 0.373 | 0.073 | ( 0.336) | 0.300 |
| 128 | 10.67 | 0.67 | 0.373 | 0.073 | ( 0.336) | 0.300 |
| 129 | 10.75 | 0.67 | 0.373 | 0.072 | ( 0.336) | 0.300 |
| 130 | 10.83 | 0.67 | 0.373 | 0.072 | ( 0.336) | 0.301 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 131 | 10.92 | 0.67 | 0.373 | 0.072 | ( 0.336) | 0.301 |
| 132 | 11.00 | 0.67 | 0.373 | 0.071 | ( 0.336) | 0.301 |
| 133 | 11.08 | 0.63 | 0.354 | 0.071 | ( 0.319) | 0.283 |
| 134 | 11.17 | 0.63 | 0.354 | 0.071 | ( 0.319) | 0.283 |
| 135 | 11.25 | 0.63 | 0.354 | 0.070 | ( 0.319) | 0.284 |
| 136 | 11.33 | 0.63 | 0.354 | 0.070 | ( 0.319) | 0.284 |
| 137 | 11.42 | 0.63 | 0.354 | 0.070 | ( 0.319) | 0.284 |
| 138 | 11.50 | 0.63 | 0.354 | 0.069 | ( 0.319) | 0.285 |
| 139 | 11.58 | 0.57 | 0.317 | 0.069 | ( 0.285) | 0.248 |
| 140 | 11.67 | 0.57 | 0.317 | 0.069 | ( 0.285) | 0.248 |
| 141 | 11.75 | 0.57 | 0.317 | 0.068 | ( 0.285) | 0.249 |
| 142 | 11.83 | 0.60 | 0.336 | 0.068 | ( 0.302) | 0.268 |
| 143 | 11.92 | 0.60 | 0.336 | 0.068 | ( 0.302) | 0.268 |
| 144 | 12.00 | 0.60 | 0.336 | 0.067 | ( 0.302) | 0.268 |
| 145 | 12.08 | 0.83 | 0.466 | 0.067 | ( 0.419) | 0.399 |
| 146 | 12.17 | 0.83 | 0.466 | 0.067 | ( 0.419) | 0.399 |
| 147 | 12.25 | 0.83 | 0.466 | 0.066 | ( 0.419) | 0.400 |
| 148 | 12.33 | 0.87 | 0.485 | 0.066 | ( 0.436) | 0.419 |
| 149 | 12.42 | 0.87 | 0.485 | 0.066 | ( 0.436) | 0.419 |
| 150 | 12.50 | 0.87 | 0.485 | 0.065 | ( 0.436) | 0.419 |
| 151 | 12.58 | 0.93 | 0.522 | 0.065 | ( 0.470) | 0.457 |
| 152 | 12.67 | 0.93 | 0.522 | 0.065 | ( 0.470) | 0.457 |
| 153 | 12.75 | 0.93 | 0.522 | 0.064 | ( 0.470) | 0.458 |
| 154 | 12.83 | 0.97 | 0.541 | 0.064 | ( 0.486) | 0.477 |
| 155 | 12.92 | 0.97 | 0.541 | 0.064 | ( 0.486) | 0.477 |
| 156 | 13.00 | 0.97 | 0.541 | 0.063 | ( 0.486) | 0.477 |
| 157 | 13.08 | 1.13 | 0.634 | 0.063 | ( 0.570) | 0.571 |
| 158 | 13.17 | 1.13 | 0.634 | 0.063 | ( 0.570) | 0.571 |
| 159 | 13.25 | 1.13 | 0.634 | 0.062 | ( 0.570) | 0.571 |
| 160 | 13.33 | 1.13 | 0.634 | 0.062 | ( 0.570) | 0.572 |
| 161 | 13.42 | 1.13 | 0.634 | 0.062 | ( 0.570) | 0.572 |
| 162 | 13.50 | 1.13 | 0.634 | 0.061 | ( 0.570) | 0.572 |
| 163 | 13.58 | 0.77 | 0.429 | 0.061 | ( 0.386) | 0.368 |
| 164 | 13.67 | 0.77 | 0.429 | 0.061 | ( 0.386) | 0.368 |
| 165 | 13.75 | 0.77 | 0.429 | 0.060 | ( 0.386) | 0.368 |
| 166 | 13.83 | 0.77 | 0.429 | 0.060 | ( 0.386) | 0.369 |
| 167 | 13.92 | 0.77 | 0.429 | 0.060 | ( 0.386) | 0.369 |
| 168 | 14.00 | 0.77 | 0.429 | 0.060 | ( 0.386) | 0.369 |
| 169 | 14.08 | 0.90 | 0.503 | 0.059 | ( 0.453) | 0.444 |
| 170 | 14.17 | 0.90 | 0.503 | 0.059 | ( 0.453) | 0.444 |
| 171 | 14.25 | 0.90 | 0.503 | 0.059 | ( 0.453) | 0.445 |
| 172 | 14.33 | 0.87 | 0.485 | 0.058 | ( 0.436) | 0.426 |
| 173 | 14.42 | 0.87 | 0.485 | 0.058 | ( 0.436) | 0.427 |
| 174 | 14.50 | 0.87 | 0.485 | 0.058 | ( 0.436) | 0.427 |
| 175 | 14.58 | 0.87 | 0.485 | 0.057 | ( 0.436) | 0.427 |
| 176 | 14.67 | 0.87 | 0.485 | 0.057 | ( 0.436) | 0.427 |
| 177 | 14.75 | 0.87 | 0.485 | 0.057 | ( 0.436) | 0.428 |
| 178 | 14.83 | 0.83 | 0.466 | 0.057 | ( 0.419) | 0.409 |
| 179 | 14.92 | 0.83 | 0.466 | 0.056 | ( 0.419) | 0.410 |
| 180 | 15.00 | 0.83 | 0.466 | 0.056 | ( 0.419) | 0.410 |
| 181 | 15.08 | 0.80 | 0.447 | 0.056 | ( 0.403) | 0.392 |
| 182 | 15.17 | 0.80 | 0.447 | 0.055 | ( 0.403) | 0.392 |
| 183 | 15.25 | 0.80 | 0.447 | 0.055 | ( 0.403) | 0.392 |
| 184 | 15.33 | 0.77 | 0.429 | 0.055 | ( 0.386) | 0.374 |
| 185 | 15.42 | 0.77 | 0.429 | 0.055 | ( 0.386) | 0.374 |
| 186 | 15.50 | 0.77 | 0.429 | 0.054 | ( 0.386) | 0.374 |
| 187 | 15.58 | 0.63 | 0.354 | 0.054 | ( 0.319) | 0.300 |
| 188 | 15.67 | 0.63 | 0.354 | 0.054 | ( 0.319) | 0.300 |
| 189 | 15.75 | 0.63 | 0.354 | 0.053 | ( 0.319) | 0.301 |
| 190 | 15.83 | 0.63 | 0.354 | 0.053 | ( 0.319) | 0.301 |
| 191 | 15.92 | 0.63 | 0.354 | 0.053 | ( 0.319) | 0.301 |
| 192 | 16.00 | 0.63 | 0.354 | 0.053 | ( 0.319) | 0.301 |
| 193 | 16.08 | 0.13 | 0.075 | 0.052 | ( 0.067) | 0.022 |
| 194 | 16.17 | 0.13 | 0.075 | 0.052 | ( 0.067) | 0.022 |
| 195 | 16.25 | 0.13 | 0.075 | 0.052 | ( 0.067) | 0.023 |
| 196 | 16.33 | 0.13 | 0.075 | 0.052 | ( 0.067) | 0.023 |
| 197 | 16.42 | 0.13 | 0.075 | 0.051 | ( 0.067) | 0.023 |
| 198 | 16.50 | 0.13 | 0.075 | 0.051 | ( 0.067) | 0.023 |
| 199 | 16.58 | 0.10 | 0.056 | ( 0.051) | 0.050 | 0.006 |
| 200 | 16.67 | 0.10 | 0.056 | ( 0.051) | 0.050 | 0.006 |
| 201 | 16.75 | 0.10 | 0.056 | 0.050 | ( 0.050) | 0.006 |
| 202 | 16.83 | 0.10 | 0.056 | 0.050 | ( 0.050) | 0.006 |
| 203 | 16.92 | 0.10 | 0.056 | 0.050 | ( 0.050) | 0.006 |
| 204 | 17.00 | 0.10 | 0.056 | 0.050 | ( 0.050) | 0.006 |
| 205 | 17.08 | 0.17 | 0.093 | 0.049 | ( 0.084) | 0.044 |
| 206 | 17.17 | 0.17 | 0.093 | 0.049 | ( 0.084) | 0.044 |
| 207 | 17.25 | 0.17 | 0.093 | 0.049 | ( 0.084) | 0.044 |
| 208 | 17.33 | 0.17 | 0.093 | 0.049 | ( 0.084) | 0.045 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 209 | 17.42 | 0.17 | 0.093 | 0.048 | ( 0.084) | 0.045 |
| 210 | 17.50 | 0.17 | 0.093 | 0.048 | ( 0.084) | 0.045 |
| 211 | 17.58 | 0.17 | 0.093 | 0.048 | ( 0.084) | 0.045 |
| 212 | 17.67 | 0.17 | 0.093 | 0.048 | ( 0.084) | 0.046 |
| 213 | 17.75 | 0.17 | 0.093 | 0.047 | ( 0.084) | 0.046 |
| 214 | 17.83 | 0.13 | 0.075 | 0.047 | ( 0.067) | 0.027 |
| 215 | 17.92 | 0.13 | 0.075 | 0.047 | ( 0.067) | 0.028 |
| 216 | 18.00 | 0.13 | 0.075 | 0.047 | ( 0.067) | 0.028 |
| 217 | 18.08 | 0.13 | 0.075 | 0.046 | ( 0.067) | 0.028 |
| 218 | 18.17 | 0.13 | 0.075 | 0.046 | ( 0.067) | 0.028 |
| 219 | 18.25 | 0.13 | 0.075 | 0.046 | ( 0.067) | 0.029 |
| 220 | 18.33 | 0.13 | 0.075 | 0.046 | ( 0.067) | 0.029 |
| 221 | 18.42 | 0.13 | 0.075 | 0.046 | ( 0.067) | 0.029 |
| 222 | 18.50 | 0.13 | 0.075 | 0.045 | ( 0.067) | 0.029 |
| 223 | 18.58 | 0.10 | 0.056 | 0.045 | ( 0.050) | 0.011 |
| 224 | 18.67 | 0.10 | 0.056 | 0.045 | ( 0.050) | 0.011 |
| 225 | 18.75 | 0.10 | 0.056 | 0.045 | ( 0.050) | 0.011 |
| 226 | 18.83 | 0.07 | 0.037 | ( 0.044) | 0.034 | 0.004 |
| 227 | 18.92 | 0.07 | 0.037 | ( 0.044) | 0.034 | 0.004 |
| 228 | 19.00 | 0.07 | 0.037 | ( 0.044) | 0.034 | 0.004 |
| 229 | 19.08 | 0.10 | 0.056 | 0.044 | ( 0.050) | 0.012 |
| 230 | 19.17 | 0.10 | 0.056 | 0.044 | ( 0.050) | 0.012 |
| 231 | 19.25 | 0.10 | 0.056 | 0.043 | ( 0.050) | 0.013 |
| 232 | 19.33 | 0.13 | 0.075 | 0.043 | ( 0.067) | 0.031 |
| 233 | 19.42 | 0.13 | 0.075 | 0.043 | ( 0.067) | 0.032 |
| 234 | 19.50 | 0.13 | 0.075 | 0.043 | ( 0.067) | 0.032 |
| 235 | 19.58 | 0.10 | 0.056 | 0.043 | ( 0.050) | 0.013 |
| 236 | 19.67 | 0.10 | 0.056 | 0.042 | ( 0.050) | 0.014 |
| 237 | 19.75 | 0.10 | 0.056 | 0.042 | ( 0.050) | 0.014 |
| 238 | 19.83 | 0.07 | 0.037 | ( 0.042) | 0.034 | 0.004 |
| 239 | 19.92 | 0.07 | 0.037 | ( 0.042) | 0.034 | 0.004 |
| 240 | 20.00 | 0.07 | 0.037 | ( 0.042) | 0.034 | 0.004 |
| 241 | 20.08 | 0.10 | 0.056 | 0.041 | ( 0.050) | 0.014 |
| 242 | 20.17 | 0.10 | 0.056 | 0.041 | ( 0.050) | 0.015 |
| 243 | 20.25 | 0.10 | 0.056 | 0.041 | ( 0.050) | 0.015 |
| 244 | 20.33 | 0.10 | 0.056 | 0.041 | ( 0.050) | 0.015 |
| 245 | 20.42 | 0.10 | 0.056 | 0.041 | ( 0.050) | 0.015 |
| 246 | 20.50 | 0.10 | 0.056 | 0.041 | ( 0.050) | 0.015 |
| 247 | 20.58 | 0.10 | 0.056 | 0.040 | ( 0.050) | 0.016 |
| 248 | 20.67 | 0.10 | 0.056 | 0.040 | ( 0.050) | 0.016 |
| 249 | 20.75 | 0.10 | 0.056 | 0.040 | ( 0.050) | 0.016 |
| 250 | 20.83 | 0.07 | 0.037 | ( 0.040) | 0.034 | 0.004 |
| 251 | 20.92 | 0.07 | 0.037 | ( 0.040) | 0.034 | 0.004 |
| 252 | 21.00 | 0.07 | 0.037 | ( 0.040) | 0.034 | 0.004 |
| 253 | 21.08 | 0.10 | 0.056 | 0.039 | ( 0.050) | 0.016 |
| 254 | 21.17 | 0.10 | 0.056 | 0.039 | ( 0.050) | 0.017 |
| 255 | 21.25 | 0.10 | 0.056 | 0.039 | ( 0.050) | 0.017 |
| 256 | 21.33 | 0.07 | 0.037 | ( 0.039) | 0.034 | 0.004 |
| 257 | 21.42 | 0.07 | 0.037 | ( 0.039) | 0.034 | 0.004 |
| 258 | 21.50 | 0.07 | 0.037 | ( 0.039) | 0.034 | 0.004 |
| 259 | 21.58 | 0.10 | 0.056 | 0.039 | ( 0.050) | 0.017 |
| 260 | 21.67 | 0.10 | 0.056 | 0.038 | ( 0.050) | 0.018 |
| 261 | 21.75 | 0.10 | 0.056 | 0.038 | ( 0.050) | 0.018 |
| 262 | 21.83 | 0.07 | 0.037 | ( 0.038) | 0.034 | 0.004 |
| 263 | 21.92 | 0.07 | 0.037 | ( 0.038) | 0.034 | 0.004 |
| 264 | 22.00 | 0.07 | 0.037 | ( 0.038) | 0.034 | 0.004 |
| 265 | 22.08 | 0.10 | 0.056 | 0.038 | ( 0.050) | 0.018 |
| 266 | 22.17 | 0.10 | 0.056 | 0.038 | ( 0.050) | 0.018 |
| 267 | 22.25 | 0.10 | 0.056 | 0.037 | ( 0.050) | 0.018 |
| 268 | 22.33 | 0.07 | 0.037 | ( 0.037) | 0.034 | 0.004 |
| 269 | 22.42 | 0.07 | 0.037 | ( 0.037) | 0.034 | 0.004 |
| 270 | 22.50 | 0.07 | 0.037 | ( 0.037) | 0.034 | 0.004 |
| 271 | 22.58 | 0.07 | 0.037 | ( 0.037) | 0.034 | 0.004 |
| 272 | 22.67 | 0.07 | 0.037 | ( 0.037) | 0.034 | 0.004 |
| 273 | 22.75 | 0.07 | 0.037 | ( 0.037) | 0.034 | 0.004 |
| 274 | 22.83 | 0.07 | 0.037 | ( 0.037) | 0.034 | 0.004 |
| 275 | 22.92 | 0.07 | 0.037 | ( 0.037) | 0.034 | 0.004 |
| 276 | 23.00 | 0.07 | 0.037 | ( 0.037) | 0.034 | 0.004 |
| 277 | 23.08 | 0.07 | 0.037 | ( 0.036) | 0.034 | 0.004 |
| 278 | 23.17 | 0.07 | 0.037 | ( 0.036) | 0.034 | 0.004 |
| 279 | 23.25 | 0.07 | 0.037 | ( 0.036) | 0.034 | 0.004 |
| 280 | 23.33 | 0.07 | 0.037 | ( 0.036) | 0.034 | 0.004 |
| 281 | 23.42 | 0.07 | 0.037 | ( 0.036) | 0.034 | 0.004 |
| 282 | 23.50 | 0.07 | 0.037 | ( 0.036) | 0.034 | 0.004 |
| 283 | 23.58 | 0.07 | 0.037 | ( 0.036) | 0.034 | 0.004 |
| 284 | 23.67 | 0.07 | 0.037 | ( 0.036) | 0.034 | 0.004 |
| 285 | 23.75 | 0.07 | 0.037 | ( 0.036) | 0.034 | 0.004 |
| 286 | 23.83 | 0.07 | 0.037 | ( 0.036) | 0.034 | 0.004 |

287 23.92 0.07 0.037 ( 0.036) 0.034 0.004
288 24.00 0.07 0.037 ( 0.036) 0.034 0.004
(Loss Rate Not Used)
Sum = 100.0 Sum = 37.8
Flood volume = Effective rainfall 3.15(In)
times area 7.4(Ac.)/[(In)/(Ft.)] = 1.9(Ac.Ft)
Total soil loss = 1.51(In)
Total soil loss = 0.932(Ac.Ft)
Total rainfall = 4.66(In)
Flood volume = 84565.9 Cubic Feet
Total soil loss = 40609.3 Cubic Feet

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Peak flow rate of this hydrograph = 4.269(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0001 | 0.01 | Q | | | | |
| 0+10 | 0.0003 | 0.03 | Q | | | | |
| 0+15 | 0.0004 | 0.03 | Q | | | | |
| 0+20 | 0.0007 | 0.03 | Q | | | | |
| 0+25 | 0.0010 | 0.04 | Q | | | | |
| 0+30 | 0.0012 | 0.04 | Q | | | | |
| 0+35 | 0.0015 | 0.04 | Q | | | | |
| 0+40 | 0.0018 | 0.04 | Q | | | | |
| 0+45 | 0.0021 | 0.04 | Q | | | | |
| 0+50 | 0.0024 | 0.05 | Q | | | | |
| 0+55 | 0.0028 | 0.05 | Q | | | | |
| 1+ 0 | 0.0032 | 0.06 | Q | | | | |
| 1+ 5 | 0.0035 | 0.05 | Q | | | | |
| 1+10 | 0.0038 | 0.04 | Q | | | | |
| 1+15 | 0.0041 | 0.04 | Q | | | | |
| 1+20 | 0.0044 | 0.04 | Q | | | | |
| 1+25 | 0.0047 | 0.04 | Q | | | | |
| 1+30 | 0.0050 | 0.04 | Q | | | | |
| 1+35 | 0.0053 | 0.04 | Q | | | | |
| 1+40 | 0.0056 | 0.04 | Q | | | | |
| 1+45 | 0.0058 | 0.04 | Q | | | | |
| 1+50 | 0.0062 | 0.05 | Q | | | | |
| 1+55 | 0.0065 | 0.05 | Q | | | | |
| 2+ 0 | 0.0069 | 0.06 | Q | | | | |
| 2+ 5 | 0.0073 | 0.06 | Q | | | | |
| 2+10 | 0.0077 | 0.06 | Q | | | | |
| 2+15 | 0.0081 | 0.06 | Q | | | | |
| 2+20 | 0.0085 | 0.06 | Q | | | | |
| 2+25 | 0.0088 | 0.06 | Q | | | | |
| 2+30 | 0.0092 | 0.06 | Q | | | | |
| 2+35 | 0.0096 | 0.06 | Q | | | | |
| 2+40 | 0.0101 | 0.07 | Q | | | | |
| 2+45 | 0.0106 | 0.07 | Q | | | | |
| 2+50 | 0.0111 | 0.07 | Q | | | | |
| 2+55 | 0.0116 | 0.07 | Q | | | | |
| 3+ 0 | 0.0120 | 0.07 | Q | | | | |
| 3+ 5 | 0.0125 | 0.07 | Q | | | | |
| 3+10 | 0.0130 | 0.07 | Q | | | | |
| 3+15 | 0.0135 | 0.07 | Q | | | | |
| 3+20 | 0.0139 | 0.07 | Q | | | | |
| 3+25 | 0.0144 | 0.07 | Q | | | | |
| 3+30 | 0.0149 | 0.07 | Q | | | | |
| 3+35 | 0.0154 | 0.07 | Q | | | | |
| 3+40 | 0.0159 | 0.07 | Q | | | | |
| 3+45 | 0.0163 | 0.07 | Q | | | | |
| 3+50 | 0.0169 | 0.08 | Q | | | | |
| 3+55 | 0.0174 | 0.08 | Q | | | | |
| 4+ 0 | 0.0180 | 0.08 | Q | | | | |
| 4+ 5 | 0.0186 | 0.08 | Q | | | | |
| 4+10 | 0.0192 | 0.08 | Q | | | | |
| 4+15 | 0.0197 | 0.08 | Q | | | | |
| 4+20 | 0.0206 | 0.13 | Q | | | | |
| 4+25 | 0.0220 | 0.19 | Q | | | | |
| 4+30 | 0.0234 | 0.21 | Q | | | | |
| 4+35 | 0.0249 | 0.21 | Q | | | | |

```
 4+40       0.0263      0.21  Q          |          |          |          |
 4+45       0.0278      0.22  Q          |          |          |          |
 4+50       0.0297      0.28  VQ         |          |          |          |
 4+55       0.0322      0.35  VQ         |          |          |          |
 5+ 0       0.0347      0.36  VQ         |          |          |          |
 5+ 5       0.0364      0.25  VQ         |          |          |          |
 5+10       0.0372      0.12  Q          |          |          |          |
 5+15       0.0379      0.10  Q          |          |          |          |
 5+20       0.0390      0.16  Q          |          |          |          |
 5+25       0.0406      0.23  Q          |          |          |          |
 5+30       0.0423      0.24  Q          |          |          |          |
 5+35       0.0444      0.31  VQ         |          |          |          |
 5+40       0.0470      0.38  VQ         |          |          |          |
 5+45       0.0497      0.39  |Q         |          |          |          |
 5+50       0.0525      0.40  |Q         |          |          |          |
 5+55       0.0552      0.40  |Q         |          |          |          |
 6+ 0       0.0580      0.40  |Q         |          |          |          |
 6+ 5       0.0612      0.47  |Q         |          |          |          |
 6+10       0.0649      0.54  |VQ        |          |          |          |
 6+15       0.0687      0.55  |VQ        |          |          |          |
 6+20       0.0726      0.56  |VQ        |          |          |          |
 6+25       0.0764      0.56  |VQ        |          |          |          |
 6+30       0.0803      0.56  |VQ        |          |          |          |
 6+35       0.0846      0.62  |VQ        |          |          |          |
 6+40       0.0894      0.70  |VQ        |          |          |          |
 6+45       0.0942      0.71  |VQ        |          |          |          |
 6+50       0.0992      0.71  | Q        |          |          |          |
 6+55       0.1041      0.72  | Q        |          |          |          |
 7+ 0       0.1090      0.72  | Q        |          |          |          |
 7+ 5       0.1140      0.72  | Q        |          |          |          |
 7+10       0.1190      0.73  | Q        |          |          |          |
 7+15       0.1240      0.73  | Q        |          |          |          |
 7+20       0.1295      0.79  | VQ       |          |          |          |
 7+25       0.1354      0.86  | VQ       |          |          |          |
 7+30       0.1414      0.88  | VQ       |          |          |          |
 7+35       0.1479      0.94  |  Q       |          |          |          |
 7+40       0.1549      1.01  |  VQ      |          |          |          |
 7+45       0.1619      1.02  |  VQ      |          |          |          |
 7+50       0.1694      1.09  |  VQ      |          |          |          |
 7+55       0.1774      1.16  |  VQ      |          |          |          |
 8+ 0       0.1854      1.17  |  VQ      |          |          |          |
 8+ 5       0.1943      1.29  |   VQ     |          |          |          |
 8+10       0.2042      1.43  |   VQ     |          |          |          |
 8+15       0.2142      1.46  |   VQ     |          |          |          |
 8+20       0.2243      1.46  |   VQ     |          |          |          |
 8+25       0.2344      1.47  |   VQ     |          |          |          |
 8+30       0.2445      1.47  |    Q     |          |          |          |
 8+35       0.2551      1.53  |    VQ    |          |          |          |
 8+40       0.2661      1.60  |    VQ    |          |          |          |
 8+45       0.2772      1.61  |    VQ    |          |          |          |
 8+50       0.2888      1.68  |    VQ    |          |          |          |
 8+55       0.3008      1.75  |     Q    |          |          |          |
 9+ 0       0.3130      1.76  |     VQ   |          |          |          |
 9+ 5       0.3259      1.88  |     VQ   |          |          |          |
 9+10       0.3399      2.03  |      VQ  |          |          |          |
 9+15       0.3540      2.05  |      VQ  |          |          |          |
 9+20       0.3685      2.11  |      VQ  |          |          |          |
 9+25       0.3836      2.18  |      VQ  |          |          |          |
 9+30       0.3987      2.20  |       Q  |          |          |          |
 9+35       0.4142      2.26  |       VQ |          |          |          |
 9+40       0.4303      2.33  |       VQ |          |          |          |
 9+45       0.4464      2.34  |        Q |          |          |          |
 9+50       0.4630      2.41  |        Q |          |          |          |
 9+55       0.4801      2.48  |        Q |          |          |          |
10+ 0       0.4972      2.49  |        QV          |          |          |
10+ 5       0.5116      2.09  |       Q V          |          |          |
10+10       0.5227      1.60  |     Q   V          |          |          |
10+15       0.5333      1.54  |     Q   V          |          |          |
10+20       0.5438      1.53  |     Q   |V         |          |          |
10+25       0.5544      1.53  |     Q   |V         |          |          |
10+30       0.5650      1.54  |     Q   |V         |          |          |
10+35       0.5775      1.83  |      Q  |V         |          |          |
10+40       0.5926      2.18  |       Q | V        |          |          |
10+45       0.6079      2.23  |       Q | V        |          |          |
10+50       0.6234      2.24  |       Q | V        |          |          |
10+55       0.6388      2.24  |       Q |  V       |          |          |
11+ 0       0.6543      2.25  |       Q |  V       |          |          |
11+ 5       0.6694      2.19  |       Q |  V       |          |          |
```

| | | | |
|---|---|---|---|
| 11+10 | 0.6840 | 2.12 | |
| 11+15 | 0.6986 | 2.12 | |
| 11+20 | 0.7132 | 2.12 | |
| 11+25 | 0.7278 | 2.12 | |
| 11+30 | 0.7424 | 2.12 | |
| 11+35 | 0.7563 | 2.01 | |
| 11+40 | 0.7692 | 1.87 | |
| 11+45 | 0.7820 | 1.86 | |
| 11+50 | 0.7951 | 1.91 | |
| 11+55 | 0.8088 | 1.99 | |
| 12+ 0 | 0.8226 | 2.00 | |
| 12+ 5 | 0.8392 | 2.41 | |
| 12+10 | 0.8591 | 2.90 | |
| 12+15 | 0.8796 | 2.97 | |
| 12+20 | 0.9005 | 3.04 | |
| 12+25 | 0.9220 | 3.11 | |
| 12+30 | 0.9435 | 3.13 | |
| 12+35 | 0.9659 | 3.25 | |
| 12+40 | 0.9892 | 3.39 | |
| 12+45 | 1.0127 | 3.41 | |
| 12+50 | 1.0366 | 3.47 | |
| 12+55 | 1.0610 | 3.55 | |
| 13+ 0 | 1.0855 | 3.56 | |
| 13+ 5 | 1.1120 | 3.85 | |
| 13+10 | 1.1410 | 4.20 | |
| 13+15 | 1.1703 | 4.25 | |
| 13+20 | 1.1997 | 4.26 | |
| 13+25 | 1.2290 | 4.27 | |
| 13+30 | 1.2584 | 4.27 | |
| 13+35 | 1.2835 | 3.63 | |
| 13+40 | 1.3032 | 2.87 | |
| 13+45 | 1.3222 | 2.76 | |
| 13+50 | 1.3412 | 2.75 | |
| 13+55 | 1.3601 | 2.75 | |
| 14+ 0 | 1.3791 | 2.75 | |
| 14+ 5 | 1.3996 | 2.99 | |
| 14+10 | 1.4222 | 3.27 | |
| 14+15 | 1.4450 | 3.31 | |
| 14+20 | 1.4674 | 3.26 | |
| 14+25 | 1.4894 | 3.19 | |
| 14+30 | 1.5113 | 3.19 | |
| 14+35 | 1.5333 | 3.19 | |
| 14+40 | 1.5552 | 3.19 | |
| 14+45 | 1.5772 | 3.19 | |
| 14+50 | 1.5988 | 3.13 | |
| 14+55 | 1.6199 | 3.07 | |
| 15+ 0 | 1.6410 | 3.06 | |
| 15+ 5 | 1.6617 | 3.00 | |
| 15+10 | 1.6819 | 2.93 | |
| 15+15 | 1.7020 | 2.93 | |
| 15+20 | 1.7218 | 2.87 | |
| 15+25 | 1.7411 | 2.80 | |
| 15+30 | 1.7603 | 2.79 | |
| 15+35 | 1.7780 | 2.56 | |
| 15+40 | 1.7937 | 2.28 | |
| 15+45 | 1.8092 | 2.25 | |
| 15+50 | 1.8246 | 2.24 | |
| 15+55 | 1.8401 | 2.25 | |
| 16+ 0 | 1.8556 | 2.25 | |
| 16+ 5 | 1.8651 | 1.38 | |
| 16+10 | 1.8674 | 0.33 | |
| 16+15 | 1.8687 | 0.19 | |
| 16+20 | 1.8699 | 0.17 | |
| 16+25 | 1.8711 | 0.17 | |
| 16+30 | 1.8723 | 0.17 | |
| 16+35 | 1.8731 | 0.12 | |
| 16+40 | 1.8735 | 0.05 | |
| 16+45 | 1.8738 | 0.04 | |
| 16+50 | 1.8741 | 0.04 | |
| 16+55 | 1.8744 | 0.04 | |
| 17+ 0 | 1.8747 | 0.05 | |
| 17+ 5 | 1.8758 | 0.16 | |
| 17+10 | 1.8779 | 0.31 | |
| 17+15 | 1.8802 | 0.33 | |
| 17+20 | 1.8825 | 0.33 | |
| 17+25 | 1.8848 | 0.33 | |
| 17+30 | 1.8871 | 0.34 | |
| 17+35 | 1.8894 | 0.34 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+40 | 1.8917 | 0.34 | \|Q | \| | \| | \| | V \| |
| 17+45 | 1.8941 | 0.34 | \|Q | \| | \| | \| | V\| |
| 17+50 | 1.8961 | 0.28 | \|Q | \| | \| | \| | V\| |
| 17+55 | 1.8975 | 0.22 | Q | \| | \| | \| | V\| |
| 18+ 0 | 1.8990 | 0.21 | Q | \| | \| | \| | V\| |
| 18+ 5 | 1.9004 | 0.21 | Q | \| | \| | \| | V\| |
| 18+10 | 1.9019 | 0.21 | Q | \| | \| | \| | V\| |
| 18+15 | 1.9033 | 0.21 | Q | \| | \| | \| | V\| |
| 18+20 | 1.9048 | 0.21 | Q | \| | \| | \| | V\| |
| 18+25 | 1.9063 | 0.22 | Q | \| | \| | \| | V\| |
| 18+30 | 1.9078 | 0.22 | Q | \| | \| | \| | V\| |
| 18+35 | 1.9089 | 0.16 | Q | \| | \| | \| | V\| |
| 18+40 | 1.9095 | 0.09 | Q | \| | \| | \| | V\| |
| 18+45 | 1.9101 | 0.08 | Q | \| | \| | \| | V\| |
| 18+50 | 1.9105 | 0.06 | Q | \| | \| | \| | V\| |
| 18+55 | 1.9108 | 0.03 | Q | \| | \| | \| | V\| |
| 19+ 0 | 1.9110 | 0.03 | Q | \| | \| | \| | V\| |
| 19+ 5 | 1.9113 | 0.05 | Q | \| | \| | \| | V\| |
| 19+10 | 1.9119 | 0.09 | Q | \| | \| | \| | V\| |
| 19+15 | 1.9125 | 0.09 | Q | \| | \| | \| | V\| |
| 19+20 | 1.9136 | 0.15 | Q | \| | \| | \| | V\| |
| 19+25 | 1.9151 | 0.22 | Q | \| | \| | \| | V\| |
| 19+30 | 1.9167 | 0.23 | Q | \| | \| | \| | V\| |
| 19+35 | 1.9180 | 0.18 | Q | \| | \| | \| | V\| |
| 19+40 | 1.9188 | 0.11 | Q | \| | \| | \| | V\| |
| 19+45 | 1.9195 | 0.10 | Q | \| | \| | \| | V\| |
| 19+50 | 1.9200 | 0.07 | Q | \| | \| | \| | V\| |
| 19+55 | 1.9202 | 0.03 | Q | \| | \| | \| | V\| |
| 20+ 0 | 1.9204 | 0.03 | Q | \| | \| | \| | V\| |
| 20+ 5 | 1.9208 | 0.06 | Q | \| | \| | \| | V\| |
| 20+10 | 1.9215 | 0.10 | Q | \| | \| | \| | V\| |
| 20+15 | 1.9223 | 0.11 | Q | \| | \| | \| | V\| |
| 20+20 | 1.9230 | 0.11 | Q | \| | \| | \| | V\| |
| 20+25 | 1.9238 | 0.11 | Q | \| | \| | \| | V\| |
| 20+30 | 1.9246 | 0.11 | Q | \| | \| | \| | V\| |
| 20+35 | 1.9254 | 0.11 | Q | \| | \| | \| | V\| |
| 20+40 | 1.9262 | 0.12 | Q | \| | \| | \| | V\| |
| 20+45 | 1.9270 | 0.12 | Q | \| | \| | \| | V\| |
| 20+50 | 1.9275 | 0.08 | Q | \| | \| | \| | V\| |
| 20+55 | 1.9278 | 0.04 | Q | \| | \| | \| | V\| |
| 21+ 0 | 1.9280 | 0.03 | Q | \| | \| | \| | V\| |
| 21+ 5 | 1.9284 | 0.07 | Q | \| | \| | \| | V\| |
| 21+10 | 1.9292 | 0.12 | Q | \| | \| | \| | V\| |
| 21+15 | 1.9301 | 0.12 | Q | \| | \| | \| | V\| |
| 21+20 | 1.9307 | 0.08 | Q | \| | \| | \| | V\| |
| 21+25 | 1.9309 | 0.04 | Q | \| | \| | \| | V\| |
| 21+30 | 1.9311 | 0.03 | Q | \| | \| | \| | V\| |
| 21+35 | 1.9316 | 0.07 | Q | \| | \| | \| | V\| |
| 21+40 | 1.9324 | 0.12 | Q | \| | \| | \| | V\| |
| 21+45 | 1.9333 | 0.13 | Q | \| | \| | \| | V\| |
| 21+50 | 1.9339 | 0.09 | Q | \| | \| | \| | V\| |
| 21+55 | 1.9342 | 0.04 | Q | \| | \| | \| | V\| |
| 22+ 0 | 1.9344 | 0.03 | Q | \| | \| | \| | V\| |
| 22+ 5 | 1.9349 | 0.07 | Q | \| | \| | \| | V\| |
| 22+10 | 1.9358 | 0.13 | Q | \| | \| | \| | V\| |
| 22+15 | 1.9367 | 0.14 | Q | \| | \| | \| | V\| |
| 22+20 | 1.9373 | 0.09 | Q | \| | \| | \| | V\| |
| 22+25 | 1.9376 | 0.04 | Q | \| | \| | \| | V\| |
| 22+30 | 1.9378 | 0.03 | Q | \| | \| | \| | V\| |
| 22+35 | 1.9380 | 0.03 | Q | \| | \| | \| | V\| |
| 22+40 | 1.9382 | 0.03 | Q | \| | \| | \| | V\| |
| 22+45 | 1.9384 | 0.03 | Q | \| | \| | \| | V\| |
| 22+50 | 1.9386 | 0.03 | Q | \| | \| | \| | V\| |
| 22+55 | 1.9387 | 0.03 | Q | \| | \| | \| | V\| |
| 23+ 0 | 1.9389 | 0.03 | Q | \| | \| | \| | V\| |
| 23+ 5 | 1.9391 | 0.03 | Q | \| | \| | \| | V\| |
| 23+10 | 1.9393 | 0.03 | Q | \| | \| | \| | V\| |
| 23+15 | 1.9395 | 0.03 | Q | \| | \| | \| | V\| |
| 23+20 | 1.9397 | 0.03 | Q | \| | \| | \| | V\| |
| 23+25 | 1.9399 | 0.03 | Q | \| | \| | \| | V\| |
| 23+30 | 1.9401 | 0.03 | Q | \| | \| | \| | V\| |
| 23+35 | 1.9403 | 0.03 | Q | \| | \| | \| | V\| |
| 23+40 | 1.9405 | 0.03 | Q | \| | \| | \| | V\| |
| 23+45 | 1.9407 | 0.03 | Q | \| | \| | \| | V\| |
| 23+50 | 1.9409 | 0.03 | Q | \| | \| | \| | V\| |
| 23+55 | 1.9410 | 0.03 | Q | \| | \| | \| | V\| |
| 24+ 0 | 1.9412 | 0.03 | Q | \| | \| | \| | V\| |
| 24+ 5 | 1.9413 | 0.02 | Q | \| | \| | \| | V\| |

```
   24+10       1.9414      0.00  Q         |         |         |        V|
   24+15       1.9414      0.00  Q         |         |         |         V
-------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014, Version 9.0
Study date 04/23/18 File: EX32C1100.out

++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
----------------------------------------------------------------------

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 32.3
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 66.20(Ac.) = 0.103 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 66.20(Ac.) = 0.103 Sq. Mi.
Length along longest watercourse = 3168.00(Ft.)
Length along longest watercourse measured to centroid = 1443.00(Ft.)
Length along longest watercourse = 0.600 Mi.
Length along longest watercourse measured to centroid = 0.273 Mi.
Difference in elevation = 438.00(Ft.)
Slope along watercourse = 730.0000 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.121 Hr.
Lag time = 7.24 Min.
25% of lag time = 1.81 Min.
40% of lag time = 2.90 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 66.20 | 0.50 | 33.10 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 66.20 | 1.20 | 79.44 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.94 %
Adjusted average point rain = 1.199(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 66.200 | 83.96 | 0.008 |

Total Area Entered = 66.20(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.008 | 0.085 | 1.000 | 0.085 |
| | | | | | Sum (F) = | 0.085 |

Area averaged mean soil loss (F) (In/Hr) = 0.085

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.894

---

Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 69.017 | 6.992 | 4.665 |
| 2 | 0.167 | 138.033 | 40.240 | 26.847 |
| 3 | 0.250 | 207.050 | 29.528 | 19.700 |
| 4 | 0.333 | 276.066 | 11.052 | 7.373 |
| 5 | 0.417 | 345.083 | 6.151 | 4.104 |
| 6 | 0.500 | 414.099 | 3.263 | 2.177 |
| 7 | 0.583 | 483.116 | 1.241 | 0.828 |
| 8 | 0.667 | 552.132 | 0.630 | 0.420 |
| 9 | 0.750 | 621.149 | 0.483 | 0.322 |
| 10 | 0.833 | 690.165 | 0.319 | 0.213 |
| 11 | 0.917 | 759.182 | 0.101 | 0.067 |
| | | Sum = 100.000 | Sum= | 66.717 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.604 | 0.085 | ( 0.540) | 0.519 |
| 2 | 0.17 | 4.30 | 0.619 | 0.085 | ( 0.553) | 0.533 |
| 3 | 0.25 | 5.00 | 0.720 | 0.085 | ( 0.643) | 0.634 |
| 4 | 0.33 | 5.00 | 0.720 | 0.085 | ( 0.643) | 0.634 |
| 5 | 0.42 | 5.80 | 0.835 | 0.085 | ( 0.746) | 0.749 |
| 6 | 0.50 | 6.50 | 0.935 | 0.085 | ( 0.836) | 0.850 |
| 7 | 0.58 | 7.40 | 1.065 | 0.085 | ( 0.952) | 0.979 |
| 8 | 0.67 | 8.60 | 1.238 | 0.085 | ( 1.106) | 1.152 |
| 9 | 0.75 | 12.30 | 1.770 | 0.085 | ( 1.582) | 1.685 |
| 10 | 0.83 | 29.10 | 4.188 | 0.085 | ( 3.742) | 4.102 |
| 11 | 0.92 | 6.80 | 0.979 | 0.085 | ( 0.874) | 0.893 |
| 12 | 1.00 | 5.00 | 0.720 | 0.085 | ( 0.643) | 0.634 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | | Sum = | 13.4 |

Flood volume = Effective rainfall 1.11(In)
times area 66.2(Ac.)/[(In)/(Ft.)] = 6.1(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.472(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 267650.0 Cubic Feet
Total soil loss = 20544.2 Cubic Feet

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Peak flow rate of this hydrograph = 163.181(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 50.0 | 100.0 | 150.0 | 200.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0167 | 2.42 | Q | | | | |
| 0+10 | 0.1298 | 16.43 | V Q | | | | |
| 0+15 | 0.3193 | 27.51 | V Q | | | | |
| 0+20 | 0.5558 | 34.33 | V Q | | | | |
| 0+25 | 0.8250 | 39.09 | V Q | | | | |
| 0+30 | 1.1321 | 44.59 | VQ | | | | |
| 0+35 | 1.4836 | 51.04 | VQ | | | | |
| 0+40 | 1.8873 | 58.61 | QV | | | | |
| 0+45 | 2.3677 | 69.76 | Q V | | | | |
| 0+50 | 3.0601 | 100.53 | VQ | | | | |

```
    0+55       4.1839    163.18  |          |          |       V  | Q        |
    1+ 0       5.0689    128.50  |          |          |     Q    | V        |
    1+ 5       5.5917     75.91  |          |     Q    |          |     V    |
    1+10       5.8771     41.44  |          |  Q       |          |        V |
    1+15       6.0128     19.71  |   Q      |          |          |         V|
    1+20       6.0768      9.29  |Q         |          |          |         V|
    1+25       6.1092      4.70  Q          |          |          |         V|
    1+30       6.1275      2.66  Q          |          |          |         V|
    1+35       6.1381      1.54  Q          |          |          |         V|
    1+40       6.1428      0.67  Q          |          |          |         V|
    1+45       6.1441      0.20  Q          |          |          |         V|
    1+50       6.1444      0.04  Q          |          |          |          V
-------------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 04/23/18 File: EX32C3100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 32.3
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 66.20(Ac.) = 0.103 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 66.20(Ac.) = 0.103 Sq. Mi.
Length along longest watercourse = 3168.00(Ft.)
Length along longest watercourse measured to centroid = 1443.00(Ft.)
Length along longest watercourse = 0.600 Mi.
Length along longest watercourse measured to centroid = 0.273 Mi.
Difference in elevation = 438.00(Ft.)
Slope along watercourse = 730.0000 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.121 Hr.
Lag time = 7.24 Min.
25% of lag time = 1.81 Min.
40% of lag time = 2.90 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 66.20 | 0.80 | 52.96 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 66.20 | 1.81 | 119.82 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.810(In)

Point rain (area averaged) = 1.810(In)
Areal adjustment factor = 99.97 %
Adjusted average point rain = 1.809(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 66.200 | 83.96 | 0.008 |

Total Area Entered = 66.20(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.008 | 0.085 | 1.000 | 0.085 |
| | | | | | Sum (F) = | 0.085 |

Area averaged mean soil loss (F) (In/Hr) = 0.085

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.894

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 69.017 | 6.992 | 4.665 |
| 2 | 0.167 | 138.033 | 40.240 | 26.847 |
| 3 | 0.250 | 207.050 | 29.528 | 19.700 |
| 4 | 0.333 | 276.066 | 11.052 | 7.373 |
| 5 | 0.417 | 345.083 | 6.151 | 4.104 |
| 6 | 0.500 | 414.099 | 3.263 | 2.177 |
| 7 | 0.583 | 483.116 | 1.241 | 0.828 |
| 8 | 0.667 | 552.132 | 0.630 | 0.420 |
| 9 | 0.750 | 621.149 | 0.483 | 0.322 |
| 10 | 0.833 | 690.165 | 0.319 | 0.213 |
| 11 | 0.917 | 759.182 | 0.101 | 0.067 |
| | | | Sum = 100.000 | Sum= 66.717 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.282 | 0.085 | ( 0.252) | 0.197 |
| 2 | 0.17 | 1.30 | 0.282 | 0.085 | ( 0.252) | 0.197 |
| 3 | 0.25 | 1.10 | 0.239 | 0.085 | ( 0.213) | 0.153 |
| 4 | 0.33 | 1.50 | 0.326 | 0.085 | ( 0.291) | 0.240 |
| 5 | 0.42 | 1.50 | 0.326 | 0.085 | ( 0.291) | 0.240 |
| 6 | 0.50 | 1.80 | 0.391 | 0.085 | ( 0.349) | 0.305 |
| 7 | 0.58 | 1.50 | 0.326 | 0.085 | ( 0.291) | 0.240 |
| 8 | 0.67 | 1.80 | 0.391 | 0.085 | ( 0.349) | 0.305 |
| 9 | 0.75 | 1.80 | 0.391 | 0.085 | ( 0.349) | 0.305 |
| 10 | 0.83 | 1.50 | 0.326 | 0.085 | ( 0.291) | 0.240 |
| 11 | 0.92 | 1.60 | 0.347 | 0.085 | ( 0.310) | 0.262 |
| 12 | 1.00 | 1.80 | 0.391 | 0.085 | ( 0.349) | 0.305 |
| 13 | 1.08 | 2.20 | 0.478 | 0.085 | ( 0.427) | 0.392 |
| 14 | 1.17 | 2.20 | 0.478 | 0.085 | ( 0.427) | 0.392 |
| 15 | 1.25 | 2.20 | 0.478 | 0.085 | ( 0.427) | 0.392 |
| 16 | 1.33 | 2.00 | 0.434 | 0.085 | ( 0.388) | 0.349 |
| 17 | 1.42 | 2.60 | 0.565 | 0.085 | ( 0.504) | 0.479 |
| 18 | 1.50 | 2.70 | 0.586 | 0.085 | ( 0.524) | 0.501 |
| 19 | 1.58 | 2.40 | 0.521 | 0.085 | ( 0.466) | 0.436 |
| 20 | 1.67 | 2.70 | 0.586 | 0.085 | ( 0.524) | 0.501 |
| 21 | 1.75 | 3.30 | 0.717 | 0.085 | ( 0.640) | 0.631 |
| 22 | 1.83 | 3.10 | 0.673 | 0.085 | ( 0.602) | 0.588 |
| 23 | 1.92 | 2.90 | 0.630 | 0.085 | ( 0.563) | 0.544 |
| 24 | 2.00 | 3.00 | 0.651 | 0.085 | ( 0.582) | 0.566 |
| 25 | 2.08 | 3.10 | 0.673 | 0.085 | ( 0.602) | 0.588 |
| 26 | 2.17 | 4.20 | 0.912 | 0.085 | ( 0.815) | 0.826 |
| 27 | 2.25 | 5.00 | 1.086 | 0.085 | ( 0.970) | 1.000 |
| 28 | 2.33 | 3.50 | 0.760 | 0.085 | ( 0.679) | 0.674 |
| 29 | 2.42 | 6.80 | 1.477 | 0.085 | ( 1.319) | 1.391 |
| 30 | 2.50 | 7.30 | 1.585 | 0.085 | ( 1.416) | 1.500 |
| 31 | 2.58 | 8.20 | 1.781 | 0.085 | ( 1.591) | 1.695 |
| 32 | 2.67 | 5.90 | 1.281 | 0.085 | ( 1.145) | 1.196 |
| 33 | 2.75 | 2.00 | 0.434 | 0.085 | ( 0.388) | 0.349 |
| 34 | 2.83 | 1.80 | 0.391 | 0.085 | ( 0.349) | 0.305 |
| 35 | 2.92 | 1.80 | 0.391 | 0.085 | ( 0.349) | 0.305 |
| 36 | 3.00 | 0.60 | 0.130 | 0.085 | ( 0.116) | 0.045 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 18.6 |

Flood volume = Effective rainfall 1.55(In)
times area 66.2(Ac.)/[(In)/(Ft.)] = 8.6(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 1.415(Ac.Ft)
Total rainfall = 1.81(In)
Flood volume = 373195.2 Cubic Feet
Total soil loss = 61632.7 Cubic Feet

Peak flow rate of this hydrograph = 97.148(CFS)

3 - H O U R  S T O R M
R u n o f f  H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 25.0 50.0 75.0 100.0 |
|---|---|---|---|
| 0+ 5 | 0.0063 | 0.92 | Q |
| 0+10 | 0.0491 | 6.20 | V Q |
| 0+15 | 0.1171 | 9.88 | V Q |
| 0+20 | 0.1899 | 10.57 | V Q |
| 0+25 | 0.2784 | 12.86 | V Q |
| 0+30 | 0.3816 | 14.98 | V Q |
| 0+35 | 0.4991 | 17.05 | V Q |
| 0+40 | 0.6177 | 17.23 | V Q |
| 0+45 | 0.7445 | 18.40 | V Q |
| 0+50 | 0.8771 | 19.26 | V Q |
| 0+55 | 1.0011 | 18.00 | V Q |
| 1+ 0 | 1.1230 | 17.70 | V Q |
| 1+ 5 | 1.2563 | 19.35 | V Q |
| 1+10 | 1.4112 | 22.49 | V Q |
| 1+15 | 1.5798 | 24.49 | V Q |
| 1+20 | 1.7527 | 25.11 | V Q |
| 1+25 | 1.9249 | 25.00 | V Q |
| 1+30 | 2.1175 | 27.96 | V Q |
| 1+35 | 2.3281 | 30.57 | V Q |
| 1+40 | 2.5374 | 30.39 | VQ |
| 1+45 | 2.7585 | 32.10 | Q |
| 1+50 | 3.0103 | 36.56 | Q |
| 1+55 | 3.2728 | 38.12 | Q |
| 2+ 0 | 3.5300 | 37.34 | Q V |
| 2+ 5 | 3.7883 | 37.51 | Q V |
| 2+10 | 4.0602 | 39.48 | Q V |
| 2+15 | 4.3850 | 47.15 | Q V |
| 2+20 | 4.7651 | 55.19 | Q |
| 2+25 | 5.1446 | 55.10 | Q V |
| 2+30 | 5.6320 | 70.77 | V Q |
| 2+35 | 6.2350 | 87.56 | V Q |
| 2+40 | 6.9041 | 97.15 | V Q |
| 2+45 | 7.5027 | 86.92 | QV |
| 2+50 | 7.8984 | 57.46 | Q V |
| 2+55 | 8.1568 | 37.52 | Q V |
| 3+ 0 | 8.3491 | 27.92 | Q V |
| 3+ 5 | 8.4607 | 16.20 | Q V |
| 3+10 | 8.5136 | 7.68 | Q V |
| 3+15 | 8.5411 | 4.00 | Q V |
| 3+20 | 8.5556 | 2.10 | Q V |
| 3+25 | 8.5622 | 0.96 | Q V |
| 3+30 | 8.5650 | 0.42 | Q V |
| 3+35 | 8.5665 | 0.21 | Q V |
| 3+40 | 8.5672 | 0.10 | Q V |
| 3+45 | 8.5674 | 0.03 | Q V |
| 3+50 | 8.5674 | 0.00 | Q V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 04/23/18 File: EX32C6100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 32.3
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 66.20(Ac.) = 0.103 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 66.20(Ac.) = 0.103 Sq. Mi.
Length along longest watercourse = 3168.00(Ft.)
Length along longest watercourse measured to centroid = 1443.00(Ft.)
Length along longest watercourse = 0.600 Mi.
Length along longest watercourse measured to centroid = 0.273 Mi.
Difference in elevation = 438.00(Ft.)
Slope along watercourse = 730.0000 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.121 Hr.
Lag time = 7.24 Min.
25% of lag time = 1.81 Min.
40% of lag time = 2.90 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 66.20 | 1.14 | 75.47 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 66.20 | 2.50 | 165.50 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.140(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 99.98 %
Adjusted average point rain = 2.499(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 66.200 | 83.96 | 0.008 |

Total Area Entered = 66.20(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.008 | 0.085 | 1.000 | 0.085 |
| | | | | | Sum (F) = | 0.085 |

Area averaged mean soil loss (F) (In/Hr) = 0.085

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.894

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 69.017 | 6.992 | 4.665 |
| 2 0.167 | 138.033 | 40.240 | 26.847 |
| 3 0.250 | 207.050 | 29.528 | 19.700 |
| 4 0.333 | 276.066 | 11.052 | 7.373 |
| 5 0.417 | 345.083 | 6.151 | 4.104 |
| 6 0.500 | 414.099 | 3.263 | 2.177 |
| 7 0.583 | 483.116 | 1.241 | 0.828 |
| 8 0.667 | 552.132 | 0.630 | 0.420 |
| 9 0.750 | 621.149 | 0.483 | 0.322 |
| 10 0.833 | 690.165 | 0.319 | 0.213 |
| 11 0.917 | 759.182 | 0.101 | 0.067 |
| | | Sum = 100.000 | Sum= 66.717 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.085 | ( 0.134) | 0.064 |
| 2 | 0.17 | 0.60 | 0.180 | 0.085 | ( 0.161) | 0.094 |
| 3 | 0.25 | 0.60 | 0.180 | 0.085 | ( 0.161) | 0.094 |
| 4 | 0.33 | 0.60 | 0.180 | 0.085 | ( 0.161) | 0.094 |
| 5 | 0.42 | 0.60 | 0.180 | 0.085 | ( 0.161) | 0.094 |
| 6 | 0.50 | 0.70 | 0.210 | 0.085 | ( 0.188) | 0.124 |
| 7 | 0.58 | 0.70 | 0.210 | 0.085 | ( 0.188) | 0.124 |
| 8 | 0.67 | 0.70 | 0.210 | 0.085 | ( 0.188) | 0.124 |
| 9 | 0.75 | 0.70 | 0.210 | 0.085 | ( 0.188) | 0.124 |
| 10 | 0.83 | 0.70 | 0.210 | 0.085 | ( 0.188) | 0.124 |
| 11 | 0.92 | 0.70 | 0.210 | 0.085 | ( 0.188) | 0.124 |
| 12 | 1.00 | 0.80 | 0.240 | 0.085 | ( 0.214) | 0.154 |
| 13 | 1.08 | 0.80 | 0.240 | 0.085 | ( 0.214) | 0.154 |
| 14 | 1.17 | 0.80 | 0.240 | 0.085 | ( 0.214) | 0.154 |
| 15 | 1.25 | 0.80 | 0.240 | 0.085 | ( 0.214) | 0.154 |
| 16 | 1.33 | 0.80 | 0.240 | 0.085 | ( 0.214) | 0.154 |
| 17 | 1.42 | 0.80 | 0.240 | 0.085 | ( 0.214) | 0.154 |
| 18 | 1.50 | 0.80 | 0.240 | 0.085 | ( 0.214) | 0.154 |
| 19 | 1.58 | 0.80 | 0.240 | 0.085 | ( 0.214) | 0.154 |
| 20 | 1.67 | 0.80 | 0.240 | 0.085 | ( 0.214) | 0.154 |
| 21 | 1.75 | 0.80 | 0.240 | 0.085 | ( 0.214) | 0.154 |
| 22 | 1.83 | 0.80 | 0.240 | 0.085 | ( 0.214) | 0.154 |
| 23 | 1.92 | 0.80 | 0.240 | 0.085 | ( 0.214) | 0.154 |
| 24 | 2.00 | 0.90 | 0.270 | 0.085 | ( 0.241) | 0.184 |
| 25 | 2.08 | 0.80 | 0.240 | 0.085 | ( 0.214) | 0.154 |
| 26 | 2.17 | 0.90 | 0.270 | 0.085 | ( 0.241) | 0.184 |
| 27 | 2.25 | 0.90 | 0.270 | 0.085 | ( 0.241) | 0.184 |
| 28 | 2.33 | 0.90 | 0.270 | 0.085 | ( 0.241) | 0.184 |
| 29 | 2.42 | 0.90 | 0.270 | 0.085 | ( 0.241) | 0.184 |
| 30 | 2.50 | 0.90 | 0.270 | 0.085 | ( 0.241) | 0.184 |
| 31 | 2.58 | 0.90 | 0.270 | 0.085 | ( 0.241) | 0.184 |
| 32 | 2.67 | 0.90 | 0.270 | 0.085 | ( 0.241) | 0.184 |
| 33 | 2.75 | 1.00 | 0.300 | 0.085 | ( 0.268) | 0.214 |
| 34 | 2.83 | 1.00 | 0.300 | 0.085 | ( 0.268) | 0.214 |
| 35 | 2.92 | 1.00 | 0.300 | 0.085 | ( 0.268) | 0.214 |
| 36 | 3.00 | 1.00 | 0.300 | 0.085 | ( 0.268) | 0.214 |
| 37 | 3.08 | 1.00 | 0.300 | 0.085 | ( 0.268) | 0.214 |
| 38 | 3.17 | 1.10 | 0.330 | 0.085 | ( 0.295) | 0.244 |
| 39 | 3.25 | 1.10 | 0.330 | 0.085 | ( 0.295) | 0.244 |
| 40 | 3.33 | 1.10 | 0.330 | 0.085 | ( 0.295) | 0.244 |
| 41 | 3.42 | 1.20 | 0.360 | 0.085 | ( 0.322) | 0.274 |
| 42 | 3.50 | 1.30 | 0.390 | 0.085 | ( 0.348) | 0.304 |
| 43 | 3.58 | 1.40 | 0.420 | 0.085 | ( 0.375) | 0.334 |
| 44 | 3.67 | 1.40 | 0.420 | 0.085 | ( 0.375) | 0.334 |
| 45 | 3.75 | 1.50 | 0.450 | 0.085 | ( 0.402) | 0.364 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 46 | 3.83 | 1.50 | 0.450 | 0.085 | ( 0.402) | 0.364 | |
| 47 | 3.92 | 1.60 | 0.480 | 0.085 | ( 0.429) | 0.394 | |
| 48 | 4.00 | 1.60 | 0.480 | 0.085 | ( 0.429) | 0.394 | |
| 49 | 4.08 | 1.70 | 0.510 | 0.085 | ( 0.456) | 0.424 | |
| 50 | 4.17 | 1.80 | 0.540 | 0.085 | ( 0.482) | 0.454 | |
| 51 | 4.25 | 1.90 | 0.570 | 0.085 | ( 0.509) | 0.484 | |
| 52 | 4.33 | 2.00 | 0.600 | 0.085 | ( 0.536) | 0.514 | |
| 53 | 4.42 | 2.10 | 0.630 | 0.085 | ( 0.563) | 0.544 | |
| 54 | 4.50 | 2.10 | 0.630 | 0.085 | ( 0.563) | 0.544 | |
| 55 | 4.58 | 2.20 | 0.660 | 0.085 | ( 0.590) | 0.574 | |
| 56 | 4.67 | 2.30 | 0.690 | 0.085 | ( 0.616) | 0.604 | |
| 57 | 4.75 | 2.40 | 0.720 | 0.085 | ( 0.643) | 0.634 | |
| 58 | 4.83 | 2.40 | 0.720 | 0.085 | ( 0.643) | 0.634 | |
| 59 | 4.92 | 2.50 | 0.750 | 0.085 | ( 0.670) | 0.664 | |
| 60 | 5.00 | 2.60 | 0.780 | 0.085 | ( 0.697) | 0.694 | |
| 61 | 5.08 | 3.10 | 0.930 | 0.085 | ( 0.831) | 0.844 | |
| 62 | 5.17 | 3.60 | 1.080 | 0.085 | ( 0.965) | 0.994 | |
| 63 | 5.25 | 3.90 | 1.170 | 0.085 | ( 1.045) | 1.084 | |
| 64 | 5.33 | 4.20 | 1.260 | 0.085 | ( 1.126) | 1.174 | |
| 65 | 5.42 | 4.70 | 1.410 | 0.085 | ( 1.260) | 1.324 | |
| 66 | 5.50 | 5.60 | 1.680 | 0.085 | ( 1.501) | 1.594 | |
| 67 | 5.58 | 1.90 | 0.570 | 0.085 | ( 0.509) | 0.484 | |
| 68 | 5.67 | 0.90 | 0.270 | 0.085 | ( 0.241) | 0.184 | |
| 69 | 5.75 | 0.60 | 0.180 | 0.085 | ( 0.161) | 0.094 | |
| 70 | 5.83 | 0.50 | 0.150 | 0.085 | ( 0.134) | 0.064 | |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.085) | 0.080 | 0.010 | |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.085) | 0.054 | 0.006 | |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.9

Flood volume = Effective rainfall 1.99(In)
times area 66.2(Ac.)/[(In)/(Ft.)] = 11.0(Ac.Ft)
Total soil loss = 0.51(In)
Total soil loss = 2.813(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 478103.3 Cubic Feet
Total soil loss = 122525.0 Cubic Feet

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Peak flow rate of this hydrograph = 87.844(CFS)

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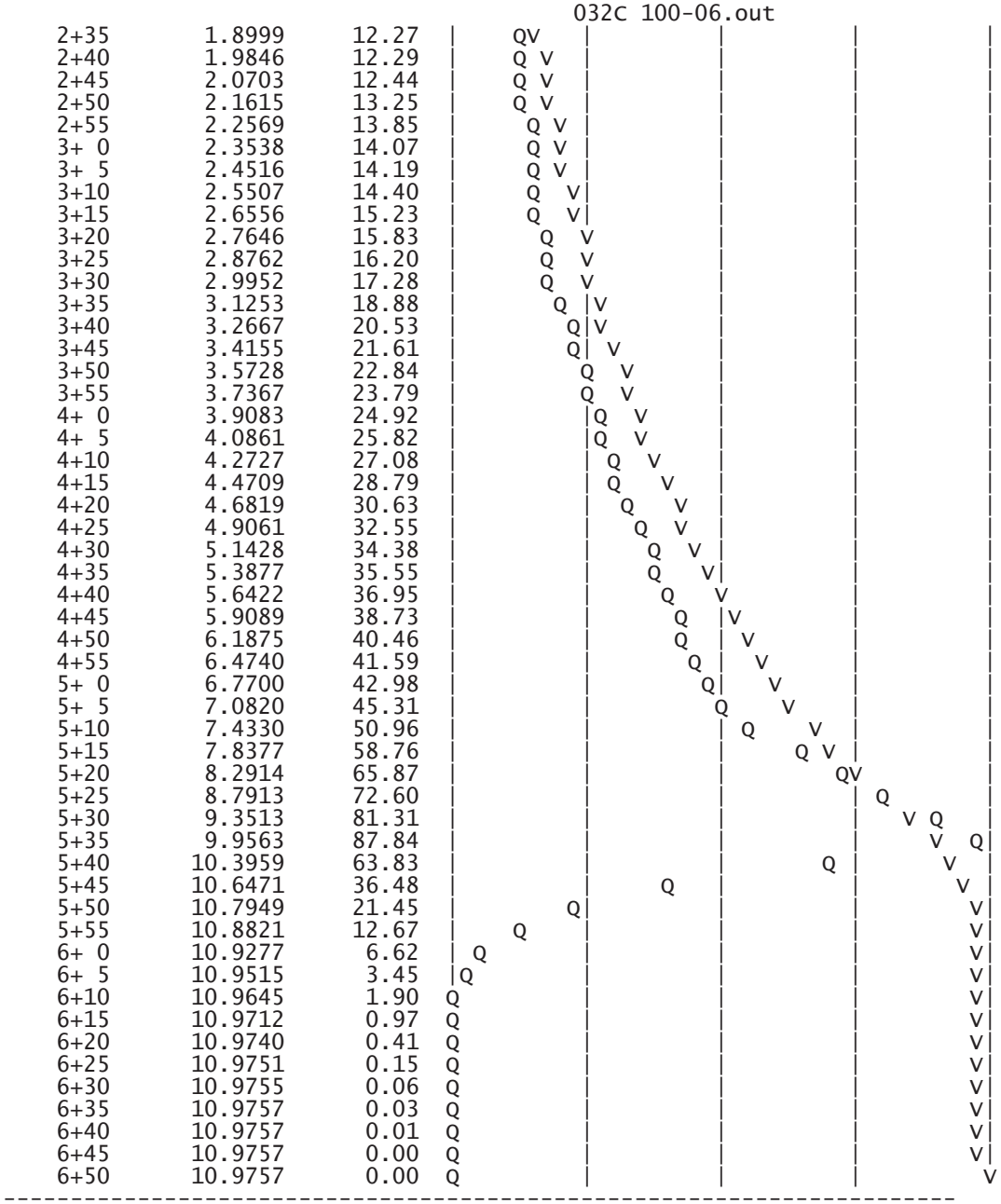
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 22.5 | 45.0 | 67.5 | 90.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0021 | 0.30 | Q | | | | |
| 0+10 | 0.0170 | 2.17 | Q | | | | |
| 0+15 | 0.0463 | 4.25 | VQ | | | | |
| 0+20 | 0.0829 | 5.32 | V Q | | | | |
| 0+25 | 0.1229 | 5.80 | V Q | | | | |
| 0+30 | 0.1656 | 6.21 | V Q | | | | |
| 0+35 | 0.2147 | 7.13 | V Q | | | | |
| 0+40 | 0.2682 | 7.77 | V Q | | | | |
| 0+45 | 0.3235 | 8.03 | \|V Q | | | | |
| 0+50 | 0.3798 | 8.17 | \|V Q | | | | |
| 0+55 | 0.4367 | 8.25 | \|V Q | | | | |
| 1+ 0 | 0.4946 | 8.42 | \|V Q | | | | |
| 1+ 5 | 0.5582 | 9.24 | \| V Q | | | | |
| 1+10 | 0.6260 | 9.84 | \| V Q | | | | |
| 1+15 | 0.6953 | 10.06 | \| V Q | | | | |
| 1+20 | 0.7655 | 10.19 | \| V Q | | | | |
| 1+25 | 0.8361 | 10.25 | \| VQ | | | | |
| 1+30 | 0.9069 | 10.28 | \| VQ | | | | |
| 1+35 | 0.9778 | 10.29 | \| VQ | | | | |
| 1+40 | 1.0487 | 10.30 | \| VQ | | | | |
| 1+45 | 1.1197 | 10.31 | \| Q | | | | |
| 1+50 | 1.1907 | 10.31 | \| Q | | | | |
| 1+55 | 1.2617 | 10.31 | \| Q | | | | |
| 2+ 0 | 1.3337 | 10.45 | \| Q | | | | |
| 2+ 5 | 1.4102 | 11.12 | \| QV | | | | |
| 2+10 | 1.4863 | 11.04 | \| QV | | | | |
| 2+15 | 1.5653 | 11.48 | \| Q | | | | |
| 2+20 | 1.6478 | 11.97 | \| QV | | | | |
| 2+25 | 1.7313 | 12.13 | \| QV | | | | |
| 2+30 | 1.8154 | 12.22 | \| QV | | | | |



| | | | |
|---|---|---|---|
| 2+35 | 1.8999 | 12.27 | |
| 2+40 | 1.9846 | 12.29 | |
| 2+45 | 2.0703 | 12.44 | |
| 2+50 | 2.1615 | 13.25 | |
| 2+55 | 2.2569 | 13.85 | |
| 3+ 0 | 2.3538 | 14.07 | |
| 3+ 5 | 2.4516 | 14.19 | |
| 3+10 | 2.5507 | 14.40 | |
| 3+15 | 2.6556 | 15.23 | |
| 3+20 | 2.7646 | 15.83 | |
| 3+25 | 2.8762 | 16.20 | |
| 3+30 | 2.9952 | 17.28 | |
| 3+35 | 3.1253 | 18.88 | |
| 3+40 | 3.2667 | 20.53 | |
| 3+45 | 3.4155 | 21.61 | |
| 3+50 | 3.5728 | 22.84 | |
| 3+55 | 3.7367 | 23.79 | |
| 4+ 0 | 3.9083 | 24.92 | |
| 4+ 5 | 4.0861 | 25.82 | |
| 4+10 | 4.2727 | 27.08 | |
| 4+15 | 4.4709 | 28.79 | |
| 4+20 | 4.6819 | 30.63 | |
| 4+25 | 4.9061 | 32.55 | |
| 4+30 | 5.1428 | 34.38 | |
| 4+35 | 5.3877 | 35.55 | |
| 4+40 | 5.6422 | 36.95 | |
| 4+45 | 5.9089 | 38.73 | |
| 4+50 | 6.1875 | 40.46 | |
| 4+55 | 6.4740 | 41.59 | |
| 5+ 0 | 6.7700 | 42.98 | |
| 5+ 5 | 7.0820 | 45.31 | |
| 5+10 | 7.4330 | 50.96 | |
| 5+15 | 7.8377 | 58.76 | |
| 5+20 | 8.2914 | 65.87 | |
| 5+25 | 8.7913 | 72.60 | |
| 5+30 | 9.3513 | 81.31 | |
| 5+35 | 9.9563 | 87.84 | |
| 5+40 | 10.3959 | 63.83 | |
| 5+45 | 10.6471 | 36.48 | |
| 5+50 | 10.7949 | 21.45 | |
| 5+55 | 10.8821 | 12.67 | |
| 6+ 0 | 10.9277 | 6.62 | |
| 6+ 5 | 10.9515 | 3.45 | |
| 6+10 | 10.9645 | 1.90 | |
| 6+15 | 10.9712 | 0.97 | |
| 6+20 | 10.9740 | 0.41 | |
| 6+25 | 10.9751 | 0.15 | |
| 6+30 | 10.9755 | 0.06 | |
| 6+35 | 10.9757 | 0.03 | |
| 6+40 | 10.9757 | 0.01 | |
| 6+45 | 10.9757 | 0.00 | |
| 6+50 | 10.9757 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 04/23/18 File: EX32C24100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 32.3
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 66.20(Ac.) = 0.103 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 66.20(Ac.) = 0.103 Sq. Mi.
Length along longest watercourse = 3168.00(Ft.)
Length along longest watercourse measured to centroid = 1443.00(Ft.)
Length along longest watercourse = 0.600 Mi.
Length along longest watercourse measured to centroid = 0.273 Mi.
Difference in elevation = 438.00(Ft.)
Slope along watercourse = 730.0000 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.121 Hr.
Lag time = 7.24 Min.
25% of lag time = 1.81 Min.
40% of lag time = 2.90 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 66.20 | 1.80 | 119.16 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 66.20 | 4.66 | 308.49 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.660(In)

Point rain (area averaged) = 4.660(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 4.659(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 66.200 | 83.96 | 0.008 |

Total Area Entered = 66.20(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.008 | 0.085 | 1.000 | 0.085 |
| | | | | | Sum (F) = | 0.085 |

Area averaged mean soil loss (F) (In/Hr) = 0.085

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.894

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 69.017 | 6.992 | 4.665 |
| 2 0.167 | 138.033 | 40.240 | 26.847 |
| 3 0.250 | 207.050 | 29.528 | 19.700 |
| 4 0.333 | 276.066 | 11.052 | 7.373 |
| 5 0.417 | 345.083 | 6.151 | 4.104 |
| 6 0.500 | 414.099 | 3.263 | 2.177 |
| 7 0.583 | 483.116 | 1.241 | 0.828 |
| 8 0.667 | 552.132 | 0.630 | 0.420 |
| 9 0.750 | 621.149 | 0.483 | 0.322 |
| 10 0.833 | 690.165 | 0.319 | 0.213 |
| 11 0.917 | 759.182 | 0.101 | 0.067 |
| | | Sum = 100.000 | Sum= 66.717 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.037 | ( 0.152) | 0.033 | 0.004 |
| 2 | 0.17 | 0.07 | 0.037 | ( 0.151) | 0.033 | 0.004 |
| 3 | 0.25 | 0.07 | 0.037 | ( 0.150) | 0.033 | 0.004 |
| 4 | 0.33 | 0.10 | 0.056 | ( 0.150) | 0.050 | 0.006 |
| 5 | 0.42 | 0.10 | 0.056 | ( 0.149) | 0.050 | 0.006 |
| 6 | 0.50 | 0.10 | 0.056 | ( 0.149) | 0.050 | 0.006 |
| 7 | 0.58 | 0.10 | 0.056 | ( 0.148) | 0.050 | 0.006 |
| 8 | 0.67 | 0.10 | 0.056 | ( 0.147) | 0.050 | 0.006 |
| 9 | 0.75 | 0.10 | 0.056 | ( 0.147) | 0.050 | 0.006 |
| 10 | 0.83 | 0.13 | 0.075 | ( 0.146) | 0.067 | 0.008 |
| 11 | 0.92 | 0.13 | 0.075 | ( 0.146) | 0.067 | 0.008 |
| 12 | 1.00 | 0.13 | 0.075 | ( 0.145) | 0.067 | 0.008 |
| 13 | 1.08 | 0.10 | 0.056 | ( 0.145) | 0.050 | 0.006 |
| 14 | 1.17 | 0.10 | 0.056 | ( 0.144) | 0.050 | 0.006 |
| 15 | 1.25 | 0.10 | 0.056 | ( 0.143) | 0.050 | 0.006 |
| 16 | 1.33 | 0.10 | 0.056 | ( 0.143) | 0.050 | 0.006 |
| 17 | 1.42 | 0.10 | 0.056 | ( 0.142) | 0.050 | 0.006 |
| 18 | 1.50 | 0.10 | 0.056 | ( 0.142) | 0.050 | 0.006 |
| 19 | 1.58 | 0.10 | 0.056 | ( 0.141) | 0.050 | 0.006 |
| 20 | 1.67 | 0.10 | 0.056 | ( 0.141) | 0.050 | 0.006 |
| 21 | 1.75 | 0.10 | 0.056 | ( 0.140) | 0.050 | 0.006 |
| 22 | 1.83 | 0.13 | 0.075 | ( 0.139) | 0.067 | 0.008 |
| 23 | 1.92 | 0.13 | 0.075 | ( 0.139) | 0.067 | 0.008 |
| 24 | 2.00 | 0.13 | 0.075 | ( 0.138) | 0.067 | 0.008 |
| 25 | 2.08 | 0.13 | 0.075 | ( 0.138) | 0.067 | 0.008 |
| 26 | 2.17 | 0.13 | 0.075 | ( 0.137) | 0.067 | 0.008 |
| 27 | 2.25 | 0.13 | 0.075 | ( 0.137) | 0.067 | 0.008 |
| 28 | 2.33 | 0.13 | 0.075 | ( 0.136) | 0.067 | 0.008 |
| 29 | 2.42 | 0.13 | 0.075 | ( 0.136) | 0.067 | 0.008 |
| 30 | 2.50 | 0.13 | 0.075 | ( 0.135) | 0.067 | 0.008 |
| 31 | 2.58 | 0.17 | 0.093 | ( 0.134) | 0.083 | 0.010 |
| 32 | 2.67 | 0.17 | 0.093 | ( 0.134) | 0.083 | 0.010 |
| 33 | 2.75 | 0.17 | 0.093 | ( 0.133) | 0.083 | 0.010 |
| 34 | 2.83 | 0.17 | 0.093 | ( 0.133) | 0.083 | 0.010 |
| 35 | 2.92 | 0.17 | 0.093 | ( 0.132) | 0.083 | 0.010 |
| 36 | 3.00 | 0.17 | 0.093 | ( 0.132) | 0.083 | 0.010 |
| 37 | 3.08 | 0.17 | 0.093 | ( 0.131) | 0.083 | 0.010 |
| 38 | 3.17 | 0.17 | 0.093 | ( 0.131) | 0.083 | 0.010 |
| 39 | 3.25 | 0.17 | 0.093 | ( 0.130) | 0.083 | 0.010 |
| 40 | 3.33 | 0.17 | 0.093 | ( 0.130) | 0.083 | 0.010 |
| 41 | 3.42 | 0.17 | 0.093 | ( 0.129) | 0.083 | 0.010 |
| 42 | 3.50 | 0.17 | 0.093 | ( 0.128) | 0.083 | 0.010 |
| 43 | 3.58 | 0.17 | 0.093 | ( 0.128) | 0.083 | 0.010 |
| 44 | 3.67 | 0.17 | 0.093 | ( 0.127) | 0.083 | 0.010 |
| 45 | 3.75 | 0.17 | 0.093 | ( 0.127) | 0.083 | 0.010 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 46 | 3.83 | 0.20 | 0.112 | ( | 0.126) | 0.100 | 0.012 |
| 47 | 3.92 | 0.20 | 0.112 | ( | 0.126) | 0.100 | 0.012 |
| 48 | 4.00 | 0.20 | 0.112 | ( | 0.125) | 0.100 | 0.012 |
| 49 | 4.08 | 0.20 | 0.112 | ( | 0.125) | 0.100 | 0.012 |
| 50 | 4.17 | 0.20 | 0.112 | ( | 0.124) | 0.100 | 0.012 |
| 51 | 4.25 | 0.20 | 0.112 | ( | 0.124) | 0.100 | 0.012 |
| 52 | 4.33 | 0.23 | 0.130 | ( | 0.123) | 0.117 | 0.014 |
| 53 | 4.42 | 0.23 | 0.130 | ( | 0.123) | 0.117 | 0.014 |
| 54 | 4.50 | 0.23 | 0.130 | ( | 0.122) | 0.117 | 0.014 |
| 55 | 4.58 | 0.23 | 0.130 | ( | 0.122) | 0.117 | 0.014 |
| 56 | 4.67 | 0.23 | 0.130 | ( | 0.121) | 0.117 | 0.014 |
| 57 | 4.75 | 0.23 | 0.130 | ( | 0.121) | 0.117 | 0.014 |
| 58 | 4.83 | 0.27 | 0.149 | | 0.120 | ( 0.133) | 0.029 |
| 59 | 4.92 | 0.27 | 0.149 | | 0.119 | ( 0.133) | 0.030 |
| 60 | 5.00 | 0.27 | 0.149 | | 0.119 | ( 0.133) | 0.030 |
| 61 | 5.08 | 0.20 | 0.112 | ( | 0.118) | 0.100 | 0.012 |
| 62 | 5.17 | 0.20 | 0.112 | ( | 0.118) | 0.100 | 0.012 |
| 63 | 5.25 | 0.20 | 0.112 | ( | 0.117) | 0.100 | 0.012 |
| 64 | 5.33 | 0.23 | 0.130 | ( | 0.117) | 0.117 | 0.014 |
| 65 | 5.42 | 0.23 | 0.130 | | 0.116 | ( 0.117) | 0.014 |
| 66 | 5.50 | 0.23 | 0.130 | | 0.116 | ( 0.117) | 0.015 |
| 67 | 5.58 | 0.27 | 0.149 | | 0.115 | ( 0.133) | 0.034 |
| 68 | 5.67 | 0.27 | 0.149 | | 0.115 | ( 0.133) | 0.034 |
| 69 | 5.75 | 0.27 | 0.149 | | 0.114 | ( 0.133) | 0.035 |
| 70 | 5.83 | 0.27 | 0.149 | | 0.114 | ( 0.133) | 0.035 |
| 71 | 5.92 | 0.27 | 0.149 | | 0.113 | ( 0.133) | 0.036 |
| 72 | 6.00 | 0.27 | 0.149 | | 0.113 | ( 0.133) | 0.036 |
| 73 | 6.08 | 0.30 | 0.168 | | 0.112 | ( 0.150) | 0.055 |
| 74 | 6.17 | 0.30 | 0.168 | | 0.112 | ( 0.150) | 0.056 |
| 75 | 6.25 | 0.30 | 0.168 | | 0.111 | ( 0.150) | 0.056 |
| 76 | 6.33 | 0.30 | 0.168 | | 0.111 | ( 0.150) | 0.057 |
| 77 | 6.42 | 0.30 | 0.168 | | 0.110 | ( 0.150) | 0.057 |
| 78 | 6.50 | 0.30 | 0.168 | | 0.110 | ( 0.150) | 0.058 |
| 79 | 6.58 | 0.33 | 0.186 | | 0.109 | ( 0.167) | 0.077 |
| 80 | 6.67 | 0.33 | 0.186 | | 0.109 | ( 0.167) | 0.078 |
| 81 | 6.75 | 0.33 | 0.186 | | 0.108 | ( 0.167) | 0.078 |
| 82 | 6.83 | 0.33 | 0.186 | | 0.108 | ( 0.167) | 0.078 |
| 83 | 6.92 | 0.33 | 0.186 | | 0.107 | ( 0.167) | 0.079 |
| 84 | 7.00 | 0.33 | 0.186 | | 0.107 | ( 0.167) | 0.079 |
| 85 | 7.08 | 0.33 | 0.186 | | 0.106 | ( 0.167) | 0.080 |
| 86 | 7.17 | 0.33 | 0.186 | | 0.106 | ( 0.167) | 0.080 |
| 87 | 7.25 | 0.33 | 0.186 | | 0.105 | ( 0.167) | 0.081 |
| 88 | 7.33 | 0.37 | 0.205 | | 0.105 | ( 0.183) | 0.100 |
| 89 | 7.42 | 0.37 | 0.205 | | 0.105 | ( 0.183) | 0.101 |
| 90 | 7.50 | 0.37 | 0.205 | | 0.104 | ( 0.183) | 0.101 |
| 91 | 7.58 | 0.40 | 0.224 | | 0.104 | ( 0.200) | 0.120 |
| 92 | 7.67 | 0.40 | 0.224 | | 0.103 | ( 0.200) | 0.121 |
| 93 | 7.75 | 0.40 | 0.224 | | 0.103 | ( 0.200) | 0.121 |
| 94 | 7.83 | 0.43 | 0.242 | | 0.102 | ( 0.217) | 0.140 |
| 95 | 7.92 | 0.43 | 0.242 | | 0.102 | ( 0.217) | 0.141 |
| 96 | 8.00 | 0.43 | 0.242 | | 0.101 | ( 0.217) | 0.141 |
| 97 | 8.08 | 0.50 | 0.280 | | 0.101 | ( 0.250) | 0.179 |
| 98 | 8.17 | 0.50 | 0.280 | | 0.100 | ( 0.250) | 0.179 |
| 99 | 8.25 | 0.50 | 0.280 | | 0.100 | ( 0.250) | 0.180 |
| 100 | 8.33 | 0.50 | 0.280 | | 0.099 | ( 0.250) | 0.180 |
| 101 | 8.42 | 0.50 | 0.280 | | 0.099 | ( 0.250) | 0.181 |
| 102 | 8.50 | 0.50 | 0.280 | | 0.098 | ( 0.250) | 0.181 |
| 103 | 8.58 | 0.53 | 0.298 | | 0.098 | ( 0.266) | 0.200 |
| 104 | 8.67 | 0.53 | 0.298 | | 0.097 | ( 0.266) | 0.201 |
| 105 | 8.75 | 0.53 | 0.298 | | 0.097 | ( 0.266) | 0.201 |
| 106 | 8.83 | 0.57 | 0.317 | | 0.097 | ( 0.283) | 0.220 |
| 107 | 8.92 | 0.57 | 0.317 | | 0.096 | ( 0.283) | 0.221 |
| 108 | 9.00 | 0.57 | 0.317 | | 0.096 | ( 0.283) | 0.221 |
| 109 | 9.08 | 0.63 | 0.354 | | 0.095 | ( 0.316) | 0.259 |
| 110 | 9.17 | 0.63 | 0.354 | | 0.095 | ( 0.316) | 0.259 |
| 111 | 9.25 | 0.63 | 0.354 | | 0.094 | ( 0.316) | 0.260 |
| 112 | 9.33 | 0.67 | 0.373 | | 0.094 | ( 0.333) | 0.279 |
| 113 | 9.42 | 0.67 | 0.373 | | 0.093 | ( 0.333) | 0.279 |
| 114 | 9.50 | 0.67 | 0.373 | | 0.093 | ( 0.333) | 0.280 |
| 115 | 9.58 | 0.70 | 0.391 | | 0.092 | ( 0.350) | 0.299 |
| 116 | 9.67 | 0.70 | 0.391 | | 0.092 | ( 0.350) | 0.299 |
| 117 | 9.75 | 0.70 | 0.391 | | 0.092 | ( 0.350) | 0.300 |
| 118 | 9.83 | 0.73 | 0.410 | | 0.091 | ( 0.366) | 0.319 |
| 119 | 9.92 | 0.73 | 0.410 | | 0.091 | ( 0.366) | 0.319 |
| 120 | 10.00 | 0.73 | 0.410 | | 0.090 | ( 0.366) | 0.320 |
| 121 | 10.08 | 0.50 | 0.280 | | 0.090 | ( 0.250) | 0.190 |
| 122 | 10.17 | 0.50 | 0.280 | | 0.089 | ( 0.250) | 0.190 |
| 123 | 10.25 | 0.50 | 0.280 | | 0.089 | ( 0.250) | 0.191 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 124 | 10.33 | 0.50 | 0.280 | 0.089 | ( 0.250) | 0.191 |
| 125 | 10.42 | 0.50 | 0.280 | 0.088 | ( 0.250) | 0.191 |
| 126 | 10.50 | 0.50 | 0.280 | 0.088 | ( 0.250) | 0.192 |
| 127 | 10.58 | 0.67 | 0.373 | 0.087 | ( 0.333) | 0.285 |
| 128 | 10.67 | 0.67 | 0.373 | 0.087 | ( 0.333) | 0.286 |
| 129 | 10.75 | 0.67 | 0.373 | 0.086 | ( 0.333) | 0.286 |
| 130 | 10.83 | 0.67 | 0.373 | 0.086 | ( 0.333) | 0.287 |
| 131 | 10.92 | 0.67 | 0.373 | 0.086 | ( 0.333) | 0.287 |
| 132 | 11.00 | 0.67 | 0.373 | 0.085 | ( 0.333) | 0.288 |
| 133 | 11.08 | 0.63 | 0.354 | 0.085 | ( 0.316) | 0.269 |
| 134 | 11.17 | 0.63 | 0.354 | 0.084 | ( 0.316) | 0.270 |
| 135 | 11.25 | 0.63 | 0.354 | 0.084 | ( 0.316) | 0.270 |
| 136 | 11.33 | 0.63 | 0.354 | 0.083 | ( 0.316) | 0.271 |
| 137 | 11.42 | 0.63 | 0.354 | 0.083 | ( 0.316) | 0.271 |
| 138 | 11.50 | 0.63 | 0.354 | 0.083 | ( 0.316) | 0.271 |
| 139 | 11.58 | 0.57 | 0.317 | 0.082 | ( 0.283) | 0.235 |
| 140 | 11.67 | 0.57 | 0.317 | 0.082 | ( 0.283) | 0.235 |
| 141 | 11.75 | 0.57 | 0.317 | 0.081 | ( 0.283) | 0.235 |
| 142 | 11.83 | 0.60 | 0.335 | 0.081 | ( 0.300) | 0.254 |
| 143 | 11.92 | 0.60 | 0.335 | 0.081 | ( 0.300) | 0.255 |
| 144 | 12.00 | 0.60 | 0.335 | 0.080 | ( 0.300) | 0.255 |
| 145 | 12.08 | 0.83 | 0.466 | 0.080 | ( 0.416) | 0.386 |
| 146 | 12.17 | 0.83 | 0.466 | 0.079 | ( 0.416) | 0.387 |
| 147 | 12.25 | 0.83 | 0.466 | 0.079 | ( 0.416) | 0.387 |
| 148 | 12.33 | 0.87 | 0.485 | 0.079 | ( 0.433) | 0.406 |
| 149 | 12.42 | 0.87 | 0.485 | 0.078 | ( 0.433) | 0.406 |
| 150 | 12.50 | 0.87 | 0.485 | 0.078 | ( 0.433) | 0.407 |
| 151 | 12.58 | 0.93 | 0.522 | 0.077 | ( 0.466) | 0.444 |
| 152 | 12.67 | 0.93 | 0.522 | 0.077 | ( 0.466) | 0.445 |
| 153 | 12.75 | 0.93 | 0.522 | 0.077 | ( 0.466) | 0.445 |
| 154 | 12.83 | 0.97 | 0.540 | 0.076 | ( 0.483) | 0.464 |
| 155 | 12.92 | 0.97 | 0.540 | 0.076 | ( 0.483) | 0.465 |
| 156 | 13.00 | 0.97 | 0.540 | 0.075 | ( 0.483) | 0.465 |
| 157 | 13.08 | 1.13 | 0.634 | 0.075 | ( 0.566) | 0.559 |
| 158 | 13.17 | 1.13 | 0.634 | 0.075 | ( 0.566) | 0.559 |
| 159 | 13.25 | 1.13 | 0.634 | 0.074 | ( 0.566) | 0.559 |
| 160 | 13.33 | 1.13 | 0.634 | 0.074 | ( 0.566) | 0.560 |
| 161 | 13.42 | 1.13 | 0.634 | 0.074 | ( 0.566) | 0.560 |
| 162 | 13.50 | 1.13 | 0.634 | 0.073 | ( 0.566) | 0.560 |
| 163 | 13.58 | 0.77 | 0.429 | 0.073 | ( 0.383) | 0.356 |
| 164 | 13.67 | 0.77 | 0.429 | 0.072 | ( 0.383) | 0.356 |
| 165 | 13.75 | 0.77 | 0.429 | 0.072 | ( 0.383) | 0.357 |
| 166 | 13.83 | 0.77 | 0.429 | 0.072 | ( 0.383) | 0.357 |
| 167 | 13.92 | 0.77 | 0.429 | 0.071 | ( 0.383) | 0.357 |
| 168 | 14.00 | 0.77 | 0.429 | 0.071 | ( 0.383) | 0.358 |
| 169 | 14.08 | 0.90 | 0.503 | 0.071 | ( 0.450) | 0.433 |
| 170 | 14.17 | 0.90 | 0.503 | 0.070 | ( 0.450) | 0.433 |
| 171 | 14.25 | 0.90 | 0.503 | 0.070 | ( 0.450) | 0.433 |
| 172 | 14.33 | 0.87 | 0.485 | 0.070 | ( 0.433) | 0.415 |
| 173 | 14.42 | 0.87 | 0.485 | 0.069 | ( 0.433) | 0.415 |
| 174 | 14.50 | 0.87 | 0.485 | 0.069 | ( 0.433) | 0.416 |
| 175 | 14.58 | 0.87 | 0.485 | 0.069 | ( 0.433) | 0.416 |
| 176 | 14.67 | 0.87 | 0.485 | 0.068 | ( 0.433) | 0.416 |
| 177 | 14.75 | 0.87 | 0.485 | 0.068 | ( 0.433) | 0.417 |
| 178 | 14.83 | 0.83 | 0.466 | 0.067 | ( 0.416) | 0.398 |
| 179 | 14.92 | 0.83 | 0.466 | 0.067 | ( 0.416) | 0.399 |
| 180 | 15.00 | 0.83 | 0.466 | 0.067 | ( 0.416) | 0.399 |
| 181 | 15.08 | 0.80 | 0.447 | 0.066 | ( 0.400) | 0.381 |
| 182 | 15.17 | 0.80 | 0.447 | 0.066 | ( 0.400) | 0.381 |
| 183 | 15.25 | 0.80 | 0.447 | 0.066 | ( 0.400) | 0.382 |
| 184 | 15.33 | 0.77 | 0.429 | 0.065 | ( 0.383) | 0.363 |
| 185 | 15.42 | 0.77 | 0.429 | 0.065 | ( 0.383) | 0.364 |
| 186 | 15.50 | 0.77 | 0.429 | 0.065 | ( 0.383) | 0.364 |
| 187 | 15.58 | 0.63 | 0.354 | 0.064 | ( 0.316) | 0.290 |
| 188 | 15.67 | 0.63 | 0.354 | 0.064 | ( 0.316) | 0.290 |
| 189 | 15.75 | 0.63 | 0.354 | 0.064 | ( 0.316) | 0.290 |
| 190 | 15.83 | 0.63 | 0.354 | 0.063 | ( 0.316) | 0.291 |
| 191 | 15.92 | 0.63 | 0.354 | 0.063 | ( 0.316) | 0.291 |
| 192 | 16.00 | 0.63 | 0.354 | 0.063 | ( 0.316) | 0.291 |
| 193 | 16.08 | 0.13 | 0.075 | 0.062 | ( 0.067) | 0.012 |
| 194 | 16.17 | 0.13 | 0.075 | 0.062 | ( 0.067) | 0.012 |
| 195 | 16.25 | 0.13 | 0.075 | 0.062 | ( 0.067) | 0.013 |
| 196 | 16.33 | 0.13 | 0.075 | 0.062 | ( 0.067) | 0.013 |
| 197 | 16.42 | 0.13 | 0.075 | 0.061 | ( 0.067) | 0.013 |
| 198 | 16.50 | 0.13 | 0.075 | 0.061 | ( 0.067) | 0.014 |
| 199 | 16.58 | 0.10 | 0.056 | ( 0.061) | 0.050 | 0.006 |
| 200 | 16.67 | 0.10 | 0.056 | ( 0.060) | 0.050 | 0.006 |
| 201 | 16.75 | 0.10 | 0.056 | ( 0.060) | 0.050 | 0.006 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 202 | 16.83 | 0.10 | 0.056 | ( | 0.060) | 0.050 | | 0.006 |
| 203 | 16.92 | 0.10 | 0.056 | ( | 0.059) | 0.050 | | 0.006 |
| 204 | 17.00 | 0.10 | 0.056 | ( | 0.059) | 0.050 | | 0.006 |
| 205 | 17.08 | 0.17 | 0.093 | | 0.059 | ( 0.083) | | 0.034 |
| 206 | 17.17 | 0.17 | 0.093 | | 0.058 | ( 0.083) | | 0.035 |
| 207 | 17.25 | 0.17 | 0.093 | | 0.058 | ( 0.083) | | 0.035 |
| 208 | 17.33 | 0.17 | 0.093 | | 0.058 | ( 0.083) | | 0.035 |
| 209 | 17.42 | 0.17 | 0.093 | | 0.058 | ( 0.083) | | 0.036 |
| 210 | 17.50 | 0.17 | 0.093 | | 0.057 | ( 0.083) | | 0.036 |
| 211 | 17.58 | 0.17 | 0.093 | | 0.057 | ( 0.083) | | 0.036 |
| 212 | 17.67 | 0.17 | 0.093 | | 0.057 | ( 0.083) | | 0.036 |
| 213 | 17.75 | 0.17 | 0.093 | | 0.056 | ( 0.083) | | 0.037 |
| 214 | 17.83 | 0.13 | 0.075 | | 0.056 | ( 0.067) | | 0.018 |
| 215 | 17.92 | 0.13 | 0.075 | | 0.056 | ( 0.067) | | 0.019 |
| 216 | 18.00 | 0.13 | 0.075 | | 0.056 | ( 0.067) | | 0.019 |
| 217 | 18.08 | 0.13 | 0.075 | | 0.055 | ( 0.067) | | 0.019 |
| 218 | 18.17 | 0.13 | 0.075 | | 0.055 | ( 0.067) | | 0.019 |
| 219 | 18.25 | 0.13 | 0.075 | | 0.055 | ( 0.067) | | 0.020 |
| 220 | 18.33 | 0.13 | 0.075 | | 0.055 | ( 0.067) | | 0.020 |
| 221 | 18.42 | 0.13 | 0.075 | | 0.054 | ( 0.067) | | 0.020 |
| 222 | 18.50 | 0.13 | 0.075 | | 0.054 | ( 0.067) | | 0.021 |
| 223 | 18.58 | 0.10 | 0.056 | ( | 0.054) | 0.050 | | 0.006 |
| 224 | 18.67 | 0.10 | 0.056 | ( | 0.053) | 0.050 | | 0.006 |
| 225 | 18.75 | 0.10 | 0.056 | ( | 0.053) | 0.050 | | 0.006 |
| 226 | 18.83 | 0.07 | 0.037 | ( | 0.053) | 0.033 | | 0.004 |
| 227 | 18.92 | 0.07 | 0.037 | ( | 0.053) | 0.033 | | 0.004 |
| 228 | 19.00 | 0.07 | 0.037 | ( | 0.052) | 0.033 | | 0.004 |
| 229 | 19.08 | 0.10 | 0.056 | ( | 0.052) | 0.050 | | 0.006 |
| 230 | 19.17 | 0.10 | 0.056 | ( | 0.052) | 0.050 | | 0.006 |
| 231 | 19.25 | 0.10 | 0.056 | ( | 0.052) | 0.050 | | 0.006 |
| 232 | 19.33 | 0.13 | 0.075 | | 0.051 | ( 0.067) | | 0.023 |
| 233 | 19.42 | 0.13 | 0.075 | | 0.051 | ( 0.067) | | 0.023 |
| 234 | 19.50 | 0.13 | 0.075 | | 0.051 | ( 0.067) | | 0.024 |
| 235 | 19.58 | 0.10 | 0.056 | ( | 0.051) | 0.050 | | 0.006 |
| 236 | 19.67 | 0.10 | 0.056 | ( | 0.051) | 0.050 | | 0.006 |
| 237 | 19.75 | 0.10 | 0.056 | ( | 0.050) | 0.050 | | 0.006 |
| 238 | 19.83 | 0.07 | 0.037 | ( | 0.050) | 0.033 | | 0.004 |
| 239 | 19.92 | 0.07 | 0.037 | ( | 0.050) | 0.033 | | 0.004 |
| 240 | 20.00 | 0.07 | 0.037 | ( | 0.050) | 0.033 | | 0.004 |
| 241 | 20.08 | 0.10 | 0.056 | | 0.049 | ( 0.050) | | 0.006 |
| 242 | 20.17 | 0.10 | 0.056 | | 0.049 | ( 0.050) | | 0.007 |
| 243 | 20.25 | 0.10 | 0.056 | | 0.049 | ( 0.050) | | 0.007 |
| 244 | 20.33 | 0.10 | 0.056 | | 0.049 | ( 0.050) | | 0.007 |
| 245 | 20.42 | 0.10 | 0.056 | | 0.049 | ( 0.050) | | 0.007 |
| 246 | 20.50 | 0.10 | 0.056 | | 0.048 | ( 0.050) | | 0.008 |
| 247 | 20.58 | 0.10 | 0.056 | | 0.048 | ( 0.050) | | 0.008 |
| 248 | 20.67 | 0.10 | 0.056 | | 0.048 | ( 0.050) | | 0.008 |
| 249 | 20.75 | 0.10 | 0.056 | | 0.048 | ( 0.050) | | 0.008 |
| 250 | 20.83 | 0.07 | 0.037 | ( | 0.048) | 0.033 | | 0.004 |
| 251 | 20.92 | 0.07 | 0.037 | ( | 0.047) | 0.033 | | 0.004 |
| 252 | 21.00 | 0.07 | 0.037 | ( | 0.047) | 0.033 | | 0.004 |
| 253 | 21.08 | 0.10 | 0.056 | | 0.047 | ( 0.050) | | 0.009 |
| 254 | 21.17 | 0.10 | 0.056 | | 0.047 | ( 0.050) | | 0.009 |
| 255 | 21.25 | 0.10 | 0.056 | | 0.047 | ( 0.050) | | 0.009 |
| 256 | 21.33 | 0.07 | 0.037 | ( | 0.046) | 0.033 | | 0.004 |
| 257 | 21.42 | 0.07 | 0.037 | ( | 0.046) | 0.033 | | 0.004 |
| 258 | 21.50 | 0.07 | 0.037 | ( | 0.046) | 0.033 | | 0.004 |
| 259 | 21.58 | 0.10 | 0.056 | | 0.046 | ( 0.050) | | 0.010 |
| 260 | 21.67 | 0.10 | 0.056 | | 0.046 | ( 0.050) | | 0.010 |
| 261 | 21.75 | 0.10 | 0.056 | | 0.046 | ( 0.050) | | 0.010 |
| 262 | 21.83 | 0.07 | 0.037 | ( | 0.045) | 0.033 | | 0.004 |
| 263 | 21.92 | 0.07 | 0.037 | ( | 0.045) | 0.033 | | 0.004 |
| 264 | 22.00 | 0.07 | 0.037 | ( | 0.045) | 0.033 | | 0.004 |
| 265 | 22.08 | 0.10 | 0.056 | | 0.045 | ( 0.050) | | 0.011 |
| 266 | 22.17 | 0.10 | 0.056 | | 0.045 | ( 0.050) | | 0.011 |
| 267 | 22.25 | 0.10 | 0.056 | | 0.045 | ( 0.050) | | 0.011 |
| 268 | 22.33 | 0.07 | 0.037 | ( | 0.045) | 0.033 | | 0.004 |
| 269 | 22.42 | 0.07 | 0.037 | ( | 0.044) | 0.033 | | 0.004 |
| 270 | 22.50 | 0.07 | 0.037 | ( | 0.044) | 0.033 | | 0.004 |
| 271 | 22.58 | 0.07 | 0.037 | ( | 0.044) | 0.033 | | 0.004 |
| 272 | 22.67 | 0.07 | 0.037 | ( | 0.044) | 0.033 | | 0.004 |
| 273 | 22.75 | 0.07 | 0.037 | ( | 0.044) | 0.033 | | 0.004 |
| 274 | 22.83 | 0.07 | 0.037 | ( | 0.044) | 0.033 | | 0.004 |
| 275 | 22.92 | 0.07 | 0.037 | ( | 0.044) | 0.033 | | 0.004 |
| 276 | 23.00 | 0.07 | 0.037 | ( | 0.044) | 0.033 | | 0.004 |
| 277 | 23.08 | 0.07 | 0.037 | ( | 0.043) | 0.033 | | 0.004 |
| 278 | 23.17 | 0.07 | 0.037 | ( | 0.043) | 0.033 | | 0.004 |
| 279 | 23.25 | 0.07 | 0.037 | ( | 0.043) | 0.033 | | 0.004 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 280 | 23.33 | 0.07 | 0.037 | ( | 0.043) | 0.033 | 0.004 |
| 281 | 23.42 | 0.07 | 0.037 | ( | 0.043) | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.037 | ( | 0.043) | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.037 | ( | 0.043) | 0.033 | 0.004 |
| 284 | 23.67 | 0.07 | 0.037 | ( | 0.043) | 0.033 | 0.004 |
| 285 | 23.75 | 0.07 | 0.037 | ( | 0.043) | 0.033 | 0.004 |
| 286 | 23.83 | 0.07 | 0.037 | ( | 0.043) | 0.033 | 0.004 |
| 287 | 23.92 | 0.07 | 0.037 | ( | 0.043) | 0.033 | 0.004 |
| 288 | 24.00 | 0.07 | 0.037 | ( | 0.043) | 0.033 | 0.004 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 35.4

Flood volume = Effective rainfall 2.95(In)
times area 66.2(Ac.)/[(In)/(Ft.)] = 16.3(Ac.Ft)
Total soil loss = 1.71(In)
Total soil loss = 9.435(Ac.Ft)
Total rainfall = 4.66(In)
Flood volume = 708706.3 Cubic Feet
Total soil loss = 410974.9 Cubic Feet

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Peak flow rate of this hydrograph = 37.185(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

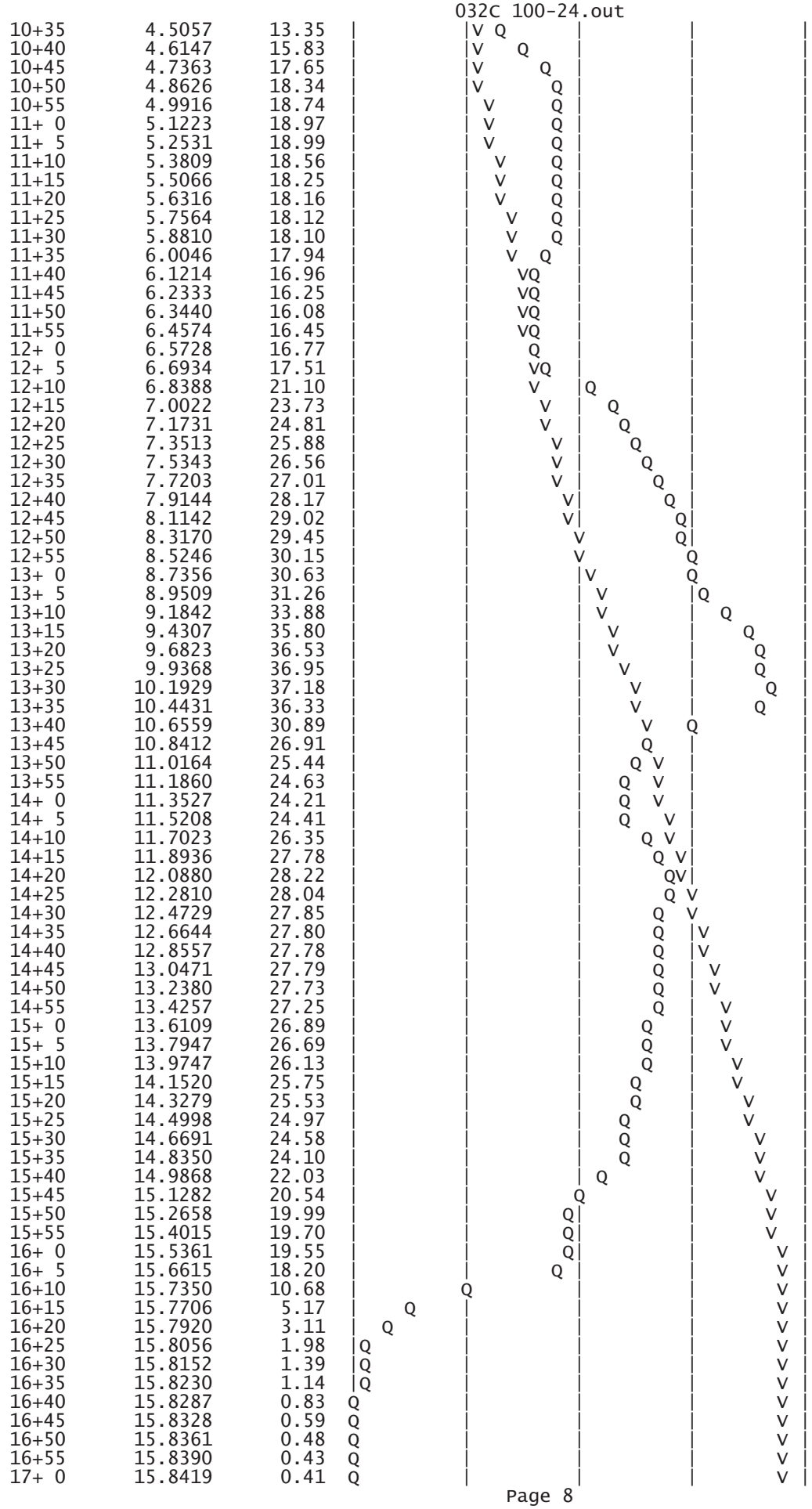
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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 10.0 | 20.0 | 30.0 | 40.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0001 | 0.02 | Q | | | | |
| 0+10 | 0.0010 | 0.13 | Q | | | | |
| 0+15 | 0.0024 | 0.20 | Q | | | | |
| 0+20 | 0.0041 | 0.24 | Q | | | | |
| 0+25 | 0.0062 | 0.31 | Q | | | | |
| 0+30 | 0.0087 | 0.36 | Q | | | | |
| 0+35 | 0.0113 | 0.38 | Q | | | | |
| 0+40 | 0.0139 | 0.39 | Q | | | | |
| 0+45 | 0.0166 | 0.39 | Q | | | | |
| 0+50 | 0.0194 | 0.40 | Q | | | | |
| 0+55 | 0.0226 | 0.46 | Q | | | | |
| 1+ 0 | 0.0260 | 0.50 | Q | | | | |
| 1+ 5 | 0.0295 | 0.50 | Q | | | | |
| 1+10 | 0.0326 | 0.46 | Q | | | | |
| 1+15 | 0.0356 | 0.42 | Q | | | | |
| 1+20 | 0.0384 | 0.41 | Q | | | | |
| 1+25 | 0.0412 | 0.40 | Q | | | | |
| 1+30 | 0.0439 | 0.40 | Q | | | | |
| 1+35 | 0.0467 | 0.40 | Q | | | | |
| 1+40 | 0.0494 | 0.40 | Q | | | | |
| 1+45 | 0.0522 | 0.40 | Q | | | | |
| 1+50 | 0.0550 | 0.41 | Q | | | | |
| 1+55 | 0.0581 | 0.46 | Q | | | | |
| 2+ 0 | 0.0616 | 0.50 | Q | | | | |
| 2+ 5 | 0.0651 | 0.51 | Q | | | | |
| 2+10 | 0.0687 | 0.52 | Q | | | | |
| 2+15 | 0.0723 | 0.53 | Q | | | | |
| 2+20 | 0.0759 | 0.53 | Q | | | | |
| 2+25 | 0.0796 | 0.53 | Q | | | | |
| 2+30 | 0.0832 | 0.53 | Q | | | | |
| 2+35 | 0.0869 | 0.54 | Q | | | | |
| 2+40 | 0.0910 | 0.59 | Q | | | | |
| 2+45 | 0.0954 | 0.63 | Q | | | | |
| 2+50 | 0.0998 | 0.65 | Q | | | | |
| 2+55 | 0.1043 | 0.65 | Q | | | | |
| 3+ 0 | 0.1088 | 0.66 | Q | | | | |
| 3+ 5 | 0.1134 | 0.66 | Q | | | | |
| 3+10 | 0.1179 | 0.66 | Q | | | | |
| 3+15 | 0.1225 | 0.66 | Q | | | | |
| 3+20 | 0.1270 | 0.66 | Q | | | | |
| 3+25 | 0.1316 | 0.66 | Q | | | | |
| 3+30 | 0.1362 | 0.66 | Q | | | | |
| 3+35 | 0.1407 | 0.66 | Q | | | | |
| 3+40 | 0.1453 | 0.66 | Q | | | | |
| 3+45 | 0.1498 | 0.66 | Q | | | | |
| 3+50 | 0.1545 | 0.67 | Q | | | | |
| 3+55 | 0.1594 | 0.72 | Q | | | | |
| 4+ 0 | 0.1647 | 0.76 | Q | | | | |

```
 4+ 5       0.1701      0.78  Q          |          |          |          |
 4+10       0.1755      0.79  Q          |          |          |          |
 4+15       0.1809      0.79  Q          |          |          |          |
 4+20       0.1864      0.80  Q          |          |          |          |
 4+25       0.1923      0.86  Q          |          |          |          |
 4+30       0.1985      0.90  Q          |          |          |          |
 4+35       0.2048      0.91  Q          |          |          |          |
 4+40       0.2111      0.92  Q          |          |          |          |
 4+45       0.2174      0.92  Q          |          |          |          |
 4+50       0.2243      1.00  Q          |          |          |          |
 4+55       0.2340      1.41  VQ         |          |          |          |
 5+ 0       0.2459      1.72  VQ         |          |          |          |
 5+ 5       0.2581      1.78  VQ         |          |          |          |
 5+10       0.2675      1.36  VQ         |          |          |          |
 5+15       0.2747      1.04  VQ         |          |          |          |
 5+20       0.2811      0.93  Q          |          |          |          |
 5+25       0.2874      0.92  Q          |          |          |          |
 5+30       0.2939      0.93  Q          |          |          |          |
 5+35       0.3011      1.04  VQ         |          |          |          |
 5+40       0.3119      1.57  VQ         |          |          |          |
 5+45       0.3254      1.97  VQ         |          |          |          |
 5+50       0.3402      2.14  V Q        |          |          |          |
 5+55       0.3556      2.25  V Q        |          |          |          |
 6+ 0       0.3716      2.32  V Q        |          |          |          |
 6+ 5       0.3885      2.46  V Q        |          |          |          |
 6+10       0.4092      3.00  |VQ        |          |          |          |
 6+15       0.4326      3.41  |V Q       |          |          |          |
 6+20       0.4573      3.58  |V Q       |          |          |          |
 6+25       0.4827      3.69  |V Q       |          |          |          |
 6+30       0.5086      3.77  |V Q       |          |          |          |
 6+35       0.5355      3.90  |V Q       |          |          |          |
 6+40       0.5661      4.44  |V  Q      |          |          |          |
 6+45       0.5995      4.85  |V  Q      |          |          |          |
 6+50       0.6341      5.02  |V   Q     |          |          |          |
 6+55       0.6694      5.13  |V   Q     |          |          |          |
 7+ 0       0.7053      5.21  |V   Q     |          |          |          |
 7+ 5       0.7415      5.25  |V   Q     |          |          |          |
 7+10       0.7780      5.29  |V   Q     |          |          |          |
 7+15       0.8147      5.33  | V  Q     |          |          |          |
 7+20       0.8523      5.46  | V  Q     |          |          |          |
 7+25       0.8935      5.99  | V  Q     |          |          |          |
 7+30       0.9375      6.39  | V   Q    |          |          |          |
 7+35       0.9833      6.65  | V   Q    |          |          |          |
 7+40       1.0333      7.26  | V    Q   |          |          |          |
 7+45       1.0863      7.70  | V    Q   |          |          |          |
 7+50       1.1412      7.97  | V    Q   |          |          |          |
 7+55       1.2003      8.58  | V     Q  |          |          |          |
 8+ 0       1.2625      9.03  |  V     Q|          |          |          |
 8+ 5       1.3271      9.39  |  V     Q|          |          |          |
 8+10       1.3995     10.51  |  V      Q          |          |          |
 8+15       1.4775     11.32  |  V      |Q         |          |          |
 8+20       1.5577     11.65  |  V      |Q         |          |          |
 8+25       1.6393     11.84  |   V     |Q         |          |          |
 8+30       1.7217     11.96  |   V     |Q         |          |          |
 8+35       1.8051     12.11  |   V     | Q        |          |          |
 8+40       1.8923     12.66  |   V     | Q        |          |          |
 8+45       1.9823     13.07  |   V     |  Q       |          |          |
 8+50       2.0742     13.34  |    V    |  Q       |          |          |
 8+55       2.1702     13.95  |    V    |  Q       |          |          |
 9+ 0       2.2693     14.38  |    V    |   Q      |          |          |
 9+ 5       2.3708     14.74  |    V    |   Q      |          |          |
 9+10       2.4800     15.86  |     V   |    Q     |          |          |
 9+15       2.5948     16.67  |     V   |     Q    |          |          |
 9+20       2.7124     17.08  |     V   |      Q   |          |          |
 9+25       2.8348     17.77  |     V   |      Q   |          |          |
 9+30       2.9606     18.26  |      V  |       Q  |          |          |
 9+35       3.0883     18.55  |      V  |       Q  |          |          |
 9+40       3.2203     19.17  |      V  |        Q |          |          |
 9+45       3.3555     19.62  |       V |        Q |          |          |
 9+50       3.4925     19.90  |       V |        Q |          |          |
 9+55       3.6338     20.51  |       V |         Q|          |          |
10+ 0       3.7781     20.96  |        V|         Q|          |          |
10+ 5       3.9196     20.54  |        V|         Q|          |          |
10+10       4.0376     17.15  |        V|      Q   |          |          |
10+15       4.1385     14.65  |         V   Q    |          |          |
10+20       4.2331     13.74  |         V  Q     |          |          |
10+25       4.3243     13.24  |         V  Q     |          |          |
10+30       4.4138     12.99  |         V Q      |          |          |
```



| | | | |
|---|---|---|---|
| 10+35 | 4.5057 | 13.35 | |
| 10+40 | 4.6147 | 15.83 | |
| 10+45 | 4.7363 | 17.65 | |
| 10+50 | 4.8626 | 18.34 | |
| 10+55 | 4.9916 | 18.74 | |
| 11+ 0 | 5.1223 | 18.97 | |
| 11+ 5 | 5.2531 | 18.99 | |
| 11+10 | 5.3809 | 18.56 | |
| 11+15 | 5.5066 | 18.25 | |
| 11+20 | 5.6316 | 18.16 | |
| 11+25 | 5.7564 | 18.12 | |
| 11+30 | 5.8810 | 18.10 | |
| 11+35 | 6.0046 | 17.94 | |
| 11+40 | 6.1214 | 16.96 | |
| 11+45 | 6.2333 | 16.25 | |
| 11+50 | 6.3440 | 16.08 | |
| 11+55 | 6.4574 | 16.45 | |
| 12+ 0 | 6.5728 | 16.77 | |
| 12+ 5 | 6.6934 | 17.51 | |
| 12+10 | 6.8388 | 21.10 | |
| 12+15 | 7.0022 | 23.73 | |
| 12+20 | 7.1731 | 24.81 | |
| 12+25 | 7.3513 | 25.88 | |
| 12+30 | 7.5343 | 26.56 | |
| 12+35 | 7.7203 | 27.01 | |
| 12+40 | 7.9144 | 28.17 | |
| 12+45 | 8.1142 | 29.02 | |
| 12+50 | 8.3170 | 29.45 | |
| 12+55 | 8.5246 | 30.15 | |
| 13+ 0 | 8.7356 | 30.63 | |
| 13+ 5 | 8.9509 | 31.26 | |
| 13+10 | 9.1842 | 33.88 | |
| 13+15 | 9.4307 | 35.80 | |
| 13+20 | 9.6823 | 36.53 | |
| 13+25 | 9.9368 | 36.95 | |
| 13+30 | 10.1929 | 37.18 | |
| 13+35 | 10.4431 | 36.33 | |
| 13+40 | 10.6559 | 30.89 | |
| 13+45 | 10.8412 | 26.91 | |
| 13+50 | 11.0164 | 25.44 | |
| 13+55 | 11.1860 | 24.63 | |
| 14+ 0 | 11.3527 | 24.21 | |
| 14+ 5 | 11.5208 | 24.41 | |
| 14+10 | 11.7023 | 26.35 | |
| 14+15 | 11.8936 | 27.78 | |
| 14+20 | 12.0880 | 28.22 | |
| 14+25 | 12.2810 | 28.04 | |
| 14+30 | 12.4729 | 27.85 | |
| 14+35 | 12.6644 | 27.80 | |
| 14+40 | 12.8557 | 27.78 | |
| 14+45 | 13.0471 | 27.79 | |
| 14+50 | 13.2380 | 27.73 | |
| 14+55 | 13.4257 | 27.25 | |
| 15+ 0 | 13.6109 | 26.89 | |
| 15+ 5 | 13.7947 | 26.69 | |
| 15+10 | 13.9747 | 26.13 | |
| 15+15 | 14.1520 | 25.75 | |
| 15+20 | 14.3279 | 25.53 | |
| 15+25 | 14.4998 | 24.97 | |
| 15+30 | 14.6691 | 24.58 | |
| 15+35 | 14.8350 | 24.10 | |
| 15+40 | 14.9868 | 22.03 | |
| 15+45 | 15.1282 | 20.54 | |
| 15+50 | 15.2658 | 19.99 | |
| 15+55 | 15.4015 | 19.70 | |
| 16+ 0 | 15.5361 | 19.55 | |
| 16+ 5 | 15.6615 | 18.20 | |
| 16+10 | 15.7350 | 10.68 | |
| 16+15 | 15.7706 | 5.17 | |
| 16+20 | 15.7920 | 3.11 | |
| 16+25 | 15.8056 | 1.98 | |
| 16+30 | 15.8152 | 1.39 | |
| 16+35 | 15.8230 | 1.14 | |
| 16+40 | 15.8287 | 0.83 | |
| 16+45 | 15.8328 | 0.59 | |
| 16+50 | 15.8361 | 0.48 | |
| 16+55 | 15.8390 | 0.43 | |
| 17+ 0 | 15.8419 | 0.41 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+ 5 | 15.8456 | 0.54 | Q | \| | \| | \| | V \| |
| 17+10 | 15.8545 | 1.30 | \|Q | \| | \| | \| | V \| |
| 17+15 | 15.8674 | 1.87 | \|Q | \| | \| | \| | V\| |
| 17+20 | 15.8818 | 2.09 | \| Q | \| | \| | \| | V\| |
| 17+25 | 15.8971 | 2.23 | \| Q | \| | \| | \| | V\| |
| 17+30 | 15.9130 | 2.31 | \| Q | \| | \| | \| | V\| |
| 17+35 | 15.9292 | 2.35 | \| Q | \| | \| | \| | V\| |
| 17+40 | 15.9456 | 2.38 | \| Q | \| | \| | \| | V\| |
| 17+45 | 15.9622 | 2.41 | \| Q | \| | \| | \| | V\| |
| 17+50 | 15.9784 | 2.35 | \| Q | \| | \| | \| | V\| |
| 17+55 | 15.9912 | 1.87 | \|Q | \| | \| | \| | V\| |
| 18+ 0 | 16.0017 | 1.52 | \|Q | \| | \| | \| | V\| |
| 18+ 5 | 16.0113 | 1.40 | \|Q | \| | \| | \| | V\| |
| 18+10 | 16.0205 | 1.34 | \|Q | \| | \| | \| | V\| |
| 18+15 | 16.0296 | 1.32 | \|Q | \| | \| | \| | V\| |
| 18+20 | 16.0387 | 1.32 | \|Q | \| | \| | \| | V\| |
| 18+25 | 16.0479 | 1.33 | \|Q | \| | \| | \| | V\| |
| 18+30 | 16.0571 | 1.34 | \|Q | \| | \| | \| | V\| |
| 18+35 | 16.0660 | 1.29 | \|Q | \| | \| | \| | V\| |
| 18+40 | 16.0722 | 0.90 | Q | \| | \| | \| | V\| |
| 18+45 | 16.0765 | 0.62 | Q | \| | \| | \| | V\| |
| 18+50 | 16.0800 | 0.50 | Q | \| | \| | \| | V\| |
| 18+55 | 16.0827 | 0.39 | Q | \| | \| | \| | V\| |
| 19+ 0 | 16.0849 | 0.32 | Q | \| | \| | \| | V\| |
| 19+ 5 | 16.0870 | 0.30 | Q | \| | \| | \| | V\| |
| 19+10 | 16.0893 | 0.34 | Q | \| | \| | \| | V\| |
| 19+15 | 16.0919 | 0.37 | Q | \| | \| | \| | V\| |
| 19+20 | 16.0951 | 0.46 | Q | \| | \| | \| | V\| |
| 19+25 | 16.1015 | 0.93 | Q | \| | \| | \| | V\| |
| 19+30 | 16.1103 | 1.28 | \|Q | \| | \| | \| | V\| |
| 19+35 | 16.1195 | 1.34 | \|Q | \| | \| | \| | V\| |
| 19+40 | 16.1260 | 0.94 | Q | \| | \| | \| | V\| |
| 19+45 | 16.1304 | 0.63 | Q | \| | \| | \| | V\| |
| 19+50 | 16.1339 | 0.51 | Q | \| | \| | \| | V\| |
| 19+55 | 16.1366 | 0.39 | Q | \| | \| | \| | V\| |
| 20+ 0 | 16.1389 | 0.32 | Q | \| | \| | \| | V\| |
| 20+ 5 | 16.1410 | 0.31 | Q | \| | \| | \| | V\| |
| 20+10 | 16.1435 | 0.36 | Q | \| | \| | \| | V\| |
| 20+15 | 16.1463 | 0.41 | Q | \| | \| | \| | V\| |
| 20+20 | 16.1493 | 0.43 | Q | \| | \| | \| | V\| |
| 20+25 | 16.1525 | 0.46 | Q | \| | \| | \| | V\| |
| 20+30 | 16.1557 | 0.47 | Q | \| | \| | \| | V\| |
| 20+35 | 16.1591 | 0.49 | Q | \| | \| | \| | V\| |
| 20+40 | 16.1625 | 0.50 | Q | \| | \| | \| | V\| |
| 20+45 | 16.1661 | 0.52 | Q | \| | \| | \| | V\| |
| 20+50 | 16.1696 | 0.51 | Q | \| | \| | \| | V\| |
| 20+55 | 16.1724 | 0.41 | Q | \| | \| | \| | V\| |
| 21+ 0 | 16.1747 | 0.33 | Q | \| | \| | \| | V\| |
| 21+ 5 | 16.1769 | 0.32 | Q | \| | \| | \| | V\| |
| 21+10 | 16.1799 | 0.44 | Q | \| | \| | \| | V\| |
| 21+15 | 16.1836 | 0.53 | Q | \| | \| | \| | V\| |
| 21+20 | 16.1873 | 0.55 | Q | \| | \| | \| | V\| |
| 21+25 | 16.1903 | 0.43 | Q | \| | \| | \| | V\| |
| 21+30 | 16.1926 | 0.34 | Q | \| | \| | \| | V\| |
| 21+35 | 16.1949 | 0.33 | Q | \| | \| | \| | V\| |
| 21+40 | 16.1982 | 0.47 | Q | \| | \| | \| | V\| |
| 21+45 | 16.2022 | 0.59 | Q | \| | \| | \| | V\| |
| 21+50 | 16.2064 | 0.61 | Q | \| | \| | \| | V\| |
| 21+55 | 16.2096 | 0.46 | Q | \| | \| | \| | V\| |
| 22+ 0 | 16.2120 | 0.35 | Q | \| | \| | \| | V\| |
| 22+ 5 | 16.2143 | 0.34 | Q | \| | \| | \| | V\| |
| 22+10 | 16.2178 | 0.51 | Q | \| | \| | \| | V\| |
| 22+15 | 16.2222 | 0.64 | Q | \| | \| | \| | V\| |
| 22+20 | 16.2267 | 0.66 | Q | \| | \| | \| | V\| |
| 22+25 | 16.2301 | 0.49 | Q | \| | \| | \| | V\| |
| 22+30 | 16.2326 | 0.36 | Q | \| | \| | \| | V\| |
| 22+35 | 16.2348 | 0.32 | Q | \| | \| | \| | V\| |
| 22+40 | 16.2368 | 0.29 | Q | \| | \| | \| | V\| |
| 22+45 | 16.2387 | 0.28 | Q | \| | \| | \| | V\| |
| 22+50 | 16.2406 | 0.27 | Q | \| | \| | \| | V\| |
| 22+55 | 16.2424 | 0.27 | Q | \| | \| | \| | V\| |
| 23+ 0 | 16.2443 | 0.27 | Q | \| | \| | \| | V\| |
| 23+ 5 | 16.2461 | 0.27 | Q | \| | \| | \| | V\| |
| 23+10 | 16.2479 | 0.26 | Q | \| | \| | \| | V\| |
| 23+15 | 16.2497 | 0.26 | Q | \| | \| | \| | V\| |
| 23+20 | 16.2516 | 0.26 | Q | \| | \| | \| | V\| |
| 23+25 | 16.2534 | 0.26 | Q | \| | \| | \| | V\| |
| 23+30 | 16.2552 | 0.26 | Q | \| | \| | \| | V\| |

```
   23+35      16.2570      0.26  Q          |          |          |         V|
   23+40      16.2588      0.26  Q          |          |          |         V|
   23+45      16.2607      0.26  Q          |          |          |         V|
   23+50      16.2625      0.26  Q          |          |          |         V|
   23+55      16.2643      0.26  Q          |          |          |         V|
   24+ 0      16.2661      0.26  Q          |          |          |         V|
   24+ 5      16.2678      0.25  Q          |          |          |         V|
   24+10      16.2688      0.14  Q          |          |          |         V|
   24+15      16.2692      0.06  Q          |          |          |         V|
   24+20      16.2694      0.03  Q          |          |          |         V|
   24+25      16.2696      0.02  Q          |          |          |         V|
   24+30      16.2696      0.01  Q          |          |          |         V|
   24+35      16.2696      0.00  Q          |          |          |         V|
   24+40      16.2696      0.00  Q          |          |          |         V|
   24+45      16.2697      0.00  Q          |          |          |         V|
   24+50      16.2697      0.00  Q          |          |          |          V
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 04/23/18 File: EX331100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 33
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 2.90(Ac.) = 0.005 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.90(Ac.) = 0.005 Sq. Mi.
Length along longest watercourse = 443.00(Ft.)
Length along longest watercourse measured to centroid = 310.00(Ft.)
Length along longest watercourse = 0.084 Mi.
Length along longest watercourse measured to centroid = 0.059 Mi.
Difference in elevation = 78.00(Ft.)
Slope along watercourse = 929.6614 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.030 Hr.
Lag time = 1.83 Min.
25% of lag time = 0.46 Min.
40% of lag time = 0.73 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.90 | 0.50 | 1.45 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.90 | 1.20 | 3.48 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2.900 | 77.14 | 0.000 |

Total Area Entered = 2.90(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 77.1 | 89.3 | 0.138 | 0.000 | 0.138 | 1.000 | 0.138 |
| | | | | | Sum (F) = | 0.138 |

Area averaged mean soil loss (F) (In/Hr) = 0.138

Minimum soil loss rate ((In/Hr)) = 0.069
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

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| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 273.761 | 54.391 | 1.590 |
| 2 | 0.167 | 547.523 | 42.713 | 1.248 |
| 3 | 0.250 | 821.284 | 2.896 | 0.085 |
| | | Sum = 100.000 | Sum= | 2.923 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.138 | ( 0.544) | 0.467 |
| 2 | 0.17 | 4.30 | 0.619 | 0.138 | ( 0.557) | 0.481 |
| 3 | 0.25 | 5.00 | 0.720 | 0.138 | ( 0.648) | 0.582 |
| 4 | 0.33 | 5.00 | 0.720 | 0.138 | ( 0.648) | 0.582 |
| 5 | 0.42 | 5.80 | 0.835 | 0.138 | ( 0.752) | 0.697 |
| 6 | 0.50 | 6.50 | 0.936 | 0.138 | ( 0.842) | 0.798 |
| 7 | 0.58 | 7.40 | 1.066 | 0.138 | ( 0.959) | 0.927 |
| 8 | 0.67 | 8.60 | 1.238 | 0.138 | ( 1.115) | 1.100 |
| 9 | 0.75 | 12.30 | 1.771 | 0.138 | ( 1.594) | 1.633 |
| 10 | 0.83 | 29.10 | 4.190 | 0.138 | ( 3.771) | 4.052 |
| 11 | 0.92 | 6.80 | 0.979 | 0.138 | ( 0.881) | 0.841 |
| 12 | 1.00 | 5.00 | 0.720 | 0.138 | ( 0.648) | 0.582 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 12.7 |

Flood volume = Effective rainfall 1.06(In)
times area 2.9(Ac.)/[(In)/(Ft.)] = 0.3(Ac.Ft)
Total soil loss = 0.14(In)
Total soil loss = 0.033(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 11177.6 Cubic Feet
Total soil loss = 1454.4 Cubic Feet

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Peak flow rate of this hydrograph = 8.578(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0051 | 0.74 | V Q | | | | |
| 0+10 | 0.0144 | 1.35 | \| V Q | | | | |
| 0+15 | 0.0252 | 1.57 | \| V Q | | | | |
| 0+20 | 0.0368 | 1.69 | \| VQ | | | | |
| 0+25 | 0.0498 | 1.88 | \| Q | | | | |
| 0+30 | 0.0649 | 2.19 | \| Q V | | | | |
| 0+35 | 0.0823 | 2.53 | \| Q V | | | | |
| 0+40 | 0.1028 | 2.98 | \| Q V | | | | |
| 0+45 | 0.1307 | 4.05 | \| Q V | | | | |
| 0+50 | 0.1898 | 8.58 | \| V Q | | | | |
| 0+55 | 0.2348 | 6.54 | \| Q V | | | | |
| 1+ 0 | 0.2508 | 2.32 | \| Q V | | | | |
| 1+ 5 | 0.2563 | 0.80 | \| Q V | | | | |
| 1+10 | 0.2566 | 0.05 | Q V | | | | |

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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 04/23/18 File: EX333100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 33
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 2.90(Ac.) = 0.005 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.90(Ac.) = 0.005 Sq. Mi.
Length along longest watercourse = 443.00(Ft.)
Length along longest watercourse measured to centroid = 310.00(Ft.)
Length along longest watercourse = 0.084 Mi.
Length along longest watercourse measured to centroid = 0.059 Mi.
Difference in elevation = 78.00(Ft.)
Slope along watercourse = 929.6614 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.030 Hr.
Lag time = 1.83 Min.
25% of lag time = 0.46 Min.
40% of lag time = 0.73 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.90 | 0.80 | 2.32 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.90 | 1.80 | 5.22 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2.900 | 77.14 | 0.000 |

Total Area Entered = 2.90(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 77.1 | 89.3 | 0.138 | 0.000 | 0.138 | 1.000 | 0.138 |
| | | | | | Sum (F) = | 0.138 |

Area averaged mean soil loss (F) (In/Hr) = 0.138

Minimum soil loss rate ((In/Hr)) = 0.069
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 273.761 | 54.391 | 1.590 |
| 2 0.167 | 547.523 | 42.713 | 1.248 |
| 3 0.250 | 821.284 | 2.896 | 0.085 |
| | Sum = 100.000 | Sum= | 2.923 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 1.30 | 0.281 | 0.138 | ( 0.253) | 0.143 |
| 2 0.17 | 1.30 | 0.281 | 0.138 | ( 0.253) | 0.143 |
| 3 0.25 | 1.10 | 0.238 | 0.138 | ( 0.214) | 0.099 |
| 4 0.33 | 1.50 | 0.324 | 0.138 | ( 0.292) | 0.186 |
| 5 0.42 | 1.50 | 0.324 | 0.138 | ( 0.292) | 0.186 |
| 6 0.50 | 1.80 | 0.389 | 0.138 | ( 0.350) | 0.251 |
| 7 0.58 | 1.50 | 0.324 | 0.138 | ( 0.292) | 0.186 |
| 8 0.67 | 1.80 | 0.389 | 0.138 | ( 0.350) | 0.251 |
| 9 0.75 | 1.80 | 0.389 | 0.138 | ( 0.350) | 0.251 |
| 10 0.83 | 1.50 | 0.324 | 0.138 | ( 0.292) | 0.186 |
| 11 0.92 | 1.60 | 0.346 | 0.138 | ( 0.311) | 0.207 |
| 12 1.00 | 1.80 | 0.389 | 0.138 | ( 0.350) | 0.251 |
| 13 1.08 | 2.20 | 0.475 | 0.138 | ( 0.428) | 0.337 |
| 14 1.17 | 2.20 | 0.475 | 0.138 | ( 0.428) | 0.337 |
| 15 1.25 | 2.20 | 0.475 | 0.138 | ( 0.428) | 0.337 |
| 16 1.33 | 2.00 | 0.432 | 0.138 | ( 0.389) | 0.294 |
| 17 1.42 | 2.60 | 0.562 | 0.138 | ( 0.505) | 0.423 |
| 18 1.50 | 2.70 | 0.583 | 0.138 | ( 0.525) | 0.445 |
| 19 1.58 | 2.40 | 0.518 | 0.138 | ( 0.467) | 0.380 |
| 20 1.67 | 2.70 | 0.583 | 0.138 | ( 0.525) | 0.445 |
| 21 1.75 | 3.30 | 0.713 | 0.138 | ( 0.642) | 0.575 |
| 22 1.83 | 3.10 | 0.670 | 0.138 | ( 0.603) | 0.531 |
| 23 1.92 | 2.90 | 0.626 | 0.138 | ( 0.564) | 0.488 |
| 24 2.00 | 3.00 | 0.648 | 0.138 | ( 0.583) | 0.510 |
| 25 2.08 | 3.10 | 0.670 | 0.138 | ( 0.603) | 0.531 |
| 26 2.17 | 4.20 | 0.907 | 0.138 | ( 0.816) | 0.769 |
| 27 2.25 | 5.00 | 1.080 | 0.138 | ( 0.972) | 0.942 |
| 28 2.33 | 3.50 | 0.756 | 0.138 | ( 0.680) | 0.618 |
| 29 2.42 | 6.80 | 1.469 | 0.138 | ( 1.322) | 1.331 |
| 30 2.50 | 7.30 | 1.577 | 0.138 | ( 1.419) | 1.439 |
| 31 2.58 | 8.20 | 1.771 | 0.138 | ( 1.594) | 1.633 |
| 32 2.67 | 5.90 | 1.274 | 0.138 | ( 1.147) | 1.136 |
| 33 2.75 | 2.00 | 0.432 | 0.138 | ( 0.389) | 0.294 |
| 34 2.83 | 1.80 | 0.389 | 0.138 | ( 0.350) | 0.251 |
| 35 2.92 | 1.80 | 0.389 | 0.138 | ( 0.350) | 0.251 |
| 36 3.00 | 0.60 | 0.130 | ( 0.138) | 0.117 | 0.013 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 16.6 |

Flood volume = Effective rainfall 1.39(In)
times area 2.9(Ac.)/[(In)/(Ft.)] = 0.3(Ac.Ft)
Total soil loss = 0.41(In)
Total soil loss = 0.100(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 14603.9 Cubic Feet
Total soil loss = 4344.4 Cubic Feet

Peak flow rate of this hydrograph = 4.507(CFS)

3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0016 | 0.23 | Q | | | | |
| 0+10 | 0.0044 | 0.41 | VQ | | | | |
| 0+15 | 0.0068 | 0.35 | VQ | | | | |
| 0+20 | 0.0097 | 0.43 | \|Q | | | | |
| 0+25 | 0.0134 | 0.54 | \|VQ | | | | |
| 0+30 | 0.0179 | 0.65 | \| Q | | | | |
| 0+35 | 0.0222 | 0.62 | \| Q | | | | |
| 0+40 | 0.0267 | 0.65 | \| QV | | | | |
| 0+45 | 0.0317 | 0.73 | \| QV | | | | |
| 0+50 | 0.0360 | 0.63 | \| Q V | | | | |
| 0+55 | 0.0400 | 0.58 | \| Q V | | | | |
| 1+ 0 | 0.0447 | 0.67 | \| Q V | | | | |
| 1+ 5 | 0.0506 | 0.87 | \| Q V | | | | |
| 1+10 | 0.0574 | 0.98 | \| Q V | | | | |
| 1+15 | 0.0642 | 0.99 | \| Q V | | | | |
| 1+20 | 0.0705 | 0.92 | \| Q V | | | | |
| 1+25 | 0.0778 | 1.07 | \| Q V | | | | |
| 1+30 | 0.0865 | 1.26 | \| Q V | | | | |
| 1+35 | 0.0948 | 1.20 | \| Q V | | | | |
| 1+40 | 0.1032 | 1.22 | \| Q V | | | | |
| 1+45 | 0.1135 | 1.50 | \| Q V | | | | |
| 1+50 | 0.1245 | 1.60 | \| Q V | | | | |
| 1+55 | 0.1348 | 1.49 | \| Q V | | | | |
| 2+ 0 | 0.1449 | 1.47 | \| Q V | | | | |
| 2+ 5 | 0.1554 | 1.52 | \| Q V | | | | |
| 2+10 | 0.1687 | 1.93 | \| Q V | | | | |
| 2+15 | 0.1859 | 2.50 | \| Q V | | | | |
| 2+20 | 0.2012 | 2.22 | \| Q V | | | | |
| 2+25 | 0.2217 | 2.97 | \| Q V | | | | |
| 2+30 | 0.2492 | 4.00 | \| Q V | | | | |
| 2+35 | 0.2803 | 4.51 | \| Q V | | | | |
| 2+40 | 0.3076 | 3.97 | \| Q V | | | | |
| 2+45 | 0.3215 | 2.02 | \| Q V | | | | |
| 2+50 | 0.3275 | 0.86 | \| Q V | | | | |
| 2+55 | 0.3326 | 0.74 | \| Q V | | | | |
| 3+ 0 | 0.3350 | 0.35 | \|Q V | | | | |
| 3+ 5 | 0.3353 | 0.04 | Q V | | | | |
| 3+10 | 0.3353 | 0.00 | Q V | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 33
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 2.90(Ac.) = 0.005 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.90(Ac.) = 0.005 Sq. Mi.
Length along longest watercourse = 443.00(Ft.)
Length along longest watercourse measured to centroid = 310.00(Ft.)
Length along longest watercourse = 0.084 Mi.
Length along longest watercourse measured to centroid = 0.059 Mi.
Difference in elevation = 78.00(Ft.)
Slope along watercourse = 929.6614 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.030 Hr.
Lag time = 1.83 Min.
25% of lag time = 0.46 Min.
40% of lag time = 0.73 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.90 | 1.13 | 3.28 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.90 | 2.50 | 7.25 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.130(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2.900 | 77.14 | 0.000 |

Total Area Entered = 2.90(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 77.1 | 89.3 | 0.138 | 0.000 | 0.138 | 1.000 | 0.138 |
| | | | | | Sum (F) = | 0.138 |

Area averaged mean soil loss (F) (In/Hr) = 0.138

Minimum soil loss rate ((In/Hr)) = 0.069
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 273.761 | 54.391 | 1.590 |
| 2 0.167 | 547.523 | 42.713 | 1.248 |
| 3 0.250 | 821.284 | 2.896 | 0.085 |
| | Sum = 100.000 | Sum= | 2.923 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | ( 0.138) | 0.135 | 0.015 |
| 2 | 0.17 | 0.60 | 0.180 | 0.138 | ( 0.162) | 0.042 |
| 3 | 0.25 | 0.60 | 0.180 | 0.138 | ( 0.162) | 0.042 |
| 4 | 0.33 | 0.60 | 0.180 | 0.138 | ( 0.162) | 0.042 |
| 5 | 0.42 | 0.60 | 0.180 | 0.138 | ( 0.162) | 0.042 |
| 6 | 0.50 | 0.70 | 0.210 | 0.138 | ( 0.189) | 0.072 |
| 7 | 0.58 | 0.70 | 0.210 | 0.138 | ( 0.189) | 0.072 |
| 8 | 0.67 | 0.70 | 0.210 | 0.138 | ( 0.189) | 0.072 |
| 9 | 0.75 | 0.70 | 0.210 | 0.138 | ( 0.189) | 0.072 |
| 10 | 0.83 | 0.70 | 0.210 | 0.138 | ( 0.189) | 0.072 |
| 11 | 0.92 | 0.70 | 0.210 | 0.138 | ( 0.189) | 0.072 |
| 12 | 1.00 | 0.80 | 0.240 | 0.138 | ( 0.216) | 0.102 |
| 13 | 1.08 | 0.80 | 0.240 | 0.138 | ( 0.216) | 0.102 |
| 14 | 1.17 | 0.80 | 0.240 | 0.138 | ( 0.216) | 0.102 |
| 15 | 1.25 | 0.80 | 0.240 | 0.138 | ( 0.216) | 0.102 |
| 16 | 1.33 | 0.80 | 0.240 | 0.138 | ( 0.216) | 0.102 |
| 17 | 1.42 | 0.80 | 0.240 | 0.138 | ( 0.216) | 0.102 |
| 18 | 1.50 | 0.80 | 0.240 | 0.138 | ( 0.216) | 0.102 |
| 19 | 1.58 | 0.80 | 0.240 | 0.138 | ( 0.216) | 0.102 |
| 20 | 1.67 | 0.80 | 0.240 | 0.138 | ( 0.216) | 0.102 |
| 21 | 1.75 | 0.80 | 0.240 | 0.138 | ( 0.216) | 0.102 |
| 22 | 1.83 | 0.80 | 0.240 | 0.138 | ( 0.216) | 0.102 |
| 23 | 1.92 | 0.80 | 0.240 | 0.138 | ( 0.216) | 0.102 |
| 24 | 2.00 | 0.90 | 0.270 | 0.138 | ( 0.243) | 0.132 |
| 25 | 2.08 | 0.80 | 0.240 | 0.138 | ( 0.216) | 0.102 |
| 26 | 2.17 | 0.90 | 0.270 | 0.138 | ( 0.243) | 0.132 |
| 27 | 2.25 | 0.90 | 0.270 | 0.138 | ( 0.243) | 0.132 |
| 28 | 2.33 | 0.90 | 0.270 | 0.138 | ( 0.243) | 0.132 |
| 29 | 2.42 | 0.90 | 0.270 | 0.138 | ( 0.243) | 0.132 |
| 30 | 2.50 | 0.90 | 0.270 | 0.138 | ( 0.243) | 0.132 |
| 31 | 2.58 | 0.90 | 0.270 | 0.138 | ( 0.243) | 0.132 |
| 32 | 2.67 | 0.90 | 0.270 | 0.138 | ( 0.243) | 0.132 |
| 33 | 2.75 | 1.00 | 0.300 | 0.138 | ( 0.270) | 0.162 |
| 34 | 2.83 | 1.00 | 0.300 | 0.138 | ( 0.270) | 0.162 |
| 35 | 2.92 | 1.00 | 0.300 | 0.138 | ( 0.270) | 0.162 |
| 36 | 3.00 | 1.00 | 0.300 | 0.138 | ( 0.270) | 0.162 |
| 37 | 3.08 | 1.00 | 0.300 | 0.138 | ( 0.270) | 0.162 |
| 38 | 3.17 | 1.10 | 0.330 | 0.138 | ( 0.297) | 0.192 |
| 39 | 3.25 | 1.10 | 0.330 | 0.138 | ( 0.297) | 0.192 |
| 40 | 3.33 | 1.10 | 0.330 | 0.138 | ( 0.297) | 0.192 |
| 41 | 3.42 | 1.20 | 0.360 | 0.138 | ( 0.324) | 0.222 |
| 42 | 3.50 | 1.30 | 0.390 | 0.138 | ( 0.351) | 0.252 |
| 43 | 3.58 | 1.40 | 0.420 | 0.138 | ( 0.378) | 0.282 |
| 44 | 3.67 | 1.40 | 0.420 | 0.138 | ( 0.378) | 0.282 |
| 45 | 3.75 | 1.50 | 0.450 | 0.138 | ( 0.405) | 0.312 |
| 46 | 3.83 | 1.50 | 0.450 | 0.138 | ( 0.405) | 0.312 |
| 47 | 3.92 | 1.60 | 0.480 | 0.138 | ( 0.432) | 0.342 |
| 48 | 4.00 | 1.60 | 0.480 | 0.138 | ( 0.432) | 0.342 |
| 49 | 4.08 | 1.70 | 0.510 | 0.138 | ( 0.459) | 0.372 |
| 50 | 4.17 | 1.80 | 0.540 | 0.138 | ( 0.486) | 0.402 |
| 51 | 4.25 | 1.90 | 0.570 | 0.138 | ( 0.513) | 0.432 |
| 52 | 4.33 | 2.00 | 0.600 | 0.138 | ( 0.540) | 0.462 |
| 53 | 4.42 | 2.10 | 0.630 | 0.138 | ( 0.567) | 0.492 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 54 | 4.50 | 2.10 | 0.630 | 0.138 | ( 0.567) | | 0.492 |
| 55 | 4.58 | 2.20 | 0.660 | 0.138 | ( 0.594) | | 0.522 |
| 56 | 4.67 | 2.30 | 0.690 | 0.138 | ( 0.621) | | 0.552 |
| 57 | 4.75 | 2.40 | 0.720 | 0.138 | ( 0.648) | | 0.582 |
| 58 | 4.83 | 2.40 | 0.720 | 0.138 | ( 0.648) | | 0.582 |
| 59 | 4.92 | 2.50 | 0.750 | 0.138 | ( 0.675) | | 0.612 |
| 60 | 5.00 | 2.60 | 0.780 | 0.138 | ( 0.702) | | 0.642 |
| 61 | 5.08 | 3.10 | 0.930 | 0.138 | ( 0.837) | | 0.792 |
| 62 | 5.17 | 3.60 | 1.080 | 0.138 | ( 0.972) | | 0.942 |
| 63 | 5.25 | 3.90 | 1.170 | 0.138 | ( 1.053) | | 1.032 |
| 64 | 5.33 | 4.20 | 1.260 | 0.138 | ( 1.134) | | 1.122 |
| 65 | 5.42 | 4.70 | 1.410 | 0.138 | ( 1.269) | | 1.272 |
| 66 | 5.50 | 5.60 | 1.680 | 0.138 | ( 1.512) | | 1.542 |
| 67 | 5.58 | 1.90 | 0.570 | 0.138 | ( 0.513) | | 0.432 |
| 68 | 5.67 | 0.90 | 0.270 | 0.138 | ( 0.243) | | 0.132 |
| 69 | 5.75 | 0.60 | 0.180 | 0.138 | ( 0.162) | | 0.042 |
| 70 | 5.83 | 0.50 | 0.150 | ( 0.138) | 0.135 | | 0.015 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.138) | 0.081 | | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.138) | 0.054 | | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 20.2

Flood volume = Effective rainfall 1.68(In)
times area 2.9(Ac.)/[(In)/(Ft.)] = 0.4(Ac.Ft)
Total soil loss = 0.82(In)
Total soil loss = 0.197(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 17720.2 Cubic Feet
Total soil loss = 8597.1 Cubic Feet

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Peak flow rate of this hydrograph = 4.136(CFS)

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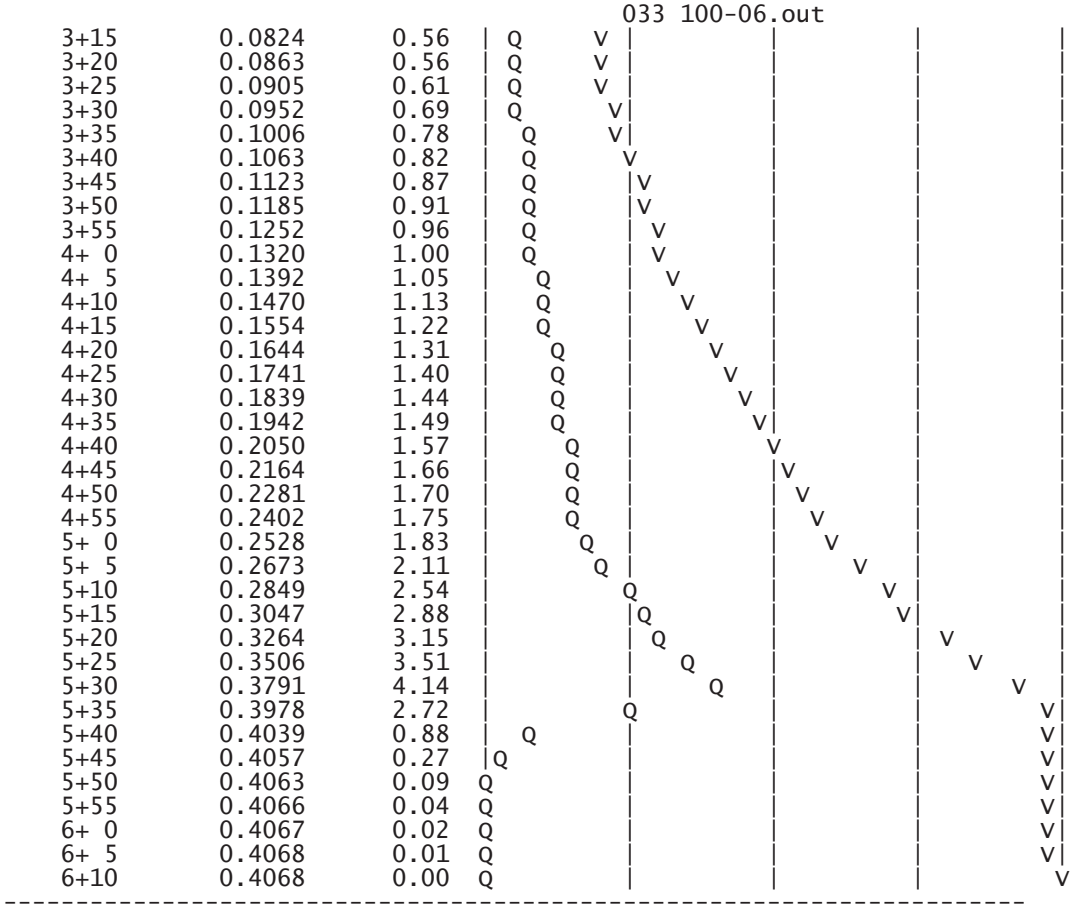
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0002 | 0.02 | Q | | | | |
| 0+10 | 0.0008 | 0.09 | Q | | | | |
| 0+15 | 0.0016 | 0.12 | Q | | | | |
| 0+20 | 0.0024 | 0.12 | Q | | | | |
| 0+25 | 0.0033 | 0.12 | Q | | | | |
| 0+30 | 0.0044 | 0.17 | Q | | | | |
| 0+35 | 0.0059 | 0.21 | Q | | | | |
| 0+40 | 0.0073 | 0.21 | Q | | | | |
| 0+45 | 0.0088 | 0.21 | Q | | | | |
| 0+50 | 0.0102 | 0.21 | QV | | | | |
| 0+55 | 0.0117 | 0.21 | QV | | | | |
| 1+ 0 | 0.0134 | 0.26 | \|Q | | | | |
| 1+ 5 | 0.0155 | 0.30 | \|Q | | | | |
| 1+10 | 0.0175 | 0.30 | \|Q | | | | |
| 1+15 | 0.0196 | 0.30 | \|Q | | | | |
| 1+20 | 0.0216 | 0.30 | \|QV | | | | |
| 1+25 | 0.0237 | 0.30 | \|QV | | | | |
| 1+30 | 0.0257 | 0.30 | \|QV | | | | |
| 1+35 | 0.0278 | 0.30 | \|QV | | | | |
| 1+40 | 0.0298 | 0.30 | \|QV | | | | |
| 1+45 | 0.0319 | 0.30 | \|Q V | | | | |
| 1+50 | 0.0339 | 0.30 | \|Q V | | | | |
| 1+55 | 0.0360 | 0.30 | \|Q V | | | | |
| 2+ 0 | 0.0383 | 0.35 | \|Q V | | | | |
| 2+ 5 | 0.0407 | 0.34 | \|Q V | | | | |
| 2+10 | 0.0431 | 0.35 | \|Q V | | | | |
| 2+15 | 0.0457 | 0.38 | \|Q V | | | | |
| 2+20 | 0.0483 | 0.39 | \|Q V | | | | |
| 2+25 | 0.0510 | 0.39 | \|Q V | | | | |
| 2+30 | 0.0537 | 0.39 | \|Q V | | | | |
| 2+35 | 0.0563 | 0.39 | \|Q V | | | | |
| 2+40 | 0.0590 | 0.39 | \|Q V | | | | |
| 2+45 | 0.0619 | 0.43 | \|Q V | | | | |
| 2+50 | 0.0652 | 0.47 | \|Q V | | | | |
| 2+55 | 0.0685 | 0.47 | \|Q V | | | | |
| 3+ 0 | 0.0717 | 0.47 | \|Q V | | | | |
| 3+ 5 | 0.0750 | 0.47 | \|Q V | | | | |
| 3+10 | 0.0786 | 0.52 | \| Q V | | | | |



| | | | |
|---|---|---|---|
| 3+15 | 0.0824 | 0.56 | |
| 3+20 | 0.0863 | 0.56 | |
| 3+25 | 0.0905 | 0.61 | |
| 3+30 | 0.0952 | 0.69 | |
| 3+35 | 0.1006 | 0.78 | |
| 3+40 | 0.1063 | 0.82 | |
| 3+45 | 0.1123 | 0.87 | |
| 3+50 | 0.1185 | 0.91 | |
| 3+55 | 0.1252 | 0.96 | |
| 4+ 0 | 0.1320 | 1.00 | |
| 4+ 5 | 0.1392 | 1.05 | |
| 4+10 | 0.1470 | 1.13 | |
| 4+15 | 0.1554 | 1.22 | |
| 4+20 | 0.1644 | 1.31 | |
| 4+25 | 0.1741 | 1.40 | |
| 4+30 | 0.1839 | 1.44 | |
| 4+35 | 0.1942 | 1.49 | |
| 4+40 | 0.2050 | 1.57 | |
| 4+45 | 0.2164 | 1.66 | |
| 4+50 | 0.2281 | 1.70 | |
| 4+55 | 0.2402 | 1.75 | |
| 5+ 0 | 0.2528 | 1.83 | |
| 5+ 5 | 0.2673 | 2.11 | |
| 5+10 | 0.2849 | 2.54 | |
| 5+15 | 0.3047 | 2.88 | |
| 5+20 | 0.3264 | 3.15 | |
| 5+25 | 0.3506 | 3.51 | |
| 5+30 | 0.3791 | 4.14 | |
| 5+35 | 0.3978 | 2.72 | |
| 5+40 | 0.4039 | 0.88 | |
| 5+45 | 0.4057 | 0.27 | |
| 5+50 | 0.4063 | 0.09 | |
| 5+55 | 0.4066 | 0.04 | |
| 6+ 0 | 0.4067 | 0.02 | |
| 6+ 5 | 0.4068 | 0.01 | |
| 6+10 | 0.4068 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 33
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 2.90(Ac.) = 0.005 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.90(Ac.) = 0.005 Sq. Mi.
Length along longest watercourse = 443.00(Ft.)
Length along longest watercourse measured to centroid = 310.00(Ft.)
Length along longest watercourse = 0.084 Mi.
Length along longest watercourse measured to centroid = 0.059 Mi.
Difference in elevation = 78.00(Ft.)
Slope along watercourse = 929.6614 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.030 Hr.
Lag time = 1.83 Min.
25% of lag time = 0.46 Min.
40% of lag time = 0.73 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.90 | 1.80 | 5.22 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.90 | 4.62 | 13.40 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.620(In)

Point rain (area averaged) = 4.620(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.620(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2.900 | 77.14 | 0.000 |

Total Area Entered = 2.90(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 77.1 | 89.3 | 0.138 | 0.000 | 0.138 | 1.000 | 0.138 |
| | | | | | Sum (F) = | 0.138 |

Area averaged mean soil loss (F) (In/Hr) = 0.138

Minimum soil loss rate ((In/Hr)) = 0.069
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 273.761 | 54.391 | 1.590 |
| 2 | 0.167 | 547.523 | 42.713 | 1.248 |
| 3 | 0.250 | 821.284 | 2.896 | 0.085 |
| | | | Sum = 100.000 | Sum= 2.923 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.037 | ( 0.245) | 0.033 | 0.004 |
| 2 | 0.17 | 0.07 | 0.037 | ( 0.244) | 0.033 | 0.004 |
| 3 | 0.25 | 0.07 | 0.037 | ( 0.243) | 0.033 | 0.004 |
| 4 | 0.33 | 0.10 | 0.055 | ( 0.242) | 0.050 | 0.006 |
| 5 | 0.42 | 0.10 | 0.055 | ( 0.241) | 0.050 | 0.006 |
| 6 | 0.50 | 0.10 | 0.055 | ( 0.240) | 0.050 | 0.006 |
| 7 | 0.58 | 0.10 | 0.055 | ( 0.239) | 0.050 | 0.006 |
| 8 | 0.67 | 0.10 | 0.055 | ( 0.238) | 0.050 | 0.006 |
| 9 | 0.75 | 0.10 | 0.055 | ( 0.237) | 0.050 | 0.006 |
| 10 | 0.83 | 0.13 | 0.074 | ( 0.236) | 0.067 | 0.007 |
| 11 | 0.92 | 0.13 | 0.074 | ( 0.236) | 0.067 | 0.007 |
| 12 | 1.00 | 0.13 | 0.074 | ( 0.235) | 0.067 | 0.007 |
| 13 | 1.08 | 0.10 | 0.055 | ( 0.234) | 0.050 | 0.006 |
| 14 | 1.17 | 0.10 | 0.055 | ( 0.233) | 0.050 | 0.006 |
| 15 | 1.25 | 0.10 | 0.055 | ( 0.232) | 0.050 | 0.006 |
| 16 | 1.33 | 0.10 | 0.055 | ( 0.231) | 0.050 | 0.006 |
| 17 | 1.42 | 0.10 | 0.055 | ( 0.230) | 0.050 | 0.006 |
| 18 | 1.50 | 0.10 | 0.055 | ( 0.229) | 0.050 | 0.006 |
| 19 | 1.58 | 0.10 | 0.055 | ( 0.228) | 0.050 | 0.006 |
| 20 | 1.67 | 0.10 | 0.055 | ( 0.227) | 0.050 | 0.006 |
| 21 | 1.75 | 0.10 | 0.055 | ( 0.226) | 0.050 | 0.006 |
| 22 | 1.83 | 0.13 | 0.074 | ( 0.225) | 0.067 | 0.007 |
| 23 | 1.92 | 0.13 | 0.074 | ( 0.225) | 0.067 | 0.007 |
| 24 | 2.00 | 0.13 | 0.074 | ( 0.224) | 0.067 | 0.007 |
| 25 | 2.08 | 0.13 | 0.074 | ( 0.223) | 0.067 | 0.007 |
| 26 | 2.17 | 0.13 | 0.074 | ( 0.222) | 0.067 | 0.007 |
| 27 | 2.25 | 0.13 | 0.074 | ( 0.221) | 0.067 | 0.007 |
| 28 | 2.33 | 0.13 | 0.074 | ( 0.220) | 0.067 | 0.007 |
| 29 | 2.42 | 0.13 | 0.074 | ( 0.219) | 0.067 | 0.007 |
| 30 | 2.50 | 0.13 | 0.074 | ( 0.218) | 0.067 | 0.007 |
| 31 | 2.58 | 0.17 | 0.092 | ( 0.217) | 0.083 | 0.009 |
| 32 | 2.67 | 0.17 | 0.092 | ( 0.216) | 0.083 | 0.009 |
| 33 | 2.75 | 0.17 | 0.092 | ( 0.216) | 0.083 | 0.009 |
| 34 | 2.83 | 0.17 | 0.092 | ( 0.215) | 0.083 | 0.009 |
| 35 | 2.92 | 0.17 | 0.092 | ( 0.214) | 0.083 | 0.009 |
| 36 | 3.00 | 0.17 | 0.092 | ( 0.213) | 0.083 | 0.009 |
| 37 | 3.08 | 0.17 | 0.092 | ( 0.212) | 0.083 | 0.009 |
| 38 | 3.17 | 0.17 | 0.092 | ( 0.211) | 0.083 | 0.009 |
| 39 | 3.25 | 0.17 | 0.092 | ( 0.210) | 0.083 | 0.009 |
| 40 | 3.33 | 0.17 | 0.092 | ( 0.209) | 0.083 | 0.009 |
| 41 | 3.42 | 0.17 | 0.092 | ( 0.208) | 0.083 | 0.009 |
| 42 | 3.50 | 0.17 | 0.092 | ( 0.208) | 0.083 | 0.009 |
| 43 | 3.58 | 0.17 | 0.092 | ( 0.207) | 0.083 | 0.009 |
| 44 | 3.67 | 0.17 | 0.092 | ( 0.206) | 0.083 | 0.009 |
| 45 | 3.75 | 0.17 | 0.092 | ( 0.205) | 0.083 | 0.009 |
| 46 | 3.83 | 0.20 | 0.111 | ( 0.204) | 0.100 | 0.011 |
| 47 | 3.92 | 0.20 | 0.111 | ( 0.203) | 0.100 | 0.011 |
| 48 | 4.00 | 0.20 | 0.111 | ( 0.202) | 0.100 | 0.011 |
| 49 | 4.08 | 0.20 | 0.111 | ( 0.202) | 0.100 | 0.011 |
| 50 | 4.17 | 0.20 | 0.111 | ( 0.201) | 0.100 | 0.011 |
| 51 | 4.25 | 0.20 | 0.111 | ( 0.200) | 0.100 | 0.011 |
| 52 | 4.33 | 0.23 | 0.129 | ( 0.199) | 0.116 | 0.013 |
| 53 | 4.42 | 0.23 | 0.129 | ( 0.198) | 0.116 | 0.013 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 54 | 4.50 | 0.23 | 0.129 | ( | 0.197) | 0.116 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.129 | ( | 0.196) | 0.116 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.129 | ( | 0.196) | 0.116 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.129 | ( | 0.195) | 0.116 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.148 | ( | 0.194) | 0.133 | | 0.015 |
| 59 | 4.92 | 0.27 | 0.148 | ( | 0.193) | 0.133 | | 0.015 |
| 60 | 5.00 | 0.27 | 0.148 | ( | 0.192) | 0.133 | | 0.015 |
| 61 | 5.08 | 0.20 | 0.111 | ( | 0.191) | 0.100 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.111 | ( | 0.191) | 0.100 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.111 | ( | 0.190) | 0.100 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.129 | ( | 0.189) | 0.116 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.129 | ( | 0.188) | 0.116 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.129 | ( | 0.187) | 0.116 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.148 | ( | 0.186) | 0.133 | | 0.015 |
| 68 | 5.67 | 0.27 | 0.148 | ( | 0.186) | 0.133 | | 0.015 |
| 69 | 5.75 | 0.27 | 0.148 | ( | 0.185) | 0.133 | | 0.015 |
| 70 | 5.83 | 0.27 | 0.148 | ( | 0.184) | 0.133 | | 0.015 |
| 71 | 5.92 | 0.27 | 0.148 | ( | 0.183) | 0.133 | | 0.015 |
| 72 | 6.00 | 0.27 | 0.148 | ( | 0.182) | 0.133 | | 0.015 |
| 73 | 6.08 | 0.30 | 0.166 | ( | 0.182) | 0.150 | | 0.017 |
| 74 | 6.17 | 0.30 | 0.166 | ( | 0.181) | 0.150 | | 0.017 |
| 75 | 6.25 | 0.30 | 0.166 | ( | 0.180) | 0.150 | | 0.017 |
| 76 | 6.33 | 0.30 | 0.166 | ( | 0.179) | 0.150 | | 0.017 |
| 77 | 6.42 | 0.30 | 0.166 | ( | 0.178) | 0.150 | | 0.017 |
| 78 | 6.50 | 0.30 | 0.166 | ( | 0.178) | 0.150 | | 0.017 |
| 79 | 6.58 | 0.33 | 0.185 | ( | 0.177) | 0.166 | | 0.018 |
| 80 | 6.67 | 0.33 | 0.185 | ( | 0.176) | 0.166 | | 0.018 |
| 81 | 6.75 | 0.33 | 0.185 | ( | 0.175) | 0.166 | | 0.018 |
| 82 | 6.83 | 0.33 | 0.185 | ( | 0.174) | 0.166 | | 0.018 |
| 83 | 6.92 | 0.33 | 0.185 | ( | 0.174) | 0.166 | | 0.018 |
| 84 | 7.00 | 0.33 | 0.185 | ( | 0.173) | 0.166 | | 0.018 |
| 85 | 7.08 | 0.33 | 0.185 | ( | 0.172) | 0.166 | | 0.018 |
| 86 | 7.17 | 0.33 | 0.185 | ( | 0.171) | 0.166 | | 0.018 |
| 87 | 7.25 | 0.33 | 0.185 | ( | 0.170) | 0.166 | | 0.018 |
| 88 | 7.33 | 0.37 | 0.203 | | 0.170 | ( | 0.183) | 0.034 |
| 89 | 7.42 | 0.37 | 0.203 | | 0.169 | ( | 0.183) | 0.034 |
| 90 | 7.50 | 0.37 | 0.203 | | 0.168 | ( | 0.183) | 0.035 |
| 91 | 7.58 | 0.40 | 0.222 | | 0.167 | ( | 0.200) | 0.054 |
| 92 | 7.67 | 0.40 | 0.222 | | 0.167 | ( | 0.200) | 0.055 |
| 93 | 7.75 | 0.40 | 0.222 | | 0.166 | ( | 0.200) | 0.056 |
| 94 | 7.83 | 0.43 | 0.240 | | 0.165 | ( | 0.216) | 0.075 |
| 95 | 7.92 | 0.43 | 0.240 | | 0.164 | ( | 0.216) | 0.076 |
| 96 | 8.00 | 0.43 | 0.240 | | 0.164 | ( | 0.216) | 0.077 |
| 97 | 8.08 | 0.50 | 0.277 | | 0.163 | ( | 0.249) | 0.114 |
| 98 | 8.17 | 0.50 | 0.277 | | 0.162 | ( | 0.249) | 0.115 |
| 99 | 8.25 | 0.50 | 0.277 | | 0.161 | ( | 0.249) | 0.116 |
| 100 | 8.33 | 0.50 | 0.277 | | 0.160 | ( | 0.249) | 0.117 |
| 101 | 8.42 | 0.50 | 0.277 | | 0.160 | ( | 0.249) | 0.117 |
| 102 | 8.50 | 0.50 | 0.277 | | 0.159 | ( | 0.249) | 0.118 |
| 103 | 8.58 | 0.53 | 0.296 | | 0.158 | ( | 0.266) | 0.137 |
| 104 | 8.67 | 0.53 | 0.296 | | 0.157 | ( | 0.266) | 0.138 |
| 105 | 8.75 | 0.53 | 0.296 | | 0.157 | ( | 0.266) | 0.139 |
| 106 | 8.83 | 0.57 | 0.314 | | 0.156 | ( | 0.283) | 0.158 |
| 107 | 8.92 | 0.57 | 0.314 | | 0.155 | ( | 0.283) | 0.159 |
| 108 | 9.00 | 0.57 | 0.314 | | 0.155 | ( | 0.283) | 0.160 |
| 109 | 9.08 | 0.63 | 0.351 | | 0.154 | ( | 0.316) | 0.197 |
| 110 | 9.17 | 0.63 | 0.351 | | 0.153 | ( | 0.316) | 0.198 |
| 111 | 9.25 | 0.63 | 0.351 | | 0.152 | ( | 0.316) | 0.199 |
| 112 | 9.33 | 0.67 | 0.370 | | 0.152 | ( | 0.333) | 0.218 |
| 113 | 9.42 | 0.67 | 0.370 | | 0.151 | ( | 0.333) | 0.219 |
| 114 | 9.50 | 0.67 | 0.370 | | 0.150 | ( | 0.333) | 0.219 |
| 115 | 9.58 | 0.70 | 0.388 | | 0.149 | ( | 0.349) | 0.239 |
| 116 | 9.67 | 0.70 | 0.388 | | 0.149 | ( | 0.349) | 0.239 |
| 117 | 9.75 | 0.70 | 0.388 | | 0.148 | ( | 0.349) | 0.240 |
| 118 | 9.83 | 0.73 | 0.407 | | 0.147 | ( | 0.366) | 0.259 |
| 119 | 9.92 | 0.73 | 0.407 | | 0.147 | ( | 0.366) | 0.260 |
| 120 | 10.00 | 0.73 | 0.407 | | 0.146 | ( | 0.366) | 0.261 |
| 121 | 10.08 | 0.50 | 0.277 | | 0.145 | ( | 0.249) | 0.132 |
| 122 | 10.17 | 0.50 | 0.277 | | 0.144 | ( | 0.249) | 0.133 |
| 123 | 10.25 | 0.50 | 0.277 | | 0.144 | ( | 0.249) | 0.133 |
| 124 | 10.33 | 0.50 | 0.277 | | 0.143 | ( | 0.249) | 0.134 |
| 125 | 10.42 | 0.50 | 0.277 | | 0.142 | ( | 0.249) | 0.135 |
| 126 | 10.50 | 0.50 | 0.277 | | 0.142 | ( | 0.249) | 0.135 |
| 127 | 10.58 | 0.67 | 0.370 | | 0.141 | ( | 0.333) | 0.229 |
| 128 | 10.67 | 0.67 | 0.370 | | 0.140 | ( | 0.333) | 0.229 |
| 129 | 10.75 | 0.67 | 0.370 | | 0.140 | ( | 0.333) | 0.230 |
| 130 | 10.83 | 0.67 | 0.370 | | 0.139 | ( | 0.333) | 0.231 |
| 131 | 10.92 | 0.67 | 0.370 | | 0.138 | ( | 0.333) | 0.231 |

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|---|---|---|---|---|---|---|---|---|
| 132 | 11.00 | 0.67 | 0.370 | | 0.138 | ( 0.333) | | 0.232 |
| 133 | 11.08 | 0.63 | 0.351 | | 0.137 | ( 0.316) | | 0.214 |
| 134 | 11.17 | 0.63 | 0.351 | | 0.136 | ( 0.316) | | 0.215 |
| 135 | 11.25 | 0.63 | 0.351 | | 0.136 | ( 0.316) | | 0.216 |
| 136 | 11.33 | 0.63 | 0.351 | | 0.135 | ( 0.316) | | 0.216 |
| 137 | 11.42 | 0.63 | 0.351 | | 0.134 | ( 0.316) | | 0.217 |
| 138 | 11.50 | 0.63 | 0.351 | | 0.134 | ( 0.316) | | 0.218 |
| 139 | 11.58 | 0.57 | 0.314 | | 0.133 | ( 0.283) | | 0.181 |
| 140 | 11.67 | 0.57 | 0.314 | | 0.132 | ( 0.283) | | 0.182 |
| 141 | 11.75 | 0.57 | 0.314 | | 0.132 | ( 0.283) | | 0.183 |
| 142 | 11.83 | 0.60 | 0.333 | | 0.131 | ( 0.299) | | 0.202 |
| 143 | 11.92 | 0.60 | 0.333 | | 0.130 | ( 0.299) | | 0.202 |
| 144 | 12.00 | 0.60 | 0.333 | | 0.130 | ( 0.299) | | 0.203 |
| 145 | 12.08 | 0.83 | 0.462 | | 0.129 | ( 0.416) | | 0.333 |
| 146 | 12.17 | 0.83 | 0.462 | | 0.128 | ( 0.416) | | 0.334 |
| 147 | 12.25 | 0.83 | 0.462 | | 0.128 | ( 0.416) | | 0.334 |
| 148 | 12.33 | 0.87 | 0.480 | | 0.127 | ( 0.432) | | 0.353 |
| 149 | 12.42 | 0.87 | 0.480 | | 0.126 | ( 0.432) | | 0.354 |
| 150 | 12.50 | 0.87 | 0.480 | | 0.126 | ( 0.432) | | 0.355 |
| 151 | 12.58 | 0.93 | 0.517 | | 0.125 | ( 0.466) | | 0.392 |
| 152 | 12.67 | 0.93 | 0.517 | | 0.125 | ( 0.466) | | 0.393 |
| 153 | 12.75 | 0.93 | 0.517 | | 0.124 | ( 0.466) | | 0.394 |
| 154 | 12.83 | 0.97 | 0.536 | | 0.123 | ( 0.482) | | 0.413 |
| 155 | 12.92 | 0.97 | 0.536 | | 0.123 | ( 0.482) | | 0.413 |
| 156 | 13.00 | 0.97 | 0.536 | | 0.122 | ( 0.482) | | 0.414 |
| 157 | 13.08 | 1.13 | 0.628 | | 0.121 | ( 0.565) | | 0.507 |
| 158 | 13.17 | 1.13 | 0.628 | | 0.121 | ( 0.565) | | 0.508 |
| 159 | 13.25 | 1.13 | 0.628 | | 0.120 | ( 0.565) | | 0.508 |
| 160 | 13.33 | 1.13 | 0.628 | | 0.120 | ( 0.565) | | 0.509 |
| 161 | 13.42 | 1.13 | 0.628 | | 0.119 | ( 0.565) | | 0.509 |
| 162 | 13.50 | 1.13 | 0.628 | | 0.118 | ( 0.565) | | 0.510 |
| 163 | 13.58 | 0.77 | 0.425 | | 0.118 | ( 0.383) | | 0.307 |
| 164 | 13.67 | 0.77 | 0.425 | | 0.117 | ( 0.383) | | 0.308 |
| 165 | 13.75 | 0.77 | 0.425 | | 0.117 | ( 0.383) | | 0.308 |
| 166 | 13.83 | 0.77 | 0.425 | | 0.116 | ( 0.383) | | 0.309 |
| 167 | 13.92 | 0.77 | 0.425 | | 0.115 | ( 0.383) | | 0.310 |
| 168 | 14.00 | 0.77 | 0.425 | | 0.115 | ( 0.383) | | 0.310 |
| 169 | 14.08 | 0.90 | 0.499 | | 0.114 | ( 0.449) | | 0.385 |
| 170 | 14.17 | 0.90 | 0.499 | | 0.114 | ( 0.449) | | 0.385 |
| 171 | 14.25 | 0.90 | 0.499 | | 0.113 | ( 0.449) | | 0.386 |
| 172 | 14.33 | 0.87 | 0.480 | | 0.112 | ( 0.432) | | 0.368 |
| 173 | 14.42 | 0.87 | 0.480 | | 0.112 | ( 0.432) | | 0.369 |
| 174 | 14.50 | 0.87 | 0.480 | | 0.111 | ( 0.432) | | 0.369 |
| 175 | 14.58 | 0.87 | 0.480 | | 0.111 | ( 0.432) | | 0.370 |
| 176 | 14.67 | 0.87 | 0.480 | | 0.110 | ( 0.432) | | 0.370 |
| 177 | 14.75 | 0.87 | 0.480 | | 0.110 | ( 0.432) | | 0.371 |
| 178 | 14.83 | 0.83 | 0.462 | | 0.109 | ( 0.416) | | 0.353 |
| 179 | 14.92 | 0.83 | 0.462 | | 0.108 | ( 0.416) | | 0.354 |
| 180 | 15.00 | 0.83 | 0.462 | | 0.108 | ( 0.416) | | 0.354 |
| 181 | 15.08 | 0.80 | 0.444 | | 0.107 | ( 0.399) | | 0.336 |
| 182 | 15.17 | 0.80 | 0.444 | | 0.107 | ( 0.399) | | 0.337 |
| 183 | 15.25 | 0.80 | 0.444 | | 0.106 | ( 0.399) | | 0.337 |
| 184 | 15.33 | 0.77 | 0.425 | | 0.106 | ( 0.383) | | 0.319 |
| 185 | 15.42 | 0.77 | 0.425 | | 0.105 | ( 0.383) | | 0.320 |
| 186 | 15.50 | 0.77 | 0.425 | | 0.105 | ( 0.383) | | 0.320 |
| 187 | 15.58 | 0.63 | 0.351 | | 0.104 | ( 0.316) | | 0.247 |
| 188 | 15.67 | 0.63 | 0.351 | | 0.104 | ( 0.316) | | 0.248 |
| 189 | 15.75 | 0.63 | 0.351 | | 0.103 | ( 0.316) | | 0.248 |
| 190 | 15.83 | 0.63 | 0.351 | | 0.103 | ( 0.316) | | 0.249 |
| 191 | 15.92 | 0.63 | 0.351 | | 0.102 | ( 0.316) | | 0.249 |
| 192 | 16.00 | 0.63 | 0.351 | | 0.101 | ( 0.316) | | 0.250 |
| 193 | 16.08 | 0.13 | 0.074 | ( 0.101) | | 0.067 | | 0.007 |
| 194 | 16.17 | 0.13 | 0.074 | ( 0.100) | | 0.067 | | 0.007 |
| 195 | 16.25 | 0.13 | 0.074 | ( 0.100) | | 0.067 | | 0.007 |
| 196 | 16.33 | 0.13 | 0.074 | ( 0.099) | | 0.067 | | 0.007 |
| 197 | 16.42 | 0.13 | 0.074 | ( 0.099) | | 0.067 | | 0.007 |
| 198 | 16.50 | 0.13 | 0.074 | ( 0.098) | | 0.067 | | 0.007 |
| 199 | 16.58 | 0.10 | 0.055 | ( 0.098) | | 0.050 | | 0.006 |
| 200 | 16.67 | 0.10 | 0.055 | ( 0.097) | | 0.050 | | 0.006 |
| 201 | 16.75 | 0.10 | 0.055 | ( 0.097) | | 0.050 | | 0.006 |
| 202 | 16.83 | 0.10 | 0.055 | ( 0.096) | | 0.050 | | 0.006 |
| 203 | 16.92 | 0.10 | 0.055 | ( 0.096) | | 0.050 | | 0.006 |
| 204 | 17.00 | 0.10 | 0.055 | ( 0.095) | | 0.050 | | 0.006 |
| 205 | 17.08 | 0.17 | 0.092 | ( 0.095) | | 0.083 | | 0.009 |
| 206 | 17.17 | 0.17 | 0.092 | ( 0.094) | | 0.083 | | 0.009 |
| 207 | 17.25 | 0.17 | 0.092 | ( 0.094) | | 0.083 | | 0.009 |
| 208 | 17.33 | 0.17 | 0.092 | ( 0.094) | | 0.083 | | 0.009 |
| 209 | 17.42 | 0.17 | 0.092 | ( 0.093) | | 0.083 | | 0.009 |

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|---|---|---|---|---|---|---|
| 210 | 17.50 | 0.17 | 0.092 | ( 0.093) | 0.083 | 0.009 |
| 211 | 17.58 | 0.17 | 0.092 | ( 0.092) | 0.083 | 0.009 |
| 212 | 17.67 | 0.17 | 0.092 | ( 0.092) | 0.083 | 0.009 |
| 213 | 17.75 | 0.17 | 0.092 | ( 0.091) | 0.083 | 0.009 |
| 214 | 17.83 | 0.13 | 0.074 | ( 0.091) | 0.067 | 0.007 |
| 215 | 17.92 | 0.13 | 0.074 | ( 0.090) | 0.067 | 0.007 |
| 216 | 18.00 | 0.13 | 0.074 | ( 0.090) | 0.067 | 0.007 |
| 217 | 18.08 | 0.13 | 0.074 | ( 0.089) | 0.067 | 0.007 |
| 218 | 18.17 | 0.13 | 0.074 | ( 0.089) | 0.067 | 0.007 |
| 219 | 18.25 | 0.13 | 0.074 | ( 0.089) | 0.067 | 0.007 |
| 220 | 18.33 | 0.13 | 0.074 | ( 0.088) | 0.067 | 0.007 |
| 221 | 18.42 | 0.13 | 0.074 | ( 0.088) | 0.067 | 0.007 |
| 222 | 18.50 | 0.13 | 0.074 | ( 0.087) | 0.067 | 0.007 |
| 223 | 18.58 | 0.10 | 0.055 | ( 0.087) | 0.050 | 0.006 |
| 224 | 18.67 | 0.10 | 0.055 | ( 0.086) | 0.050 | 0.006 |
| 225 | 18.75 | 0.10 | 0.055 | ( 0.086) | 0.050 | 0.006 |
| 226 | 18.83 | 0.07 | 0.037 | ( 0.086) | 0.033 | 0.004 |
| 227 | 18.92 | 0.07 | 0.037 | ( 0.085) | 0.033 | 0.004 |
| 228 | 19.00 | 0.07 | 0.037 | ( 0.085) | 0.033 | 0.004 |
| 229 | 19.08 | 0.10 | 0.055 | ( 0.084) | 0.050 | 0.006 |
| 230 | 19.17 | 0.10 | 0.055 | ( 0.084) | 0.050 | 0.006 |
| 231 | 19.25 | 0.10 | 0.055 | ( 0.084) | 0.050 | 0.006 |
| 232 | 19.33 | 0.13 | 0.074 | ( 0.083) | 0.067 | 0.007 |
| 233 | 19.42 | 0.13 | 0.074 | ( 0.083) | 0.067 | 0.007 |
| 234 | 19.50 | 0.13 | 0.074 | ( 0.082) | 0.067 | 0.007 |
| 235 | 19.58 | 0.10 | 0.055 | ( 0.082) | 0.050 | 0.006 |
| 236 | 19.67 | 0.10 | 0.055 | ( 0.082) | 0.050 | 0.006 |
| 237 | 19.75 | 0.10 | 0.055 | ( 0.081) | 0.050 | 0.006 |
| 238 | 19.83 | 0.07 | 0.037 | ( 0.081) | 0.033 | 0.004 |
| 239 | 19.92 | 0.07 | 0.037 | ( 0.081) | 0.033 | 0.004 |
| 240 | 20.00 | 0.07 | 0.037 | ( 0.080) | 0.033 | 0.004 |
| 241 | 20.08 | 0.10 | 0.055 | ( 0.080) | 0.050 | 0.006 |
| 242 | 20.17 | 0.10 | 0.055 | ( 0.080) | 0.050 | 0.006 |
| 243 | 20.25 | 0.10 | 0.055 | ( 0.079) | 0.050 | 0.006 |
| 244 | 20.33 | 0.10 | 0.055 | ( 0.079) | 0.050 | 0.006 |
| 245 | 20.42 | 0.10 | 0.055 | ( 0.078) | 0.050 | 0.006 |
| 246 | 20.50 | 0.10 | 0.055 | ( 0.078) | 0.050 | 0.006 |
| 247 | 20.58 | 0.10 | 0.055 | ( 0.078) | 0.050 | 0.006 |
| 248 | 20.67 | 0.10 | 0.055 | ( 0.078) | 0.050 | 0.006 |
| 249 | 20.75 | 0.10 | 0.055 | ( 0.077) | 0.050 | 0.006 |
| 250 | 20.83 | 0.07 | 0.037 | ( 0.077) | 0.033 | 0.004 |
| 251 | 20.92 | 0.07 | 0.037 | ( 0.077) | 0.033 | 0.004 |
| 252 | 21.00 | 0.07 | 0.037 | ( 0.076) | 0.033 | 0.004 |
| 253 | 21.08 | 0.10 | 0.055 | ( 0.076) | 0.050 | 0.006 |
| 254 | 21.17 | 0.10 | 0.055 | ( 0.076) | 0.050 | 0.006 |
| 255 | 21.25 | 0.10 | 0.055 | ( 0.075) | 0.050 | 0.006 |
| 256 | 21.33 | 0.07 | 0.037 | ( 0.075) | 0.033 | 0.004 |
| 257 | 21.42 | 0.07 | 0.037 | ( 0.075) | 0.033 | 0.004 |
| 258 | 21.50 | 0.07 | 0.037 | ( 0.075) | 0.033 | 0.004 |
| 259 | 21.58 | 0.10 | 0.055 | ( 0.074) | 0.050 | 0.006 |
| 260 | 21.67 | 0.10 | 0.055 | ( 0.074) | 0.050 | 0.006 |
| 261 | 21.75 | 0.10 | 0.055 | ( 0.074) | 0.050 | 0.006 |
| 262 | 21.83 | 0.07 | 0.037 | ( 0.073) | 0.033 | 0.004 |
| 263 | 21.92 | 0.07 | 0.037 | ( 0.073) | 0.033 | 0.004 |
| 264 | 22.00 | 0.07 | 0.037 | ( 0.073) | 0.033 | 0.004 |
| 265 | 22.08 | 0.10 | 0.055 | ( 0.073) | 0.050 | 0.006 |
| 266 | 22.17 | 0.10 | 0.055 | ( 0.072) | 0.050 | 0.006 |
| 267 | 22.25 | 0.10 | 0.055 | ( 0.072) | 0.050 | 0.006 |
| 268 | 22.33 | 0.07 | 0.037 | ( 0.072) | 0.033 | 0.004 |
| 269 | 22.42 | 0.07 | 0.037 | ( 0.072) | 0.033 | 0.004 |
| 270 | 22.50 | 0.07 | 0.037 | ( 0.072) | 0.033 | 0.004 |
| 271 | 22.58 | 0.07 | 0.037 | ( 0.071) | 0.033 | 0.004 |
| 272 | 22.67 | 0.07 | 0.037 | ( 0.071) | 0.033 | 0.004 |
| 273 | 22.75 | 0.07 | 0.037 | ( 0.071) | 0.033 | 0.004 |
| 274 | 22.83 | 0.07 | 0.037 | ( 0.071) | 0.033 | 0.004 |
| 275 | 22.92 | 0.07 | 0.037 | ( 0.071) | 0.033 | 0.004 |
| 276 | 23.00 | 0.07 | 0.037 | ( 0.070) | 0.033 | 0.004 |
| 277 | 23.08 | 0.07 | 0.037 | ( 0.070) | 0.033 | 0.004 |
| 278 | 23.17 | 0.07 | 0.037 | ( 0.070) | 0.033 | 0.004 |
| 279 | 23.25 | 0.07 | 0.037 | ( 0.070) | 0.033 | 0.004 |
| 280 | 23.33 | 0.07 | 0.037 | ( 0.070) | 0.033 | 0.004 |
| 281 | 23.42 | 0.07 | 0.037 | ( 0.070) | 0.033 | 0.004 |
| 282 | 23.50 | 0.07 | 0.037 | ( 0.070) | 0.033 | 0.004 |
| 283 | 23.58 | 0.07 | 0.037 | ( 0.069) | 0.033 | 0.004 |
| 284 | 23.67 | 0.07 | 0.037 | ( 0.069) | 0.033 | 0.004 |
| 285 | 23.75 | 0.07 | 0.037 | ( 0.069) | 0.033 | 0.004 |
| 286 | 23.83 | 0.07 | 0.037 | ( 0.069) | 0.033 | 0.004 |
| 287 | 23.92 | 0.07 | 0.037 | ( 0.069) | 0.033 | 0.004 |

288 24.00 0.07 0.037 ( 0.069) 0.033 0.004
(Loss Rate Not Used)
Sum = 100.0 Sum = 28.2
Flood volume = Effective rainfall 2.35(In)
times area 2.9(Ac.)/[(In)/(Ft.)] = 0.6(Ac.Ft)
Total soil loss = 2.27(In)
Total soil loss = 0.548(Ac.Ft)
Total rainfall = 4.62(In)
Flood volume = 24750.9 Cubic Feet
Total soil loss = 23883.5 Cubic Feet

---

Peak flow rate of this hydrograph = 1.490(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

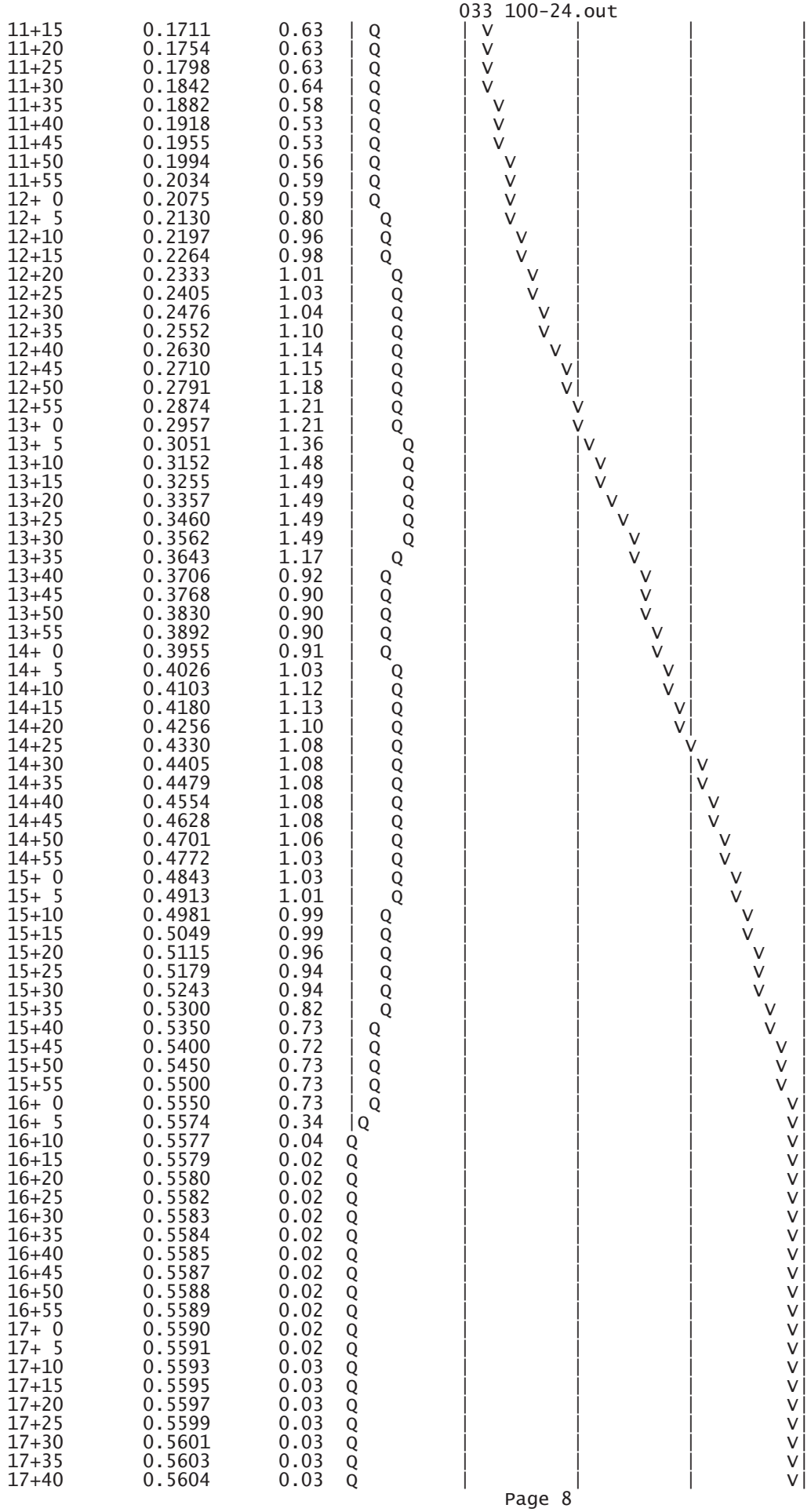
---

Hydrograph in 5 Minute intervals ((CFS))

---

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0000 | 0.01 | Q | | | | |
| 0+10 | 0.0001 | 0.01 | Q | | | | |
| 0+15 | 0.0002 | 0.01 | Q | | | | |
| 0+20 | 0.0003 | 0.01 | Q | | | | |
| 0+25 | 0.0004 | 0.02 | Q | | | | |
| 0+30 | 0.0005 | 0.02 | Q | | | | |
| 0+35 | 0.0006 | 0.02 | Q | | | | |
| 0+40 | 0.0007 | 0.02 | Q | | | | |
| 0+45 | 0.0008 | 0.02 | Q | | | | |
| 0+50 | 0.0010 | 0.02 | Q | | | | |
| 0+55 | 0.0011 | 0.02 | Q | | | | |
| 1+ 0 | 0.0013 | 0.02 | Q | | | | |
| 1+ 5 | 0.0014 | 0.02 | Q | | | | |
| 1+10 | 0.0015 | 0.02 | Q | | | | |
| 1+15 | 0.0016 | 0.02 | Q | | | | |
| 1+20 | 0.0017 | 0.02 | Q | | | | |
| 1+25 | 0.0018 | 0.02 | Q | | | | |
| 1+30 | 0.0020 | 0.02 | Q | | | | |
| 1+35 | 0.0021 | 0.02 | Q | | | | |
| 1+40 | 0.0022 | 0.02 | Q | | | | |
| 1+45 | 0.0023 | 0.02 | Q | | | | |
| 1+50 | 0.0024 | 0.02 | Q | | | | |
| 1+55 | 0.0026 | 0.02 | Q | | | | |
| 2+ 0 | 0.0027 | 0.02 | Q | | | | |
| 2+ 5 | 0.0029 | 0.02 | Q | | | | |
| 2+10 | 0.0030 | 0.02 | Q | | | | |
| 2+15 | 0.0032 | 0.02 | Q | | | | |
| 2+20 | 0.0033 | 0.02 | Q | | | | |
| 2+25 | 0.0035 | 0.02 | Q | | | | |
| 2+30 | 0.0036 | 0.02 | Q | | | | |
| 2+35 | 0.0038 | 0.02 | Q | | | | |
| 2+40 | 0.0040 | 0.03 | Q | | | | |
| 2+45 | 0.0042 | 0.03 | Q | | | | |
| 2+50 | 0.0043 | 0.03 | Q | | | | |
| 2+55 | 0.0045 | 0.03 | Q | | | | |
| 3+ 0 | 0.0047 | 0.03 | Q | | | | |
| 3+ 5 | 0.0049 | 0.03 | Q | | | | |
| 3+10 | 0.0051 | 0.03 | Q | | | | |
| 3+15 | 0.0053 | 0.03 | Q | | | | |
| 3+20 | 0.0055 | 0.03 | Q | | | | |
| 3+25 | 0.0056 | 0.03 | Q | | | | |
| 3+30 | 0.0058 | 0.03 | Q | | | | |
| 3+35 | 0.0060 | 0.03 | Q | | | | |
| 3+40 | 0.0062 | 0.03 | Q | | | | |
| 3+45 | 0.0064 | 0.03 | Q | | | | |
| 3+50 | 0.0066 | 0.03 | Q | | | | |
| 3+55 | 0.0068 | 0.03 | Q | | | | |
| 4+ 0 | 0.0070 | 0.03 | Q | | | | |
| 4+ 5 | 0.0073 | 0.03 | Q | | | | |
| 4+10 | 0.0075 | 0.03 | Q | | | | |
| 4+15 | 0.0077 | 0.03 | Q | | | | |
| 4+20 | 0.0080 | 0.04 | Q | | | | |
| 4+25 | 0.0082 | 0.04 | Q | | | | |
| 4+30 | 0.0085 | 0.04 | Q | | | | |
| 4+35 | 0.0087 | 0.04 | Q | | | | |
| 4+40 | 0.0090 | 0.04 | Q | | | | |

```
 4+45       0.0093      0.04  Q          |          |          |          |
 4+50       0.0095      0.04  Q          |          |          |          |
 4+55       0.0098      0.04  Q          |          |          |          |
 5+ 0        0.0101      0.04  Q          |          |          |          |
 5+ 5        0.0104      0.04  Q          |          |          |          |
 5+10       0.0106      0.03  Q          |          |          |          |
 5+15       0.0108      0.03  Q          |          |          |          |
 5+20       0.0111      0.04  Q          |          |          |          |
 5+25       0.0113      0.04  Q          |          |          |          |
 5+30       0.0116      0.04  Q          |          |          |          |
 5+35       0.0119      0.04  Q          |          |          |          |
 5+40       0.0122      0.04  Q          |          |          |          |
 5+45       0.0125      0.04  Q          |          |          |          |
 5+50       0.0128      0.04  Q          |          |          |          |
 5+55       0.0131      0.04  Q          |          |          |          |
 6+ 0        0.0134      0.04  Q          |          |          |          |
 6+ 5        0.0137      0.05  Q          |          |          |          |
 6+10       0.0140      0.05  Q          |          |          |          |
 6+15       0.0144      0.05  QV         |          |          |          |
 6+20       0.0147      0.05  QV         |          |          |          |
 6+25       0.0150      0.05  QV         |          |          |          |
 6+30       0.0154      0.05  QV         |          |          |          |
 6+35       0.0157      0.05  QV         |          |          |          |
 6+40       0.0161      0.05  QV         |          |          |          |
 6+45       0.0165      0.05  QV         |          |          |          |
 6+50       0.0168      0.05  QV         |          |          |          |
 6+55       0.0172      0.05  QV         |          |          |          |
 7+ 0        0.0176      0.05  QV         |          |          |          |
 7+ 5        0.0179      0.05  QV         |          |          |          |
 7+10       0.0183      0.05  QV         |          |          |          |
 7+15       0.0187      0.05  QV         |          |          |          |
 7+20       0.0192      0.08  QV         |          |          |          |
 7+25       0.0199      0.10  QV         |          |          |          |
 7+30       0.0206      0.10  QV         |          |          |          |
 7+35       0.0215      0.13  QV         |          |          |          |
 7+40       0.0226      0.16  QV         |          |          |          |
 7+45       0.0237      0.16  QV         |          |          |          |
 7+50       0.0251      0.19  QV         |          |          |          |
 7+55       0.0266      0.22  QV         |          |          |          |
 8+ 0        0.0281      0.22  QV         |          |          |          |
 8+ 5        0.0301      0.28  |QV        |          |          |          |
 8+10       0.0324      0.33  |QV        |          |          |          |
 8+15       0.0347      0.34  |QV        |          |          |          |
 8+20       0.0370      0.34  |QV        |          |          |          |
 8+25       0.0394      0.34  |QV        |          |          |          |
 8+30       0.0418      0.34  |QV        |          |          |          |
 8+35       0.0444      0.38  |Q V       |          |          |          |
 8+40       0.0471      0.40  |Q V       |          |          |          |
 8+45       0.0499      0.41  |Q V       |          |          |          |
 8+50       0.0529      0.44  |Q V       |          |          |          |
 8+55       0.0561      0.46  |Q V       |          |          |          |
 9+ 0        0.0593      0.47  |Q  V      |          |          |          |
 9+ 5        0.0629      0.53  | Q V      |          |          |          |
 9+10       0.0669      0.57  | Q V      |          |          |          |
 9+15       0.0709      0.58  | Q V      |          |          |          |
 9+20       0.0751      0.61  | Q  V     |          |          |          |
 9+25       0.0795      0.64  | Q  V     |          |          |          |
 9+30       0.0839      0.64  | Q  V     |          |          |          |
 9+35       0.0885      0.67  | Q   V    |          |          |          |
 9+40       0.0933      0.70  | Q   V    |          |          |          |
 9+45       0.0982      0.70  | Q   V    |          |          |          |
 9+50       0.1032      0.73  | Q    V   |          |          |          |
 9+55       0.1084      0.76  |  Q   V   |          |          |          |
10+ 0       0.1137      0.76  |  Q    V  |          |          |          |
10+ 5       0.1175      0.56  | Q     V  |          |          |          |
10+10      0.1203      0.40  |Q      V  |          |          |          |
10+15      0.1229      0.39  |Q      V  |          |          |          |
10+20      0.1256      0.39  |Q      V  |          |          |          |
10+25      0.1283      0.39  |Q       V|          |          |          |
10+30      0.1311      0.40  |Q       V|          |          |          |
10+35      0.1348      0.54  | Q      V|          |          |          |
10+40      0.1394      0.66  | Q      V|          |          |          |
10+45      0.1440      0.67  | Q       V          |          |          |
10+50      0.1486      0.67  | Q       V          |          |          |
10+55      0.1533      0.68  | Q       V          |          |          |
11+ 0       0.1579      0.68  | Q       |V         |          |          |
11+ 5       0.1624      0.65  | Q       |V         |          |          |
11+10      0.1668      0.63  | Q       |V         |          |          |
```



| | | | |
|---|---|---|---|
| 11+15 | 0.1711 | 0.63 | Q V |
| 11+20 | 0.1754 | 0.63 | Q V |
| 11+25 | 0.1798 | 0.63 | Q V |
| 11+30 | 0.1842 | 0.64 | Q V |
| 11+35 | 0.1882 | 0.58 | Q V |
| 11+40 | 0.1918 | 0.53 | Q V |
| 11+45 | 0.1955 | 0.53 | Q V |
| 11+50 | 0.1994 | 0.56 | Q V |
| 11+55 | 0.2034 | 0.59 | Q V |
| 12+ 0 | 0.2075 | 0.59 | Q V |
| 12+ 5 | 0.2130 | 0.80 | Q V |
| 12+10 | 0.2197 | 0.96 | Q V |
| 12+15 | 0.2264 | 0.98 | Q V |
| 12+20 | 0.2333 | 1.01 | Q V |
| 12+25 | 0.2405 | 1.03 | Q V |
| 12+30 | 0.2476 | 1.04 | Q V |
| 12+35 | 0.2552 | 1.10 | Q V |
| 12+40 | 0.2630 | 1.14 | Q V |
| 12+45 | 0.2710 | 1.15 | Q V |
| 12+50 | 0.2791 | 1.18 | Q V |
| 12+55 | 0.2874 | 1.21 | Q V |
| 13+ 0 | 0.2957 | 1.21 | Q V |
| 13+ 5 | 0.3051 | 1.36 | Q V |
| 13+10 | 0.3152 | 1.48 | Q V |
| 13+15 | 0.3255 | 1.49 | Q V |
| 13+20 | 0.3357 | 1.49 | Q V |
| 13+25 | 0.3460 | 1.49 | Q V |
| 13+30 | 0.3562 | 1.49 | Q V |
| 13+35 | 0.3643 | 1.17 | Q V |
| 13+40 | 0.3706 | 0.92 | Q V |
| 13+45 | 0.3768 | 0.90 | Q V |
| 13+50 | 0.3830 | 0.90 | Q V |
| 13+55 | 0.3892 | 0.90 | Q V |
| 14+ 0 | 0.3955 | 0.91 | Q V |
| 14+ 5 | 0.4026 | 1.03 | Q V |
| 14+10 | 0.4103 | 1.12 | Q V |
| 14+15 | 0.4180 | 1.13 | Q V |
| 14+20 | 0.4256 | 1.10 | Q V |
| 14+25 | 0.4330 | 1.08 | Q V |
| 14+30 | 0.4405 | 1.08 | Q V |
| 14+35 | 0.4479 | 1.08 | Q V |
| 14+40 | 0.4554 | 1.08 | Q V |
| 14+45 | 0.4628 | 1.08 | Q V |
| 14+50 | 0.4701 | 1.06 | Q V |
| 14+55 | 0.4772 | 1.03 | Q V |
| 15+ 0 | 0.4843 | 1.03 | Q V |
| 15+ 5 | 0.4913 | 1.01 | Q V |
| 15+10 | 0.4981 | 0.99 | Q V |
| 15+15 | 0.5049 | 0.99 | Q V |
| 15+20 | 0.5115 | 0.96 | Q V |
| 15+25 | 0.5179 | 0.94 | Q V |
| 15+30 | 0.5243 | 0.94 | Q V |
| 15+35 | 0.5300 | 0.82 | Q V |
| 15+40 | 0.5350 | 0.73 | Q V |
| 15+45 | 0.5400 | 0.72 | Q V |
| 15+50 | 0.5450 | 0.73 | Q V |
| 15+55 | 0.5500 | 0.73 | Q V |
| 16+ 0 | 0.5550 | 0.73 | Q V |
| 16+ 5 | 0.5574 | 0.34 | Q V |
| 16+10 | 0.5577 | 0.04 | Q V |
| 16+15 | 0.5579 | 0.02 | Q V |
| 16+20 | 0.5580 | 0.02 | Q V |
| 16+25 | 0.5582 | 0.02 | Q V |
| 16+30 | 0.5583 | 0.02 | Q V |
| 16+35 | 0.5584 | 0.02 | Q V |
| 16+40 | 0.5585 | 0.02 | Q V |
| 16+45 | 0.5587 | 0.02 | Q V |
| 16+50 | 0.5588 | 0.02 | Q V |
| 16+55 | 0.5589 | 0.02 | Q V |
| 17+ 0 | 0.5590 | 0.02 | Q V |
| 17+ 5 | 0.5591 | 0.02 | Q V |
| 17+10 | 0.5593 | 0.03 | Q V |
| 17+15 | 0.5595 | 0.03 | Q V |
| 17+20 | 0.5597 | 0.03 | Q V |
| 17+25 | 0.5599 | 0.03 | Q V |
| 17+30 | 0.5601 | 0.03 | Q V |
| 17+35 | 0.5603 | 0.03 | Q V |
| 17+40 | 0.5604 | 0.03 | Q V |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+45 | 0.5606 | 0.03 | Q | \| | \| | \| | V\| |
| 17+50 | 0.5608 | 0.02 | Q | \| | \| | \| | V\| |
| 17+55 | 0.5609 | 0.02 | Q | \| | \| | \| | V\| |
| 18+ 0 | 0.5611 | 0.02 | Q | \| | \| | \| | V\| |
| 18+ 5 | 0.5612 | 0.02 | Q | \| | \| | \| | V\| |
| 18+10 | 0.5614 | 0.02 | Q | \| | \| | \| | V\| |
| 18+15 | 0.5615 | 0.02 | Q | \| | \| | \| | V\| |
| 18+20 | 0.5617 | 0.02 | Q | \| | \| | \| | V\| |
| 18+25 | 0.5618 | 0.02 | Q | \| | \| | \| | V\| |
| 18+30 | 0.5620 | 0.02 | Q | \| | \| | \| | V\| |
| 18+35 | 0.5621 | 0.02 | Q | \| | \| | \| | V\| |
| 18+40 | 0.5622 | 0.02 | Q | \| | \| | \| | V\| |
| 18+45 | 0.5623 | 0.02 | Q | \| | \| | \| | V\| |
| 18+50 | 0.5624 | 0.01 | Q | \| | \| | \| | V\| |
| 18+55 | 0.5625 | 0.01 | Q | \| | \| | \| | V\| |
| 19+ 0 | 0.5626 | 0.01 | Q | \| | \| | \| | V\| |
| 19+ 5 | 0.5627 | 0.01 | Q | \| | \| | \| | V\| |
| 19+10 | 0.5628 | 0.02 | Q | \| | \| | \| | V\| |
| 19+15 | 0.5629 | 0.02 | Q | \| | \| | \| | V\| |
| 19+20 | 0.5630 | 0.02 | Q | \| | \| | \| | V\| |
| 19+25 | 0.5632 | 0.02 | Q | \| | \| | \| | V\| |
| 19+30 | 0.5633 | 0.02 | Q | \| | \| | \| | V\| |
| 19+35 | 0.5635 | 0.02 | Q | \| | \| | \| | V\| |
| 19+40 | 0.5636 | 0.02 | Q | \| | \| | \| | V\| |
| 19+45 | 0.5637 | 0.02 | Q | \| | \| | \| | V\| |
| 19+50 | 0.5638 | 0.01 | Q | \| | \| | \| | V\| |
| 19+55 | 0.5638 | 0.01 | Q | \| | \| | \| | V\| |
| 20+ 0 | 0.5639 | 0.01 | Q | \| | \| | \| | V\| |
| 20+ 5 | 0.5640 | 0.01 | Q | \| | \| | \| | V\| |
| 20+10 | 0.5641 | 0.02 | Q | \| | \| | \| | V\| |
| 20+15 | 0.5642 | 0.02 | Q | \| | \| | \| | V\| |
| 20+20 | 0.5644 | 0.02 | Q | \| | \| | \| | V\| |
| 20+25 | 0.5645 | 0.02 | Q | \| | \| | \| | V\| |
| 20+30 | 0.5646 | 0.02 | Q | \| | \| | \| | V\| |
| 20+35 | 0.5647 | 0.02 | Q | \| | \| | \| | V\| |
| 20+40 | 0.5648 | 0.02 | Q | \| | \| | \| | V\| |
| 20+45 | 0.5649 | 0.02 | Q | \| | \| | \| | V\| |
| 20+50 | 0.5650 | 0.01 | Q | \| | \| | \| | V\| |
| 20+55 | 0.5651 | 0.01 | Q | \| | \| | \| | V\| |
| 21+ 0 | 0.5652 | 0.01 | Q | \| | \| | \| | V\| |
| 21+ 5 | 0.5652 | 0.01 | Q | \| | \| | \| | V\| |
| 21+10 | 0.5654 | 0.02 | Q | \| | \| | \| | V\| |
| 21+15 | 0.5655 | 0.02 | Q | \| | \| | \| | V\| |
| 21+20 | 0.5656 | 0.01 | Q | \| | \| | \| | V\| |
| 21+25 | 0.5656 | 0.01 | Q | \| | \| | \| | V\| |
| 21+30 | 0.5657 | 0.01 | Q | \| | \| | \| | V\| |
| 21+35 | 0.5658 | 0.01 | Q | \| | \| | \| | V\| |
| 21+40 | 0.5659 | 0.02 | Q | \| | \| | \| | V\| |
| 21+45 | 0.5660 | 0.02 | Q | \| | \| | \| | V\| |
| 21+50 | 0.5661 | 0.01 | Q | \| | \| | \| | V\| |
| 21+55 | 0.5662 | 0.01 | Q | \| | \| | \| | V\| |
| 22+ 0 | 0.5663 | 0.01 | Q | \| | \| | \| | V\| |
| 22+ 5 | 0.5664 | 0.01 | Q | \| | \| | \| | V\| |
| 22+10 | 0.5665 | 0.02 | Q | \| | \| | \| | V\| |
| 22+15 | 0.5666 | 0.02 | Q | \| | \| | \| | V\| |
| 22+20 | 0.5667 | 0.01 | Q | \| | \| | \| | V\| |
| 22+25 | 0.5668 | 0.01 | Q | \| | \| | \| | V\| |
| 22+30 | 0.5668 | 0.01 | Q | \| | \| | \| | V\| |
| 22+35 | 0.5669 | 0.01 | Q | \| | \| | \| | V\| |
| 22+40 | 0.5670 | 0.01 | Q | \| | \| | \| | V\| |
| 22+45 | 0.5671 | 0.01 | Q | \| | \| | \| | V\| |
| 22+50 | 0.5671 | 0.01 | Q | \| | \| | \| | V\| |
| 22+55 | 0.5672 | 0.01 | Q | \| | \| | \| | V\| |
| 23+ 0 | 0.5673 | 0.01 | Q | \| | \| | \| | V\| |
| 23+ 5 | 0.5673 | 0.01 | Q | \| | \| | \| | V\| |
| 23+10 | 0.5674 | 0.01 | Q | \| | \| | \| | V\| |
| 23+15 | 0.5675 | 0.01 | Q | \| | \| | \| | V\| |
| 23+20 | 0.5676 | 0.01 | Q | \| | \| | \| | V\| |
| 23+25 | 0.5676 | 0.01 | Q | \| | \| | \| | V\| |
| 23+30 | 0.5677 | 0.01 | Q | \| | \| | \| | V\| |
| 23+35 | 0.5678 | 0.01 | Q | \| | \| | \| | V\| |
| 23+40 | 0.5679 | 0.01 | Q | \| | \| | \| | V\| |
| 23+45 | 0.5679 | 0.01 | Q | \| | \| | \| | V\| |
| 23+50 | 0.5680 | 0.01 | Q | \| | \| | \| | V\| |
| 23+55 | 0.5681 | 0.01 | Q | \| | \| | \| | V\| |
| 24+ 0 | 0.5682 | 0.01 | Q | \| | \| | \| | V\| |
| 24+ 5 | 0.5682 | 0.00 | Q | \| | \| | \| | V\| |
| 24+10 | 0.5682 | 0.00 | Q | \| | \| | \| | V\| |

U n i t  H y d r o g r a p h  A n a l y s i s

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014, Version 9.0
Study date 12/21/17 File: EX341100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 34
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 62.00(Ac.) = 0.097 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 62.00(Ac.) = 0.097 Sq. Mi.
Length along longest watercourse = 2979.00(Ft.)
Length along longest watercourse measured to centroid = 1258.00(Ft.)
Length along longest watercourse = 0.564 Mi.
Length along longest watercourse measured to centroid = 0.238 Mi.
Difference in elevation = 342.00(Ft.)
Slope along watercourse = 606.1631 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.116 Hr.
Lag time = 6.96 Min.
25% of lag time = 1.74 Min.
40% of lag time = 2.78 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 62.00 | 0.50 | 31.00 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 62.00 | 1.20 | 74.40 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.94 %
Adjusted average point rain = 1.199(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 62.000 | 81.57 | 0.000 |

Total Area Entered = 62.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 81.6 | 91.9 | 0.105 | 0.000 | 0.105 | 1.000 | 0.105 |
| | | | | | Sum (F) = | 0.105 |

Area averaged mean soil loss (F) (In/Hr) = 0.105

Minimum soil loss rate ((In/Hr)) = 0.052
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 71.847 | 7.480 | 4.674 |
| 2 | 0.167 | 143.694 | 42.585 | 26.609 |
| 3 | 0.250 | 215.541 | 28.148 | 17.588 |
| 4 | 0.333 | 287.387 | 10.697 | 6.684 |
| 5 | 0.417 | 359.234 | 5.829 | 3.642 |
| 6 | 0.500 | 431.081 | 2.897 | 1.810 |
| 7 | 0.583 | 502.928 | 1.029 | 0.643 |
| 8 | 0.667 | 574.775 | 0.577 | 0.360 |
| 9 | 0.750 | 646.622 | 0.483 | 0.302 |
| 10 | 0.833 | 718.469 | 0.275 | 0.172 |
| | | Sum = 100.000 | Sum= | 62.484 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.604 | 0.105 | ( 0.544) | 0.500 |
| 2 | 0.17 | 4.30 | 0.619 | 0.105 | ( 0.557) | 0.514 |
| 3 | 0.25 | 5.00 | 0.720 | 0.105 | ( 0.648) | 0.615 |
| 4 | 0.33 | 5.00 | 0.720 | 0.105 | ( 0.648) | 0.615 |
| 5 | 0.42 | 5.80 | 0.835 | 0.105 | ( 0.751) | 0.730 |
| 6 | 0.50 | 6.50 | 0.935 | 0.105 | ( 0.842) | 0.831 |
| 7 | 0.58 | 7.40 | 1.065 | 0.105 | ( 0.959) | 0.960 |
| 8 | 0.67 | 8.60 | 1.238 | 0.105 | ( 1.114) | 1.133 |
| 9 | 0.75 | 12.30 | 1.770 | 0.105 | ( 1.593) | 1.665 |
| 10 | 0.83 | 29.10 | 4.188 | 0.105 | ( 3.769) | 4.083 |
| 11 | 0.92 | 6.80 | 0.979 | 0.105 | ( 0.881) | 0.874 |
| 12 | 1.00 | 5.00 | 0.720 | 0.105 | ( 0.648) | 0.615 |
| | | (Loss Rate Not Used) | | | |
| Sum = | | 100.0 | | | Sum = 13.1 |

Flood volume = Effective rainfall 1.09(In)
times area 62.0(Ac.)/[(In)/(Ft.)] = 5.7(Ac.Ft)
Total soil loss = 0.10(In)
Total soil loss = 0.541(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 246344.3 Cubic Feet
Total soil loss = 23575.9 Cubic Feet

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Peak flow rate of this hydrograph = 155.648(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 50.0 | 100.0 | 150.0 | 200.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0161 | 2.34 | Q | | | | |
| 0+10 | 0.1243 | 15.71 | V Q | | | | |
| 0+15 | 0.2989 | 25.36 | \| V Q | | | | |
| 0+20 | 0.5167 | 31.63 | \| V Q | | | | |
| 0+25 | 0.7637 | 35.86 | \| V Q | | | | |
| 0+30 | 1.0463 | 41.03 | \| VQ | | | | |
| 0+35 | 1.3704 | 47.06 | \| Q | | | | |
| 0+40 | 1.7438 | 54.23 | \| Q V | | | | |
| 0+45 | 2.1909 | 64.91 | \| Q V | | | | |
| 0+50 | 2.8451 | 95.00 | \| Q V | | | | |
| 0+55 | 3.9171 | 155.65 | \| V \|Q | | | | |

```
    1+ 0       4.7166    116.09  |          |          |  Q       |  V       |
    1+ 5       5.1878     68.42  |          |  Q       |          |     V    |
    1+10       5.4358     36.01  |       Q  |          |          |        V |
    1+15       5.5502     16.60  |   Q      |          |          |         V|
    1+20       5.6022      7.56  |Q         |          |          |         V|
    1+25       5.6287      3.85  Q          |          |          |         V|
    1+30       5.6441      2.23  Q          |          |          |         V|
    1+35       5.6522      1.19  Q          |          |          |         V|
    1+40       5.6546      0.34  Q          |          |          |         V|
    1+45       5.6553      0.11  Q          |          |          |          V
-------------------------------------------------------------------------------
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX343100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 34
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 62.00(Ac.) = 0.097 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 62.00(Ac.) = 0.097 Sq. Mi.
Length along longest watercourse = 2979.00(Ft.)
Length along longest watercourse measured to centroid = 1258.00(Ft.)
Length along longest watercourse = 0.564 Mi.
Length along longest watercourse measured to centroid = 0.238 Mi.
Difference in elevation = 342.00(Ft.)
Slope along watercourse = 606.1631 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.116 Hr.
Lag time = 6.96 Min.
25% of lag time = 1.74 Min.
40% of lag time = 2.78 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 62.00 | 0.82 | 50.84 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 62.00 | 1.83 | 113.46 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.820(In)
Area Averaged 100-Year Rainfall = 1.830(In)

Point rain (area averaged) = 1.830(In)
Areal adjustment factor = 99.97 %
Adjusted average point rain = 1.830(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 62.000 | 81.57 | 0.000 |

Total Area Entered = 62.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 81.6 | 91.9 | 0.105 | 0.000 | 0.105 | 1.000 | 0.105 |
| | | | | | Sum (F) = | 0.105 |

Area averaged mean soil loss (F) (In/Hr) = 0.105

Minimum soil loss rate ((In/Hr)) = 0.052
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 71.847 | 7.480 | 4.674 |
| 2 0.167 | 143.694 | 42.585 | 26.609 |
| 3 0.250 | 215.541 | 28.148 | 17.588 |
| 4 0.333 | 287.387 | 10.697 | 6.684 |
| 5 0.417 | 359.234 | 5.829 | 3.642 |
| 6 0.500 | 431.081 | 2.897 | 1.810 |
| 7 0.583 | 502.928 | 1.029 | 0.643 |
| 8 0.667 | 574.775 | 0.577 | 0.360 |
| 9 0.750 | 646.622 | 0.483 | 0.302 |
| 10 0.833 | 718.469 | 0.275 | 0.172 |
| | | Sum = 100.000 | Sum= 62.484 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.285 | 0.105 | ( 0.257) | 0.181 |
| 2 | 0.17 | 1.30 | 0.285 | 0.105 | ( 0.257) | 0.181 |
| 3 | 0.25 | 1.10 | 0.241 | 0.105 | ( 0.217) | 0.137 |
| 4 | 0.33 | 1.50 | 0.329 | 0.105 | ( 0.296) | 0.225 |
| 5 | 0.42 | 1.50 | 0.329 | 0.105 | ( 0.296) | 0.225 |
| 6 | 0.50 | 1.80 | 0.395 | 0.105 | ( 0.356) | 0.290 |
| 7 | 0.58 | 1.50 | 0.329 | 0.105 | ( 0.296) | 0.225 |
| 8 | 0.67 | 1.80 | 0.395 | 0.105 | ( 0.356) | 0.290 |
| 9 | 0.75 | 1.80 | 0.395 | 0.105 | ( 0.356) | 0.290 |
| 10 | 0.83 | 1.50 | 0.329 | 0.105 | ( 0.296) | 0.225 |
| 11 | 0.92 | 1.60 | 0.351 | 0.105 | ( 0.316) | 0.247 |
| 12 | 1.00 | 1.80 | 0.395 | 0.105 | ( 0.356) | 0.290 |
| 13 | 1.08 | 2.20 | 0.483 | 0.105 | ( 0.435) | 0.378 |
| 14 | 1.17 | 2.20 | 0.483 | 0.105 | ( 0.435) | 0.378 |
| 15 | 1.25 | 2.20 | 0.483 | 0.105 | ( 0.435) | 0.378 |
| 16 | 1.33 | 2.00 | 0.439 | 0.105 | ( 0.395) | 0.334 |
| 17 | 1.42 | 2.60 | 0.571 | 0.105 | ( 0.514) | 0.466 |
| 18 | 1.50 | 2.70 | 0.593 | 0.105 | ( 0.533) | 0.488 |
| 19 | 1.58 | 2.40 | 0.527 | 0.105 | ( 0.474) | 0.422 |
| 20 | 1.67 | 2.70 | 0.593 | 0.105 | ( 0.533) | 0.488 |
| 21 | 1.75 | 3.30 | 0.724 | 0.105 | ( 0.652) | 0.620 |
| 22 | 1.83 | 3.10 | 0.681 | 0.105 | ( 0.613) | 0.576 |
| 23 | 1.92 | 2.90 | 0.637 | 0.105 | ( 0.573) | 0.532 |
| 24 | 2.00 | 3.00 | 0.659 | 0.105 | ( 0.593) | 0.554 |
| 25 | 2.08 | 3.10 | 0.681 | 0.105 | ( 0.613) | 0.576 |
| 26 | 2.17 | 4.20 | 0.922 | 0.105 | ( 0.830) | 0.817 |
| 27 | 2.25 | 5.00 | 1.098 | 0.105 | ( 0.988) | 0.993 |
| 28 | 2.33 | 3.50 | 0.768 | 0.105 | ( 0.692) | 0.664 |
| 29 | 2.42 | 6.80 | 1.493 | 0.105 | ( 1.344) | 1.388 |
| 30 | 2.50 | 7.30 | 1.603 | 0.105 | ( 1.442) | 1.498 |
| 31 | 2.58 | 8.20 | 1.800 | 0.105 | ( 1.620) | 1.695 |
| 32 | 2.67 | 5.90 | 1.295 | 0.105 | ( 1.166) | 1.191 |
| 33 | 2.75 | 2.00 | 0.439 | 0.105 | ( 0.395) | 0.334 |
| 34 | 2.83 | 1.80 | 0.395 | 0.105 | ( 0.356) | 0.290 |
| 35 | 2.92 | 1.80 | 0.395 | 0.105 | ( 0.356) | 0.290 |
| 36 | 3.00 | 0.60 | 0.132 | 0.105 | ( 0.119) | 0.027 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 18.2 |

Flood volume = Effective rainfall 1.52(In)
times area 62.0(Ac.)/[(In)/(Ft.)] = 7.8(Ac.Ft)
Total soil loss = 0.31(In)
Total soil loss = 1.624(Ac.Ft)
Total rainfall = 1.83(In)
Flood volume = 341020.3 Cubic Feet
Total soil loss = 70727.8 Cubic Feet

Peak flow rate of this hydrograph = 91.556(CFS)

3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 25.0 | 50.0 | 75.0 | 100.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0058 | 0.84 | Q | | | | |
| 0+10 | 0.0448 | 5.65 | V Q | | | | |
| 0+15 | 0.1042 | 8.63 | V Q | | | | |
| 0+20 | 0.1667 | 9.08 | V Q | | | | |
| 0+25 | 0.2445 | 11.30 | V Q | | | | |
| 0+30 | 0.3353 | 13.19 | V Q | | | | |
| 0+35 | 0.4399 | 15.18 | V Q | | | | |
| 0+40 | 0.5445 | 15.20 | V Q | | | | |
| 0+45 | 0.6576 | 16.42 | V Q | | | | |
| 0+50 | 0.7756 | 17.14 | V Q | | | | |
| 0+55 | 0.8846 | 15.83 | V Q | | | | |
| 1+ 0 | 0.9923 | 15.64 | VQ | | | | |
| 1+ 5 | 1.1113 | 17.28 | VQ | | | | |
| 1+10 | 1.2514 | 20.34 | V Q | | | | |
| 1+15 | 1.4039 | 22.15 | VQ | | | | |
| 1+20 | 1.5603 | 22.70 | V Q | | | | |
| 1+25 | 1.7155 | 22.55 | VQ | | | | |
| 1+30 | 1.8916 | 25.56 | VQ | | | | |
| 1+35 | 2.0839 | 27.93 | VQ | | | | |
| 1+40 | 2.2742 | 27.64 | Q | | | | |
| 1+45 | 2.4769 | 29.43 | QV | | | | |
| 1+50 | 2.7094 | 33.76 | Q | | | | |
| 1+55 | 2.9505 | 35.01 | QV | | | | |
| 2+ 0 | 3.1862 | 34.22 | Q V | | | | |
| 2+ 5 | 3.4233 | 34.44 | Q V | | | | |
| 2+10 | 3.6738 | 36.37 | Q V | | | | |
| 2+15 | 3.9769 | 44.01 | Q V | | | | |
| 2+20 | 4.3320 | 51.57 | Q V | | | | |
| 2+25 | 4.6834 | 51.02 | Q V | | | | |
| 2+30 | 5.1457 | 67.13 | Q | | | | |
| 2+35 | 5.7146 | 82.60 | V Q | | | | |
| 2+40 | 6.3452 | 91.56 | V Q | | | | |
| 2+45 | 6.9001 | 80.57 | Q V | | | | |
| 2+50 | 7.2558 | 51.65 | Q V | | | | |
| 2+55 | 7.4858 | 33.40 | Q V | | | | |
| 3+ 0 | 7.6542 | 24.45 | Q V | | | | |
| 3+ 5 | 7.7459 | 13.31 | Q V | | | | |
| 3+10 | 7.7882 | 6.15 | Q V | | | | |
| 3+15 | 7.8101 | 3.18 | Q V | | | | |
| 3+20 | 7.8210 | 1.58 | Q V | | | | |
| 3+25 | 7.8255 | 0.65 | Q V | | | | |
| 3+30 | 7.8273 | 0.27 | Q V | | | | |
| 3+35 | 7.8283 | 0.15 | Q V | | | | |
| 3+40 | 7.8287 | 0.06 | Q V | | | | |
| 3+45 | 7.8287 | 0.00 | Q V | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX346100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 34
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 62.00(Ac.) = 0.097 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 62.00(Ac.) = 0.097 Sq. Mi.
Length along longest watercourse = 2979.00(Ft.)
Length along longest watercourse measured to centroid = 1258.00(Ft.)
Length along longest watercourse = 0.564 Mi.
Length along longest watercourse measured to centroid = 0.238 Mi.
Difference in elevation = 342.00(Ft.)
Slope along watercourse = 606.1631 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.116 Hr.
Lag time = 6.96 Min.
25% of lag time = 1.74 Min.
40% of lag time = 2.78 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 62.00 | 1.16 | 71.92 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 62.00 | 2.50 | 155.00 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.160(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 99.98 %
Adjusted average point rain = 2.499(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 62.000 | 81.57 | 0.000 |

Total Area Entered = 62.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 81.6 | 91.9 | 0.105 | 0.000 | 0.105 | 1.000 | 0.105 |
| | | | | | Sum (F) = | 0.105 |

Area averaged mean soil loss (F) (In/Hr) = 0.105

Minimum soil loss rate ((In/Hr)) = 0.052
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 71.847 | 7.480 | 4.674 |
| 2 | 0.167 | 143.694 | 42.585 | 26.609 |
| 3 | 0.250 | 215.541 | 28.148 | 17.588 |
| 4 | 0.333 | 287.387 | 10.697 | 6.684 |
| 5 | 0.417 | 359.234 | 5.829 | 3.642 |
| 6 | 0.500 | 431.081 | 2.897 | 1.810 |
| 7 | 0.583 | 502.928 | 1.029 | 0.643 |
| 8 | 0.667 | 574.775 | 0.577 | 0.360 |
| 9 | 0.750 | 646.622 | 0.483 | 0.302 |
| 10 | 0.833 | 718.469 | 0.275 | 0.172 |
| | | | Sum = 100.000 Sum= | 62.484 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.105 | ( 0.135) | 0.045 |
| 2 | 0.17 | 0.60 | 0.180 | 0.105 | ( 0.162) | 0.075 |
| 3 | 0.25 | 0.60 | 0.180 | 0.105 | ( 0.162) | 0.075 |
| 4 | 0.33 | 0.60 | 0.180 | 0.105 | ( 0.162) | 0.075 |
| 5 | 0.42 | 0.60 | 0.180 | 0.105 | ( 0.162) | 0.075 |
| 6 | 0.50 | 0.70 | 0.210 | 0.105 | ( 0.189) | 0.105 |
| 7 | 0.58 | 0.70 | 0.210 | 0.105 | ( 0.189) | 0.105 |
| 8 | 0.67 | 0.70 | 0.210 | 0.105 | ( 0.189) | 0.105 |
| 9 | 0.75 | 0.70 | 0.210 | 0.105 | ( 0.189) | 0.105 |
| 10 | 0.83 | 0.70 | 0.210 | 0.105 | ( 0.189) | 0.105 |
| 11 | 0.92 | 0.70 | 0.210 | 0.105 | ( 0.189) | 0.105 |
| 12 | 1.00 | 0.80 | 0.240 | 0.105 | ( 0.216) | 0.135 |
| 13 | 1.08 | 0.80 | 0.240 | 0.105 | ( 0.216) | 0.135 |
| 14 | 1.17 | 0.80 | 0.240 | 0.105 | ( 0.216) | 0.135 |
| 15 | 1.25 | 0.80 | 0.240 | 0.105 | ( 0.216) | 0.135 |
| 16 | 1.33 | 0.80 | 0.240 | 0.105 | ( 0.216) | 0.135 |
| 17 | 1.42 | 0.80 | 0.240 | 0.105 | ( 0.216) | 0.135 |
| 18 | 1.50 | 0.80 | 0.240 | 0.105 | ( 0.216) | 0.135 |
| 19 | 1.58 | 0.80 | 0.240 | 0.105 | ( 0.216) | 0.135 |
| 20 | 1.67 | 0.80 | 0.240 | 0.105 | ( 0.216) | 0.135 |
| 21 | 1.75 | 0.80 | 0.240 | 0.105 | ( 0.216) | 0.135 |
| 22 | 1.83 | 0.80 | 0.240 | 0.105 | ( 0.216) | 0.135 |
| 23 | 1.92 | 0.80 | 0.240 | 0.105 | ( 0.216) | 0.135 |
| 24 | 2.00 | 0.90 | 0.270 | 0.105 | ( 0.243) | 0.165 |
| 25 | 2.08 | 0.80 | 0.240 | 0.105 | ( 0.216) | 0.135 |
| 26 | 2.17 | 0.90 | 0.270 | 0.105 | ( 0.243) | 0.165 |
| 27 | 2.25 | 0.90 | 0.270 | 0.105 | ( 0.243) | 0.165 |
| 28 | 2.33 | 0.90 | 0.270 | 0.105 | ( 0.243) | 0.165 |
| 29 | 2.42 | 0.90 | 0.270 | 0.105 | ( 0.243) | 0.165 |
| 30 | 2.50 | 0.90 | 0.270 | 0.105 | ( 0.243) | 0.165 |
| 31 | 2.58 | 0.90 | 0.270 | 0.105 | ( 0.243) | 0.165 |
| 32 | 2.67 | 0.90 | 0.270 | 0.105 | ( 0.243) | 0.165 |
| 33 | 2.75 | 1.00 | 0.300 | 0.105 | ( 0.270) | 0.195 |
| 34 | 2.83 | 1.00 | 0.300 | 0.105 | ( 0.270) | 0.195 |
| 35 | 2.92 | 1.00 | 0.300 | 0.105 | ( 0.270) | 0.195 |
| 36 | 3.00 | 1.00 | 0.300 | 0.105 | ( 0.270) | 0.195 |
| 37 | 3.08 | 1.00 | 0.300 | 0.105 | ( 0.270) | 0.195 |
| 38 | 3.17 | 1.10 | 0.330 | 0.105 | ( 0.297) | 0.225 |
| 39 | 3.25 | 1.10 | 0.330 | 0.105 | ( 0.297) | 0.225 |
| 40 | 3.33 | 1.10 | 0.330 | 0.105 | ( 0.297) | 0.225 |
| 41 | 3.42 | 1.20 | 0.360 | 0.105 | ( 0.324) | 0.255 |
| 42 | 3.50 | 1.30 | 0.390 | 0.105 | ( 0.351) | 0.285 |
| 43 | 3.58 | 1.40 | 0.420 | 0.105 | ( 0.378) | 0.315 |
| 44 | 3.67 | 1.40 | 0.420 | 0.105 | ( 0.378) | 0.315 |
| 45 | 3.75 | 1.50 | 0.450 | 0.105 | ( 0.405) | 0.345 |
| 46 | 3.83 | 1.50 | 0.450 | 0.105 | ( 0.405) | 0.345 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 47 | 3.92 | 1.60 | 0.480 | 0.105 | ( 0.432) | 0.375 | |
| 48 | 4.00 | 1.60 | 0.480 | 0.105 | ( 0.432) | 0.375 | |
| 49 | 4.08 | 1.70 | 0.510 | 0.105 | ( 0.459) | 0.405 | |
| 50 | 4.17 | 1.80 | 0.540 | 0.105 | ( 0.486) | 0.435 | |
| 51 | 4.25 | 1.90 | 0.570 | 0.105 | ( 0.513) | 0.465 | |
| 52 | 4.33 | 2.00 | 0.600 | 0.105 | ( 0.540) | 0.495 | |
| 53 | 4.42 | 2.10 | 0.630 | 0.105 | ( 0.567) | 0.525 | |
| 54 | 4.50 | 2.10 | 0.630 | 0.105 | ( 0.567) | 0.525 | |
| 55 | 4.58 | 2.20 | 0.660 | 0.105 | ( 0.594) | 0.555 | |
| 56 | 4.67 | 2.30 | 0.690 | 0.105 | ( 0.621) | 0.585 | |
| 57 | 4.75 | 2.40 | 0.720 | 0.105 | ( 0.648) | 0.615 | |
| 58 | 4.83 | 2.40 | 0.720 | 0.105 | ( 0.648) | 0.615 | |
| 59 | 4.92 | 2.50 | 0.750 | 0.105 | ( 0.675) | 0.645 | |
| 60 | 5.00 | 2.60 | 0.780 | 0.105 | ( 0.702) | 0.675 | |
| 61 | 5.08 | 3.10 | 0.930 | 0.105 | ( 0.837) | 0.825 | |
| 62 | 5.17 | 3.60 | 1.080 | 0.105 | ( 0.972) | 0.975 | |
| 63 | 5.25 | 3.90 | 1.170 | 0.105 | ( 1.053) | 1.065 | |
| 64 | 5.33 | 4.20 | 1.260 | 0.105 | ( 1.134) | 1.155 | |
| 65 | 5.42 | 4.70 | 1.410 | 0.105 | ( 1.269) | 1.305 | |
| 66 | 5.50 | 5.60 | 1.680 | 0.105 | ( 1.512) | 1.575 | |
| 67 | 5.58 | 1.90 | 0.570 | 0.105 | ( 0.513) | 0.465 | |
| 68 | 5.67 | 0.90 | 0.270 | 0.105 | ( 0.243) | 0.165 | |
| 69 | 5.75 | 0.60 | 0.180 | 0.105 | ( 0.162) | 0.075 | |
| 70 | 5.83 | 0.50 | 0.150 | 0.105 | ( 0.135) | 0.045 | |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.105) | 0.081 | 0.009 | |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.105) | 0.054 | 0.006 | |

(Loss Rate Not Used)

Sum = 100.0 Sum = 22.5

Flood volume = Effective rainfall 1.88(In)
times area 62.0(Ac.)/[(In)/(Ft.)] = 9.7(Ac.Ft)
Total soil loss = 0.62(In)
Total soil loss = 3.215(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 422472.4 Cubic Feet
Total soil loss = 140057.7 Cubic Feet

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Peak flow rate of this hydrograph = 81.512(CFS)

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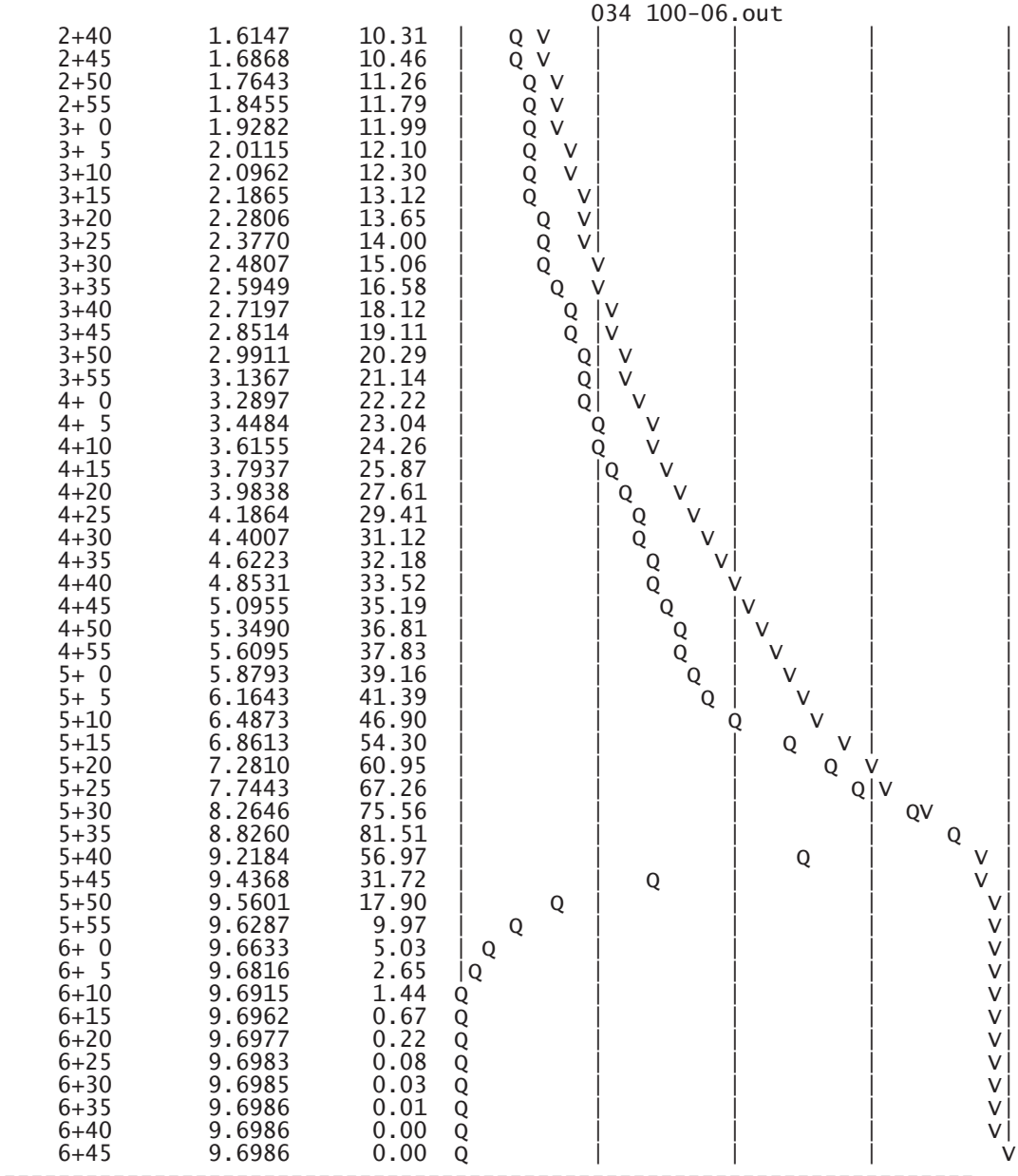
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 22.5 | 45.0 | 67.5 | 90.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0015 | 0.21 | Q | | | | |
| 0+10 | 0.0122 | 1.56 | Q | | | | |
| 0+15 | 0.0339 | 3.15 | VQ | | | | |
| 0+20 | 0.0613 | 3.98 | VQ | | | | |
| 0+25 | 0.0912 | 4.35 | VQ | | | | |
| 0+30 | 0.1234 | 4.68 | V Q | | | | |
| 0+35 | 0.1617 | 5.56 | V Q | | | | |
| 0+40 | 0.2038 | 6.12 | V Q | | | | |
| 0+45 | 0.2476 | 6.35 | \|VQ | | | | |
| 0+50 | 0.2921 | 6.47 | \|VQ | | | | |
| 0+55 | 0.3371 | 6.53 | \|VQ | | | | |
| 1+ 0 | 0.3832 | 6.69 | \|VQ | | | | |
| 1+ 5 | 0.4349 | 7.50 | \|V Q | | | | |
| 1+10 | 0.4902 | 8.04 | \| VQ | | | | |
| 1+15 | 0.5470 | 8.24 | \| VQ | | | | |
| 1+20 | 0.6045 | 8.35 | \| VQ | | | | |
| 1+25 | 0.6624 | 8.41 | \| VQ | | | | |
| 1+30 | 0.7205 | 8.43 | \| VQ | | | | |
| 1+35 | 0.7786 | 8.44 | \| Q | | | | |
| 1+40 | 0.8368 | 8.45 | \| Q | | | | |
| 1+45 | 0.8950 | 8.45 | \| Q | | | | |
| 1+50 | 0.9532 | 8.45 | \| Q | | | | |
| 1+55 | 1.0114 | 8.45 | \| QV | | | | |
| 2+ 0 | 1.0706 | 8.59 | \| QV | | | | |
| 2+ 5 | 1.1343 | 9.25 | \| Q | | | | |
| 2+10 | 1.1971 | 9.12 | \| Q | | | | |
| 2+15 | 1.2631 | 9.59 | \| QV | | | | |
| 2+20 | 1.3322 | 10.03 | \| QV | | | | |
| 2+25 | 1.4023 | 10.17 | \| QV | | | | |
| 2+30 | 1.4728 | 10.25 | \| Q V | | | | |
| 2+35 | 1.5437 | 10.29 | \| Q V | | | | |



| | | | |
|---|---|---|---|
| 2+40 | 1.6147 | 10.31 | |
| 2+45 | 1.6868 | 10.46 | |
| 2+50 | 1.7643 | 11.26 | |
| 2+55 | 1.8455 | 11.79 | |
| 3+ 0 | 1.9282 | 11.99 | |
| 3+ 5 | 2.0115 | 12.10 | |
| 3+10 | 2.0962 | 12.30 | |
| 3+15 | 2.1865 | 13.12 | |
| 3+20 | 2.2806 | 13.65 | |
| 3+25 | 2.3770 | 14.00 | |
| 3+30 | 2.4807 | 15.06 | |
| 3+35 | 2.5949 | 16.58 | |
| 3+40 | 2.7197 | 18.12 | |
| 3+45 | 2.8514 | 19.11 | |
| 3+50 | 2.9911 | 20.29 | |
| 3+55 | 3.1367 | 21.14 | |
| 4+ 0 | 3.2897 | 22.22 | |
| 4+ 5 | 3.4484 | 23.04 | |
| 4+10 | 3.6155 | 24.26 | |
| 4+15 | 3.7937 | 25.87 | |
| 4+20 | 3.9838 | 27.61 | |
| 4+25 | 4.1864 | 29.41 | |
| 4+30 | 4.4007 | 31.12 | |
| 4+35 | 4.6223 | 32.18 | |
| 4+40 | 4.8531 | 33.52 | |
| 4+45 | 5.0955 | 35.19 | |
| 4+50 | 5.3490 | 36.81 | |
| 4+55 | 5.6095 | 37.83 | |
| 5+ 0 | 5.8793 | 39.16 | |
| 5+ 5 | 6.1643 | 41.39 | |
| 5+10 | 6.4873 | 46.90 | |
| 5+15 | 6.8613 | 54.30 | |
| 5+20 | 7.2810 | 60.95 | |
| 5+25 | 7.7443 | 67.26 | |
| 5+30 | 8.2646 | 75.56 | |
| 5+35 | 8.8260 | 81.51 | |
| 5+40 | 9.2184 | 56.97 | |
| 5+45 | 9.4368 | 31.72 | |
| 5+50 | 9.5601 | 17.90 | |
| 5+55 | 9.6287 | 9.97 | |
| 6+ 0 | 9.6633 | 5.03 | |
| 6+ 5 | 9.6816 | 2.65 | |
| 6+10 | 9.6915 | 1.44 | |
| 6+15 | 9.6962 | 0.67 | |
| 6+20 | 9.6977 | 0.22 | |
| 6+25 | 9.6983 | 0.08 | |
| 6+30 | 9.6985 | 0.03 | |
| 6+35 | 9.6986 | 0.01 | |
| 6+40 | 9.6986 | 0.00 | |
| 6+45 | 9.6986 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX3424100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 34
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 62.00(Ac.) = 0.097 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 62.00(Ac.) = 0.097 Sq. Mi.
Length along longest watercourse = 2979.00(Ft.)
Length along longest watercourse measured to centroid = 1258.00(Ft.)
Length along longest watercourse = 0.564 Mi.
Length along longest watercourse measured to centroid = 0.238 Mi.
Difference in elevation = 342.00(Ft.)
Slope along watercourse = 606.1631 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.116 Hr.
Lag time = 6.96 Min.
25% of lag time = 1.74 Min.
40% of lag time = 2.78 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 62.00 | 1.81 | 112.22 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 62.00 | 4.78 | 296.36 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.810(In)
Area Averaged 100-Year Rainfall = 4.780(In)

Point rain (area averaged) = 4.780(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 4.779(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 62.000 | 81.57 | 0.000 |

Total Area Entered = 62.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 81.6 | 91.9 | 0.105 | 0.000 | 0.105 | 1.000 | 0.105 |
| | | | | | Sum (F) = | 0.105 |

Area averaged mean soil loss (F) (In/Hr) = 0.105

Minimum soil loss rate ((In/Hr)) = 0.052
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 71.847 | 7.480 | 4.674 |
| 2 0.167 | 143.694 | 42.585 | 26.609 |
| 3 0.250 | 215.541 | 28.148 | 17.588 |
| 4 0.333 | 287.387 | 10.697 | 6.684 |
| 5 0.417 | 359.234 | 5.829 | 3.642 |
| 6 0.500 | 431.081 | 2.897 | 1.810 |
| 7 0.583 | 502.928 | 1.029 | 0.643 |
| 8 0.667 | 574.775 | 0.577 | 0.360 |
| 9 0.750 | 646.622 | 0.483 | 0.302 |
| 10 0.833 | 718.469 | 0.275 | 0.172 |
| | Sum = 100.000 | Sum= | 62.484 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.038 | ( 0.186) | 0.034 | 0.004 |
| 2 | 0.17 | 0.07 | 0.038 | ( 0.185) | 0.034 | 0.004 |
| 3 | 0.25 | 0.07 | 0.038 | ( 0.184) | 0.034 | 0.004 |
| 4 | 0.33 | 0.10 | 0.057 | ( 0.184) | 0.052 | 0.006 |
| 5 | 0.42 | 0.10 | 0.057 | ( 0.183) | 0.052 | 0.006 |
| 6 | 0.50 | 0.10 | 0.057 | ( 0.182) | 0.052 | 0.006 |
| 7 | 0.58 | 0.10 | 0.057 | ( 0.181) | 0.052 | 0.006 |
| 8 | 0.67 | 0.10 | 0.057 | ( 0.181) | 0.052 | 0.006 |
| 9 | 0.75 | 0.10 | 0.057 | ( 0.180) | 0.052 | 0.006 |
| 10 | 0.83 | 0.13 | 0.076 | ( 0.179) | 0.069 | 0.008 |
| 11 | 0.92 | 0.13 | 0.076 | ( 0.179) | 0.069 | 0.008 |
| 12 | 1.00 | 0.13 | 0.076 | ( 0.178) | 0.069 | 0.008 |
| 13 | 1.08 | 0.10 | 0.057 | ( 0.177) | 0.052 | 0.006 |
| 14 | 1.17 | 0.10 | 0.057 | ( 0.176) | 0.052 | 0.006 |
| 15 | 1.25 | 0.10 | 0.057 | ( 0.176) | 0.052 | 0.006 |
| 16 | 1.33 | 0.10 | 0.057 | ( 0.175) | 0.052 | 0.006 |
| 17 | 1.42 | 0.10 | 0.057 | ( 0.174) | 0.052 | 0.006 |
| 18 | 1.50 | 0.10 | 0.057 | ( 0.174) | 0.052 | 0.006 |
| 19 | 1.58 | 0.10 | 0.057 | ( 0.173) | 0.052 | 0.006 |
| 20 | 1.67 | 0.10 | 0.057 | ( 0.172) | 0.052 | 0.006 |
| 21 | 1.75 | 0.10 | 0.057 | ( 0.172) | 0.052 | 0.006 |
| 22 | 1.83 | 0.13 | 0.076 | ( 0.171) | 0.069 | 0.008 |
| 23 | 1.92 | 0.13 | 0.076 | ( 0.170) | 0.069 | 0.008 |
| 24 | 2.00 | 0.13 | 0.076 | ( 0.170) | 0.069 | 0.008 |
| 25 | 2.08 | 0.13 | 0.076 | ( 0.169) | 0.069 | 0.008 |
| 26 | 2.17 | 0.13 | 0.076 | ( 0.168) | 0.069 | 0.008 |
| 27 | 2.25 | 0.13 | 0.076 | ( 0.167) | 0.069 | 0.008 |
| 28 | 2.33 | 0.13 | 0.076 | ( 0.167) | 0.069 | 0.008 |
| 29 | 2.42 | 0.13 | 0.076 | ( 0.166) | 0.069 | 0.008 |
| 30 | 2.50 | 0.13 | 0.076 | ( 0.165) | 0.069 | 0.008 |
| 31 | 2.58 | 0.17 | 0.096 | ( 0.165) | 0.086 | 0.010 |
| 32 | 2.67 | 0.17 | 0.096 | ( 0.164) | 0.086 | 0.010 |
| 33 | 2.75 | 0.17 | 0.096 | ( 0.163) | 0.086 | 0.010 |
| 34 | 2.83 | 0.17 | 0.096 | ( 0.163) | 0.086 | 0.010 |
| 35 | 2.92 | 0.17 | 0.096 | ( 0.162) | 0.086 | 0.010 |
| 36 | 3.00 | 0.17 | 0.096 | ( 0.161) | 0.086 | 0.010 |
| 37 | 3.08 | 0.17 | 0.096 | ( 0.161) | 0.086 | 0.010 |
| 38 | 3.17 | 0.17 | 0.096 | ( 0.160) | 0.086 | 0.010 |
| 39 | 3.25 | 0.17 | 0.096 | ( 0.159) | 0.086 | 0.010 |
| 40 | 3.33 | 0.17 | 0.096 | ( 0.159) | 0.086 | 0.010 |
| 41 | 3.42 | 0.17 | 0.096 | ( 0.158) | 0.086 | 0.010 |
| 42 | 3.50 | 0.17 | 0.096 | ( 0.157) | 0.086 | 0.010 |
| 43 | 3.58 | 0.17 | 0.096 | ( 0.157) | 0.086 | 0.010 |
| 44 | 3.67 | 0.17 | 0.096 | ( 0.156) | 0.086 | 0.010 |
| 45 | 3.75 | 0.17 | 0.096 | ( 0.155) | 0.086 | 0.010 |
| 46 | 3.83 | 0.20 | 0.115 | ( 0.155) | 0.103 | 0.011 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 47 | 3.92 | 0.20 | 0.115 | ( | 0.154) | 0.103 | | 0.011 |
| 48 | 4.00 | 0.20 | 0.115 | ( | 0.153) | 0.103 | | 0.011 |
| 49 | 4.08 | 0.20 | 0.115 | ( | 0.153) | 0.103 | | 0.011 |
| 50 | 4.17 | 0.20 | 0.115 | ( | 0.152) | 0.103 | | 0.011 |
| 51 | 4.25 | 0.20 | 0.115 | ( | 0.152) | 0.103 | | 0.011 |
| 52 | 4.33 | 0.23 | 0.134 | ( | 0.151) | 0.120 | | 0.013 |
| 53 | 4.42 | 0.23 | 0.134 | ( | 0.150) | 0.120 | | 0.013 |
| 54 | 4.50 | 0.23 | 0.134 | ( | 0.150) | 0.120 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.134 | ( | 0.149) | 0.120 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.134 | ( | 0.148) | 0.120 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.134 | ( | 0.148) | 0.120 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.153 | ( | 0.147) | 0.138 | | 0.015 |
| 59 | 4.92 | 0.27 | 0.153 | ( | 0.146) | 0.138 | | 0.015 |
| 60 | 5.00 | 0.27 | 0.153 | ( | 0.146) | 0.138 | | 0.015 |
| 61 | 5.08 | 0.20 | 0.115 | ( | 0.145) | 0.103 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.115 | ( | 0.145) | 0.103 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.115 | ( | 0.144) | 0.103 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.134 | ( | 0.143) | 0.120 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.134 | ( | 0.143) | 0.120 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.134 | ( | 0.142) | 0.120 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.153 | ( | 0.141) | 0.138 | | 0.015 |
| 68 | 5.67 | 0.27 | 0.153 | ( | 0.141) | 0.138 | | 0.015 |
| 69 | 5.75 | 0.27 | 0.153 | ( | 0.140) | 0.138 | | 0.015 |
| 70 | 5.83 | 0.27 | 0.153 | ( | 0.140) | 0.138 | | 0.015 |
| 71 | 5.92 | 0.27 | 0.153 | ( | 0.139) | 0.138 | | 0.015 |
| 72 | 6.00 | 0.27 | 0.153 | ( | 0.138) | 0.138 | | 0.015 |
| 73 | 6.08 | 0.30 | 0.172 | | 0.138 | ( | 0.155) | 0.034 |
| 74 | 6.17 | 0.30 | 0.172 | | 0.137 | ( | 0.155) | 0.035 |
| 75 | 6.25 | 0.30 | 0.172 | | 0.136 | ( | 0.155) | 0.036 |
| 76 | 6.33 | 0.30 | 0.172 | | 0.136 | ( | 0.155) | 0.036 |
| 77 | 6.42 | 0.30 | 0.172 | | 0.135 | ( | 0.155) | 0.037 |
| 78 | 6.50 | 0.30 | 0.172 | | 0.135 | ( | 0.155) | 0.037 |
| 79 | 6.58 | 0.33 | 0.191 | | 0.134 | ( | 0.172) | 0.057 |
| 80 | 6.67 | 0.33 | 0.191 | | 0.133 | ( | 0.172) | 0.058 |
| 81 | 6.75 | 0.33 | 0.191 | | 0.133 | ( | 0.172) | 0.058 |
| 82 | 6.83 | 0.33 | 0.191 | | 0.132 | ( | 0.172) | 0.059 |
| 83 | 6.92 | 0.33 | 0.191 | | 0.132 | ( | 0.172) | 0.060 |
| 84 | 7.00 | 0.33 | 0.191 | | 0.131 | ( | 0.172) | 0.060 |
| 85 | 7.08 | 0.33 | 0.191 | | 0.130 | ( | 0.172) | 0.061 |
| 86 | 7.17 | 0.33 | 0.191 | | 0.130 | ( | 0.172) | 0.061 |
| 87 | 7.25 | 0.33 | 0.191 | | 0.129 | ( | 0.172) | 0.062 |
| 88 | 7.33 | 0.37 | 0.210 | | 0.129 | ( | 0.189) | 0.082 |
| 89 | 7.42 | 0.37 | 0.210 | | 0.128 | ( | 0.189) | 0.082 |
| 90 | 7.50 | 0.37 | 0.210 | | 0.127 | ( | 0.189) | 0.083 |
| 91 | 7.58 | 0.40 | 0.229 | | 0.127 | ( | 0.206) | 0.103 |
| 92 | 7.67 | 0.40 | 0.229 | | 0.126 | ( | 0.206) | 0.103 |
| 93 | 7.75 | 0.40 | 0.229 | | 0.126 | ( | 0.206) | 0.104 |
| 94 | 7.83 | 0.43 | 0.249 | | 0.125 | ( | 0.224) | 0.123 |
| 95 | 7.92 | 0.43 | 0.249 | | 0.125 | ( | 0.224) | 0.124 |
| 96 | 8.00 | 0.43 | 0.249 | | 0.124 | ( | 0.224) | 0.125 |
| 97 | 8.08 | 0.50 | 0.287 | | 0.123 | ( | 0.258) | 0.163 |
| 98 | 8.17 | 0.50 | 0.287 | | 0.123 | ( | 0.258) | 0.164 |
| 99 | 8.25 | 0.50 | 0.287 | | 0.122 | ( | 0.258) | 0.165 |
| 100 | 8.33 | 0.50 | 0.287 | | 0.122 | ( | 0.258) | 0.165 |
| 101 | 8.42 | 0.50 | 0.287 | | 0.121 | ( | 0.258) | 0.166 |
| 102 | 8.50 | 0.50 | 0.287 | | 0.121 | ( | 0.258) | 0.166 |
| 103 | 8.58 | 0.53 | 0.306 | | 0.120 | ( | 0.275) | 0.186 |
| 104 | 8.67 | 0.53 | 0.306 | | 0.119 | ( | 0.275) | 0.186 |
| 105 | 8.75 | 0.53 | 0.306 | | 0.119 | ( | 0.275) | 0.187 |
| 106 | 8.83 | 0.57 | 0.325 | | 0.118 | ( | 0.293) | 0.207 |
| 107 | 8.92 | 0.57 | 0.325 | | 0.118 | ( | 0.293) | 0.207 |
| 108 | 9.00 | 0.57 | 0.325 | | 0.117 | ( | 0.293) | 0.208 |
| 109 | 9.08 | 0.63 | 0.363 | | 0.117 | ( | 0.327) | 0.247 |
| 110 | 9.17 | 0.63 | 0.363 | | 0.116 | ( | 0.327) | 0.247 |
| 111 | 9.25 | 0.63 | 0.363 | | 0.116 | ( | 0.327) | 0.248 |
| 112 | 9.33 | 0.67 | 0.382 | | 0.115 | ( | 0.344) | 0.267 |
| 113 | 9.42 | 0.67 | 0.382 | | 0.114 | ( | 0.344) | 0.268 |
| 114 | 9.50 | 0.67 | 0.382 | | 0.114 | ( | 0.344) | 0.268 |
| 115 | 9.58 | 0.70 | 0.401 | | 0.113 | ( | 0.361) | 0.288 |
| 116 | 9.67 | 0.70 | 0.401 | | 0.113 | ( | 0.361) | 0.289 |
| 117 | 9.75 | 0.70 | 0.401 | | 0.112 | ( | 0.361) | 0.289 |
| 118 | 9.83 | 0.73 | 0.421 | | 0.112 | ( | 0.379) | 0.309 |
| 119 | 9.92 | 0.73 | 0.421 | | 0.111 | ( | 0.379) | 0.309 |
| 120 | 10.00 | 0.73 | 0.421 | | 0.111 | ( | 0.379) | 0.310 |
| 121 | 10.08 | 0.50 | 0.287 | | 0.110 | ( | 0.258) | 0.177 |
| 122 | 10.17 | 0.50 | 0.287 | | 0.110 | ( | 0.258) | 0.177 |
| 123 | 10.25 | 0.50 | 0.287 | | 0.109 | ( | 0.258) | 0.178 |
| 124 | 10.33 | 0.50 | 0.287 | | 0.108 | ( | 0.258) | 0.178 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 125 | 10.42 | 0.50 | 0.287 | 0.108 | ( 0.258) | 0.179 |
| 126 | 10.50 | 0.50 | 0.287 | 0.107 | ( 0.258) | 0.179 |
| 127 | 10.58 | 0.67 | 0.382 | 0.107 | ( 0.344) | 0.275 |
| 128 | 10.67 | 0.67 | 0.382 | 0.106 | ( 0.344) | 0.276 |
| 129 | 10.75 | 0.67 | 0.382 | 0.106 | ( 0.344) | 0.276 |
| 130 | 10.83 | 0.67 | 0.382 | 0.105 | ( 0.344) | 0.277 |
| 131 | 10.92 | 0.67 | 0.382 | 0.105 | ( 0.344) | 0.278 |
| 132 | 11.00 | 0.67 | 0.382 | 0.104 | ( 0.344) | 0.278 |
| 133 | 11.08 | 0.63 | 0.363 | 0.104 | ( 0.327) | 0.259 |
| 134 | 11.17 | 0.63 | 0.363 | 0.103 | ( 0.327) | 0.260 |
| 135 | 11.25 | 0.63 | 0.363 | 0.103 | ( 0.327) | 0.260 |
| 136 | 11.33 | 0.63 | 0.363 | 0.102 | ( 0.327) | 0.261 |
| 137 | 11.42 | 0.63 | 0.363 | 0.102 | ( 0.327) | 0.261 |
| 138 | 11.50 | 0.63 | 0.363 | 0.101 | ( 0.327) | 0.262 |
| 139 | 11.58 | 0.57 | 0.325 | 0.101 | ( 0.293) | 0.224 |
| 140 | 11.67 | 0.57 | 0.325 | 0.100 | ( 0.293) | 0.225 |
| 141 | 11.75 | 0.57 | 0.325 | 0.100 | ( 0.293) | 0.225 |
| 142 | 11.83 | 0.60 | 0.344 | 0.099 | ( 0.310) | 0.245 |
| 143 | 11.92 | 0.60 | 0.344 | 0.099 | ( 0.310) | 0.245 |
| 144 | 12.00 | 0.60 | 0.344 | 0.098 | ( 0.310) | 0.246 |
| 145 | 12.08 | 0.83 | 0.478 | 0.098 | ( 0.430) | 0.380 |
| 146 | 12.17 | 0.83 | 0.478 | 0.097 | ( 0.430) | 0.381 |
| 147 | 12.25 | 0.83 | 0.478 | 0.097 | ( 0.430) | 0.381 |
| 148 | 12.33 | 0.87 | 0.497 | 0.096 | ( 0.447) | 0.401 |
| 149 | 12.42 | 0.87 | 0.497 | 0.096 | ( 0.447) | 0.401 |
| 150 | 12.50 | 0.87 | 0.497 | 0.095 | ( 0.447) | 0.402 |
| 151 | 12.58 | 0.93 | 0.535 | 0.095 | ( 0.482) | 0.440 |
| 152 | 12.67 | 0.93 | 0.535 | 0.094 | ( 0.482) | 0.441 |
| 153 | 12.75 | 0.93 | 0.535 | 0.094 | ( 0.482) | 0.441 |
| 154 | 12.83 | 0.97 | 0.554 | 0.093 | ( 0.499) | 0.461 |
| 155 | 12.92 | 0.97 | 0.554 | 0.093 | ( 0.499) | 0.461 |
| 156 | 13.00 | 0.97 | 0.554 | 0.093 | ( 0.499) | 0.462 |
| 157 | 13.08 | 1.13 | 0.650 | 0.092 | ( 0.585) | 0.558 |
| 158 | 13.17 | 1.13 | 0.650 | 0.092 | ( 0.585) | 0.558 |
| 159 | 13.25 | 1.13 | 0.650 | 0.091 | ( 0.585) | 0.559 |
| 160 | 13.33 | 1.13 | 0.650 | 0.091 | ( 0.585) | 0.559 |
| 161 | 13.42 | 1.13 | 0.650 | 0.090 | ( 0.585) | 0.560 |
| 162 | 13.50 | 1.13 | 0.650 | 0.090 | ( 0.585) | 0.560 |
| 163 | 13.58 | 0.77 | 0.440 | 0.089 | ( 0.396) | 0.350 |
| 164 | 13.67 | 0.77 | 0.440 | 0.089 | ( 0.396) | 0.351 |
| 165 | 13.75 | 0.77 | 0.440 | 0.088 | ( 0.396) | 0.351 |
| 166 | 13.83 | 0.77 | 0.440 | 0.088 | ( 0.396) | 0.352 |
| 167 | 13.92 | 0.77 | 0.440 | 0.087 | ( 0.396) | 0.352 |
| 168 | 14.00 | 0.77 | 0.440 | 0.087 | ( 0.396) | 0.353 |
| 169 | 14.08 | 0.90 | 0.516 | 0.087 | ( 0.465) | 0.430 |
| 170 | 14.17 | 0.90 | 0.516 | 0.086 | ( 0.465) | 0.430 |
| 171 | 14.25 | 0.90 | 0.516 | 0.086 | ( 0.465) | 0.430 |
| 172 | 14.33 | 0.87 | 0.497 | 0.085 | ( 0.447) | 0.412 |
| 173 | 14.42 | 0.87 | 0.497 | 0.085 | ( 0.447) | 0.412 |
| 174 | 14.50 | 0.87 | 0.497 | 0.084 | ( 0.447) | 0.413 |
| 175 | 14.58 | 0.87 | 0.497 | 0.084 | ( 0.447) | 0.413 |
| 176 | 14.67 | 0.87 | 0.497 | 0.084 | ( 0.447) | 0.414 |
| 177 | 14.75 | 0.87 | 0.497 | 0.083 | ( 0.447) | 0.414 |
| 178 | 14.83 | 0.83 | 0.478 | 0.083 | ( 0.430) | 0.395 |
| 179 | 14.92 | 0.83 | 0.478 | 0.082 | ( 0.430) | 0.396 |
| 180 | 15.00 | 0.83 | 0.478 | 0.082 | ( 0.430) | 0.396 |
| 181 | 15.08 | 0.80 | 0.459 | 0.081 | ( 0.413) | 0.377 |
| 182 | 15.17 | 0.80 | 0.459 | 0.081 | ( 0.413) | 0.378 |
| 183 | 15.25 | 0.80 | 0.459 | 0.081 | ( 0.413) | 0.378 |
| 184 | 15.33 | 0.77 | 0.440 | 0.080 | ( 0.396) | 0.360 |
| 185 | 15.42 | 0.77 | 0.440 | 0.080 | ( 0.396) | 0.360 |
| 186 | 15.50 | 0.77 | 0.440 | 0.079 | ( 0.396) | 0.360 |
| 187 | 15.58 | 0.63 | 0.363 | 0.079 | ( 0.327) | 0.284 |
| 188 | 15.67 | 0.63 | 0.363 | 0.079 | ( 0.327) | 0.285 |
| 189 | 15.75 | 0.63 | 0.363 | 0.078 | ( 0.327) | 0.285 |
| 190 | 15.83 | 0.63 | 0.363 | 0.078 | ( 0.327) | 0.286 |
| 191 | 15.92 | 0.63 | 0.363 | 0.077 | ( 0.327) | 0.286 |
| 192 | 16.00 | 0.63 | 0.363 | 0.077 | ( 0.327) | 0.286 |
| 193 | 16.08 | 0.13 | 0.076 | ( 0.077) | 0.069 | 0.008 |
| 194 | 16.17 | 0.13 | 0.076 | ( 0.076) | 0.069 | 0.008 |
| 195 | 16.25 | 0.13 | 0.076 | ( 0.076) | 0.069 | 0.008 |
| 196 | 16.33 | 0.13 | 0.076 | ( 0.075) | 0.069 | 0.008 |
| 197 | 16.42 | 0.13 | 0.076 | ( 0.075) | 0.069 | 0.008 |
| 198 | 16.50 | 0.13 | 0.076 | ( 0.075) | 0.069 | 0.008 |
| 199 | 16.58 | 0.10 | 0.057 | ( 0.074) | 0.052 | 0.006 |
| 200 | 16.67 | 0.10 | 0.057 | ( 0.074) | 0.052 | 0.006 |
| 201 | 16.75 | 0.10 | 0.057 | ( 0.073) | 0.052 | 0.006 |
| 202 | 16.83 | 0.10 | 0.057 | ( 0.073) | 0.052 | 0.006 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 203 | 16.92 | 0.10 | 0.057 | ( | 0.073) | 0.052 | | 0.006 |
| 204 | 17.00 | 0.10 | 0.057 | ( | 0.072) | 0.052 | | 0.006 |
| 205 | 17.08 | 0.17 | 0.096 | | 0.072 | ( 0.086) | | 0.024 |
| 206 | 17.17 | 0.17 | 0.096 | | 0.072 | ( 0.086) | | 0.024 |
| 207 | 17.25 | 0.17 | 0.096 | | 0.071 | ( 0.086) | | 0.024 |
| 208 | 17.33 | 0.17 | 0.096 | | 0.071 | ( 0.086) | | 0.025 |
| 209 | 17.42 | 0.17 | 0.096 | | 0.071 | ( 0.086) | | 0.025 |
| 210 | 17.50 | 0.17 | 0.096 | | 0.070 | ( 0.086) | | 0.025 |
| 211 | 17.58 | 0.17 | 0.096 | | 0.070 | ( 0.086) | | 0.026 |
| 212 | 17.67 | 0.17 | 0.096 | | 0.070 | ( 0.086) | | 0.026 |
| 213 | 17.75 | 0.17 | 0.096 | | 0.069 | ( 0.086) | | 0.026 |
| 214 | 17.83 | 0.13 | 0.076 | | 0.069 | ( 0.069) | | 0.008 |
| 215 | 17.92 | 0.13 | 0.076 | | 0.068 | ( 0.069) | | 0.008 |
| 216 | 18.00 | 0.13 | 0.076 | | 0.068 | ( 0.069) | | 0.008 |
| 217 | 18.08 | 0.13 | 0.076 | | 0.068 | ( 0.069) | | 0.009 |
| 218 | 18.17 | 0.13 | 0.076 | | 0.067 | ( 0.069) | | 0.009 |
| 219 | 18.25 | 0.13 | 0.076 | | 0.067 | ( 0.069) | | 0.009 |
| 220 | 18.33 | 0.13 | 0.076 | | 0.067 | ( 0.069) | | 0.010 |
| 221 | 18.42 | 0.13 | 0.076 | | 0.066 | ( 0.069) | | 0.010 |
| 222 | 18.50 | 0.13 | 0.076 | | 0.066 | ( 0.069) | | 0.010 |
| 223 | 18.58 | 0.10 | 0.057 | ( | 0.066) | 0.052 | | 0.006 |
| 224 | 18.67 | 0.10 | 0.057 | ( | 0.066) | 0.052 | | 0.006 |
| 225 | 18.75 | 0.10 | 0.057 | ( | 0.065) | 0.052 | | 0.006 |
| 226 | 18.83 | 0.07 | 0.038 | ( | 0.065) | 0.034 | | 0.004 |
| 227 | 18.92 | 0.07 | 0.038 | ( | 0.065) | 0.034 | | 0.004 |
| 228 | 19.00 | 0.07 | 0.038 | ( | 0.064) | 0.034 | | 0.004 |
| 229 | 19.08 | 0.10 | 0.057 | ( | 0.064) | 0.052 | | 0.006 |
| 230 | 19.17 | 0.10 | 0.057 | ( | 0.064) | 0.052 | | 0.006 |
| 231 | 19.25 | 0.10 | 0.057 | ( | 0.063) | 0.052 | | 0.006 |
| 232 | 19.33 | 0.13 | 0.076 | | 0.063 | ( 0.069) | | 0.013 |
| 233 | 19.42 | 0.13 | 0.076 | | 0.063 | ( 0.069) | | 0.014 |
| 234 | 19.50 | 0.13 | 0.076 | | 0.063 | ( 0.069) | | 0.014 |
| 235 | 19.58 | 0.10 | 0.057 | ( | 0.062) | 0.052 | | 0.006 |
| 236 | 19.67 | 0.10 | 0.057 | ( | 0.062) | 0.052 | | 0.006 |
| 237 | 19.75 | 0.10 | 0.057 | ( | 0.062) | 0.052 | | 0.006 |
| 238 | 19.83 | 0.07 | 0.038 | ( | 0.061) | 0.034 | | 0.004 |
| 239 | 19.92 | 0.07 | 0.038 | ( | 0.061) | 0.034 | | 0.004 |
| 240 | 20.00 | 0.07 | 0.038 | ( | 0.061) | 0.034 | | 0.004 |
| 241 | 20.08 | 0.10 | 0.057 | ( | 0.061) | 0.052 | | 0.006 |
| 242 | 20.17 | 0.10 | 0.057 | ( | 0.060) | 0.052 | | 0.006 |
| 243 | 20.25 | 0.10 | 0.057 | ( | 0.060) | 0.052 | | 0.006 |
| 244 | 20.33 | 0.10 | 0.057 | ( | 0.060) | 0.052 | | 0.006 |
| 245 | 20.42 | 0.10 | 0.057 | ( | 0.060) | 0.052 | | 0.006 |
| 246 | 20.50 | 0.10 | 0.057 | ( | 0.059) | 0.052 | | 0.006 |
| 247 | 20.58 | 0.10 | 0.057 | ( | 0.059) | 0.052 | | 0.006 |
| 248 | 20.67 | 0.10 | 0.057 | ( | 0.059) | 0.052 | | 0.006 |
| 249 | 20.75 | 0.10 | 0.057 | ( | 0.059) | 0.052 | | 0.006 |
| 250 | 20.83 | 0.07 | 0.038 | ( | 0.058) | 0.034 | | 0.004 |
| 251 | 20.92 | 0.07 | 0.038 | ( | 0.058) | 0.034 | | 0.004 |
| 252 | 21.00 | 0.07 | 0.038 | ( | 0.058) | 0.034 | | 0.004 |
| 253 | 21.08 | 0.10 | 0.057 | ( | 0.058) | 0.052 | | 0.006 |
| 254 | 21.17 | 0.10 | 0.057 | ( | 0.057) | 0.052 | | 0.006 |
| 255 | 21.25 | 0.10 | 0.057 | ( | 0.057) | 0.052 | | 0.006 |
| 256 | 21.33 | 0.07 | 0.038 | ( | 0.057) | 0.034 | | 0.004 |
| 257 | 21.42 | 0.07 | 0.038 | ( | 0.057) | 0.034 | | 0.004 |
| 258 | 21.50 | 0.07 | 0.038 | ( | 0.056) | 0.034 | | 0.004 |
| 259 | 21.58 | 0.10 | 0.057 | ( | 0.056) | 0.052 | | 0.006 |
| 260 | 21.67 | 0.10 | 0.057 | ( | 0.056) | 0.052 | | 0.006 |
| 261 | 21.75 | 0.10 | 0.057 | ( | 0.056) | 0.052 | | 0.006 |
| 262 | 21.83 | 0.07 | 0.038 | ( | 0.056) | 0.034 | | 0.004 |
| 263 | 21.92 | 0.07 | 0.038 | ( | 0.055) | 0.034 | | 0.004 |
| 264 | 22.00 | 0.07 | 0.038 | ( | 0.055) | 0.034 | | 0.004 |
| 265 | 22.08 | 0.10 | 0.057 | ( | 0.055) | 0.052 | | 0.006 |
| 266 | 22.17 | 0.10 | 0.057 | ( | 0.055) | 0.052 | | 0.006 |
| 267 | 22.25 | 0.10 | 0.057 | ( | 0.055) | 0.052 | | 0.006 |
| 268 | 22.33 | 0.07 | 0.038 | ( | 0.055) | 0.034 | | 0.004 |
| 269 | 22.42 | 0.07 | 0.038 | ( | 0.054) | 0.034 | | 0.004 |
| 270 | 22.50 | 0.07 | 0.038 | ( | 0.054) | 0.034 | | 0.004 |
| 271 | 22.58 | 0.07 | 0.038 | ( | 0.054) | 0.034 | | 0.004 |
| 272 | 22.67 | 0.07 | 0.038 | ( | 0.054) | 0.034 | | 0.004 |
| 273 | 22.75 | 0.07 | 0.038 | ( | 0.054) | 0.034 | | 0.004 |
| 274 | 22.83 | 0.07 | 0.038 | ( | 0.054) | 0.034 | | 0.004 |
| 275 | 22.92 | 0.07 | 0.038 | ( | 0.054) | 0.034 | | 0.004 |
| 276 | 23.00 | 0.07 | 0.038 | ( | 0.053) | 0.034 | | 0.004 |
| 277 | 23.08 | 0.07 | 0.038 | ( | 0.053) | 0.034 | | 0.004 |
| 278 | 23.17 | 0.07 | 0.038 | ( | 0.053) | 0.034 | | 0.004 |
| 279 | 23.25 | 0.07 | 0.038 | ( | 0.053) | 0.034 | | 0.004 |
| 280 | 23.33 | 0.07 | 0.038 | ( | 0.053) | 0.034 | | 0.004 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 281 | 23.42 | 0.07 | 0.038 | ( | 0.053) | 0.034 | 0.004 |
| 282 | 23.50 | 0.07 | 0.038 | ( | 0.053) | 0.034 | 0.004 |
| 283 | 23.58 | 0.07 | 0.038 | ( | 0.053) | 0.034 | 0.004 |
| 284 | 23.67 | 0.07 | 0.038 | ( | 0.053) | 0.034 | 0.004 |
| 285 | 23.75 | 0.07 | 0.038 | ( | 0.053) | 0.034 | 0.004 |
| 286 | 23.83 | 0.07 | 0.038 | ( | 0.052) | 0.034 | 0.004 |
| 287 | 23.92 | 0.07 | 0.038 | ( | 0.052) | 0.034 | 0.004 |
| 288 | 24.00 | 0.07 | 0.038 | ( | 0.052) | 0.034 | 0.004 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 33.7

Flood volume = Effective rainfall 2.81(In)
times area 62.0(Ac.)/[(In)/(Ft.)] = 14.5(Ac.Ft)
Total soil loss = 1.97(In)
Total soil loss = 10.183(Ac.Ft)
Total rainfall = 4.78(In)
Flood volume = 632100.6 Cubic Feet
Total soil loss = 443555.9 Cubic Feet

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Peak flow rate of this hydrograph = 34.829(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

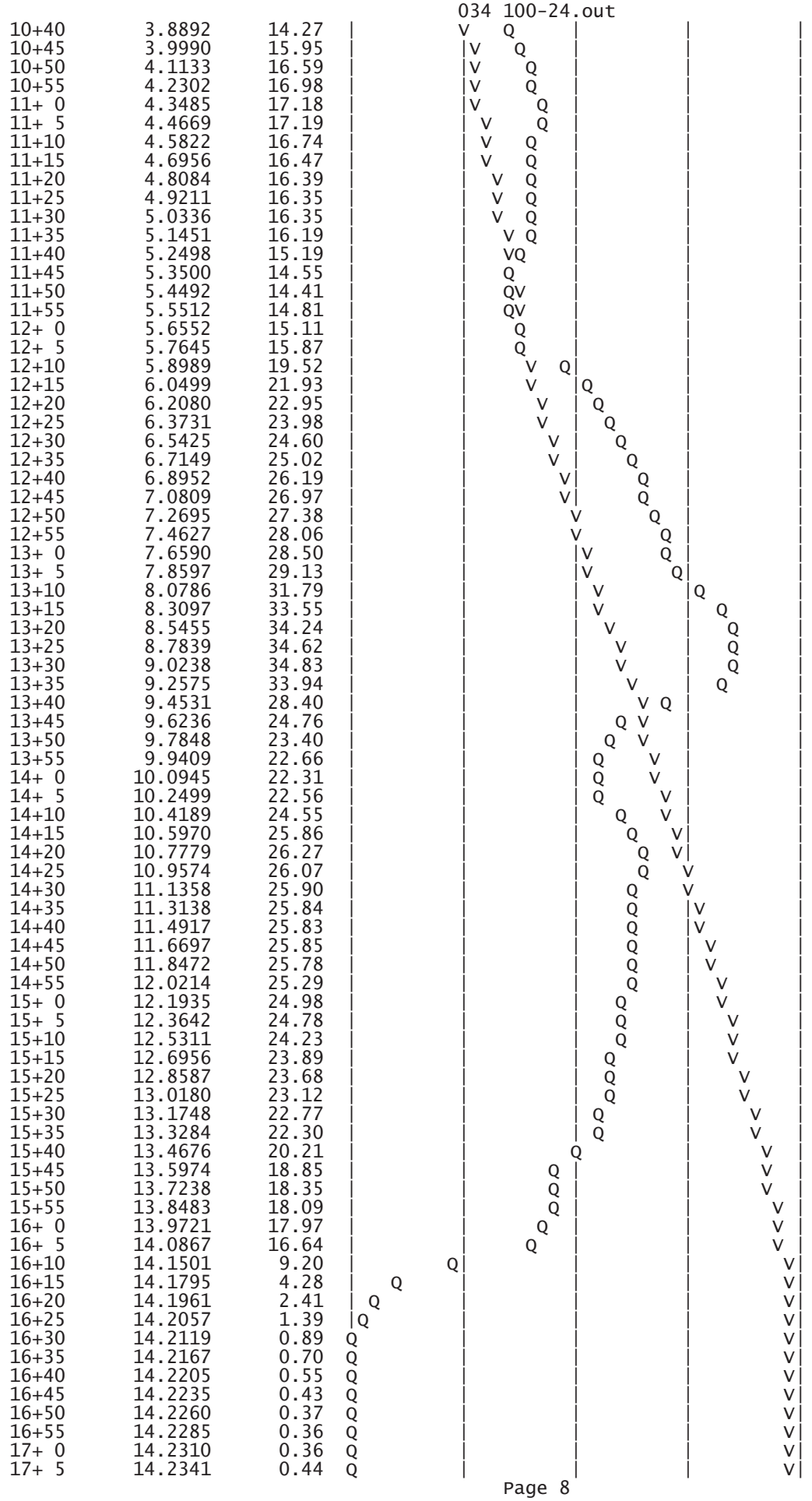
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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 10.0 | 20.0 | 30.0 | 40.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0001 | 0.02 | Q | | | | |
| 0+10 | 0.0009 | 0.12 | Q | | | | |
| 0+15 | 0.0022 | 0.19 | Q | | | | |
| 0+20 | 0.0038 | 0.22 | Q | | | | |
| 0+25 | 0.0057 | 0.29 | Q | | | | |
| 0+30 | 0.0080 | 0.33 | Q | | | | |
| 0+35 | 0.0103 | 0.34 | Q | | | | |
| 0+40 | 0.0128 | 0.35 | Q | | | | |
| 0+45 | 0.0152 | 0.36 | Q | | | | |
| 0+50 | 0.0177 | 0.37 | Q | | | | |
| 0+55 | 0.0206 | 0.42 | Q | | | | |
| 1+ 0 | 0.0237 | 0.45 | Q | | | | |
| 1+ 5 | 0.0268 | 0.46 | Q | | | | |
| 1+10 | 0.0297 | 0.41 | Q | | | | |
| 1+15 | 0.0323 | 0.38 | Q | | | | |
| 1+20 | 0.0349 | 0.37 | Q | | | | |
| 1+25 | 0.0374 | 0.36 | Q | | | | |
| 1+30 | 0.0399 | 0.36 | Q | | | | |
| 1+35 | 0.0423 | 0.36 | Q | | | | |
| 1+40 | 0.0448 | 0.36 | Q | | | | |
| 1+45 | 0.0473 | 0.36 | Q | | | | |
| 1+50 | 0.0498 | 0.37 | Q | | | | |
| 1+55 | 0.0527 | 0.42 | Q | | | | |
| 2+ 0 | 0.0558 | 0.45 | Q | | | | |
| 2+ 5 | 0.0590 | 0.46 | Q | | | | |
| 2+10 | 0.0623 | 0.47 | Q | | | | |
| 2+15 | 0.0655 | 0.48 | Q | | | | |
| 2+20 | 0.0688 | 0.48 | Q | | | | |
| 2+25 | 0.0721 | 0.48 | Q | | | | |
| 2+30 | 0.0754 | 0.48 | Q | | | | |
| 2+35 | 0.0787 | 0.49 | Q | | | | |
| 2+40 | 0.0824 | 0.54 | Q | | | | |
| 2+45 | 0.0864 | 0.57 | Q | | | | |
| 2+50 | 0.0904 | 0.58 | Q | | | | |
| 2+55 | 0.0945 | 0.59 | Q | | | | |
| 3+ 0 | 0.0986 | 0.59 | Q | | | | |
| 3+ 5 | 0.1027 | 0.60 | Q | | | | |
| 3+10 | 0.1068 | 0.60 | Q | | | | |
| 3+15 | 0.1109 | 0.60 | Q | | | | |
| 3+20 | 0.1150 | 0.60 | Q | | | | |
| 3+25 | 0.1191 | 0.60 | Q | | | | |
| 3+30 | 0.1232 | 0.60 | Q | | | | |
| 3+35 | 0.1274 | 0.60 | Q | | | | |
| 3+40 | 0.1315 | 0.60 | Q | | | | |
| 3+45 | 0.1356 | 0.60 | Q | | | | |
| 3+50 | 0.1398 | 0.61 | Q | | | | |
| 3+55 | 0.1443 | 0.66 | Q | | | | |
| 4+ 0 | 0.1491 | 0.69 | Q | | | | |
| 4+ 5 | 0.1539 | 0.70 | Q | | | | |

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 4+10       0.1588      0.71  Q          |          |          |          |
 4+15       0.1637      0.71  Q          |          |          |          |
 4+20       0.1687      0.72  Q          |          |          |          |
 4+25       0.1741      0.78  Q          |          |          |          |
 4+30       0.1796      0.81  Q          |          |          |          |
 4+35       0.1853      0.82  Q          |          |          |          |
 4+40       0.1910      0.83  Q          |          |          |          |
 4+45       0.1968      0.83  Q          |          |          |          |
 4+50       0.2026      0.84  Q          |          |          |          |
 4+55       0.2087      0.90  Q          |          |          |          |
 5+ 0       0.2152      0.93  Q          |          |          |          |
 5+ 5       0.2215      0.93  Q          |          |          |          |
 5+10       0.2272      0.83  Q          |          |          |          |
 5+15       0.2325      0.77  Q          |          |          |          |
 5+20       0.2377      0.75  Q          |          |          |          |
 5+25       0.2431      0.79  Q          |          |          |          |
 5+30       0.2487      0.82  Q          |          |          |          |
 5+35       0.2545      0.84  Q          |          |          |          |
 5+40       0.2606      0.89  Q          |          |          |          |
 5+45       0.2670      0.93  Q          |          |          |          |
 5+50       0.2735      0.94  Q          |          |          |          |
 5+55       0.2800      0.95  Q          |          |          |          |
 6+ 0       0.2866      0.95  Q          |          |          |          |
 6+ 5       0.2938      1.04  VQ         |          |          |          |
 6+10       0.3045      1.56  VQ         |          |          |          |
 6+15       0.3177      1.91  VQ         |          |          |          |
 6+20       0.3319      2.07  V Q        |          |          |          |
 6+25       0.3469      2.17  V Q        |          |          |          |
 6+30       0.3624      2.24  V Q        |          |          |          |
 6+35       0.3788      2.38  |VQ        |          |          |          |
 6+40       0.3990      2.94  |VQ        |          |          |          |
 6+45       0.4218      3.32  |V Q       |          |          |          |
 6+50       0.4458      3.48  |V Q       |          |          |          |
 6+55       0.4706      3.59  |V Q       |          |          |          |
 7+ 0       0.4958      3.66  |V Q       |          |          |          |
 7+ 5       0.5214      3.71  |V Q       |          |          |          |
 7+10       0.5473      3.76  |V Q       |          |          |          |
 7+15       0.5734      3.80  |V Q       |          |          |          |
 7+20       0.6005      3.93  |V Q       |          |          |          |
 7+25       0.6313      4.48  |V  Q      |          |          |          |
 7+30       0.6647      4.85  |V  Q      |          |          |          |
 7+35       0.6999      5.10  |V   Q     |          |          |          |
 7+40       0.7393      5.72  | V  Q     |          |          |          |
 7+45       0.7815      6.13  | V   Q    |          |          |          |
 7+50       0.8255      6.39  | V   Q    |          |          |          |
 7+55       0.8738      7.01  | V    Q   |          |          |          |
 8+ 0       0.9250      7.43  | V    Q   |          |          |          |
 8+ 5       0.9786      7.79  | V    Q   |          |          |          |
 8+10       1.0400      8.92  | V     Q  |          |          |          |
 8+15       1.1066      9.67  |  V     Q|          |          |          |
 8+20       1.1753      9.97  |  V     Q|          |          |          |
 8+25       1.2452     10.16  |  V      Q          |          |          |
 8+30       1.3159     10.27  |  V      Q          |          |          |
 8+35       1.3877     10.42  |  V      Q          |          |          |
 8+40       1.4633     10.98  |   V     Q          |          |          |
 8+45       1.5415     11.36  |   V     |Q         |          |          |
 8+50       1.6215     11.62  |   V     |Q         |          |          |
 8+55       1.7058     12.23  |   V     | Q        |          |          |
 9+ 0       1.7928     12.64  |   V     | Q        |          |          |
 9+ 5       1.8823     12.99  |    V    | Q        |          |          |
 9+10       1.9796     14.12  |    V    |   Q      |          |          |
 9+15       2.0820     14.87  |    V    |   Q      |          |          |
 9+20       2.1871     15.27  |     V   |    Q     |          |          |
 9+25       2.2970     15.96  |     V   |    Q     |          |          |
 9+30       2.4100     16.40  |     V   |     Q    |          |          |
 9+35       2.5248     16.68  |     V   |     Q    |          |          |
 9+40       2.6440     17.31  |      V  |      Q   |          |          |
 9+45       2.7661     17.72  |      V  |      Q   |          |          |
 9+50       2.8900     17.99  |      V  |      Q   |          |          |
 9+55       3.0182     18.61  |       V |       Q  |          |          |
10+ 0       3.1492     19.02  |       V |        Q|          |          |
10+ 5       3.2772     18.58  |        V|       Q  |          |          |
10+10       3.3813     15.12  |        V|    Q     |          |          |
10+15       3.4698     12.84  |        V| Q        |          |          |
10+20       3.5524     12.00  |        V|Q         |          |          |
10+25       3.6319     11.55  |         VQ         |          |          |
10+30       3.7100     11.34  |         VQ         |          |          |
10+35       3.7909     11.74  |         VQ         |          |          |
```



| | | | |
|---|---|---|---|
| 10+40 | 3.8892 | 14.27 | |
| 10+45 | 3.9990 | 15.95 | |
| 10+50 | 4.1133 | 16.59 | |
| 10+55 | 4.2302 | 16.98 | |
| 11+ 0 | 4.3485 | 17.18 | |
| 11+ 5 | 4.4669 | 17.19 | |
| 11+10 | 4.5822 | 16.74 | |
| 11+15 | 4.6956 | 16.47 | |
| 11+20 | 4.8084 | 16.39 | |
| 11+25 | 4.9211 | 16.35 | |
| 11+30 | 5.0336 | 16.35 | |
| 11+35 | 5.1451 | 16.19 | |
| 11+40 | 5.2498 | 15.19 | |
| 11+45 | 5.3500 | 14.55 | |
| 11+50 | 5.4492 | 14.41 | |
| 11+55 | 5.5512 | 14.81 | |
| 12+ 0 | 5.6552 | 15.11 | |
| 12+ 5 | 5.7645 | 15.87 | |
| 12+10 | 5.8989 | 19.52 | |
| 12+15 | 6.0499 | 21.93 | |
| 12+20 | 6.2080 | 22.95 | |
| 12+25 | 6.3731 | 23.98 | |
| 12+30 | 6.5425 | 24.60 | |
| 12+35 | 6.7149 | 25.02 | |
| 12+40 | 6.8952 | 26.19 | |
| 12+45 | 7.0809 | 26.97 | |
| 12+50 | 7.2695 | 27.38 | |
| 12+55 | 7.4627 | 28.06 | |
| 13+ 0 | 7.6590 | 28.50 | |
| 13+ 5 | 7.8597 | 29.13 | |
| 13+10 | 8.0786 | 31.79 | |
| 13+15 | 8.3097 | 33.55 | |
| 13+20 | 8.5455 | 34.24 | |
| 13+25 | 8.7839 | 34.62 | |
| 13+30 | 9.0238 | 34.83 | |
| 13+35 | 9.2575 | 33.94 | |
| 13+40 | 9.4531 | 28.40 | |
| 13+45 | 9.6236 | 24.76 | |
| 13+50 | 9.7848 | 23.40 | |
| 13+55 | 9.9409 | 22.66 | |
| 14+ 0 | 10.0945 | 22.31 | |
| 14+ 5 | 10.2499 | 22.56 | |
| 14+10 | 10.4189 | 24.55 | |
| 14+15 | 10.5970 | 25.86 | |
| 14+20 | 10.7779 | 26.27 | |
| 14+25 | 10.9574 | 26.07 | |
| 14+30 | 11.1358 | 25.90 | |
| 14+35 | 11.3138 | 25.84 | |
| 14+40 | 11.4917 | 25.83 | |
| 14+45 | 11.6697 | 25.85 | |
| 14+50 | 11.8472 | 25.78 | |
| 14+55 | 12.0214 | 25.29 | |
| 15+ 0 | 12.1935 | 24.98 | |
| 15+ 5 | 12.3642 | 24.78 | |
| 15+10 | 12.5311 | 24.23 | |
| 15+15 | 12.6956 | 23.89 | |
| 15+20 | 12.8587 | 23.68 | |
| 15+25 | 13.0180 | 23.12 | |
| 15+30 | 13.1748 | 22.77 | |
| 15+35 | 13.3284 | 22.30 | |
| 15+40 | 13.4676 | 20.21 | |
| 15+45 | 13.5974 | 18.85 | |
| 15+50 | 13.7238 | 18.35 | |
| 15+55 | 13.8483 | 18.09 | |
| 16+ 0 | 13.9721 | 17.97 | |
| 16+ 5 | 14.0867 | 16.64 | |
| 16+10 | 14.1501 | 9.20 | |
| 16+15 | 14.1795 | 4.28 | |
| 16+20 | 14.1961 | 2.41 | |
| 16+25 | 14.2057 | 1.39 | |
| 16+30 | 14.2119 | 0.89 | |
| 16+35 | 14.2167 | 0.70 | |
| 16+40 | 14.2205 | 0.55 | |
| 16+45 | 14.2235 | 0.43 | |
| 16+50 | 14.2260 | 0.37 | |
| 16+55 | 14.2285 | 0.36 | |
| 17+ 0 | 14.2310 | 0.36 | |
| 17+ 5 | 14.2341 | 0.44 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+10 | 14.2404 | 0.92 | Q | \| | \| | \| | V\| |
| 17+15 | 14.2490 | 1.25 | \|Q | \| | \| | \| | V\| |
| 17+20 | 14.2585 | 1.38 | \|Q | \| | \| | \| | V\| |
| 17+25 | 14.2686 | 1.47 | \|Q | \| | \| | \| | V\| |
| 17+30 | 14.2791 | 1.52 | \|Q | \| | \| | \| | V\| |
| 17+35 | 14.2898 | 1.55 | \|Q | \| | \| | \| | V\| |
| 17+40 | 14.3007 | 1.58 | \|Q | \| | \| | \| | V\| |
| 17+45 | 14.3117 | 1.61 | \|Q | \| | \| | \| | V\| |
| 17+50 | 14.3224 | 1.54 | \|Q | \| | \| | \| | V\| |
| 17+55 | 14.3297 | 1.06 | \|Q | \| | \| | \| | V\| |
| 18+ 0 | 14.3348 | 0.74 | Q | \| | \| | \| | V\| |
| 18+ 5 | 14.3391 | 0.64 | Q | \| | \| | \| | V\| |
| 18+10 | 14.3432 | 0.59 | Q | \| | \| | \| | V\| |
| 18+15 | 14.3471 | 0.57 | Q | \| | \| | \| | V\| |
| 18+20 | 14.3511 | 0.58 | Q | \| | \| | \| | V\| |
| 18+25 | 14.3552 | 0.60 | Q | \| | \| | \| | V\| |
| 18+30 | 14.3594 | 0.61 | Q | \| | \| | \| | V\| |
| 18+35 | 14.3636 | 0.60 | Q | \| | \| | \| | V\| |
| 18+40 | 14.3670 | 0.49 | Q | \| | \| | \| | V\| |
| 18+45 | 14.3699 | 0.42 | Q | \| | \| | \| | V\| |
| 18+50 | 14.3725 | 0.38 | Q | \| | \| | \| | V\| |
| 18+55 | 14.3746 | 0.31 | Q | \| | \| | \| | V\| |
| 19+ 0 | 14.3765 | 0.27 | Q | \| | \| | \| | V\| |
| 19+ 5 | 14.3783 | 0.26 | Q | \| | \| | \| | V\| |
| 19+10 | 14.3804 | 0.31 | Q | \| | \| | \| | V\| |
| 19+15 | 14.3828 | 0.34 | Q | \| | \| | \| | V\| |
| 19+20 | 14.3854 | 0.38 | Q | \| | \| | \| | V\| |
| 19+25 | 14.3895 | 0.59 | Q | \| | \| | \| | V\| |
| 19+30 | 14.3946 | 0.74 | Q | \| | \| | \| | V\| |
| 19+35 | 14.3999 | 0.77 | Q | \| | \| | \| | V\| |
| 19+40 | 14.4039 | 0.58 | Q | \| | \| | \| | V\| |
| 19+45 | 14.4070 | 0.46 | Q | \| | \| | \| | V\| |
| 19+50 | 14.4098 | 0.40 | Q | \| | \| | \| | V\| |
| 19+55 | 14.4120 | 0.32 | Q | \| | \| | \| | V\| |
| 20+ 0 | 14.4139 | 0.28 | Q | \| | \| | \| | V\| |
| 20+ 5 | 14.4157 | 0.27 | Q | \| | \| | \| | V\| |
| 20+10 | 14.4179 | 0.31 | Q | \| | \| | \| | V\| |
| 20+15 | 14.4202 | 0.34 | Q | \| | \| | \| | V\| |
| 20+20 | 14.4226 | 0.35 | Q | \| | \| | \| | V\| |
| 20+25 | 14.4250 | 0.35 | Q | \| | \| | \| | V\| |
| 20+30 | 14.4275 | 0.36 | Q | \| | \| | \| | V\| |
| 20+35 | 14.4299 | 0.36 | Q | \| | \| | \| | V\| |
| 20+40 | 14.4324 | 0.36 | Q | \| | \| | \| | V\| |
| 20+45 | 14.4348 | 0.36 | Q | \| | \| | \| | V\| |
| 20+50 | 14.4373 | 0.35 | Q | \| | \| | \| | V\| |
| 20+55 | 14.4393 | 0.30 | Q | \| | \| | \| | V\| |
| 21+ 0 | 14.4411 | 0.27 | Q | \| | \| | \| | V\| |
| 21+ 5 | 14.4429 | 0.26 | Q | \| | \| | \| | V\| |
| 21+10 | 14.4450 | 0.31 | Q | \| | \| | \| | V\| |
| 21+15 | 14.4473 | 0.34 | Q | \| | \| | \| | V\| |
| 21+20 | 14.4497 | 0.34 | Q | \| | \| | \| | V\| |
| 21+25 | 14.4517 | 0.29 | Q | \| | \| | \| | V\| |
| 21+30 | 14.4535 | 0.26 | Q | \| | \| | \| | V\| |
| 21+35 | 14.4553 | 0.26 | Q | \| | \| | \| | V\| |
| 21+40 | 14.4574 | 0.30 | Q | \| | \| | \| | V\| |
| 21+45 | 14.4597 | 0.34 | Q | \| | \| | \| | V\| |
| 21+50 | 14.4620 | 0.34 | Q | \| | \| | \| | V\| |
| 21+55 | 14.4640 | 0.29 | Q | \| | \| | \| | V\| |
| 22+ 0 | 14.4658 | 0.26 | Q | \| | \| | \| | V\| |
| 22+ 5 | 14.4676 | 0.26 | Q | \| | \| | \| | V\| |
| 22+10 | 14.4697 | 0.30 | Q | \| | \| | \| | V\| |
| 22+15 | 14.4720 | 0.34 | Q | \| | \| | \| | V\| |
| 22+20 | 14.4744 | 0.34 | Q | \| | \| | \| | V\| |
| 22+25 | 14.4764 | 0.29 | Q | \| | \| | \| | V\| |
| 22+30 | 14.4782 | 0.26 | Q | \| | \| | \| | V\| |
| 22+35 | 14.4799 | 0.25 | Q | \| | \| | \| | V\| |
| 22+40 | 14.4816 | 0.24 | Q | \| | \| | \| | V\| |
| 22+45 | 14.4833 | 0.24 | Q | \| | \| | \| | V\| |
| 22+50 | 14.4849 | 0.24 | Q | \| | \| | \| | V\| |
| 22+55 | 14.4866 | 0.24 | Q | \| | \| | \| | V\| |
| 23+ 0 | 14.4882 | 0.24 | Q | \| | \| | \| | V\| |
| 23+ 5 | 14.4899 | 0.24 | Q | \| | \| | \| | V\| |
| 23+10 | 14.4915 | 0.24 | Q | \| | \| | \| | V\| |
| 23+15 | 14.4932 | 0.24 | Q | \| | \| | \| | V\| |
| 23+20 | 14.4948 | 0.24 | Q | \| | \| | \| | V\| |
| 23+25 | 14.4965 | 0.24 | Q | \| | \| | \| | V\| |
| 23+30 | 14.4981 | 0.24 | Q | \| | \| | \| | V\| |
| 23+35 | 14.4998 | 0.24 | Q | \| | \| | \| | V\| |

```
   23+40      14.5014      0.24  Q          |          |          |         V|
   23+45      14.5030      0.24  Q          |          |          |         V|
   23+50      14.5047      0.24  Q          |          |          |         V|
   23+55      14.5063      0.24  Q          |          |          |         V|
   24+ 0      14.5080      0.24  Q          |          |          |         V|
   24+ 5      14.5095      0.22  Q          |          |          |         V|
   24+10      14.5103      0.12  Q          |          |          |         V|
   24+15      14.5107      0.05  Q          |          |          |         V|
   24+20      14.5109      0.03  Q          |          |          |         V|
   24+25      14.5110      0.01  Q          |          |          |         V|
   24+30      14.5110      0.01  Q          |          |          |         V|
   24+35      14.5110      0.00  Q          |          |          |         V|
   24+40      14.5110      0.00  Q          |          |          |         V|
   24+45      14.5110      0.00  Q          |          |          |          V
-------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX351100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 35
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 43.00(Ac.) = 0.067 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 43.00(Ac.) = 0.067 Sq. Mi.
Length along longest watercourse = 2184.00(Ft.)
Length along longest watercourse measured to centroid = 1169.00(Ft.)
Length along longest watercourse = 0.414 Mi.
Length along longest watercourse measured to centroid = 0.221 Mi.
Difference in elevation = 298.00(Ft.)
Slope along watercourse = 720.4396 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.097 Hr.
Lag time = 5.82 Min.
25% of lag time = 1.46 Min.
40% of lag time = 2.33 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 43.00 | 0.50 | 21.50 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 43.00 | 1.20 | 51.60 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.96 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 43.000 | 82.60 | 0.000 |

Total Area Entered = 43.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 82.6 | 92.6 | 0.097 | 0.000 | 0.097 | 1.000 | 0.097 |
| | | | | | Sum (F) = | 0.097 |

Area averaged mean soil loss (F) (In/Hr) = 0.097

Minimum soil loss rate ((In/Hr)) = 0.048
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 85.901 | 10.283 | 4.456 |
| 2 | 0.167 | 171.802 | 51.676 | 22.394 |
| 3 | 0.250 | 257.704 | 22.219 | 9.629 |
| 4 | 0.333 | 343.605 | 9.037 | 3.916 |
| 5 | 0.417 | 429.506 | 4.157 | 1.801 |
| 6 | 0.500 | 515.407 | 1.342 | 0.582 |
| 7 | 0.583 | 601.308 | 0.667 | 0.289 |
| 8 | 0.667 | 687.210 | 0.480 | 0.208 |
| 9 | 0.750 | 773.111 | 0.139 | 0.060 |
| | | Sum = 100.000 | Sum= | 43.336 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.097 | ( 0.544) | 0.508 |
| 2 | 0.17 | 4.30 | 0.619 | 0.097 | ( 0.557) | 0.522 |
| 3 | 0.25 | 5.00 | 0.720 | 0.097 | ( 0.648) | 0.623 |
| 4 | 0.33 | 5.00 | 0.720 | 0.097 | ( 0.648) | 0.623 |
| 5 | 0.42 | 5.80 | 0.835 | 0.097 | ( 0.751) | 0.738 |
| 6 | 0.50 | 6.50 | 0.936 | 0.097 | ( 0.842) | 0.839 |
| 7 | 0.58 | 7.40 | 1.065 | 0.097 | ( 0.959) | 0.968 |
| 8 | 0.67 | 8.60 | 1.238 | 0.097 | ( 1.114) | 1.141 |
| 9 | 0.75 | 12.30 | 1.771 | 0.097 | ( 1.593) | 1.674 |
| 10 | 0.83 | 29.10 | 4.189 | 0.097 | ( 3.770) | 4.092 |
| 11 | 0.92 | 6.80 | 0.979 | 0.097 | ( 0.881) | 0.882 |
| 12 | 1.00 | 5.00 | 0.720 | 0.097 | ( 0.648) | 0.623 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 13.2 |

Flood volume = Effective rainfall 1.10(In)
times area 43.0(Ac.)/[(In)/(Ft.)] = 4.0(Ac.Ft)
Total soil loss = 0.10(In)
Total soil loss = 0.347(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 172138.0 Cubic Feet
Total soil loss = 15097.0 Cubic Feet

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Peak flow rate of this hydrograph = 118.830(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 50.0 | 100.0 | 150.0 | 200.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0156 | 2.26 | Q | | | | |
| 0+10 | 0.1100 | 13.71 | VQ | | | | |
| 0+15 | 0.2434 | 19.37 | VQ | | | | |
| 0+20 | 0.4070 | 23.76 | Q | | | | |
| 0+25 | 0.5876 | 26.21 | Q | | | | |
| 0+30 | 0.7939 | 29.96 | Q V | | | | |
| 0+35 | 1.0297 | 34.24 | Q V | | | | |
| 0+40 | 1.3018 | 39.50 | Q V | | | | |
| 0+45 | 1.6300 | 47.66 | Q V | | | | |
| 0+50 | 2.1315 | 72.82 | Q V | | | | |
| 0+55 | 2.9499 | 118.83 | Q V | | | | |
| 1+ 0 | 3.4429 | 71.58 | Q V | | | | |

```
    1+ 5       3.7367     42.67  |        Q |          |          |       V  |
    1+10       3.8634     18.39  |  Q       |          |          |         V|
    1+15       3.9129      7.19  |Q         |          |          |         V|
    1+20       3.9352      3.24  Q          |          |          |         V|
    1+25       3.9460      1.57  Q          |          |          |         V|
    1+30       3.9502      0.61  Q          |          |          |         V|
    1+35       3.9515      0.18  Q          |          |          |         V|
    1+40       3.9517      0.04  Q          |          |          |          V
-------------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX353100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 35
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 43.00(Ac.) = 0.067 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 43.00(Ac.) = 0.067 Sq. Mi.
Length along longest watercourse = 2184.00(Ft.)
Length along longest watercourse measured to centroid = 1169.00(Ft.)
Length along longest watercourse = 0.414 Mi.
Length along longest watercourse measured to centroid = 0.221 Mi.
Difference in elevation = 298.00(Ft.)
Slope along watercourse = 720.4396 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.097 Hr.
Lag time = 5.82 Min.
25% of lag time = 1.46 Min.
40% of lag time = 2.33 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 43.00 | 0.82 | 35.26 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 43.00 | 1.82 | 78.26 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.820(In)
Area Averaged 100-Year Rainfall = 1.820(In)

Point rain (area averaged) = 1.820(In)
Areal adjustment factor = 99.98 %
Adjusted average point rain = 1.820(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 43.000 | 82.60 | 0.000 |

Total Area Entered = 43.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 82.6 | 92.6 | 0.097 | 0.000 | 0.097 | 1.000 | 0.097 |
| | | | | | Sum (F) = | 0.097 |

Area averaged mean soil loss (F) (In/Hr) = 0.097

Minimum soil loss rate ((In/Hr)) = 0.048
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 85.901 | 10.283 | 4.456 |
| 2 | 0.167 | 171.802 | 51.676 | 22.394 |
| 3 | 0.250 | 257.704 | 22.219 | 9.629 |
| 4 | 0.333 | 343.605 | 9.037 | 3.916 |
| 5 | 0.417 | 429.506 | 4.157 | 1.801 |
| 6 | 0.500 | 515.407 | 1.342 | 0.582 |
| 7 | 0.583 | 601.308 | 0.667 | 0.289 |
| 8 | 0.667 | 687.210 | 0.480 | 0.208 |
| 9 | 0.750 | 773.111 | 0.139 | 0.060 |
| | | | Sum = 100.000 | Sum= 43.336 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.284 | 0.097 | ( 0.255) | 0.187 |
| 2 | 0.17 | 1.30 | 0.284 | 0.097 | ( 0.255) | 0.187 |
| 3 | 0.25 | 1.10 | 0.240 | 0.097 | ( 0.216) | 0.143 |
| 4 | 0.33 | 1.50 | 0.328 | 0.097 | ( 0.295) | 0.231 |
| 5 | 0.42 | 1.50 | 0.328 | 0.097 | ( 0.295) | 0.231 |
| 6 | 0.50 | 1.80 | 0.393 | 0.097 | ( 0.354) | 0.296 |
| 7 | 0.58 | 1.50 | 0.328 | 0.097 | ( 0.295) | 0.231 |
| 8 | 0.67 | 1.80 | 0.393 | 0.097 | ( 0.354) | 0.296 |
| 9 | 0.75 | 1.80 | 0.393 | 0.097 | ( 0.354) | 0.296 |
| 10 | 0.83 | 1.50 | 0.328 | 0.097 | ( 0.295) | 0.231 |
| 11 | 0.92 | 1.60 | 0.349 | 0.097 | ( 0.314) | 0.253 |
| 12 | 1.00 | 1.80 | 0.393 | 0.097 | ( 0.354) | 0.296 |
| 13 | 1.08 | 2.20 | 0.480 | 0.097 | ( 0.432) | 0.384 |
| 14 | 1.17 | 2.20 | 0.480 | 0.097 | ( 0.432) | 0.384 |
| 15 | 1.25 | 2.20 | 0.480 | 0.097 | ( 0.432) | 0.384 |
| 16 | 1.33 | 2.00 | 0.437 | 0.097 | ( 0.393) | 0.340 |
| 17 | 1.42 | 2.60 | 0.568 | 0.097 | ( 0.511) | 0.471 |
| 18 | 1.50 | 2.70 | 0.590 | 0.097 | ( 0.531) | 0.493 |
| 19 | 1.58 | 2.40 | 0.524 | 0.097 | ( 0.472) | 0.427 |
| 20 | 1.67 | 2.70 | 0.590 | 0.097 | ( 0.531) | 0.493 |
| 21 | 1.75 | 3.30 | 0.721 | 0.097 | ( 0.649) | 0.624 |
| 22 | 1.83 | 3.10 | 0.677 | 0.097 | ( 0.609) | 0.580 |
| 23 | 1.92 | 2.90 | 0.633 | 0.097 | ( 0.570) | 0.537 |
| 24 | 2.00 | 3.00 | 0.655 | 0.097 | ( 0.590) | 0.558 |
| 25 | 2.08 | 3.10 | 0.677 | 0.097 | ( 0.609) | 0.580 |
| 26 | 2.17 | 4.20 | 0.917 | 0.097 | ( 0.825) | 0.820 |
| 27 | 2.25 | 5.00 | 1.092 | 0.097 | ( 0.983) | 0.995 |
| 28 | 2.33 | 3.50 | 0.764 | 0.097 | ( 0.688) | 0.668 |
| 29 | 2.42 | 6.80 | 1.485 | 0.097 | ( 1.336) | 1.388 |
| 30 | 2.50 | 7.30 | 1.594 | 0.097 | ( 1.435) | 1.497 |
| 31 | 2.58 | 8.20 | 1.791 | 0.097 | ( 1.611) | 1.694 |
| 32 | 2.67 | 5.90 | 1.288 | 0.097 | ( 1.159) | 1.192 |
| 33 | 2.75 | 2.00 | 0.437 | 0.097 | ( 0.393) | 0.340 |
| 34 | 2.83 | 1.80 | 0.393 | 0.097 | ( 0.354) | 0.296 |
| 35 | 2.92 | 1.80 | 0.393 | 0.097 | ( 0.354) | 0.296 |
| 36 | 3.00 | 0.60 | 0.131 | 0.097 | ( 0.118) | 0.034 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 18.4 |

Flood volume = Effective rainfall 1.53(In)
times area 43.0(Ac.)/[(In)/(Ft.)] = 5.5(Ac.Ft)
Total soil loss = 0.29(In)
Total soil loss = 1.040(Ac.Ft)
Total rainfall = 1.82(In)
Flood volume = 238739.3 Cubic Feet
Total soil loss = 45291.1 Cubic Feet

---

Peak flow rate of this hydrograph = 65.302(CFS)

3 - H O U R  S T O R M
R u n o f f  H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 17.5 | 35.0 | 52.5 | 70.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0057 | 0.83 | Q | \| | \| | \| | \| |
| 0+10 | 0.0404 | 5.03 | V Q | \| | \| | \| | \| |
| 0+15 | 0.0861 | 6.64 | V Q | \| | \| | \| | \| |
| 0+20 | 0.1328 | 6.78 | V Q | \| | \| | \| | \| |
| 0+25 | 0.1924 | 8.65 | \|V Q | \| | \| | \| | \| |
| 0+30 | 0.2593 | 9.72 | \|V Q | \| | \| | \| | \| |
| 0+35 | 0.3366 | 11.22 | \| V Q | \| | \| | \| | \| |
| 0+40 | 0.4113 | 10.84 | \| V Q | \| | \| | \| | \| |
| 0+45 | 0.4938 | 11.99 | \| V Q | \| | \| | \| | \| |
| 0+50 | 0.5779 | 12.20 | \| V Q | \| | \| | \| | \| |
| 0+55 | 0.6538 | 11.03 | \| V Q | \| | \| | \| | \| |
| 1+ 0 | 0.7308 | 11.18 | \| VQ | \| | \| | \| | \| |
| 1+ 5 | 0.8172 | 12.54 | \| V Q | \| | \| | \| | \| |
| 1+10 | 0.9198 | 14.89 | \| V Q | \| | \| | \| | \| |
| 1+15 | 1.0294 | 15.92 | \| V Q\| | \| | \| | \| | \| |
| 1+20 | 1.1405 | 16.14 | \| VQ\| | \| | \| | \| | \| |
| 1+25 | 1.2502 | 15.92 | \| Q\| | \| | \| | \| | \| |
| 1+30 | 1.3782 | 18.60 | \| Q | \| | \| | \| | \| |
| 1+35 | 1.5154 | 19.92 | \| \|Q | \| | \| | \| | \| |
| 1+40 | 1.6491 | 19.41 | \| \|QV | \| | \| | \| | \| |
| 1+45 | 1.7947 | 21.13 | \| \| QV | \| | \| | \| | \| |
| 1+50 | 1.9624 | 24.35 | \| \| QV | \| | \| | \| | \| |
| 1+55 | 2.1319 | 24.62 | \| \| QV | \| | \| | \| | \| |
| 2+ 0 | 2.2968 | 23.94 | \| \| Q V | \| | \| | \| | \| |
| 2+ 5 | 2.4635 | 24.21 | \| \| Q V | \| | \| | \| | \| |
| 2+10 | 2.6413 | 25.81 | \| \| Q V\| | \| | \| | \| | \| |
| 2+15 | 2.8631 | 32.21 | \| \| Q V | \| | \| | \| | \| |
| 2+20 | 3.1186 | 37.09 | \| \| \|QV | \| | \| | \| | \| |
| 2+25 | 3.3640 | 35.63 | \| \| Q V | \| | \| | \| | \| |
| 2+30 | 3.7099 | 50.23 | \| \| \| VQ | \| | \| | \| | \| |
| 2+35 | 4.1209 | 59.68 | \| \| \| V Q | \| | \| | \| | \| |
| 2+40 | 4.5706 | 65.30 | \| \| \| \| V Q | \| | \| | \| | \| |
| 2+45 | 4.9410 | 53.78 | \| \| \| Q V | \| | \| | \| | \| |
| 2+50 | 5.1546 | 31.01 | \| \| Q \| | \| | \| | \| | \| |
| 2+55 | 5.2953 | 20.43 | \| \|Q \| | \| | \| | \| | \| |
| 3+ 0 | 5.3978 | 14.87 | \| Q \| | \| | \| | \| | \| |
| 3+ 5 | 5.4458 | 6.98 | \| Q \| | \| | \| | \| | \| |
| 3+10 | 5.4665 | 3.01 | \|Q \| | \| | \| | \| | \| |
| 3+15 | 5.4754 | 1.29 | Q \| | \| | \| | \| | \| |
| 3+20 | 5.4786 | 0.46 | Q \| | \| | \| | \| | \| |
| 3+25 | 5.4799 | 0.19 | Q \| | \| | \| | \| | \| |
| 3+30 | 5.4805 | 0.09 | Q \| | \| | \| | \| | \| |
| 3+35 | 5.4807 | 0.03 | Q \| | \| | \| | \| | \| |
| 3+40 | 5.4807 | 0.00 | Q \| | \| | \| | \| | V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX356100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 35
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 43.00(Ac.) = 0.067 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 43.00(Ac.) = 0.067 Sq. Mi.
Length along longest watercourse = 2184.00(Ft.)
Length along longest watercourse measured to centroid = 1169.00(Ft.)
Length along longest watercourse = 0.414 Mi.
Length along longest watercourse measured to centroid = 0.221 Mi.
Difference in elevation = 298.00(Ft.)
Slope along watercourse = 720.4396 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.097 Hr.
Lag time = 5.82 Min.
25% of lag time = 1.46 Min.
40% of lag time = 2.33 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 43.00 | 1.16 | 49.88 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 43.00 | 2.50 | 107.50 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.160(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 43.000 | 82.60 | 0.000 |

Total Area Entered = 43.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 82.6 | 92.6 | 0.097 | 0.000 | 0.097 | 1.000 | 0.097 |
| | | | | | Sum (F) = | 0.097 |

Area averaged mean soil loss (F) (In/Hr) = 0.097

Minimum soil loss rate ((In/Hr)) = 0.048
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 85.901 | 10.283 | 4.456 |
| 2 | 0.167 | 171.802 | 51.676 | 22.394 |
| 3 | 0.250 | 257.704 | 22.219 | 9.629 |
| 4 | 0.333 | 343.605 | 9.037 | 3.916 |
| 5 | 0.417 | 429.506 | 4.157 | 1.801 |
| 6 | 0.500 | 515.407 | 1.342 | 0.582 |
| 7 | 0.583 | 601.308 | 0.667 | 0.289 |
| 8 | 0.667 | 687.210 | 0.480 | 0.208 |
| 9 | 0.750 | 773.111 | 0.139 | 0.060 |
| | | | Sum = 100.000 | Sum= 43.336 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.097 | ( 0.135) | 0.053 |
| 2 | 0.17 | 0.60 | 0.180 | 0.097 | ( 0.162) | 0.083 |
| 3 | 0.25 | 0.60 | 0.180 | 0.097 | ( 0.162) | 0.083 |
| 4 | 0.33 | 0.60 | 0.180 | 0.097 | ( 0.162) | 0.083 |
| 5 | 0.42 | 0.60 | 0.180 | 0.097 | ( 0.162) | 0.083 |
| 6 | 0.50 | 0.70 | 0.210 | 0.097 | ( 0.189) | 0.113 |
| 7 | 0.58 | 0.70 | 0.210 | 0.097 | ( 0.189) | 0.113 |
| 8 | 0.67 | 0.70 | 0.210 | 0.097 | ( 0.189) | 0.113 |
| 9 | 0.75 | 0.70 | 0.210 | 0.097 | ( 0.189) | 0.113 |
| 10 | 0.83 | 0.70 | 0.210 | 0.097 | ( 0.189) | 0.113 |
| 11 | 0.92 | 0.70 | 0.210 | 0.097 | ( 0.189) | 0.113 |
| 12 | 1.00 | 0.80 | 0.240 | 0.097 | ( 0.216) | 0.143 |
| 13 | 1.08 | 0.80 | 0.240 | 0.097 | ( 0.216) | 0.143 |
| 14 | 1.17 | 0.80 | 0.240 | 0.097 | ( 0.216) | 0.143 |
| 15 | 1.25 | 0.80 | 0.240 | 0.097 | ( 0.216) | 0.143 |
| 16 | 1.33 | 0.80 | 0.240 | 0.097 | ( 0.216) | 0.143 |
| 17 | 1.42 | 0.80 | 0.240 | 0.097 | ( 0.216) | 0.143 |
| 18 | 1.50 | 0.80 | 0.240 | 0.097 | ( 0.216) | 0.143 |
| 19 | 1.58 | 0.80 | 0.240 | 0.097 | ( 0.216) | 0.143 |
| 20 | 1.67 | 0.80 | 0.240 | 0.097 | ( 0.216) | 0.143 |
| 21 | 1.75 | 0.80 | 0.240 | 0.097 | ( 0.216) | 0.143 |
| 22 | 1.83 | 0.80 | 0.240 | 0.097 | ( 0.216) | 0.143 |
| 23 | 1.92 | 0.80 | 0.240 | 0.097 | ( 0.216) | 0.143 |
| 24 | 2.00 | 0.90 | 0.270 | 0.097 | ( 0.243) | 0.173 |
| 25 | 2.08 | 0.80 | 0.240 | 0.097 | ( 0.216) | 0.143 |
| 26 | 2.17 | 0.90 | 0.270 | 0.097 | ( 0.243) | 0.173 |
| 27 | 2.25 | 0.90 | 0.270 | 0.097 | ( 0.243) | 0.173 |
| 28 | 2.33 | 0.90 | 0.270 | 0.097 | ( 0.243) | 0.173 |
| 29 | 2.42 | 0.90 | 0.270 | 0.097 | ( 0.243) | 0.173 |
| 30 | 2.50 | 0.90 | 0.270 | 0.097 | ( 0.243) | 0.173 |
| 31 | 2.58 | 0.90 | 0.270 | 0.097 | ( 0.243) | 0.173 |
| 32 | 2.67 | 0.90 | 0.270 | 0.097 | ( 0.243) | 0.173 |
| 33 | 2.75 | 1.00 | 0.300 | 0.097 | ( 0.270) | 0.203 |
| 34 | 2.83 | 1.00 | 0.300 | 0.097 | ( 0.270) | 0.203 |
| 35 | 2.92 | 1.00 | 0.300 | 0.097 | ( 0.270) | 0.203 |
| 36 | 3.00 | 1.00 | 0.300 | 0.097 | ( 0.270) | 0.203 |
| 37 | 3.08 | 1.00 | 0.300 | 0.097 | ( 0.270) | 0.203 |
| 38 | 3.17 | 1.10 | 0.330 | 0.097 | ( 0.297) | 0.233 |
| 39 | 3.25 | 1.10 | 0.330 | 0.097 | ( 0.297) | 0.233 |
| 40 | 3.33 | 1.10 | 0.330 | 0.097 | ( 0.297) | 0.233 |
| 41 | 3.42 | 1.20 | 0.360 | 0.097 | ( 0.324) | 0.263 |
| 42 | 3.50 | 1.30 | 0.390 | 0.097 | ( 0.351) | 0.293 |
| 43 | 3.58 | 1.40 | 0.420 | 0.097 | ( 0.378) | 0.323 |
| 44 | 3.67 | 1.40 | 0.420 | 0.097 | ( 0.378) | 0.323 |
| 45 | 3.75 | 1.50 | 0.450 | 0.097 | ( 0.405) | 0.353 |
| 46 | 3.83 | 1.50 | 0.450 | 0.097 | ( 0.405) | 0.353 |
| 47 | 3.92 | 1.60 | 0.480 | 0.097 | ( 0.432) | 0.383 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 48 | 4.00 | 1.60 | 0.480 | 0.097 | ( 0.432) | 0.383 |
| 49 | 4.08 | 1.70 | 0.510 | 0.097 | ( 0.459) | 0.413 |
| 50 | 4.17 | 1.80 | 0.540 | 0.097 | ( 0.486) | 0.443 |
| 51 | 4.25 | 1.90 | 0.570 | 0.097 | ( 0.513) | 0.473 |
| 52 | 4.33 | 2.00 | 0.600 | 0.097 | ( 0.540) | 0.503 |
| 53 | 4.42 | 2.10 | 0.630 | 0.097 | ( 0.567) | 0.533 |
| 54 | 4.50 | 2.10 | 0.630 | 0.097 | ( 0.567) | 0.533 |
| 55 | 4.58 | 2.20 | 0.660 | 0.097 | ( 0.594) | 0.563 |
| 56 | 4.67 | 2.30 | 0.690 | 0.097 | ( 0.621) | 0.593 |
| 57 | 4.75 | 2.40 | 0.720 | 0.097 | ( 0.648) | 0.623 |
| 58 | 4.83 | 2.40 | 0.720 | 0.097 | ( 0.648) | 0.623 |
| 59 | 4.92 | 2.50 | 0.750 | 0.097 | ( 0.675) | 0.653 |
| 60 | 5.00 | 2.60 | 0.780 | 0.097 | ( 0.702) | 0.683 |
| 61 | 5.08 | 3.10 | 0.930 | 0.097 | ( 0.837) | 0.833 |
| 62 | 5.17 | 3.60 | 1.080 | 0.097 | ( 0.972) | 0.983 |
| 63 | 5.25 | 3.90 | 1.170 | 0.097 | ( 1.053) | 1.073 |
| 64 | 5.33 | 4.20 | 1.260 | 0.097 | ( 1.134) | 1.163 |
| 65 | 5.42 | 4.70 | 1.410 | 0.097 | ( 1.269) | 1.313 |
| 66 | 5.50 | 5.60 | 1.680 | 0.097 | ( 1.512) | 1.583 |
| 67 | 5.58 | 1.90 | 0.570 | 0.097 | ( 0.513) | 0.473 |
| 68 | 5.67 | 0.90 | 0.270 | 0.097 | ( 0.243) | 0.173 |
| 69 | 5.75 | 0.60 | 0.180 | 0.097 | ( 0.162) | 0.083 |
| 70 | 5.83 | 0.50 | 0.150 | 0.097 | ( 0.135) | 0.053 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.097) | 0.081 | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.097) | 0.054 | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.1

Flood volume = Effective rainfall 1.92(In)
times area 43.0(Ac.)/[(In)/(Ft.)] = 6.9(Ac.Ft)
Total soil loss = 0.58(In)
Total soil loss = 2.062(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 300345.6 Cubic Feet
Total soil loss = 89821.7 Cubic Feet

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Peak flow rate of this hydrograph = 57.715(CFS)

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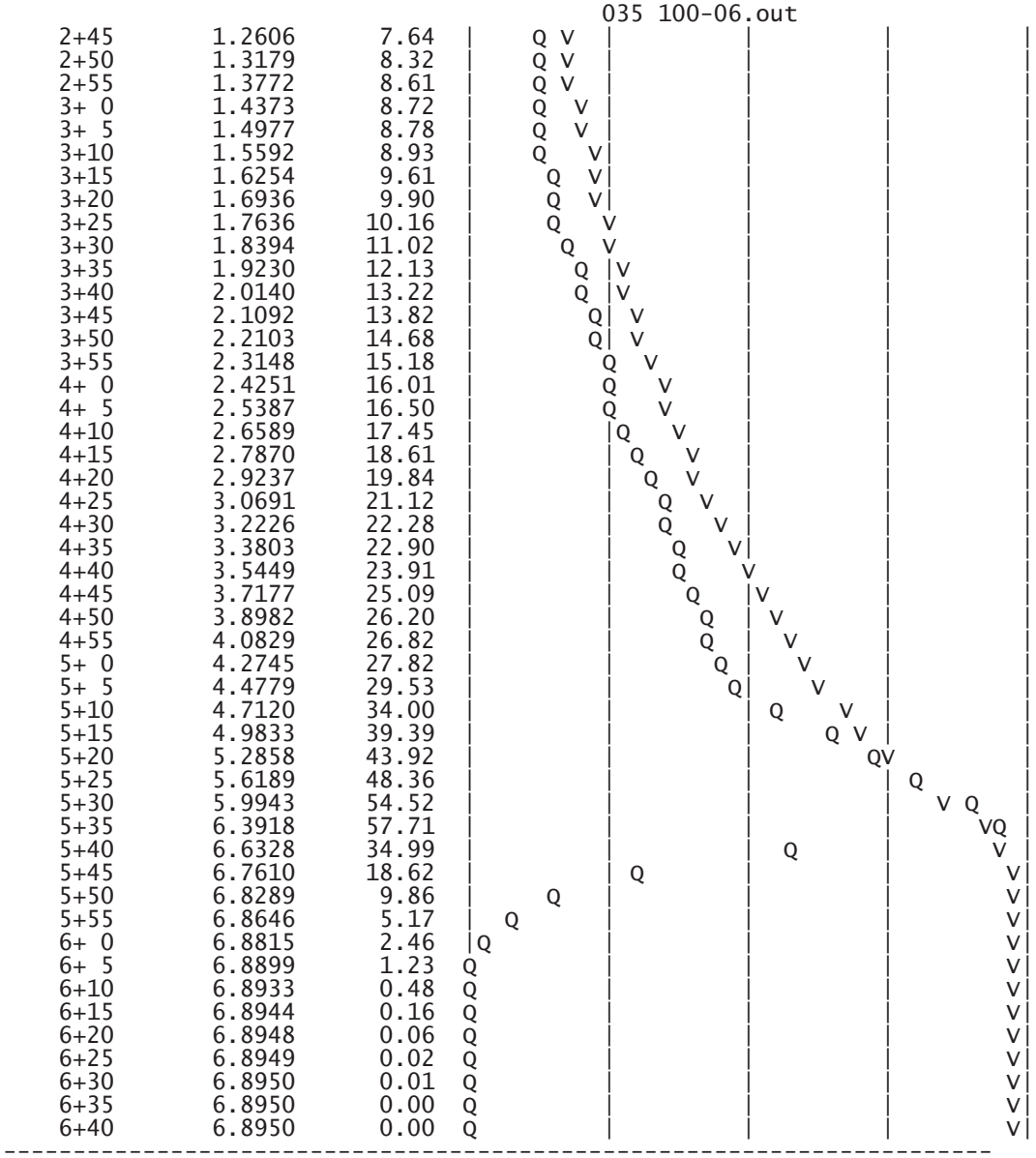
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 15.0 | 30.0 | 45.0 | 60.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0016 | 0.24 | Q | | | | |
| 0+10 | 0.0124 | 1.56 | VQ | | | | |
| 0+15 | 0.0313 | 2.75 | VQ | | | | |
| 0+20 | 0.0537 | 3.25 | V Q | | | | |
| 0+25 | 0.0775 | 3.46 | V Q | | | | |
| 0+30 | 0.1029 | 3.68 | V Q | | | | |
| 0+35 | 0.1331 | 4.38 | V Q | | | | |
| 0+40 | 0.1654 | 4.69 | V Q | | | | |
| 0+45 | 0.1986 | 4.82 | \|V Q | | | | |
| 0+50 | 0.2322 | 4.88 | \|V Q | | | | |
| 0+55 | 0.2659 | 4.89 | \|V Q | | | | |
| 1+ 0 | 0.3006 | 5.04 | \|V Q | | | | |
| 1+ 5 | 0.3399 | 5.71 | \|V Q | | | | |
| 1+10 | 0.3813 | 6.01 | \| V Q | | | | |
| 1+15 | 0.4234 | 6.12 | \| V Q | | | | |
| 1+20 | 0.4660 | 6.18 | \| V Q | | | | |
| 1+25 | 0.5086 | 6.19 | \| V Q | | | | |
| 1+30 | 0.5514 | 6.20 | \| VQ | | | | |
| 1+35 | 0.5941 | 6.21 | \| VQ | | | | |
| 1+40 | 0.6369 | 6.21 | \| VQ | | | | |
| 1+45 | 0.6797 | 6.21 | \| VQ | | | | |
| 1+50 | 0.7225 | 6.21 | \| Q | | | | |
| 1+55 | 0.7652 | 6.21 | \| Q | | | | |
| 2+ 0 | 0.8089 | 6.34 | \| Q | | | | |
| 2+ 5 | 0.8563 | 6.88 | \| Q | | | | |
| 2+10 | 0.9020 | 6.63 | \| QV | | | | |
| 2+15 | 0.9511 | 7.13 | \| QV | | | | |
| 2+20 | 1.0018 | 7.36 | \| QV | | | | |
| 2+25 | 1.0531 | 7.44 | \| Q V | | | | |
| 2+30 | 1.1046 | 7.49 | \| Q V | | | | |
| 2+35 | 1.1563 | 7.50 | \| QV | | | | |
| 2+40 | 1.2080 | 7.51 | \| Q V | | | | |



| | | | |
|---|---|---|---|
| 2+45 | 1.2606 | 7.64 | |
| 2+50 | 1.3179 | 8.32 | |
| 2+55 | 1.3772 | 8.61 | |
| 3+ 0 | 1.4373 | 8.72 | |
| 3+ 5 | 1.4977 | 8.78 | |
| 3+10 | 1.5592 | 8.93 | |
| 3+15 | 1.6254 | 9.61 | |
| 3+20 | 1.6936 | 9.90 | |
| 3+25 | 1.7636 | 10.16 | |
| 3+30 | 1.8394 | 11.02 | |
| 3+35 | 1.9230 | 12.13 | |
| 3+40 | 2.0140 | 13.22 | |
| 3+45 | 2.1092 | 13.82 | |
| 3+50 | 2.2103 | 14.68 | |
| 3+55 | 2.3148 | 15.18 | |
| 4+ 0 | 2.4251 | 16.01 | |
| 4+ 5 | 2.5387 | 16.50 | |
| 4+10 | 2.6589 | 17.45 | |
| 4+15 | 2.7870 | 18.61 | |
| 4+20 | 2.9237 | 19.84 | |
| 4+25 | 3.0691 | 21.12 | |
| 4+30 | 3.2226 | 22.28 | |
| 4+35 | 3.3803 | 22.90 | |
| 4+40 | 3.5449 | 23.91 | |
| 4+45 | 3.7177 | 25.09 | |
| 4+50 | 3.8982 | 26.20 | |
| 4+55 | 4.0829 | 26.82 | |
| 5+ 0 | 4.2745 | 27.82 | |
| 5+ 5 | 4.4779 | 29.53 | |
| 5+10 | 4.7120 | 34.00 | |
| 5+15 | 4.9833 | 39.39 | |
| 5+20 | 5.2858 | 43.92 | |
| 5+25 | 5.6189 | 48.36 | |
| 5+30 | 5.9943 | 54.52 | |
| 5+35 | 6.3918 | 57.71 | |
| 5+40 | 6.6328 | 34.99 | |
| 5+45 | 6.7610 | 18.62 | |
| 5+50 | 6.8289 | 9.86 | |
| 5+55 | 6.8646 | 5.17 | |
| 6+ 0 | 6.8815 | 2.46 | |
| 6+ 5 | 6.8899 | 1.23 | |
| 6+10 | 6.8933 | 0.48 | |
| 6+15 | 6.8944 | 0.16 | |
| 6+20 | 6.8948 | 0.06 | |
| 6+25 | 6.8949 | 0.02 | |
| 6+30 | 6.8950 | 0.01 | |
| 6+35 | 6.8950 | 0.00 | |
| 6+40 | 6.8950 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX3524100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 35
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 43.00(Ac.) = 0.067 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 43.00(Ac.) = 0.067 Sq. Mi.
Length along longest watercourse = 2184.00(Ft.)
Length along longest watercourse measured to centroid = 1169.00(Ft.)
Length along longest watercourse = 0.414 Mi.
Length along longest watercourse measured to centroid = 0.221 Mi.
Difference in elevation = 298.00(Ft.)
Slope along watercourse = 720.4396 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.097 Hr.
Lag time = 5.82 Min.
25% of lag time = 1.46 Min.
40% of lag time = 2.33 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 43.00 | 1.80 | 77.40 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 43.00 | 4.76 | 204.68 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.760(In)

Point rain (area averaged) = 4.760(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 4.760(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 43.000 | 82.60 | 0.000 |

Total Area Entered = 43.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 82.6 | 92.6 | 0.097 | 0.000 | 0.097 | 1.000 | 0.097 |
| | | | | | Sum (F) = | 0.097 |

Area averaged mean soil loss (F) (In/Hr) = 0.097

Minimum soil loss rate ((In/Hr)) = 0.048
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 85.901 | 10.283 | 4.456 |
| 2 | 0.167 | 171.802 | 51.676 | 22.394 |
| 3 | 0.250 | 257.704 | 22.219 | 9.629 |
| 4 | 0.333 | 343.605 | 9.037 | 3.916 |
| 5 | 0.417 | 429.506 | 4.157 | 1.801 |
| 6 | 0.500 | 515.407 | 1.342 | 0.582 |
| 7 | 0.583 | 601.308 | 0.667 | 0.289 |
| 8 | 0.667 | 687.210 | 0.480 | 0.208 |
| 9 | 0.750 | 773.111 | 0.139 | 0.060 |
| | | | Sum = 100.000 Sum= | 43.336 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.038 | ( 0.171) | | 0.034 | 0.004 |
| 2 | 0.17 | 0.07 | 0.038 | ( 0.171) | | 0.034 | 0.004 |
| 3 | 0.25 | 0.07 | 0.038 | ( 0.170) | | 0.034 | 0.004 |
| 4 | 0.33 | 0.10 | 0.057 | ( 0.169) | | 0.051 | 0.006 |
| 5 | 0.42 | 0.10 | 0.057 | ( 0.169) | | 0.051 | 0.006 |
| 6 | 0.50 | 0.10 | 0.057 | ( 0.168) | | 0.051 | 0.006 |
| 7 | 0.58 | 0.10 | 0.057 | ( 0.167) | | 0.051 | 0.006 |
| 8 | 0.67 | 0.10 | 0.057 | ( 0.167) | | 0.051 | 0.006 |
| 9 | 0.75 | 0.10 | 0.057 | ( 0.166) | | 0.051 | 0.006 |
| 10 | 0.83 | 0.13 | 0.076 | ( 0.166) | | 0.069 | 0.008 |
| 11 | 0.92 | 0.13 | 0.076 | ( 0.165) | | 0.069 | 0.008 |
| 12 | 1.00 | 0.13 | 0.076 | ( 0.164) | | 0.069 | 0.008 |
| 13 | 1.08 | 0.10 | 0.057 | ( 0.164) | | 0.051 | 0.006 |
| 14 | 1.17 | 0.10 | 0.057 | ( 0.163) | | 0.051 | 0.006 |
| 15 | 1.25 | 0.10 | 0.057 | ( 0.162) | | 0.051 | 0.006 |
| 16 | 1.33 | 0.10 | 0.057 | ( 0.162) | | 0.051 | 0.006 |
| 17 | 1.42 | 0.10 | 0.057 | ( 0.161) | | 0.051 | 0.006 |
| 18 | 1.50 | 0.10 | 0.057 | ( 0.160) | | 0.051 | 0.006 |
| 19 | 1.58 | 0.10 | 0.057 | ( 0.160) | | 0.051 | 0.006 |
| 20 | 1.67 | 0.10 | 0.057 | ( 0.159) | | 0.051 | 0.006 |
| 21 | 1.75 | 0.10 | 0.057 | ( 0.158) | | 0.051 | 0.006 |
| 22 | 1.83 | 0.13 | 0.076 | ( 0.158) | | 0.069 | 0.008 |
| 23 | 1.92 | 0.13 | 0.076 | ( 0.157) | | 0.069 | 0.008 |
| 24 | 2.00 | 0.13 | 0.076 | ( 0.157) | | 0.069 | 0.008 |
| 25 | 2.08 | 0.13 | 0.076 | ( 0.156) | | 0.069 | 0.008 |
| 26 | 2.17 | 0.13 | 0.076 | ( 0.155) | | 0.069 | 0.008 |
| 27 | 2.25 | 0.13 | 0.076 | ( 0.155) | | 0.069 | 0.008 |
| 28 | 2.33 | 0.13 | 0.076 | ( 0.154) | | 0.069 | 0.008 |
| 29 | 2.42 | 0.13 | 0.076 | ( 0.153) | | 0.069 | 0.008 |
| 30 | 2.50 | 0.13 | 0.076 | ( 0.153) | | 0.069 | 0.008 |
| 31 | 2.58 | 0.17 | 0.095 | ( 0.152) | | 0.086 | 0.010 |
| 32 | 2.67 | 0.17 | 0.095 | ( 0.152) | | 0.086 | 0.010 |
| 33 | 2.75 | 0.17 | 0.095 | ( 0.151) | | 0.086 | 0.010 |
| 34 | 2.83 | 0.17 | 0.095 | ( 0.150) | | 0.086 | 0.010 |
| 35 | 2.92 | 0.17 | 0.095 | ( 0.150) | | 0.086 | 0.010 |
| 36 | 3.00 | 0.17 | 0.095 | ( 0.149) | | 0.086 | 0.010 |
| 37 | 3.08 | 0.17 | 0.095 | ( 0.148) | | 0.086 | 0.010 |
| 38 | 3.17 | 0.17 | 0.095 | ( 0.148) | | 0.086 | 0.010 |
| 39 | 3.25 | 0.17 | 0.095 | ( 0.147) | | 0.086 | 0.010 |
| 40 | 3.33 | 0.17 | 0.095 | ( 0.147) | | 0.086 | 0.010 |
| 41 | 3.42 | 0.17 | 0.095 | ( 0.146) | | 0.086 | 0.010 |
| 42 | 3.50 | 0.17 | 0.095 | ( 0.145) | | 0.086 | 0.010 |
| 43 | 3.58 | 0.17 | 0.095 | ( 0.145) | | 0.086 | 0.010 |
| 44 | 3.67 | 0.17 | 0.095 | ( 0.144) | | 0.086 | 0.010 |
| 45 | 3.75 | 0.17 | 0.095 | ( 0.144) | | 0.086 | 0.010 |
| 46 | 3.83 | 0.20 | 0.114 | ( 0.143) | | 0.103 | 0.011 |
| 47 | 3.92 | 0.20 | 0.114 | ( 0.142) | | 0.103 | 0.011 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 48 | 4.00 | 0.20 | 0.114 | ( | 0.142) | 0.103 | | 0.011 |
| 49 | 4.08 | 0.20 | 0.114 | ( | 0.141) | 0.103 | | 0.011 |
| 50 | 4.17 | 0.20 | 0.114 | ( | 0.141) | 0.103 | | 0.011 |
| 51 | 4.25 | 0.20 | 0.114 | ( | 0.140) | 0.103 | | 0.011 |
| 52 | 4.33 | 0.23 | 0.133 | ( | 0.139) | 0.120 | | 0.013 |
| 53 | 4.42 | 0.23 | 0.133 | ( | 0.139) | 0.120 | | 0.013 |
| 54 | 4.50 | 0.23 | 0.133 | ( | 0.138) | 0.120 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.133 | ( | 0.138) | 0.120 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.133 | ( | 0.137) | 0.120 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.133 | ( | 0.136) | 0.120 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.152 | | 0.136 | ( | 0.137) | 0.017 |
| 59 | 4.92 | 0.27 | 0.152 | | 0.135 | ( | 0.137) | 0.017 |
| 60 | 5.00 | 0.27 | 0.152 | | 0.135 | ( | 0.137) | 0.018 |
| 61 | 5.08 | 0.20 | 0.114 | ( | 0.134) | 0.103 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.114 | ( | 0.133) | 0.103 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.114 | ( | 0.133) | 0.103 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.133 | ( | 0.132) | 0.120 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.133 | ( | 0.132) | 0.120 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.133 | ( | 0.131) | 0.120 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.152 | | 0.131 | ( | 0.137) | 0.022 |
| 68 | 5.67 | 0.27 | 0.152 | | 0.130 | ( | 0.137) | 0.022 |
| 69 | 5.75 | 0.27 | 0.152 | | 0.129 | ( | 0.137) | 0.023 |
| 70 | 5.83 | 0.27 | 0.152 | | 0.129 | ( | 0.137) | 0.023 |
| 71 | 5.92 | 0.27 | 0.152 | | 0.128 | ( | 0.137) | 0.024 |
| 72 | 6.00 | 0.27 | 0.152 | | 0.128 | ( | 0.137) | 0.025 |
| 73 | 6.08 | 0.30 | 0.171 | | 0.127 | ( | 0.154) | 0.044 |
| 74 | 6.17 | 0.30 | 0.171 | | 0.127 | ( | 0.154) | 0.045 |
| 75 | 6.25 | 0.30 | 0.171 | | 0.126 | ( | 0.154) | 0.045 |
| 76 | 6.33 | 0.30 | 0.171 | | 0.125 | ( | 0.154) | 0.046 |
| 77 | 6.42 | 0.30 | 0.171 | | 0.125 | ( | 0.154) | 0.046 |
| 78 | 6.50 | 0.30 | 0.171 | | 0.124 | ( | 0.154) | 0.047 |
| 79 | 6.58 | 0.33 | 0.190 | | 0.124 | ( | 0.171) | 0.067 |
| 80 | 6.67 | 0.33 | 0.190 | | 0.123 | ( | 0.171) | 0.067 |
| 81 | 6.75 | 0.33 | 0.190 | | 0.123 | ( | 0.171) | 0.068 |
| 82 | 6.83 | 0.33 | 0.190 | | 0.122 | ( | 0.171) | 0.068 |
| 83 | 6.92 | 0.33 | 0.190 | | 0.122 | ( | 0.171) | 0.069 |
| 84 | 7.00 | 0.33 | 0.190 | | 0.121 | ( | 0.171) | 0.069 |
| 85 | 7.08 | 0.33 | 0.190 | | 0.120 | ( | 0.171) | 0.070 |
| 86 | 7.17 | 0.33 | 0.190 | | 0.120 | ( | 0.171) | 0.071 |
| 87 | 7.25 | 0.33 | 0.190 | | 0.119 | ( | 0.171) | 0.071 |
| 88 | 7.33 | 0.37 | 0.209 | | 0.119 | ( | 0.188) | 0.091 |
| 89 | 7.42 | 0.37 | 0.209 | | 0.118 | ( | 0.188) | 0.091 |
| 90 | 7.50 | 0.37 | 0.209 | | 0.118 | ( | 0.188) | 0.092 |
| 91 | 7.58 | 0.40 | 0.228 | | 0.117 | ( | 0.206) | 0.111 |
| 92 | 7.67 | 0.40 | 0.228 | | 0.117 | ( | 0.206) | 0.112 |
| 93 | 7.75 | 0.40 | 0.228 | | 0.116 | ( | 0.206) | 0.112 |
| 94 | 7.83 | 0.43 | 0.247 | | 0.116 | ( | 0.223) | 0.132 |
| 95 | 7.92 | 0.43 | 0.247 | | 0.115 | ( | 0.223) | 0.133 |
| 96 | 8.00 | 0.43 | 0.247 | | 0.114 | ( | 0.223) | 0.133 |
| 97 | 8.08 | 0.50 | 0.286 | | 0.114 | ( | 0.257) | 0.172 |
| 98 | 8.17 | 0.50 | 0.286 | | 0.113 | ( | 0.257) | 0.172 |
| 99 | 8.25 | 0.50 | 0.286 | | 0.113 | ( | 0.257) | 0.173 |
| 100 | 8.33 | 0.50 | 0.286 | | 0.112 | ( | 0.257) | 0.173 |
| 101 | 8.42 | 0.50 | 0.286 | | 0.112 | ( | 0.257) | 0.174 |
| 102 | 8.50 | 0.50 | 0.286 | | 0.111 | ( | 0.257) | 0.174 |
| 103 | 8.58 | 0.53 | 0.305 | | 0.111 | ( | 0.274) | 0.194 |
| 104 | 8.67 | 0.53 | 0.305 | | 0.110 | ( | 0.274) | 0.194 |
| 105 | 8.75 | 0.53 | 0.305 | | 0.110 | ( | 0.274) | 0.195 |
| 106 | 8.83 | 0.57 | 0.324 | | 0.109 | ( | 0.291) | 0.214 |
| 107 | 8.92 | 0.57 | 0.324 | | 0.109 | ( | 0.291) | 0.215 |
| 108 | 9.00 | 0.57 | 0.324 | | 0.108 | ( | 0.291) | 0.215 |
| 109 | 9.08 | 0.63 | 0.362 | | 0.108 | ( | 0.326) | 0.254 |
| 110 | 9.17 | 0.63 | 0.362 | | 0.107 | ( | 0.326) | 0.255 |
| 111 | 9.25 | 0.63 | 0.362 | | 0.107 | ( | 0.326) | 0.255 |
| 112 | 9.33 | 0.67 | 0.381 | | 0.106 | ( | 0.343) | 0.275 |
| 113 | 9.42 | 0.67 | 0.381 | | 0.106 | ( | 0.343) | 0.275 |
| 114 | 9.50 | 0.67 | 0.381 | | 0.105 | ( | 0.343) | 0.276 |
| 115 | 9.58 | 0.70 | 0.400 | | 0.105 | ( | 0.360) | 0.295 |
| 116 | 9.67 | 0.70 | 0.400 | | 0.104 | ( | 0.360) | 0.296 |
| 117 | 9.75 | 0.70 | 0.400 | | 0.104 | ( | 0.360) | 0.296 |
| 118 | 9.83 | 0.73 | 0.419 | | 0.103 | ( | 0.377) | 0.316 |
| 119 | 9.92 | 0.73 | 0.419 | | 0.103 | ( | 0.377) | 0.316 |
| 120 | 10.00 | 0.73 | 0.419 | | 0.102 | ( | 0.377) | 0.317 |
| 121 | 10.08 | 0.50 | 0.286 | | 0.102 | ( | 0.257) | 0.184 |
| 122 | 10.17 | 0.50 | 0.286 | | 0.101 | ( | 0.257) | 0.184 |
| 123 | 10.25 | 0.50 | 0.286 | | 0.101 | ( | 0.257) | 0.185 |
| 124 | 10.33 | 0.50 | 0.286 | | 0.100 | ( | 0.257) | 0.185 |
| 125 | 10.42 | 0.50 | 0.286 | | 0.100 | ( | 0.257) | 0.186 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 126 | 10.50 | 0.50 | 0.286 | 0.099 | ( 0.257) | 0.186 |
| 127 | 10.58 | 0.67 | 0.381 | 0.099 | ( 0.343) | 0.282 |
| 128 | 10.67 | 0.67 | 0.381 | 0.098 | ( 0.343) | 0.283 |
| 129 | 10.75 | 0.67 | 0.381 | 0.098 | ( 0.343) | 0.283 |
| 130 | 10.83 | 0.67 | 0.381 | 0.097 | ( 0.343) | 0.283 |
| 131 | 10.92 | 0.67 | 0.381 | 0.097 | ( 0.343) | 0.284 |
| 132 | 11.00 | 0.67 | 0.381 | 0.096 | ( 0.343) | 0.284 |
| 133 | 11.08 | 0.63 | 0.362 | 0.096 | ( 0.326) | 0.266 |
| 134 | 11.17 | 0.63 | 0.362 | 0.095 | ( 0.326) | 0.266 |
| 135 | 11.25 | 0.63 | 0.362 | 0.095 | ( 0.326) | 0.267 |
| 136 | 11.33 | 0.63 | 0.362 | 0.094 | ( 0.326) | 0.267 |
| 137 | 11.42 | 0.63 | 0.362 | 0.094 | ( 0.326) | 0.268 |
| 138 | 11.50 | 0.63 | 0.362 | 0.093 | ( 0.326) | 0.268 |
| 139 | 11.58 | 0.57 | 0.324 | 0.093 | ( 0.291) | 0.231 |
| 140 | 11.67 | 0.57 | 0.324 | 0.093 | ( 0.291) | 0.231 |
| 141 | 11.75 | 0.57 | 0.324 | 0.092 | ( 0.291) | 0.232 |
| 142 | 11.83 | 0.60 | 0.343 | 0.092 | ( 0.308) | 0.251 |
| 143 | 11.92 | 0.60 | 0.343 | 0.091 | ( 0.308) | 0.251 |
| 144 | 12.00 | 0.60 | 0.343 | 0.091 | ( 0.308) | 0.252 |
| 145 | 12.08 | 0.83 | 0.476 | 0.090 | ( 0.428) | 0.386 |
| 146 | 12.17 | 0.83 | 0.476 | 0.090 | ( 0.428) | 0.386 |
| 147 | 12.25 | 0.83 | 0.476 | 0.089 | ( 0.428) | 0.387 |
| 148 | 12.33 | 0.87 | 0.495 | 0.089 | ( 0.445) | 0.406 |
| 149 | 12.42 | 0.87 | 0.495 | 0.088 | ( 0.445) | 0.407 |
| 150 | 12.50 | 0.87 | 0.495 | 0.088 | ( 0.445) | 0.407 |
| 151 | 12.58 | 0.93 | 0.533 | 0.088 | ( 0.480) | 0.445 |
| 152 | 12.67 | 0.93 | 0.533 | 0.087 | ( 0.480) | 0.446 |
| 153 | 12.75 | 0.93 | 0.533 | 0.087 | ( 0.480) | 0.446 |
| 154 | 12.83 | 0.97 | 0.552 | 0.086 | ( 0.497) | 0.466 |
| 155 | 12.92 | 0.97 | 0.552 | 0.086 | ( 0.497) | 0.466 |
| 156 | 13.00 | 0.97 | 0.552 | 0.085 | ( 0.497) | 0.467 |
| 157 | 13.08 | 1.13 | 0.647 | 0.085 | ( 0.583) | 0.562 |
| 158 | 13.17 | 1.13 | 0.647 | 0.085 | ( 0.583) | 0.563 |
| 159 | 13.25 | 1.13 | 0.647 | 0.084 | ( 0.583) | 0.563 |
| 160 | 13.33 | 1.13 | 0.647 | 0.084 | ( 0.583) | 0.564 |
| 161 | 13.42 | 1.13 | 0.647 | 0.083 | ( 0.583) | 0.564 |
| 162 | 13.50 | 1.13 | 0.647 | 0.083 | ( 0.583) | 0.564 |
| 163 | 13.58 | 0.77 | 0.438 | 0.082 | ( 0.394) | 0.355 |
| 164 | 13.67 | 0.77 | 0.438 | 0.082 | ( 0.394) | 0.356 |
| 165 | 13.75 | 0.77 | 0.438 | 0.082 | ( 0.394) | 0.356 |
| 166 | 13.83 | 0.77 | 0.438 | 0.081 | ( 0.394) | 0.357 |
| 167 | 13.92 | 0.77 | 0.438 | 0.081 | ( 0.394) | 0.357 |
| 168 | 14.00 | 0.77 | 0.438 | 0.080 | ( 0.394) | 0.358 |
| 169 | 14.08 | 0.90 | 0.514 | 0.080 | ( 0.463) | 0.434 |
| 170 | 14.17 | 0.90 | 0.514 | 0.080 | ( 0.463) | 0.435 |
| 171 | 14.25 | 0.90 | 0.514 | 0.079 | ( 0.463) | 0.435 |
| 172 | 14.33 | 0.87 | 0.495 | 0.079 | ( 0.445) | 0.416 |
| 173 | 14.42 | 0.87 | 0.495 | 0.078 | ( 0.445) | 0.417 |
| 174 | 14.50 | 0.87 | 0.495 | 0.078 | ( 0.445) | 0.417 |
| 175 | 14.58 | 0.87 | 0.495 | 0.078 | ( 0.445) | 0.417 |
| 176 | 14.67 | 0.87 | 0.495 | 0.077 | ( 0.445) | 0.418 |
| 177 | 14.75 | 0.87 | 0.495 | 0.077 | ( 0.445) | 0.418 |
| 178 | 14.83 | 0.83 | 0.476 | 0.076 | ( 0.428) | 0.400 |
| 179 | 14.92 | 0.83 | 0.476 | 0.076 | ( 0.428) | 0.400 |
| 180 | 15.00 | 0.83 | 0.476 | 0.076 | ( 0.428) | 0.400 |
| 181 | 15.08 | 0.80 | 0.457 | 0.075 | ( 0.411) | 0.382 |
| 182 | 15.17 | 0.80 | 0.457 | 0.075 | ( 0.411) | 0.382 |
| 183 | 15.25 | 0.80 | 0.457 | 0.074 | ( 0.411) | 0.383 |
| 184 | 15.33 | 0.77 | 0.438 | 0.074 | ( 0.394) | 0.364 |
| 185 | 15.42 | 0.77 | 0.438 | 0.074 | ( 0.394) | 0.364 |
| 186 | 15.50 | 0.77 | 0.438 | 0.073 | ( 0.394) | 0.365 |
| 187 | 15.58 | 0.63 | 0.362 | 0.073 | ( 0.326) | 0.289 |
| 188 | 15.67 | 0.63 | 0.362 | 0.072 | ( 0.326) | 0.289 |
| 189 | 15.75 | 0.63 | 0.362 | 0.072 | ( 0.326) | 0.290 |
| 190 | 15.83 | 0.63 | 0.362 | 0.072 | ( 0.326) | 0.290 |
| 191 | 15.92 | 0.63 | 0.362 | 0.071 | ( 0.326) | 0.290 |
| 192 | 16.00 | 0.63 | 0.362 | 0.071 | ( 0.326) | 0.291 |
| 193 | 16.08 | 0.13 | 0.076 | ( 0.071) | 0.069 | 0.008 |
| 194 | 16.17 | 0.13 | 0.076 | ( 0.070) | 0.069 | 0.008 |
| 195 | 16.25 | 0.13 | 0.076 | ( 0.070) | 0.069 | 0.008 |
| 196 | 16.33 | 0.13 | 0.076 | ( 0.070) | 0.069 | 0.008 |
| 197 | 16.42 | 0.13 | 0.076 | ( 0.069) | 0.069 | 0.008 |
| 198 | 16.50 | 0.13 | 0.076 | ( 0.069) | 0.069 | 0.008 |
| 199 | 16.58 | 0.10 | 0.057 | ( 0.069) | 0.051 | 0.006 |
| 200 | 16.67 | 0.10 | 0.057 | ( 0.068) | 0.051 | 0.006 |
| 201 | 16.75 | 0.10 | 0.057 | ( 0.068) | 0.051 | 0.006 |
| 202 | 16.83 | 0.10 | 0.057 | ( 0.067) | 0.051 | 0.006 |
| 203 | 16.92 | 0.10 | 0.057 | ( 0.067) | 0.051 | 0.006 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 204 | 17.00 | 0.10 | 0.057 | ( | 0.067) | 0.051 | | 0.006 |
| 205 | 17.08 | 0.17 | 0.095 | | 0.066 | ( 0.086) | | 0.029 |
| 206 | 17.17 | 0.17 | 0.095 | | 0.066 | ( 0.086) | | 0.029 |
| 207 | 17.25 | 0.17 | 0.095 | | 0.066 | ( 0.086) | | 0.029 |
| 208 | 17.33 | 0.17 | 0.095 | | 0.065 | ( 0.086) | | 0.030 |
| 209 | 17.42 | 0.17 | 0.095 | | 0.065 | ( 0.086) | | 0.030 |
| 210 | 17.50 | 0.17 | 0.095 | | 0.065 | ( 0.086) | | 0.030 |
| 211 | 17.58 | 0.17 | 0.095 | | 0.064 | ( 0.086) | | 0.031 |
| 212 | 17.67 | 0.17 | 0.095 | | 0.064 | ( 0.086) | | 0.031 |
| 213 | 17.75 | 0.17 | 0.095 | | 0.064 | ( 0.086) | | 0.031 |
| 214 | 17.83 | 0.13 | 0.076 | | 0.064 | ( 0.069) | | 0.013 |
| 215 | 17.92 | 0.13 | 0.076 | | 0.063 | ( 0.069) | | 0.013 |
| 216 | 18.00 | 0.13 | 0.076 | | 0.063 | ( 0.069) | | 0.013 |
| 217 | 18.08 | 0.13 | 0.076 | | 0.063 | ( 0.069) | | 0.014 |
| 218 | 18.17 | 0.13 | 0.076 | | 0.062 | ( 0.069) | | 0.014 |
| 219 | 18.25 | 0.13 | 0.076 | | 0.062 | ( 0.069) | | 0.014 |
| 220 | 18.33 | 0.13 | 0.076 | | 0.062 | ( 0.069) | | 0.014 |
| 221 | 18.42 | 0.13 | 0.076 | | 0.061 | ( 0.069) | | 0.015 |
| 222 | 18.50 | 0.13 | 0.076 | | 0.061 | ( 0.069) | | 0.015 |
| 223 | 18.58 | 0.10 | 0.057 | ( | 0.061) | 0.051 | | 0.006 |
| 224 | 18.67 | 0.10 | 0.057 | ( | 0.060) | 0.051 | | 0.006 |
| 225 | 18.75 | 0.10 | 0.057 | ( | 0.060) | 0.051 | | 0.006 |
| 226 | 18.83 | 0.07 | 0.038 | ( | 0.060) | 0.034 | | 0.004 |
| 227 | 18.92 | 0.07 | 0.038 | ( | 0.060) | 0.034 | | 0.004 |
| 228 | 19.00 | 0.07 | 0.038 | ( | 0.059) | 0.034 | | 0.004 |
| 229 | 19.08 | 0.10 | 0.057 | ( | 0.059) | 0.051 | | 0.006 |
| 230 | 19.17 | 0.10 | 0.057 | ( | 0.059) | 0.051 | | 0.006 |
| 231 | 19.25 | 0.10 | 0.057 | ( | 0.059) | 0.051 | | 0.006 |
| 232 | 19.33 | 0.13 | 0.076 | | 0.058 | ( 0.069) | | 0.018 |
| 233 | 19.42 | 0.13 | 0.076 | | 0.058 | ( 0.069) | | 0.018 |
| 234 | 19.50 | 0.13 | 0.076 | | 0.058 | ( 0.069) | | 0.018 |
| 235 | 19.58 | 0.10 | 0.057 | ( | 0.057) | 0.051 | | 0.006 |
| 236 | 19.67 | 0.10 | 0.057 | ( | 0.057) | 0.051 | | 0.006 |
| 237 | 19.75 | 0.10 | 0.057 | ( | 0.057) | 0.051 | | 0.006 |
| 238 | 19.83 | 0.07 | 0.038 | ( | 0.057) | 0.034 | | 0.004 |
| 239 | 19.92 | 0.07 | 0.038 | ( | 0.056) | 0.034 | | 0.004 |
| 240 | 20.00 | 0.07 | 0.038 | ( | 0.056) | 0.034 | | 0.004 |
| 241 | 20.08 | 0.10 | 0.057 | ( | 0.056) | 0.051 | | 0.006 |
| 242 | 20.17 | 0.10 | 0.057 | ( | 0.056) | 0.051 | | 0.006 |
| 243 | 20.25 | 0.10 | 0.057 | ( | 0.055) | 0.051 | | 0.006 |
| 244 | 20.33 | 0.10 | 0.057 | ( | 0.055) | 0.051 | | 0.006 |
| 245 | 20.42 | 0.10 | 0.057 | ( | 0.055) | 0.051 | | 0.006 |
| 246 | 20.50 | 0.10 | 0.057 | ( | 0.055) | 0.051 | | 0.006 |
| 247 | 20.58 | 0.10 | 0.057 | ( | 0.054) | 0.051 | | 0.006 |
| 248 | 20.67 | 0.10 | 0.057 | ( | 0.054) | 0.051 | | 0.006 |
| 249 | 20.75 | 0.10 | 0.057 | ( | 0.054) | 0.051 | | 0.006 |
| 250 | 20.83 | 0.07 | 0.038 | ( | 0.054) | 0.034 | | 0.004 |
| 251 | 20.92 | 0.07 | 0.038 | ( | 0.054) | 0.034 | | 0.004 |
| 252 | 21.00 | 0.07 | 0.038 | ( | 0.053) | 0.034 | | 0.004 |
| 253 | 21.08 | 0.10 | 0.057 | ( | 0.053) | 0.051 | | 0.006 |
| 254 | 21.17 | 0.10 | 0.057 | ( | 0.053) | 0.051 | | 0.006 |
| 255 | 21.25 | 0.10 | 0.057 | ( | 0.053) | 0.051 | | 0.006 |
| 256 | 21.33 | 0.07 | 0.038 | ( | 0.053) | 0.034 | | 0.004 |
| 257 | 21.42 | 0.07 | 0.038 | ( | 0.052) | 0.034 | | 0.004 |
| 258 | 21.50 | 0.07 | 0.038 | ( | 0.052) | 0.034 | | 0.004 |
| 259 | 21.58 | 0.10 | 0.057 | ( | 0.052) | 0.051 | | 0.006 |
| 260 | 21.67 | 0.10 | 0.057 | ( | 0.052) | 0.051 | | 0.006 |
| 261 | 21.75 | 0.10 | 0.057 | ( | 0.052) | 0.051 | | 0.006 |
| 262 | 21.83 | 0.07 | 0.038 | ( | 0.051) | 0.034 | | 0.004 |
| 263 | 21.92 | 0.07 | 0.038 | ( | 0.051) | 0.034 | | 0.004 |
| 264 | 22.00 | 0.07 | 0.038 | ( | 0.051) | 0.034 | | 0.004 |
| 265 | 22.08 | 0.10 | 0.057 | | 0.051 | ( 0.051) | | 0.006 |
| 266 | 22.17 | 0.10 | 0.057 | | 0.051 | ( 0.051) | | 0.006 |
| 267 | 22.25 | 0.10 | 0.057 | | 0.051 | ( 0.051) | | 0.007 |
| 268 | 22.33 | 0.07 | 0.038 | ( | 0.050) | 0.034 | | 0.004 |
| 269 | 22.42 | 0.07 | 0.038 | ( | 0.050) | 0.034 | | 0.004 |
| 270 | 22.50 | 0.07 | 0.038 | ( | 0.050) | 0.034 | | 0.004 |
| 271 | 22.58 | 0.07 | 0.038 | ( | 0.050) | 0.034 | | 0.004 |
| 272 | 22.67 | 0.07 | 0.038 | ( | 0.050) | 0.034 | | 0.004 |
| 273 | 22.75 | 0.07 | 0.038 | ( | 0.050) | 0.034 | | 0.004 |
| 274 | 22.83 | 0.07 | 0.038 | ( | 0.050) | 0.034 | | 0.004 |
| 275 | 22.92 | 0.07 | 0.038 | ( | 0.049) | 0.034 | | 0.004 |
| 276 | 23.00 | 0.07 | 0.038 | ( | 0.049) | 0.034 | | 0.004 |
| 277 | 23.08 | 0.07 | 0.038 | ( | 0.049) | 0.034 | | 0.004 |
| 278 | 23.17 | 0.07 | 0.038 | ( | 0.049) | 0.034 | | 0.004 |
| 279 | 23.25 | 0.07 | 0.038 | ( | 0.049) | 0.034 | | 0.004 |
| 280 | 23.33 | 0.07 | 0.038 | ( | 0.049) | 0.034 | | 0.004 |
| 281 | 23.42 | 0.07 | 0.038 | ( | 0.049) | 0.034 | | 0.004 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 282 | 23.50 | 0.07 | 0.038 | ( | 0.049) | 0.034 | 0.004 |
| 283 | 23.58 | 0.07 | 0.038 | ( | 0.049) | 0.034 | 0.004 |
| 284 | 23.67 | 0.07 | 0.038 | ( | 0.049) | 0.034 | 0.004 |
| 285 | 23.75 | 0.07 | 0.038 | ( | 0.048) | 0.034 | 0.004 |
| 286 | 23.83 | 0.07 | 0.038 | ( | 0.048) | 0.034 | 0.004 |
| 287 | 23.92 | 0.07 | 0.038 | ( | 0.048) | 0.034 | 0.004 |
| 288 | 24.00 | 0.07 | 0.038 | ( | 0.048) | 0.034 | 0.004 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 34.6

Flood volume = Effective rainfall 2.89(In)
times area 43.0(Ac.)/[(In)/(Ft.)] = 10.3(Ac.Ft)
Total soil loss = 1.87(In)
Total soil loss = 6.712(Ac.Ft)
Total rainfall = 4.76(In)
Flood volume = 450555.1 Cubic Feet
Total soil loss = 292370.9 Cubic Feet

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Peak flow rate of this hydrograph = 24.393(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

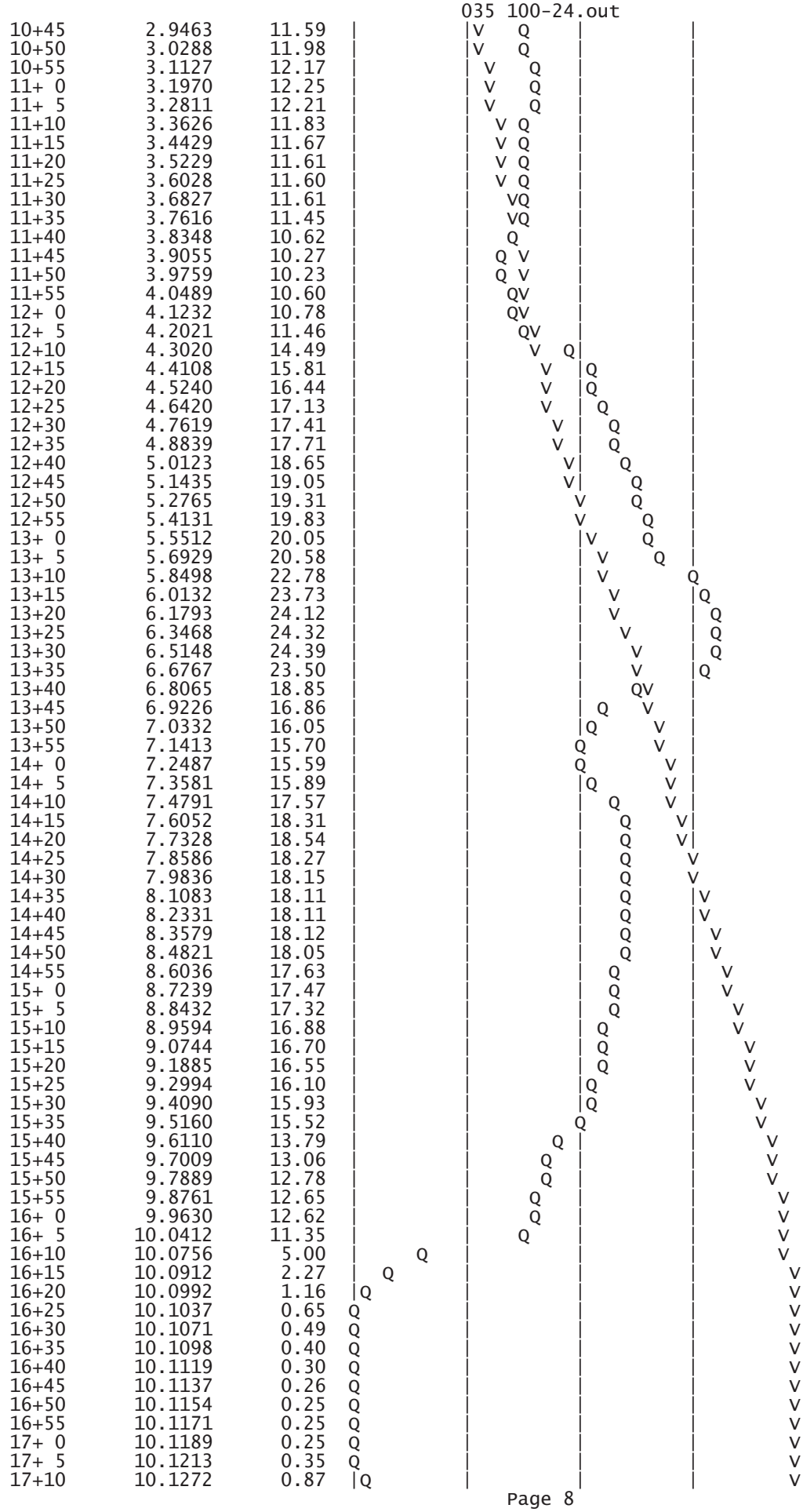
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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 7.5 | 15.0 | 22.5 | 30.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0001 | 0.02 | Q | | | | |
| 0+10 | 0.0008 | 0.10 | Q | | | | |
| 0+15 | 0.0018 | 0.14 | Q | | | | |
| 0+20 | 0.0029 | 0.16 | Q | | | | |
| 0+25 | 0.0044 | 0.21 | Q | | | | |
| 0+30 | 0.0060 | 0.23 | Q | | | | |
| 0+35 | 0.0076 | 0.24 | Q | | | | |
| 0+40 | 0.0093 | 0.25 | Q | | | | |
| 0+45 | 0.0110 | 0.25 | Q | | | | |
| 0+50 | 0.0128 | 0.26 | Q | | | | |
| 0+55 | 0.0148 | 0.30 | Q | | | | |
| 1+ 0 | 0.0170 | 0.32 | Q | | | | |
| 1+ 5 | 0.0192 | 0.32 | Q | | | | |
| 1+10 | 0.0211 | 0.28 | Q | | | | |
| 1+15 | 0.0229 | 0.26 | Q | | | | |
| 1+20 | 0.0246 | 0.25 | Q | | | | |
| 1+25 | 0.0263 | 0.25 | Q | | | | |
| 1+30 | 0.0281 | 0.25 | Q | | | | |
| 1+35 | 0.0298 | 0.25 | Q | | | | |
| 1+40 | 0.0315 | 0.25 | Q | | | | |
| 1+45 | 0.0332 | 0.25 | Q | | | | |
| 1+50 | 0.0349 | 0.26 | Q | | | | |
| 1+55 | 0.0370 | 0.30 | Q | | | | |
| 2+ 0 | 0.0392 | 0.32 | Q | | | | |
| 2+ 5 | 0.0414 | 0.32 | Q | | | | |
| 2+10 | 0.0437 | 0.33 | Q | | | | |
| 2+15 | 0.0459 | 0.33 | Q | | | | |
| 2+20 | 0.0482 | 0.33 | Q | | | | |
| 2+25 | 0.0505 | 0.33 | Q | | | | |
| 2+30 | 0.0528 | 0.33 | Q | | | | |
| 2+35 | 0.0551 | 0.34 | Q | | | | |
| 2+40 | 0.0577 | 0.38 | Q | | | | |
| 2+45 | 0.0605 | 0.40 | Q | | | | |
| 2+50 | 0.0633 | 0.41 | Q | | | | |
| 2+55 | 0.0661 | 0.41 | Q | | | | |
| 3+ 0 | 0.0689 | 0.41 | Q | | | | |
| 3+ 5 | 0.0718 | 0.41 | Q | | | | |
| 3+10 | 0.0746 | 0.41 | Q | | | | |
| 3+15 | 0.0775 | 0.41 | Q | | | | |
| 3+20 | 0.0803 | 0.41 | Q | | | | |
| 3+25 | 0.0831 | 0.41 | Q | | | | |
| 3+30 | 0.0860 | 0.41 | Q | | | | |
| 3+35 | 0.0888 | 0.41 | Q | | | | |
| 3+40 | 0.0917 | 0.41 | Q | | | | |
| 3+45 | 0.0945 | 0.41 | Q | | | | |
| 3+50 | 0.0974 | 0.42 | Q | | | | |
| 3+55 | 0.1006 | 0.46 | Q | | | | |
| 4+ 0 | 0.1039 | 0.48 | Q | | | | |
| 4+ 5 | 0.1073 | 0.49 | Q | | | | |
| 4+10 | 0.1107 | 0.49 | Q | | | | |

```
 4+15       0.1141      0.49  Q          |          |          |          |
 4+20       0.1176      0.50  Q          |          |          |          |
 4+25       0.1213      0.55  Q          |          |          |          |
 4+30       0.1252      0.56  Q          |          |          |          |
 4+35       0.1292      0.57  Q          |          |          |          |
 4+40       0.1331      0.58  Q          |          |          |          |
 4+45       0.1371      0.58  Q          |          |          |          |
 4+50       0.1412      0.59  Q          |          |          |          |
 4+55       0.1458      0.67  Q          |          |          |          |
 5+ 0       0.1507      0.71  Q          |          |          |          |
 5+ 5       0.1556      0.72  Q          |          |          |          |
 5+10       0.1597      0.59  Q          |          |          |          |
 5+15       0.1634      0.53  Q          |          |          |          |
 5+20       0.1669      0.52  Q          |          |          |          |
 5+25       0.1708      0.55  Q          |          |          |          |
 5+30       0.1747      0.57  Q          |          |          |          |
 5+35       0.1789      0.61  Q          |          |          |          |
 5+40       0.1844      0.81  VQ         |          |          |          |
 5+45       0.1907      0.90  VQ         |          |          |          |
 5+50       0.1972      0.96  VQ         |          |          |          |
 5+55       0.2041      1.00  VQ         |          |          |          |
 6+ 0       0.2112      1.03  VQ         |          |          |          |
 6+ 5       0.2190      1.14  VQ         |          |          |          |
 6+10       0.2300      1.59  V Q        |          |          |          |
 6+15       0.2424      1.80  V Q        |          |          |          |
 6+20       0.2554      1.90  V Q        |          |          |          |
 6+25       0.2689      1.96  |VQ        |          |          |          |
 6+30       0.2826      1.99  |VQ        |          |          |          |
 6+35       0.2971      2.11  |VQ        |          |          |          |
 6+40       0.3148      2.56  |V Q       |          |          |          |
 6+45       0.3338      2.77  |V Q       |          |          |          |
 6+50       0.3536      2.87  |V Q       |          |          |          |
 6+55       0.3738      2.93  |V Q       |          |          |          |
 7+ 0       0.3942      2.96  |V Q       |          |          |          |
 7+ 5       0.4148      2.99  |V Q       |          |          |          |
 7+10       0.4356      3.02  |V  Q      |          |          |          |
 7+15       0.4565      3.04  |V  Q      |          |          |          |
 7+20       0.4783      3.15  |V  Q      |          |          |          |
 7+25       0.5031      3.60  |V  Q      |          |          |          |
 7+30       0.5293      3.81  | V  Q     |          |          |          |
 7+35       0.5568      3.99  | V  Q     |          |          |          |
 7+40       0.5877      4.48  | V  Q     |          |          |          |
 7+45       0.6200      4.70  | V   Q    |          |          |          |
 7+50       0.6536      4.88  | V   Q    |          |          |          |
 7+55       0.6906      5.37  | V    Q   |          |          |          |
 8+ 0       0.7291      5.59  | V    Q   |          |          |          |
 8+ 5       0.7695      5.86  | V    Q   |          |          |          |
 8+10       0.8162      6.78  |  V     Q|          |          |          |
 8+15       0.8657      7.18  |  V     Q|          |          |          |
 8+20       0.9163      7.36  |  V     Q|          |          |          |
 8+25       0.9677      7.45  |  V     Q|          |          |          |
 8+30       1.0193      7.50  |  V     Q|          |          |          |
 8+35       1.0718      7.62  |   V     Q          |          |          |
 8+40       1.1274      8.08  |   V     Q          |          |          |
 8+45       1.1845      8.28  |   V     |Q         |          |          |
 8+50       1.2428      8.47  |   V     |Q         |          |          |
 8+55       1.3044      8.95  |    V    |Q         |          |          |
 9+ 0       1.3675      9.17  |    V    | Q        |          |          |
 9+ 5       1.4325      9.44  |    V    | Q        |          |          |
 9+10       1.5038     10.35  |    V    |  Q       |          |          |
 9+15       1.5779     10.75  |     V   |   Q      |          |          |
 9+20       1.6538     11.02  |     V   |   Q      |          |          |
 9+25       1.7332     11.54  |     V   |    Q     |          |          |
 9+30       1.8142     11.77  |      V  |    Q     |          |          |
 9+35       1.8966     11.96  |      V  |    Q     |          |          |
 9+40       1.9823     12.45  |      V  |     Q    |          |          |
 9+45       2.0696     12.67  |       V |     Q    |          |          |
 9+50       2.1581     12.85  |       V |      Q   |          |          |
 9+55       2.2500     13.34  |       V |      Q   |          |          |
10+ 0       2.3433     13.56  |        V|       Q  |          |          |
10+ 5       2.4333     13.06  |        V|      Q   |          |          |
10+10       2.5031     10.14  |        V|  Q       |          |          |
10+15       2.5643      8.89  |        V|Q         |          |          |
10+20       2.6221      8.39  |         VQ         |          |          |
10+25       2.6785      8.18  |         Q          |          |          |
10+30       2.7344      8.12  |         Q          |          |          |
10+35       2.7931      8.53  |         VQ         |          |          |
10+40       2.8665     10.66  |          |V  Q     |          |          |
```



| | | | |
|---|---|---|---|
| 10+45 | 2.9463 | 11.59 | |
| 10+50 | 3.0288 | 11.98 | |
| 10+55 | 3.1127 | 12.17 | |
| 11+ 0 | 3.1970 | 12.25 | |
| 11+ 5 | 3.2811 | 12.21 | |
| 11+10 | 3.3626 | 11.83 | |
| 11+15 | 3.4429 | 11.67 | |
| 11+20 | 3.5229 | 11.61 | |
| 11+25 | 3.6028 | 11.60 | |
| 11+30 | 3.6827 | 11.61 | |
| 11+35 | 3.7616 | 11.45 | |
| 11+40 | 3.8348 | 10.62 | |
| 11+45 | 3.9055 | 10.27 | |
| 11+50 | 3.9759 | 10.23 | |
| 11+55 | 4.0489 | 10.60 | |
| 12+ 0 | 4.1232 | 10.78 | |
| 12+ 5 | 4.2021 | 11.46 | |
| 12+10 | 4.3020 | 14.49 | |
| 12+15 | 4.4108 | 15.81 | |
| 12+20 | 4.5240 | 16.44 | |
| 12+25 | 4.6420 | 17.13 | |
| 12+30 | 4.7619 | 17.41 | |
| 12+35 | 4.8839 | 17.71 | |
| 12+40 | 5.0123 | 18.65 | |
| 12+45 | 5.1435 | 19.05 | |
| 12+50 | 5.2765 | 19.31 | |
| 12+55 | 5.4131 | 19.83 | |
| 13+ 0 | 5.5512 | 20.05 | |
| 13+ 5 | 5.6929 | 20.58 | |
| 13+10 | 5.8498 | 22.78 | |
| 13+15 | 6.0132 | 23.73 | |
| 13+20 | 6.1793 | 24.12 | |
| 13+25 | 6.3468 | 24.32 | |
| 13+30 | 6.5148 | 24.39 | |
| 13+35 | 6.6767 | 23.50 | |
| 13+40 | 6.8065 | 18.85 | |
| 13+45 | 6.9226 | 16.86 | |
| 13+50 | 7.0332 | 16.05 | |
| 13+55 | 7.1413 | 15.70 | |
| 14+ 0 | 7.2487 | 15.59 | |
| 14+ 5 | 7.3581 | 15.89 | |
| 14+10 | 7.4791 | 17.57 | |
| 14+15 | 7.6052 | 18.31 | |
| 14+20 | 7.7328 | 18.54 | |
| 14+25 | 7.8586 | 18.27 | |
| 14+30 | 7.9836 | 18.15 | |
| 14+35 | 8.1083 | 18.11 | |
| 14+40 | 8.2331 | 18.11 | |
| 14+45 | 8.3579 | 18.12 | |
| 14+50 | 8.4821 | 18.05 | |
| 14+55 | 8.6036 | 17.63 | |
| 15+ 0 | 8.7239 | 17.47 | |
| 15+ 5 | 8.8432 | 17.32 | |
| 15+10 | 8.9594 | 16.88 | |
| 15+15 | 9.0744 | 16.70 | |
| 15+20 | 9.1885 | 16.55 | |
| 15+25 | 9.2994 | 16.10 | |
| 15+30 | 9.4090 | 15.93 | |
| 15+35 | 9.5160 | 15.52 | |
| 15+40 | 9.6110 | 13.79 | |
| 15+45 | 9.7009 | 13.06 | |
| 15+50 | 9.7889 | 12.78 | |
| 15+55 | 9.8761 | 12.65 | |
| 16+ 0 | 9.9630 | 12.62 | |
| 16+ 5 | 10.0412 | 11.35 | |
| 16+10 | 10.0756 | 5.00 | |
| 16+15 | 10.0912 | 2.27 | |
| 16+20 | 10.0992 | 1.16 | |
| 16+25 | 10.1037 | 0.65 | |
| 16+30 | 10.1071 | 0.49 | |
| 16+35 | 10.1098 | 0.40 | |
| 16+40 | 10.1119 | 0.30 | |
| 16+45 | 10.1137 | 0.26 | |
| 16+50 | 10.1154 | 0.25 | |
| 16+55 | 10.1171 | 0.25 | |
| 17+ 0 | 10.1189 | 0.25 | |
| 17+ 5 | 10.1213 | 0.35 | |
| 17+10 | 10.1272 | 0.87 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+15 | 10.1348 | 1.10 | \|Q | \| | \| | \| | V\| |
| 17+20 | 10.1431 | 1.20 | \|Q | \| | \| | \| | V\| |
| 17+25 | 10.1517 | 1.26 | \|Q | \| | \| | \| | V\| |
| 17+30 | 10.1605 | 1.28 | \|Q | \| | \| | \| | V\| |
| 17+35 | 10.1695 | 1.30 | \|Q | \| | \| | \| | V\| |
| 17+40 | 10.1786 | 1.32 | \|Q | \| | \| | \| | V\| |
| 17+45 | 10.1878 | 1.34 | \|Q | \| | \| | \| | V\| |
| 17+50 | 10.1965 | 1.27 | \|Q | \| | \| | \| | V\| |
| 17+55 | 10.2024 | 0.85 | \|Q | \| | \| | \| | V\| |
| 18+ 0 | 10.2071 | 0.68 | Q | \| | \| | \| | V\| |
| 18+ 5 | 10.2114 | 0.62 | Q | \| | \| | \| | V\| |
| 18+10 | 10.2156 | 0.60 | Q | \| | \| | \| | V\| |
| 18+15 | 10.2197 | 0.60 | Q | \| | \| | \| | V\| |
| 18+20 | 10.2239 | 0.61 | Q | \| | \| | \| | V\| |
| 18+25 | 10.2282 | 0.62 | Q | \| | \| | \| | V\| |
| 18+30 | 10.2326 | 0.63 | Q | \| | \| | \| | V\| |
| 18+35 | 10.2367 | 0.60 | Q | \| | \| | \| | V\| |
| 18+40 | 10.2395 | 0.40 | Q | \| | \| | \| | V\| |
| 18+45 | 10.2416 | 0.31 | Q | \| | \| | \| | V\| |
| 18+50 | 10.2434 | 0.27 | Q | \| | \| | \| | V\| |
| 18+55 | 10.2449 | 0.21 | Q | \| | \| | \| | V\| |
| 19+ 0 | 10.2461 | 0.18 | Q | \| | \| | \| | V\| |
| 19+ 5 | 10.2474 | 0.18 | Q | \| | \| | \| | V\| |
| 19+10 | 10.2489 | 0.22 | Q | \| | \| | \| | V\| |
| 19+15 | 10.2505 | 0.24 | Q | \| | \| | \| | V\| |
| 19+20 | 10.2526 | 0.30 | Q | \| | \| | \| | V\| |
| 19+25 | 10.2565 | 0.57 | Q | \| | \| | \| | V\| |
| 19+30 | 10.2613 | 0.70 | Q | \| | \| | \| | V\| |
| 19+35 | 10.2662 | 0.70 | Q | \| | \| | \| | V\| |
| 19+40 | 10.2692 | 0.44 | Q | \| | \| | \| | V\| |
| 19+45 | 10.2715 | 0.33 | Q | \| | \| | \| | V\| |
| 19+50 | 10.2733 | 0.27 | Q | \| | \| | \| | V\| |
| 19+55 | 10.2748 | 0.21 | Q | \| | \| | \| | V\| |
| 20+ 0 | 10.2761 | 0.19 | Q | \| | \| | \| | V\| |
| 20+ 5 | 10.2773 | 0.18 | Q | \| | \| | \| | V\| |
| 20+10 | 10.2788 | 0.22 | Q | \| | \| | \| | V\| |
| 20+15 | 10.2804 | 0.24 | Q | \| | \| | \| | V\| |
| 20+20 | 10.2821 | 0.24 | Q | \| | \| | \| | V\| |
| 20+25 | 10.2838 | 0.25 | Q | \| | \| | \| | V\| |
| 20+30 | 10.2855 | 0.25 | Q | \| | \| | \| | V\| |
| 20+35 | 10.2872 | 0.25 | Q | \| | \| | \| | V\| |
| 20+40 | 10.2889 | 0.25 | Q | \| | \| | \| | V\| |
| 20+45 | 10.2906 | 0.25 | Q | \| | \| | \| | V\| |
| 20+50 | 10.2923 | 0.24 | Q | \| | \| | \| | V\| |
| 20+55 | 10.2936 | 0.20 | Q | \| | \| | \| | V\| |
| 21+ 0 | 10.2948 | 0.18 | Q | \| | \| | \| | V\| |
| 21+ 5 | 10.2961 | 0.18 | Q | \| | \| | \| | V\| |
| 21+10 | 10.2976 | 0.22 | Q | \| | \| | \| | V\| |
| 21+15 | 10.2992 | 0.24 | Q | \| | \| | \| | V\| |
| 21+20 | 10.3008 | 0.23 | Q | \| | \| | \| | V\| |
| 21+25 | 10.3022 | 0.19 | Q | \| | \| | \| | V\| |
| 21+30 | 10.3034 | 0.18 | Q | \| | \| | \| | V\| |
| 21+35 | 10.3046 | 0.18 | Q | \| | \| | \| | V\| |
| 21+40 | 10.3061 | 0.22 | Q | \| | \| | \| | V\| |
| 21+45 | 10.3077 | 0.24 | Q | \| | \| | \| | V\| |
| 21+50 | 10.3093 | 0.23 | Q | \| | \| | \| | V\| |
| 21+55 | 10.3107 | 0.19 | Q | \| | \| | \| | V\| |
| 22+ 0 | 10.3119 | 0.18 | Q | \| | \| | \| | V\| |
| 22+ 5 | 10.3132 | 0.18 | Q | \| | \| | \| | V\| |
| 22+10 | 10.3148 | 0.23 | Q | \| | \| | \| | V\| |
| 22+15 | 10.3165 | 0.26 | Q | \| | \| | \| | V\| |
| 22+20 | 10.3183 | 0.26 | Q | \| | \| | \| | V\| |
| 22+25 | 10.3198 | 0.21 | Q | \| | \| | \| | V\| |
| 22+30 | 10.3210 | 0.18 | Q | \| | \| | \| | V\| |
| 22+35 | 10.3222 | 0.17 | Q | \| | \| | \| | V\| |
| 22+40 | 10.3234 | 0.17 | Q | \| | \| | \| | V\| |
| 22+45 | 10.3245 | 0.17 | Q | \| | \| | \| | V\| |
| 22+50 | 10.3256 | 0.17 | Q | \| | \| | \| | V\| |
| 22+55 | 10.3268 | 0.17 | Q | \| | \| | \| | V\| |
| 23+ 0 | 10.3279 | 0.17 | Q | \| | \| | \| | V\| |
| 23+ 5 | 10.3291 | 0.17 | Q | \| | \| | \| | V\| |
| 23+10 | 10.3302 | 0.17 | Q | \| | \| | \| | V\| |
| 23+15 | 10.3313 | 0.17 | Q | \| | \| | \| | V\| |
| 23+20 | 10.3325 | 0.17 | Q | \| | \| | \| | V\| |
| 23+25 | 10.3336 | 0.17 | Q | \| | \| | \| | V\| |
| 23+30 | 10.3347 | 0.17 | Q | \| | \| | \| | V\| |
| 23+35 | 10.3359 | 0.17 | Q | \| | \| | \| | V\| |
| 23+40 | 10.3370 | 0.17 | Q | \| | \| | \| | V\| |

```
   23+45      10.3381      0.17  Q         |          |          |         V|
   23+50      10.3393      0.17  Q         |          |          |         V|
   23+55      10.3404      0.17  Q         |          |          |         V|
   24+ 0      10.3416      0.17  Q         |          |          |         V|
   24+ 5      10.3426      0.15  Q         |          |          |         V|
   24+10      10.3430      0.06  Q         |          |          |         V|
   24+15      10.3432      0.03  Q         |          |          |         V|
   24+20      10.3433      0.01  Q         |          |          |         V|
   24+25      10.3433      0.00  Q         |          |          |         V|
   24+30      10.3433      0.00  Q         |          |          |         V|
   24+35      10.3433      0.00  Q         |          |          |         V|
   24+40      10.3433      0.00  Q         |          |          |         V|
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX361100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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164469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 36
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 2.90(Ac.) = 0.005 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.90(Ac.) = 0.005 Sq. Mi.
Length along longest watercourse = 679.00(Ft.)
Length along longest watercourse measured to centroid = 282.00(Ft.)
Length along longest watercourse = 0.129 Mi.
Length along longest watercourse measured to centroid = 0.053 Mi.
Difference in elevation = 190.00(Ft.)
Slope along watercourse = 1477.4669 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.032 Hr.
Lag time = 1.90 Min.
25% of lag time = 0.47 Min.
40% of lag time = 0.76 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.90 | 0.50 | 1.45 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.90 | 1.20 | 3.48 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2.900 | 83.20 | 0.000 |

Total Area Entered = 2.90(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.2 | 92.9 | 0.092 | 0.000 | 0.092 | 1.000 | 0.092 |
| | | | | | Sum (F) = | 0.092 |

Area averaged mean soil loss (F) (In/Hr) = 0.092

Minimum soil loss rate ((In/Hr)) = 0.046
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

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| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 263.478 | 52.970 | 1.548 |
| 2 0.167 | 526.956 | 43.722 | 1.278 |
| 3 0.250 | 790.434 | 3.308 | 0.097 |
| | Sum = 100.000 | Sum= | 2.923 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 4.20 | 0.605 | 0.092 | ( 0.544) | 0.513 |
| 2 0.17 | 4.30 | 0.619 | 0.092 | ( 0.557) | 0.527 |
| 3 0.25 | 5.00 | 0.720 | 0.092 | ( 0.648) | 0.628 |
| 4 0.33 | 5.00 | 0.720 | 0.092 | ( 0.648) | 0.628 |
| 5 0.42 | 5.80 | 0.835 | 0.092 | ( 0.752) | 0.743 |
| 6 0.50 | 6.50 | 0.936 | 0.092 | ( 0.842) | 0.844 |
| 7 0.58 | 7.40 | 1.066 | 0.092 | ( 0.959) | 0.974 |
| 8 0.67 | 8.60 | 1.238 | 0.092 | ( 1.115) | 1.146 |
| 9 0.75 | 12.30 | 1.771 | 0.092 | ( 1.594) | 1.679 |
| 10 0.83 | 29.10 | 4.190 | 0.092 | ( 3.771) | 4.098 |
| 11 0.92 | 6.80 | 0.979 | 0.092 | ( 0.881) | 0.887 |
| 12 1.00 | 5.00 | 0.720 | 0.092 | ( 0.648) | 0.628 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 13.3 |

Flood volume = Effective rainfall 1.11(In)
times area 2.9(Ac.)/[(In)/(Ft.)] = 0.3(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.022(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 11663.2 Cubic Feet
Total soil loss = 968.9 Cubic Feet

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Peak flow rate of this hydrograph = 8.606(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 2.5 5.0 7.5 10.0 |
|---|---|---|---|
| 0+ 5 | 0.0055 | 0.79 | V Q |
| 0+10 | 0.0156 | 1.47 | V Q |
| 0+15 | 0.0273 | 1.70 | V Q |
| 0+20 | 0.0399 | 1.83 | V Q |
| 0+25 | 0.0537 | 2.01 | Q |
| 0+30 | 0.0697 | 2.32 | QV |
| 0+35 | 0.0880 | 2.66 | Q V |
| 0+40 | 0.1094 | 3.10 | Q V |
| 0+45 | 0.1380 | 4.16 | Q V |
| 0+50 | 0.1973 | 8.61 | V Q |
| 0+55 | 0.2440 | 6.78 | Q V |
| 1+ 0 | 0.2612 | 2.50 | Q V |
| 1+ 5 | 0.2673 | 0.89 | Q V |
| 1+10 | 0.2677 | 0.06 | Q V |

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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX363100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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164469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 36
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 2.90(Ac.) = 0.005 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.90(Ac.) = 0.005 Sq. Mi.
Length along longest watercourse = 679.00(Ft.)
Length along longest watercourse measured to centroid = 282.00(Ft.)
Length along longest watercourse = 0.129 Mi.
Length along longest watercourse measured to centroid = 0.053 Mi.
Difference in elevation = 190.00(Ft.)
Slope along watercourse = 1477.4669 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.032 Hr.
Lag time = 1.90 Min.
25% of lag time = 0.47 Min.
40% of lag time = 0.76 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.90 | 0.82 | 2.38 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.90 | 1.82 | 5.28 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.820(In)
Area Averaged 100-Year Rainfall = 1.820(In)

Point rain (area averaged) = 1.820(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.820(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2.900 | 83.20 | 0.000 |

Total Area Entered = 2.90(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.2 | 92.9 | 0.092 | 0.000 | 0.092 | 1.000 | 0.092 |
| | | | | | Sum (F) = | 0.092 |

Area averaged mean soil loss (F) (In/Hr) = 0.092

Minimum soil loss rate ((In/Hr)) = 0.046
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 263.478 | 52.970 | 1.548 |
| 2 0.167 | 526.956 | 43.722 | 1.278 |
| 3 0.250 | 790.434 | 3.308 | 0.097 |
| | | Sum = 100.000 | Sum= 2.923 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.284 | 0.092 | ( 0.256) | 0.192 |
| 2 | 0.17 | 1.30 | 0.284 | 0.092 | ( 0.256) | 0.192 |
| 3 | 0.25 | 1.10 | 0.240 | 0.092 | ( 0.216) | 0.148 |
| 4 | 0.33 | 1.50 | 0.328 | 0.092 | ( 0.295) | 0.236 |
| 5 | 0.42 | 1.50 | 0.328 | 0.092 | ( 0.295) | 0.236 |
| 6 | 0.50 | 1.80 | 0.393 | 0.092 | ( 0.354) | 0.301 |
| 7 | 0.58 | 1.50 | 0.328 | 0.092 | ( 0.295) | 0.236 |
| 8 | 0.67 | 1.80 | 0.393 | 0.092 | ( 0.354) | 0.301 |
| 9 | 0.75 | 1.80 | 0.393 | 0.092 | ( 0.354) | 0.301 |
| 10 | 0.83 | 1.50 | 0.328 | 0.092 | ( 0.295) | 0.236 |
| 11 | 0.92 | 1.60 | 0.349 | 0.092 | ( 0.314) | 0.257 |
| 12 | 1.00 | 1.80 | 0.393 | 0.092 | ( 0.354) | 0.301 |
| 13 | 1.08 | 2.20 | 0.480 | 0.092 | ( 0.432) | 0.388 |
| 14 | 1.17 | 2.20 | 0.480 | 0.092 | ( 0.432) | 0.388 |
| 15 | 1.25 | 2.20 | 0.480 | 0.092 | ( 0.432) | 0.388 |
| 16 | 1.33 | 2.00 | 0.437 | 0.092 | ( 0.393) | 0.345 |
| 17 | 1.42 | 2.60 | 0.568 | 0.092 | ( 0.511) | 0.476 |
| 18 | 1.50 | 2.70 | 0.590 | 0.092 | ( 0.531) | 0.498 |
| 19 | 1.58 | 2.40 | 0.524 | 0.092 | ( 0.472) | 0.432 |
| 20 | 1.67 | 2.70 | 0.590 | 0.092 | ( 0.531) | 0.498 |
| 21 | 1.75 | 3.30 | 0.721 | 0.092 | ( 0.649) | 0.629 |
| 22 | 1.83 | 3.10 | 0.677 | 0.092 | ( 0.609) | 0.585 |
| 23 | 1.92 | 2.90 | 0.633 | 0.092 | ( 0.570) | 0.541 |
| 24 | 2.00 | 3.00 | 0.655 | 0.092 | ( 0.590) | 0.563 |
| 25 | 2.08 | 3.10 | 0.677 | 0.092 | ( 0.609) | 0.585 |
| 26 | 2.17 | 4.20 | 0.917 | 0.092 | ( 0.826) | 0.825 |
| 27 | 2.25 | 5.00 | 1.092 | 0.092 | ( 0.983) | 1.000 |
| 28 | 2.33 | 3.50 | 0.764 | 0.092 | ( 0.688) | 0.672 |
| 29 | 2.42 | 6.80 | 1.485 | 0.092 | ( 1.337) | 1.393 |
| 30 | 2.50 | 7.30 | 1.594 | 0.092 | ( 1.435) | 1.502 |
| 31 | 2.58 | 8.20 | 1.791 | 0.092 | ( 1.612) | 1.699 |
| 32 | 2.67 | 5.90 | 1.289 | 0.092 | ( 1.160) | 1.197 |
| 33 | 2.75 | 2.00 | 0.437 | 0.092 | ( 0.393) | 0.345 |
| 34 | 2.83 | 1.80 | 0.393 | 0.092 | ( 0.354) | 0.301 |
| 35 | 2.92 | 1.80 | 0.393 | 0.092 | ( 0.354) | 0.301 |
| 36 | 3.00 | 0.60 | 0.131 | 0.092 | ( 0.118) | 0.039 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 18.5 |

Flood volume = Effective rainfall 1.54(In)
times area 2.9(Ac.)/[(In)/(Ft.)] = 0.4(Ac.Ft)
Total soil loss = 0.28(In)
Total soil loss = 0.067(Ac.Ft)
Total rainfall = 1.82(In)
Flood volume = 16252.2 Cubic Feet
Total soil loss = 2906.7 Cubic Feet

Peak flow rate of this hydrograph = 4.687(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0020 | 0.30 | VQ | | | | |
| 0+10 | 0.0058 | 0.54 | V Q | | | | |
| 0+15 | 0.0092 | 0.49 | VQ | | | | |
| 0+20 | 0.0131 | 0.57 | VQ | | | | |
| 0+25 | 0.0178 | 0.68 | VQ | | | | |
| 0+30 | 0.0233 | 0.79 | VQ | | | | |
| 0+35 | 0.0286 | 0.77 | Q | | | | |
| 0+40 | 0.0341 | 0.80 | Q | | | | |
| 0+45 | 0.0401 | 0.87 | QV | | | | |
| 0+50 | 0.0454 | 0.78 | QV | | | | |
| 0+55 | 0.0505 | 0.73 | Q V | | | | |
| 1+ 0 | 0.0561 | 0.82 | Q V | | | | |
| 1+ 5 | 0.0631 | 1.01 | Q V | | | | |
| 1+10 | 0.0708 | 1.13 | Q V | | | | |
| 1+15 | 0.0787 | 1.14 | Q V | | | | |
| 1+20 | 0.0860 | 1.07 | Q V | | | | |
| 1+25 | 0.0944 | 1.22 | Q V | | | | |
| 1+30 | 0.1041 | 1.41 | Q V | | | | |
| 1+35 | 0.1134 | 1.35 | Q V | | | | |
| 1+40 | 0.1229 | 1.37 | Q V | | | | |
| 1+45 | 0.1342 | 1.65 | Q V | | | | |
| 1+50 | 0.1463 | 1.76 | Q V | | | | |
| 1+55 | 0.1577 | 1.65 | Q V | | | | |
| 2+ 0 | 0.1689 | 1.62 | Q V | | | | |
| 2+ 5 | 0.1804 | 1.68 | Q V | | | | |
| 2+10 | 0.1947 | 2.08 | Q V | | | | |
| 2+15 | 0.2131 | 2.66 | Q V | | | | |
| 2+20 | 0.2296 | 2.40 | Q V | | | | |
| 2+25 | 0.2510 | 3.11 | Q V | | | | |
| 2+30 | 0.2798 | 4.17 | Q V | | | | |
| 2+35 | 0.3121 | 4.69 | Q V | | | | |
| 2+40 | 0.3408 | 4.17 | Q V | | | | |
| 2+45 | 0.3561 | 2.23 | Q V | | | | |
| 2+50 | 0.3632 | 1.02 | Q V | | | | |
| 2+55 | 0.3693 | 0.88 | Q V | | | | |
| 3+ 0 | 0.3725 | 0.47 | Q V | | | | |
| 3+ 5 | 0.3731 | 0.08 | Q V | | | | |
| 3+10 | 0.3731 | 0.00 | Q V | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX366100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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164469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 36
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 2.90(Ac.) = 0.005 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.90(Ac.) = 0.005 Sq. Mi.
Length along longest watercourse = 679.00(Ft.)
Length along longest watercourse measured to centroid = 282.00(Ft.)
Length along longest watercourse = 0.129 Mi.
Length along longest watercourse measured to centroid = 0.053 Mi.
Difference in elevation = 190.00(Ft.)
Slope along watercourse = 1477.4669 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.032 Hr.
Lag time = 1.90 Min.
25% of lag time = 0.47 Min.
40% of lag time = 0.76 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.90 | 1.16 | 3.36 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.90 | 2.50 | 7.25 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.160(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2.900 | 83.20 | 0.000 |

Total Area Entered = 2.90(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.2 | 92.9 | 0.092 | 0.000 | 0.092 | 1.000 | 0.092 |
| | | | | | Sum (F) = | 0.092 |

Area averaged mean soil loss (F) (In/Hr) = 0.092

Minimum soil loss rate ((In/Hr)) = 0.046
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 263.478 | 52.970 | 1.548 |
| 2 0.167 | 526.956 | 43.722 | 1.278 |
| 3 0.250 | 790.434 | 3.308 | 0.097 |
| | | Sum = 100.000 Sum= | 2.923 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.092 | ( 0.135) | 0.058 |
| 2 | 0.17 | 0.60 | 0.180 | 0.092 | ( 0.162) | 0.088 |
| 3 | 0.25 | 0.60 | 0.180 | 0.092 | ( 0.162) | 0.088 |
| 4 | 0.33 | 0.60 | 0.180 | 0.092 | ( 0.162) | 0.088 |
| 5 | 0.42 | 0.60 | 0.180 | 0.092 | ( 0.162) | 0.088 |
| 6 | 0.50 | 0.70 | 0.210 | 0.092 | ( 0.189) | 0.118 |
| 7 | 0.58 | 0.70 | 0.210 | 0.092 | ( 0.189) | 0.118 |
| 8 | 0.67 | 0.70 | 0.210 | 0.092 | ( 0.189) | 0.118 |
| 9 | 0.75 | 0.70 | 0.210 | 0.092 | ( 0.189) | 0.118 |
| 10 | 0.83 | 0.70 | 0.210 | 0.092 | ( 0.189) | 0.118 |
| 11 | 0.92 | 0.70 | 0.210 | 0.092 | ( 0.189) | 0.118 |
| 12 | 1.00 | 0.80 | 0.240 | 0.092 | ( 0.216) | 0.148 |
| 13 | 1.08 | 0.80 | 0.240 | 0.092 | ( 0.216) | 0.148 |
| 14 | 1.17 | 0.80 | 0.240 | 0.092 | ( 0.216) | 0.148 |
| 15 | 1.25 | 0.80 | 0.240 | 0.092 | ( 0.216) | 0.148 |
| 16 | 1.33 | 0.80 | 0.240 | 0.092 | ( 0.216) | 0.148 |
| 17 | 1.42 | 0.80 | 0.240 | 0.092 | ( 0.216) | 0.148 |
| 18 | 1.50 | 0.80 | 0.240 | 0.092 | ( 0.216) | 0.148 |
| 19 | 1.58 | 0.80 | 0.240 | 0.092 | ( 0.216) | 0.148 |
| 20 | 1.67 | 0.80 | 0.240 | 0.092 | ( 0.216) | 0.148 |
| 21 | 1.75 | 0.80 | 0.240 | 0.092 | ( 0.216) | 0.148 |
| 22 | 1.83 | 0.80 | 0.240 | 0.092 | ( 0.216) | 0.148 |
| 23 | 1.92 | 0.80 | 0.240 | 0.092 | ( 0.216) | 0.148 |
| 24 | 2.00 | 0.90 | 0.270 | 0.092 | ( 0.243) | 0.178 |
| 25 | 2.08 | 0.80 | 0.240 | 0.092 | ( 0.216) | 0.148 |
| 26 | 2.17 | 0.90 | 0.270 | 0.092 | ( 0.243) | 0.178 |
| 27 | 2.25 | 0.90 | 0.270 | 0.092 | ( 0.243) | 0.178 |
| 28 | 2.33 | 0.90 | 0.270 | 0.092 | ( 0.243) | 0.178 |
| 29 | 2.42 | 0.90 | 0.270 | 0.092 | ( 0.243) | 0.178 |
| 30 | 2.50 | 0.90 | 0.270 | 0.092 | ( 0.243) | 0.178 |
| 31 | 2.58 | 0.90 | 0.270 | 0.092 | ( 0.243) | 0.178 |
| 32 | 2.67 | 0.90 | 0.270 | 0.092 | ( 0.243) | 0.178 |
| 33 | 2.75 | 1.00 | 0.300 | 0.092 | ( 0.270) | 0.208 |
| 34 | 2.83 | 1.00 | 0.300 | 0.092 | ( 0.270) | 0.208 |
| 35 | 2.92 | 1.00 | 0.300 | 0.092 | ( 0.270) | 0.208 |
| 36 | 3.00 | 1.00 | 0.300 | 0.092 | ( 0.270) | 0.208 |
| 37 | 3.08 | 1.00 | 0.300 | 0.092 | ( 0.270) | 0.208 |
| 38 | 3.17 | 1.10 | 0.330 | 0.092 | ( 0.297) | 0.238 |
| 39 | 3.25 | 1.10 | 0.330 | 0.092 | ( 0.297) | 0.238 |
| 40 | 3.33 | 1.10 | 0.330 | 0.092 | ( 0.297) | 0.238 |
| 41 | 3.42 | 1.20 | 0.360 | 0.092 | ( 0.324) | 0.268 |
| 42 | 3.50 | 1.30 | 0.390 | 0.092 | ( 0.351) | 0.298 |
| 43 | 3.58 | 1.40 | 0.420 | 0.092 | ( 0.378) | 0.328 |
| 44 | 3.67 | 1.40 | 0.420 | 0.092 | ( 0.378) | 0.328 |
| 45 | 3.75 | 1.50 | 0.450 | 0.092 | ( 0.405) | 0.358 |
| 46 | 3.83 | 1.50 | 0.450 | 0.092 | ( 0.405) | 0.358 |
| 47 | 3.92 | 1.60 | 0.480 | 0.092 | ( 0.432) | 0.388 |
| 48 | 4.00 | 1.60 | 0.480 | 0.092 | ( 0.432) | 0.388 |
| 49 | 4.08 | 1.70 | 0.510 | 0.092 | ( 0.459) | 0.418 |
| 50 | 4.17 | 1.80 | 0.540 | 0.092 | ( 0.486) | 0.448 |
| 51 | 4.25 | 1.90 | 0.570 | 0.092 | ( 0.513) | 0.478 |
| 52 | 4.33 | 2.00 | 0.600 | 0.092 | ( 0.540) | 0.508 |
| 53 | 4.42 | 2.10 | 0.630 | 0.092 | ( 0.567) | 0.538 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 54 | 4.50 | 2.10 | 0.630 | 0.092 | ( 0.567) | 0.538 | |
| 55 | 4.58 | 2.20 | 0.660 | 0.092 | ( 0.594) | 0.568 | |
| 56 | 4.67 | 2.30 | 0.690 | 0.092 | ( 0.621) | 0.598 | |
| 57 | 4.75 | 2.40 | 0.720 | 0.092 | ( 0.648) | 0.628 | |
| 58 | 4.83 | 2.40 | 0.720 | 0.092 | ( 0.648) | 0.628 | |
| 59 | 4.92 | 2.50 | 0.750 | 0.092 | ( 0.675) | 0.658 | |
| 60 | 5.00 | 2.60 | 0.780 | 0.092 | ( 0.702) | 0.688 | |
| 61 | 5.08 | 3.10 | 0.930 | 0.092 | ( 0.837) | 0.838 | |
| 62 | 5.17 | 3.60 | 1.080 | 0.092 | ( 0.972) | 0.988 | |
| 63 | 5.25 | 3.90 | 1.170 | 0.092 | ( 1.053) | 1.078 | |
| 64 | 5.33 | 4.20 | 1.260 | 0.092 | ( 1.134) | 1.168 | |
| 65 | 5.42 | 4.70 | 1.410 | 0.092 | ( 1.269) | 1.318 | |
| 66 | 5.50 | 5.60 | 1.680 | 0.092 | ( 1.512) | 1.588 | |
| 67 | 5.58 | 1.90 | 0.570 | 0.092 | ( 0.513) | 0.478 | |
| 68 | 5.67 | 0.90 | 0.270 | 0.092 | ( 0.243) | 0.178 | |
| 69 | 5.75 | 0.60 | 0.180 | 0.092 | ( 0.162) | 0.088 | |
| 70 | 5.83 | 0.50 | 0.150 | 0.092 | ( 0.135) | 0.058 | |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.092) | 0.081 | 0.009 | |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.092) | 0.054 | 0.006 | |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.4

Flood volume = Effective rainfall 1.95(In)
times area 2.9(Ac.)/[(In)/(Ft.)] = 0.5(Ac.Ft)
Total soil loss = 0.55(In)
Total soil loss = 0.132(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 20546.9 Cubic Feet
Total soil loss = 5770.4 Cubic Feet

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Peak flow rate of this hydrograph = 4.258(CFS)

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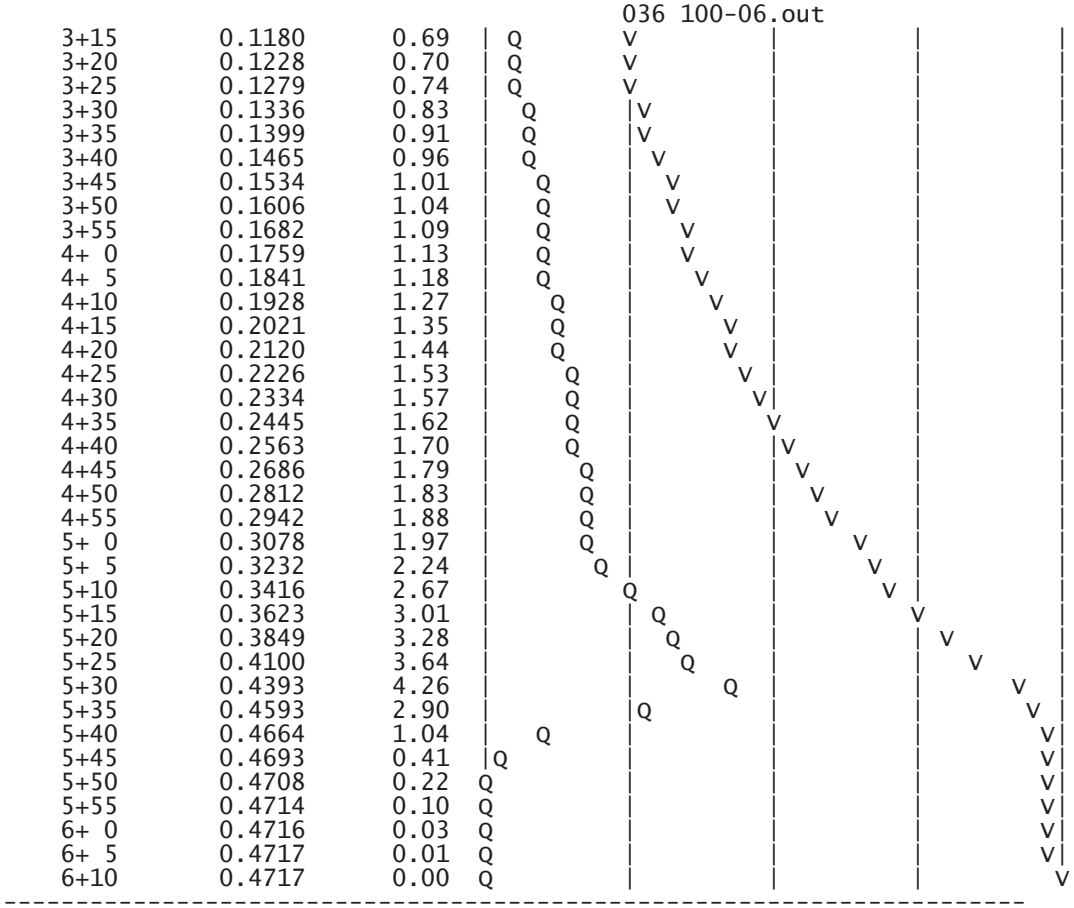
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0006 | 0.09 | Q | | | | |
| 0+10 | 0.0021 | 0.21 | Q | | | | |
| 0+15 | 0.0038 | 0.25 | VQ | | | | |
| 0+20 | 0.0056 | 0.26 | VQ | | | | |
| 0+25 | 0.0074 | 0.26 | VQ | | | | |
| 0+30 | 0.0095 | 0.30 | VQ | | | | |
| 0+35 | 0.0118 | 0.34 | \|Q | | | | |
| 0+40 | 0.0142 | 0.34 | \|Q | | | | |
| 0+45 | 0.0166 | 0.34 | \|Q | | | | |
| 0+50 | 0.0189 | 0.34 | \|Q | | | | |
| 0+55 | 0.0213 | 0.34 | \|Q | | | | |
| 1+ 0 | 0.0240 | 0.39 | \|QV | | | | |
| 1+ 5 | 0.0270 | 0.43 | \|QV | | | | |
| 1+10 | 0.0299 | 0.43 | \|QV | | | | |
| 1+15 | 0.0329 | 0.43 | \|QV | | | | |
| 1+20 | 0.0359 | 0.43 | \|Q V | | | | |
| 1+25 | 0.0389 | 0.43 | \|Q V | | | | |
| 1+30 | 0.0419 | 0.43 | \|Q V | | | | |
| 1+35 | 0.0448 | 0.43 | \|Q V | | | | |
| 1+40 | 0.0478 | 0.43 | \|Q V | | | | |
| 1+45 | 0.0508 | 0.43 | \|Q V | | | | |
| 1+50 | 0.0538 | 0.43 | \|Q V | | | | |
| 1+55 | 0.0568 | 0.43 | \|Q V | | | | |
| 2+ 0 | 0.0601 | 0.48 | \|Q V | | | | |
| 2+ 5 | 0.0633 | 0.47 | \|Q V | | | | |
| 2+10 | 0.0666 | 0.48 | \|Q V | | | | |
| 2+15 | 0.0702 | 0.52 | \| Q V | | | | |
| 2+20 | 0.0738 | 0.52 | \| Q V | | | | |
| 2+25 | 0.0774 | 0.52 | \| Q V | | | | |
| 2+30 | 0.0809 | 0.52 | \| Q V | | | | |
| 2+35 | 0.0845 | 0.52 | \| Q V | | | | |
| 2+40 | 0.0881 | 0.52 | \| Q V | | | | |
| 2+45 | 0.0920 | 0.57 | \| Q V | | | | |
| 2+50 | 0.0962 | 0.61 | \| Q V | | | | |
| 2+55 | 0.1004 | 0.61 | \| Q V | | | | |
| 3+ 0 | 0.1046 | 0.61 | \| Q V | | | | |
| 3+ 5 | 0.1087 | 0.61 | \| Q V | | | | |
| 3+10 | 0.1133 | 0.65 | \| Q V | | | | |



| | | | |
|---|---|---|---|
| 3+15 | 0.1180 | 0.69 | |
| 3+20 | 0.1228 | 0.70 | |
| 3+25 | 0.1279 | 0.74 | |
| 3+30 | 0.1336 | 0.83 | |
| 3+35 | 0.1399 | 0.91 | |
| 3+40 | 0.1465 | 0.96 | |
| 3+45 | 0.1534 | 1.01 | |
| 3+50 | 0.1606 | 1.04 | |
| 3+55 | 0.1682 | 1.09 | |
| 4+ 0 | 0.1759 | 1.13 | |
| 4+ 5 | 0.1841 | 1.18 | |
| 4+10 | 0.1928 | 1.27 | |
| 4+15 | 0.2021 | 1.35 | |
| 4+20 | 0.2120 | 1.44 | |
| 4+25 | 0.2226 | 1.53 | |
| 4+30 | 0.2334 | 1.57 | |
| 4+35 | 0.2445 | 1.62 | |
| 4+40 | 0.2563 | 1.70 | |
| 4+45 | 0.2686 | 1.79 | |
| 4+50 | 0.2812 | 1.83 | |
| 4+55 | 0.2942 | 1.88 | |
| 5+ 0 | 0.3078 | 1.97 | |
| 5+ 5 | 0.3232 | 2.24 | |
| 5+10 | 0.3416 | 2.67 | |
| 5+15 | 0.3623 | 3.01 | |
| 5+20 | 0.3849 | 3.28 | |
| 5+25 | 0.4100 | 3.64 | |
| 5+30 | 0.4393 | 4.26 | |
| 5+35 | 0.4593 | 2.90 | |
| 5+40 | 0.4664 | 1.04 | |
| 5+45 | 0.4693 | 0.41 | |
| 5+50 | 0.4708 | 0.22 | |
| 5+55 | 0.4714 | 0.10 | |
| 6+ 0 | 0.4716 | 0.03 | |
| 6+ 5 | 0.4717 | 0.01 | |
| 6+10 | 0.4717 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX3624100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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164469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 36
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 2.90(Ac.) = 0.005 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.90(Ac.) = 0.005 Sq. Mi.
Length along longest watercourse = 679.00(Ft.)
Length along longest watercourse measured to centroid = 282.00(Ft.)
Length along longest watercourse = 0.129 Mi.
Length along longest watercourse measured to centroid = 0.053 Mi.
Difference in elevation = 190.00(Ft.)
Slope along watercourse = 1477.4669 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.032 Hr.
Lag time = 1.90 Min.
25% of lag time = 0.47 Min.
40% of lag time = 0.76 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.90 | 1.80 | 5.22 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.90 | 4.77 | 13.83 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.770(In)

Point rain (area averaged) = 4.770(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.770(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2.900 | 83.20 | 0.000 |

Total Area Entered = 2.90(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.2 | 92.9 | 0.092 | 0.000 | 0.092 | 1.000 | 0.092 |
| | | | | | Sum (F) = | 0.092 |

Area averaged mean soil loss (F) (In/Hr) = 0.092

Minimum soil loss rate ((In/Hr)) = 0.046
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 263.478 | 52.970 | 1.548 |
| 2 | 0.167 | 526.956 | 43.722 | 1.278 |
| 3 | 0.250 | 790.434 | 3.308 | 0.097 |
| | | | Sum = 100.000 Sum= | 2.923 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.038 | ( 0.163) | 0.034 | 0.004 |
| 2 | 0.17 | 0.07 | 0.038 | ( 0.163) | 0.034 | 0.004 |
| 3 | 0.25 | 0.07 | 0.038 | ( 0.162) | 0.034 | 0.004 |
| 4 | 0.33 | 0.10 | 0.057 | ( 0.161) | 0.052 | 0.006 |
| 5 | 0.42 | 0.10 | 0.057 | ( 0.161) | 0.052 | 0.006 |
| 6 | 0.50 | 0.10 | 0.057 | ( 0.160) | 0.052 | 0.006 |
| 7 | 0.58 | 0.10 | 0.057 | ( 0.159) | 0.052 | 0.006 |
| 8 | 0.67 | 0.10 | 0.057 | ( 0.159) | 0.052 | 0.006 |
| 9 | 0.75 | 0.10 | 0.057 | ( 0.158) | 0.052 | 0.006 |
| 10 | 0.83 | 0.13 | 0.076 | ( 0.158) | 0.069 | 0.008 |
| 11 | 0.92 | 0.13 | 0.076 | ( 0.157) | 0.069 | 0.008 |
| 12 | 1.00 | 0.13 | 0.076 | ( 0.156) | 0.069 | 0.008 |
| 13 | 1.08 | 0.10 | 0.057 | ( 0.156) | 0.052 | 0.006 |
| 14 | 1.17 | 0.10 | 0.057 | ( 0.155) | 0.052 | 0.006 |
| 15 | 1.25 | 0.10 | 0.057 | ( 0.154) | 0.052 | 0.006 |
| 16 | 1.33 | 0.10 | 0.057 | ( 0.154) | 0.052 | 0.006 |
| 17 | 1.42 | 0.10 | 0.057 | ( 0.153) | 0.052 | 0.006 |
| 18 | 1.50 | 0.10 | 0.057 | ( 0.153) | 0.052 | 0.006 |
| 19 | 1.58 | 0.10 | 0.057 | ( 0.152) | 0.052 | 0.006 |
| 20 | 1.67 | 0.10 | 0.057 | ( 0.151) | 0.052 | 0.006 |
| 21 | 1.75 | 0.10 | 0.057 | ( 0.151) | 0.052 | 0.006 |
| 22 | 1.83 | 0.13 | 0.076 | ( 0.150) | 0.069 | 0.008 |
| 23 | 1.92 | 0.13 | 0.076 | ( 0.150) | 0.069 | 0.008 |
| 24 | 2.00 | 0.13 | 0.076 | ( 0.149) | 0.069 | 0.008 |
| 25 | 2.08 | 0.13 | 0.076 | ( 0.148) | 0.069 | 0.008 |
| 26 | 2.17 | 0.13 | 0.076 | ( 0.148) | 0.069 | 0.008 |
| 27 | 2.25 | 0.13 | 0.076 | ( 0.147) | 0.069 | 0.008 |
| 28 | 2.33 | 0.13 | 0.076 | ( 0.147) | 0.069 | 0.008 |
| 29 | 2.42 | 0.13 | 0.076 | ( 0.146) | 0.069 | 0.008 |
| 30 | 2.50 | 0.13 | 0.076 | ( 0.145) | 0.069 | 0.008 |
| 31 | 2.58 | 0.17 | 0.095 | ( 0.145) | 0.086 | 0.010 |
| 32 | 2.67 | 0.17 | 0.095 | ( 0.144) | 0.086 | 0.010 |
| 33 | 2.75 | 0.17 | 0.095 | ( 0.144) | 0.086 | 0.010 |
| 34 | 2.83 | 0.17 | 0.095 | ( 0.143) | 0.086 | 0.010 |
| 35 | 2.92 | 0.17 | 0.095 | ( 0.142) | 0.086 | 0.010 |
| 36 | 3.00 | 0.17 | 0.095 | ( 0.142) | 0.086 | 0.010 |
| 37 | 3.08 | 0.17 | 0.095 | ( 0.141) | 0.086 | 0.010 |
| 38 | 3.17 | 0.17 | 0.095 | ( 0.141) | 0.086 | 0.010 |
| 39 | 3.25 | 0.17 | 0.095 | ( 0.140) | 0.086 | 0.010 |
| 40 | 3.33 | 0.17 | 0.095 | ( 0.139) | 0.086 | 0.010 |
| 41 | 3.42 | 0.17 | 0.095 | ( 0.139) | 0.086 | 0.010 |
| 42 | 3.50 | 0.17 | 0.095 | ( 0.138) | 0.086 | 0.010 |
| 43 | 3.58 | 0.17 | 0.095 | ( 0.138) | 0.086 | 0.010 |
| 44 | 3.67 | 0.17 | 0.095 | ( 0.137) | 0.086 | 0.010 |
| 45 | 3.75 | 0.17 | 0.095 | ( 0.137) | 0.086 | 0.010 |
| 46 | 3.83 | 0.20 | 0.114 | ( 0.136) | 0.103 | 0.011 |
| 47 | 3.92 | 0.20 | 0.114 | ( 0.135) | 0.103 | 0.011 |
| 48 | 4.00 | 0.20 | 0.114 | ( 0.135) | 0.103 | 0.011 |
| 49 | 4.08 | 0.20 | 0.114 | ( 0.134) | 0.103 | 0.011 |
| 50 | 4.17 | 0.20 | 0.114 | ( 0.134) | 0.103 | 0.011 |
| 51 | 4.25 | 0.20 | 0.114 | ( 0.133) | 0.103 | 0.011 |
| 52 | 4.33 | 0.23 | 0.134 | ( 0.133) | 0.120 | 0.013 |
| 53 | 4.42 | 0.23 | 0.134 | ( 0.132) | 0.120 | 0.013 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 54 | 4.50 | 0.23 | 0.134 | ( | 0.131) | 0.120 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.134 | ( | 0.131) | 0.120 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.134 | ( | 0.130) | 0.120 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.134 | ( | 0.130) | 0.120 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.153 | | 0.129 | ( 0.137) | | 0.023 |
| 59 | 4.92 | 0.27 | 0.153 | | 0.129 | ( 0.137) | | 0.024 |
| 60 | 5.00 | 0.27 | 0.153 | | 0.128 | ( 0.137) | | 0.025 |
| 61 | 5.08 | 0.20 | 0.114 | ( | 0.128) | 0.103 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.114 | ( | 0.127) | 0.103 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.114 | ( | 0.126) | 0.103 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.134 | ( | 0.126) | 0.120 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.134 | ( | 0.125) | 0.120 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.134 | ( | 0.125) | 0.120 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.153 | | 0.124 | ( 0.137) | | 0.028 |
| 68 | 5.67 | 0.27 | 0.153 | | 0.124 | ( 0.137) | | 0.029 |
| 69 | 5.75 | 0.27 | 0.153 | | 0.123 | ( 0.137) | | 0.030 |
| 70 | 5.83 | 0.27 | 0.153 | | 0.123 | ( 0.137) | | 0.030 |
| 71 | 5.92 | 0.27 | 0.153 | | 0.122 | ( 0.137) | | 0.031 |
| 72 | 6.00 | 0.27 | 0.153 | | 0.121 | ( 0.137) | | 0.031 |
| 73 | 6.08 | 0.30 | 0.172 | | 0.121 | ( 0.155) | | 0.051 |
| 74 | 6.17 | 0.30 | 0.172 | | 0.120 | ( 0.155) | | 0.051 |
| 75 | 6.25 | 0.30 | 0.172 | | 0.120 | ( 0.155) | | 0.052 |
| 76 | 6.33 | 0.30 | 0.172 | | 0.119 | ( 0.155) | | 0.052 |
| 77 | 6.42 | 0.30 | 0.172 | | 0.119 | ( 0.155) | | 0.053 |
| 78 | 6.50 | 0.30 | 0.172 | | 0.118 | ( 0.155) | | 0.053 |
| 79 | 6.58 | 0.33 | 0.191 | | 0.118 | ( 0.172) | | 0.073 |
| 80 | 6.67 | 0.33 | 0.191 | | 0.117 | ( 0.172) | | 0.074 |
| 81 | 6.75 | 0.33 | 0.191 | | 0.117 | ( 0.172) | | 0.074 |
| 82 | 6.83 | 0.33 | 0.191 | | 0.116 | ( 0.172) | | 0.075 |
| 83 | 6.92 | 0.33 | 0.191 | | 0.116 | ( 0.172) | | 0.075 |
| 84 | 7.00 | 0.33 | 0.191 | | 0.115 | ( 0.172) | | 0.076 |
| 85 | 7.08 | 0.33 | 0.191 | | 0.115 | ( 0.172) | | 0.076 |
| 86 | 7.17 | 0.33 | 0.191 | | 0.114 | ( 0.172) | | 0.077 |
| 87 | 7.25 | 0.33 | 0.191 | | 0.114 | ( 0.172) | | 0.077 |
| 88 | 7.33 | 0.37 | 0.210 | | 0.113 | ( 0.189) | | 0.097 |
| 89 | 7.42 | 0.37 | 0.210 | | 0.113 | ( 0.189) | | 0.097 |
| 90 | 7.50 | 0.37 | 0.210 | | 0.112 | ( 0.189) | | 0.098 |
| 91 | 7.58 | 0.40 | 0.229 | | 0.111 | ( 0.206) | | 0.117 |
| 92 | 7.67 | 0.40 | 0.229 | | 0.111 | ( 0.206) | | 0.118 |
| 93 | 7.75 | 0.40 | 0.229 | | 0.110 | ( 0.206) | | 0.119 |
| 94 | 7.83 | 0.43 | 0.248 | | 0.110 | ( 0.223) | | 0.138 |
| 95 | 7.92 | 0.43 | 0.248 | | 0.109 | ( 0.223) | | 0.139 |
| 96 | 8.00 | 0.43 | 0.248 | | 0.109 | ( 0.223) | | 0.139 |
| 97 | 8.08 | 0.50 | 0.286 | | 0.108 | ( 0.258) | | 0.178 |
| 98 | 8.17 | 0.50 | 0.286 | | 0.108 | ( 0.258) | | 0.178 |
| 99 | 8.25 | 0.50 | 0.286 | | 0.107 | ( 0.258) | | 0.179 |
| 100 | 8.33 | 0.50 | 0.286 | | 0.107 | ( 0.258) | | 0.179 |
| 101 | 8.42 | 0.50 | 0.286 | | 0.106 | ( 0.258) | | 0.180 |
| 102 | 8.50 | 0.50 | 0.286 | | 0.106 | ( 0.258) | | 0.180 |
| 103 | 8.58 | 0.53 | 0.305 | | 0.105 | ( 0.275) | | 0.200 |
| 104 | 8.67 | 0.53 | 0.305 | | 0.105 | ( 0.275) | | 0.200 |
| 105 | 8.75 | 0.53 | 0.305 | | 0.104 | ( 0.275) | | 0.201 |
| 106 | 8.83 | 0.57 | 0.324 | | 0.104 | ( 0.292) | | 0.220 |
| 107 | 8.92 | 0.57 | 0.324 | | 0.103 | ( 0.292) | | 0.221 |
| 108 | 9.00 | 0.57 | 0.324 | | 0.103 | ( 0.292) | | 0.221 |
| 109 | 9.08 | 0.63 | 0.363 | | 0.102 | ( 0.326) | | 0.260 |
| 110 | 9.17 | 0.63 | 0.363 | | 0.102 | ( 0.326) | | 0.261 |
| 111 | 9.25 | 0.63 | 0.363 | | 0.101 | ( 0.326) | | 0.261 |
| 112 | 9.33 | 0.67 | 0.382 | | 0.101 | ( 0.343) | | 0.281 |
| 113 | 9.42 | 0.67 | 0.382 | | 0.101 | ( 0.343) | | 0.281 |
| 114 | 9.50 | 0.67 | 0.382 | | 0.100 | ( 0.343) | | 0.282 |
| 115 | 9.58 | 0.70 | 0.401 | | 0.100 | ( 0.361) | | 0.301 |
| 116 | 9.67 | 0.70 | 0.401 | | 0.099 | ( 0.361) | | 0.302 |
| 117 | 9.75 | 0.70 | 0.401 | | 0.099 | ( 0.361) | | 0.302 |
| 118 | 9.83 | 0.73 | 0.420 | | 0.098 | ( 0.378) | | 0.322 |
| 119 | 9.92 | 0.73 | 0.420 | | 0.098 | ( 0.378) | | 0.322 |
| 120 | 10.00 | 0.73 | 0.420 | | 0.097 | ( 0.378) | | 0.323 |
| 121 | 10.08 | 0.50 | 0.286 | | 0.097 | ( 0.258) | | 0.189 |
| 122 | 10.17 | 0.50 | 0.286 | | 0.096 | ( 0.258) | | 0.190 |
| 123 | 10.25 | 0.50 | 0.286 | | 0.096 | ( 0.258) | | 0.190 |
| 124 | 10.33 | 0.50 | 0.286 | | 0.095 | ( 0.258) | | 0.191 |
| 125 | 10.42 | 0.50 | 0.286 | | 0.095 | ( 0.258) | | 0.191 |
| 126 | 10.50 | 0.50 | 0.286 | | 0.094 | ( 0.258) | | 0.192 |
| 127 | 10.58 | 0.67 | 0.382 | | 0.094 | ( 0.343) | | 0.288 |
| 128 | 10.67 | 0.67 | 0.382 | | 0.093 | ( 0.343) | | 0.288 |
| 129 | 10.75 | 0.67 | 0.382 | | 0.093 | ( 0.343) | | 0.289 |
| 130 | 10.83 | 0.67 | 0.382 | | 0.093 | ( 0.343) | | 0.289 |
| 131 | 10.92 | 0.67 | 0.382 | | 0.092 | ( 0.343) | | 0.289 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 132 | 11.00 | 0.67 | 0.382 | 0.092 | ( 0.343) | 0.290 |
| 133 | 11.08 | 0.63 | 0.363 | 0.091 | ( 0.326) | 0.271 |
| 134 | 11.17 | 0.63 | 0.363 | 0.091 | ( 0.326) | 0.272 |
| 135 | 11.25 | 0.63 | 0.363 | 0.090 | ( 0.326) | 0.272 |
| 136 | 11.33 | 0.63 | 0.363 | 0.090 | ( 0.326) | 0.273 |
| 137 | 11.42 | 0.63 | 0.363 | 0.089 | ( 0.326) | 0.273 |
| 138 | 11.50 | 0.63 | 0.363 | 0.089 | ( 0.326) | 0.274 |
| 139 | 11.58 | 0.57 | 0.324 | 0.089 | ( 0.292) | 0.236 |
| 140 | 11.67 | 0.57 | 0.324 | 0.088 | ( 0.292) | 0.236 |
| 141 | 11.75 | 0.57 | 0.324 | 0.088 | ( 0.292) | 0.237 |
| 142 | 11.83 | 0.60 | 0.343 | 0.087 | ( 0.309) | 0.256 |
| 143 | 11.92 | 0.60 | 0.343 | 0.087 | ( 0.309) | 0.257 |
| 144 | 12.00 | 0.60 | 0.343 | 0.086 | ( 0.309) | 0.257 |
| 145 | 12.08 | 0.83 | 0.477 | 0.086 | ( 0.429) | 0.391 |
| 146 | 12.17 | 0.83 | 0.477 | 0.085 | ( 0.429) | 0.392 |
| 147 | 12.25 | 0.83 | 0.477 | 0.085 | ( 0.429) | 0.392 |
| 148 | 12.33 | 0.87 | 0.496 | 0.085 | ( 0.446) | 0.411 |
| 149 | 12.42 | 0.87 | 0.496 | 0.084 | ( 0.446) | 0.412 |
| 150 | 12.50 | 0.87 | 0.496 | 0.084 | ( 0.446) | 0.412 |
| 151 | 12.58 | 0.93 | 0.534 | 0.083 | ( 0.481) | 0.451 |
| 152 | 12.67 | 0.93 | 0.534 | 0.083 | ( 0.481) | 0.451 |
| 153 | 12.75 | 0.93 | 0.534 | 0.083 | ( 0.481) | 0.452 |
| 154 | 12.83 | 0.97 | 0.553 | 0.082 | ( 0.498) | 0.471 |
| 155 | 12.92 | 0.97 | 0.553 | 0.082 | ( 0.498) | 0.472 |
| 156 | 13.00 | 0.97 | 0.553 | 0.081 | ( 0.498) | 0.472 |
| 157 | 13.08 | 1.13 | 0.649 | 0.081 | ( 0.584) | 0.568 |
| 158 | 13.17 | 1.13 | 0.649 | 0.080 | ( 0.584) | 0.568 |
| 159 | 13.25 | 1.13 | 0.649 | 0.080 | ( 0.584) | 0.569 |
| 160 | 13.33 | 1.13 | 0.649 | 0.080 | ( 0.584) | 0.569 |
| 161 | 13.42 | 1.13 | 0.649 | 0.079 | ( 0.584) | 0.569 |
| 162 | 13.50 | 1.13 | 0.649 | 0.079 | ( 0.584) | 0.570 |
| 163 | 13.58 | 0.77 | 0.439 | 0.078 | ( 0.395) | 0.360 |
| 164 | 13.67 | 0.77 | 0.439 | 0.078 | ( 0.395) | 0.361 |
| 165 | 13.75 | 0.77 | 0.439 | 0.078 | ( 0.395) | 0.361 |
| 166 | 13.83 | 0.77 | 0.439 | 0.077 | ( 0.395) | 0.362 |
| 167 | 13.92 | 0.77 | 0.439 | 0.077 | ( 0.395) | 0.362 |
| 168 | 14.00 | 0.77 | 0.439 | 0.076 | ( 0.395) | 0.362 |
| 169 | 14.08 | 0.90 | 0.515 | 0.076 | ( 0.464) | 0.439 |
| 170 | 14.17 | 0.90 | 0.515 | 0.076 | ( 0.464) | 0.439 |
| 171 | 14.25 | 0.90 | 0.515 | 0.075 | ( 0.464) | 0.440 |
| 172 | 14.33 | 0.87 | 0.496 | 0.075 | ( 0.446) | 0.421 |
| 173 | 14.42 | 0.87 | 0.496 | 0.075 | ( 0.446) | 0.422 |
| 174 | 14.50 | 0.87 | 0.496 | 0.074 | ( 0.446) | 0.422 |
| 175 | 14.58 | 0.87 | 0.496 | 0.074 | ( 0.446) | 0.422 |
| 176 | 14.67 | 0.87 | 0.496 | 0.073 | ( 0.446) | 0.423 |
| 177 | 14.75 | 0.87 | 0.496 | 0.073 | ( 0.446) | 0.423 |
| 178 | 14.83 | 0.83 | 0.477 | 0.073 | ( 0.429) | 0.404 |
| 179 | 14.92 | 0.83 | 0.477 | 0.072 | ( 0.429) | 0.405 |
| 180 | 15.00 | 0.83 | 0.477 | 0.072 | ( 0.429) | 0.405 |
| 181 | 15.08 | 0.80 | 0.458 | 0.072 | ( 0.412) | 0.386 |
| 182 | 15.17 | 0.80 | 0.458 | 0.071 | ( 0.412) | 0.387 |
| 183 | 15.25 | 0.80 | 0.458 | 0.071 | ( 0.412) | 0.387 |
| 184 | 15.33 | 0.77 | 0.439 | 0.070 | ( 0.395) | 0.368 |
| 185 | 15.42 | 0.77 | 0.439 | 0.070 | ( 0.395) | 0.369 |
| 186 | 15.50 | 0.77 | 0.439 | 0.070 | ( 0.395) | 0.369 |
| 187 | 15.58 | 0.63 | 0.363 | 0.069 | ( 0.326) | 0.293 |
| 188 | 15.67 | 0.63 | 0.363 | 0.069 | ( 0.326) | 0.294 |
| 189 | 15.75 | 0.63 | 0.363 | 0.069 | ( 0.326) | 0.294 |
| 190 | 15.83 | 0.63 | 0.363 | 0.068 | ( 0.326) | 0.294 |
| 191 | 15.92 | 0.63 | 0.363 | 0.068 | ( 0.326) | 0.295 |
| 192 | 16.00 | 0.63 | 0.363 | 0.068 | ( 0.326) | 0.295 |
| 193 | 16.08 | 0.13 | 0.076 | 0.067 | ( 0.069) | 0.009 |
| 194 | 16.17 | 0.13 | 0.076 | 0.067 | ( 0.069) | 0.009 |
| 195 | 16.25 | 0.13 | 0.076 | 0.067 | ( 0.069) | 0.010 |
| 196 | 16.33 | 0.13 | 0.076 | 0.066 | ( 0.069) | 0.010 |
| 197 | 16.42 | 0.13 | 0.076 | 0.066 | ( 0.069) | 0.010 |
| 198 | 16.50 | 0.13 | 0.076 | 0.066 | ( 0.069) | 0.011 |
| 199 | 16.58 | 0.10 | 0.057 | ( 0.065) | 0.052 | 0.006 |
| 200 | 16.67 | 0.10 | 0.057 | ( 0.065) | 0.052 | 0.006 |
| 201 | 16.75 | 0.10 | 0.057 | ( 0.065) | 0.052 | 0.006 |
| 202 | 16.83 | 0.10 | 0.057 | ( 0.064) | 0.052 | 0.006 |
| 203 | 16.92 | 0.10 | 0.057 | ( 0.064) | 0.052 | 0.006 |
| 204 | 17.00 | 0.10 | 0.057 | ( 0.064) | 0.052 | 0.006 |
| 205 | 17.08 | 0.17 | 0.095 | 0.063 | ( 0.086) | 0.032 |
| 206 | 17.17 | 0.17 | 0.095 | 0.063 | ( 0.086) | 0.032 |
| 207 | 17.25 | 0.17 | 0.095 | 0.063 | ( 0.086) | 0.033 |
| 208 | 17.33 | 0.17 | 0.095 | 0.062 | ( 0.086) | 0.033 |
| 209 | 17.42 | 0.17 | 0.095 | 0.062 | ( 0.086) | 0.033 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 210 | 17.50 | 0.17 | 0.095 | | 0.062 | ( | 0.086) | 0.034 |
| 211 | 17.58 | 0.17 | 0.095 | | 0.061 | ( | 0.086) | 0.034 |
| 212 | 17.67 | 0.17 | 0.095 | | 0.061 | ( | 0.086) | 0.034 |
| 213 | 17.75 | 0.17 | 0.095 | | 0.061 | ( | 0.086) | 0.035 |
| 214 | 17.83 | 0.13 | 0.076 | | 0.060 | ( | 0.069) | 0.016 |
| 215 | 17.92 | 0.13 | 0.076 | | 0.060 | ( | 0.069) | 0.016 |
| 216 | 18.00 | 0.13 | 0.076 | | 0.060 | ( | 0.069) | 0.016 |
| 217 | 18.08 | 0.13 | 0.076 | | 0.060 | ( | 0.069) | 0.017 |
| 218 | 18.17 | 0.13 | 0.076 | | 0.059 | ( | 0.069) | 0.017 |
| 219 | 18.25 | 0.13 | 0.076 | | 0.059 | ( | 0.069) | 0.017 |
| 220 | 18.33 | 0.13 | 0.076 | | 0.059 | ( | 0.069) | 0.018 |
| 221 | 18.42 | 0.13 | 0.076 | | 0.058 | ( | 0.069) | 0.018 |
| 222 | 18.50 | 0.13 | 0.076 | | 0.058 | ( | 0.069) | 0.018 |
| 223 | 18.58 | 0.10 | 0.057 | ( | 0.058) | | 0.052 | 0.006 |
| 224 | 18.67 | 0.10 | 0.057 | ( | 0.058) | | 0.052 | 0.006 |
| 225 | 18.75 | 0.10 | 0.057 | ( | 0.057) | | 0.052 | 0.006 |
| 226 | 18.83 | 0.07 | 0.038 | ( | 0.057) | | 0.034 | 0.004 |
| 227 | 18.92 | 0.07 | 0.038 | ( | 0.057) | | 0.034 | 0.004 |
| 228 | 19.00 | 0.07 | 0.038 | ( | 0.056) | | 0.034 | 0.004 |
| 229 | 19.08 | 0.10 | 0.057 | ( | 0.056) | | 0.052 | 0.006 |
| 230 | 19.17 | 0.10 | 0.057 | ( | 0.056) | | 0.052 | 0.006 |
| 231 | 19.25 | 0.10 | 0.057 | ( | 0.056) | | 0.052 | 0.006 |
| 232 | 19.33 | 0.13 | 0.076 | | 0.055 | ( | 0.069) | 0.021 |
| 233 | 19.42 | 0.13 | 0.076 | | 0.055 | ( | 0.069) | 0.021 |
| 234 | 19.50 | 0.13 | 0.076 | | 0.055 | ( | 0.069) | 0.021 |
| 235 | 19.58 | 0.10 | 0.057 | ( | 0.055) | | 0.052 | 0.006 |
| 236 | 19.67 | 0.10 | 0.057 | ( | 0.054) | | 0.052 | 0.006 |
| 237 | 19.75 | 0.10 | 0.057 | ( | 0.054) | | 0.052 | 0.006 |
| 238 | 19.83 | 0.07 | 0.038 | ( | 0.054) | | 0.034 | 0.004 |
| 239 | 19.92 | 0.07 | 0.038 | ( | 0.054) | | 0.034 | 0.004 |
| 240 | 20.00 | 0.07 | 0.038 | ( | 0.053) | | 0.034 | 0.004 |
| 241 | 20.08 | 0.10 | 0.057 | ( | 0.053) | | 0.052 | 0.006 |
| 242 | 20.17 | 0.10 | 0.057 | ( | 0.053) | | 0.052 | 0.006 |
| 243 | 20.25 | 0.10 | 0.057 | ( | 0.053) | | 0.052 | 0.006 |
| 244 | 20.33 | 0.10 | 0.057 | ( | 0.053) | | 0.052 | 0.006 |
| 245 | 20.42 | 0.10 | 0.057 | ( | 0.052) | | 0.052 | 0.006 |
| 246 | 20.50 | 0.10 | 0.057 | ( | 0.052) | | 0.052 | 0.006 |
| 247 | 20.58 | 0.10 | 0.057 | ( | 0.052) | | 0.052 | 0.006 |
| 248 | 20.67 | 0.10 | 0.057 | ( | 0.052) | | 0.052 | 0.006 |
| 249 | 20.75 | 0.10 | 0.057 | | 0.051 | ( | 0.052) | 0.006 |
| 250 | 20.83 | 0.07 | 0.038 | ( | 0.051) | | 0.034 | 0.004 |
| 251 | 20.92 | 0.07 | 0.038 | ( | 0.051) | | 0.034 | 0.004 |
| 252 | 21.00 | 0.07 | 0.038 | ( | 0.051) | | 0.034 | 0.004 |
| 253 | 21.08 | 0.10 | 0.057 | | 0.051 | ( | 0.052) | 0.007 |
| 254 | 21.17 | 0.10 | 0.057 | | 0.050 | ( | 0.052) | 0.007 |
| 255 | 21.25 | 0.10 | 0.057 | | 0.050 | ( | 0.052) | 0.007 |
| 256 | 21.33 | 0.07 | 0.038 | ( | 0.050) | | 0.034 | 0.004 |
| 257 | 21.42 | 0.07 | 0.038 | ( | 0.050) | | 0.034 | 0.004 |
| 258 | 21.50 | 0.07 | 0.038 | ( | 0.050) | | 0.034 | 0.004 |
| 259 | 21.58 | 0.10 | 0.057 | | 0.049 | ( | 0.052) | 0.008 |
| 260 | 21.67 | 0.10 | 0.057 | | 0.049 | ( | 0.052) | 0.008 |
| 261 | 21.75 | 0.10 | 0.057 | | 0.049 | ( | 0.052) | 0.008 |
| 262 | 21.83 | 0.07 | 0.038 | ( | 0.049) | | 0.034 | 0.004 |
| 263 | 21.92 | 0.07 | 0.038 | ( | 0.049) | | 0.034 | 0.004 |
| 264 | 22.00 | 0.07 | 0.038 | ( | 0.049) | | 0.034 | 0.004 |
| 265 | 22.08 | 0.10 | 0.057 | | 0.048 | ( | 0.052) | 0.009 |
| 266 | 22.17 | 0.10 | 0.057 | | 0.048 | ( | 0.052) | 0.009 |
| 267 | 22.25 | 0.10 | 0.057 | | 0.048 | ( | 0.052) | 0.009 |
| 268 | 22.33 | 0.07 | 0.038 | ( | 0.048) | | 0.034 | 0.004 |
| 269 | 22.42 | 0.07 | 0.038 | ( | 0.048) | | 0.034 | 0.004 |
| 270 | 22.50 | 0.07 | 0.038 | ( | 0.048) | | 0.034 | 0.004 |
| 271 | 22.58 | 0.07 | 0.038 | ( | 0.048) | | 0.034 | 0.004 |
| 272 | 22.67 | 0.07 | 0.038 | ( | 0.047) | | 0.034 | 0.004 |
| 273 | 22.75 | 0.07 | 0.038 | ( | 0.047) | | 0.034 | 0.004 |
| 274 | 22.83 | 0.07 | 0.038 | ( | 0.047) | | 0.034 | 0.004 |
| 275 | 22.92 | 0.07 | 0.038 | ( | 0.047) | | 0.034 | 0.004 |
| 276 | 23.00 | 0.07 | 0.038 | ( | 0.047) | | 0.034 | 0.004 |
| 277 | 23.08 | 0.07 | 0.038 | ( | 0.047) | | 0.034 | 0.004 |
| 278 | 23.17 | 0.07 | 0.038 | ( | 0.047) | | 0.034 | 0.004 |
| 279 | 23.25 | 0.07 | 0.038 | ( | 0.047) | | 0.034 | 0.004 |
| 280 | 23.33 | 0.07 | 0.038 | ( | 0.047) | | 0.034 | 0.004 |
| 281 | 23.42 | 0.07 | 0.038 | ( | 0.046) | | 0.034 | 0.004 |
| 282 | 23.50 | 0.07 | 0.038 | ( | 0.046) | | 0.034 | 0.004 |
| 283 | 23.58 | 0.07 | 0.038 | ( | 0.046) | | 0.034 | 0.004 |
| 284 | 23.67 | 0.07 | 0.038 | ( | 0.046) | | 0.034 | 0.004 |
| 285 | 23.75 | 0.07 | 0.038 | ( | 0.046) | | 0.034 | 0.004 |
| 286 | 23.83 | 0.07 | 0.038 | ( | 0.046) | | 0.034 | 0.004 |
| 287 | 23.92 | 0.07 | 0.038 | ( | 0.046) | | 0.034 | 0.004 |

288 24.00 0.07 0.038 ( 0.046) 0.034 0.004
(Loss Rate Not Used)
Sum = 100.0 Sum = 35.5
Flood volume = Effective rainfall 2.96(In)
times area 2.9(Ac.)/[(In)/(Ft.)] = 0.7(Ac.Ft)
Total soil loss = 1.81(In)
Total soil loss = 0.439(Ac.Ft)
Total rainfall = 4.77(In)
Flood volume = 31108.0 Cubic Feet
Total soil loss = 19105.5 Cubic Feet

Peak flow rate of this hydrograph = 1.666(CFS)

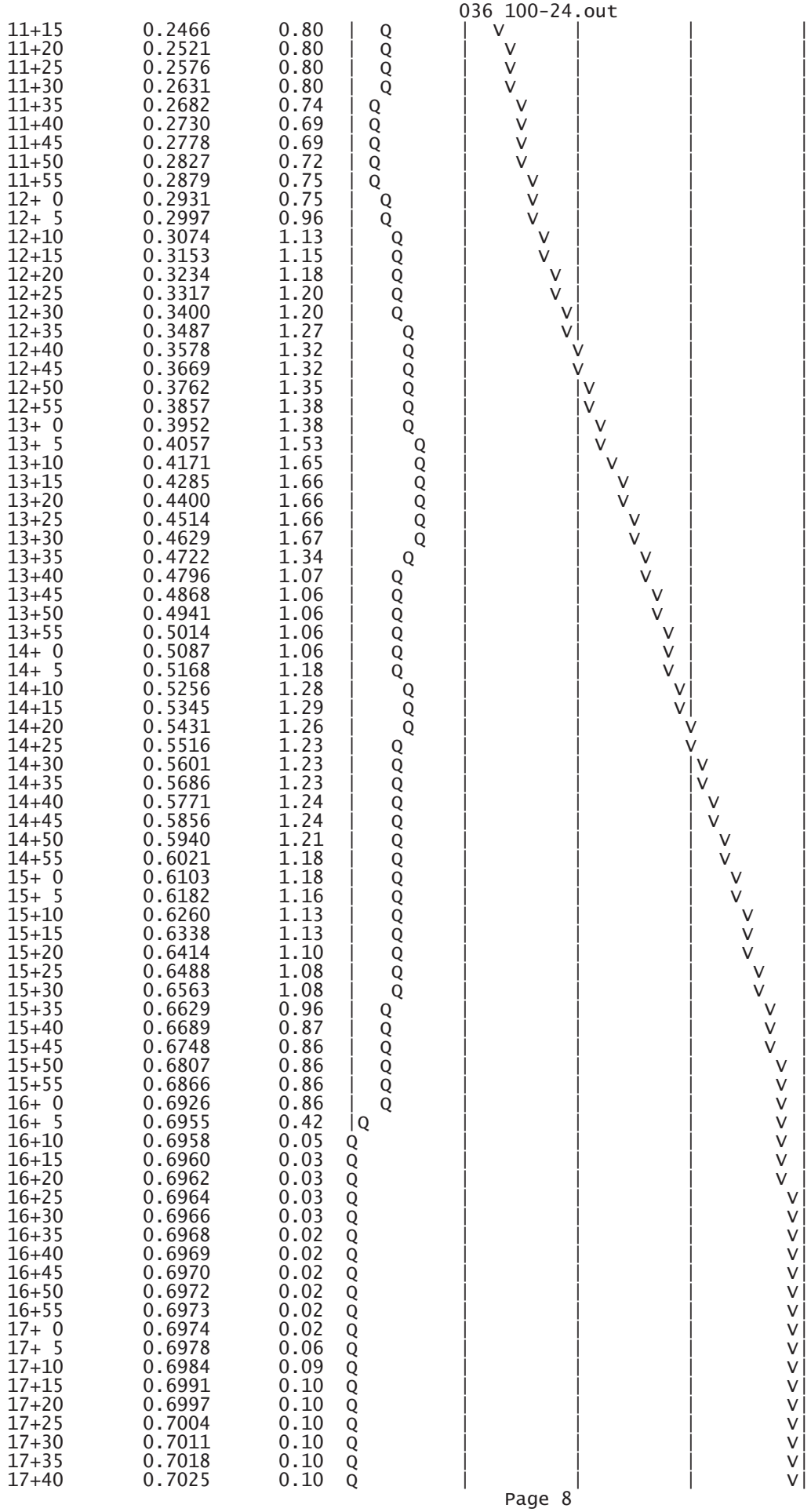
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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0000 | 0.01 | Q | | | | |
| 0+10 | 0.0001 | 0.01 | Q | | | | |
| 0+15 | 0.0002 | 0.01 | Q | | | | |
| 0+20 | 0.0003 | 0.01 | Q | | | | |
| 0+25 | 0.0004 | 0.02 | Q | | | | |
| 0+30 | 0.0005 | 0.02 | Q | | | | |
| 0+35 | 0.0006 | 0.02 | Q | | | | |
| 0+40 | 0.0007 | 0.02 | Q | | | | |
| 0+45 | 0.0009 | 0.02 | Q | | | | |
| 0+50 | 0.0010 | 0.02 | Q | | | | |
| 0+55 | 0.0012 | 0.02 | Q | | | | |
| 1+ 0 | 0.0013 | 0.02 | Q | | | | |
| 1+ 5 | 0.0014 | 0.02 | Q | | | | |
| 1+10 | 0.0016 | 0.02 | Q | | | | |
| 1+15 | 0.0017 | 0.02 | Q | | | | |
| 1+20 | 0.0018 | 0.02 | Q | | | | |
| 1+25 | 0.0019 | 0.02 | Q | | | | |
| 1+30 | 0.0020 | 0.02 | Q | | | | |
| 1+35 | 0.0021 | 0.02 | Q | | | | |
| 1+40 | 0.0022 | 0.02 | Q | | | | |
| 1+45 | 0.0024 | 0.02 | Q | | | | |
| 1+50 | 0.0025 | 0.02 | Q | | | | |
| 1+55 | 0.0027 | 0.02 | Q | | | | |
| 2+ 0 | 0.0028 | 0.02 | Q | | | | |
| 2+ 5 | 0.0030 | 0.02 | Q | | | | |
| 2+10 | 0.0031 | 0.02 | Q | | | | |
| 2+15 | 0.0033 | 0.02 | Q | | | | |
| 2+20 | 0.0034 | 0.02 | Q | | | | |
| 2+25 | 0.0036 | 0.02 | Q | | | | |
| 2+30 | 0.0037 | 0.02 | Q | | | | |
| 2+35 | 0.0039 | 0.03 | Q | | | | |
| 2+40 | 0.0041 | 0.03 | Q | | | | |
| 2+45 | 0.0043 | 0.03 | Q | | | | |
| 2+50 | 0.0045 | 0.03 | Q | | | | |
| 2+55 | 0.0047 | 0.03 | Q | | | | |
| 3+ 0 | 0.0049 | 0.03 | Q | | | | |
| 3+ 5 | 0.0051 | 0.03 | Q | | | | |
| 3+10 | 0.0052 | 0.03 | Q | | | | |
| 3+15 | 0.0054 | 0.03 | Q | | | | |
| 3+20 | 0.0056 | 0.03 | Q | | | | |
| 3+25 | 0.0058 | 0.03 | Q | | | | |
| 3+30 | 0.0060 | 0.03 | Q | | | | |
| 3+35 | 0.0062 | 0.03 | Q | | | | |
| 3+40 | 0.0064 | 0.03 | Q | | | | |
| 3+45 | 0.0066 | 0.03 | Q | | | | |
| 3+50 | 0.0068 | 0.03 | Q | | | | |
| 3+55 | 0.0070 | 0.03 | Q | | | | |
| 4+ 0 | 0.0073 | 0.03 | Q | | | | |
| 4+ 5 | 0.0075 | 0.03 | Q | | | | |
| 4+10 | 0.0077 | 0.03 | Q | | | | |
| 4+15 | 0.0080 | 0.03 | Q | | | | |
| 4+20 | 0.0082 | 0.04 | Q | | | | |
| 4+25 | 0.0085 | 0.04 | Q | | | | |
| 4+30 | 0.0087 | 0.04 | Q | | | | |
| 4+35 | 0.0090 | 0.04 | Q | | | | |
| 4+40 | 0.0093 | 0.04 | Q | | | | |

```
 4+45       0.0095      0.04  Q          |          |          |          |
 4+50       0.0099      0.05  Q          |          |          |          |
 4+55       0.0104      0.07  Q          |          |          |          |
 5+ 0       0.0109      0.07  Q          |          |          |          |
 5+ 5       0.0112      0.05  Q          |          |          |          |
 5+10       0.0115      0.03  Q          |          |          |          |
 5+15       0.0117      0.03  Q          |          |          |          |
 5+20       0.0120      0.04  Q          |          |          |          |
 5+25       0.0122      0.04  Q          |          |          |          |
 5+30       0.0125      0.04  Q          |          |          |          |
 5+35       0.0129      0.06  Q          |          |          |          |
 5+40       0.0135      0.08  Q          |          |          |          |
 5+45       0.0141      0.09  Q          |          |          |          |
 5+50       0.0147      0.09  Q          |          |          |          |
 5+55       0.0153      0.09  Q          |          |          |          |
 6+ 0       0.0159      0.09  Q          |          |          |          |
 6+ 5       0.0168      0.12  Q          |          |          |          |
 6+10       0.0178      0.15  Q          |          |          |          |
 6+15       0.0188      0.15  QV         |          |          |          |
 6+20       0.0199      0.15  QV         |          |          |          |
 6+25       0.0209      0.15  QV         |          |          |          |
 6+30       0.0220      0.16  QV         |          |          |          |
 6+35       0.0233      0.19  QV         |          |          |          |
 6+40       0.0247      0.21  QV         |          |          |          |
 6+45       0.0262      0.22  QV         |          |          |          |
 6+50       0.0277      0.22  QV         |          |          |          |
 6+55       0.0292      0.22  QV         |          |          |          |
 7+ 0       0.0307      0.22  QV         |          |          |          |
 7+ 5       0.0323      0.22  QV         |          |          |          |
 7+10       0.0338      0.22  QV         |          |          |          |
 7+15       0.0354      0.23  QV         |          |          |          |
 7+20       0.0371      0.26  |QV         |          |          |          |
 7+25       0.0391      0.28  |QV         |          |          |          |
 7+30       0.0410      0.29  |QV         |          |          |          |
 7+35       0.0432      0.32  |QV         |          |          |          |
 7+40       0.0456      0.34  |QV         |          |          |          |
 7+45       0.0480      0.35  |QV         |          |          |          |
 7+50       0.0506      0.38  |QV         |          |          |          |
 7+55       0.0533      0.40  |QV         |          |          |          |
 8+ 0       0.0561      0.41  |Q V        |          |          |          |
 8+ 5       0.0593      0.47  |Q V        |          |          |          |
 8+10       0.0629      0.52  | QV        |          |          |          |
 8+15       0.0665      0.52  | QV        |          |          |          |
 8+20       0.0701      0.52  | QV        |          |          |          |
 8+25       0.0737      0.52  | Q V       |          |          |          |
 8+30       0.0773      0.53  | Q V       |          |          |          |
 8+35       0.0812      0.56  | Q V       |          |          |          |
 8+40       0.0852      0.58  | Q V       |          |          |          |
 8+45       0.0892      0.59  | Q V       |          |          |          |
 8+50       0.0935      0.62  | Q  V      |          |          |          |
 8+55       0.0979      0.64  | Q  V      |          |          |          |
 9+ 0       0.1024      0.65  | Q  V      |          |          |          |
 9+ 5       0.1072      0.71  | Q   V     |          |          |          |
 9+10       0.1125      0.76  |  Q  V     |          |          |          |
 9+15       0.1177      0.76  |  Q  V     |          |          |          |
 9+20       0.1232      0.79  |  Q  V     |          |          |          |
 9+25       0.1288      0.82  |  Q   V    |          |          |          |
 9+30       0.1345      0.82  |  Q   V    |          |          |          |
 9+35       0.1404      0.85  |  Q   V    |          |          |          |
 9+40       0.1464      0.88  |  Q    V   |          |          |          |
 9+45       0.1525      0.88  |  Q    V   |          |          |          |
 9+50       0.1588      0.91  |  Q    V   |          |          |          |
 9+55       0.1653      0.94  |  Q     V  |          |          |          |
10+ 0       0.1718      0.94  |  Q     V  |          |          |          |
10+ 5       0.1768      0.74  | Q      V  |          |          |          |
10+10       0.1807      0.57  | Q       V |          |          |          |
10+15       0.1846      0.56  | Q       V |          |          |          |
10+20       0.1884      0.56  | Q       V |          |          |          |
10+25       0.1923      0.56  | Q       V |          |          |          |
10+30       0.1961      0.56  | Q       V |          |          |          |
10+35       0.2010      0.71  | Q       |V          |          |          |
10+40       0.2067      0.83  |  Q      |V          |          |          |
10+45       0.2125      0.84  |  Q      |V          |          |          |
10+50       0.2184      0.84  |  Q      | V         |          |          |
10+55       0.2242      0.85  |  Q      | V         |          |          |
11+ 0       0.2300      0.85  |  Q      | V         |          |          |
11+ 5       0.2357      0.82  |  Q      |  V        |          |          |
11+10       0.2411      0.80  |  Q      |  V        |          |          |
```



| | | | |
|---|---|---|---|
| 11+15 | 0.2466 | 0.80 | |
| 11+20 | 0.2521 | 0.80 | |
| 11+25 | 0.2576 | 0.80 | |
| 11+30 | 0.2631 | 0.80 | |
| 11+35 | 0.2682 | 0.74 | |
| 11+40 | 0.2730 | 0.69 | |
| 11+45 | 0.2778 | 0.69 | |
| 11+50 | 0.2827 | 0.72 | |
| 11+55 | 0.2879 | 0.75 | |
| 12+ 0 | 0.2931 | 0.75 | |
| 12+ 5 | 0.2997 | 0.96 | |
| 12+10 | 0.3074 | 1.13 | |
| 12+15 | 0.3153 | 1.15 | |
| 12+20 | 0.3234 | 1.18 | |
| 12+25 | 0.3317 | 1.20 | |
| 12+30 | 0.3400 | 1.20 | |
| 12+35 | 0.3487 | 1.27 | |
| 12+40 | 0.3578 | 1.32 | |
| 12+45 | 0.3669 | 1.32 | |
| 12+50 | 0.3762 | 1.35 | |
| 12+55 | 0.3857 | 1.38 | |
| 13+ 0 | 0.3952 | 1.38 | |
| 13+ 5 | 0.4057 | 1.53 | |
| 13+10 | 0.4171 | 1.65 | |
| 13+15 | 0.4285 | 1.66 | |
| 13+20 | 0.4400 | 1.66 | |
| 13+25 | 0.4514 | 1.66 | |
| 13+30 | 0.4629 | 1.67 | |
| 13+35 | 0.4722 | 1.34 | |
| 13+40 | 0.4796 | 1.07 | |
| 13+45 | 0.4868 | 1.06 | |
| 13+50 | 0.4941 | 1.06 | |
| 13+55 | 0.5014 | 1.06 | |
| 14+ 0 | 0.5087 | 1.06 | |
| 14+ 5 | 0.5168 | 1.18 | |
| 14+10 | 0.5256 | 1.28 | |
| 14+15 | 0.5345 | 1.29 | |
| 14+20 | 0.5431 | 1.26 | |
| 14+25 | 0.5516 | 1.23 | |
| 14+30 | 0.5601 | 1.23 | |
| 14+35 | 0.5686 | 1.23 | |
| 14+40 | 0.5771 | 1.24 | |
| 14+45 | 0.5856 | 1.24 | |
| 14+50 | 0.5940 | 1.21 | |
| 14+55 | 0.6021 | 1.18 | |
| 15+ 0 | 0.6103 | 1.18 | |
| 15+ 5 | 0.6182 | 1.16 | |
| 15+10 | 0.6260 | 1.13 | |
| 15+15 | 0.6338 | 1.13 | |
| 15+20 | 0.6414 | 1.10 | |
| 15+25 | 0.6488 | 1.08 | |
| 15+30 | 0.6563 | 1.08 | |
| 15+35 | 0.6629 | 0.96 | |
| 15+40 | 0.6689 | 0.87 | |
| 15+45 | 0.6748 | 0.86 | |
| 15+50 | 0.6807 | 0.86 | |
| 15+55 | 0.6866 | 0.86 | |
| 16+ 0 | 0.6926 | 0.86 | |
| 16+ 5 | 0.6955 | 0.42 | |
| 16+10 | 0.6958 | 0.05 | |
| 16+15 | 0.6960 | 0.03 | |
| 16+20 | 0.6962 | 0.03 | |
| 16+25 | 0.6964 | 0.03 | |
| 16+30 | 0.6966 | 0.03 | |
| 16+35 | 0.6968 | 0.02 | |
| 16+40 | 0.6969 | 0.02 | |
| 16+45 | 0.6970 | 0.02 | |
| 16+50 | 0.6972 | 0.02 | |
| 16+55 | 0.6973 | 0.02 | |
| 17+ 0 | 0.6974 | 0.02 | |
| 17+ 5 | 0.6978 | 0.06 | |
| 17+10 | 0.6984 | 0.09 | |
| 17+15 | 0.6991 | 0.10 | |
| 17+20 | 0.6997 | 0.10 | |
| 17+25 | 0.7004 | 0.10 | |
| 17+30 | 0.7011 | 0.10 | |
| 17+35 | 0.7018 | 0.10 | |
| 17+40 | 0.7025 | 0.10 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+45 | 0.7031 | 0.10 | Q | \| | \| | \| | V\| |
| 17+50 | 0.7036 | 0.07 | Q | \| | \| | \| | V\| |
| 17+55 | 0.7040 | 0.05 | Q | \| | \| | \| | V\| |
| 18+ 0 | 0.7043 | 0.05 | Q | \| | \| | \| | V\| |
| 18+ 5 | 0.7046 | 0.05 | Q | \| | \| | \| | V\| |
| 18+10 | 0.7050 | 0.05 | Q | \| | \| | \| | V\| |
| 18+15 | 0.7053 | 0.05 | Q | \| | \| | \| | V\| |
| 18+20 | 0.7057 | 0.05 | Q | \| | \| | \| | V\| |
| 18+25 | 0.7060 | 0.05 | Q | \| | \| | \| | V\| |
| 18+30 | 0.7064 | 0.05 | Q | \| | \| | \| | V\| |
| 18+35 | 0.7066 | 0.03 | Q | \| | \| | \| | V\| |
| 18+40 | 0.7068 | 0.02 | Q | \| | \| | \| | V\| |
| 18+45 | 0.7069 | 0.02 | Q | \| | \| | \| | V\| |
| 18+50 | 0.7070 | 0.01 | Q | \| | \| | \| | V\| |
| 18+55 | 0.7070 | 0.01 | Q | \| | \| | \| | V\| |
| 19+ 0 | 0.7071 | 0.01 | Q | \| | \| | \| | V\| |
| 19+ 5 | 0.7072 | 0.01 | Q | \| | \| | \| | V\| |
| 19+10 | 0.7073 | 0.02 | Q | \| | \| | \| | V\| |
| 19+15 | 0.7074 | 0.02 | Q | \| | \| | \| | V\| |
| 19+20 | 0.7077 | 0.04 | Q | \| | \| | \| | V\| |
| 19+25 | 0.7081 | 0.06 | Q | \| | \| | \| | V\| |
| 19+30 | 0.7086 | 0.06 | Q | \| | \| | \| | V\| |
| 19+35 | 0.7088 | 0.04 | Q | \| | \| | \| | V\| |
| 19+40 | 0.7090 | 0.02 | Q | \| | \| | \| | V\| |
| 19+45 | 0.7091 | 0.02 | Q | \| | \| | \| | V\| |
| 19+50 | 0.7092 | 0.01 | Q | \| | \| | \| | V\| |
| 19+55 | 0.7092 | 0.01 | Q | \| | \| | \| | V\| |
| 20+ 0 | 0.7093 | 0.01 | Q | \| | \| | \| | V\| |
| 20+ 5 | 0.7094 | 0.01 | Q | \| | \| | \| | V\| |
| 20+10 | 0.7095 | 0.02 | Q | \| | \| | \| | V\| |
| 20+15 | 0.7096 | 0.02 | Q | \| | \| | \| | V\| |
| 20+20 | 0.7098 | 0.02 | Q | \| | \| | \| | V\| |
| 20+25 | 0.7099 | 0.02 | Q | \| | \| | \| | V\| |
| 20+30 | 0.7100 | 0.02 | Q | \| | \| | \| | V\| |
| 20+35 | 0.7101 | 0.02 | Q | \| | \| | \| | V\| |
| 20+40 | 0.7102 | 0.02 | Q | \| | \| | \| | V\| |
| 20+45 | 0.7103 | 0.02 | Q | \| | \| | \| | V\| |
| 20+50 | 0.7104 | 0.01 | Q | \| | \| | \| | V\| |
| 20+55 | 0.7105 | 0.01 | Q | \| | \| | \| | V\| |
| 21+ 0 | 0.7106 | 0.01 | Q | \| | \| | \| | V\| |
| 21+ 5 | 0.7107 | 0.02 | Q | \| | \| | \| | V\| |
| 21+10 | 0.7108 | 0.02 | Q | \| | \| | \| | V\| |
| 21+15 | 0.7110 | 0.02 | Q | \| | \| | \| | V\| |
| 21+20 | 0.7111 | 0.02 | Q | \| | \| | \| | V\| |
| 21+25 | 0.7112 | 0.01 | Q | \| | \| | \| | V\| |
| 21+30 | 0.7112 | 0.01 | Q | \| | \| | \| | V\| |
| 21+35 | 0.7114 | 0.02 | Q | \| | \| | \| | V\| |
| 21+40 | 0.7115 | 0.02 | Q | \| | \| | \| | V\| |
| 21+45 | 0.7117 | 0.02 | Q | \| | \| | \| | V\| |
| 21+50 | 0.7118 | 0.02 | Q | \| | \| | \| | V\| |
| 21+55 | 0.7119 | 0.01 | Q | \| | \| | \| | V\| |
| 22+ 0 | 0.7119 | 0.01 | Q | \| | \| | \| | V\| |
| 22+ 5 | 0.7121 | 0.02 | Q | \| | \| | \| | V\| |
| 22+10 | 0.7123 | 0.03 | Q | \| | \| | \| | V\| |
| 22+15 | 0.7124 | 0.03 | Q | \| | \| | \| | V\| |
| 22+20 | 0.7126 | 0.02 | Q | \| | \| | \| | V\| |
| 22+25 | 0.7126 | 0.01 | Q | \| | \| | \| | V\| |
| 22+30 | 0.7127 | 0.01 | Q | \| | \| | \| | V\| |
| 22+35 | 0.7128 | 0.01 | Q | \| | \| | \| | V\| |
| 22+40 | 0.7129 | 0.01 | Q | \| | \| | \| | V\| |
| 22+45 | 0.7129 | 0.01 | Q | \| | \| | \| | V\| |
| 22+50 | 0.7130 | 0.01 | Q | \| | \| | \| | V\| |
| 22+55 | 0.7131 | 0.01 | Q | \| | \| | \| | V\| |
| 23+ 0 | 0.7132 | 0.01 | Q | \| | \| | \| | V\| |
| 23+ 5 | 0.7133 | 0.01 | Q | \| | \| | \| | V\| |
| 23+10 | 0.7133 | 0.01 | Q | \| | \| | \| | V\| |
| 23+15 | 0.7134 | 0.01 | Q | \| | \| | \| | V\| |
| 23+20 | 0.7135 | 0.01 | Q | \| | \| | \| | V\| |
| 23+25 | 0.7136 | 0.01 | Q | \| | \| | \| | V\| |
| 23+30 | 0.7136 | 0.01 | Q | \| | \| | \| | V\| |
| 23+35 | 0.7137 | 0.01 | Q | \| | \| | \| | V\| |
| 23+40 | 0.7138 | 0.01 | Q | \| | \| | \| | V\| |
| 23+45 | 0.7139 | 0.01 | Q | \| | \| | \| | V\| |
| 23+50 | 0.7139 | 0.01 | Q | \| | \| | \| | V\| |
| 23+55 | 0.7140 | 0.01 | Q | \| | \| | \| | V\| |
| 24+ 0 | 0.7141 | 0.01 | Q | \| | \| | \| | V\| |
| 24+ 5 | 0.7141 | 0.01 | Q | \| | \| | \| | V\| |
| 24+10 | 0.7141 | 0.00 | Q | \| | \| | \| | V\| |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX371100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 37
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 24.30(Ac.) = 0.038 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 24.30(Ac.) = 0.038 Sq. Mi.
Length along longest watercourse = 1783.00(Ft.)
Length along longest watercourse measured to centroid = 754.00(Ft.)
Length along longest watercourse = 0.338 Mi.
Length along longest watercourse measured to centroid = 0.143 Mi.
Difference in elevation = 248.00(Ft.)
Slope along watercourse = 734.4027 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.076 Hr.
Lag time = 4.55 Min.
25% of lag time = 1.14 Min.
40% of lag time = 1.82 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 24.30 | 0.50 | 12.15 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 24.30 | 1.20 | 29.16 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.98 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 24.300 | 82.14 | 0.000 |

Total Area Entered = 24.30(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 82.1 | 92.3 | 0.100 | 0.000 | 0.100 | 1.000 | 0.100 |
| | | | | | Sum (F) = | 0.100 |

Area averaged mean soil loss (F) (In/Hr) = 0.100

Minimum soil loss rate ((In/Hr)) = 0.050
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

---

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 110.009 | 17.969 | 4.401 |
| 2 | 0.167 | 220.019 | 56.182 | 13.759 |
| 3 | 0.250 | 330.028 | 16.862 | 4.130 |
| 4 | 0.333 | 440.038 | 6.226 | 1.525 |
| 5 | 0.417 | 550.047 | 1.664 | 0.408 |
| 6 | 0.500 | 660.057 | 0.770 | 0.189 |
| 7 | 0.583 | 770.066 | 0.326 | 0.080 |
| | | Sum = 100.000 | Sum= | 24.490 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.100 | ( 0.544) | 0.504 |
| 2 | 0.17 | 4.30 | 0.619 | 0.100 | ( 0.557) | 0.519 |
| 3 | 0.25 | 5.00 | 0.720 | 0.100 | ( 0.648) | 0.620 |
| 4 | 0.33 | 5.00 | 0.720 | 0.100 | ( 0.648) | 0.620 |
| 5 | 0.42 | 5.80 | 0.835 | 0.100 | ( 0.752) | 0.735 |
| 6 | 0.50 | 6.50 | 0.936 | 0.100 | ( 0.842) | 0.835 |
| 7 | 0.58 | 7.40 | 1.065 | 0.100 | ( 0.959) | 0.965 |
| 8 | 0.67 | 8.60 | 1.238 | 0.100 | ( 1.114) | 1.138 |
| 9 | 0.75 | 12.30 | 1.771 | 0.100 | ( 1.594) | 1.671 |
| 10 | 0.83 | 29.10 | 4.189 | 0.100 | ( 3.771) | 4.089 |
| 11 | 0.92 | 6.80 | 0.979 | 0.100 | ( 0.881) | 0.879 |
| 12 | 1.00 | 5.00 | 0.720 | 0.100 | ( 0.648) | 0.620 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 13.2 |

Flood volume = Effective rainfall 1.10(In)
times area 24.3(Ac.)/[(In)/(Ft.)] = 2.2(Ac.Ft)
Total soil loss = 0.10(In)
Total soil loss = 0.203(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 96979.4 Cubic Feet
Total soil loss = 8848.1 Cubic Feet

---

Peak flow rate of this hydrograph = 69.408(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

---

Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 17.5 | 35.0 | 52.5 | 70.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0153 | 2.22 | VQ | | | | |
| 0+10 | 0.0788 | 9.23 | \|V Q | | | | |
| 0+15 | 0.1612 | 11.95 | \| V Q | | | | |
| 0+20 | 0.2587 | 14.17 | \| V Q | | | | |
| 0+25 | 0.3643 | 15.32 | \| V Q | | | | |
| 0+30 | 0.4855 | 17.60 | \| V Q | | | | |
| 0+35 | 0.6241 | 20.12 | \|Q | | | | |
| 0+40 | 0.7844 | 23.28 | \| QV | | | | |
| 0+45 | 0.9824 | 28.75 | \| QV | | | | |
| 0+50 | 1.3109 | 47.70 | \| V Q | | | | |
| 0+55 | 1.7889 | 69.41 | \| V Q | | | | |
| 1+ 0 | 2.0298 | 34.98 | \| Q | | | | |
| 1+ 5 | 2.1632 | 19.37 | \|Q | | | | |
| 1+10 | 2.2044 | 5.97 | \| Q | | | | |

```
    1+15       2.2196      2.21  |Q        |          |          |        V|
    1+20       2.2247      0.75  Q         |          |          |        V|
    1+25       2.2260      0.19  Q         |          |          |        V|
    1+30       2.2263      0.05  Q         |          |          |        V|
-------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX373100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 37
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 24.30(Ac.) = 0.038 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 24.30(Ac.) = 0.038 Sq. Mi.
Length along longest watercourse = 1783.00(Ft.)
Length along longest watercourse measured to centroid = 754.00(Ft.)
Length along longest watercourse = 0.338 Mi.
Length along longest watercourse measured to centroid = 0.143 Mi.
Difference in elevation = 248.00(Ft.)
Slope along watercourse = 734.4027 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.076 Hr.
Lag time = 4.55 Min.
25% of lag time = 1.14 Min.
40% of lag time = 1.82 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 24.30 | 0.81 | 19.68 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 24.30 | 1.82 | 44.23 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.810(In)
Area Averaged 100-Year Rainfall = 1.820(In)

Point rain (area averaged) = 1.820(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.820(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 24.300 | 82.14 | 0.000 |

Total Area Entered = 24.30(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 82.1 | 92.3 | 0.100 | 0.000 | 0.100 | 1.000 | 0.100 |
| | | | | | Sum (F) = | 0.100 |

Area averaged mean soil loss (F) (In/Hr) = 0.100

Minimum soil loss rate ((In/Hr)) = 0.050
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 110.009 | 17.969 | 4.401 |
| 2 | 0.167 | 220.019 | 56.182 | 13.759 |
| 3 | 0.250 | 330.028 | 16.862 | 4.130 |
| 4 | 0.333 | 440.038 | 6.226 | 1.525 |
| 5 | 0.417 | 550.047 | 1.664 | 0.408 |
| 6 | 0.500 | 660.057 | 0.770 | 0.189 |
| 7 | 0.583 | 770.066 | 0.326 | 0.080 |
| | | | Sum = 100.000 | Sum= 24.490 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.284 | 0.100 | ( 0.256) | 0.184 |
| 2 | 0.17 | 1.30 | 0.284 | 0.100 | ( 0.256) | 0.184 |
| 3 | 0.25 | 1.10 | 0.240 | 0.100 | ( 0.216) | 0.140 |
| 4 | 0.33 | 1.50 | 0.328 | 0.100 | ( 0.295) | 0.227 |
| 5 | 0.42 | 1.50 | 0.328 | 0.100 | ( 0.295) | 0.227 |
| 6 | 0.50 | 1.80 | 0.393 | 0.100 | ( 0.354) | 0.293 |
| 7 | 0.58 | 1.50 | 0.328 | 0.100 | ( 0.295) | 0.227 |
| 8 | 0.67 | 1.80 | 0.393 | 0.100 | ( 0.354) | 0.293 |
| 9 | 0.75 | 1.80 | 0.393 | 0.100 | ( 0.354) | 0.293 |
| 10 | 0.83 | 1.50 | 0.328 | 0.100 | ( 0.295) | 0.227 |
| 11 | 0.92 | 1.60 | 0.349 | 0.100 | ( 0.314) | 0.249 |
| 12 | 1.00 | 1.80 | 0.393 | 0.100 | ( 0.354) | 0.293 |
| 13 | 1.08 | 2.20 | 0.480 | 0.100 | ( 0.432) | 0.380 |
| 14 | 1.17 | 2.20 | 0.480 | 0.100 | ( 0.432) | 0.380 |
| 15 | 1.25 | 2.20 | 0.480 | 0.100 | ( 0.432) | 0.380 |
| 16 | 1.33 | 2.00 | 0.437 | 0.100 | ( 0.393) | 0.336 |
| 17 | 1.42 | 2.60 | 0.568 | 0.100 | ( 0.511) | 0.467 |
| 18 | 1.50 | 2.70 | 0.590 | 0.100 | ( 0.531) | 0.489 |
| 19 | 1.58 | 2.40 | 0.524 | 0.100 | ( 0.472) | 0.424 |
| 20 | 1.67 | 2.70 | 0.590 | 0.100 | ( 0.531) | 0.489 |
| 21 | 1.75 | 3.30 | 0.721 | 0.100 | ( 0.649) | 0.620 |
| 22 | 1.83 | 3.10 | 0.677 | 0.100 | ( 0.609) | 0.577 |
| 23 | 1.92 | 2.90 | 0.633 | 0.100 | ( 0.570) | 0.533 |
| 24 | 2.00 | 3.00 | 0.655 | 0.100 | ( 0.590) | 0.555 |
| 25 | 2.08 | 3.10 | 0.677 | 0.100 | ( 0.609) | 0.577 |
| 26 | 2.17 | 4.20 | 0.917 | 0.100 | ( 0.825) | 0.817 |
| 27 | 2.25 | 5.00 | 1.092 | 0.100 | ( 0.983) | 0.992 |
| 28 | 2.33 | 3.50 | 0.764 | 0.100 | ( 0.688) | 0.664 |
| 29 | 2.42 | 6.80 | 1.485 | 0.100 | ( 1.336) | 1.385 |
| 30 | 2.50 | 7.30 | 1.594 | 0.100 | ( 1.435) | 1.494 |
| 31 | 2.58 | 8.20 | 1.791 | 0.100 | ( 1.612) | 1.690 |
| 32 | 2.67 | 5.90 | 1.288 | 0.100 | ( 1.160) | 1.188 |
| 33 | 2.75 | 2.00 | 0.437 | 0.100 | ( 0.393) | 0.336 |
| 34 | 2.83 | 1.80 | 0.393 | 0.100 | ( 0.354) | 0.293 |
| 35 | 2.92 | 1.80 | 0.393 | 0.100 | ( 0.354) | 0.293 |
| 36 | 3.00 | 0.60 | 0.131 | 0.100 | ( 0.118) | 0.031 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 18.2 |

Flood volume = Effective rainfall 1.52(In)
times area 24.3(Ac.)/[(In)/(Ft.)] = 3.1(Ac.Ft)
Total soil loss = 0.30(In)
Total soil loss = 0.609(Ac.Ft)
Total rainfall = 1.82(In)
Flood volume = 133979.1 Cubic Feet
Total soil loss = 26544.2 Cubic Feet

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Peak flow rate of this hydrograph = 37.309(CFS)

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3 - H O U R  S T O R M
R u n o f f  H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 10.0 20.0 30.0 40.0 |
|---|---|---|---|
| 0+ 5 | 0.0056 | 0.81 | Q \| \| \| \| |
| 0+10 | 0.0285 | 3.34 | V Q \| \| \| \| |
| 0+15 | 0.0554 | 3.90 | V Q \| \| \| \| |
| 0+20 | 0.0827 | 3.97 | \|V Q \| \| \| \| |
| 0+25 | 0.1176 | 5.06 | \|V Q \| \| \| \| |
| 0+30 | 0.1567 | 5.68 | \| V Q \| \| \| \| |
| 0+35 | 0.2009 | 6.42 | \| V Q \| \| \| \| |
| 0+40 | 0.2430 | 6.11 | \| V Q \| \| \| \| |
| 0+45 | 0.2902 | 6.85 | \| V Q \| \| \| \| |
| 0+50 | 0.3368 | 6.77 | \| V Q \| \| \| \| |
| 0+55 | 0.3784 | 6.05 | \| V Q \| \| \| \| |
| 1+ 0 | 0.4218 | 6.29 | \| VQ \| \| \| \| |
| 1+ 5 | 0.4718 | 7.27 | \| VQ \| \| \| \| |
| 1+10 | 0.5315 | 8.67 | \| V Q \| \| \| \| |
| 1+15 | 0.5941 | 9.09 | \| V Q\| \| \| \| |
| 1+20 | 0.6565 | 9.05 | \| VQ\| \| \| \| |
| 1+25 | 0.7189 | 9.07 | \| Q\| \| \| \| |
| 1+30 | 0.7934 | 10.81 | \| Q \| \| \| |
| 1+35 | 0.8712 | 11.30 | \| \|Q \| \| \| |
| 1+40 | 0.9467 | 10.96 | \| Q V \| \| \| |
| 1+45 | 1.0311 | 12.25 | \| \| QV \| \| \| |
| 1+50 | 1.1279 | 14.06 | \| \| Q \| \| \| |
| 1+55 | 1.2236 | 13.90 | \| \| Q V \| \| \| |
| 2+ 0 | 1.3161 | 13.43 | \| \| Q V \| \| \| |
| 2+ 5 | 1.4100 | 13.64 | \| \| Q V \| \| \| |
| 2+10 | 1.5136 | 15.03 | \| \| Q V\| \| \| |
| 2+15 | 1.6459 | 19.22 | \| \| Q\|V \| \| |
| 2+20 | 1.7919 | 21.20 | \| \| \|Q V \| \| |
| 2+25 | 1.9363 | 20.96 | \| \| Q V \| \| |
| 2+30 | 2.1455 | 30.38 | \| \| \| V Q \| |
| 2+35 | 2.3889 | 35.35 | \| \| \| \|V Q \| |
| 2+40 | 2.6459 | 37.31 | \| \| \| \| V Q \| |
| 2+45 | 2.8378 | 27.87 | \| \| \| Q \| V \| |
| 2+50 | 2.9365 | 14.33 | \| \| Q \| \| V \| |
| 2+55 | 3.0027 | 9.60 | \| Q\| \| \| V\| |
| 3+ 0 | 3.0496 | 6.81 | \| Q \| \| \| V\| |
| 3+ 5 | 3.0673 | 2.58 | \| Q \| \| \| V\| |
| 3+10 | 3.0732 | 0.85 | Q \| \| \| V\| |
| 3+15 | 3.0749 | 0.25 | Q \| \| \| V\| |
| 3+20 | 3.0755 | 0.09 | Q \| \| \| V\| |
| 3+25 | 3.0757 | 0.03 | Q \| \| \| V\| |
| 3+30 | 3.0757 | 0.00 | Q \| \| \| V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX376100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 37
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 24.30(Ac.) = 0.038 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 24.30(Ac.) = 0.038 Sq. Mi.
Length along longest watercourse = 1783.00(Ft.)
Length along longest watercourse measured to centroid = 754.00(Ft.)
Length along longest watercourse = 0.338 Mi.
Length along longest watercourse measured to centroid = 0.143 Mi.
Difference in elevation = 248.00(Ft.)
Slope along watercourse = 734.4027 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.076 Hr.
Lag time = 4.55 Min.
25% of lag time = 1.14 Min.
40% of lag time = 1.82 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 24.30 | 1.16 | 28.19 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 24.30 | 2.50 | 60.75 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.160(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 24.300 | 82.14 | 0.000 |

Total Area Entered = 24.30(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 82.1 | 92.3 | 0.100 | 0.000 | 0.100 | 1.000 | 0.100 |
| | | | | | Sum (F) = | 0.100 |

Area averaged mean soil loss (F) (In/Hr) = 0.100

Minimum soil loss rate ((In/Hr)) = 0.050
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 110.009 | 17.969 | 4.401 |
| 2 | 0.167 | 220.019 | 56.182 | 13.759 |
| 3 | 0.250 | 330.028 | 16.862 | 4.130 |
| 4 | 0.333 | 440.038 | 6.226 | 1.525 |
| 5 | 0.417 | 550.047 | 1.664 | 0.408 |
| 6 | 0.500 | 660.057 | 0.770 | 0.189 |
| 7 | 0.583 | 770.066 | 0.326 | 0.080 |
| | | | Sum = 100.000 | Sum= 24.490 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.100 | ( 0.135) | 0.050 |
| 2 | 0.17 | 0.60 | 0.180 | 0.100 | ( 0.162) | 0.080 |
| 3 | 0.25 | 0.60 | 0.180 | 0.100 | ( 0.162) | 0.080 |
| 4 | 0.33 | 0.60 | 0.180 | 0.100 | ( 0.162) | 0.080 |
| 5 | 0.42 | 0.60 | 0.180 | 0.100 | ( 0.162) | 0.080 |
| 6 | 0.50 | 0.70 | 0.210 | 0.100 | ( 0.189) | 0.110 |
| 7 | 0.58 | 0.70 | 0.210 | 0.100 | ( 0.189) | 0.110 |
| 8 | 0.67 | 0.70 | 0.210 | 0.100 | ( 0.189) | 0.110 |
| 9 | 0.75 | 0.70 | 0.210 | 0.100 | ( 0.189) | 0.110 |
| 10 | 0.83 | 0.70 | 0.210 | 0.100 | ( 0.189) | 0.110 |
| 11 | 0.92 | 0.70 | 0.210 | 0.100 | ( 0.189) | 0.110 |
| 12 | 1.00 | 0.80 | 0.240 | 0.100 | ( 0.216) | 0.140 |
| 13 | 1.08 | 0.80 | 0.240 | 0.100 | ( 0.216) | 0.140 |
| 14 | 1.17 | 0.80 | 0.240 | 0.100 | ( 0.216) | 0.140 |
| 15 | 1.25 | 0.80 | 0.240 | 0.100 | ( 0.216) | 0.140 |
| 16 | 1.33 | 0.80 | 0.240 | 0.100 | ( 0.216) | 0.140 |
| 17 | 1.42 | 0.80 | 0.240 | 0.100 | ( 0.216) | 0.140 |
| 18 | 1.50 | 0.80 | 0.240 | 0.100 | ( 0.216) | 0.140 |
| 19 | 1.58 | 0.80 | 0.240 | 0.100 | ( 0.216) | 0.140 |
| 20 | 1.67 | 0.80 | 0.240 | 0.100 | ( 0.216) | 0.140 |
| 21 | 1.75 | 0.80 | 0.240 | 0.100 | ( 0.216) | 0.140 |
| 22 | 1.83 | 0.80 | 0.240 | 0.100 | ( 0.216) | 0.140 |
| 23 | 1.92 | 0.80 | 0.240 | 0.100 | ( 0.216) | 0.140 |
| 24 | 2.00 | 0.90 | 0.270 | 0.100 | ( 0.243) | 0.170 |
| 25 | 2.08 | 0.80 | 0.240 | 0.100 | ( 0.216) | 0.140 |
| 26 | 2.17 | 0.90 | 0.270 | 0.100 | ( 0.243) | 0.170 |
| 27 | 2.25 | 0.90 | 0.270 | 0.100 | ( 0.243) | 0.170 |
| 28 | 2.33 | 0.90 | 0.270 | 0.100 | ( 0.243) | 0.170 |
| 29 | 2.42 | 0.90 | 0.270 | 0.100 | ( 0.243) | 0.170 |
| 30 | 2.50 | 0.90 | 0.270 | 0.100 | ( 0.243) | 0.170 |
| 31 | 2.58 | 0.90 | 0.270 | 0.100 | ( 0.243) | 0.170 |
| 32 | 2.67 | 0.90 | 0.270 | 0.100 | ( 0.243) | 0.170 |
| 33 | 2.75 | 1.00 | 0.300 | 0.100 | ( 0.270) | 0.200 |
| 34 | 2.83 | 1.00 | 0.300 | 0.100 | ( 0.270) | 0.200 |
| 35 | 2.92 | 1.00 | 0.300 | 0.100 | ( 0.270) | 0.200 |
| 36 | 3.00 | 1.00 | 0.300 | 0.100 | ( 0.270) | 0.200 |
| 37 | 3.08 | 1.00 | 0.300 | 0.100 | ( 0.270) | 0.200 |
| 38 | 3.17 | 1.10 | 0.330 | 0.100 | ( 0.297) | 0.230 |
| 39 | 3.25 | 1.10 | 0.330 | 0.100 | ( 0.297) | 0.230 |
| 40 | 3.33 | 1.10 | 0.330 | 0.100 | ( 0.297) | 0.230 |
| 41 | 3.42 | 1.20 | 0.360 | 0.100 | ( 0.324) | 0.260 |
| 42 | 3.50 | 1.30 | 0.390 | 0.100 | ( 0.351) | 0.290 |
| 43 | 3.58 | 1.40 | 0.420 | 0.100 | ( 0.378) | 0.320 |
| 44 | 3.67 | 1.40 | 0.420 | 0.100 | ( 0.378) | 0.320 |
| 45 | 3.75 | 1.50 | 0.450 | 0.100 | ( 0.405) | 0.350 |
| 46 | 3.83 | 1.50 | 0.450 | 0.100 | ( 0.405) | 0.350 |
| 47 | 3.92 | 1.60 | 0.480 | 0.100 | ( 0.432) | 0.380 |
| 48 | 4.00 | 1.60 | 0.480 | 0.100 | ( 0.432) | 0.380 |
| 49 | 4.08 | 1.70 | 0.510 | 0.100 | ( 0.459) | 0.410 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 50 | 4.17 | 1.80 | 0.540 | 0.100 | ( 0.486) | | 0.440 |
| 51 | 4.25 | 1.90 | 0.570 | 0.100 | ( 0.513) | | 0.470 |
| 52 | 4.33 | 2.00 | 0.600 | 0.100 | ( 0.540) | | 0.500 |
| 53 | 4.42 | 2.10 | 0.630 | 0.100 | ( 0.567) | | 0.530 |
| 54 | 4.50 | 2.10 | 0.630 | 0.100 | ( 0.567) | | 0.530 |
| 55 | 4.58 | 2.20 | 0.660 | 0.100 | ( 0.594) | | 0.560 |
| 56 | 4.67 | 2.30 | 0.690 | 0.100 | ( 0.621) | | 0.590 |
| 57 | 4.75 | 2.40 | 0.720 | 0.100 | ( 0.648) | | 0.620 |
| 58 | 4.83 | 2.40 | 0.720 | 0.100 | ( 0.648) | | 0.620 |
| 59 | 4.92 | 2.50 | 0.750 | 0.100 | ( 0.675) | | 0.650 |
| 60 | 5.00 | 2.60 | 0.780 | 0.100 | ( 0.702) | | 0.680 |
| 61 | 5.08 | 3.10 | 0.930 | 0.100 | ( 0.837) | | 0.830 |
| 62 | 5.17 | 3.60 | 1.080 | 0.100 | ( 0.972) | | 0.980 |
| 63 | 5.25 | 3.90 | 1.170 | 0.100 | ( 1.053) | | 1.070 |
| 64 | 5.33 | 4.20 | 1.260 | 0.100 | ( 1.134) | | 1.160 |
| 65 | 5.42 | 4.70 | 1.410 | 0.100 | ( 1.269) | | 1.310 |
| 66 | 5.50 | 5.60 | 1.680 | 0.100 | ( 1.512) | | 1.580 |
| 67 | 5.58 | 1.90 | 0.570 | 0.100 | ( 0.513) | | 0.470 |
| 68 | 5.67 | 0.90 | 0.270 | 0.100 | ( 0.243) | | 0.170 |
| 69 | 5.75 | 0.60 | 0.180 | 0.100 | ( 0.162) | | 0.080 |
| 70 | 5.83 | 0.50 | 0.150 | 0.100 | ( 0.135) | | 0.050 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.100) | 0.081 | | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.100) | 0.054 | | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 22.8

Flood volume = Effective rainfall 1.90(In)
times area 24.3(Ac.)/[(In)/(Ft.)] = 3.9(Ac.Ft)
Total soil loss = 0.60(In)
Total soil loss = 1.208(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 167898.1 Cubic Feet
Total soil loss = 52606.0 Cubic Feet

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Peak flow rate of this hydrograph = 32.015(CFS)

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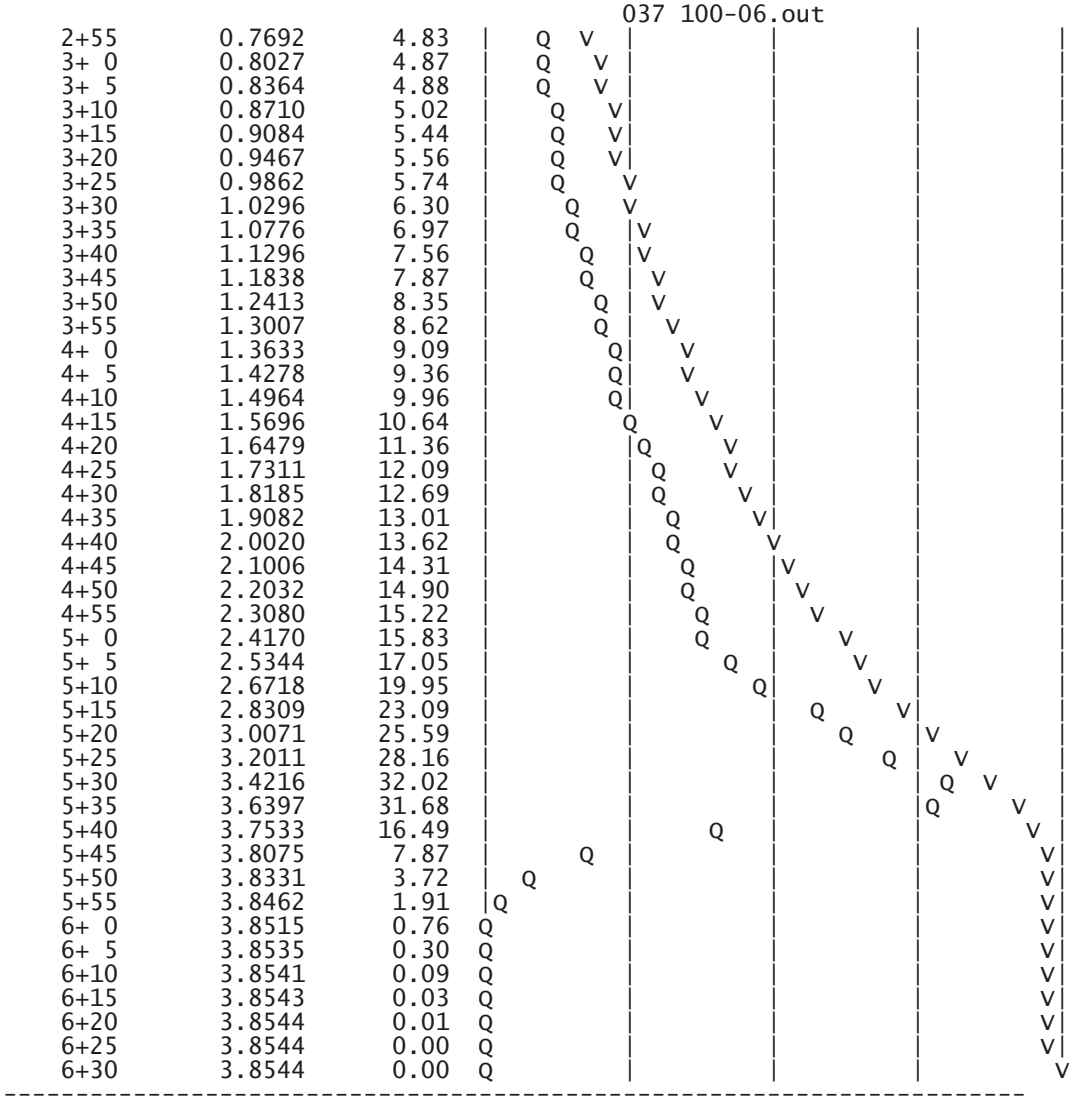
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

---

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 10.0 | 20.0 | 30.0 | 40.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0015 | 0.22 | Q | | | | |
| 0+10 | 0.0086 | 1.03 | VQ | | | | |
| 0+15 | 0.0200 | 1.65 | VQ | | | | |
| 0+20 | 0.0328 | 1.85 | VQ | | | | |
| 0+25 | 0.0460 | 1.92 | VQ | | | | |
| 0+30 | 0.0603 | 2.07 | V Q | | | | |
| 0+35 | 0.0774 | 2.49 | V Q | | | | |
| 0+40 | 0.0955 | 2.62 | V Q | | | | |
| 0+45 | 0.1139 | 2.67 | \|VQ | | | | |
| 0+50 | 0.1323 | 2.68 | \|VQ | | | | |
| 0+55 | 0.1508 | 2.68 | \|VQ | | | | |
| 1+ 0 | 0.1702 | 2.82 | \|VQ | | | | |
| 1+ 5 | 0.1925 | 3.23 | \|V Q | | | | |
| 1+10 | 0.2156 | 3.36 | \| VQ | | | | |
| 1+15 | 0.2390 | 3.40 | \| VQ | | | | |
| 1+20 | 0.2625 | 3.41 | \| VQ | | | | |
| 1+25 | 0.2861 | 3.42 | \| VQ | | | | |
| 1+30 | 0.3097 | 3.42 | \| Q | | | | |
| 1+35 | 0.3332 | 3.42 | \| Q | | | | |
| 1+40 | 0.3568 | 3.42 | \| Q | | | | |
| 1+45 | 0.3804 | 3.42 | \| Q | | | | |
| 1+50 | 0.4039 | 3.42 | \| QV | | | | |
| 1+55 | 0.4275 | 3.42 | \| QV | | | | |
| 2+ 0 | 0.4520 | 3.55 | \| QV | | | | |
| 2+ 5 | 0.4784 | 3.84 | \| QV | | | | |
| 2+10 | 0.5037 | 3.68 | \| Q V | | | | |
| 2+15 | 0.5314 | 4.01 | \| QV | | | | |
| 2+20 | 0.5596 | 4.10 | \| QV | | | | |
| 2+25 | 0.5882 | 4.14 | \| Q V | | | | |
| 2+30 | 0.6168 | 4.15 | \| Q V | | | | |
| 2+35 | 0.6454 | 4.15 | \| Q V | | | | |
| 2+40 | 0.6740 | 4.16 | \| Q V | | | | |
| 2+45 | 0.7036 | 4.29 | \| Q V | | | | |
| 2+50 | 0.7359 | 4.70 | \| Q V | | | | |



| | | | |
|---|---|---|---|
| 2+55 | 0.7692 | 4.83 | |
| 3+ 0 | 0.8027 | 4.87 | |
| 3+ 5 | 0.8364 | 4.88 | |
| 3+10 | 0.8710 | 5.02 | |
| 3+15 | 0.9084 | 5.44 | |
| 3+20 | 0.9467 | 5.56 | |
| 3+25 | 0.9862 | 5.74 | |
| 3+30 | 1.0296 | 6.30 | |
| 3+35 | 1.0776 | 6.97 | |
| 3+40 | 1.1296 | 7.56 | |
| 3+45 | 1.1838 | 7.87 | |
| 3+50 | 1.2413 | 8.35 | |
| 3+55 | 1.3007 | 8.62 | |
| 4+ 0 | 1.3633 | 9.09 | |
| 4+ 5 | 1.4278 | 9.36 | |
| 4+10 | 1.4964 | 9.96 | |
| 4+15 | 1.5696 | 10.64 | |
| 4+20 | 1.6479 | 11.36 | |
| 4+25 | 1.7311 | 12.09 | |
| 4+30 | 1.8185 | 12.69 | |
| 4+35 | 1.9082 | 13.01 | |
| 4+40 | 2.0020 | 13.62 | |
| 4+45 | 2.1006 | 14.31 | |
| 4+50 | 2.2032 | 14.90 | |
| 4+55 | 2.3080 | 15.22 | |
| 5+ 0 | 2.4170 | 15.83 | |
| 5+ 5 | 2.5344 | 17.05 | |
| 5+10 | 2.6718 | 19.95 | |
| 5+15 | 2.8309 | 23.09 | |
| 5+20 | 3.0071 | 25.59 | |
| 5+25 | 3.2011 | 28.16 | |
| 5+30 | 3.4216 | 32.02 | |
| 5+35 | 3.6397 | 31.68 | |
| 5+40 | 3.7533 | 16.49 | |
| 5+45 | 3.8075 | 7.87 | |
| 5+50 | 3.8331 | 3.72 | |
| 5+55 | 3.8462 | 1.91 | |
| 6+ 0 | 3.8515 | 0.76 | |
| 6+ 5 | 3.8535 | 0.30 | |
| 6+10 | 3.8541 | 0.09 | |
| 6+15 | 3.8543 | 0.03 | |
| 6+20 | 3.8544 | 0.01 | |
| 6+25 | 3.8544 | 0.00 | |
| 6+30 | 3.8544 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX3724100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 37
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 24.30(Ac.) = 0.038 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 24.30(Ac.) = 0.038 Sq. Mi.
Length along longest watercourse = 1783.00(Ft.)
Length along longest watercourse measured to centroid = 754.00(Ft.)
Length along longest watercourse = 0.338 Mi.
Length along longest watercourse measured to centroid = 0.143 Mi.
Difference in elevation = 248.00(Ft.)
Slope along watercourse = 734.4027 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.076 Hr.
Lag time = 4.55 Min.
25% of lag time = 1.14 Min.
40% of lag time = 1.82 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 24.30 | 1.80 | 43.74 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 24.30 | 4.74 | 115.18 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.740(In)

Point rain (area averaged) = 4.740(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.740(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 24.300 | 82.14 | 0.000 |

Total Area Entered = 24.30(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 82.1 | 92.3 | 0.100 | 0.000 | 0.100 | 1.000 | 0.100 |
| | | | | | Sum (F) = | 0.100 |

Area averaged mean soil loss (F) (In/Hr) = 0.100

Minimum soil loss rate ((In/Hr)) = 0.050
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 110.009 | 17.969 | 4.401 |
| 2 | 0.167 | 220.019 | 56.182 | 13.759 |
| 3 | 0.250 | 330.028 | 16.862 | 4.130 |
| 4 | 0.333 | 440.038 | 6.226 | 1.525 |
| 5 | 0.417 | 550.047 | 1.664 | 0.408 |
| 6 | 0.500 | 660.057 | 0.770 | 0.189 |
| 7 | 0.583 | 770.066 | 0.326 | 0.080 |
| | | | Sum = 100.000 | Sum= 24.490 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.038 | ( 0.178) | 0.034 | 0.004 |
| 2 | 0.17 | 0.07 | 0.038 | ( 0.177) | 0.034 | 0.004 |
| 3 | 0.25 | 0.07 | 0.038 | ( 0.176) | 0.034 | 0.004 |
| 4 | 0.33 | 0.10 | 0.057 | ( 0.176) | 0.051 | 0.006 |
| 5 | 0.42 | 0.10 | 0.057 | ( 0.175) | 0.051 | 0.006 |
| 6 | 0.50 | 0.10 | 0.057 | ( 0.174) | 0.051 | 0.006 |
| 7 | 0.58 | 0.10 | 0.057 | ( 0.174) | 0.051 | 0.006 |
| 8 | 0.67 | 0.10 | 0.057 | ( 0.173) | 0.051 | 0.006 |
| 9 | 0.75 | 0.10 | 0.057 | ( 0.172) | 0.051 | 0.006 |
| 10 | 0.83 | 0.13 | 0.076 | ( 0.172) | 0.068 | 0.008 |
| 11 | 0.92 | 0.13 | 0.076 | ( 0.171) | 0.068 | 0.008 |
| 12 | 1.00 | 0.13 | 0.076 | ( 0.170) | 0.068 | 0.008 |
| 13 | 1.08 | 0.10 | 0.057 | ( 0.170) | 0.051 | 0.006 |
| 14 | 1.17 | 0.10 | 0.057 | ( 0.169) | 0.051 | 0.006 |
| 15 | 1.25 | 0.10 | 0.057 | ( 0.168) | 0.051 | 0.006 |
| 16 | 1.33 | 0.10 | 0.057 | ( 0.168) | 0.051 | 0.006 |
| 17 | 1.42 | 0.10 | 0.057 | ( 0.167) | 0.051 | 0.006 |
| 18 | 1.50 | 0.10 | 0.057 | ( 0.166) | 0.051 | 0.006 |
| 19 | 1.58 | 0.10 | 0.057 | ( 0.166) | 0.051 | 0.006 |
| 20 | 1.67 | 0.10 | 0.057 | ( 0.165) | 0.051 | 0.006 |
| 21 | 1.75 | 0.10 | 0.057 | ( 0.164) | 0.051 | 0.006 |
| 22 | 1.83 | 0.13 | 0.076 | ( 0.164) | 0.068 | 0.008 |
| 23 | 1.92 | 0.13 | 0.076 | ( 0.163) | 0.068 | 0.008 |
| 24 | 2.00 | 0.13 | 0.076 | ( 0.162) | 0.068 | 0.008 |
| 25 | 2.08 | 0.13 | 0.076 | ( 0.162) | 0.068 | 0.008 |
| 26 | 2.17 | 0.13 | 0.076 | ( 0.161) | 0.068 | 0.008 |
| 27 | 2.25 | 0.13 | 0.076 | ( 0.160) | 0.068 | 0.008 |
| 28 | 2.33 | 0.13 | 0.076 | ( 0.160) | 0.068 | 0.008 |
| 29 | 2.42 | 0.13 | 0.076 | ( 0.159) | 0.068 | 0.008 |
| 30 | 2.50 | 0.13 | 0.076 | ( 0.158) | 0.068 | 0.008 |
| 31 | 2.58 | 0.17 | 0.095 | ( 0.158) | 0.085 | 0.009 |
| 32 | 2.67 | 0.17 | 0.095 | ( 0.157) | 0.085 | 0.009 |
| 33 | 2.75 | 0.17 | 0.095 | ( 0.156) | 0.085 | 0.009 |
| 34 | 2.83 | 0.17 | 0.095 | ( 0.156) | 0.085 | 0.009 |
| 35 | 2.92 | 0.17 | 0.095 | ( 0.155) | 0.085 | 0.009 |
| 36 | 3.00 | 0.17 | 0.095 | ( 0.155) | 0.085 | 0.009 |
| 37 | 3.08 | 0.17 | 0.095 | ( 0.154) | 0.085 | 0.009 |
| 38 | 3.17 | 0.17 | 0.095 | ( 0.153) | 0.085 | 0.009 |
| 39 | 3.25 | 0.17 | 0.095 | ( 0.153) | 0.085 | 0.009 |
| 40 | 3.33 | 0.17 | 0.095 | ( 0.152) | 0.085 | 0.009 |
| 41 | 3.42 | 0.17 | 0.095 | ( 0.151) | 0.085 | 0.009 |
| 42 | 3.50 | 0.17 | 0.095 | ( 0.151) | 0.085 | 0.009 |
| 43 | 3.58 | 0.17 | 0.095 | ( 0.150) | 0.085 | 0.009 |
| 44 | 3.67 | 0.17 | 0.095 | ( 0.149) | 0.085 | 0.009 |
| 45 | 3.75 | 0.17 | 0.095 | ( 0.149) | 0.085 | 0.009 |
| 46 | 3.83 | 0.20 | 0.114 | ( 0.148) | 0.102 | 0.011 |
| 47 | 3.92 | 0.20 | 0.114 | ( 0.148) | 0.102 | 0.011 |
| 48 | 4.00 | 0.20 | 0.114 | ( 0.147) | 0.102 | 0.011 |
| 49 | 4.08 | 0.20 | 0.114 | ( 0.146) | 0.102 | 0.011 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 50 | 4.17 | 0.20 | 0.114 | ( | 0.146) | 0.102 | | 0.011 |
| 51 | 4.25 | 0.20 | 0.114 | ( | 0.145) | 0.102 | | 0.011 |
| 52 | 4.33 | 0.23 | 0.133 | ( | 0.144) | 0.119 | | 0.013 |
| 53 | 4.42 | 0.23 | 0.133 | ( | 0.144) | 0.119 | | 0.013 |
| 54 | 4.50 | 0.23 | 0.133 | ( | 0.143) | 0.119 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.133 | ( | 0.143) | 0.119 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.133 | ( | 0.142) | 0.119 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.133 | ( | 0.141) | 0.119 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.152 | ( | 0.141) | 0.137 | | 0.015 |
| 59 | 4.92 | 0.27 | 0.152 | ( | 0.140) | 0.137 | | 0.015 |
| 60 | 5.00 | 0.27 | 0.152 | ( | 0.140) | 0.137 | | 0.015 |
| 61 | 5.08 | 0.20 | 0.114 | ( | 0.139) | 0.102 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.114 | ( | 0.138) | 0.102 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.114 | ( | 0.138) | 0.102 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.133 | ( | 0.137) | 0.119 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.133 | ( | 0.137) | 0.119 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.133 | ( | 0.136) | 0.119 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.152 | | 0.135 | ( | 0.137) | 0.016 |
| 68 | 5.67 | 0.27 | 0.152 | | 0.135 | ( | 0.137) | 0.017 |
| 69 | 5.75 | 0.27 | 0.152 | | 0.134 | ( | 0.137) | 0.017 |
| 70 | 5.83 | 0.27 | 0.152 | | 0.134 | ( | 0.137) | 0.018 |
| 71 | 5.92 | 0.27 | 0.152 | | 0.133 | ( | 0.137) | 0.019 |
| 72 | 6.00 | 0.27 | 0.152 | | 0.132 | ( | 0.137) | 0.019 |
| 73 | 6.08 | 0.30 | 0.171 | | 0.132 | ( | 0.154) | 0.039 |
| 74 | 6.17 | 0.30 | 0.171 | | 0.131 | ( | 0.154) | 0.039 |
| 75 | 6.25 | 0.30 | 0.171 | | 0.131 | ( | 0.154) | 0.040 |
| 76 | 6.33 | 0.30 | 0.171 | | 0.130 | ( | 0.154) | 0.041 |
| 77 | 6.42 | 0.30 | 0.171 | | 0.129 | ( | 0.154) | 0.041 |
| 78 | 6.50 | 0.30 | 0.171 | | 0.129 | ( | 0.154) | 0.042 |
| 79 | 6.58 | 0.33 | 0.190 | | 0.128 | ( | 0.171) | 0.061 |
| 80 | 6.67 | 0.33 | 0.190 | | 0.128 | ( | 0.171) | 0.062 |
| 81 | 6.75 | 0.33 | 0.190 | | 0.127 | ( | 0.171) | 0.062 |
| 82 | 6.83 | 0.33 | 0.190 | | 0.127 | ( | 0.171) | 0.063 |
| 83 | 6.92 | 0.33 | 0.190 | | 0.126 | ( | 0.171) | 0.064 |
| 84 | 7.00 | 0.33 | 0.190 | | 0.125 | ( | 0.171) | 0.064 |
| 85 | 7.08 | 0.33 | 0.190 | | 0.125 | ( | 0.171) | 0.065 |
| 86 | 7.17 | 0.33 | 0.190 | | 0.124 | ( | 0.171) | 0.065 |
| 87 | 7.25 | 0.33 | 0.190 | | 0.124 | ( | 0.171) | 0.066 |
| 88 | 7.33 | 0.37 | 0.209 | | 0.123 | ( | 0.188) | 0.085 |
| 89 | 7.42 | 0.37 | 0.209 | | 0.123 | ( | 0.188) | 0.086 |
| 90 | 7.50 | 0.37 | 0.209 | | 0.122 | ( | 0.188) | 0.086 |
| 91 | 7.58 | 0.40 | 0.228 | | 0.121 | ( | 0.205) | 0.106 |
| 92 | 7.67 | 0.40 | 0.228 | | 0.121 | ( | 0.205) | 0.107 |
| 93 | 7.75 | 0.40 | 0.228 | | 0.120 | ( | 0.205) | 0.107 |
| 94 | 7.83 | 0.43 | 0.246 | | 0.120 | ( | 0.222) | 0.127 |
| 95 | 7.92 | 0.43 | 0.246 | | 0.119 | ( | 0.222) | 0.127 |
| 96 | 8.00 | 0.43 | 0.246 | | 0.119 | ( | 0.222) | 0.128 |
| 97 | 8.08 | 0.50 | 0.284 | | 0.118 | ( | 0.256) | 0.166 |
| 98 | 8.17 | 0.50 | 0.284 | | 0.118 | ( | 0.256) | 0.167 |
| 99 | 8.25 | 0.50 | 0.284 | | 0.117 | ( | 0.256) | 0.167 |
| 100 | 8.33 | 0.50 | 0.284 | | 0.117 | ( | 0.256) | 0.168 |
| 101 | 8.42 | 0.50 | 0.284 | | 0.116 | ( | 0.256) | 0.168 |
| 102 | 8.50 | 0.50 | 0.284 | | 0.115 | ( | 0.256) | 0.169 |
| 103 | 8.58 | 0.53 | 0.303 | | 0.115 | ( | 0.273) | 0.188 |
| 104 | 8.67 | 0.53 | 0.303 | | 0.114 | ( | 0.273) | 0.189 |
| 105 | 8.75 | 0.53 | 0.303 | | 0.114 | ( | 0.273) | 0.190 |
| 106 | 8.83 | 0.57 | 0.322 | | 0.113 | ( | 0.290) | 0.209 |
| 107 | 8.92 | 0.57 | 0.322 | | 0.113 | ( | 0.290) | 0.210 |
| 108 | 9.00 | 0.57 | 0.322 | | 0.112 | ( | 0.290) | 0.210 |
| 109 | 9.08 | 0.63 | 0.360 | | 0.112 | ( | 0.324) | 0.249 |
| 110 | 9.17 | 0.63 | 0.360 | | 0.111 | ( | 0.324) | 0.249 |
| 111 | 9.25 | 0.63 | 0.360 | | 0.111 | ( | 0.324) | 0.250 |
| 112 | 9.33 | 0.67 | 0.379 | | 0.110 | ( | 0.341) | 0.269 |
| 113 | 9.42 | 0.67 | 0.379 | | 0.110 | ( | 0.341) | 0.270 |
| 114 | 9.50 | 0.67 | 0.379 | | 0.109 | ( | 0.341) | 0.270 |
| 115 | 9.58 | 0.70 | 0.398 | | 0.109 | ( | 0.358) | 0.290 |
| 116 | 9.67 | 0.70 | 0.398 | | 0.108 | ( | 0.358) | 0.290 |
| 117 | 9.75 | 0.70 | 0.398 | | 0.107 | ( | 0.358) | 0.291 |
| 118 | 9.83 | 0.73 | 0.417 | | 0.107 | ( | 0.375) | 0.310 |
| 119 | 9.92 | 0.73 | 0.417 | | 0.106 | ( | 0.375) | 0.311 |
| 120 | 10.00 | 0.73 | 0.417 | | 0.106 | ( | 0.375) | 0.311 |
| 121 | 10.08 | 0.50 | 0.284 | | 0.105 | ( | 0.256) | 0.179 |
| 122 | 10.17 | 0.50 | 0.284 | | 0.105 | ( | 0.256) | 0.179 |
| 123 | 10.25 | 0.50 | 0.284 | | 0.104 | ( | 0.256) | 0.180 |
| 124 | 10.33 | 0.50 | 0.284 | | 0.104 | ( | 0.256) | 0.180 |
| 125 | 10.42 | 0.50 | 0.284 | | 0.103 | ( | 0.256) | 0.181 |
| 126 | 10.50 | 0.50 | 0.284 | | 0.103 | ( | 0.256) | 0.182 |
| 127 | 10.58 | 0.67 | 0.379 | | 0.102 | ( | 0.341) | 0.277 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 128 | 10.67 | 0.67 | 0.379 | 0.102 | ( 0.341) | 0.277 |
| 129 | 10.75 | 0.67 | 0.379 | 0.101 | ( 0.341) | 0.278 |
| 130 | 10.83 | 0.67 | 0.379 | 0.101 | ( 0.341) | 0.278 |
| 131 | 10.92 | 0.67 | 0.379 | 0.100 | ( 0.341) | 0.279 |
| 132 | 11.00 | 0.67 | 0.379 | 0.100 | ( 0.341) | 0.279 |
| 133 | 11.08 | 0.63 | 0.360 | 0.099 | ( 0.324) | 0.261 |
| 134 | 11.17 | 0.63 | 0.360 | 0.099 | ( 0.324) | 0.261 |
| 135 | 11.25 | 0.63 | 0.360 | 0.098 | ( 0.324) | 0.262 |
| 136 | 11.33 | 0.63 | 0.360 | 0.098 | ( 0.324) | 0.262 |
| 137 | 11.42 | 0.63 | 0.360 | 0.097 | ( 0.324) | 0.263 |
| 138 | 11.50 | 0.63 | 0.360 | 0.097 | ( 0.324) | 0.263 |
| 139 | 11.58 | 0.57 | 0.322 | 0.096 | ( 0.290) | 0.226 |
| 140 | 11.67 | 0.57 | 0.322 | 0.096 | ( 0.290) | 0.226 |
| 141 | 11.75 | 0.57 | 0.322 | 0.096 | ( 0.290) | 0.227 |
| 142 | 11.83 | 0.60 | 0.341 | 0.095 | ( 0.307) | 0.246 |
| 143 | 11.92 | 0.60 | 0.341 | 0.095 | ( 0.307) | 0.247 |
| 144 | 12.00 | 0.60 | 0.341 | 0.094 | ( 0.307) | 0.247 |
| 145 | 12.08 | 0.83 | 0.474 | 0.094 | ( 0.427) | 0.380 |
| 146 | 12.17 | 0.83 | 0.474 | 0.093 | ( 0.427) | 0.381 |
| 147 | 12.25 | 0.83 | 0.474 | 0.093 | ( 0.427) | 0.381 |
| 148 | 12.33 | 0.87 | 0.493 | 0.092 | ( 0.444) | 0.401 |
| 149 | 12.42 | 0.87 | 0.493 | 0.092 | ( 0.444) | 0.401 |
| 150 | 12.50 | 0.87 | 0.493 | 0.091 | ( 0.444) | 0.402 |
| 151 | 12.58 | 0.93 | 0.531 | 0.091 | ( 0.478) | 0.440 |
| 152 | 12.67 | 0.93 | 0.531 | 0.090 | ( 0.478) | 0.440 |
| 153 | 12.75 | 0.93 | 0.531 | 0.090 | ( 0.478) | 0.441 |
| 154 | 12.83 | 0.97 | 0.550 | 0.089 | ( 0.495) | 0.460 |
| 155 | 12.92 | 0.97 | 0.550 | 0.089 | ( 0.495) | 0.461 |
| 156 | 13.00 | 0.97 | 0.550 | 0.089 | ( 0.495) | 0.461 |
| 157 | 13.08 | 1.13 | 0.645 | 0.088 | ( 0.580) | 0.556 |
| 158 | 13.17 | 1.13 | 0.645 | 0.088 | ( 0.580) | 0.557 |
| 159 | 13.25 | 1.13 | 0.645 | 0.087 | ( 0.580) | 0.557 |
| 160 | 13.33 | 1.13 | 0.645 | 0.087 | ( 0.580) | 0.558 |
| 161 | 13.42 | 1.13 | 0.645 | 0.086 | ( 0.580) | 0.558 |
| 162 | 13.50 | 1.13 | 0.645 | 0.086 | ( 0.580) | 0.559 |
| 163 | 13.58 | 0.77 | 0.436 | 0.085 | ( 0.392) | 0.351 |
| 164 | 13.67 | 0.77 | 0.436 | 0.085 | ( 0.392) | 0.351 |
| 165 | 13.75 | 0.77 | 0.436 | 0.085 | ( 0.392) | 0.351 |
| 166 | 13.83 | 0.77 | 0.436 | 0.084 | ( 0.392) | 0.352 |
| 167 | 13.92 | 0.77 | 0.436 | 0.084 | ( 0.392) | 0.352 |
| 168 | 14.00 | 0.77 | 0.436 | 0.083 | ( 0.392) | 0.353 |
| 169 | 14.08 | 0.90 | 0.512 | 0.083 | ( 0.461) | 0.429 |
| 170 | 14.17 | 0.90 | 0.512 | 0.082 | ( 0.461) | 0.429 |
| 171 | 14.25 | 0.90 | 0.512 | 0.082 | ( 0.461) | 0.430 |
| 172 | 14.33 | 0.87 | 0.493 | 0.082 | ( 0.444) | 0.411 |
| 173 | 14.42 | 0.87 | 0.493 | 0.081 | ( 0.444) | 0.412 |
| 174 | 14.50 | 0.87 | 0.493 | 0.081 | ( 0.444) | 0.412 |
| 175 | 14.58 | 0.87 | 0.493 | 0.080 | ( 0.444) | 0.413 |
| 176 | 14.67 | 0.87 | 0.493 | 0.080 | ( 0.444) | 0.413 |
| 177 | 14.75 | 0.87 | 0.493 | 0.080 | ( 0.444) | 0.413 |
| 178 | 14.83 | 0.83 | 0.474 | 0.079 | ( 0.427) | 0.395 |
| 179 | 14.92 | 0.83 | 0.474 | 0.079 | ( 0.427) | 0.395 |
| 180 | 15.00 | 0.83 | 0.474 | 0.078 | ( 0.427) | 0.396 |
| 181 | 15.08 | 0.80 | 0.455 | 0.078 | ( 0.410) | 0.377 |
| 182 | 15.17 | 0.80 | 0.455 | 0.078 | ( 0.410) | 0.377 |
| 183 | 15.25 | 0.80 | 0.455 | 0.077 | ( 0.410) | 0.378 |
| 184 | 15.33 | 0.77 | 0.436 | 0.077 | ( 0.392) | 0.359 |
| 185 | 15.42 | 0.77 | 0.436 | 0.076 | ( 0.392) | 0.360 |
| 186 | 15.50 | 0.77 | 0.436 | 0.076 | ( 0.392) | 0.360 |
| 187 | 15.58 | 0.63 | 0.360 | 0.076 | ( 0.324) | 0.285 |
| 188 | 15.67 | 0.63 | 0.360 | 0.075 | ( 0.324) | 0.285 |
| 189 | 15.75 | 0.63 | 0.360 | 0.075 | ( 0.324) | 0.285 |
| 190 | 15.83 | 0.63 | 0.360 | 0.074 | ( 0.324) | 0.286 |
| 191 | 15.92 | 0.63 | 0.360 | 0.074 | ( 0.324) | 0.286 |
| 192 | 16.00 | 0.63 | 0.360 | 0.074 | ( 0.324) | 0.287 |
| 193 | 16.08 | 0.13 | 0.076 | ( 0.073) | 0.068 | 0.008 |
| 194 | 16.17 | 0.13 | 0.076 | ( 0.073) | 0.068 | 0.008 |
| 195 | 16.25 | 0.13 | 0.076 | ( 0.073) | 0.068 | 0.008 |
| 196 | 16.33 | 0.13 | 0.076 | ( 0.072) | 0.068 | 0.008 |
| 197 | 16.42 | 0.13 | 0.076 | ( 0.072) | 0.068 | 0.008 |
| 198 | 16.50 | 0.13 | 0.076 | ( 0.071) | 0.068 | 0.008 |
| 199 | 16.58 | 0.10 | 0.057 | ( 0.071) | 0.051 | 0.006 |
| 200 | 16.67 | 0.10 | 0.057 | ( 0.071) | 0.051 | 0.006 |
| 201 | 16.75 | 0.10 | 0.057 | ( 0.070) | 0.051 | 0.006 |
| 202 | 16.83 | 0.10 | 0.057 | ( 0.070) | 0.051 | 0.006 |
| 203 | 16.92 | 0.10 | 0.057 | ( 0.070) | 0.051 | 0.006 |
| 204 | 17.00 | 0.10 | 0.057 | ( 0.069) | 0.051 | 0.006 |
| 205 | 17.08 | 0.17 | 0.095 | 0.069 | ( 0.085) | 0.026 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 206 | 17.17 | 0.17 | 0.095 | 0.069 | ( 0.085) | 0.026 |
| 207 | 17.25 | 0.17 | 0.095 | 0.068 | ( 0.085) | 0.027 |
| 208 | 17.33 | 0.17 | 0.095 | 0.068 | ( 0.085) | 0.027 |
| 209 | 17.42 | 0.17 | 0.095 | 0.068 | ( 0.085) | 0.027 |
| 210 | 17.50 | 0.17 | 0.095 | 0.067 | ( 0.085) | 0.028 |
| 211 | 17.58 | 0.17 | 0.095 | 0.067 | ( 0.085) | 0.028 |
| 212 | 17.67 | 0.17 | 0.095 | 0.067 | ( 0.085) | 0.028 |
| 213 | 17.75 | 0.17 | 0.095 | 0.066 | ( 0.085) | 0.029 |
| 214 | 17.83 | 0.13 | 0.076 | 0.066 | ( 0.068) | 0.010 |
| 215 | 17.92 | 0.13 | 0.076 | 0.066 | ( 0.068) | 0.010 |
| 216 | 18.00 | 0.13 | 0.076 | 0.065 | ( 0.068) | 0.011 |
| 217 | 18.08 | 0.13 | 0.076 | 0.065 | ( 0.068) | 0.011 |
| 218 | 18.17 | 0.13 | 0.076 | 0.065 | ( 0.068) | 0.011 |
| 219 | 18.25 | 0.13 | 0.076 | 0.064 | ( 0.068) | 0.012 |
| 220 | 18.33 | 0.13 | 0.076 | 0.064 | ( 0.068) | 0.012 |
| 221 | 18.42 | 0.13 | 0.076 | 0.064 | ( 0.068) | 0.012 |
| 222 | 18.50 | 0.13 | 0.076 | 0.063 | ( 0.068) | 0.012 |
| 223 | 18.58 | 0.10 | 0.057 | ( 0.063) | 0.051 | 0.006 |
| 224 | 18.67 | 0.10 | 0.057 | ( 0.063) | 0.051 | 0.006 |
| 225 | 18.75 | 0.10 | 0.057 | ( 0.062) | 0.051 | 0.006 |
| 226 | 18.83 | 0.07 | 0.038 | ( 0.062) | 0.034 | 0.004 |
| 227 | 18.92 | 0.07 | 0.038 | ( 0.062) | 0.034 | 0.004 |
| 228 | 19.00 | 0.07 | 0.038 | ( 0.062) | 0.034 | 0.004 |
| 229 | 19.08 | 0.10 | 0.057 | ( 0.061) | 0.051 | 0.006 |
| 230 | 19.17 | 0.10 | 0.057 | ( 0.061) | 0.051 | 0.006 |
| 231 | 19.25 | 0.10 | 0.057 | ( 0.061) | 0.051 | 0.006 |
| 232 | 19.33 | 0.13 | 0.076 | 0.060 | ( 0.068) | 0.015 |
| 233 | 19.42 | 0.13 | 0.076 | 0.060 | ( 0.068) | 0.016 |
| 234 | 19.50 | 0.13 | 0.076 | 0.060 | ( 0.068) | 0.016 |
| 235 | 19.58 | 0.10 | 0.057 | ( 0.060) | 0.051 | 0.006 |
| 236 | 19.67 | 0.10 | 0.057 | ( 0.059) | 0.051 | 0.006 |
| 237 | 19.75 | 0.10 | 0.057 | ( 0.059) | 0.051 | 0.006 |
| 238 | 19.83 | 0.07 | 0.038 | ( 0.059) | 0.034 | 0.004 |
| 239 | 19.92 | 0.07 | 0.038 | ( 0.059) | 0.034 | 0.004 |
| 240 | 20.00 | 0.07 | 0.038 | ( 0.058) | 0.034 | 0.004 |
| 241 | 20.08 | 0.10 | 0.057 | ( 0.058) | 0.051 | 0.006 |
| 242 | 20.17 | 0.10 | 0.057 | ( 0.058) | 0.051 | 0.006 |
| 243 | 20.25 | 0.10 | 0.057 | ( 0.057) | 0.051 | 0.006 |
| 244 | 20.33 | 0.10 | 0.057 | ( 0.057) | 0.051 | 0.006 |
| 245 | 20.42 | 0.10 | 0.057 | ( 0.057) | 0.051 | 0.006 |
| 246 | 20.50 | 0.10 | 0.057 | ( 0.057) | 0.051 | 0.006 |
| 247 | 20.58 | 0.10 | 0.057 | ( 0.057) | 0.051 | 0.006 |
| 248 | 20.67 | 0.10 | 0.057 | ( 0.056) | 0.051 | 0.006 |
| 249 | 20.75 | 0.10 | 0.057 | ( 0.056) | 0.051 | 0.006 |
| 250 | 20.83 | 0.07 | 0.038 | ( 0.056) | 0.034 | 0.004 |
| 251 | 20.92 | 0.07 | 0.038 | ( 0.056) | 0.034 | 0.004 |
| 252 | 21.00 | 0.07 | 0.038 | ( 0.055) | 0.034 | 0.004 |
| 253 | 21.08 | 0.10 | 0.057 | ( 0.055) | 0.051 | 0.006 |
| 254 | 21.17 | 0.10 | 0.057 | ( 0.055) | 0.051 | 0.006 |
| 255 | 21.25 | 0.10 | 0.057 | ( 0.055) | 0.051 | 0.006 |
| 256 | 21.33 | 0.07 | 0.038 | ( 0.055) | 0.034 | 0.004 |
| 257 | 21.42 | 0.07 | 0.038 | ( 0.054) | 0.034 | 0.004 |
| 258 | 21.50 | 0.07 | 0.038 | ( 0.054) | 0.034 | 0.004 |
| 259 | 21.58 | 0.10 | 0.057 | ( 0.054) | 0.051 | 0.006 |
| 260 | 21.67 | 0.10 | 0.057 | ( 0.054) | 0.051 | 0.006 |
| 261 | 21.75 | 0.10 | 0.057 | ( 0.054) | 0.051 | 0.006 |
| 262 | 21.83 | 0.07 | 0.038 | ( 0.053) | 0.034 | 0.004 |
| 263 | 21.92 | 0.07 | 0.038 | ( 0.053) | 0.034 | 0.004 |
| 264 | 22.00 | 0.07 | 0.038 | ( 0.053) | 0.034 | 0.004 |
| 265 | 22.08 | 0.10 | 0.057 | ( 0.053) | 0.051 | 0.006 |
| 266 | 22.17 | 0.10 | 0.057 | ( 0.053) | 0.051 | 0.006 |
| 267 | 22.25 | 0.10 | 0.057 | ( 0.052) | 0.051 | 0.006 |
| 268 | 22.33 | 0.07 | 0.038 | ( 0.052) | 0.034 | 0.004 |
| 269 | 22.42 | 0.07 | 0.038 | ( 0.052) | 0.034 | 0.004 |
| 270 | 22.50 | 0.07 | 0.038 | ( 0.052) | 0.034 | 0.004 |
| 271 | 22.58 | 0.07 | 0.038 | ( 0.052) | 0.034 | 0.004 |
| 272 | 22.67 | 0.07 | 0.038 | ( 0.052) | 0.034 | 0.004 |
| 273 | 22.75 | 0.07 | 0.038 | ( 0.052) | 0.034 | 0.004 |
| 274 | 22.83 | 0.07 | 0.038 | ( 0.051) | 0.034 | 0.004 |
| 275 | 22.92 | 0.07 | 0.038 | ( 0.051) | 0.034 | 0.004 |
| 276 | 23.00 | 0.07 | 0.038 | ( 0.051) | 0.034 | 0.004 |
| 277 | 23.08 | 0.07 | 0.038 | ( 0.051) | 0.034 | 0.004 |
| 278 | 23.17 | 0.07 | 0.038 | ( 0.051) | 0.034 | 0.004 |
| 279 | 23.25 | 0.07 | 0.038 | ( 0.051) | 0.034 | 0.004 |
| 280 | 23.33 | 0.07 | 0.038 | ( 0.051) | 0.034 | 0.004 |
| 281 | 23.42 | 0.07 | 0.038 | ( 0.051) | 0.034 | 0.004 |
| 282 | 23.50 | 0.07 | 0.038 | ( 0.051) | 0.034 | 0.004 |
| 283 | 23.58 | 0.07 | 0.038 | ( 0.050) | 0.034 | 0.004 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 284 | 23.67 | 0.07 | 0.038 | ( 0.050) | 0.034 | 0.004 | |
| 285 | 23.75 | 0.07 | 0.038 | ( 0.050) | 0.034 | 0.004 | |
| 286 | 23.83 | 0.07 | 0.038 | ( 0.050) | 0.034 | 0.004 | |
| 287 | 23.92 | 0.07 | 0.038 | ( 0.050) | 0.034 | 0.004 | |
| 288 | 24.00 | 0.07 | 0.038 | ( 0.050) | 0.034 | 0.004 | |

(Loss Rate Not Used)

Sum = 100.0 Sum = 33.9

Flood volume = Effective rainfall 2.83(In)
times area 24.3(Ac.)/[(In)/(Ft.)] = 5.7(Ac.Ft)
Total soil loss = 1.91(In)
Total soil loss = 3.874(Ac.Ft)
Total rainfall = 4.74(In)
Flood volume = 249329.6 Cubic Feet
Total soil loss = 168761.2 Cubic Feet

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Peak flow rate of this hydrograph = 13.669(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

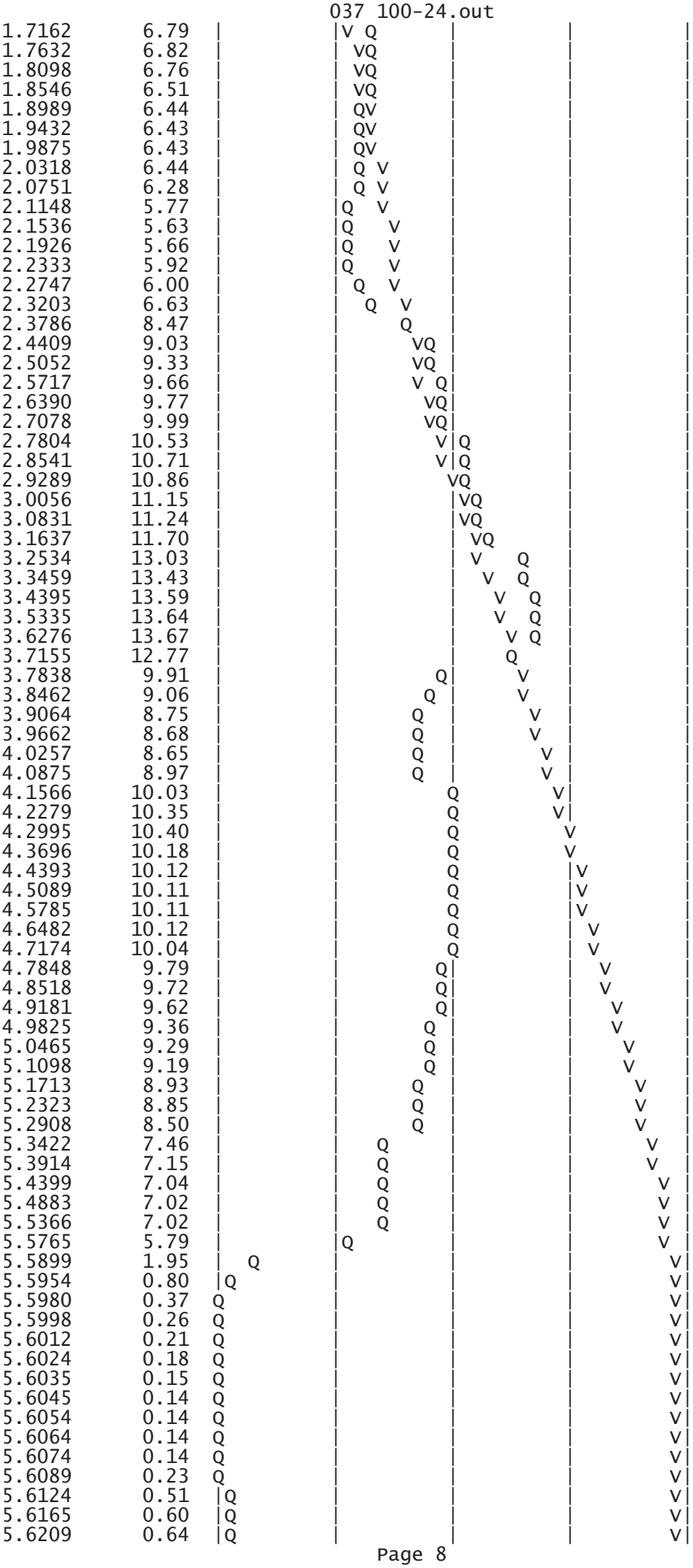
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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 5.0 | 10.0 | 15.0 | 20.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0001 | 0.02 | Q | | | | |
| 0+10 | 0.0006 | 0.07 | Q | | | | |
| 0+15 | 0.0012 | 0.08 | Q | | | | |
| 0+20 | 0.0019 | 0.10 | Q | | | | |
| 0+25 | 0.0027 | 0.13 | Q | | | | |
| 0+30 | 0.0037 | 0.13 | Q | | | | |
| 0+35 | 0.0046 | 0.14 | Q | | | | |
| 0+40 | 0.0056 | 0.14 | Q | | | | |
| 0+45 | 0.0065 | 0.14 | Q | | | | |
| 0+50 | 0.0075 | 0.15 | Q | | | | |
| 0+55 | 0.0087 | 0.17 | Q | | | | |
| 1+ 0 | 0.0100 | 0.18 | Q | | | | |
| 1+ 5 | 0.0112 | 0.18 | Q | | | | |
| 1+10 | 0.0122 | 0.15 | Q | | | | |
| 1+15 | 0.0132 | 0.14 | Q | | | | |
| 1+20 | 0.0142 | 0.14 | Q | | | | |
| 1+25 | 0.0152 | 0.14 | Q | | | | |
| 1+30 | 0.0161 | 0.14 | Q | | | | |
| 1+35 | 0.0171 | 0.14 | Q | | | | |
| 1+40 | 0.0180 | 0.14 | Q | | | | |
| 1+45 | 0.0190 | 0.14 | Q | | | | |
| 1+50 | 0.0200 | 0.15 | Q | | | | |
| 1+55 | 0.0212 | 0.17 | Q | | | | |
| 2+ 0 | 0.0225 | 0.18 | Q | | | | |
| 2+ 5 | 0.0237 | 0.18 | Q | | | | |
| 2+10 | 0.0250 | 0.19 | Q | | | | |
| 2+15 | 0.0263 | 0.19 | Q | | | | |
| 2+20 | 0.0276 | 0.19 | Q | | | | |
| 2+25 | 0.0288 | 0.19 | Q | | | | |
| 2+30 | 0.0301 | 0.19 | Q | | | | |
| 2+35 | 0.0315 | 0.19 | Q | | | | |
| 2+40 | 0.0330 | 0.22 | Q | | | | |
| 2+45 | 0.0345 | 0.23 | Q | | | | |
| 2+50 | 0.0361 | 0.23 | Q | | | | |
| 2+55 | 0.0377 | 0.23 | Q | | | | |
| 3+ 0 | 0.0393 | 0.23 | Q | | | | |
| 3+ 5 | 0.0409 | 0.23 | Q | | | | |
| 3+10 | 0.0425 | 0.23 | Q | | | | |
| 3+15 | 0.0441 | 0.23 | Q | | | | |
| 3+20 | 0.0457 | 0.23 | Q | | | | |
| 3+25 | 0.0473 | 0.23 | Q | | | | |
| 3+30 | 0.0489 | 0.23 | Q | | | | |
| 3+35 | 0.0505 | 0.23 | Q | | | | |
| 3+40 | 0.0521 | 0.23 | Q | | | | |
| 3+45 | 0.0537 | 0.23 | Q | | | | |
| 3+50 | 0.0554 | 0.24 | Q | | | | |
| 3+55 | 0.0572 | 0.27 | Q | | | | |
| 4+ 0 | 0.0591 | 0.27 | Q | | | | |
| 4+ 5 | 0.0610 | 0.28 | Q | | | | |
| 4+10 | 0.0629 | 0.28 | Q | | | | |
| 4+15 | 0.0649 | 0.28 | Q | | | | |
| 4+20 | 0.0668 | 0.29 | Q | | | | |

```
 4+25       0.0690      0.31  Q          |          |          |          |
 4+30       0.0712      0.32  Q          |          |          |          |
 4+35       0.0734      0.32  Q          |          |          |          |
 4+40       0.0757      0.32  Q          |          |          |          |
 4+45       0.0779      0.33  Q          |          |          |          |
 4+50       0.0802      0.33  Q          |          |          |          |
 4+55       0.0827      0.36  Q          |          |          |          |
 5+ 0       0.0852      0.37  Q          |          |          |          |
 5+ 5       0.0877      0.35  Q          |          |          |          |
 5+10       0.0897      0.30  Q          |          |          |          |
 5+15       0.0917      0.29  Q          |          |          |          |
 5+20       0.0937      0.29  Q          |          |          |          |
 5+25       0.0959      0.31  Q          |          |          |          |
 5+30       0.0981      0.32  Q          |          |          |          |
 5+35       0.1004      0.34  Q          |          |          |          |
 5+40       0.1030      0.38  Q          |          |          |          |
 5+45       0.1058      0.41  Q          |          |          |          |
 5+50       0.1088      0.42  Q          |          |          |          |
 5+55       0.1118      0.44  Q          |          |          |          |
 6+ 0       0.1149      0.45  Q          |          |          |          |
 6+ 5       0.1187      0.55  VQ         |          |          |          |
 6+10       0.1244      0.83  VQ         |          |          |          |
 6+15       0.1308      0.92  VQ         |          |          |          |
 6+20       0.1374      0.96  VQ         |          |          |          |
 6+25       0.1442      0.99  |Q         |          |          |          |
 6+30       0.1511      1.00  |VQ        |          |          |          |
 6+35       0.1587      1.10  |VQ        |          |          |          |
 6+40       0.1682      1.38  |VQ        |          |          |          |
 6+45       0.1783      1.47  |VQ        |          |          |          |
 6+50       0.1887      1.51  |V Q       |          |          |          |
 6+55       0.1993      1.54  |V Q       |          |          |          |
 7+ 0       0.2100      1.55  |V Q       |          |          |          |
 7+ 5       0.2208      1.57  |V Q       |          |          |          |
 7+10       0.2317      1.58  |V Q       |          |          |          |
 7+15       0.2427      1.60  |V Q       |          |          |          |
 7+20       0.2544      1.69  |V Q       |          |          |          |
 7+25       0.2679      1.97  |V Q       |          |          |          |
 7+30       0.2821      2.06  |V  Q      |          |          |          |
 7+35       0.2972      2.19  | V Q      |          |          |          |
 7+40       0.3142      2.47  | V Q      |          |          |          |
 7+45       0.3319      2.57  | V  Q     |          |          |          |
 7+50       0.3504      2.69  | V  Q     |          |          |          |
 7+55       0.3709      2.98  | V  Q     |          |          |          |
 8+ 0       0.3921      3.07  | V   Q    |          |          |          |
 8+ 5       0.4147      3.28  | V   Q    |          |          |          |
 8+10       0.4410      3.82  |  V   Q   |          |          |          |
 8+15       0.4685      4.00  |  V   Q   |          |          |          |
 8+20       0.4966      4.07  |  V    Q  |          |          |          |
 8+25       0.5248      4.10  |  V    Q  |          |          |          |
 8+30       0.5532      4.12  |  V    Q  |          |          |          |
 8+35       0.5823      4.22  |   V   Q  |          |          |          |
 8+40       0.6132      4.49  |   V   Q  |          |          |          |
 8+45       0.6448      4.59  |   V    Q |          |          |          |
 8+50       0.6773      4.71  |   V    Q |          |          |          |
 8+55       0.7117      4.99  |   V    Q |          |          |          |
 9+ 0       0.7467      5.09  |    V    Q          |          |          |
 9+ 5       0.7832      5.30  |    V    Q          |          |          |
 9+10       0.8234      5.84  |    V    |Q         |          |          |
 9+15       0.8649      6.02  |     V   | Q        |          |          |
 9+20       0.9074      6.17  |     V   | Q        |          |          |
 9+25       0.9519      6.46  |     V   | Q        |          |          |
 9+30       0.9970      6.56  |     V   |  Q       |          |          |
 9+35       1.0431      6.69  |      V  |  Q       |          |          |
 9+40       1.0911      6.97  |      V  |  Q       |          |          |
 9+45       1.1397      7.06  |      V  |   Q      |          |          |
 9+50       1.1893      7.19  |       V |   Q      |          |          |
 9+55       1.2407      7.47  |       V |   Q      |          |          |
10+ 0       1.2928      7.57  |        V|    Q     |          |          |
10+ 5       1.3412      7.02  |        V|   Q      |          |          |
10+10       1.3771      5.22  |        VQ          |          |          |
10+15       1.4094      4.69  |        Q|          |          |          |
10+20       1.4404      4.50  |       Q V          |          |          |
10+25       1.4711      4.46  |       Q V          |          |          |
10+30       1.5017      4.44  |       Q V          |          |          |
10+35       1.5352      4.86  |        QV          |          |          |
10+40       1.5777      6.18  |         |VQ        |          |          |
10+45       1.6230      6.58  |         |V Q       |          |          |
10+50       1.6695      6.74  |         |V Q       |          |          |
```

| | | | |
|---|---|---|---|
| 10+55 | 1.7162 | 6.79 |  |
| 11+ 0 | 1.7632 | 6.82 | |
| 11+ 5 | 1.8098 | 6.76 | |
| 11+10 | 1.8546 | 6.51 | |
| 11+15 | 1.8989 | 6.44 | |
| 11+20 | 1.9432 | 6.43 | |
| 11+25 | 1.9875 | 6.43 | |
| 11+30 | 2.0318 | 6.44 | |
| 11+35 | 2.0751 | 6.28 | |
| 11+40 | 2.1148 | 5.77 | |
| 11+45 | 2.1536 | 5.63 | |
| 11+50 | 2.1926 | 5.66 | |
| 11+55 | 2.2333 | 5.92 | |
| 12+ 0 | 2.2747 | 6.00 | |
| 12+ 5 | 2.3203 | 6.63 | |
| 12+10 | 2.3786 | 8.47 | |
| 12+15 | 2.4409 | 9.03 | |
| 12+20 | 2.5052 | 9.33 | |
| 12+25 | 2.5717 | 9.66 | |
| 12+30 | 2.6390 | 9.77 | |
| 12+35 | 2.7078 | 9.99 | |
| 12+40 | 2.7804 | 10.53 | |
| 12+45 | 2.8541 | 10.71 | |
| 12+50 | 2.9289 | 10.86 | |
| 12+55 | 3.0056 | 11.15 | |
| 13+ 0 | 3.0831 | 11.24 | |
| 13+ 5 | 3.1637 | 11.70 | |
| 13+10 | 3.2534 | 13.03 | |
| 13+15 | 3.3459 | 13.43 | |
| 13+20 | 3.4395 | 13.59 | |
| 13+25 | 3.5335 | 13.64 | |
| 13+30 | 3.6276 | 13.67 | |
| 13+35 | 3.7155 | 12.77 | |
| 13+40 | 3.7838 | 9.91 | |
| 13+45 | 3.8462 | 9.06 | |
| 13+50 | 3.9064 | 8.75 | |
| 13+55 | 3.9662 | 8.68 | |
| 14+ 0 | 4.0257 | 8.65 | |
| 14+ 5 | 4.0875 | 8.97 | |
| 14+10 | 4.1566 | 10.03 | |
| 14+15 | 4.2279 | 10.35 | |
| 14+20 | 4.2995 | 10.40 | |
| 14+25 | 4.3696 | 10.18 | |
| 14+30 | 4.4393 | 10.12 | |
| 14+35 | 4.5089 | 10.11 | |
| 14+40 | 4.5785 | 10.11 | |
| 14+45 | 4.6482 | 10.12 | |
| 14+50 | 4.7174 | 10.04 | |
| 14+55 | 4.7848 | 9.79 | |
| 15+ 0 | 4.8518 | 9.72 | |
| 15+ 5 | 4.9181 | 9.62 | |
| 15+10 | 4.9825 | 9.36 | |
| 15+15 | 5.0465 | 9.29 | |
| 15+20 | 5.1098 | 9.19 | |
| 15+25 | 5.1713 | 8.93 | |
| 15+30 | 5.2323 | 8.85 | |
| 15+35 | 5.2908 | 8.50 | |
| 15+40 | 5.3422 | 7.46 | |
| 15+45 | 5.3914 | 7.15 | |
| 15+50 | 5.4399 | 7.04 | |
| 15+55 | 5.4883 | 7.02 | |
| 16+ 0 | 5.5366 | 7.02 | |
| 16+ 5 | 5.5765 | 5.79 | |
| 16+10 | 5.5899 | 1.95 | |
| 16+15 | 5.5954 | 0.80 | |
| 16+20 | 5.5980 | 0.37 | |
| 16+25 | 5.5998 | 0.26 | |
| 16+30 | 5.6012 | 0.21 | |
| 16+35 | 5.6024 | 0.18 | |
| 16+40 | 5.6035 | 0.15 | |
| 16+45 | 5.6045 | 0.14 | |
| 16+50 | 5.6054 | 0.14 | |
| 16+55 | 5.6064 | 0.14 | |
| 17+ 0 | 5.6074 | 0.14 | |
| 17+ 5 | 5.6089 | 0.23 | |
| 17+10 | 5.6124 | 0.51 | |
| 17+15 | 5.6165 | 0.60 | |
| 17+20 | 5.6209 | 0.64 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+25 | 5.6254 | 0.65 | \|Q | \| | \| | \| | V\| |
| 17+30 | 5.6300 | 0.66 | \|Q | \| | \| | \| | V\| |
| 17+35 | 5.6346 | 0.67 | \|Q | \| | \| | \| | V\| |
| 17+40 | 5.6393 | 0.68 | \|Q | \| | \| | \| | V\| |
| 17+45 | 5.6441 | 0.69 | \|Q | \| | \| | \| | V\| |
| 17+50 | 5.6483 | 0.61 | \|Q | \| | \| | \| | V\| |
| 17+55 | 5.6508 | 0.36 | Q | \| | \| | \| | V\| |
| 18+ 0 | 5.6528 | 0.29 | Q | \| | \| | \| | V\| |
| 18+ 5 | 5.6547 | 0.27 | Q | \| | \| | \| | V\| |
| 18+10 | 5.6565 | 0.27 | Q | \| | \| | \| | V\| |
| 18+15 | 5.6584 | 0.28 | Q | \| | \| | \| | V\| |
| 18+20 | 5.6604 | 0.28 | Q | \| | \| | \| | V\| |
| 18+25 | 5.6624 | 0.29 | Q | \| | \| | \| | V\| |
| 18+30 | 5.6644 | 0.30 | Q | \| | \| | \| | V\| |
| 18+35 | 5.6663 | 0.27 | Q | \| | \| | \| | V\| |
| 18+40 | 5.6675 | 0.18 | Q | \| | \| | \| | V\| |
| 18+45 | 5.6686 | 0.15 | Q | \| | \| | \| | V\| |
| 18+50 | 5.6695 | 0.14 | Q | \| | \| | \| | V\| |
| 18+55 | 5.6703 | 0.11 | Q | \| | \| | \| | V\| |
| 19+ 0 | 5.6709 | 0.10 | Q | \| | \| | \| | V\| |
| 19+ 5 | 5.6716 | 0.10 | Q | \| | \| | \| | V\| |
| 19+10 | 5.6725 | 0.13 | Q | \| | \| | \| | V\| |
| 19+15 | 5.6734 | 0.14 | Q | \| | \| | \| | V\| |
| 19+20 | 5.6747 | 0.18 | Q | \| | \| | \| | V\| |
| 19+25 | 5.6769 | 0.32 | Q | \| | \| | \| | V\| |
| 19+30 | 5.6794 | 0.36 | Q | \| | \| | \| | V\| |
| 19+35 | 5.6817 | 0.34 | Q | \| | \| | \| | V\| |
| 19+40 | 5.6831 | 0.20 | Q | \| | \| | \| | V\| |
| 19+45 | 5.6842 | 0.16 | Q | \| | \| | \| | V\| |
| 19+50 | 5.6851 | 0.14 | Q | \| | \| | \| | V\| |
| 19+55 | 5.6859 | 0.11 | Q | \| | \| | \| | V\| |
| 20+ 0 | 5.6866 | 0.10 | Q | \| | \| | \| | V\| |
| 20+ 5 | 5.6873 | 0.10 | Q | \| | \| | \| | V\| |
| 20+10 | 5.6881 | 0.13 | Q | \| | \| | \| | V\| |
| 20+15 | 5.6891 | 0.14 | Q | \| | \| | \| | V\| |
| 20+20 | 5.6900 | 0.14 | Q | \| | \| | \| | V\| |
| 20+25 | 5.6910 | 0.14 | Q | \| | \| | \| | V\| |
| 20+30 | 5.6919 | 0.14 | Q | \| | \| | \| | V\| |
| 20+35 | 5.6929 | 0.14 | Q | \| | \| | \| | V\| |
| 20+40 | 5.6939 | 0.14 | Q | \| | \| | \| | V\| |
| 20+45 | 5.6948 | 0.14 | Q | \| | \| | \| | V\| |
| 20+50 | 5.6957 | 0.13 | Q | \| | \| | \| | V\| |
| 20+55 | 5.6964 | 0.10 | Q | \| | \| | \| | V\| |
| 21+ 0 | 5.6971 | 0.10 | Q | \| | \| | \| | V\| |
| 21+ 5 | 5.6978 | 0.10 | Q | \| | \| | \| | V\| |
| 21+10 | 5.6987 | 0.13 | Q | \| | \| | \| | V\| |
| 21+15 | 5.6996 | 0.14 | Q | \| | \| | \| | V\| |
| 21+20 | 5.7005 | 0.13 | Q | \| | \| | \| | V\| |
| 21+25 | 5.7012 | 0.10 | Q | \| | \| | \| | V\| |
| 21+30 | 5.7019 | 0.10 | Q | \| | \| | \| | V\| |
| 21+35 | 5.7026 | 0.10 | Q | \| | \| | \| | V\| |
| 21+40 | 5.7035 | 0.13 | Q | \| | \| | \| | V\| |
| 21+45 | 5.7044 | 0.14 | Q | \| | \| | \| | V\| |
| 21+50 | 5.7053 | 0.13 | Q | \| | \| | \| | V\| |
| 21+55 | 5.7060 | 0.10 | Q | \| | \| | \| | V\| |
| 22+ 0 | 5.7067 | 0.10 | Q | \| | \| | \| | V\| |
| 22+ 5 | 5.7074 | 0.10 | Q | \| | \| | \| | V\| |
| 22+10 | 5.7083 | 0.13 | Q | \| | \| | \| | V\| |
| 22+15 | 5.7092 | 0.14 | Q | \| | \| | \| | V\| |
| 22+20 | 5.7101 | 0.13 | Q | \| | \| | \| | V\| |
| 22+25 | 5.7108 | 0.10 | Q | \| | \| | \| | V\| |
| 22+30 | 5.7115 | 0.10 | Q | \| | \| | \| | V\| |
| 22+35 | 5.7122 | 0.09 | Q | \| | \| | \| | V\| |
| 22+40 | 5.7128 | 0.09 | Q | \| | \| | \| | V\| |
| 22+45 | 5.7134 | 0.09 | Q | \| | \| | \| | V\| |
| 22+50 | 5.7141 | 0.09 | Q | \| | \| | \| | V\| |
| 22+55 | 5.7147 | 0.09 | Q | \| | \| | \| | V\| |
| 23+ 0 | 5.7154 | 0.09 | Q | \| | \| | \| | V\| |
| 23+ 5 | 5.7160 | 0.09 | Q | \| | \| | \| | V\| |
| 23+10 | 5.7166 | 0.09 | Q | \| | \| | \| | V\| |
| 23+15 | 5.7173 | 0.09 | Q | \| | \| | \| | V\| |
| 23+20 | 5.7179 | 0.09 | Q | \| | \| | \| | V\| |
| 23+25 | 5.7186 | 0.09 | Q | \| | \| | \| | V\| |
| 23+30 | 5.7192 | 0.09 | Q | \| | \| | \| | V\| |
| 23+35 | 5.7198 | 0.09 | Q | \| | \| | \| | V\| |
| 23+40 | 5.7205 | 0.09 | Q | \| | \| | \| | V\| |
| 23+45 | 5.7211 | 0.09 | Q | \| | \| | \| | V\| |
| 23+50 | 5.7218 | 0.09 | Q | \| | \| | \| | V\| |

```
   23+55       5.7224      0.09  Q          |          |          |         V|
   24+ 0       5.7230      0.09  Q          |          |          |         V|
   24+ 5       5.7236      0.08  Q          |          |          |         V|
   24+10       5.7237      0.02  Q          |          |          |         V|
   24+15       5.7238      0.01  Q          |          |          |         V|
   24+20       5.7238      0.00  Q          |          |          |         V|
   24+25       5.7238      0.00  Q          |          |          |         V|
   24+30       5.7238      0.00  Q          |          |          |          V
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX381100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 38
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 1.20(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.20(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 368.00(Ft.)
Length along longest watercourse measured to centroid = 143.00(Ft.)
Length along longest watercourse = 0.070 Mi.
Length along longest watercourse measured to centroid = 0.027 Mi.
Difference in elevation = 26.00(Ft.)
Slope along watercourse = 373.0435 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.025 Hr.
Lag time = 1.51 Min.
25% of lag time = 0.38 Min.
40% of lag time = 0.60 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.20 | 0.50 | 0.60 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.20 | 1.20 | 1.44 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 1.200 | 70.21 | 0.000 |

Total Area Entered = 1.20(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 70.2 | 85.1 | 0.186 | 0.000 | 0.186 | 1.000 | 0.186 |
| | | | | | Sum (F) = | 0.186 |

Area averaged mean soil loss (F) (In/Hr) = 0.186

Minimum soil loss rate ((In/Hr)) = 0.093
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

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| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 331.380 | 61.184 | 0.740 |
| 2 0.167 | 662.759 | 37.446 | 0.453 |
| 3 0.250 | 994.139 | 1.370 | 0.017 |
| | Sum = 100.000 | Sum= | 1.209 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 4.20 | 0.605 | 0.186 | ( 0.544) | 0.419 |
| 2 0.17 | 4.30 | 0.619 | 0.186 | ( 0.557) | 0.434 |
| 3 0.25 | 5.00 | 0.720 | 0.186 | ( 0.648) | 0.534 |
| 4 0.33 | 5.00 | 0.720 | 0.186 | ( 0.648) | 0.534 |
| 5 0.42 | 5.80 | 0.835 | 0.186 | ( 0.752) | 0.650 |
| 6 0.50 | 6.50 | 0.936 | 0.186 | ( 0.842) | 0.750 |
| 7 0.58 | 7.40 | 1.066 | 0.186 | ( 0.959) | 0.880 |
| 8 0.67 | 8.60 | 1.238 | 0.186 | ( 1.115) | 1.053 |
| 9 0.75 | 12.30 | 1.771 | 0.186 | ( 1.594) | 1.586 |
| 10 0.83 | 29.10 | 4.190 | 0.186 | ( 3.771) | 4.005 |
| 11 0.92 | 6.80 | 0.979 | 0.186 | ( 0.881) | 0.794 |
| 12 1.00 | 5.00 | 0.720 | 0.186 | ( 0.648) | 0.534 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 12.2 |

Flood volume = Effective rainfall 1.01(In)
times area 1.2(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.19(In)
Total soil loss = 0.019(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 4418.8 Cubic Feet
Total soil loss = 808.3 Cubic Feet

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Peak flow rate of this hydrograph = 3.701(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0021 | 0.31 | VQ | | | | |
| 0+10 | 0.0057 | 0.51 | \| Q | | | | |
| 0+15 | 0.0098 | 0.60 | \| QV | | | | |
| 0+20 | 0.0142 | 0.64 | \| Q V | | | | |
| 0+25 | 0.0193 | 0.73 | \| Q V | | | | |
| 0+30 | 0.0252 | 0.86 | \| Q V | | | | |
| 0+35 | 0.0321 | 1.00 | \| Q \| V | | | | |
| 0+40 | 0.0403 | 1.19 | \| Q \| V | | | | |
| 0+45 | 0.0518 | 1.67 | \| Q \| V | | | | |
| 0+50 | 0.0772 | 3.70 | \| \| Q \| V | | | |
| 0+55 | 0.0940 | 2.43 | \| Q \| \| V \| |
| 1+ 0 | 0.0996 | 0.82 | \| Q \| \| V|
| 1+ 5 | 0.1014 | 0.26 | \|Q \| \| V|
| 1+10 | 0.1014 | 0.01 | Q \| \| V|

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U n i t  H y d r o g r a p h  A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 38
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 1.20(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.20(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 368.00(Ft.)
Length along longest watercourse measured to centroid = 143.00(Ft.)
Length along longest watercourse = 0.070 Mi.
Length along longest watercourse measured to centroid = 0.027 Mi.
Difference in elevation = 26.00(Ft.)
Slope along watercourse = 373.0435 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.025 Hr.
Lag time = 1.51 Min.
25% of lag time = 0.38 Min.
40% of lag time = 0.60 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.20 | 0.81 | 0.97 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.20 | 1.82 | 2.18 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.810(In)
Area Averaged 100-Year Rainfall = 1.820(In)

Point rain (area averaged) = 1.820(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.820(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 1.200 | 70.21 | 0.000 |

Total Area Entered = 1.20(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 70.2 | 85.1 | 0.186 | 0.000 | 0.186 | 1.000 | 0.186 |
| | | | | | Sum (F) = | 0.186 |

Area averaged mean soil loss (F) (In/Hr) = 0.186

Minimum soil loss rate ((In/Hr)) = 0.093
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 331.380 | 61.184 | 0.740 |
| 2 | 0.167 | 662.759 | 37.446 | 0.453 |
| 3 | 0.250 | 994.139 | 1.370 | 0.017 |
| | | Sum = 100.000 | Sum= | 1.209 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.284 | 0.186 | ( | 0.256) | 0.098 |
| 2 | 0.17 | 1.30 | 0.284 | 0.186 | ( | 0.256) | 0.098 |
| 3 | 0.25 | 1.10 | 0.240 | 0.186 | ( | 0.216) | 0.055 |
| 4 | 0.33 | 1.50 | 0.328 | 0.186 | ( | 0.295) | 0.142 |
| 5 | 0.42 | 1.50 | 0.328 | 0.186 | ( | 0.295) | 0.142 |
| 6 | 0.50 | 1.80 | 0.393 | 0.186 | ( | 0.354) | 0.208 |
| 7 | 0.58 | 1.50 | 0.328 | 0.186 | ( | 0.295) | 0.142 |
| 8 | 0.67 | 1.80 | 0.393 | 0.186 | ( | 0.354) | 0.208 |
| 9 | 0.75 | 1.80 | 0.393 | 0.186 | ( | 0.354) | 0.208 |
| 10 | 0.83 | 1.50 | 0.328 | 0.186 | ( | 0.295) | 0.142 |
| 11 | 0.92 | 1.60 | 0.349 | 0.186 | ( | 0.314) | 0.164 |
| 12 | 1.00 | 1.80 | 0.393 | 0.186 | ( | 0.354) | 0.208 |
| 13 | 1.08 | 2.20 | 0.480 | 0.186 | ( | 0.432) | 0.295 |
| 14 | 1.17 | 2.20 | 0.480 | 0.186 | ( | 0.432) | 0.295 |
| 15 | 1.25 | 2.20 | 0.480 | 0.186 | ( | 0.432) | 0.295 |
| 16 | 1.33 | 2.00 | 0.437 | 0.186 | ( | 0.393) | 0.251 |
| 17 | 1.42 | 2.60 | 0.568 | 0.186 | ( | 0.511) | 0.382 |
| 18 | 1.50 | 2.70 | 0.590 | 0.186 | ( | 0.531) | 0.404 |
| 19 | 1.58 | 2.40 | 0.524 | 0.186 | ( | 0.472) | 0.339 |
| 20 | 1.67 | 2.70 | 0.590 | 0.186 | ( | 0.531) | 0.404 |
| 21 | 1.75 | 3.30 | 0.721 | 0.186 | ( | 0.649) | 0.535 |
| 22 | 1.83 | 3.10 | 0.677 | 0.186 | ( | 0.609) | 0.491 |
| 23 | 1.92 | 2.90 | 0.633 | 0.186 | ( | 0.570) | 0.448 |
| 24 | 2.00 | 3.00 | 0.655 | 0.186 | ( | 0.590) | 0.470 |
| 25 | 2.08 | 3.10 | 0.677 | 0.186 | ( | 0.609) | 0.491 |
| 26 | 2.17 | 4.20 | 0.917 | 0.186 | ( | 0.826) | 0.732 |
| 27 | 2.25 | 5.00 | 1.092 | 0.186 | ( | 0.983) | 0.906 |
| 28 | 2.33 | 3.50 | 0.764 | 0.186 | ( | 0.688) | 0.579 |
| 29 | 2.42 | 6.80 | 1.485 | 0.186 | ( | 1.337) | 1.300 |
| 30 | 2.50 | 7.30 | 1.594 | 0.186 | ( | 1.435) | 1.409 |
| 31 | 2.58 | 8.20 | 1.791 | 0.186 | ( | 1.612) | 1.605 |
| 32 | 2.67 | 5.90 | 1.289 | 0.186 | ( | 1.160) | 1.103 |
| 33 | 2.75 | 2.00 | 0.437 | 0.186 | ( | 0.393) | 0.251 |
| 34 | 2.83 | 1.80 | 0.393 | 0.186 | ( | 0.354) | 0.208 |
| 35 | 2.92 | 1.80 | 0.393 | 0.186 | ( | 0.354) | 0.208 |
| 36 | 3.00 | 0.60 | 0.131 | ( 0.186) | | 0.118 | 0.013 |
| | | (Loss Rate Not Used) | | | | | |
| Sum = | | 100.0 | | | | Sum = | 15.2 |

Flood volume = Effective rainfall 1.27(In)
times area 1.2(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.55(In)
Total soil loss = 0.055(Ac.Ft)
Total rainfall = 1.82(In)
Flood volume = 5527.5 Cubic Feet
Total soil loss = 2400.4 Cubic Feet

Peak flow rate of this hydrograph = 1.848(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0005 | 0.07 | Q | | | | |
| 0+10 | 0.0013 | 0.12 | Q | | | | |
| 0+15 | 0.0019 | 0.09 | Q | | | | |
| 0+20 | 0.0028 | 0.13 | Q | | | | |
| 0+25 | 0.0040 | 0.17 | QV | | | | |
| 0+30 | 0.0055 | 0.22 | QV | | | | |
| 0+35 | 0.0069 | 0.20 | Q V | | | | |
| 0+40 | 0.0084 | 0.22 | Q V | | | | |
| 0+45 | 0.0101 | 0.25 | \|Q V | | | | |
| 0+50 | 0.0115 | 0.20 | Q V | | | | |
| 0+55 | 0.0128 | 0.19 | Q V | | | | |
| 1+ 0 | 0.0144 | 0.23 | Q V | | | | |
| 1+ 5 | 0.0166 | 0.32 | \|Q V | | | | |
| 1+10 | 0.0190 | 0.36 | \|Q V | | | | |
| 1+15 | 0.0215 | 0.36 | \|Q V | | | | |
| 1+20 | 0.0237 | 0.32 | \|Q V | | | | |
| 1+25 | 0.0265 | 0.40 | \|Q V | | | | |
| 1+30 | 0.0298 | 0.48 | \|Q V | | | | |
| 1+35 | 0.0328 | 0.44 | \|Q V | | | | |
| 1+40 | 0.0360 | 0.46 | \|Q V | | | | |
| 1+45 | 0.0400 | 0.58 | \| Q V | | | | |
| 1+50 | 0.0442 | 0.61 | \| Q V | | | | |
| 1+55 | 0.0481 | 0.56 | \| Q V | | | | |
| 2+ 0 | 0.0520 | 0.56 | \| Q V | | | | |
| 2+ 5 | 0.0560 | 0.58 | \| Q V | | | | |
| 2+10 | 0.0613 | 0.77 | \| Q V | | | | |
| 2+15 | 0.0683 | 1.01 | \| Q V | | | | |
| 2+20 | 0.0741 | 0.85 | \| Q V | | | | |
| 2+25 | 0.0827 | 1.24 | \| Q V | | | | |
| 2+30 | 0.0940 | 1.64 | \| Q V | | | | |
| 2+35 | 0.1067 | 1.85 | \| Q V | | | | |
| 2+40 | 0.1175 | 1.57 | \| Q V | | | | |
| 2+45 | 0.1224 | 0.71 | \| Q V | | | | |
| 2+50 | 0.1244 | 0.29 | \|Q V | | | | |
| 2+55 | 0.1261 | 0.25 | \|Q V | | | | |
| 3+ 0 | 0.1268 | 0.11 | Q V | | | | |
| 3+ 5 | 0.1269 | 0.01 | Q V | | | | |
| 3+10 | 0.1269 | 0.00 | Q V | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX386100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 38
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 1.20(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.20(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 368.00(Ft.)
Length along longest watercourse measured to centroid = 143.00(Ft.)
Length along longest watercourse = 0.070 Mi.
Length along longest watercourse measured to centroid = 0.027 Mi.
Difference in elevation = 26.00(Ft.)
Slope along watercourse = 373.0435 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.025 Hr.
Lag time = 1.51 Min.
25% of lag time = 0.38 Min.
40% of lag time = 0.60 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.20 | 1.16 | 1.39 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.20 | 2.50 | 3.00 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.160(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 1.200 | 70.21 | 0.000 |

Total Area Entered = 1.20(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 70.2 | 85.1 | 0.186 | 0.000 | 0.186 | 1.000 | 0.186 |
| | | | | | Sum (F) = | 0.186 |

Area averaged mean soil loss (F) (In/Hr) = 0.186

Minimum soil loss rate ((In/Hr)) = 0.093
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 331.380 | 61.184 | 0.740 |
| 2 0.167 | 662.759 | 37.446 | 0.453 |
| 3 0.250 | 994.139 | 1.370 | 0.017 |
| | Sum = 100.000 | Sum= | 1.209 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | ( 0.186) | 0.135 | 0.015 |
| 2 | 0.17 | 0.60 | 0.180 | ( 0.186) | 0.162 | 0.018 |
| 3 | 0.25 | 0.60 | 0.180 | ( 0.186) | 0.162 | 0.018 |
| 4 | 0.33 | 0.60 | 0.180 | ( 0.186) | 0.162 | 0.018 |
| 5 | 0.42 | 0.60 | 0.180 | ( 0.186) | 0.162 | 0.018 |
| 6 | 0.50 | 0.70 | 0.210 | 0.186 | ( 0.189) | 0.024 |
| 7 | 0.58 | 0.70 | 0.210 | 0.186 | ( 0.189) | 0.024 |
| 8 | 0.67 | 0.70 | 0.210 | 0.186 | ( 0.189) | 0.024 |
| 9 | 0.75 | 0.70 | 0.210 | 0.186 | ( 0.189) | 0.024 |
| 10 | 0.83 | 0.70 | 0.210 | 0.186 | ( 0.189) | 0.024 |
| 11 | 0.92 | 0.70 | 0.210 | 0.186 | ( 0.189) | 0.024 |
| 12 | 1.00 | 0.80 | 0.240 | 0.186 | ( 0.216) | 0.054 |
| 13 | 1.08 | 0.80 | 0.240 | 0.186 | ( 0.216) | 0.054 |
| 14 | 1.17 | 0.80 | 0.240 | 0.186 | ( 0.216) | 0.054 |
| 15 | 1.25 | 0.80 | 0.240 | 0.186 | ( 0.216) | 0.054 |
| 16 | 1.33 | 0.80 | 0.240 | 0.186 | ( 0.216) | 0.054 |
| 17 | 1.42 | 0.80 | 0.240 | 0.186 | ( 0.216) | 0.054 |
| 18 | 1.50 | 0.80 | 0.240 | 0.186 | ( 0.216) | 0.054 |
| 19 | 1.58 | 0.80 | 0.240 | 0.186 | ( 0.216) | 0.054 |
| 20 | 1.67 | 0.80 | 0.240 | 0.186 | ( 0.216) | 0.054 |
| 21 | 1.75 | 0.80 | 0.240 | 0.186 | ( 0.216) | 0.054 |
| 22 | 1.83 | 0.80 | 0.240 | 0.186 | ( 0.216) | 0.054 |
| 23 | 1.92 | 0.80 | 0.240 | 0.186 | ( 0.216) | 0.054 |
| 24 | 2.00 | 0.90 | 0.270 | 0.186 | ( 0.243) | 0.084 |
| 25 | 2.08 | 0.80 | 0.240 | 0.186 | ( 0.216) | 0.054 |
| 26 | 2.17 | 0.90 | 0.270 | 0.186 | ( 0.243) | 0.084 |
| 27 | 2.25 | 0.90 | 0.270 | 0.186 | ( 0.243) | 0.084 |
| 28 | 2.33 | 0.90 | 0.270 | 0.186 | ( 0.243) | 0.084 |
| 29 | 2.42 | 0.90 | 0.270 | 0.186 | ( 0.243) | 0.084 |
| 30 | 2.50 | 0.90 | 0.270 | 0.186 | ( 0.243) | 0.084 |
| 31 | 2.58 | 0.90 | 0.270 | 0.186 | ( 0.243) | 0.084 |
| 32 | 2.67 | 0.90 | 0.270 | 0.186 | ( 0.243) | 0.084 |
| 33 | 2.75 | 1.00 | 0.300 | 0.186 | ( 0.270) | 0.114 |
| 34 | 2.83 | 1.00 | 0.300 | 0.186 | ( 0.270) | 0.114 |
| 35 | 2.92 | 1.00 | 0.300 | 0.186 | ( 0.270) | 0.114 |
| 36 | 3.00 | 1.00 | 0.300 | 0.186 | ( 0.270) | 0.114 |
| 37 | 3.08 | 1.00 | 0.300 | 0.186 | ( 0.270) | 0.114 |
| 38 | 3.17 | 1.10 | 0.330 | 0.186 | ( 0.297) | 0.144 |
| 39 | 3.25 | 1.10 | 0.330 | 0.186 | ( 0.297) | 0.144 |
| 40 | 3.33 | 1.10 | 0.330 | 0.186 | ( 0.297) | 0.144 |
| 41 | 3.42 | 1.20 | 0.360 | 0.186 | ( 0.324) | 0.174 |
| 42 | 3.50 | 1.30 | 0.390 | 0.186 | ( 0.351) | 0.204 |
| 43 | 3.58 | 1.40 | 0.420 | 0.186 | ( 0.378) | 0.234 |
| 44 | 3.67 | 1.40 | 0.420 | 0.186 | ( 0.378) | 0.234 |
| 45 | 3.75 | 1.50 | 0.450 | 0.186 | ( 0.405) | 0.264 |
| 46 | 3.83 | 1.50 | 0.450 | 0.186 | ( 0.405) | 0.264 |
| 47 | 3.92 | 1.60 | 0.480 | 0.186 | ( 0.432) | 0.294 |
| 48 | 4.00 | 1.60 | 0.480 | 0.186 | ( 0.432) | 0.294 |
| 49 | 4.08 | 1.70 | 0.510 | 0.186 | ( 0.459) | 0.324 |
| 50 | 4.17 | 1.80 | 0.540 | 0.186 | ( 0.486) | 0.354 |
| 51 | 4.25 | 1.90 | 0.570 | 0.186 | ( 0.513) | 0.384 |
| 52 | 4.33 | 2.00 | 0.600 | 0.186 | ( 0.540) | 0.414 |
| 53 | 4.42 | 2.10 | 0.630 | 0.186 | ( 0.567) | 0.444 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 54 | 4.50 | 2.10 | 0.630 | 0.186 | ( 0.567) | | 0.444 |
| 55 | 4.58 | 2.20 | 0.660 | 0.186 | ( 0.594) | | 0.474 |
| 56 | 4.67 | 2.30 | 0.690 | 0.186 | ( 0.621) | | 0.504 |
| 57 | 4.75 | 2.40 | 0.720 | 0.186 | ( 0.648) | | 0.534 |
| 58 | 4.83 | 2.40 | 0.720 | 0.186 | ( 0.648) | | 0.534 |
| 59 | 4.92 | 2.50 | 0.750 | 0.186 | ( 0.675) | | 0.564 |
| 60 | 5.00 | 2.60 | 0.780 | 0.186 | ( 0.702) | | 0.594 |
| 61 | 5.08 | 3.10 | 0.930 | 0.186 | ( 0.837) | | 0.744 |
| 62 | 5.17 | 3.60 | 1.080 | 0.186 | ( 0.972) | | 0.894 |
| 63 | 5.25 | 3.90 | 1.170 | 0.186 | ( 1.053) | | 0.984 |
| 64 | 5.33 | 4.20 | 1.260 | 0.186 | ( 1.134) | | 1.074 |
| 65 | 5.42 | 4.70 | 1.410 | 0.186 | ( 1.269) | | 1.224 |
| 66 | 5.50 | 5.60 | 1.680 | 0.186 | ( 1.512) | | 1.494 |
| 67 | 5.58 | 1.90 | 0.570 | 0.186 | ( 0.513) | | 0.384 |
| 68 | 5.67 | 0.90 | 0.270 | 0.186 | ( 0.243) | | 0.084 |
| 69 | 5.75 | 0.60 | 0.180 | ( 0.186) | 0.162 | | 0.018 |
| 70 | 5.83 | 0.50 | 0.150 | ( 0.186) | 0.135 | | 0.015 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.186) | 0.081 | | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.186) | 0.054 | | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 17.1

Flood volume = Effective rainfall 1.42(In)
times area 1.2(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 1.08(In)
Total soil loss = 0.108(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 6205.3 Cubic Feet
Total soil loss = 4684.7 Cubic Feet

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Peak flow rate of this hydrograph = 1.679(CFS)

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6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0001 | 0.01 | Q | | | | |
| 0+10 | 0.0002 | 0.02 | Q | | | | |
| 0+15 | 0.0004 | 0.02 | Q | | | | |
| 0+20 | 0.0005 | 0.02 | Q | | | | |
| 0+25 | 0.0007 | 0.02 | Q | | | | |
| 0+30 | 0.0008 | 0.03 | Q | | | | |
| 0+35 | 0.0011 | 0.03 | Q | | | | |
| 0+40 | 0.0013 | 0.03 | Q | | | | |
| 0+45 | 0.0015 | 0.03 | Q | | | | |
| 0+50 | 0.0017 | 0.03 | Q | | | | |
| 0+55 | 0.0019 | 0.03 | Q | | | | |
| 1+ 0 | 0.0022 | 0.05 | Q | | | | |
| 1+ 5 | 0.0027 | 0.07 | Q | | | | |
| 1+10 | 0.0031 | 0.07 | Q | | | | |
| 1+15 | 0.0036 | 0.07 | QV | | | | |
| 1+20 | 0.0040 | 0.07 | QV | | | | |
| 1+25 | 0.0045 | 0.07 | QV | | | | |
| 1+30 | 0.0049 | 0.07 | QV | | | | |
| 1+35 | 0.0054 | 0.07 | QV | | | | |
| 1+40 | 0.0058 | 0.07 | QV | | | | |
| 1+45 | 0.0063 | 0.07 | QV | | | | |
| 1+50 | 0.0068 | 0.07 | QV | | | | |
| 1+55 | 0.0072 | 0.07 | Q V | | | | |
| 2+ 0 | 0.0078 | 0.09 | Q V | | | | |
| 2+ 5 | 0.0084 | 0.08 | Q V | | | | |
| 2+10 | 0.0090 | 0.09 | Q V | | | | |
| 2+15 | 0.0097 | 0.10 | Q V | | | | |
| 2+20 | 0.0104 | 0.10 | Q V | | | | |
| 2+25 | 0.0111 | 0.10 | Q V | | | | |
| 2+30 | 0.0118 | 0.10 | Q V | | | | |
| 2+35 | 0.0125 | 0.10 | Q V | | | | |
| 2+40 | 0.0132 | 0.10 | Q V | | | | |
| 2+45 | 0.0140 | 0.12 | Q V | | | | |
| 2+50 | 0.0150 | 0.14 | Q V | | | | |
| 2+55 | 0.0160 | 0.14 | Q V | | | | |
| 3+ 0 | 0.0169 | 0.14 | Q V | | | | |
| 3+ 5 | 0.0179 | 0.14 | Q V | | | | |
| 3+10 | 0.0190 | 0.16 | Q V | | | | |

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    3+15       0.0202      0.17  Q    V    |          |          |          |
    3+20       0.0214      0.17  Q     V   |          |          |          |
    3+25       0.0227      0.20  Q     V   |          |          |          |
    3+30       0.0243      0.23  Q     V   |          |          |          |
    3+35       0.0262      0.27  |Q     V  |          |          |          |
    3+40       0.0281      0.28  |Q     V  |          |          |          |
    3+45       0.0302      0.31  |Q      V |          |          |          |
    3+50       0.0324      0.32  |Q       V|          |          |          |
    3+55       0.0348      0.34  |Q       V|          |          |          |
    4+ 0       0.0372      0.36  |Q        V          |          |          |
    4+ 5       0.0399      0.38  |Q        |V         |          |          |
    4+10       0.0427      0.41  |Q        |V         |          |          |
    4+15       0.0458      0.45  |Q        | V        |          |          |
    4+20       0.0492      0.49  |Q        |  V       |          |          |
    4+25       0.0528      0.52  | Q       |   V      |          |          |
    4+30       0.0565      0.54  | Q       |    V     |          |          |
    4+35       0.0603      0.56  | Q       |     V    |          |          |
    4+40       0.0644      0.60  | Q       |      V   |          |          |
    4+45       0.0688      0.63  | Q       |       V  |          |          |
    4+50       0.0732      0.65  | Q       |        V |          |          |
    4+55       0.0778      0.67  | Q       |         V|          |          |
    5+ 0       0.0827      0.70  | Q       |          |V         |          |
    5+ 5       0.0884      0.83  |  Q      |          |  V       |          |
    5+10       0.0954      1.01  |   Q     |          |   V      |          |
    5+15       0.1032      1.15  |   Q     |          |    V     |          |
    5+20       0.1119      1.26  |    Q    |          |     V    |          |
    5+25       0.1216      1.41  |    Q    |          |      V   |          |
    5+30       0.1332      1.68  |     Q   |          |       V  |          |
    5+35       0.1399      0.98  |  Q      |          |          |          V|
    5+40       0.1417      0.26  |Q        |          |          |          V|
    5+45       0.1421      0.06  Q         |          |          |          V|
    5+50       0.1423      0.02  Q         |          |          |          V|
    5+55       0.1424      0.01  Q         |          |          |          V|
    6+ 0       0.1424      0.01  Q         |          |          |          V|
    6+ 5       0.1425      0.00  Q         |          |          |          V|
    6+10       0.1425      0.00  Q         |          |          |          V|
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX3824100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 38
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area for Depth-Area Areal Adjustment = 1.20(Ac.) = 0.002 Sq. Mi.
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Length along longest watercourse measured to centroid = 143.00(Ft.)
Length along longest watercourse = 0.070 Mi.
Length along longest watercourse measured to centroid = 0.027 Mi.
Difference in elevation = 26.00(Ft.)
Slope along watercourse = 373.0435 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.025 Hr.
Lag time = 1.51 Min.
25% of lag time = 0.38 Min.
40% of lag time = 0.60 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.20 | 1.80 | 2.16 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 1.20 | 4.76 | 5.71 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.760(In)

Point rain (area averaged) = 4.760(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.760(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 1.200 | 70.21 | 0.000 |

Total Area Entered = 1.20(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 70.2 | 85.1 | 0.186 | 0.000 | 0.186 | 1.000 | 0.186 |
| | | | | | Sum (F) = | 0.186 |

Area averaged mean soil loss (F) (In/Hr) = 0.186

Minimum soil loss rate ((In/Hr)) = 0.093
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 331.380 | 61.184 | 0.740 |
| 2 | 0.167 | 662.759 | 37.446 | 0.453 |
| 3 | 0.250 | 994.139 | 1.370 | 0.017 |
| | | | Sum = 100.000 Sum= | 1.209 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.038 | ( 0.329) | 0.034 | 0.004 |
| 2 | 0.17 | 0.07 | 0.038 | ( 0.328) | 0.034 | 0.004 |
| 3 | 0.25 | 0.07 | 0.038 | ( 0.326) | 0.034 | 0.004 |
| 4 | 0.33 | 0.10 | 0.057 | ( 0.325) | 0.051 | 0.006 |
| 5 | 0.42 | 0.10 | 0.057 | ( 0.324) | 0.051 | 0.006 |
| 6 | 0.50 | 0.10 | 0.057 | ( 0.323) | 0.051 | 0.006 |
| 7 | 0.58 | 0.10 | 0.057 | ( 0.321) | 0.051 | 0.006 |
| 8 | 0.67 | 0.10 | 0.057 | ( 0.320) | 0.051 | 0.006 |
| 9 | 0.75 | 0.10 | 0.057 | ( 0.319) | 0.051 | 0.006 |
| 10 | 0.83 | 0.13 | 0.076 | ( 0.318) | 0.069 | 0.008 |
| 11 | 0.92 | 0.13 | 0.076 | ( 0.316) | 0.069 | 0.008 |
| 12 | 1.00 | 0.13 | 0.076 | ( 0.315) | 0.069 | 0.008 |
| 13 | 1.08 | 0.10 | 0.057 | ( 0.314) | 0.051 | 0.006 |
| 14 | 1.17 | 0.10 | 0.057 | ( 0.313) | 0.051 | 0.006 |
| 15 | 1.25 | 0.10 | 0.057 | ( 0.311) | 0.051 | 0.006 |
| 16 | 1.33 | 0.10 | 0.057 | ( 0.310) | 0.051 | 0.006 |
| 17 | 1.42 | 0.10 | 0.057 | ( 0.309) | 0.051 | 0.006 |
| 18 | 1.50 | 0.10 | 0.057 | ( 0.308) | 0.051 | 0.006 |
| 19 | 1.58 | 0.10 | 0.057 | ( 0.306) | 0.051 | 0.006 |
| 20 | 1.67 | 0.10 | 0.057 | ( 0.305) | 0.051 | 0.006 |
| 21 | 1.75 | 0.10 | 0.057 | ( 0.304) | 0.051 | 0.006 |
| 22 | 1.83 | 0.13 | 0.076 | ( 0.303) | 0.069 | 0.008 |
| 23 | 1.92 | 0.13 | 0.076 | ( 0.302) | 0.069 | 0.008 |
| 24 | 2.00 | 0.13 | 0.076 | ( 0.300) | 0.069 | 0.008 |
| 25 | 2.08 | 0.13 | 0.076 | ( 0.299) | 0.069 | 0.008 |
| 26 | 2.17 | 0.13 | 0.076 | ( 0.298) | 0.069 | 0.008 |
| 27 | 2.25 | 0.13 | 0.076 | ( 0.297) | 0.069 | 0.008 |
| 28 | 2.33 | 0.13 | 0.076 | ( 0.295) | 0.069 | 0.008 |
| 29 | 2.42 | 0.13 | 0.076 | ( 0.294) | 0.069 | 0.008 |
| 30 | 2.50 | 0.13 | 0.076 | ( 0.293) | 0.069 | 0.008 |
| 31 | 2.58 | 0.17 | 0.095 | ( 0.292) | 0.086 | 0.010 |
| 32 | 2.67 | 0.17 | 0.095 | ( 0.291) | 0.086 | 0.010 |
| 33 | 2.75 | 0.17 | 0.095 | ( 0.289) | 0.086 | 0.010 |
| 34 | 2.83 | 0.17 | 0.095 | ( 0.288) | 0.086 | 0.010 |
| 35 | 2.92 | 0.17 | 0.095 | ( 0.287) | 0.086 | 0.010 |
| 36 | 3.00 | 0.17 | 0.095 | ( 0.286) | 0.086 | 0.010 |
| 37 | 3.08 | 0.17 | 0.095 | ( 0.285) | 0.086 | 0.010 |
| 38 | 3.17 | 0.17 | 0.095 | ( 0.284) | 0.086 | 0.010 |
| 39 | 3.25 | 0.17 | 0.095 | ( 0.282) | 0.086 | 0.010 |
| 40 | 3.33 | 0.17 | 0.095 | ( 0.281) | 0.086 | 0.010 |
| 41 | 3.42 | 0.17 | 0.095 | ( 0.280) | 0.086 | 0.010 |
| 42 | 3.50 | 0.17 | 0.095 | ( 0.279) | 0.086 | 0.010 |
| 43 | 3.58 | 0.17 | 0.095 | ( 0.278) | 0.086 | 0.010 |
| 44 | 3.67 | 0.17 | 0.095 | ( 0.277) | 0.086 | 0.010 |
| 45 | 3.75 | 0.17 | 0.095 | ( 0.275) | 0.086 | 0.010 |
| 46 | 3.83 | 0.20 | 0.114 | ( 0.274) | 0.103 | 0.011 |
| 47 | 3.92 | 0.20 | 0.114 | ( 0.273) | 0.103 | 0.011 |
| 48 | 4.00 | 0.20 | 0.114 | ( 0.272) | 0.103 | 0.011 |
| 49 | 4.08 | 0.20 | 0.114 | ( 0.271) | 0.103 | 0.011 |
| 50 | 4.17 | 0.20 | 0.114 | ( 0.270) | 0.103 | 0.011 |
| 51 | 4.25 | 0.20 | 0.114 | ( 0.268) | 0.103 | 0.011 |
| 52 | 4.33 | 0.23 | 0.133 | ( 0.267) | 0.120 | 0.013 |
| 53 | 4.42 | 0.23 | 0.133 | ( 0.266) | 0.120 | 0.013 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 54 | 4.50 | 0.23 | 0.133 | ( | 0.265) | 0.120 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.133 | ( | 0.264) | 0.120 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.133 | ( | 0.263) | 0.120 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.133 | ( | 0.262) | 0.120 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.152 | ( | 0.260) | 0.137 | | 0.015 |
| 59 | 4.92 | 0.27 | 0.152 | ( | 0.259) | 0.137 | | 0.015 |
| 60 | 5.00 | 0.27 | 0.152 | ( | 0.258) | 0.137 | | 0.015 |
| 61 | 5.08 | 0.20 | 0.114 | ( | 0.257) | 0.103 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.114 | ( | 0.256) | 0.103 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.114 | ( | 0.255) | 0.103 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.133 | ( | 0.254) | 0.120 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.133 | ( | 0.253) | 0.120 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.133 | ( | 0.252) | 0.120 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.152 | ( | 0.250) | 0.137 | | 0.015 |
| 68 | 5.67 | 0.27 | 0.152 | ( | 0.249) | 0.137 | | 0.015 |
| 69 | 5.75 | 0.27 | 0.152 | ( | 0.248) | 0.137 | | 0.015 |
| 70 | 5.83 | 0.27 | 0.152 | ( | 0.247) | 0.137 | | 0.015 |
| 71 | 5.92 | 0.27 | 0.152 | ( | 0.246) | 0.137 | | 0.015 |
| 72 | 6.00 | 0.27 | 0.152 | ( | 0.245) | 0.137 | | 0.015 |
| 73 | 6.08 | 0.30 | 0.171 | ( | 0.244) | 0.154 | | 0.017 |
| 74 | 6.17 | 0.30 | 0.171 | ( | 0.243) | 0.154 | | 0.017 |
| 75 | 6.25 | 0.30 | 0.171 | ( | 0.242) | 0.154 | | 0.017 |
| 76 | 6.33 | 0.30 | 0.171 | ( | 0.241) | 0.154 | | 0.017 |
| 77 | 6.42 | 0.30 | 0.171 | ( | 0.240) | 0.154 | | 0.017 |
| 78 | 6.50 | 0.30 | 0.171 | ( | 0.238) | 0.154 | | 0.017 |
| 79 | 6.58 | 0.33 | 0.190 | ( | 0.237) | 0.171 | | 0.019 |
| 80 | 6.67 | 0.33 | 0.190 | ( | 0.236) | 0.171 | | 0.019 |
| 81 | 6.75 | 0.33 | 0.190 | ( | 0.235) | 0.171 | | 0.019 |
| 82 | 6.83 | 0.33 | 0.190 | ( | 0.234) | 0.171 | | 0.019 |
| 83 | 6.92 | 0.33 | 0.190 | ( | 0.233) | 0.171 | | 0.019 |
| 84 | 7.00 | 0.33 | 0.190 | ( | 0.232) | 0.171 | | 0.019 |
| 85 | 7.08 | 0.33 | 0.190 | ( | 0.231) | 0.171 | | 0.019 |
| 86 | 7.17 | 0.33 | 0.190 | ( | 0.230) | 0.171 | | 0.019 |
| 87 | 7.25 | 0.33 | 0.190 | ( | 0.229) | 0.171 | | 0.019 |
| 88 | 7.33 | 0.37 | 0.209 | ( | 0.228) | 0.188 | | 0.021 |
| 89 | 7.42 | 0.37 | 0.209 | ( | 0.227) | 0.188 | | 0.021 |
| 90 | 7.50 | 0.37 | 0.209 | ( | 0.226) | 0.188 | | 0.021 |
| 91 | 7.58 | 0.40 | 0.228 | ( | 0.225) | 0.206 | | 0.023 |
| 92 | 7.67 | 0.40 | 0.228 | ( | 0.224) | 0.206 | | 0.023 |
| 93 | 7.75 | 0.40 | 0.228 | ( | 0.223) | 0.206 | | 0.023 |
| 94 | 7.83 | 0.43 | 0.248 | | 0.222 | ( | 0.223) | 0.026 |
| 95 | 7.92 | 0.43 | 0.248 | | 0.221 | ( | 0.223) | 0.027 |
| 96 | 8.00 | 0.43 | 0.248 | | 0.220 | ( | 0.223) | 0.028 |
| 97 | 8.08 | 0.50 | 0.286 | | 0.219 | ( | 0.257) | 0.067 |
| 98 | 8.17 | 0.50 | 0.286 | | 0.218 | ( | 0.257) | 0.068 |
| 99 | 8.25 | 0.50 | 0.286 | | 0.217 | ( | 0.257) | 0.069 |
| 100 | 8.33 | 0.50 | 0.286 | | 0.216 | ( | 0.257) | 0.070 |
| 101 | 8.42 | 0.50 | 0.286 | | 0.215 | ( | 0.257) | 0.071 |
| 102 | 8.50 | 0.50 | 0.286 | | 0.214 | ( | 0.257) | 0.072 |
| 103 | 8.58 | 0.53 | 0.305 | | 0.213 | ( | 0.274) | 0.092 |
| 104 | 8.67 | 0.53 | 0.305 | | 0.212 | ( | 0.274) | 0.093 |
| 105 | 8.75 | 0.53 | 0.305 | | 0.211 | ( | 0.274) | 0.094 |
| 106 | 8.83 | 0.57 | 0.324 | | 0.210 | ( | 0.291) | 0.114 |
| 107 | 8.92 | 0.57 | 0.324 | | 0.209 | ( | 0.291) | 0.115 |
| 108 | 9.00 | 0.57 | 0.324 | | 0.208 | ( | 0.291) | 0.116 |
| 109 | 9.08 | 0.63 | 0.362 | | 0.207 | ( | 0.326) | 0.155 |
| 110 | 9.17 | 0.63 | 0.362 | | 0.206 | ( | 0.326) | 0.156 |
| 111 | 9.25 | 0.63 | 0.362 | | 0.205 | ( | 0.326) | 0.157 |
| 112 | 9.33 | 0.67 | 0.381 | | 0.204 | ( | 0.343) | 0.177 |
| 113 | 9.42 | 0.67 | 0.381 | | 0.203 | ( | 0.343) | 0.178 |
| 114 | 9.50 | 0.67 | 0.381 | | 0.202 | ( | 0.343) | 0.179 |
| 115 | 9.58 | 0.70 | 0.400 | | 0.201 | ( | 0.360) | 0.199 |
| 116 | 9.67 | 0.70 | 0.400 | | 0.200 | ( | 0.360) | 0.200 |
| 117 | 9.75 | 0.70 | 0.400 | | 0.199 | ( | 0.360) | 0.201 |
| 118 | 9.83 | 0.73 | 0.419 | | 0.198 | ( | 0.377) | 0.221 |
| 119 | 9.92 | 0.73 | 0.419 | | 0.197 | ( | 0.377) | 0.222 |
| 120 | 10.00 | 0.73 | 0.419 | | 0.196 | ( | 0.377) | 0.223 |
| 121 | 10.08 | 0.50 | 0.286 | | 0.195 | ( | 0.257) | 0.091 |
| 122 | 10.17 | 0.50 | 0.286 | | 0.194 | ( | 0.257) | 0.092 |
| 123 | 10.25 | 0.50 | 0.286 | | 0.193 | ( | 0.257) | 0.092 |
| 124 | 10.33 | 0.50 | 0.286 | | 0.192 | ( | 0.257) | 0.093 |
| 125 | 10.42 | 0.50 | 0.286 | | 0.191 | ( | 0.257) | 0.094 |
| 126 | 10.50 | 0.50 | 0.286 | | 0.190 | ( | 0.257) | 0.095 |
| 127 | 10.58 | 0.67 | 0.381 | | 0.189 | ( | 0.343) | 0.191 |
| 128 | 10.67 | 0.67 | 0.381 | | 0.188 | ( | 0.343) | 0.192 |
| 129 | 10.75 | 0.67 | 0.381 | | 0.188 | ( | 0.343) | 0.193 |
| 130 | 10.83 | 0.67 | 0.381 | | 0.187 | ( | 0.343) | 0.194 |
| 131 | 10.92 | 0.67 | 0.381 | | 0.186 | ( | 0.343) | 0.195 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 132 | 11.00 | 0.67 | 0.381 | 0.185 | ( 0.343) | 0.196 |
| 133 | 11.08 | 0.63 | 0.362 | 0.184 | ( 0.326) | 0.178 |
| 134 | 11.17 | 0.63 | 0.362 | 0.183 | ( 0.326) | 0.179 |
| 135 | 11.25 | 0.63 | 0.362 | 0.182 | ( 0.326) | 0.180 |
| 136 | 11.33 | 0.63 | 0.362 | 0.181 | ( 0.326) | 0.181 |
| 137 | 11.42 | 0.63 | 0.362 | 0.180 | ( 0.326) | 0.181 |
| 138 | 11.50 | 0.63 | 0.362 | 0.179 | ( 0.326) | 0.182 |
| 139 | 11.58 | 0.57 | 0.324 | 0.178 | ( 0.291) | 0.145 |
| 140 | 11.67 | 0.57 | 0.324 | 0.178 | ( 0.291) | 0.146 |
| 141 | 11.75 | 0.57 | 0.324 | 0.177 | ( 0.291) | 0.147 |
| 142 | 11.83 | 0.60 | 0.343 | 0.176 | ( 0.308) | 0.167 |
| 143 | 11.92 | 0.60 | 0.343 | 0.175 | ( 0.308) | 0.168 |
| 144 | 12.00 | 0.60 | 0.343 | 0.174 | ( 0.308) | 0.169 |
| 145 | 12.08 | 0.83 | 0.476 | 0.173 | ( 0.428) | 0.303 |
| 146 | 12.17 | 0.83 | 0.476 | 0.172 | ( 0.428) | 0.304 |
| 147 | 12.25 | 0.83 | 0.476 | 0.171 | ( 0.428) | 0.305 |
| 148 | 12.33 | 0.87 | 0.495 | 0.171 | ( 0.446) | 0.324 |
| 149 | 12.42 | 0.87 | 0.495 | 0.170 | ( 0.446) | 0.325 |
| 150 | 12.50 | 0.87 | 0.495 | 0.169 | ( 0.446) | 0.326 |
| 151 | 12.58 | 0.93 | 0.533 | 0.168 | ( 0.480) | 0.365 |
| 152 | 12.67 | 0.93 | 0.533 | 0.167 | ( 0.480) | 0.366 |
| 153 | 12.75 | 0.93 | 0.533 | 0.166 | ( 0.480) | 0.367 |
| 154 | 12.83 | 0.97 | 0.552 | 0.166 | ( 0.497) | 0.387 |
| 155 | 12.92 | 0.97 | 0.552 | 0.165 | ( 0.497) | 0.387 |
| 156 | 13.00 | 0.97 | 0.552 | 0.164 | ( 0.497) | 0.388 |
| 157 | 13.08 | 1.13 | 0.647 | 0.163 | ( 0.583) | 0.484 |
| 158 | 13.17 | 1.13 | 0.647 | 0.162 | ( 0.583) | 0.485 |
| 159 | 13.25 | 1.13 | 0.647 | 0.161 | ( 0.583) | 0.486 |
| 160 | 13.33 | 1.13 | 0.647 | 0.161 | ( 0.583) | 0.487 |
| 161 | 13.42 | 1.13 | 0.647 | 0.160 | ( 0.583) | 0.488 |
| 162 | 13.50 | 1.13 | 0.647 | 0.159 | ( 0.583) | 0.488 |
| 163 | 13.58 | 0.77 | 0.438 | 0.158 | ( 0.394) | 0.280 |
| 164 | 13.67 | 0.77 | 0.438 | 0.157 | ( 0.394) | 0.281 |
| 165 | 13.75 | 0.77 | 0.438 | 0.157 | ( 0.394) | 0.281 |
| 166 | 13.83 | 0.77 | 0.438 | 0.156 | ( 0.394) | 0.282 |
| 167 | 13.92 | 0.77 | 0.438 | 0.155 | ( 0.394) | 0.283 |
| 168 | 14.00 | 0.77 | 0.438 | 0.154 | ( 0.394) | 0.284 |
| 169 | 14.08 | 0.90 | 0.514 | 0.153 | ( 0.463) | 0.361 |
| 170 | 14.17 | 0.90 | 0.514 | 0.153 | ( 0.463) | 0.362 |
| 171 | 14.25 | 0.90 | 0.514 | 0.152 | ( 0.463) | 0.362 |
| 172 | 14.33 | 0.87 | 0.495 | 0.151 | ( 0.446) | 0.344 |
| 173 | 14.42 | 0.87 | 0.495 | 0.150 | ( 0.446) | 0.345 |
| 174 | 14.50 | 0.87 | 0.495 | 0.149 | ( 0.446) | 0.346 |
| 175 | 14.58 | 0.87 | 0.495 | 0.149 | ( 0.446) | 0.346 |
| 176 | 14.67 | 0.87 | 0.495 | 0.148 | ( 0.446) | 0.347 |
| 177 | 14.75 | 0.87 | 0.495 | 0.147 | ( 0.446) | 0.348 |
| 178 | 14.83 | 0.83 | 0.476 | 0.146 | ( 0.428) | 0.330 |
| 179 | 14.92 | 0.83 | 0.476 | 0.146 | ( 0.428) | 0.330 |
| 180 | 15.00 | 0.83 | 0.476 | 0.145 | ( 0.428) | 0.331 |
| 181 | 15.08 | 0.80 | 0.457 | 0.144 | ( 0.411) | 0.313 |
| 182 | 15.17 | 0.80 | 0.457 | 0.143 | ( 0.411) | 0.314 |
| 183 | 15.25 | 0.80 | 0.457 | 0.143 | ( 0.411) | 0.314 |
| 184 | 15.33 | 0.77 | 0.438 | 0.142 | ( 0.394) | 0.296 |
| 185 | 15.42 | 0.77 | 0.438 | 0.141 | ( 0.394) | 0.297 |
| 186 | 15.50 | 0.77 | 0.438 | 0.141 | ( 0.394) | 0.297 |
| 187 | 15.58 | 0.63 | 0.362 | 0.140 | ( 0.326) | 0.222 |
| 188 | 15.67 | 0.63 | 0.362 | 0.139 | ( 0.326) | 0.223 |
| 189 | 15.75 | 0.63 | 0.362 | 0.138 | ( 0.326) | 0.223 |
| 190 | 15.83 | 0.63 | 0.362 | 0.138 | ( 0.326) | 0.224 |
| 191 | 15.92 | 0.63 | 0.362 | 0.137 | ( 0.326) | 0.225 |
| 192 | 16.00 | 0.63 | 0.362 | 0.136 | ( 0.326) | 0.225 |
| 193 | 16.08 | 0.13 | 0.076 | ( 0.136) | 0.069 | 0.008 |
| 194 | 16.17 | 0.13 | 0.076 | ( 0.135) | 0.069 | 0.008 |
| 195 | 16.25 | 0.13 | 0.076 | ( 0.134) | 0.069 | 0.008 |
| 196 | 16.33 | 0.13 | 0.076 | ( 0.134) | 0.069 | 0.008 |
| 197 | 16.42 | 0.13 | 0.076 | ( 0.133) | 0.069 | 0.008 |
| 198 | 16.50 | 0.13 | 0.076 | ( 0.132) | 0.069 | 0.008 |
| 199 | 16.58 | 0.10 | 0.057 | ( 0.131) | 0.051 | 0.006 |
| 200 | 16.67 | 0.10 | 0.057 | ( 0.131) | 0.051 | 0.006 |
| 201 | 16.75 | 0.10 | 0.057 | ( 0.130) | 0.051 | 0.006 |
| 202 | 16.83 | 0.10 | 0.057 | ( 0.129) | 0.051 | 0.006 |
| 203 | 16.92 | 0.10 | 0.057 | ( 0.129) | 0.051 | 0.006 |
| 204 | 17.00 | 0.10 | 0.057 | ( 0.128) | 0.051 | 0.006 |
| 205 | 17.08 | 0.17 | 0.095 | ( 0.128) | 0.086 | 0.010 |
| 206 | 17.17 | 0.17 | 0.095 | ( 0.127) | 0.086 | 0.010 |
| 207 | 17.25 | 0.17 | 0.095 | ( 0.126) | 0.086 | 0.010 |
| 208 | 17.33 | 0.17 | 0.095 | ( 0.126) | 0.086 | 0.010 |
| 209 | 17.42 | 0.17 | 0.095 | ( 0.125) | 0.086 | 0.010 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 210 | 17.50 | 0.17 | 0.095 | ( 0.124) | 0.086 | 0.010 |
| 211 | 17.58 | 0.17 | 0.095 | ( 0.124) | 0.086 | 0.010 |
| 212 | 17.67 | 0.17 | 0.095 | ( 0.123) | 0.086 | 0.010 |
| 213 | 17.75 | 0.17 | 0.095 | ( 0.123) | 0.086 | 0.010 |
| 214 | 17.83 | 0.13 | 0.076 | ( 0.122) | 0.069 | 0.008 |
| 215 | 17.92 | 0.13 | 0.076 | ( 0.121) | 0.069 | 0.008 |
| 216 | 18.00 | 0.13 | 0.076 | ( 0.121) | 0.069 | 0.008 |
| 217 | 18.08 | 0.13 | 0.076 | ( 0.120) | 0.069 | 0.008 |
| 218 | 18.17 | 0.13 | 0.076 | ( 0.120) | 0.069 | 0.008 |
| 219 | 18.25 | 0.13 | 0.076 | ( 0.119) | 0.069 | 0.008 |
| 220 | 18.33 | 0.13 | 0.076 | ( 0.118) | 0.069 | 0.008 |
| 221 | 18.42 | 0.13 | 0.076 | ( 0.118) | 0.069 | 0.008 |
| 222 | 18.50 | 0.13 | 0.076 | ( 0.117) | 0.069 | 0.008 |
| 223 | 18.58 | 0.10 | 0.057 | ( 0.117) | 0.051 | 0.006 |
| 224 | 18.67 | 0.10 | 0.057 | ( 0.116) | 0.051 | 0.006 |
| 225 | 18.75 | 0.10 | 0.057 | ( 0.116) | 0.051 | 0.006 |
| 226 | 18.83 | 0.07 | 0.038 | ( 0.115) | 0.034 | 0.004 |
| 227 | 18.92 | 0.07 | 0.038 | ( 0.114) | 0.034 | 0.004 |
| 228 | 19.00 | 0.07 | 0.038 | ( 0.114) | 0.034 | 0.004 |
| 229 | 19.08 | 0.10 | 0.057 | ( 0.113) | 0.051 | 0.006 |
| 230 | 19.17 | 0.10 | 0.057 | ( 0.113) | 0.051 | 0.006 |
| 231 | 19.25 | 0.10 | 0.057 | ( 0.112) | 0.051 | 0.006 |
| 232 | 19.33 | 0.13 | 0.076 | ( 0.112) | 0.069 | 0.008 |
| 233 | 19.42 | 0.13 | 0.076 | ( 0.111) | 0.069 | 0.008 |
| 234 | 19.50 | 0.13 | 0.076 | ( 0.111) | 0.069 | 0.008 |
| 235 | 19.58 | 0.10 | 0.057 | ( 0.110) | 0.051 | 0.006 |
| 236 | 19.67 | 0.10 | 0.057 | ( 0.110) | 0.051 | 0.006 |
| 237 | 19.75 | 0.10 | 0.057 | ( 0.109) | 0.051 | 0.006 |
| 238 | 19.83 | 0.07 | 0.038 | ( 0.109) | 0.034 | 0.004 |
| 239 | 19.92 | 0.07 | 0.038 | ( 0.108) | 0.034 | 0.004 |
| 240 | 20.00 | 0.07 | 0.038 | ( 0.108) | 0.034 | 0.004 |
| 241 | 20.08 | 0.10 | 0.057 | ( 0.107) | 0.051 | 0.006 |
| 242 | 20.17 | 0.10 | 0.057 | ( 0.107) | 0.051 | 0.006 |
| 243 | 20.25 | 0.10 | 0.057 | ( 0.106) | 0.051 | 0.006 |
| 244 | 20.33 | 0.10 | 0.057 | ( 0.106) | 0.051 | 0.006 |
| 245 | 20.42 | 0.10 | 0.057 | ( 0.105) | 0.051 | 0.006 |
| 246 | 20.50 | 0.10 | 0.057 | ( 0.105) | 0.051 | 0.006 |
| 247 | 20.58 | 0.10 | 0.057 | ( 0.105) | 0.051 | 0.006 |
| 248 | 20.67 | 0.10 | 0.057 | ( 0.104) | 0.051 | 0.006 |
| 249 | 20.75 | 0.10 | 0.057 | ( 0.104) | 0.051 | 0.006 |
| 250 | 20.83 | 0.07 | 0.038 | ( 0.103) | 0.034 | 0.004 |
| 251 | 20.92 | 0.07 | 0.038 | ( 0.103) | 0.034 | 0.004 |
| 252 | 21.00 | 0.07 | 0.038 | ( 0.102) | 0.034 | 0.004 |
| 253 | 21.08 | 0.10 | 0.057 | ( 0.102) | 0.051 | 0.006 |
| 254 | 21.17 | 0.10 | 0.057 | ( 0.102) | 0.051 | 0.006 |
| 255 | 21.25 | 0.10 | 0.057 | ( 0.101) | 0.051 | 0.006 |
| 256 | 21.33 | 0.07 | 0.038 | ( 0.101) | 0.034 | 0.004 |
| 257 | 21.42 | 0.07 | 0.038 | ( 0.100) | 0.034 | 0.004 |
| 258 | 21.50 | 0.07 | 0.038 | ( 0.100) | 0.034 | 0.004 |
| 259 | 21.58 | 0.10 | 0.057 | ( 0.100) | 0.051 | 0.006 |
| 260 | 21.67 | 0.10 | 0.057 | ( 0.099) | 0.051 | 0.006 |
| 261 | 21.75 | 0.10 | 0.057 | ( 0.099) | 0.051 | 0.006 |
| 262 | 21.83 | 0.07 | 0.038 | ( 0.099) | 0.034 | 0.004 |
| 263 | 21.92 | 0.07 | 0.038 | ( 0.098) | 0.034 | 0.004 |
| 264 | 22.00 | 0.07 | 0.038 | ( 0.098) | 0.034 | 0.004 |
| 265 | 22.08 | 0.10 | 0.057 | ( 0.098) | 0.051 | 0.006 |
| 266 | 22.17 | 0.10 | 0.057 | ( 0.097) | 0.051 | 0.006 |
| 267 | 22.25 | 0.10 | 0.057 | ( 0.097) | 0.051 | 0.006 |
| 268 | 22.33 | 0.07 | 0.038 | ( 0.097) | 0.034 | 0.004 |
| 269 | 22.42 | 0.07 | 0.038 | ( 0.096) | 0.034 | 0.004 |
| 270 | 22.50 | 0.07 | 0.038 | ( 0.096) | 0.034 | 0.004 |
| 271 | 22.58 | 0.07 | 0.038 | ( 0.096) | 0.034 | 0.004 |
| 272 | 22.67 | 0.07 | 0.038 | ( 0.096) | 0.034 | 0.004 |
| 273 | 22.75 | 0.07 | 0.038 | ( 0.095) | 0.034 | 0.004 |
| 274 | 22.83 | 0.07 | 0.038 | ( 0.095) | 0.034 | 0.004 |
| 275 | 22.92 | 0.07 | 0.038 | ( 0.095) | 0.034 | 0.004 |
| 276 | 23.00 | 0.07 | 0.038 | ( 0.095) | 0.034 | 0.004 |
| 277 | 23.08 | 0.07 | 0.038 | ( 0.094) | 0.034 | 0.004 |
| 278 | 23.17 | 0.07 | 0.038 | ( 0.094) | 0.034 | 0.004 |
| 279 | 23.25 | 0.07 | 0.038 | ( 0.094) | 0.034 | 0.004 |
| 280 | 23.33 | 0.07 | 0.038 | ( 0.094) | 0.034 | 0.004 |
| 281 | 23.42 | 0.07 | 0.038 | ( 0.094) | 0.034 | 0.004 |
| 282 | 23.50 | 0.07 | 0.038 | ( 0.093) | 0.034 | 0.004 |
| 283 | 23.58 | 0.07 | 0.038 | ( 0.093) | 0.034 | 0.004 |
| 284 | 23.67 | 0.07 | 0.038 | ( 0.093) | 0.034 | 0.004 |
| 285 | 23.75 | 0.07 | 0.038 | ( 0.093) | 0.034 | 0.004 |
| 286 | 23.83 | 0.07 | 0.038 | ( 0.093) | 0.034 | 0.004 |
| 287 | 23.92 | 0.07 | 0.038 | ( 0.093) | 0.034 | 0.004 |

288 24.00 0.07 0.038 ( 0.093) 0.034 0.004
(Loss Rate Not Used)
Sum = 100.0 Sum = 24.9
Flood volume = Effective rainfall 2.07(In)
times area 1.2(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 2.69(In)
Total soil loss = 0.269(Ac.Ft)
Total rainfall = 4.76(In)
Flood volume = 9023.7 Cubic Feet
Total soil loss = 11710.8 Cubic Feet

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Peak flow rate of this hydrograph = 0.591(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

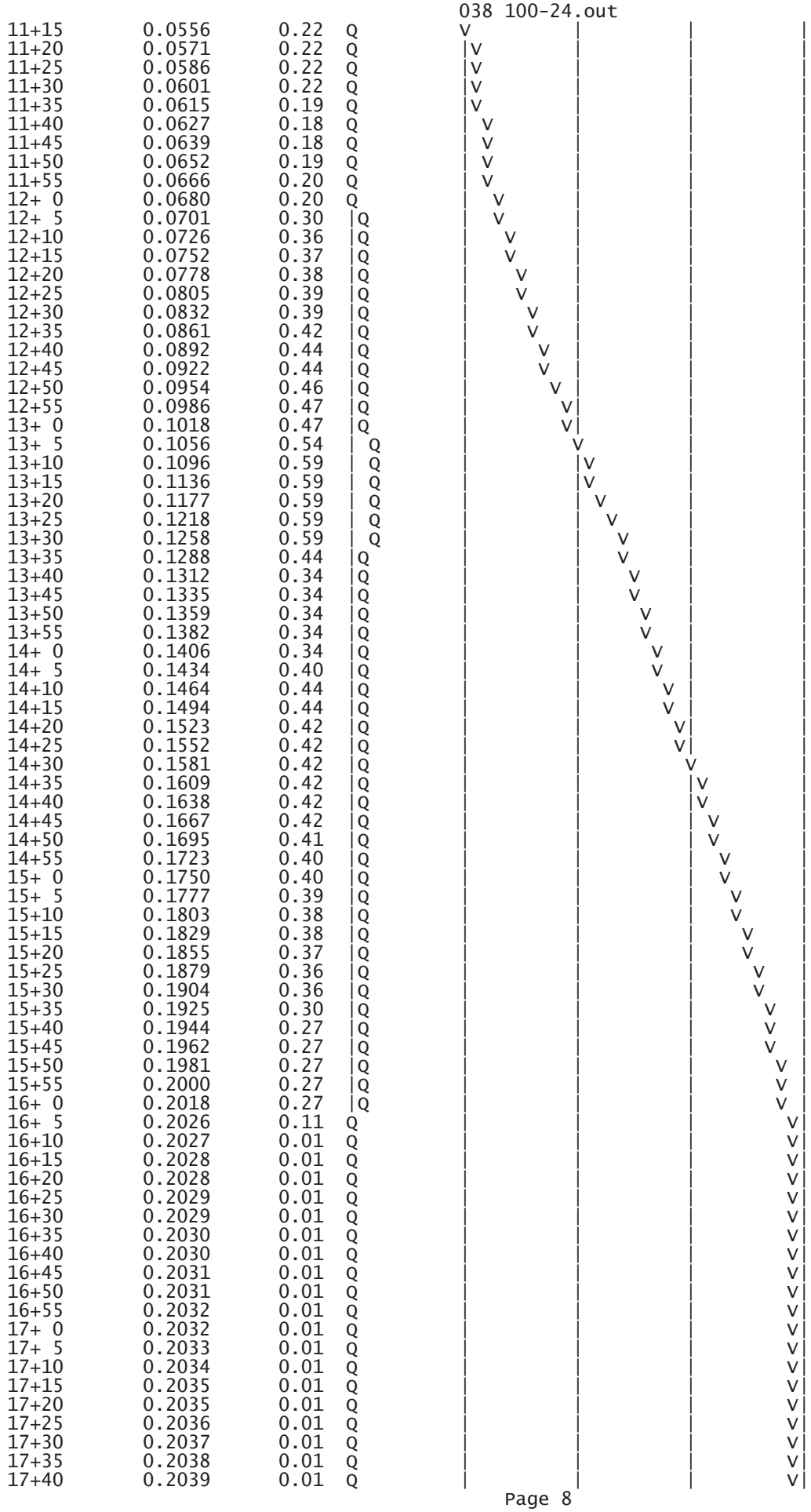
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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0000 | 0.00 | Q | | | | |
| 0+10 | 0.0001 | 0.00 | Q | | | | |
| 0+15 | 0.0001 | 0.00 | Q | | | | |
| 0+20 | 0.0001 | 0.01 | Q | | | | |
| 0+25 | 0.0002 | 0.01 | Q | | | | |
| 0+30 | 0.0002 | 0.01 | Q | | | | |
| 0+35 | 0.0003 | 0.01 | Q | | | | |
| 0+40 | 0.0003 | 0.01 | Q | | | | |
| 0+45 | 0.0004 | 0.01 | Q | | | | |
| 0+50 | 0.0004 | 0.01 | Q | | | | |
| 0+55 | 0.0005 | 0.01 | Q | | | | |
| 1+ 0 | 0.0005 | 0.01 | Q | | | | |
| 1+ 5 | 0.0006 | 0.01 | Q | | | | |
| 1+10 | 0.0006 | 0.01 | Q | | | | |
| 1+15 | 0.0007 | 0.01 | Q | | | | |
| 1+20 | 0.0007 | 0.01 | Q | | | | |
| 1+25 | 0.0008 | 0.01 | Q | | | | |
| 1+30 | 0.0008 | 0.01 | Q | | | | |
| 1+35 | 0.0009 | 0.01 | Q | | | | |
| 1+40 | 0.0009 | 0.01 | Q | | | | |
| 1+45 | 0.0010 | 0.01 | Q | | | | |
| 1+50 | 0.0010 | 0.01 | Q | | | | |
| 1+55 | 0.0011 | 0.01 | Q | | | | |
| 2+ 0 | 0.0012 | 0.01 | Q | | | | |
| 2+ 5 | 0.0012 | 0.01 | Q | | | | |
| 2+10 | 0.0013 | 0.01 | Q | | | | |
| 2+15 | 0.0014 | 0.01 | Q | | | | |
| 2+20 | 0.0014 | 0.01 | Q | | | | |
| 2+25 | 0.0015 | 0.01 | Q | | | | |
| 2+30 | 0.0015 | 0.01 | Q | | | | |
| 2+35 | 0.0016 | 0.01 | Q | | | | |
| 2+40 | 0.0017 | 0.01 | Q | | | | |
| 2+45 | 0.0018 | 0.01 | Q | | | | |
| 2+50 | 0.0019 | 0.01 | Q | | | | |
| 2+55 | 0.0019 | 0.01 | Q | | | | |
| 3+ 0 | 0.0020 | 0.01 | Q | | | | |
| 3+ 5 | 0.0021 | 0.01 | Q | | | | |
| 3+10 | 0.0022 | 0.01 | Q | | | | |
| 3+15 | 0.0023 | 0.01 | Q | | | | |
| 3+20 | 0.0023 | 0.01 | Q | | | | |
| 3+25 | 0.0024 | 0.01 | Q | | | | |
| 3+30 | 0.0025 | 0.01 | Q | | | | |
| 3+35 | 0.0026 | 0.01 | Q | | | | |
| 3+40 | 0.0026 | 0.01 | Q | | | | |
| 3+45 | 0.0027 | 0.01 | Q | | | | |
| 3+50 | 0.0028 | 0.01 | Q | | | | |
| 3+55 | 0.0029 | 0.01 | Q | | | | |
| 4+ 0 | 0.0030 | 0.01 | Q | | | | |
| 4+ 5 | 0.0031 | 0.01 | Q | | | | |
| 4+10 | 0.0032 | 0.01 | Q | | | | |
| 4+15 | 0.0033 | 0.01 | Q | | | | |
| 4+20 | 0.0034 | 0.02 | Q | | | | |
| 4+25 | 0.0035 | 0.02 | Q | | | | |
| 4+30 | 0.0036 | 0.02 | Q | | | | |
| 4+35 | 0.0037 | 0.02 | Q | | | | |
| 4+40 | 0.0038 | 0.02 | Q | | | | |

```
 4+45       0.0040      0.02  Q          |           |           |           |
 4+50       0.0041      0.02  Q          |           |           |           |
 4+55       0.0042      0.02  Q          |           |           |           |
 5+ 0       0.0043      0.02  Q          |           |           |           |
 5+ 5       0.0044      0.02  Q          |           |           |           |
 5+10       0.0045      0.01  Q          |           |           |           |
 5+15       0.0046      0.01  Q          |           |           |           |
 5+20       0.0047      0.02  Q          |           |           |           |
 5+25       0.0048      0.02  Q          |           |           |           |
 5+30       0.0050      0.02  Q          |           |           |           |
 5+35       0.0051      0.02  Q          |           |           |           |
 5+40       0.0052      0.02  QV         |           |           |           |
 5+45       0.0053      0.02  QV         |           |           |           |
 5+50       0.0055      0.02  QV         |           |           |           |
 5+55       0.0056      0.02  QV         |           |           |           |
 6+ 0       0.0057      0.02  QV         |           |           |           |
 6+ 5       0.0058      0.02  QV         |           |           |           |
 6+10       0.0060      0.02  QV         |           |           |           |
 6+15       0.0061      0.02  QV         |           |           |           |
 6+20       0.0063      0.02  QV         |           |           |           |
 6+25       0.0064      0.02  QV         |           |           |           |
 6+30       0.0066      0.02  QV         |           |           |           |
 6+35       0.0067      0.02  QV         |           |           |           |
 6+40       0.0069      0.02  QV         |           |           |           |
 6+45       0.0070      0.02  QV         |           |           |           |
 6+50       0.0072      0.02  QV         |           |           |           |
 6+55       0.0073      0.02  QV         |           |           |           |
 7+ 0       0.0075      0.02  QV         |           |           |           |
 7+ 5       0.0077      0.02  QV         |           |           |           |
 7+10       0.0078      0.02  QV         |           |           |           |
 7+15       0.0080      0.02  QV         |           |           |           |
 7+20       0.0081      0.02  QV         |           |           |           |
 7+25       0.0083      0.03  QV         |           |           |           |
 7+30       0.0085      0.03  QV         |           |           |           |
 7+35       0.0087      0.03  QV         |           |           |           |
 7+40       0.0089      0.03  QV         |           |           |           |
 7+45       0.0091      0.03  QV         |           |           |           |
 7+50       0.0093      0.03  QV         |           |           |           |
 7+55       0.0095      0.03  QV         |           |           |           |
 8+ 0       0.0097      0.03  QV         |           |           |           |
 8+ 5       0.0101      0.06  QV         |           |           |           |
 8+10       0.0107      0.08  Q V        |           |           |           |
 8+15       0.0113      0.08  Q V        |           |           |           |
 8+20       0.0119      0.08  Q V        |           |           |           |
 8+25       0.0125      0.09  Q V        |           |           |           |
 8+30       0.0130      0.09  Q V        |           |           |           |
 8+35       0.0138      0.10  Q V        |           |           |           |
 8+40       0.0145      0.11  Q V        |           |           |           |
 8+45       0.0153      0.11  Q V        |           |           |           |
 8+50       0.0162      0.13  Q  V       |           |           |           |
 8+55       0.0171      0.14  Q  V       |           |           |           |
 9+ 0       0.0181      0.14  Q  V       |           |           |           |
 9+ 5       0.0193      0.17  Q  V       |           |           |           |
 9+10       0.0206      0.19  Q  V       |           |           |           |
 9+15       0.0219      0.19  Q   V      |           |           |           |
 9+20       0.0233      0.20  Q   V      |           |           |           |
 9+25       0.0248      0.21  Q   V      |           |           |           |
 9+30       0.0263      0.22  Q    V     |           |           |           |
 9+35       0.0278      0.23  Q    V     |           |           |           |
 9+40       0.0295      0.24  Q    V     |           |           |           |
 9+45       0.0312      0.24  Q     V    |           |           |           |
 9+50       0.0330      0.26  |Q    V    |           |           |           |
 9+55       0.0348      0.27  |Q    V    |           |           |           |
10+ 0       0.0367      0.27  |Q     V   |           |           |           |
10+ 5       0.0378      0.17  Q      V   |           |           |           |
10+10       0.0386      0.11  Q      V   |           |           |           |
10+15       0.0394      0.11  Q      V   |           |           |           |
10+20       0.0402      0.11  Q      V   |           |           |           |
10+25       0.0409      0.11  Q      V   |           |           |           |
10+30       0.0417      0.11  Q       V  |           |           |           |
10+35       0.0430      0.19  Q       V  |           |           |           |
10+40       0.0446      0.23  Q       V  |           |           |           |
10+45       0.0462      0.23  Q       V  |           |           |           |
10+50       0.0478      0.23  Q        V |           |           |           |
10+55       0.0494      0.24  Q        V |           |           |           |
11+ 0       0.0511      0.24  Q        V |           |           |           |
11+ 5       0.0526      0.22  Q         V|           |           |           |
11+10       0.0541      0.22  Q         V|           |           |           |
```



| | | | | |
|---|---|---|---|---|
| 11+15 | 0.0556 | 0.22 | Q | |
| 11+20 | 0.0571 | 0.22 | Q | |
| 11+25 | 0.0586 | 0.22 | Q | |
| 11+30 | 0.0601 | 0.22 | Q | |
| 11+35 | 0.0615 | 0.19 | Q | |
| 11+40 | 0.0627 | 0.18 | Q | |
| 11+45 | 0.0639 | 0.18 | Q | |
| 11+50 | 0.0652 | 0.19 | Q | |
| 11+55 | 0.0666 | 0.20 | Q | |
| 12+ 0 | 0.0680 | 0.20 | Q | |
| 12+ 5 | 0.0701 | 0.30 | \|Q | |
| 12+10 | 0.0726 | 0.36 | \|Q | |
| 12+15 | 0.0752 | 0.37 | \|Q | |
| 12+20 | 0.0778 | 0.38 | \|Q | |
| 12+25 | 0.0805 | 0.39 | \|Q | |
| 12+30 | 0.0832 | 0.39 | \|Q | |
| 12+35 | 0.0861 | 0.42 | \|Q | |
| 12+40 | 0.0892 | 0.44 | \|Q | |
| 12+45 | 0.0922 | 0.44 | \|Q | |
| 12+50 | 0.0954 | 0.46 | \|Q | |
| 12+55 | 0.0986 | 0.47 | \|Q | |
| 13+ 0 | 0.1018 | 0.47 | \|Q | |
| 13+ 5 | 0.1056 | 0.54 | \| Q | |
| 13+10 | 0.1096 | 0.59 | \| Q | |
| 13+15 | 0.1136 | 0.59 | \| Q | |
| 13+20 | 0.1177 | 0.59 | \| Q | |
| 13+25 | 0.1218 | 0.59 | \| Q | |
| 13+30 | 0.1258 | 0.59 | \| Q | |
| 13+35 | 0.1288 | 0.44 | \|Q | |
| 13+40 | 0.1312 | 0.34 | \|Q | |
| 13+45 | 0.1335 | 0.34 | \|Q | |
| 13+50 | 0.1359 | 0.34 | \|Q | |
| 13+55 | 0.1382 | 0.34 | \|Q | |
| 14+ 0 | 0.1406 | 0.34 | \|Q | |
| 14+ 5 | 0.1434 | 0.40 | \|Q | |
| 14+10 | 0.1464 | 0.44 | \|Q | |
| 14+15 | 0.1494 | 0.44 | \|Q | |
| 14+20 | 0.1523 | 0.42 | \|Q | |
| 14+25 | 0.1552 | 0.42 | \|Q | |
| 14+30 | 0.1581 | 0.42 | \|Q | |
| 14+35 | 0.1609 | 0.42 | \|Q | |
| 14+40 | 0.1638 | 0.42 | \|Q | |
| 14+45 | 0.1667 | 0.42 | \|Q | |
| 14+50 | 0.1695 | 0.41 | \|Q | |
| 14+55 | 0.1723 | 0.40 | \|Q | |
| 15+ 0 | 0.1750 | 0.40 | \|Q | |
| 15+ 5 | 0.1777 | 0.39 | \|Q | |
| 15+10 | 0.1803 | 0.38 | \|Q | |
| 15+15 | 0.1829 | 0.38 | \|Q | |
| 15+20 | 0.1855 | 0.37 | \|Q | |
| 15+25 | 0.1879 | 0.36 | \|Q | |
| 15+30 | 0.1904 | 0.36 | \|Q | |
| 15+35 | 0.1925 | 0.30 | \|Q | |
| 15+40 | 0.1944 | 0.27 | \|Q | |
| 15+45 | 0.1962 | 0.27 | \|Q | |
| 15+50 | 0.1981 | 0.27 | \|Q | |
| 15+55 | 0.2000 | 0.27 | \|Q | |
| 16+ 0 | 0.2018 | 0.27 | \|Q | |
| 16+ 5 | 0.2026 | 0.11 | Q | |
| 16+10 | 0.2027 | 0.01 | Q | |
| 16+15 | 0.2028 | 0.01 | Q | |
| 16+20 | 0.2028 | 0.01 | Q | |
| 16+25 | 0.2029 | 0.01 | Q | |
| 16+30 | 0.2029 | 0.01 | Q | |
| 16+35 | 0.2030 | 0.01 | Q | |
| 16+40 | 0.2030 | 0.01 | Q | |
| 16+45 | 0.2031 | 0.01 | Q | |
| 16+50 | 0.2031 | 0.01 | Q | |
| 16+55 | 0.2032 | 0.01 | Q | |
| 17+ 0 | 0.2032 | 0.01 | Q | |
| 17+ 5 | 0.2033 | 0.01 | Q | |
| 17+10 | 0.2034 | 0.01 | Q | |
| 17+15 | 0.2035 | 0.01 | Q | |
| 17+20 | 0.2035 | 0.01 | Q | |
| 17+25 | 0.2036 | 0.01 | Q | |
| 17+30 | 0.2037 | 0.01 | Q | |
| 17+35 | 0.2038 | 0.01 | Q | |
| 17+40 | 0.2039 | 0.01 | Q | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+45 | 0.2039 | 0.01 | Q | \| | \| | \| | V\| |
| 17+50 | 0.2040 | 0.01 | Q | \| | \| | \| | V\| |
| 17+55 | 0.2041 | 0.01 | Q | \| | \| | \| | V\| |
| 18+ 0 | 0.2041 | 0.01 | Q | \| | \| | \| | V\| |
| 18+ 5 | 0.2042 | 0.01 | Q | \| | \| | \| | V\| |
| 18+10 | 0.2043 | 0.01 | Q | \| | \| | \| | V\| |
| 18+15 | 0.2043 | 0.01 | Q | \| | \| | \| | V\| |
| 18+20 | 0.2044 | 0.01 | Q | \| | \| | \| | V\| |
| 18+25 | 0.2044 | 0.01 | Q | \| | \| | \| | V\| |
| 18+30 | 0.2045 | 0.01 | Q | \| | \| | \| | V\| |
| 18+35 | 0.2046 | 0.01 | Q | \| | \| | \| | V\| |
| 18+40 | 0.2046 | 0.01 | Q | \| | \| | \| | V\| |
| 18+45 | 0.2047 | 0.01 | Q | \| | \| | \| | V\| |
| 18+50 | 0.2047 | 0.01 | Q | \| | \| | \| | V\| |
| 18+55 | 0.2047 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 0 | 0.2048 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 5 | 0.2048 | 0.01 | Q | \| | \| | \| | V\| |
| 19+10 | 0.2049 | 0.01 | Q | \| | \| | \| | V\| |
| 19+15 | 0.2049 | 0.01 | Q | \| | \| | \| | V\| |
| 19+20 | 0.2050 | 0.01 | Q | \| | \| | \| | V\| |
| 19+25 | 0.2050 | 0.01 | Q | \| | \| | \| | V\| |
| 19+30 | 0.2051 | 0.01 | Q | \| | \| | \| | V\| |
| 19+35 | 0.2051 | 0.01 | Q | \| | \| | \| | V\| |
| 19+40 | 0.2052 | 0.01 | Q | \| | \| | \| | V\| |
| 19+45 | 0.2052 | 0.01 | Q | \| | \| | \| | V\| |
| 19+50 | 0.2053 | 0.01 | Q | \| | \| | \| | V\| |
| 19+55 | 0.2053 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 0 | 0.2053 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 5 | 0.2054 | 0.01 | Q | \| | \| | \| | V\| |
| 20+10 | 0.2054 | 0.01 | Q | \| | \| | \| | V\| |
| 20+15 | 0.2055 | 0.01 | Q | \| | \| | \| | V\| |
| 20+20 | 0.2055 | 0.01 | Q | \| | \| | \| | V\| |
| 20+25 | 0.2056 | 0.01 | Q | \| | \| | \| | V\| |
| 20+30 | 0.2056 | 0.01 | Q | \| | \| | \| | V\| |
| 20+35 | 0.2057 | 0.01 | Q | \| | \| | \| | V\| |
| 20+40 | 0.2057 | 0.01 | Q | \| | \| | \| | V\| |
| 20+45 | 0.2058 | 0.01 | Q | \| | \| | \| | V\| |
| 20+50 | 0.2058 | 0.01 | Q | \| | \| | \| | V\| |
| 20+55 | 0.2058 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 0 | 0.2059 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 5 | 0.2059 | 0.01 | Q | \| | \| | \| | V\| |
| 21+10 | 0.2059 | 0.01 | Q | \| | \| | \| | V\| |
| 21+15 | 0.2060 | 0.01 | Q | \| | \| | \| | V\| |
| 21+20 | 0.2060 | 0.01 | Q | \| | \| | \| | V\| |
| 21+25 | 0.2061 | 0.00 | Q | \| | \| | \| | V\| |
| 21+30 | 0.2061 | 0.00 | Q | \| | \| | \| | V\| |
| 21+35 | 0.2061 | 0.01 | Q | \| | \| | \| | V\| |
| 21+40 | 0.2062 | 0.01 | Q | \| | \| | \| | V\| |
| 21+45 | 0.2062 | 0.01 | Q | \| | \| | \| | V\| |
| 21+50 | 0.2063 | 0.01 | Q | \| | \| | \| | V\| |
| 21+55 | 0.2063 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 0 | 0.2063 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 5 | 0.2064 | 0.01 | Q | \| | \| | \| | V\| |
| 22+10 | 0.2064 | 0.01 | Q | \| | \| | \| | V\| |
| 22+15 | 0.2065 | 0.01 | Q | \| | \| | \| | V\| |
| 22+20 | 0.2065 | 0.01 | Q | \| | \| | \| | V\| |
| 22+25 | 0.2065 | 0.00 | Q | \| | \| | \| | V\| |
| 22+30 | 0.2066 | 0.00 | Q | \| | \| | \| | V\| |
| 22+35 | 0.2066 | 0.00 | Q | \| | \| | \| | V\| |
| 22+40 | 0.2066 | 0.00 | Q | \| | \| | \| | V\| |
| 22+45 | 0.2067 | 0.00 | Q | \| | \| | \| | V\| |
| 22+50 | 0.2067 | 0.00 | Q | \| | \| | \| | V\| |
| 22+55 | 0.2067 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 0 | 0.2068 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 5 | 0.2068 | 0.00 | Q | \| | \| | \| | V\| |
| 23+10 | 0.2068 | 0.00 | Q | \| | \| | \| | V\| |
| 23+15 | 0.2069 | 0.00 | Q | \| | \| | \| | V\| |
| 23+20 | 0.2069 | 0.00 | Q | \| | \| | \| | V\| |
| 23+25 | 0.2069 | 0.00 | Q | \| | \| | \| | V\| |
| 23+30 | 0.2070 | 0.00 | Q | \| | \| | \| | V\| |
| 23+35 | 0.2070 | 0.00 | Q | \| | \| | \| | V\| |
| 23+40 | 0.2070 | 0.00 | Q | \| | \| | \| | V\| |
| 23+45 | 0.2070 | 0.00 | Q | \| | \| | \| | V\| |
| 23+50 | 0.2071 | 0.00 | Q | \| | \| | \| | V\| |
| 23+55 | 0.2071 | 0.00 | Q | \| | \| | \| | V\| |
| 24+ 0 | 0.2071 | 0.00 | Q | \| | \| | \| | V\| |
| 24+ 5 | 0.2072 | 0.00 | Q | \| | \| | \| | V\| |
| 24+10 | 0.2072 | 0.00 | Q | \| | \| | \| | V\| |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX391100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 39
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.90(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.90(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 275.00(Ft.)
Length along longest watercourse measured to centroid = 116.00(Ft.)
Length along longest watercourse = 0.052 Mi.
Length along longest watercourse measured to centroid = 0.022 Mi.
Difference in elevation = 38.00(Ft.)
Slope along watercourse = 729.6000 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.018 Hr.
Lag time = 1.10 Min.
25% of lag time = 0.27 Min.
40% of lag time = 0.44 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.90 | 0.50 | 0.45 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.90 | 1.20 | 1.08 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.900 | 78.07 | 0.000 |

Total Area Entered = 0.90(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 78.1 | 89.8 | 0.132 | 0.000 | 0.132 | 1.000 | 0.132 |
| | | | | | Sum (F) = | 0.132 |

Area averaged mean soil loss (F) (In/Hr) = 0.132

Minimum soil loss rate ((In/Hr)) = 0.066
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

---

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 455.289 | 71.044 | 0.644 |
| 2 | 0.167 | 910.577 | 28.956 | 0.263 |
| | | Sum = 100.000 | Sum= | 0.907 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.132 | ( 0.544) | 0.473 |
| 2 | 0.17 | 4.30 | 0.619 | 0.132 | ( 0.557) | 0.487 |
| 3 | 0.25 | 5.00 | 0.720 | 0.132 | ( 0.648) | 0.588 |
| 4 | 0.33 | 5.00 | 0.720 | 0.132 | ( 0.648) | 0.588 |
| 5 | 0.42 | 5.80 | 0.835 | 0.132 | ( 0.752) | 0.703 |
| 6 | 0.50 | 6.50 | 0.936 | 0.132 | ( 0.842) | 0.804 |
| 7 | 0.58 | 7.40 | 1.066 | 0.132 | ( 0.959) | 0.934 |
| 8 | 0.67 | 8.60 | 1.238 | 0.132 | ( 1.115) | 1.107 |
| 9 | 0.75 | 12.30 | 1.771 | 0.132 | ( 1.594) | 1.639 |
| 10 | 0.83 | 29.10 | 4.190 | 0.132 | ( 3.771) | 4.059 |
| 11 | 0.92 | 6.80 | 0.979 | 0.132 | ( 0.881) | 0.847 |
| 12 | 1.00 | 5.00 | 0.720 | 0.132 | ( 0.648) | 0.588 |
| | | (Loss Rate Not Used) | | | |
| Sum = | 100.0 | | | | Sum = | 12.8 |

Flood volume = Effective rainfall 1.07(In)
times area 0.9(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.13(In)
Total soil loss = 0.010(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 3489.8 Cubic Feet
Total soil loss = 430.6 Cubic Feet

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Peak flow rate of this hydrograph = 3.047(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0021 | 0.30 | |Q | | | | |
| 0+10 | 0.0051 | 0.44 | |QV | | | | |
| 0+15 | 0.0086 | 0.51 | | Q V | | | | |
| 0+20 | 0.0123 | 0.53 | | Q V | | | | |
| 0+25 | 0.0165 | 0.61 | | Q V | | | | |
| 0+30 | 0.0213 | 0.70 | | Q V | | | | |
| 0+35 | 0.0269 | 0.81 | | Q V | | | | |
| 0+40 | 0.0335 | 0.96 | | Q V | | | | |
| 0+45 | 0.0428 | 1.35 | | Q |V | | | |
| 0+50 | 0.0638 | 3.05 | | Q |V | | | |
| 0+55 | 0.0749 | 1.61 | | Q | | V | | |
| 1+ 0 | 0.0790 | 0.60 | | Q | | V| | |
| 1+ 5 | 0.0801 | 0.15 | Q | | | V | | |

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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX393100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 39
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 0.90(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.90(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 275.00(Ft.)
Length along longest watercourse measured to centroid = 116.00(Ft.)
Length along longest watercourse = 0.052 Mi.
Length along longest watercourse measured to centroid = 0.022 Mi.
Difference in elevation = 38.00(Ft.)
Slope along watercourse = 729.6000 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.018 Hr.
Lag time = 1.10 Min.
25% of lag time = 0.27 Min.
40% of lag time = 0.44 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.90 | 0.81 | 0.73 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.90 | 1.82 | 1.64 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.810(In)
Area Averaged 100-Year Rainfall = 1.820(In)

Point rain (area averaged) = 1.820(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.820(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.900 | 78.07 | 0.000 |

Total Area Entered = 0.90(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 78.1 | 89.8 | 0.132 | 0.000 | 0.132 | 1.000 | 0.132 |
| | | | | | Sum (F) = | 0.132 |

Area averaged mean soil loss (F) (In/Hr) = 0.132

Minimum soil loss rate ((In/Hr)) = 0.066
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 455.289 | 71.044 | 0.644 |
| 2 0.167 | 910.577 | 28.956 | 0.263 |
| | Sum = 100.000 | Sum= | 0.907 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 0.08 | 1.30 | 0.284 | 0.132 | ( | 0.256) | 0.152 |
| 2 0.17 | 1.30 | 0.284 | 0.132 | ( | 0.256) | 0.152 |
| 3 0.25 | 1.10 | 0.240 | 0.132 | ( | 0.216) | 0.108 |
| 4 0.33 | 1.50 | 0.328 | 0.132 | ( | 0.295) | 0.196 |
| 5 0.42 | 1.50 | 0.328 | 0.132 | ( | 0.295) | 0.196 |
| 6 0.50 | 1.80 | 0.393 | 0.132 | ( | 0.354) | 0.261 |
| 7 0.58 | 1.50 | 0.328 | 0.132 | ( | 0.295) | 0.196 |
| 8 0.67 | 1.80 | 0.393 | 0.132 | ( | 0.354) | 0.261 |
| 9 0.75 | 1.80 | 0.393 | 0.132 | ( | 0.354) | 0.261 |
| 10 0.83 | 1.50 | 0.328 | 0.132 | ( | 0.295) | 0.196 |
| 11 0.92 | 1.60 | 0.349 | 0.132 | ( | 0.314) | 0.218 |
| 12 1.00 | 1.80 | 0.393 | 0.132 | ( | 0.354) | 0.261 |
| 13 1.08 | 2.20 | 0.480 | 0.132 | ( | 0.432) | 0.349 |
| 14 1.17 | 2.20 | 0.480 | 0.132 | ( | 0.432) | 0.349 |
| 15 1.25 | 2.20 | 0.480 | 0.132 | ( | 0.432) | 0.349 |
| 16 1.33 | 2.00 | 0.437 | 0.132 | ( | 0.393) | 0.305 |
| 17 1.42 | 2.60 | 0.568 | 0.132 | ( | 0.511) | 0.436 |
| 18 1.50 | 2.70 | 0.590 | 0.132 | ( | 0.531) | 0.458 |
| 19 1.58 | 2.40 | 0.524 | 0.132 | ( | 0.472) | 0.392 |
| 20 1.67 | 2.70 | 0.590 | 0.132 | ( | 0.531) | 0.458 |
| 21 1.75 | 3.30 | 0.721 | 0.132 | ( | 0.649) | 0.589 |
| 22 1.83 | 3.10 | 0.677 | 0.132 | ( | 0.609) | 0.545 |
| 23 1.92 | 2.90 | 0.633 | 0.132 | ( | 0.570) | 0.502 |
| 24 2.00 | 3.00 | 0.655 | 0.132 | ( | 0.590) | 0.523 |
| 25 2.08 | 3.10 | 0.677 | 0.132 | ( | 0.609) | 0.545 |
| 26 2.17 | 4.20 | 0.917 | 0.132 | ( | 0.826) | 0.785 |
| 27 2.25 | 5.00 | 1.092 | 0.132 | ( | 0.983) | 0.960 |
| 28 2.33 | 3.50 | 0.764 | 0.132 | ( | 0.688) | 0.633 |
| 29 2.42 | 6.80 | 1.485 | 0.132 | ( | 1.337) | 1.353 |
| 30 2.50 | 7.30 | 1.594 | 0.132 | ( | 1.435) | 1.463 |
| 31 2.58 | 8.20 | 1.791 | 0.132 | ( | 1.612) | 1.659 |
| 32 2.67 | 5.90 | 1.289 | 0.132 | ( | 1.160) | 1.157 |
| 33 2.75 | 2.00 | 0.437 | 0.132 | ( | 0.393) | 0.305 |
| 34 2.83 | 1.80 | 0.393 | 0.132 | ( | 0.354) | 0.261 |
| 35 2.92 | 1.80 | 0.393 | 0.132 | ( | 0.354) | 0.261 |
| 36 3.00 | 0.60 | 0.131 | ( 0.132) | | 0.118 | 0.013 |
| | (Loss Rate Not Used) | | | | | |
| Sum = | 100.0 | | | | Sum = | 17.1 |

Flood volume = Effective rainfall 1.43(In)
times area 0.9(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.39(In)
Total soil loss = 0.030(Ac.Ft)
Total rainfall = 1.82(In)
Flood volume = 4657.9 Cubic Feet
Total soil loss = 1288.0 Cubic Feet

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Peak flow rate of this hydrograph = 1.454(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 2.5 5.0 7.5 10.0 |
|---|---|---|---|
| 0+ 5 | 0.0007 | 0.10 | Q \| \| \| \| |
| 0+10 | 0.0016 | 0.14 | Q \| \| \| \| |
| 0+15 | 0.0024 | 0.11 | Q \| \| \| \| |
| 0+20 | 0.0034 | 0.15 | QV \| \| \| \| |
| 0+25 | 0.0047 | 0.18 | QV \| \| \| \| |
| 0+30 | 0.0062 | 0.22 | Q V \| \| \| \| |
| 0+35 | 0.0075 | 0.19 | Q V \| \| \| \| |
| 0+40 | 0.0090 | 0.22 | Q V \| \| \| \| |
| 0+45 | 0.0107 | 0.24 | Q V \| \| \| \| |
| 0+50 | 0.0120 | 0.19 | Q V \| \| \| \| |
| 0+55 | 0.0133 | 0.19 | Q V \| \| \| \| |
| 1+ 0 | 0.0149 | 0.23 | Q V \| \| \| \| |
| 1+ 5 | 0.0169 | 0.29 | \|Q V \| \| \| \| |
| 1+10 | 0.0191 | 0.32 | \|Q V \| \| \| \| |
| 1+15 | 0.0213 | 0.32 | \|Q V \| \| \| \| |
| 1+20 | 0.0233 | 0.29 | \|Q V \| \| \| \| |
| 1+25 | 0.0257 | 0.36 | \|Q V\| \| \| \| |
| 1+30 | 0.0286 | 0.41 | \|Q V \| \| \| |
| 1+35 | 0.0311 | 0.37 | \|Q \|V \| \| \| |
| 1+40 | 0.0339 | 0.40 | \|Q \| V \| \| \| |
| 1+45 | 0.0373 | 0.50 | \| Q \| V \| \| \| |
| 1+50 | 0.0408 | 0.51 | \| Q \| V \| \| \| |
| 1+55 | 0.0440 | 0.47 | \|Q \| V \| \| \| |
| 2+ 0 | 0.0473 | 0.47 | \|Q \| V \| \| \| |
| 2+ 5 | 0.0506 | 0.49 | \|Q \| V \| \| \| |
| 2+10 | 0.0551 | 0.65 | \| Q \| V \| \| |
| 2+15 | 0.0608 | 0.83 | \| Q \| V \| \| |
| 2+20 | 0.0653 | 0.66 | \| Q \| V \| \| |
| 2+25 | 0.0725 | 1.04 | \| Q \| V \| \| |
| 2+30 | 0.0814 | 1.30 | \| Q \| V \| |
| 2+35 | 0.0914 | 1.45 | \| Q \| V \| |
| 2+40 | 0.0996 | 1.18 | \| Q \| V \| |
| 2+45 | 0.1030 | 0.50 | \| Q \| V \| |
| 2+50 | 0.1047 | 0.25 | Q \| \| \| V\| |
| 2+55 | 0.1064 | 0.24 | Q \| \| \| V\| |
| 3+ 0 | 0.1069 | 0.08 | Q \| \| \| V\| |
| 3+ 5 | 0.1069 | 0.00 | Q \| \| \| V\| |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX396100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 39
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.90(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.90(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 275.00(Ft.)
Length along longest watercourse measured to centroid = 116.00(Ft.)
Length along longest watercourse = 0.052 Mi.
Length along longest watercourse measured to centroid = 0.022 Mi.
Difference in elevation = 38.00(Ft.)
Slope along watercourse = 729.6000 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.018 Hr.
Lag time = 1.10 Min.
25% of lag time = 0.27 Min.
40% of lag time = 0.44 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.90 | 1.16 | 1.04 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.90 | 2.50 | 2.25 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.160(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.900 | 78.07 | 0.000 |

Total Area Entered = 0.90(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 78.1 | 89.8 | 0.132 | 0.000 | 0.132 | 1.000 | 0.132 |
| | | | | | Sum (F) = | 0.132 |

Area averaged mean soil loss (F) (In/Hr) = 0.132

Minimum soil loss rate ((In/Hr)) = 0.066
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 455.289 | 71.044 | 0.644 |
| 2 0.167 | 910.577 | 28.956 | 0.263 |
| | | Sum = 100.000 Sum= | 0.907 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 0.50 | 0.150 | 0.132 | ( 0.135) | 0.018 |
| 2 0.17 | 0.60 | 0.180 | 0.132 | ( 0.162) | 0.048 |
| 3 0.25 | 0.60 | 0.180 | 0.132 | ( 0.162) | 0.048 |
| 4 0.33 | 0.60 | 0.180 | 0.132 | ( 0.162) | 0.048 |
| 5 0.42 | 0.60 | 0.180 | 0.132 | ( 0.162) | 0.048 |
| 6 0.50 | 0.70 | 0.210 | 0.132 | ( 0.189) | 0.078 |
| 7 0.58 | 0.70 | 0.210 | 0.132 | ( 0.189) | 0.078 |
| 8 0.67 | 0.70 | 0.210 | 0.132 | ( 0.189) | 0.078 |
| 9 0.75 | 0.70 | 0.210 | 0.132 | ( 0.189) | 0.078 |
| 10 0.83 | 0.70 | 0.210 | 0.132 | ( 0.189) | 0.078 |
| 11 0.92 | 0.70 | 0.210 | 0.132 | ( 0.189) | 0.078 |
| 12 1.00 | 0.80 | 0.240 | 0.132 | ( 0.216) | 0.108 |
| 13 1.08 | 0.80 | 0.240 | 0.132 | ( 0.216) | 0.108 |
| 14 1.17 | 0.80 | 0.240 | 0.132 | ( 0.216) | 0.108 |
| 15 1.25 | 0.80 | 0.240 | 0.132 | ( 0.216) | 0.108 |
| 16 1.33 | 0.80 | 0.240 | 0.132 | ( 0.216) | 0.108 |
| 17 1.42 | 0.80 | 0.240 | 0.132 | ( 0.216) | 0.108 |
| 18 1.50 | 0.80 | 0.240 | 0.132 | ( 0.216) | 0.108 |
| 19 1.58 | 0.80 | 0.240 | 0.132 | ( 0.216) | 0.108 |
| 20 1.67 | 0.80 | 0.240 | 0.132 | ( 0.216) | 0.108 |
| 21 1.75 | 0.80 | 0.240 | 0.132 | ( 0.216) | 0.108 |
| 22 1.83 | 0.80 | 0.240 | 0.132 | ( 0.216) | 0.108 |
| 23 1.92 | 0.80 | 0.240 | 0.132 | ( 0.216) | 0.108 |
| 24 2.00 | 0.90 | 0.270 | 0.132 | ( 0.243) | 0.138 |
| 25 2.08 | 0.80 | 0.240 | 0.132 | ( 0.216) | 0.108 |
| 26 2.17 | 0.90 | 0.270 | 0.132 | ( 0.243) | 0.138 |
| 27 2.25 | 0.90 | 0.270 | 0.132 | ( 0.243) | 0.138 |
| 28 2.33 | 0.90 | 0.270 | 0.132 | ( 0.243) | 0.138 |
| 29 2.42 | 0.90 | 0.270 | 0.132 | ( 0.243) | 0.138 |
| 30 2.50 | 0.90 | 0.270 | 0.132 | ( 0.243) | 0.138 |
| 31 2.58 | 0.90 | 0.270 | 0.132 | ( 0.243) | 0.138 |
| 32 2.67 | 0.90 | 0.270 | 0.132 | ( 0.243) | 0.138 |
| 33 2.75 | 1.00 | 0.300 | 0.132 | ( 0.270) | 0.168 |
| 34 2.83 | 1.00 | 0.300 | 0.132 | ( 0.270) | 0.168 |
| 35 2.92 | 1.00 | 0.300 | 0.132 | ( 0.270) | 0.168 |
| 36 3.00 | 1.00 | 0.300 | 0.132 | ( 0.270) | 0.168 |
| 37 3.08 | 1.00 | 0.300 | 0.132 | ( 0.270) | 0.168 |
| 38 3.17 | 1.10 | 0.330 | 0.132 | ( 0.297) | 0.198 |
| 39 3.25 | 1.10 | 0.330 | 0.132 | ( 0.297) | 0.198 |
| 40 3.33 | 1.10 | 0.330 | 0.132 | ( 0.297) | 0.198 |
| 41 3.42 | 1.20 | 0.360 | 0.132 | ( 0.324) | 0.228 |
| 42 3.50 | 1.30 | 0.390 | 0.132 | ( 0.351) | 0.258 |
| 43 3.58 | 1.40 | 0.420 | 0.132 | ( 0.378) | 0.288 |
| 44 3.67 | 1.40 | 0.420 | 0.132 | ( 0.378) | 0.288 |
| 45 3.75 | 1.50 | 0.450 | 0.132 | ( 0.405) | 0.318 |
| 46 3.83 | 1.50 | 0.450 | 0.132 | ( 0.405) | 0.318 |
| 47 3.92 | 1.60 | 0.480 | 0.132 | ( 0.432) | 0.348 |
| 48 4.00 | 1.60 | 0.480 | 0.132 | ( 0.432) | 0.348 |
| 49 4.08 | 1.70 | 0.510 | 0.132 | ( 0.459) | 0.378 |
| 50 4.17 | 1.80 | 0.540 | 0.132 | ( 0.486) | 0.408 |
| 51 4.25 | 1.90 | 0.570 | 0.132 | ( 0.513) | 0.438 |
| 52 4.33 | 2.00 | 0.600 | 0.132 | ( 0.540) | 0.468 |
| 53 4.42 | 2.10 | 0.630 | 0.132 | ( 0.567) | 0.498 |
| 54 4.50 | 2.10 | 0.630 | 0.132 | ( 0.567) | 0.498 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 55 | 4.58 | 2.20 | 0.660 | 0.132 | ( 0.594) | 0.528 |
| 56 | 4.67 | 2.30 | 0.690 | 0.132 | ( 0.621) | 0.558 |
| 57 | 4.75 | 2.40 | 0.720 | 0.132 | ( 0.648) | 0.588 |
| 58 | 4.83 | 2.40 | 0.720 | 0.132 | ( 0.648) | 0.588 |
| 59 | 4.92 | 2.50 | 0.750 | 0.132 | ( 0.675) | 0.618 |
| 60 | 5.00 | 2.60 | 0.780 | 0.132 | ( 0.702) | 0.648 |
| 61 | 5.08 | 3.10 | 0.930 | 0.132 | ( 0.837) | 0.798 |
| 62 | 5.17 | 3.60 | 1.080 | 0.132 | ( 0.972) | 0.948 |
| 63 | 5.25 | 3.90 | 1.170 | 0.132 | ( 1.053) | 1.038 |
| 64 | 5.33 | 4.20 | 1.260 | 0.132 | ( 1.134) | 1.128 |
| 65 | 5.42 | 4.70 | 1.410 | 0.132 | ( 1.269) | 1.278 |
| 66 | 5.50 | 5.60 | 1.680 | 0.132 | ( 1.512) | 1.548 |
| 67 | 5.58 | 1.90 | 0.570 | 0.132 | ( 0.513) | 0.438 |
| 68 | 5.67 | 0.90 | 0.270 | 0.132 | ( 0.243) | 0.138 |
| 69 | 5.75 | 0.60 | 0.180 | 0.132 | ( 0.162) | 0.048 |
| 70 | 5.83 | 0.50 | 0.150 | 0.132 | ( 0.135) | 0.018 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.132) | 0.081 | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.132) | 0.054 | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 20.6

Flood volume = Effective rainfall 1.72(In)
times area 0.9(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.78(In)
Total soil loss = 0.059(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 5618.9 Cubic Feet
Total soil loss = 2548.6 Cubic Feet

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Peak flow rate of this hydrograph = 1.334(CFS)

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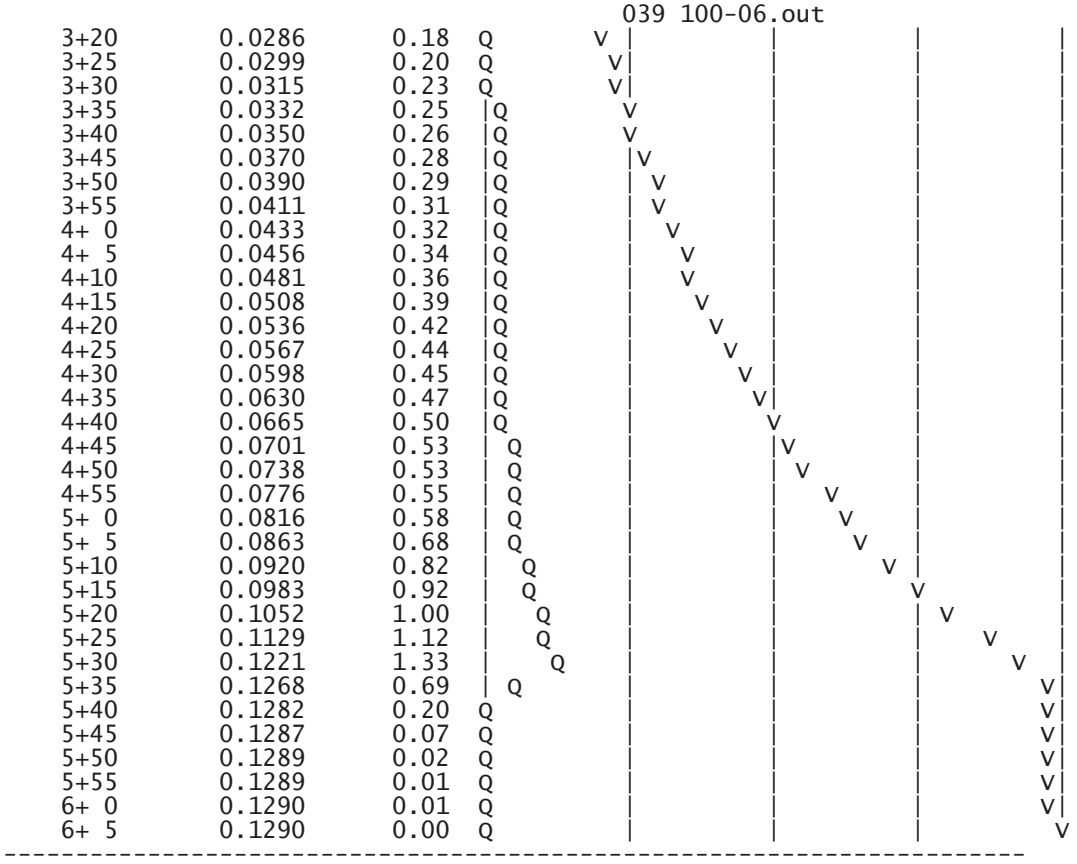
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0001 | 0.01 | Q | | | | |
| 0+10 | 0.0003 | 0.04 | Q | | | | |
| 0+15 | 0.0006 | 0.04 | Q | | | | |
| 0+20 | 0.0009 | 0.04 | Q | | | | |
| 0+25 | 0.0012 | 0.04 | Q | | | | |
| 0+30 | 0.0017 | 0.06 | Q | | | | |
| 0+35 | 0.0022 | 0.07 | Q | | | | |
| 0+40 | 0.0026 | 0.07 | Q | | | | |
| 0+45 | 0.0031 | 0.07 | Q | | | | |
| 0+50 | 0.0036 | 0.07 | QV | | | | |
| 0+55 | 0.0041 | 0.07 | QV | | | | |
| 1+ 0 | 0.0047 | 0.09 | QV | | | | |
| 1+ 5 | 0.0054 | 0.10 | QV | | | | |
| 1+10 | 0.0061 | 0.10 | QV | | | | |
| 1+15 | 0.0068 | 0.10 | Q V | | | | |
| 1+20 | 0.0074 | 0.10 | Q V | | | | |
| 1+25 | 0.0081 | 0.10 | Q V | | | | |
| 1+30 | 0.0088 | 0.10 | Q V | | | | |
| 1+35 | 0.0095 | 0.10 | Q V | | | | |
| 1+40 | 0.0101 | 0.10 | Q V | | | | |
| 1+45 | 0.0108 | 0.10 | Q V | | | | |
| 1+50 | 0.0115 | 0.10 | Q V | | | | |
| 1+55 | 0.0122 | 0.10 | Q V | | | | |
| 2+ 0 | 0.0130 | 0.12 | Q V | | | | |
| 2+ 5 | 0.0137 | 0.11 | Q V | | | | |
| 2+10 | 0.0145 | 0.12 | Q V | | | | |
| 2+15 | 0.0154 | 0.13 | Q V | | | | |
| 2+20 | 0.0162 | 0.13 | Q V | | | | |
| 2+25 | 0.0171 | 0.13 | Q V | | | | |
| 2+30 | 0.0180 | 0.13 | Q V | | | | |
| 2+35 | 0.0188 | 0.13 | Q V | | | | |
| 2+40 | 0.0197 | 0.13 | Q V | | | | |
| 2+45 | 0.0207 | 0.14 | Q V | | | | |
| 2+50 | 0.0218 | 0.15 | Q V | | | | |
| 2+55 | 0.0228 | 0.15 | Q V | | | | |
| 3+ 0 | 0.0239 | 0.15 | Q V | | | | |
| 3+ 5 | 0.0249 | 0.15 | Q V | | | | |
| 3+10 | 0.0261 | 0.17 | Q V | | | | |
| 3+15 | 0.0273 | 0.18 | Q V | | | | |



| | | | |
|---|---|---|---|
| 3+20 | 0.0286 | 0.18 | Q V |
| 3+25 | 0.0299 | 0.20 | Q V |
| 3+30 | 0.0315 | 0.23 | Q V |
| 3+35 | 0.0332 | 0.25 | Q V |
| 3+40 | 0.0350 | 0.26 | Q V |
| 3+45 | 0.0370 | 0.28 | Q V |
| 3+50 | 0.0390 | 0.29 | Q V |
| 3+55 | 0.0411 | 0.31 | Q V |
| 4+ 0 | 0.0433 | 0.32 | Q V |
| 4+ 5 | 0.0456 | 0.34 | Q V |
| 4+10 | 0.0481 | 0.36 | Q V |
| 4+15 | 0.0508 | 0.39 | Q V |
| 4+20 | 0.0536 | 0.42 | Q V |
| 4+25 | 0.0567 | 0.44 | Q V |
| 4+30 | 0.0598 | 0.45 | Q V |
| 4+35 | 0.0630 | 0.47 | Q V |
| 4+40 | 0.0665 | 0.50 | Q V |
| 4+45 | 0.0701 | 0.53 | Q V |
| 4+50 | 0.0738 | 0.53 | Q V |
| 4+55 | 0.0776 | 0.55 | Q V |
| 5+ 0 | 0.0816 | 0.58 | Q V |
| 5+ 5 | 0.0863 | 0.68 | Q V |
| 5+10 | 0.0920 | 0.82 | Q V |
| 5+15 | 0.0983 | 0.92 | Q V |
| 5+20 | 0.1052 | 1.00 | Q V |
| 5+25 | 0.1129 | 1.12 | Q V |
| 5+30 | 0.1221 | 1.33 | Q V |
| 5+35 | 0.1268 | 0.69 | Q V |
| 5+40 | 0.1282 | 0.20 | Q V |
| 5+45 | 0.1287 | 0.07 | Q V |
| 5+50 | 0.1289 | 0.02 | Q V |
| 5+55 | 0.1289 | 0.01 | Q V |
| 6+ 0 | 0.1290 | 0.01 | Q V |
| 6+ 5 | 0.1290 | 0.00 | Q V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX3924100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 39
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 0.90(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.90(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 275.00(Ft.)
Length along longest watercourse measured to centroid = 116.00(Ft.)
Length along longest watercourse = 0.052 Mi.
Length along longest watercourse measured to centroid = 0.022 Mi.
Difference in elevation = 38.00(Ft.)
Slope along watercourse = 729.6000 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.018 Hr.
Lag time = 1.10 Min.
25% of lag time = 0.27 Min.
40% of lag time = 0.44 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.90 | 1.80 | 1.62 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.90 | 4.76 | 4.28 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.760(In)

Point rain (area averaged) = 4.760(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.760(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.900 | 78.07 | 0.000 |

Total Area Entered = 0.90(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 78.1 | 89.8 | 0.132 | 0.000 | 0.132 | 1.000 | 0.132 |
| | | | | | Sum (F) = | 0.132 |

Area averaged mean soil loss (F) (In/Hr) = 0.132

Minimum soil loss rate ((In/Hr)) = 0.066
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 455.289 | 71.044 | 0.644 |
| 2 0.167 | 910.577 | 28.956 | 0.263 |
| | | Sum = 100.000 Sum= | 0.907 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.038 | ( 0.234) | 0.034 | 0.004 |
| 2 | 0.17 | 0.07 | 0.038 | ( 0.233) | 0.034 | 0.004 |
| 3 | 0.25 | 0.07 | 0.038 | ( 0.232) | 0.034 | 0.004 |
| 4 | 0.33 | 0.10 | 0.057 | ( 0.231) | 0.051 | 0.006 |
| 5 | 0.42 | 0.10 | 0.057 | ( 0.230) | 0.051 | 0.006 |
| 6 | 0.50 | 0.10 | 0.057 | ( 0.229) | 0.051 | 0.006 |
| 7 | 0.58 | 0.10 | 0.057 | ( 0.228) | 0.051 | 0.006 |
| 8 | 0.67 | 0.10 | 0.057 | ( 0.227) | 0.051 | 0.006 |
| 9 | 0.75 | 0.10 | 0.057 | ( 0.226) | 0.051 | 0.006 |
| 10 | 0.83 | 0.13 | 0.076 | ( 0.226) | 0.069 | 0.008 |
| 11 | 0.92 | 0.13 | 0.076 | ( 0.225) | 0.069 | 0.008 |
| 12 | 1.00 | 0.13 | 0.076 | ( 0.224) | 0.069 | 0.008 |
| 13 | 1.08 | 0.10 | 0.057 | ( 0.223) | 0.051 | 0.006 |
| 14 | 1.17 | 0.10 | 0.057 | ( 0.222) | 0.051 | 0.006 |
| 15 | 1.25 | 0.10 | 0.057 | ( 0.221) | 0.051 | 0.006 |
| 16 | 1.33 | 0.10 | 0.057 | ( 0.220) | 0.051 | 0.006 |
| 17 | 1.42 | 0.10 | 0.057 | ( 0.219) | 0.051 | 0.006 |
| 18 | 1.50 | 0.10 | 0.057 | ( 0.219) | 0.051 | 0.006 |
| 19 | 1.58 | 0.10 | 0.057 | ( 0.218) | 0.051 | 0.006 |
| 20 | 1.67 | 0.10 | 0.057 | ( 0.217) | 0.051 | 0.006 |
| 21 | 1.75 | 0.10 | 0.057 | ( 0.216) | 0.051 | 0.006 |
| 22 | 1.83 | 0.13 | 0.076 | ( 0.215) | 0.069 | 0.008 |
| 23 | 1.92 | 0.13 | 0.076 | ( 0.214) | 0.069 | 0.008 |
| 24 | 2.00 | 0.13 | 0.076 | ( 0.213) | 0.069 | 0.008 |
| 25 | 2.08 | 0.13 | 0.076 | ( 0.212) | 0.069 | 0.008 |
| 26 | 2.17 | 0.13 | 0.076 | ( 0.212) | 0.069 | 0.008 |
| 27 | 2.25 | 0.13 | 0.076 | ( 0.211) | 0.069 | 0.008 |
| 28 | 2.33 | 0.13 | 0.076 | ( 0.210) | 0.069 | 0.008 |
| 29 | 2.42 | 0.13 | 0.076 | ( 0.209) | 0.069 | 0.008 |
| 30 | 2.50 | 0.13 | 0.076 | ( 0.208) | 0.069 | 0.008 |
| 31 | 2.58 | 0.17 | 0.095 | ( 0.207) | 0.086 | 0.010 |
| 32 | 2.67 | 0.17 | 0.095 | ( 0.206) | 0.086 | 0.010 |
| 33 | 2.75 | 0.17 | 0.095 | ( 0.206) | 0.086 | 0.010 |
| 34 | 2.83 | 0.17 | 0.095 | ( 0.205) | 0.086 | 0.010 |
| 35 | 2.92 | 0.17 | 0.095 | ( 0.204) | 0.086 | 0.010 |
| 36 | 3.00 | 0.17 | 0.095 | ( 0.203) | 0.086 | 0.010 |
| 37 | 3.08 | 0.17 | 0.095 | ( 0.202) | 0.086 | 0.010 |
| 38 | 3.17 | 0.17 | 0.095 | ( 0.201) | 0.086 | 0.010 |
| 39 | 3.25 | 0.17 | 0.095 | ( 0.201) | 0.086 | 0.010 |
| 40 | 3.33 | 0.17 | 0.095 | ( 0.200) | 0.086 | 0.010 |
| 41 | 3.42 | 0.17 | 0.095 | ( 0.199) | 0.086 | 0.010 |
| 42 | 3.50 | 0.17 | 0.095 | ( 0.198) | 0.086 | 0.010 |
| 43 | 3.58 | 0.17 | 0.095 | ( 0.197) | 0.086 | 0.010 |
| 44 | 3.67 | 0.17 | 0.095 | ( 0.196) | 0.086 | 0.010 |
| 45 | 3.75 | 0.17 | 0.095 | ( 0.196) | 0.086 | 0.010 |
| 46 | 3.83 | 0.20 | 0.114 | ( 0.195) | 0.103 | 0.011 |
| 47 | 3.92 | 0.20 | 0.114 | ( 0.194) | 0.103 | 0.011 |
| 48 | 4.00 | 0.20 | 0.114 | ( 0.193) | 0.103 | 0.011 |
| 49 | 4.08 | 0.20 | 0.114 | ( 0.192) | 0.103 | 0.011 |
| 50 | 4.17 | 0.20 | 0.114 | ( 0.191) | 0.103 | 0.011 |
| 51 | 4.25 | 0.20 | 0.114 | ( 0.191) | 0.103 | 0.011 |
| 52 | 4.33 | 0.23 | 0.133 | ( 0.190) | 0.120 | 0.013 |
| 53 | 4.42 | 0.23 | 0.133 | ( 0.189) | 0.120 | 0.013 |
| 54 | 4.50 | 0.23 | 0.133 | ( 0.188) | 0.120 | 0.013 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 55 | 4.58 | 0.23 | 0.133 | ( | 0.187) | 0.120 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.133 | ( | 0.187) | 0.120 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.133 | ( | 0.186) | 0.120 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.152 | ( | 0.185) | 0.137 | | 0.015 |
| 59 | 4.92 | 0.27 | 0.152 | ( | 0.184) | 0.137 | | 0.015 |
| 60 | 5.00 | 0.27 | 0.152 | ( | 0.183) | 0.137 | | 0.015 |
| 61 | 5.08 | 0.20 | 0.114 | ( | 0.183) | 0.103 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.114 | ( | 0.182) | 0.103 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.114 | ( | 0.181) | 0.103 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.133 | ( | 0.180) | 0.120 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.133 | ( | 0.179) | 0.120 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.133 | ( | 0.179) | 0.120 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.152 | ( | 0.178) | 0.137 | | 0.015 |
| 68 | 5.67 | 0.27 | 0.152 | ( | 0.177) | 0.137 | | 0.015 |
| 69 | 5.75 | 0.27 | 0.152 | ( | 0.176) | 0.137 | | 0.015 |
| 70 | 5.83 | 0.27 | 0.152 | ( | 0.176) | 0.137 | | 0.015 |
| 71 | 5.92 | 0.27 | 0.152 | ( | 0.175) | 0.137 | | 0.015 |
| 72 | 6.00 | 0.27 | 0.152 | ( | 0.174) | 0.137 | | 0.015 |
| 73 | 6.08 | 0.30 | 0.171 | ( | 0.173) | 0.154 | | 0.017 |
| 74 | 6.17 | 0.30 | 0.171 | ( | 0.172) | 0.154 | | 0.017 |
| 75 | 6.25 | 0.30 | 0.171 | ( | 0.172) | 0.154 | | 0.017 |
| 76 | 6.33 | 0.30 | 0.171 | ( | 0.171) | 0.154 | | 0.017 |
| 77 | 6.42 | 0.30 | 0.171 | ( | 0.170) | 0.154 | | 0.017 |
| 78 | 6.50 | 0.30 | 0.171 | ( | 0.169) | 0.154 | | 0.017 |
| 79 | 6.58 | 0.33 | 0.190 | | 0.169 | ( | 0.171) | 0.022 |
| 80 | 6.67 | 0.33 | 0.190 | | 0.168 | ( | 0.171) | 0.023 |
| 81 | 6.75 | 0.33 | 0.190 | | 0.167 | ( | 0.171) | 0.023 |
| 82 | 6.83 | 0.33 | 0.190 | | 0.166 | ( | 0.171) | 0.024 |
| 83 | 6.92 | 0.33 | 0.190 | | 0.166 | ( | 0.171) | 0.025 |
| 84 | 7.00 | 0.33 | 0.190 | | 0.165 | ( | 0.171) | 0.026 |
| 85 | 7.08 | 0.33 | 0.190 | | 0.164 | ( | 0.171) | 0.026 |
| 86 | 7.17 | 0.33 | 0.190 | | 0.163 | ( | 0.171) | 0.027 |
| 87 | 7.25 | 0.33 | 0.190 | | 0.163 | ( | 0.171) | 0.028 |
| 88 | 7.33 | 0.37 | 0.209 | | 0.162 | ( | 0.188) | 0.048 |
| 89 | 7.42 | 0.37 | 0.209 | | 0.161 | ( | 0.188) | 0.048 |
| 90 | 7.50 | 0.37 | 0.209 | | 0.160 | ( | 0.188) | 0.049 |
| 91 | 7.58 | 0.40 | 0.228 | | 0.160 | ( | 0.206) | 0.069 |
| 92 | 7.67 | 0.40 | 0.228 | | 0.159 | ( | 0.206) | 0.070 |
| 93 | 7.75 | 0.40 | 0.228 | | 0.158 | ( | 0.206) | 0.070 |
| 94 | 7.83 | 0.43 | 0.248 | | 0.157 | ( | 0.223) | 0.090 |
| 95 | 7.92 | 0.43 | 0.248 | | 0.157 | ( | 0.223) | 0.091 |
| 96 | 8.00 | 0.43 | 0.248 | | 0.156 | ( | 0.223) | 0.092 |
| 97 | 8.08 | 0.50 | 0.286 | | 0.155 | ( | 0.257) | 0.130 |
| 98 | 8.17 | 0.50 | 0.286 | | 0.155 | ( | 0.257) | 0.131 |
| 99 | 8.25 | 0.50 | 0.286 | | 0.154 | ( | 0.257) | 0.132 |
| 100 | 8.33 | 0.50 | 0.286 | | 0.153 | ( | 0.257) | 0.133 |
| 101 | 8.42 | 0.50 | 0.286 | | 0.152 | ( | 0.257) | 0.133 |
| 102 | 8.50 | 0.50 | 0.286 | | 0.152 | ( | 0.257) | 0.134 |
| 103 | 8.58 | 0.53 | 0.305 | | 0.151 | ( | 0.274) | 0.154 |
| 104 | 8.67 | 0.53 | 0.305 | | 0.150 | ( | 0.274) | 0.154 |
| 105 | 8.75 | 0.53 | 0.305 | | 0.150 | ( | 0.274) | 0.155 |
| 106 | 8.83 | 0.57 | 0.324 | | 0.149 | ( | 0.291) | 0.175 |
| 107 | 8.92 | 0.57 | 0.324 | | 0.148 | ( | 0.291) | 0.176 |
| 108 | 9.00 | 0.57 | 0.324 | | 0.147 | ( | 0.291) | 0.176 |
| 109 | 9.08 | 0.63 | 0.362 | | 0.147 | ( | 0.326) | 0.215 |
| 110 | 9.17 | 0.63 | 0.362 | | 0.146 | ( | 0.326) | 0.216 |
| 111 | 9.25 | 0.63 | 0.362 | | 0.145 | ( | 0.326) | 0.216 |
| 112 | 9.33 | 0.67 | 0.381 | | 0.145 | ( | 0.343) | 0.236 |
| 113 | 9.42 | 0.67 | 0.381 | | 0.144 | ( | 0.343) | 0.237 |
| 114 | 9.50 | 0.67 | 0.381 | | 0.143 | ( | 0.343) | 0.238 |
| 115 | 9.58 | 0.70 | 0.400 | | 0.143 | ( | 0.360) | 0.257 |
| 116 | 9.67 | 0.70 | 0.400 | | 0.142 | ( | 0.360) | 0.258 |
| 117 | 9.75 | 0.70 | 0.400 | | 0.141 | ( | 0.360) | 0.259 |
| 118 | 9.83 | 0.73 | 0.419 | | 0.141 | ( | 0.377) | 0.278 |
| 119 | 9.92 | 0.73 | 0.419 | | 0.140 | ( | 0.377) | 0.279 |
| 120 | 10.00 | 0.73 | 0.419 | | 0.139 | ( | 0.377) | 0.280 |
| 121 | 10.08 | 0.50 | 0.286 | | 0.139 | ( | 0.257) | 0.147 |
| 122 | 10.17 | 0.50 | 0.286 | | 0.138 | ( | 0.257) | 0.148 |
| 123 | 10.25 | 0.50 | 0.286 | | 0.137 | ( | 0.257) | 0.148 |
| 124 | 10.33 | 0.50 | 0.286 | | 0.137 | ( | 0.257) | 0.149 |
| 125 | 10.42 | 0.50 | 0.286 | | 0.136 | ( | 0.257) | 0.150 |
| 126 | 10.50 | 0.50 | 0.286 | | 0.135 | ( | 0.257) | 0.150 |
| 127 | 10.58 | 0.67 | 0.381 | | 0.135 | ( | 0.343) | 0.246 |
| 128 | 10.67 | 0.67 | 0.381 | | 0.134 | ( | 0.343) | 0.247 |
| 129 | 10.75 | 0.67 | 0.381 | | 0.133 | ( | 0.343) | 0.248 |
| 130 | 10.83 | 0.67 | 0.381 | | 0.133 | ( | 0.343) | 0.248 |
| 131 | 10.92 | 0.67 | 0.381 | | 0.132 | ( | 0.343) | 0.249 |
| 132 | 11.00 | 0.67 | 0.381 | | 0.131 | ( | 0.343) | 0.250 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 133 | 11.08 | 0.63 | 0.362 | | 0.131 | ( 0.326) | | 0.231 |
| 134 | 11.17 | 0.63 | 0.362 | | 0.130 | ( 0.326) | | 0.232 |
| 135 | 11.25 | 0.63 | 0.362 | | 0.129 | ( 0.326) | | 0.232 |
| 136 | 11.33 | 0.63 | 0.362 | | 0.129 | ( 0.326) | | 0.233 |
| 137 | 11.42 | 0.63 | 0.362 | | 0.128 | ( 0.326) | | 0.234 |
| 138 | 11.50 | 0.63 | 0.362 | | 0.127 | ( 0.326) | | 0.234 |
| 139 | 11.58 | 0.57 | 0.324 | | 0.127 | ( 0.291) | | 0.197 |
| 140 | 11.67 | 0.57 | 0.324 | | 0.126 | ( 0.291) | | 0.198 |
| 141 | 11.75 | 0.57 | 0.324 | | 0.126 | ( 0.291) | | 0.198 |
| 142 | 11.83 | 0.60 | 0.343 | | 0.125 | ( 0.308) | | 0.218 |
| 143 | 11.92 | 0.60 | 0.343 | | 0.124 | ( 0.308) | | 0.218 |
| 144 | 12.00 | 0.60 | 0.343 | | 0.124 | ( 0.308) | | 0.219 |
| 145 | 12.08 | 0.83 | 0.476 | | 0.123 | ( 0.428) | | 0.353 |
| 146 | 12.17 | 0.83 | 0.476 | | 0.122 | ( 0.428) | | 0.354 |
| 147 | 12.25 | 0.83 | 0.476 | | 0.122 | ( 0.428) | | 0.354 |
| 148 | 12.33 | 0.87 | 0.495 | | 0.121 | ( 0.446) | | 0.374 |
| 149 | 12.42 | 0.87 | 0.495 | | 0.121 | ( 0.446) | | 0.374 |
| 150 | 12.50 | 0.87 | 0.495 | | 0.120 | ( 0.446) | | 0.375 |
| 151 | 12.58 | 0.93 | 0.533 | | 0.119 | ( 0.480) | | 0.414 |
| 152 | 12.67 | 0.93 | 0.533 | | 0.119 | ( 0.480) | | 0.414 |
| 153 | 12.75 | 0.93 | 0.533 | | 0.118 | ( 0.480) | | 0.415 |
| 154 | 12.83 | 0.97 | 0.552 | | 0.118 | ( 0.497) | | 0.435 |
| 155 | 12.92 | 0.97 | 0.552 | | 0.117 | ( 0.497) | | 0.435 |
| 156 | 13.00 | 0.97 | 0.552 | | 0.116 | ( 0.497) | | 0.436 |
| 157 | 13.08 | 1.13 | 0.647 | | 0.116 | ( 0.583) | | 0.532 |
| 158 | 13.17 | 1.13 | 0.647 | | 0.115 | ( 0.583) | | 0.532 |
| 159 | 13.25 | 1.13 | 0.647 | | 0.115 | ( 0.583) | | 0.533 |
| 160 | 13.33 | 1.13 | 0.647 | | 0.114 | ( 0.583) | | 0.533 |
| 161 | 13.42 | 1.13 | 0.647 | | 0.113 | ( 0.583) | | 0.534 |
| 162 | 13.50 | 1.13 | 0.647 | | 0.113 | ( 0.583) | | 0.534 |
| 163 | 13.58 | 0.77 | 0.438 | | 0.112 | ( 0.394) | | 0.326 |
| 164 | 13.67 | 0.77 | 0.438 | | 0.112 | ( 0.394) | | 0.326 |
| 165 | 13.75 | 0.77 | 0.438 | | 0.111 | ( 0.394) | | 0.327 |
| 166 | 13.83 | 0.77 | 0.438 | | 0.111 | ( 0.394) | | 0.327 |
| 167 | 13.92 | 0.77 | 0.438 | | 0.110 | ( 0.394) | | 0.328 |
| 168 | 14.00 | 0.77 | 0.438 | | 0.109 | ( 0.394) | | 0.328 |
| 169 | 14.08 | 0.90 | 0.514 | | 0.109 | ( 0.463) | | 0.405 |
| 170 | 14.17 | 0.90 | 0.514 | | 0.108 | ( 0.463) | | 0.406 |
| 171 | 14.25 | 0.90 | 0.514 | | 0.108 | ( 0.463) | | 0.406 |
| 172 | 14.33 | 0.87 | 0.495 | | 0.107 | ( 0.446) | | 0.388 |
| 173 | 14.42 | 0.87 | 0.495 | | 0.107 | ( 0.446) | | 0.388 |
| 174 | 14.50 | 0.87 | 0.495 | | 0.106 | ( 0.446) | | 0.389 |
| 175 | 14.58 | 0.87 | 0.495 | | 0.106 | ( 0.446) | | 0.389 |
| 176 | 14.67 | 0.87 | 0.495 | | 0.105 | ( 0.446) | | 0.390 |
| 177 | 14.75 | 0.87 | 0.495 | | 0.105 | ( 0.446) | | 0.390 |
| 178 | 14.83 | 0.83 | 0.476 | | 0.104 | ( 0.428) | | 0.372 |
| 179 | 14.92 | 0.83 | 0.476 | | 0.103 | ( 0.428) | | 0.373 |
| 180 | 15.00 | 0.83 | 0.476 | | 0.103 | ( 0.428) | | 0.373 |
| 181 | 15.08 | 0.80 | 0.457 | | 0.102 | ( 0.411) | | 0.355 |
| 182 | 15.17 | 0.80 | 0.457 | | 0.102 | ( 0.411) | | 0.355 |
| 183 | 15.25 | 0.80 | 0.457 | | 0.101 | ( 0.411) | | 0.356 |
| 184 | 15.33 | 0.77 | 0.438 | | 0.101 | ( 0.394) | | 0.337 |
| 185 | 15.42 | 0.77 | 0.438 | | 0.100 | ( 0.394) | | 0.338 |
| 186 | 15.50 | 0.77 | 0.438 | | 0.100 | ( 0.394) | | 0.338 |
| 187 | 15.58 | 0.63 | 0.362 | | 0.099 | ( 0.326) | | 0.262 |
| 188 | 15.67 | 0.63 | 0.362 | | 0.099 | ( 0.326) | | 0.263 |
| 189 | 15.75 | 0.63 | 0.362 | | 0.098 | ( 0.326) | | 0.263 |
| 190 | 15.83 | 0.63 | 0.362 | | 0.098 | ( 0.326) | | 0.264 |
| 191 | 15.92 | 0.63 | 0.362 | | 0.097 | ( 0.326) | | 0.264 |
| 192 | 16.00 | 0.63 | 0.362 | | 0.097 | ( 0.326) | | 0.265 |
| 193 | 16.08 | 0.13 | 0.076 | ( 0.096) | | 0.069 | | 0.008 |
| 194 | 16.17 | 0.13 | 0.076 | ( 0.096) | | 0.069 | | 0.008 |
| 195 | 16.25 | 0.13 | 0.076 | ( 0.095) | | 0.069 | | 0.008 |
| 196 | 16.33 | 0.13 | 0.076 | ( 0.095) | | 0.069 | | 0.008 |
| 197 | 16.42 | 0.13 | 0.076 | ( 0.094) | | 0.069 | | 0.008 |
| 198 | 16.50 | 0.13 | 0.076 | ( 0.094) | | 0.069 | | 0.008 |
| 199 | 16.58 | 0.10 | 0.057 | ( 0.093) | | 0.051 | | 0.006 |
| 200 | 16.67 | 0.10 | 0.057 | ( 0.093) | | 0.051 | | 0.006 |
| 201 | 16.75 | 0.10 | 0.057 | ( 0.092) | | 0.051 | | 0.006 |
| 202 | 16.83 | 0.10 | 0.057 | ( 0.092) | | 0.051 | | 0.006 |
| 203 | 16.92 | 0.10 | 0.057 | ( 0.092) | | 0.051 | | 0.006 |
| 204 | 17.00 | 0.10 | 0.057 | ( 0.091) | | 0.051 | | 0.006 |
| 205 | 17.08 | 0.17 | 0.095 | ( 0.091) | | 0.086 | | 0.010 |
| 206 | 17.17 | 0.17 | 0.095 | ( 0.090) | | 0.086 | | 0.010 |
| 207 | 17.25 | 0.17 | 0.095 | ( 0.090) | | 0.086 | | 0.010 |
| 208 | 17.33 | 0.17 | 0.095 | ( 0.089) | | 0.086 | | 0.010 |
| 209 | 17.42 | 0.17 | 0.095 | ( 0.089) | | 0.086 | | 0.010 |
| 210 | 17.50 | 0.17 | 0.095 | ( 0.088) | | 0.086 | | 0.010 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 211 | 17.58 | 0.17 | 0.095 | ( 0.088) | 0.086 | 0.010 |
| 212 | 17.67 | 0.17 | 0.095 | ( 0.087) | 0.086 | 0.010 |
| 213 | 17.75 | 0.17 | 0.095 | ( 0.087) | 0.086 | 0.010 |
| 214 | 17.83 | 0.13 | 0.076 | ( 0.087) | 0.069 | 0.008 |
| 215 | 17.92 | 0.13 | 0.076 | ( 0.086) | 0.069 | 0.008 |
| 216 | 18.00 | 0.13 | 0.076 | ( 0.086) | 0.069 | 0.008 |
| 217 | 18.08 | 0.13 | 0.076 | ( 0.085) | 0.069 | 0.008 |
| 218 | 18.17 | 0.13 | 0.076 | ( 0.085) | 0.069 | 0.008 |
| 219 | 18.25 | 0.13 | 0.076 | ( 0.084) | 0.069 | 0.008 |
| 220 | 18.33 | 0.13 | 0.076 | ( 0.084) | 0.069 | 0.008 |
| 221 | 18.42 | 0.13 | 0.076 | ( 0.084) | 0.069 | 0.008 |
| 222 | 18.50 | 0.13 | 0.076 | ( 0.083) | 0.069 | 0.008 |
| 223 | 18.58 | 0.10 | 0.057 | ( 0.083) | 0.051 | 0.006 |
| 224 | 18.67 | 0.10 | 0.057 | ( 0.082) | 0.051 | 0.006 |
| 225 | 18.75 | 0.10 | 0.057 | ( 0.082) | 0.051 | 0.006 |
| 226 | 18.83 | 0.07 | 0.038 | ( 0.082) | 0.034 | 0.004 |
| 227 | 18.92 | 0.07 | 0.038 | ( 0.081) | 0.034 | 0.004 |
| 228 | 19.00 | 0.07 | 0.038 | ( 0.081) | 0.034 | 0.004 |
| 229 | 19.08 | 0.10 | 0.057 | ( 0.080) | 0.051 | 0.006 |
| 230 | 19.17 | 0.10 | 0.057 | ( 0.080) | 0.051 | 0.006 |
| 231 | 19.25 | 0.10 | 0.057 | ( 0.080) | 0.051 | 0.006 |
| 232 | 19.33 | 0.13 | 0.076 | ( 0.079) | 0.069 | 0.008 |
| 233 | 19.42 | 0.13 | 0.076 | ( 0.079) | 0.069 | 0.008 |
| 234 | 19.50 | 0.13 | 0.076 | ( 0.079) | 0.069 | 0.008 |
| 235 | 19.58 | 0.10 | 0.057 | ( 0.078) | 0.051 | 0.006 |
| 236 | 19.67 | 0.10 | 0.057 | ( 0.078) | 0.051 | 0.006 |
| 237 | 19.75 | 0.10 | 0.057 | ( 0.078) | 0.051 | 0.006 |
| 238 | 19.83 | 0.07 | 0.038 | ( 0.077) | 0.034 | 0.004 |
| 239 | 19.92 | 0.07 | 0.038 | ( 0.077) | 0.034 | 0.004 |
| 240 | 20.00 | 0.07 | 0.038 | ( 0.077) | 0.034 | 0.004 |
| 241 | 20.08 | 0.10 | 0.057 | ( 0.076) | 0.051 | 0.006 |
| 242 | 20.17 | 0.10 | 0.057 | ( 0.076) | 0.051 | 0.006 |
| 243 | 20.25 | 0.10 | 0.057 | ( 0.076) | 0.051 | 0.006 |
| 244 | 20.33 | 0.10 | 0.057 | ( 0.075) | 0.051 | 0.006 |
| 245 | 20.42 | 0.10 | 0.057 | ( 0.075) | 0.051 | 0.006 |
| 246 | 20.50 | 0.10 | 0.057 | ( 0.075) | 0.051 | 0.006 |
| 247 | 20.58 | 0.10 | 0.057 | ( 0.074) | 0.051 | 0.006 |
| 248 | 20.67 | 0.10 | 0.057 | ( 0.074) | 0.051 | 0.006 |
| 249 | 20.75 | 0.10 | 0.057 | ( 0.074) | 0.051 | 0.006 |
| 250 | 20.83 | 0.07 | 0.038 | ( 0.073) | 0.034 | 0.004 |
| 251 | 20.92 | 0.07 | 0.038 | ( 0.073) | 0.034 | 0.004 |
| 252 | 21.00 | 0.07 | 0.038 | ( 0.073) | 0.034 | 0.004 |
| 253 | 21.08 | 0.10 | 0.057 | ( 0.072) | 0.051 | 0.006 |
| 254 | 21.17 | 0.10 | 0.057 | ( 0.072) | 0.051 | 0.006 |
| 255 | 21.25 | 0.10 | 0.057 | ( 0.072) | 0.051 | 0.006 |
| 256 | 21.33 | 0.07 | 0.038 | ( 0.072) | 0.034 | 0.004 |
| 257 | 21.42 | 0.07 | 0.038 | ( 0.071) | 0.034 | 0.004 |
| 258 | 21.50 | 0.07 | 0.038 | ( 0.071) | 0.034 | 0.004 |
| 259 | 21.58 | 0.10 | 0.057 | ( 0.071) | 0.051 | 0.006 |
| 260 | 21.67 | 0.10 | 0.057 | ( 0.071) | 0.051 | 0.006 |
| 261 | 21.75 | 0.10 | 0.057 | ( 0.070) | 0.051 | 0.006 |
| 262 | 21.83 | 0.07 | 0.038 | ( 0.070) | 0.034 | 0.004 |
| 263 | 21.92 | 0.07 | 0.038 | ( 0.070) | 0.034 | 0.004 |
| 264 | 22.00 | 0.07 | 0.038 | ( 0.070) | 0.034 | 0.004 |
| 265 | 22.08 | 0.10 | 0.057 | ( 0.069) | 0.051 | 0.006 |
| 266 | 22.17 | 0.10 | 0.057 | ( 0.069) | 0.051 | 0.006 |
| 267 | 22.25 | 0.10 | 0.057 | ( 0.069) | 0.051 | 0.006 |
| 268 | 22.33 | 0.07 | 0.038 | ( 0.069) | 0.034 | 0.004 |
| 269 | 22.42 | 0.07 | 0.038 | ( 0.068) | 0.034 | 0.004 |
| 270 | 22.50 | 0.07 | 0.038 | ( 0.068) | 0.034 | 0.004 |
| 271 | 22.58 | 0.07 | 0.038 | ( 0.068) | 0.034 | 0.004 |
| 272 | 22.67 | 0.07 | 0.038 | ( 0.068) | 0.034 | 0.004 |
| 273 | 22.75 | 0.07 | 0.038 | ( 0.068) | 0.034 | 0.004 |
| 274 | 22.83 | 0.07 | 0.038 | ( 0.068) | 0.034 | 0.004 |
| 275 | 22.92 | 0.07 | 0.038 | ( 0.067) | 0.034 | 0.004 |
| 276 | 23.00 | 0.07 | 0.038 | ( 0.067) | 0.034 | 0.004 |
| 277 | 23.08 | 0.07 | 0.038 | ( 0.067) | 0.034 | 0.004 |
| 278 | 23.17 | 0.07 | 0.038 | ( 0.067) | 0.034 | 0.004 |
| 279 | 23.25 | 0.07 | 0.038 | ( 0.067) | 0.034 | 0.004 |
| 280 | 23.33 | 0.07 | 0.038 | ( 0.067) | 0.034 | 0.004 |
| 281 | 23.42 | 0.07 | 0.038 | ( 0.066) | 0.034 | 0.004 |
| 282 | 23.50 | 0.07 | 0.038 | ( 0.066) | 0.034 | 0.004 |
| 283 | 23.58 | 0.07 | 0.038 | ( 0.066) | 0.034 | 0.004 |
| 284 | 23.67 | 0.07 | 0.038 | ( 0.066) | 0.034 | 0.004 |
| 285 | 23.75 | 0.07 | 0.038 | ( 0.066) | 0.034 | 0.004 |
| 286 | 23.83 | 0.07 | 0.038 | ( 0.066) | 0.034 | 0.004 |
| 287 | 23.92 | 0.07 | 0.038 | ( 0.066) | 0.034 | 0.004 |
| 288 | 24.00 | 0.07 | 0.038 | ( 0.066) | 0.034 | 0.004 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 30.2

Flood volume = Effective rainfall 2.52(In)
times area 0.9(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 2.24(In)
Total soil loss = 0.168(Ac.Ft)
Total rainfall = 4.76(In)
Flood volume = 8219.3 Cubic Feet
Total soil loss = 7331.6 Cubic Feet

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Peak flow rate of this hydrograph = 0.485(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

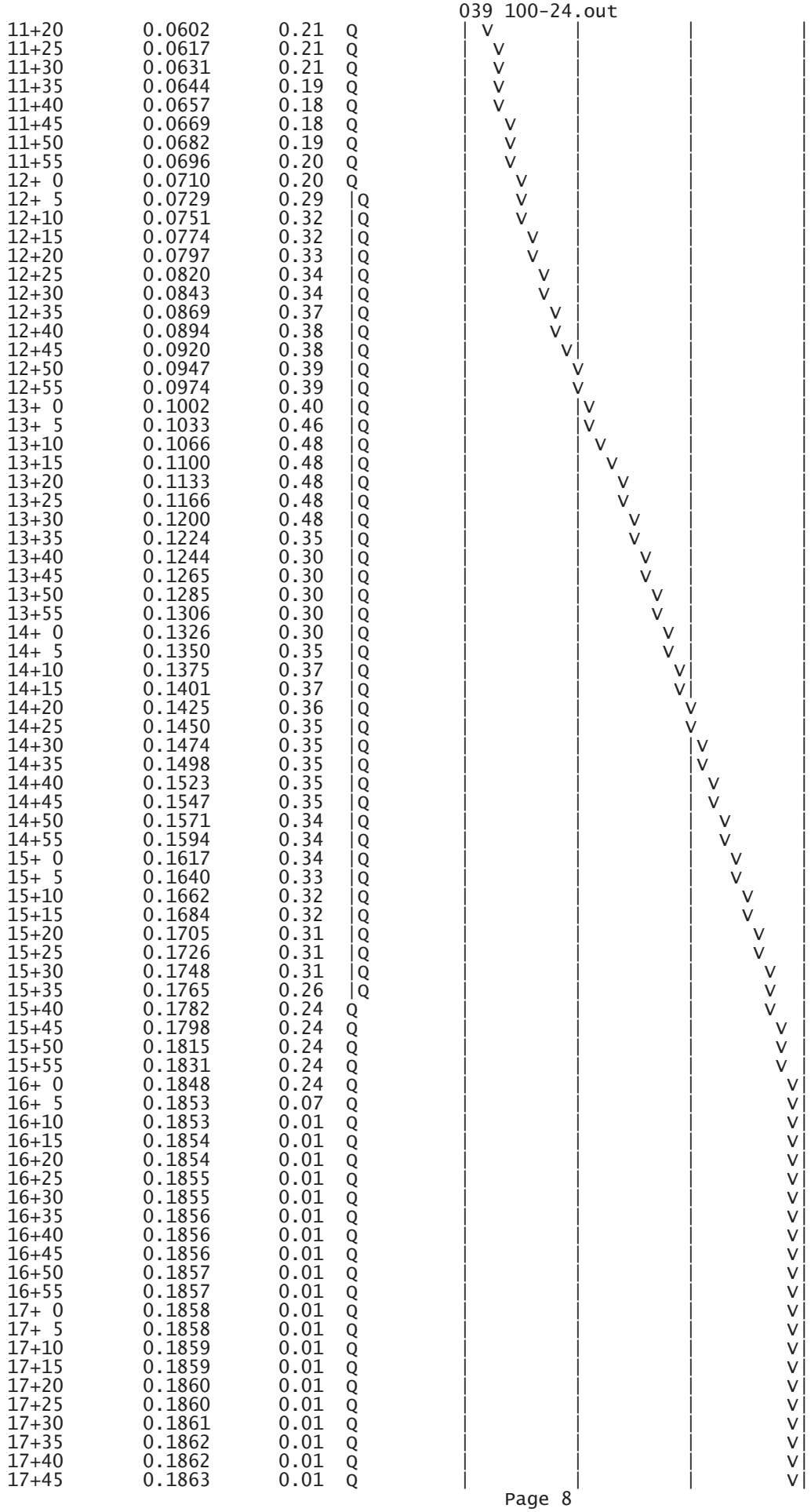
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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0000 | 0.00 | Q | | | | |
| 0+10 | 0.0000 | 0.00 | Q | | | | |
| 0+15 | 0.0001 | 0.00 | Q | | | | |
| 0+20 | 0.0001 | 0.00 | Q | | | | |
| 0+25 | 0.0001 | 0.01 | Q | | | | |
| 0+30 | 0.0002 | 0.01 | Q | | | | |
| 0+35 | 0.0002 | 0.01 | Q | | | | |
| 0+40 | 0.0002 | 0.01 | Q | | | | |
| 0+45 | 0.0003 | 0.01 | Q | | | | |
| 0+50 | 0.0003 | 0.01 | Q | | | | |
| 0+55 | 0.0004 | 0.01 | Q | | | | |
| 1+ 0 | 0.0004 | 0.01 | Q | | | | |
| 1+ 5 | 0.0005 | 0.01 | Q | | | | |
| 1+10 | 0.0005 | 0.01 | Q | | | | |
| 1+15 | 0.0005 | 0.01 | Q | | | | |
| 1+20 | 0.0006 | 0.01 | Q | | | | |
| 1+25 | 0.0006 | 0.01 | Q | | | | |
| 1+30 | 0.0006 | 0.01 | Q | | | | |
| 1+35 | 0.0007 | 0.01 | Q | | | | |
| 1+40 | 0.0007 | 0.01 | Q | | | | |
| 1+45 | 0.0007 | 0.01 | Q | | | | |
| 1+50 | 0.0008 | 0.01 | Q | | | | |
| 1+55 | 0.0008 | 0.01 | Q | | | | |
| 2+ 0 | 0.0009 | 0.01 | Q | | | | |
| 2+ 5 | 0.0009 | 0.01 | Q | | | | |
| 2+10 | 0.0010 | 0.01 | Q | | | | |
| 2+15 | 0.0010 | 0.01 | Q | | | | |
| 2+20 | 0.0011 | 0.01 | Q | | | | |
| 2+25 | 0.0011 | 0.01 | Q | | | | |
| 2+30 | 0.0012 | 0.01 | Q | | | | |
| 2+35 | 0.0012 | 0.01 | Q | | | | |
| 2+40 | 0.0013 | 0.01 | Q | | | | |
| 2+45 | 0.0013 | 0.01 | Q | | | | |
| 2+50 | 0.0014 | 0.01 | Q | | | | |
| 2+55 | 0.0015 | 0.01 | Q | | | | |
| 3+ 0 | 0.0015 | 0.01 | Q | | | | |
| 3+ 5 | 0.0016 | 0.01 | Q | | | | |
| 3+10 | 0.0016 | 0.01 | Q | | | | |
| 3+15 | 0.0017 | 0.01 | Q | | | | |
| 3+20 | 0.0018 | 0.01 | Q | | | | |
| 3+25 | 0.0018 | 0.01 | Q | | | | |
| 3+30 | 0.0019 | 0.01 | Q | | | | |
| 3+35 | 0.0019 | 0.01 | Q | | | | |
| 3+40 | 0.0020 | 0.01 | Q | | | | |
| 3+45 | 0.0021 | 0.01 | Q | | | | |
| 3+50 | 0.0021 | 0.01 | Q | | | | |
| 3+55 | 0.0022 | 0.01 | Q | | | | |
| 4+ 0 | 0.0023 | 0.01 | Q | | | | |
| 4+ 5 | 0.0023 | 0.01 | Q | | | | |
| 4+10 | 0.0024 | 0.01 | Q | | | | |
| 4+15 | 0.0025 | 0.01 | Q | | | | |
| 4+20 | 0.0026 | 0.01 | Q | | | | |
| 4+25 | 0.0026 | 0.01 | Q | | | | |
| 4+30 | 0.0027 | 0.01 | Q | | | | |
| 4+35 | 0.0028 | 0.01 | Q | | | | |
| 4+40 | 0.0029 | 0.01 | Q | | | | |
| 4+45 | 0.0030 | 0.01 | Q | | | | |

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 4+50       0.0031      0.01  Q          |          |          |          |
 4+55       0.0032      0.01  Q          |          |          |          |
 5+ 0       0.0033      0.01  Q          |          |          |          |
 5+ 5       0.0033      0.01  Q          |          |          |          |
 5+10       0.0034      0.01  Q          |          |          |          |
 5+15       0.0035      0.01  Q          |          |          |          |
 5+20       0.0036      0.01  Q          |          |          |          |
 5+25       0.0036      0.01  Q          |          |          |          |
 5+30       0.0037      0.01  Q          |          |          |          |
 5+35       0.0038      0.01  Q          |          |          |          |
 5+40       0.0039      0.01  Q          |          |          |          |
 5+45       0.0040      0.01  Q          |          |          |          |
 5+50       0.0041      0.01  Q          |          |          |          |
 5+55       0.0042      0.01  Q          |          |          |          |
 6+ 0       0.0043      0.01  Q          |          |          |          |
 6+ 5       0.0044      0.02  Q          |          |          |          |
 6+10       0.0045      0.02  Q          |          |          |          |
 6+15       0.0046      0.02  Q          |          |          |          |
 6+20       0.0047      0.02  Q          |          |          |          |
 6+25       0.0048      0.02  QV         |          |          |          |
 6+30       0.0049      0.02  QV         |          |          |          |
 6+35       0.0051      0.02  QV         |          |          |          |
 6+40       0.0052      0.02  QV         |          |          |          |
 6+45       0.0053      0.02  QV         |          |          |          |
 6+50       0.0055      0.02  QV         |          |          |          |
 6+55       0.0056      0.02  QV         |          |          |          |
 7+ 0       0.0058      0.02  QV         |          |          |          |
 7+ 5       0.0060      0.02  QV         |          |          |          |
 7+10       0.0061      0.02  QV         |          |          |          |
 7+15       0.0063      0.03  QV         |          |          |          |
 7+20       0.0066      0.04  QV         |          |          |          |
 7+25       0.0069      0.04  QV         |          |          |          |
 7+30       0.0072      0.04  QV         |          |          |          |
 7+35       0.0076      0.06  QV         |          |          |          |
 7+40       0.0080      0.06  QV         |          |          |          |
 7+45       0.0084      0.06  QV         |          |          |          |
 7+50       0.0090      0.08  QV         |          |          |          |
 7+55       0.0095      0.08  Q V        |          |          |          |
 8+ 0       0.0101      0.08  Q V        |          |          |          |
 8+ 5       0.0109      0.11  Q V        |          |          |          |
 8+10       0.0117      0.12  Q V        |          |          |          |
 8+15       0.0125      0.12  Q V        |          |          |          |
 8+20       0.0133      0.12  Q V        |          |          |          |
 8+25       0.0141      0.12  Q V        |          |          |          |
 8+30       0.0150      0.12  Q  V       |          |          |          |
 8+35       0.0159      0.13  Q  V       |          |          |          |
 8+40       0.0169      0.14  Q  V       |          |          |          |
 8+45       0.0178      0.14  Q  V       |          |          |          |
 8+50       0.0189      0.15  Q   V      |          |          |          |
 8+55       0.0200      0.16  Q   V      |          |          |          |
 9+ 0       0.0211      0.16  Q   V      |          |          |          |
 9+ 5       0.0224      0.18  Q   V      |          |          |          |
 9+10       0.0237      0.20  Q    V     |          |          |          |
 9+15       0.0251      0.20  Q    V     |          |          |          |
 9+20       0.0265      0.21  Q    V     |          |          |          |
 9+25       0.0280      0.21  Q    V     |          |          |          |
 9+30       0.0295      0.22  Q     V    |          |          |          |
 9+35       0.0310      0.23  Q     V    |          |          |          |
 9+40       0.0327      0.23  Q     V    |          |          |          |
 9+45       0.0343      0.23  Q      V   |          |          |          |
 9+50       0.0360      0.25  Q      V   |          |          |          |
 9+55       0.0377      0.25  |Q     V   |          |          |          |
10+ 0       0.0395      0.25  |Q      V  |          |          |          |
10+ 5       0.0406      0.17  Q       V  |          |          |          |
10+10       0.0415      0.13  Q       V  |          |          |          |
10+15       0.0425      0.13  Q        V|          |          |          |
10+20       0.0434      0.14  Q        V|          |          |          |
10+25       0.0443      0.14  Q        V|          |          |          |
10+30       0.0453      0.14  Q        V|          |          |          |
10+35       0.0466      0.20  Q        V|          |          |          |
10+40       0.0482      0.22  Q         V          |          |          |
10+45       0.0497      0.22  Q         V          |          |          |
10+50       0.0513      0.23  Q         V          |          |          |
10+55       0.0528      0.23  Q         |V         |          |          |
11+ 0       0.0544      0.23  Q         |V         |          |          |
11+ 5       0.0559      0.21  Q         |V         |          |          |
11+10       0.0573      0.21  Q         | V        |          |          |
11+15       0.0588      0.21  Q         | V        |          |          |
```



| | | | | |
|---|---|---|---|---|
| 11+20 | 0.0602 | 0.21 | Q | |
| 11+25 | 0.0617 | 0.21 | Q | |
| 11+30 | 0.0631 | 0.21 | Q | |
| 11+35 | 0.0644 | 0.19 | Q | |
| 11+40 | 0.0657 | 0.18 | Q | |
| 11+45 | 0.0669 | 0.18 | Q | |
| 11+50 | 0.0682 | 0.19 | Q | |
| 11+55 | 0.0696 | 0.20 | Q | |
| 12+ 0 | 0.0710 | 0.20 | Q | |
| 12+ 5 | 0.0729 | 0.29 | \|Q | |
| 12+10 | 0.0751 | 0.32 | \|Q | |
| 12+15 | 0.0774 | 0.32 | \|Q | |
| 12+20 | 0.0797 | 0.33 | \|Q | |
| 12+25 | 0.0820 | 0.34 | \|Q | |
| 12+30 | 0.0843 | 0.34 | \|Q | |
| 12+35 | 0.0869 | 0.37 | \|Q | |
| 12+40 | 0.0894 | 0.38 | \|Q | |
| 12+45 | 0.0920 | 0.38 | \|Q | |
| 12+50 | 0.0947 | 0.39 | \|Q | |
| 12+55 | 0.0974 | 0.39 | \|Q | |
| 13+ 0 | 0.1002 | 0.40 | \|Q | |
| 13+ 5 | 0.1033 | 0.46 | \|Q | |
| 13+10 | 0.1066 | 0.48 | \|Q | |
| 13+15 | 0.1100 | 0.48 | \|Q | |
| 13+20 | 0.1133 | 0.48 | \|Q | |
| 13+25 | 0.1166 | 0.48 | \|Q | |
| 13+30 | 0.1200 | 0.48 | \|Q | |
| 13+35 | 0.1224 | 0.35 | \|Q | |
| 13+40 | 0.1244 | 0.30 | \|Q | |
| 13+45 | 0.1265 | 0.30 | \|Q | |
| 13+50 | 0.1285 | 0.30 | \|Q | |
| 13+55 | 0.1306 | 0.30 | \|Q | |
| 14+ 0 | 0.1326 | 0.30 | \|Q | |
| 14+ 5 | 0.1350 | 0.35 | \|Q | |
| 14+10 | 0.1375 | 0.37 | \|Q | |
| 14+15 | 0.1401 | 0.37 | \|Q | |
| 14+20 | 0.1425 | 0.36 | \|Q | |
| 14+25 | 0.1450 | 0.35 | \|Q | |
| 14+30 | 0.1474 | 0.35 | \|Q | |
| 14+35 | 0.1498 | 0.35 | \|Q | |
| 14+40 | 0.1523 | 0.35 | \|Q | |
| 14+45 | 0.1547 | 0.35 | \|Q | |
| 14+50 | 0.1571 | 0.34 | \|Q | |
| 14+55 | 0.1594 | 0.34 | \|Q | |
| 15+ 0 | 0.1617 | 0.34 | \|Q | |
| 15+ 5 | 0.1640 | 0.33 | \|Q | |
| 15+10 | 0.1662 | 0.32 | \|Q | |
| 15+15 | 0.1684 | 0.32 | \|Q | |
| 15+20 | 0.1705 | 0.31 | \|Q | |
| 15+25 | 0.1726 | 0.31 | \|Q | |
| 15+30 | 0.1748 | 0.31 | \|Q | |
| 15+35 | 0.1765 | 0.26 | \|Q | |
| 15+40 | 0.1782 | 0.24 | Q | |
| 15+45 | 0.1798 | 0.24 | Q | |
| 15+50 | 0.1815 | 0.24 | Q | |
| 15+55 | 0.1831 | 0.24 | Q | |
| 16+ 0 | 0.1848 | 0.24 | Q | |
| 16+ 5 | 0.1853 | 0.07 | Q | |
| 16+10 | 0.1853 | 0.01 | Q | |
| 16+15 | 0.1854 | 0.01 | Q | |
| 16+20 | 0.1854 | 0.01 | Q | |
| 16+25 | 0.1855 | 0.01 | Q | |
| 16+30 | 0.1855 | 0.01 | Q | |
| 16+35 | 0.1856 | 0.01 | Q | |
| 16+40 | 0.1856 | 0.01 | Q | |
| 16+45 | 0.1856 | 0.01 | Q | |
| 16+50 | 0.1857 | 0.01 | Q | |
| 16+55 | 0.1857 | 0.01 | Q | |
| 17+ 0 | 0.1858 | 0.01 | Q | |
| 17+ 5 | 0.1858 | 0.01 | Q | |
| 17+10 | 0.1859 | 0.01 | Q | |
| 17+15 | 0.1859 | 0.01 | Q | |
| 17+20 | 0.1860 | 0.01 | Q | |
| 17+25 | 0.1860 | 0.01 | Q | |
| 17+30 | 0.1861 | 0.01 | Q | |
| 17+35 | 0.1862 | 0.01 | Q | |
| 17+40 | 0.1862 | 0.01 | Q | |
| 17+45 | 0.1863 | 0.01 | Q | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+50 | 0.1863 | 0.01 | Q | \| | \| | \| | V\| |
| 17+55 | 0.1864 | 0.01 | Q | \| | \| | \| | V\| |
| 18+ 0 | 0.1864 | 0.01 | Q | \| | \| | \| | V\| |
| 18+ 5 | 0.1865 | 0.01 | Q | \| | \| | \| | V\| |
| 18+10 | 0.1865 | 0.01 | Q | \| | \| | \| | V\| |
| 18+15 | 0.1866 | 0.01 | Q | \| | \| | \| | V\| |
| 18+20 | 0.1866 | 0.01 | Q | \| | \| | \| | V\| |
| 18+25 | 0.1867 | 0.01 | Q | \| | \| | \| | V\| |
| 18+30 | 0.1867 | 0.01 | Q | \| | \| | \| | V\| |
| 18+35 | 0.1868 | 0.01 | Q | \| | \| | \| | V\| |
| 18+40 | 0.1868 | 0.01 | Q | \| | \| | \| | V\| |
| 18+45 | 0.1868 | 0.01 | Q | \| | \| | \| | V\| |
| 18+50 | 0.1869 | 0.00 | Q | \| | \| | \| | V\| |
| 18+55 | 0.1869 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 0 | 0.1869 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 5 | 0.1869 | 0.00 | Q | \| | \| | \| | V\| |
| 19+10 | 0.1870 | 0.01 | Q | \| | \| | \| | V\| |
| 19+15 | 0.1870 | 0.01 | Q | \| | \| | \| | V\| |
| 19+20 | 0.1870 | 0.01 | Q | \| | \| | \| | V\| |
| 19+25 | 0.1871 | 0.01 | Q | \| | \| | \| | V\| |
| 19+30 | 0.1871 | 0.01 | Q | \| | \| | \| | V\| |
| 19+35 | 0.1872 | 0.01 | Q | \| | \| | \| | V\| |
| 19+40 | 0.1872 | 0.01 | Q | \| | \| | \| | V\| |
| 19+45 | 0.1873 | 0.01 | Q | \| | \| | \| | V\| |
| 19+50 | 0.1873 | 0.00 | Q | \| | \| | \| | V\| |
| 19+55 | 0.1873 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 0 | 0.1873 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 5 | 0.1874 | 0.00 | Q | \| | \| | \| | V\| |
| 20+10 | 0.1874 | 0.01 | Q | \| | \| | \| | V\| |
| 20+15 | 0.1874 | 0.01 | Q | \| | \| | \| | V\| |
| 20+20 | 0.1875 | 0.01 | Q | \| | \| | \| | V\| |
| 20+25 | 0.1875 | 0.01 | Q | \| | \| | \| | V\| |
| 20+30 | 0.1875 | 0.01 | Q | \| | \| | \| | V\| |
| 20+35 | 0.1876 | 0.01 | Q | \| | \| | \| | V\| |
| 20+40 | 0.1876 | 0.01 | Q | \| | \| | \| | V\| |
| 20+45 | 0.1876 | 0.01 | Q | \| | \| | \| | V\| |
| 20+50 | 0.1877 | 0.00 | Q | \| | \| | \| | V\| |
| 20+55 | 0.1877 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 0 | 0.1877 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 5 | 0.1878 | 0.00 | Q | \| | \| | \| | V\| |
| 21+10 | 0.1878 | 0.01 | Q | \| | \| | \| | V\| |
| 21+15 | 0.1878 | 0.01 | Q | \| | \| | \| | V\| |
| 21+20 | 0.1878 | 0.00 | Q | \| | \| | \| | V\| |
| 21+25 | 0.1879 | 0.00 | Q | \| | \| | \| | V\| |
| 21+30 | 0.1879 | 0.00 | Q | \| | \| | \| | V\| |
| 21+35 | 0.1879 | 0.00 | Q | \| | \| | \| | V\| |
| 21+40 | 0.1880 | 0.01 | Q | \| | \| | \| | V\| |
| 21+45 | 0.1880 | 0.01 | Q | \| | \| | \| | V\| |
| 21+50 | 0.1880 | 0.00 | Q | \| | \| | \| | V\| |
| 21+55 | 0.1881 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 0 | 0.1881 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 5 | 0.1881 | 0.00 | Q | \| | \| | \| | V\| |
| 22+10 | 0.1881 | 0.01 | Q | \| | \| | \| | V\| |
| 22+15 | 0.1882 | 0.01 | Q | \| | \| | \| | V\| |
| 22+20 | 0.1882 | 0.00 | Q | \| | \| | \| | V\| |
| 22+25 | 0.1882 | 0.00 | Q | \| | \| | \| | V\| |
| 22+30 | 0.1883 | 0.00 | Q | \| | \| | \| | V\| |
| 22+35 | 0.1883 | 0.00 | Q | \| | \| | \| | V\| |
| 22+40 | 0.1883 | 0.00 | Q | \| | \| | \| | V\| |
| 22+45 | 0.1883 | 0.00 | Q | \| | \| | \| | V\| |
| 22+50 | 0.1883 | 0.00 | Q | \| | \| | \| | V\| |
| 22+55 | 0.1884 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 0 | 0.1884 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 5 | 0.1884 | 0.00 | Q | \| | \| | \| | V\| |
| 23+10 | 0.1884 | 0.00 | Q | \| | \| | \| | V\| |
| 23+15 | 0.1885 | 0.00 | Q | \| | \| | \| | V\| |
| 23+20 | 0.1885 | 0.00 | Q | \| | \| | \| | V\| |
| 23+25 | 0.1885 | 0.00 | Q | \| | \| | \| | V\| |
| 23+30 | 0.1885 | 0.00 | Q | \| | \| | \| | V\| |
| 23+35 | 0.1886 | 0.00 | Q | \| | \| | \| | V\| |
| 23+40 | 0.1886 | 0.00 | Q | \| | \| | \| | V\| |
| 23+45 | 0.1886 | 0.00 | Q | \| | \| | \| | V\| |
| 23+50 | 0.1886 | 0.00 | Q | \| | \| | \| | V\| |
| 23+55 | 0.1887 | 0.00 | Q | \| | \| | \| | V\| |
| 24+ 0 | 0.1887 | 0.00 | Q | \| | \| | \| | V\| |
| 24+ 5 | 0.1887 | 0.00 | Q | \| | \| | \| | V\| |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX401100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 40
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 2.70(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.70(Ac.) = 0.004 Sq. Mi.
Length along longest watercourse = 548.00(Ft.)
Length along longest watercourse measured to centroid = 204.00(Ft.)
Length along longest watercourse = 0.104 Mi.
Length along longest watercourse measured to centroid = 0.039 Mi.
Difference in elevation = 166.00(Ft.)
Slope along watercourse = 1599.4161 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.025 Hr.
Lag time = 1.52 Min.
25% of lag time = 0.38 Min.
40% of lag time = 0.61 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.70 | 0.50 | 1.35 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.70 | 1.20 | 3.24 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2.700 | 80.98 | 0.000 |

Total Area Entered = 2.70(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 81.0 | 91.6 | 0.109 | 0.000 | 0.109 | 1.000 | 0.109 |
| | | | | | Sum (F) = | 0.109 |

Area averaged mean soil loss (F) (In/Hr) = 0.109

Minimum soil loss rate ((In/Hr)) = 0.055
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

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| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 328.169 | 60.851 | 1.656 |
| 2 | 0.167 | 656.338 | 37.720 | 1.026 |
| 3 | 0.250 | 984.508 | 1.428 | 0.039 |
| | | Sum = 100.000 | Sum= | 2.721 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.109 | ( 0.544) | 0.495 |
| 2 | 0.17 | 4.30 | 0.619 | 0.109 | ( 0.557) | 0.510 |
| 3 | 0.25 | 5.00 | 0.720 | 0.109 | ( 0.648) | 0.611 |
| 4 | 0.33 | 5.00 | 0.720 | 0.109 | ( 0.648) | 0.611 |
| 5 | 0.42 | 5.80 | 0.835 | 0.109 | ( 0.752) | 0.726 |
| 6 | 0.50 | 6.50 | 0.936 | 0.109 | ( 0.842) | 0.827 |
| 7 | 0.58 | 7.40 | 1.066 | 0.109 | ( 0.959) | 0.956 |
| 8 | 0.67 | 8.60 | 1.238 | 0.109 | ( 1.115) | 1.129 |
| 9 | 0.75 | 12.30 | 1.771 | 0.109 | ( 1.594) | 1.662 |
| 10 | 0.83 | 29.10 | 4.190 | 0.109 | ( 3.771) | 4.081 |
| 11 | 0.92 | 6.80 | 0.979 | 0.109 | ( 0.881) | 0.870 |
| 12 | 1.00 | 5.00 | 0.720 | 0.109 | ( 0.648) | 0.611 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 13.1 |

Flood volume = Effective rainfall 1.09(In)
times area 2.7(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 0.11(In)
Total soil loss = 0.025(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 10689.1 Cubic Feet
Total soil loss = 1071.8 Cubic Feet

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Peak flow rate of this hydrograph = 8.511(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0057 | 0.82 | V Q | | | | |
| 0+10 | 0.0150 | 1.35 | V Q | | | | |
| 0+15 | 0.0257 | 1.55 | V Q | | | | |
| 0+20 | 0.0371 | 1.66 | Q | | | | |
| 0+25 | 0.0499 | 1.85 | QV | | | | |
| 0+30 | 0.0646 | 2.14 | Q V | | | | |
| 0+35 | 0.0815 | 2.46 | Q V | | | | |
| 0+40 | 0.1014 | 2.88 | Q V | | | | |
| 0+45 | 0.1286 | 3.95 | Q V | | | | |
| 0+50 | 0.1872 | 8.51 | V Q | | | | |
| 0+55 | 0.2265 | 5.70 | Q V | | | | |
| 1+ 0 | 0.2407 | 2.06 | Q V | | | | |
| 1+ 5 | 0.2452 | 0.66 | Q V | | | | |
| 1+10 | 0.2454 | 0.02 | Q V | | | | |

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U n i t  H y d r o g r a p h  A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 40
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 2.70(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.70(Ac.) = 0.004 Sq. Mi.
Length along longest watercourse = 548.00(Ft.)
Length along longest watercourse measured to centroid = 204.00(Ft.)
Length along longest watercourse = 0.104 Mi.
Length along longest watercourse measured to centroid = 0.039 Mi.
Difference in elevation = 166.00(Ft.)
Slope along watercourse = 1599.4161 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.025 Hr.
Lag time = 1.52 Min.
25% of lag time = 0.38 Min.
40% of lag time = 0.61 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.70 | 0.81 | 2.19 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.70 | 1.82 | 4.91 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.810(In)
Area Averaged 100-Year Rainfall = 1.820(In)

Point rain (area averaged) = 1.820(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.820(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2.700 | 80.98 | 0.000 |

Total Area Entered = 2.70(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 81.0 | 91.6 | 0.109 | 0.000 | 0.109 | 1.000 | 0.109 |
| | | | | | Sum (F) = | 0.109 |

Area averaged mean soil loss (F) (In/Hr) = 0.109

Minimum soil loss rate ((In/Hr)) = 0.055
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 328.169 | 60.851 | 1.656 |
| 2 0.167 | 656.338 | 37.720 | 1.026 |
| 3 0.250 | 984.508 | 1.428 | 0.039 |
| | | Sum = 100.000 Sum= | 2.721 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.284 | 0.109 | ( 0.256) | 0.175 |
| 2 | 0.17 | 1.30 | 0.284 | 0.109 | ( 0.256) | 0.175 |
| 3 | 0.25 | 1.10 | 0.240 | 0.109 | ( 0.216) | 0.131 |
| 4 | 0.33 | 1.50 | 0.328 | 0.109 | ( 0.295) | 0.218 |
| 5 | 0.42 | 1.50 | 0.328 | 0.109 | ( 0.295) | 0.218 |
| 6 | 0.50 | 1.80 | 0.393 | 0.109 | ( 0.354) | 0.284 |
| 7 | 0.58 | 1.50 | 0.328 | 0.109 | ( 0.295) | 0.218 |
| 8 | 0.67 | 1.80 | 0.393 | 0.109 | ( 0.354) | 0.284 |
| 9 | 0.75 | 1.80 | 0.393 | 0.109 | ( 0.354) | 0.284 |
| 10 | 0.83 | 1.50 | 0.328 | 0.109 | ( 0.295) | 0.218 |
| 11 | 0.92 | 1.60 | 0.349 | 0.109 | ( 0.314) | 0.240 |
| 12 | 1.00 | 1.80 | 0.393 | 0.109 | ( 0.354) | 0.284 |
| 13 | 1.08 | 2.20 | 0.480 | 0.109 | ( 0.432) | 0.371 |
| 14 | 1.17 | 2.20 | 0.480 | 0.109 | ( 0.432) | 0.371 |
| 15 | 1.25 | 2.20 | 0.480 | 0.109 | ( 0.432) | 0.371 |
| 16 | 1.33 | 2.00 | 0.437 | 0.109 | ( 0.393) | 0.327 |
| 17 | 1.42 | 2.60 | 0.568 | 0.109 | ( 0.511) | 0.458 |
| 18 | 1.50 | 2.70 | 0.590 | 0.109 | ( 0.531) | 0.480 |
| 19 | 1.58 | 2.40 | 0.524 | 0.109 | ( 0.472) | 0.415 |
| 20 | 1.67 | 2.70 | 0.590 | 0.109 | ( 0.531) | 0.480 |
| 21 | 1.75 | 3.30 | 0.721 | 0.109 | ( 0.649) | 0.611 |
| 22 | 1.83 | 3.10 | 0.677 | 0.109 | ( 0.609) | 0.568 |
| 23 | 1.92 | 2.90 | 0.633 | 0.109 | ( 0.570) | 0.524 |
| 24 | 2.00 | 3.00 | 0.655 | 0.109 | ( 0.590) | 0.546 |
| 25 | 2.08 | 3.10 | 0.677 | 0.109 | ( 0.609) | 0.568 |
| 26 | 2.17 | 4.20 | 0.917 | 0.109 | ( 0.826) | 0.808 |
| 27 | 2.25 | 5.00 | 1.092 | 0.109 | ( 0.983) | 0.983 |
| 28 | 2.33 | 3.50 | 0.764 | 0.109 | ( 0.688) | 0.655 |
| 29 | 2.42 | 6.80 | 1.485 | 0.109 | ( 1.337) | 1.376 |
| 30 | 2.50 | 7.30 | 1.594 | 0.109 | ( 1.435) | 1.485 |
| 31 | 2.58 | 8.20 | 1.791 | 0.109 | ( 1.612) | 1.682 |
| 32 | 2.67 | 5.90 | 1.289 | 0.109 | ( 1.160) | 1.179 |
| 33 | 2.75 | 2.00 | 0.437 | 0.109 | ( 0.393) | 0.327 |
| 34 | 2.83 | 1.80 | 0.393 | 0.109 | ( 0.354) | 0.284 |
| 35 | 2.92 | 1.80 | 0.393 | 0.109 | ( 0.354) | 0.284 |
| 36 | 3.00 | 0.60 | 0.131 | 0.109 | ( 0.118) | 0.022 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 17.9 |

Flood volume = Effective rainfall 1.49(In)
times area 2.7(Ac.)/[(In)/(Ft.)] = 0.3(Ac.Ft)
Total soil loss = 0.33(In)
Total soil loss = 0.074(Ac.Ft)
Total rainfall = 1.82(In)
Flood volume = 14622.2 Cubic Feet
Total soil loss = 3215.4 Cubic Feet

Peak flow rate of this hydrograph = 4.364(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0020 | 0.29 | VQ | | | | |
| 0+10 | 0.0052 | 0.47 | VQ | | | | |
| 0+15 | 0.0080 | 0.40 | VQ | | | | |
| 0+20 | 0.0115 | 0.50 | VQ | | | | |
| 0+25 | 0.0155 | 0.59 | VQ | | | | |
| 0+30 | 0.0204 | 0.70 | Q | | | | |
| 0+35 | 0.0249 | 0.66 | Q | | | | |
| 0+40 | 0.0298 | 0.71 | QV | | | | |
| 0+45 | 0.0351 | 0.77 | QV | | | | |
| 0+50 | 0.0397 | 0.66 | Q V | | | | |
| 0+55 | 0.0440 | 0.63 | Q V | | | | |
| 1+ 0 | 0.0490 | 0.73 | Q V | | | | |
| 1+ 5 | 0.0553 | 0.92 | Q V | | | | |
| 1+10 | 0.0622 | 1.01 | Q V | | | | |
| 1+15 | 0.0692 | 1.01 | Q V | | | | |
| 1+20 | 0.0757 | 0.94 | Q V | | | | |
| 1+25 | 0.0833 | 1.11 | Q V | | | | |
| 1+30 | 0.0921 | 1.28 | Q V | | | | |
| 1+35 | 0.1004 | 1.20 | Q V | | | | |
| 1+40 | 0.1089 | 1.24 | Q V | | | | |
| 1+45 | 0.1194 | 1.52 | Q V | | | | |
| 1+50 | 0.1303 | 1.59 | Q V | | | | |
| 1+55 | 0.1405 | 1.47 | Q V | | | | |
| 2+ 0 | 0.1506 | 1.46 | Q V | | | | |
| 2+ 5 | 0.1610 | 1.52 | Q V | | | | |
| 2+10 | 0.1744 | 1.94 | Q V | | | | |
| 2+15 | 0.1915 | 2.48 | Q V | | | | |
| 2+20 | 0.2061 | 2.13 | Q V | | | | |
| 2+25 | 0.2267 | 2.99 | Q V | | | | |
| 2+30 | 0.2536 | 3.90 | Q V | | | | |
| 2+35 | 0.2836 | 4.36 | Q V | | | | |
| 2+40 | 0.3094 | 3.74 | Q V | | | | |
| 2+45 | 0.3219 | 1.82 | Q V | | | | |
| 2+50 | 0.3278 | 0.85 | Q V | | | | |
| 2+55 | 0.3331 | 0.77 | Q V | | | | |
| 3+ 0 | 0.3354 | 0.34 | Q V | | | | |
| 3+ 5 | 0.3357 | 0.03 | Q V | | | | |
| 3+10 | 0.3357 | 0.00 | Q V | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX406100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 40
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 2.70(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.70(Ac.) = 0.004 Sq. Mi.
Length along longest watercourse = 548.00(Ft.)
Length along longest watercourse measured to centroid = 204.00(Ft.)
Length along longest watercourse = 0.104 Mi.
Length along longest watercourse measured to centroid = 0.039 Mi.
Difference in elevation = 166.00(Ft.)
Slope along watercourse = 1599.4161 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.025 Hr.
Lag time = 1.52 Min.
25% of lag time = 0.38 Min.
40% of lag time = 0.61 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.70 | 1.16 | 3.13 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.70 | 2.50 | 6.75 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.160(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2.700 | 80.98 | 0.000 |

Total Area Entered = 2.70(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 81.0 | 91.6 | 0.109 | 0.000 | 0.109 | 1.000 | 0.109 |
| | | | | | Sum (F) = | 0.109 |

Area averaged mean soil loss (F) (In/Hr) = 0.109

Minimum soil loss rate ((In/Hr)) = 0.055
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 328.169 | 60.851 | 1.656 |
| 2 0.167 | 656.338 | 37.720 | 1.026 |
| 3 0.250 | 984.508 | 1.428 | 0.039 |
| | | Sum = 100.000 Sum= | 2.721 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.109 | ( 0.135) | 0.041 |
| 2 | 0.17 | 0.60 | 0.180 | 0.109 | ( 0.162) | 0.071 |
| 3 | 0.25 | 0.60 | 0.180 | 0.109 | ( 0.162) | 0.071 |
| 4 | 0.33 | 0.60 | 0.180 | 0.109 | ( 0.162) | 0.071 |
| 5 | 0.42 | 0.60 | 0.180 | 0.109 | ( 0.162) | 0.071 |
| 6 | 0.50 | 0.70 | 0.210 | 0.109 | ( 0.189) | 0.101 |
| 7 | 0.58 | 0.70 | 0.210 | 0.109 | ( 0.189) | 0.101 |
| 8 | 0.67 | 0.70 | 0.210 | 0.109 | ( 0.189) | 0.101 |
| 9 | 0.75 | 0.70 | 0.210 | 0.109 | ( 0.189) | 0.101 |
| 10 | 0.83 | 0.70 | 0.210 | 0.109 | ( 0.189) | 0.101 |
| 11 | 0.92 | 0.70 | 0.210 | 0.109 | ( 0.189) | 0.101 |
| 12 | 1.00 | 0.80 | 0.240 | 0.109 | ( 0.216) | 0.131 |
| 13 | 1.08 | 0.80 | 0.240 | 0.109 | ( 0.216) | 0.131 |
| 14 | 1.17 | 0.80 | 0.240 | 0.109 | ( 0.216) | 0.131 |
| 15 | 1.25 | 0.80 | 0.240 | 0.109 | ( 0.216) | 0.131 |
| 16 | 1.33 | 0.80 | 0.240 | 0.109 | ( 0.216) | 0.131 |
| 17 | 1.42 | 0.80 | 0.240 | 0.109 | ( 0.216) | 0.131 |
| 18 | 1.50 | 0.80 | 0.240 | 0.109 | ( 0.216) | 0.131 |
| 19 | 1.58 | 0.80 | 0.240 | 0.109 | ( 0.216) | 0.131 |
| 20 | 1.67 | 0.80 | 0.240 | 0.109 | ( 0.216) | 0.131 |
| 21 | 1.75 | 0.80 | 0.240 | 0.109 | ( 0.216) | 0.131 |
| 22 | 1.83 | 0.80 | 0.240 | 0.109 | ( 0.216) | 0.131 |
| 23 | 1.92 | 0.80 | 0.240 | 0.109 | ( 0.216) | 0.131 |
| 24 | 2.00 | 0.90 | 0.270 | 0.109 | ( 0.243) | 0.161 |
| 25 | 2.08 | 0.80 | 0.240 | 0.109 | ( 0.216) | 0.131 |
| 26 | 2.17 | 0.90 | 0.270 | 0.109 | ( 0.243) | 0.161 |
| 27 | 2.25 | 0.90 | 0.270 | 0.109 | ( 0.243) | 0.161 |
| 28 | 2.33 | 0.90 | 0.270 | 0.109 | ( 0.243) | 0.161 |
| 29 | 2.42 | 0.90 | 0.270 | 0.109 | ( 0.243) | 0.161 |
| 30 | 2.50 | 0.90 | 0.270 | 0.109 | ( 0.243) | 0.161 |
| 31 | 2.58 | 0.90 | 0.270 | 0.109 | ( 0.243) | 0.161 |
| 32 | 2.67 | 0.90 | 0.270 | 0.109 | ( 0.243) | 0.161 |
| 33 | 2.75 | 1.00 | 0.300 | 0.109 | ( 0.270) | 0.191 |
| 34 | 2.83 | 1.00 | 0.300 | 0.109 | ( 0.270) | 0.191 |
| 35 | 2.92 | 1.00 | 0.300 | 0.109 | ( 0.270) | 0.191 |
| 36 | 3.00 | 1.00 | 0.300 | 0.109 | ( 0.270) | 0.191 |
| 37 | 3.08 | 1.00 | 0.300 | 0.109 | ( 0.270) | 0.191 |
| 38 | 3.17 | 1.10 | 0.330 | 0.109 | ( 0.297) | 0.221 |
| 39 | 3.25 | 1.10 | 0.330 | 0.109 | ( 0.297) | 0.221 |
| 40 | 3.33 | 1.10 | 0.330 | 0.109 | ( 0.297) | 0.221 |
| 41 | 3.42 | 1.20 | 0.360 | 0.109 | ( 0.324) | 0.251 |
| 42 | 3.50 | 1.30 | 0.390 | 0.109 | ( 0.351) | 0.281 |
| 43 | 3.58 | 1.40 | 0.420 | 0.109 | ( 0.378) | 0.311 |
| 44 | 3.67 | 1.40 | 0.420 | 0.109 | ( 0.378) | 0.311 |
| 45 | 3.75 | 1.50 | 0.450 | 0.109 | ( 0.405) | 0.341 |
| 46 | 3.83 | 1.50 | 0.450 | 0.109 | ( 0.405) | 0.341 |
| 47 | 3.92 | 1.60 | 0.480 | 0.109 | ( 0.432) | 0.371 |
| 48 | 4.00 | 1.60 | 0.480 | 0.109 | ( 0.432) | 0.371 |
| 49 | 4.08 | 1.70 | 0.510 | 0.109 | ( 0.459) | 0.401 |
| 50 | 4.17 | 1.80 | 0.540 | 0.109 | ( 0.486) | 0.431 |
| 51 | 4.25 | 1.90 | 0.570 | 0.109 | ( 0.513) | 0.461 |
| 52 | 4.33 | 2.00 | 0.600 | 0.109 | ( 0.540) | 0.491 |
| 53 | 4.42 | 2.10 | 0.630 | 0.109 | ( 0.567) | 0.521 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 54 | 4.50 | 2.10 | 0.630 | 0.109 | ( 0.567) | | 0.521 |
| 55 | 4.58 | 2.20 | 0.660 | 0.109 | ( 0.594) | | 0.551 |
| 56 | 4.67 | 2.30 | 0.690 | 0.109 | ( 0.621) | | 0.581 |
| 57 | 4.75 | 2.40 | 0.720 | 0.109 | ( 0.648) | | 0.611 |
| 58 | 4.83 | 2.40 | 0.720 | 0.109 | ( 0.648) | | 0.611 |
| 59 | 4.92 | 2.50 | 0.750 | 0.109 | ( 0.675) | | 0.641 |
| 60 | 5.00 | 2.60 | 0.780 | 0.109 | ( 0.702) | | 0.671 |
| 61 | 5.08 | 3.10 | 0.930 | 0.109 | ( 0.837) | | 0.821 |
| 62 | 5.17 | 3.60 | 1.080 | 0.109 | ( 0.972) | | 0.971 |
| 63 | 5.25 | 3.90 | 1.170 | 0.109 | ( 1.053) | | 1.061 |
| 64 | 5.33 | 4.20 | 1.260 | 0.109 | ( 1.134) | | 1.151 |
| 65 | 5.42 | 4.70 | 1.410 | 0.109 | ( 1.269) | | 1.301 |
| 66 | 5.50 | 5.60 | 1.680 | 0.109 | ( 1.512) | | 1.571 |
| 67 | 5.58 | 1.90 | 0.570 | 0.109 | ( 0.513) | | 0.461 |
| 68 | 5.67 | 0.90 | 0.270 | 0.109 | ( 0.243) | | 0.161 |
| 69 | 5.75 | 0.60 | 0.180 | 0.109 | ( 0.162) | | 0.071 |
| 70 | 5.83 | 0.50 | 0.150 | 0.109 | ( 0.135) | | 0.041 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.109) | 0.081 | | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.109) | 0.054 | | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 22.2

Flood volume = Effective rainfall 1.85(In)
times area 2.7(Ac.)/[(In)/(Ft.)] = 0.4(Ac.Ft)
Total soil loss = 0.65(In)
Total soil loss = 0.146(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 18139.9 Cubic Feet
Total soil loss = 6362.4 Cubic Feet

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Peak flow rate of this hydrograph = 3.982(CFS)

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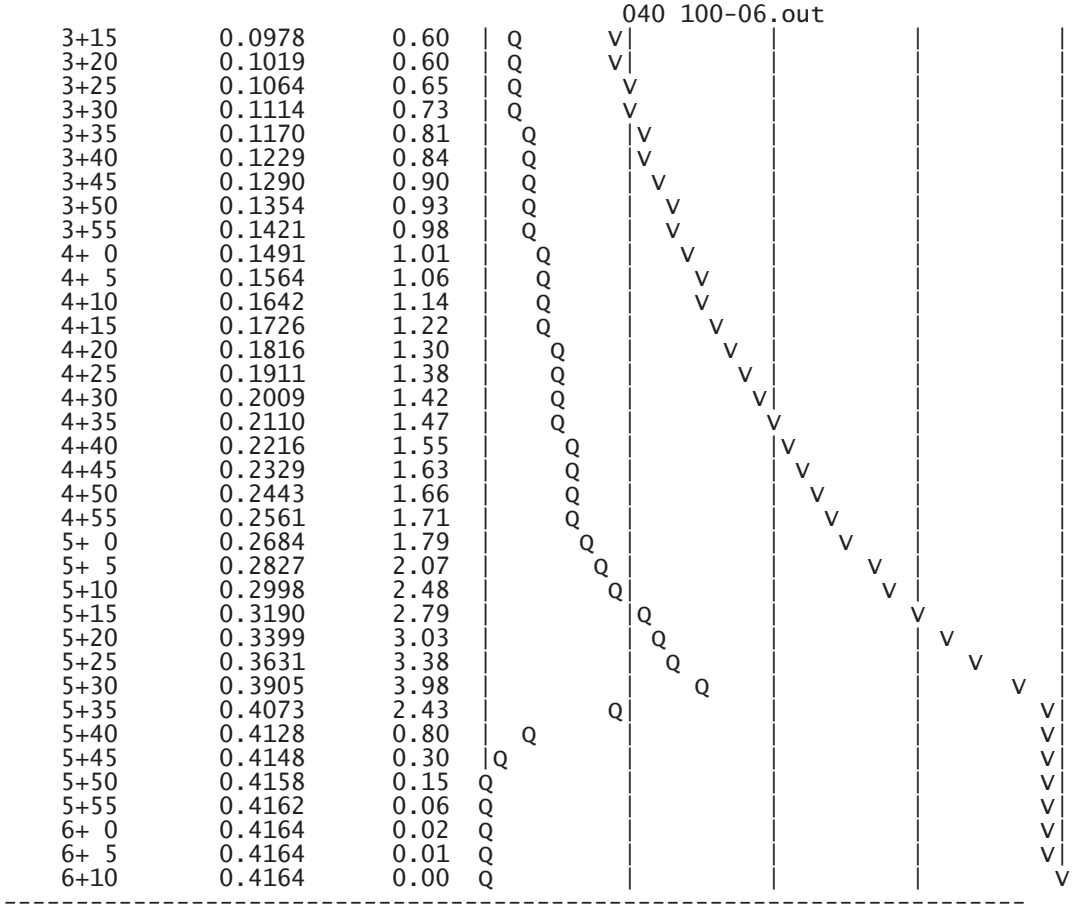
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0005 | 0.07 | Q | | | | |
| 0+10 | 0.0016 | 0.16 | Q | | | | |
| 0+15 | 0.0029 | 0.19 | Q | | | | |
| 0+20 | 0.0042 | 0.19 | Q | | | | |
| 0+25 | 0.0055 | 0.19 | Q | | | | |
| 0+30 | 0.0072 | 0.24 | Q | | | | |
| 0+35 | 0.0091 | 0.27 | VQ | | | | |
| 0+40 | 0.0110 | 0.27 | \|Q | | | | |
| 0+45 | 0.0128 | 0.27 | \|Q | | | | |
| 0+50 | 0.0147 | 0.27 | \|Q | | | | |
| 0+55 | 0.0166 | 0.27 | \|Q | | | | |
| 1+ 0 | 0.0188 | 0.32 | \|Q | | | | |
| 1+ 5 | 0.0213 | 0.35 | \|QV | | | | |
| 1+10 | 0.0237 | 0.36 | \|QV | | | | |
| 1+15 | 0.0262 | 0.36 | \|QV | | | | |
| 1+20 | 0.0286 | 0.36 | \|QV | | | | |
| 1+25 | 0.0311 | 0.36 | \|QV | | | | |
| 1+30 | 0.0335 | 0.36 | \|Q V | | | | |
| 1+35 | 0.0360 | 0.36 | \|Q V | | | | |
| 1+40 | 0.0384 | 0.36 | \|Q V | | | | |
| 1+45 | 0.0409 | 0.36 | \|Q V | | | | |
| 1+50 | 0.0433 | 0.36 | \|Q V | | | | |
| 1+55 | 0.0458 | 0.36 | \|Q V | | | | |
| 2+ 0 | 0.0486 | 0.41 | \|Q V | | | | |
| 2+ 5 | 0.0512 | 0.39 | \|Q V | | | | |
| 2+10 | 0.0540 | 0.41 | \|Q V | | | | |
| 2+15 | 0.0570 | 0.44 | \|Q V | | | | |
| 2+20 | 0.0601 | 0.44 | \|Q V | | | | |
| 2+25 | 0.0631 | 0.44 | \|Q V | | | | |
| 2+30 | 0.0661 | 0.44 | \|Q V | | | | |
| 2+35 | 0.0691 | 0.44 | \|Q V | | | | |
| 2+40 | 0.0721 | 0.44 | \|Q V | | | | |
| 2+45 | 0.0755 | 0.49 | \|Q V | | | | |
| 2+50 | 0.0790 | 0.52 | \| Q V | | | | |
| 2+55 | 0.0826 | 0.52 | \| Q V | | | | |
| 3+ 0 | 0.0862 | 0.52 | \| Q V | | | | |
| 3+ 5 | 0.0897 | 0.52 | \| Q V | | | | |
| 3+10 | 0.0937 | 0.57 | \| Q V | | | | |



| | | | |
|---|---|---|---|
| 3+15 | 0.0978 | 0.60 | |
| 3+20 | 0.1019 | 0.60 | |
| 3+25 | 0.1064 | 0.65 | |
| 3+30 | 0.1114 | 0.73 | |
| 3+35 | 0.1170 | 0.81 | |
| 3+40 | 0.1229 | 0.84 | |
| 3+45 | 0.1290 | 0.90 | |
| 3+50 | 0.1354 | 0.93 | |
| 3+55 | 0.1421 | 0.98 | |
| 4+ 0 | 0.1491 | 1.01 | |
| 4+ 5 | 0.1564 | 1.06 | |
| 4+10 | 0.1642 | 1.14 | |
| 4+15 | 0.1726 | 1.22 | |
| 4+20 | 0.1816 | 1.30 | |
| 4+25 | 0.1911 | 1.38 | |
| 4+30 | 0.2009 | 1.42 | |
| 4+35 | 0.2110 | 1.47 | |
| 4+40 | 0.2216 | 1.55 | |
| 4+45 | 0.2329 | 1.63 | |
| 4+50 | 0.2443 | 1.66 | |
| 4+55 | 0.2561 | 1.71 | |
| 5+ 0 | 0.2684 | 1.79 | |
| 5+ 5 | 0.2827 | 2.07 | |
| 5+10 | 0.2998 | 2.48 | |
| 5+15 | 0.3190 | 2.79 | |
| 5+20 | 0.3399 | 3.03 | |
| 5+25 | 0.3631 | 3.38 | |
| 5+30 | 0.3905 | 3.98 | |
| 5+35 | 0.4073 | 2.43 | |
| 5+40 | 0.4128 | 0.80 | |
| 5+45 | 0.4148 | 0.30 | |
| 5+50 | 0.4158 | 0.15 | |
| 5+55 | 0.4162 | 0.06 | |
| 6+ 0 | 0.4164 | 0.02 | |
| 6+ 5 | 0.4164 | 0.01 | |
| 6+10 | 0.4164 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX4024100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 40
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 2.70(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.70(Ac.) = 0.004 Sq. Mi.
Length along longest watercourse = 548.00(Ft.)
Length along longest watercourse measured to centroid = 204.00(Ft.)
Length along longest watercourse = 0.104 Mi.
Length along longest watercourse measured to centroid = 0.039 Mi.
Difference in elevation = 166.00(Ft.)
Slope along watercourse = 1599.4161 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.025 Hr.
Lag time = 1.52 Min.
25% of lag time = 0.38 Min.
40% of lag time = 0.61 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.70 | 1.80 | 4.86 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 2.70 | 4.75 | 12.83 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.750(In)

Point rain (area averaged) = 4.750(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.750(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 2.700 | 80.98 | 0.000 |

Total Area Entered = 2.70(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 81.0 | 91.6 | 0.109 | 0.000 | 0.109 | 1.000 | 0.109 |
| | | | | | Sum (F) = | 0.109 |

Area averaged mean soil loss (F) (In/Hr) = 0.109

Minimum soil loss rate ((In/Hr)) = 0.055
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 328.169 | 60.851 | 1.656 |
| 2 | 0.167 | 656.338 | 37.720 | 1.026 |
| 3 | 0.250 | 984.508 | 1.428 | 0.039 |
| | | | Sum = 100.000 Sum= | 2.721 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.038 | ( 0.194) | 0.034 | 0.004 |
| 2 | 0.17 | 0.07 | 0.038 | ( 0.193) | 0.034 | 0.004 |
| 3 | 0.25 | 0.07 | 0.038 | ( 0.192) | 0.034 | 0.004 |
| 4 | 0.33 | 0.10 | 0.057 | ( 0.192) | 0.051 | 0.006 |
| 5 | 0.42 | 0.10 | 0.057 | ( 0.191) | 0.051 | 0.006 |
| 6 | 0.50 | 0.10 | 0.057 | ( 0.190) | 0.051 | 0.006 |
| 7 | 0.58 | 0.10 | 0.057 | ( 0.189) | 0.051 | 0.006 |
| 8 | 0.67 | 0.10 | 0.057 | ( 0.189) | 0.051 | 0.006 |
| 9 | 0.75 | 0.10 | 0.057 | ( 0.188) | 0.051 | 0.006 |
| 10 | 0.83 | 0.13 | 0.076 | ( 0.187) | 0.068 | 0.008 |
| 11 | 0.92 | 0.13 | 0.076 | ( 0.186) | 0.068 | 0.008 |
| 12 | 1.00 | 0.13 | 0.076 | ( 0.186) | 0.068 | 0.008 |
| 13 | 1.08 | 0.10 | 0.057 | ( 0.185) | 0.051 | 0.006 |
| 14 | 1.17 | 0.10 | 0.057 | ( 0.184) | 0.051 | 0.006 |
| 15 | 1.25 | 0.10 | 0.057 | ( 0.183) | 0.051 | 0.006 |
| 16 | 1.33 | 0.10 | 0.057 | ( 0.183) | 0.051 | 0.006 |
| 17 | 1.42 | 0.10 | 0.057 | ( 0.182) | 0.051 | 0.006 |
| 18 | 1.50 | 0.10 | 0.057 | ( 0.181) | 0.051 | 0.006 |
| 19 | 1.58 | 0.10 | 0.057 | ( 0.181) | 0.051 | 0.006 |
| 20 | 1.67 | 0.10 | 0.057 | ( 0.180) | 0.051 | 0.006 |
| 21 | 1.75 | 0.10 | 0.057 | ( 0.179) | 0.051 | 0.006 |
| 22 | 1.83 | 0.13 | 0.076 | ( 0.178) | 0.068 | 0.008 |
| 23 | 1.92 | 0.13 | 0.076 | ( 0.178) | 0.068 | 0.008 |
| 24 | 2.00 | 0.13 | 0.076 | ( 0.177) | 0.068 | 0.008 |
| 25 | 2.08 | 0.13 | 0.076 | ( 0.176) | 0.068 | 0.008 |
| 26 | 2.17 | 0.13 | 0.076 | ( 0.176) | 0.068 | 0.008 |
| 27 | 2.25 | 0.13 | 0.076 | ( 0.175) | 0.068 | 0.008 |
| 28 | 2.33 | 0.13 | 0.076 | ( 0.174) | 0.068 | 0.008 |
| 29 | 2.42 | 0.13 | 0.076 | ( 0.173) | 0.068 | 0.008 |
| 30 | 2.50 | 0.13 | 0.076 | ( 0.173) | 0.068 | 0.008 |
| 31 | 2.58 | 0.17 | 0.095 | ( 0.172) | 0.085 | 0.009 |
| 32 | 2.67 | 0.17 | 0.095 | ( 0.171) | 0.085 | 0.009 |
| 33 | 2.75 | 0.17 | 0.095 | ( 0.171) | 0.085 | 0.009 |
| 34 | 2.83 | 0.17 | 0.095 | ( 0.170) | 0.085 | 0.009 |
| 35 | 2.92 | 0.17 | 0.095 | ( 0.169) | 0.085 | 0.009 |
| 36 | 3.00 | 0.17 | 0.095 | ( 0.168) | 0.085 | 0.009 |
| 37 | 3.08 | 0.17 | 0.095 | ( 0.168) | 0.085 | 0.009 |
| 38 | 3.17 | 0.17 | 0.095 | ( 0.167) | 0.085 | 0.009 |
| 39 | 3.25 | 0.17 | 0.095 | ( 0.166) | 0.085 | 0.009 |
| 40 | 3.33 | 0.17 | 0.095 | ( 0.166) | 0.085 | 0.009 |
| 41 | 3.42 | 0.17 | 0.095 | ( 0.165) | 0.085 | 0.009 |
| 42 | 3.50 | 0.17 | 0.095 | ( 0.164) | 0.085 | 0.009 |
| 43 | 3.58 | 0.17 | 0.095 | ( 0.164) | 0.085 | 0.009 |
| 44 | 3.67 | 0.17 | 0.095 | ( 0.163) | 0.085 | 0.009 |
| 45 | 3.75 | 0.17 | 0.095 | ( 0.162) | 0.085 | 0.009 |
| 46 | 3.83 | 0.20 | 0.114 | ( 0.162) | 0.103 | 0.011 |
| 47 | 3.92 | 0.20 | 0.114 | ( 0.161) | 0.103 | 0.011 |
| 48 | 4.00 | 0.20 | 0.114 | ( 0.160) | 0.103 | 0.011 |
| 49 | 4.08 | 0.20 | 0.114 | ( 0.160) | 0.103 | 0.011 |
| 50 | 4.17 | 0.20 | 0.114 | ( 0.159) | 0.103 | 0.011 |
| 51 | 4.25 | 0.20 | 0.114 | ( 0.158) | 0.103 | 0.011 |
| 52 | 4.33 | 0.23 | 0.133 | ( 0.158) | 0.120 | 0.013 |
| 53 | 4.42 | 0.23 | 0.133 | ( 0.157) | 0.120 | 0.013 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 54 | 4.50 | 0.23 | 0.133 | ( | 0.156) | 0.120 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.133 | ( | 0.155) | 0.120 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.133 | ( | 0.155) | 0.120 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.133 | ( | 0.154) | 0.120 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.152 | ( | 0.153) | 0.137 | | 0.015 |
| 59 | 4.92 | 0.27 | 0.152 | ( | 0.153) | 0.137 | | 0.015 |
| 60 | 5.00 | 0.27 | 0.152 | ( | 0.152) | 0.137 | | 0.015 |
| 61 | 5.08 | 0.20 | 0.114 | ( | 0.152) | 0.103 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.114 | ( | 0.151) | 0.103 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.114 | ( | 0.150) | 0.103 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.133 | ( | 0.150) | 0.120 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.133 | ( | 0.149) | 0.120 | | 0.013 |
| 66 | 5.50 | 0.23 | 0.133 | ( | 0.148) | 0.120 | | 0.013 |
| 67 | 5.58 | 0.27 | 0.152 | ( | 0.148) | 0.137 | | 0.015 |
| 68 | 5.67 | 0.27 | 0.152 | ( | 0.147) | 0.137 | | 0.015 |
| 69 | 5.75 | 0.27 | 0.152 | ( | 0.146) | 0.137 | | 0.015 |
| 70 | 5.83 | 0.27 | 0.152 | ( | 0.146) | 0.137 | | 0.015 |
| 71 | 5.92 | 0.27 | 0.152 | ( | 0.145) | 0.137 | | 0.015 |
| 72 | 6.00 | 0.27 | 0.152 | ( | 0.144) | 0.137 | | 0.015 |
| 73 | 6.08 | 0.30 | 0.171 | | 0.144 | ( | 0.154) | 0.027 |
| 74 | 6.17 | 0.30 | 0.171 | | 0.143 | ( | 0.154) | 0.028 |
| 75 | 6.25 | 0.30 | 0.171 | | 0.142 | ( | 0.154) | 0.029 |
| 76 | 6.33 | 0.30 | 0.171 | | 0.142 | ( | 0.154) | 0.029 |
| 77 | 6.42 | 0.30 | 0.171 | | 0.141 | ( | 0.154) | 0.030 |
| 78 | 6.50 | 0.30 | 0.171 | | 0.141 | ( | 0.154) | 0.030 |
| 79 | 6.58 | 0.33 | 0.190 | | 0.140 | ( | 0.171) | 0.050 |
| 80 | 6.67 | 0.33 | 0.190 | | 0.139 | ( | 0.171) | 0.051 |
| 81 | 6.75 | 0.33 | 0.190 | | 0.139 | ( | 0.171) | 0.051 |
| 82 | 6.83 | 0.33 | 0.190 | | 0.138 | ( | 0.171) | 0.052 |
| 83 | 6.92 | 0.33 | 0.190 | | 0.137 | ( | 0.171) | 0.053 |
| 84 | 7.00 | 0.33 | 0.190 | | 0.137 | ( | 0.171) | 0.053 |
| 85 | 7.08 | 0.33 | 0.190 | | 0.136 | ( | 0.171) | 0.054 |
| 86 | 7.17 | 0.33 | 0.190 | | 0.136 | ( | 0.171) | 0.054 |
| 87 | 7.25 | 0.33 | 0.190 | | 0.135 | ( | 0.171) | 0.055 |
| 88 | 7.33 | 0.37 | 0.209 | | 0.134 | ( | 0.188) | 0.075 |
| 89 | 7.42 | 0.37 | 0.209 | | 0.134 | ( | 0.188) | 0.075 |
| 90 | 7.50 | 0.37 | 0.209 | | 0.133 | ( | 0.188) | 0.076 |
| 91 | 7.58 | 0.40 | 0.228 | | 0.132 | ( | 0.205) | 0.096 |
| 92 | 7.67 | 0.40 | 0.228 | | 0.132 | ( | 0.205) | 0.096 |
| 93 | 7.75 | 0.40 | 0.228 | | 0.131 | ( | 0.205) | 0.097 |
| 94 | 7.83 | 0.43 | 0.247 | | 0.131 | ( | 0.222) | 0.116 |
| 95 | 7.92 | 0.43 | 0.247 | | 0.130 | ( | 0.222) | 0.117 |
| 96 | 8.00 | 0.43 | 0.247 | | 0.129 | ( | 0.222) | 0.118 |
| 97 | 8.08 | 0.50 | 0.285 | | 0.129 | ( | 0.256) | 0.156 |
| 98 | 8.17 | 0.50 | 0.285 | | 0.128 | ( | 0.256) | 0.157 |
| 99 | 8.25 | 0.50 | 0.285 | | 0.128 | ( | 0.256) | 0.157 |
| 100 | 8.33 | 0.50 | 0.285 | | 0.127 | ( | 0.256) | 0.158 |
| 101 | 8.42 | 0.50 | 0.285 | | 0.126 | ( | 0.256) | 0.159 |
| 102 | 8.50 | 0.50 | 0.285 | | 0.126 | ( | 0.256) | 0.159 |
| 103 | 8.58 | 0.53 | 0.304 | | 0.125 | ( | 0.274) | 0.179 |
| 104 | 8.67 | 0.53 | 0.304 | | 0.125 | ( | 0.274) | 0.179 |
| 105 | 8.75 | 0.53 | 0.304 | | 0.124 | ( | 0.274) | 0.180 |
| 106 | 8.83 | 0.57 | 0.323 | | 0.123 | ( | 0.291) | 0.200 |
| 107 | 8.92 | 0.57 | 0.323 | | 0.123 | ( | 0.291) | 0.200 |
| 108 | 9.00 | 0.57 | 0.323 | | 0.122 | ( | 0.291) | 0.201 |
| 109 | 9.08 | 0.63 | 0.361 | | 0.122 | ( | 0.325) | 0.239 |
| 110 | 9.17 | 0.63 | 0.361 | | 0.121 | ( | 0.325) | 0.240 |
| 111 | 9.25 | 0.63 | 0.361 | | 0.121 | ( | 0.325) | 0.240 |
| 112 | 9.33 | 0.67 | 0.380 | | 0.120 | ( | 0.342) | 0.260 |
| 113 | 9.42 | 0.67 | 0.380 | | 0.119 | ( | 0.342) | 0.261 |
| 114 | 9.50 | 0.67 | 0.380 | | 0.119 | ( | 0.342) | 0.261 |
| 115 | 9.58 | 0.70 | 0.399 | | 0.118 | ( | 0.359) | 0.281 |
| 116 | 9.67 | 0.70 | 0.399 | | 0.118 | ( | 0.359) | 0.281 |
| 117 | 9.75 | 0.70 | 0.399 | | 0.117 | ( | 0.359) | 0.282 |
| 118 | 9.83 | 0.73 | 0.418 | | 0.117 | ( | 0.376) | 0.301 |
| 119 | 9.92 | 0.73 | 0.418 | | 0.116 | ( | 0.376) | 0.302 |
| 120 | 10.00 | 0.73 | 0.418 | | 0.115 | ( | 0.376) | 0.303 |
| 121 | 10.08 | 0.50 | 0.285 | | 0.115 | ( | 0.256) | 0.170 |
| 122 | 10.17 | 0.50 | 0.285 | | 0.114 | ( | 0.256) | 0.171 |
| 123 | 10.25 | 0.50 | 0.285 | | 0.114 | ( | 0.256) | 0.171 |
| 124 | 10.33 | 0.50 | 0.285 | | 0.113 | ( | 0.256) | 0.172 |
| 125 | 10.42 | 0.50 | 0.285 | | 0.113 | ( | 0.256) | 0.172 |
| 126 | 10.50 | 0.50 | 0.285 | | 0.112 | ( | 0.256) | 0.173 |
| 127 | 10.58 | 0.67 | 0.380 | | 0.112 | ( | 0.342) | 0.268 |
| 128 | 10.67 | 0.67 | 0.380 | | 0.111 | ( | 0.342) | 0.269 |
| 129 | 10.75 | 0.67 | 0.380 | | 0.111 | ( | 0.342) | 0.269 |
| 130 | 10.83 | 0.67 | 0.380 | | 0.110 | ( | 0.342) | 0.270 |
| 131 | 10.92 | 0.67 | 0.380 | | 0.109 | ( | 0.342) | 0.271 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 132 | 11.00 | 0.67 | 0.380 | 0.109 | ( 0.342) | 0.271 |
| 133 | 11.08 | 0.63 | 0.361 | 0.108 | ( 0.325) | 0.253 |
| 134 | 11.17 | 0.63 | 0.361 | 0.108 | ( 0.325) | 0.253 |
| 135 | 11.25 | 0.63 | 0.361 | 0.107 | ( 0.325) | 0.254 |
| 136 | 11.33 | 0.63 | 0.361 | 0.107 | ( 0.325) | 0.254 |
| 137 | 11.42 | 0.63 | 0.361 | 0.106 | ( 0.325) | 0.255 |
| 138 | 11.50 | 0.63 | 0.361 | 0.106 | ( 0.325) | 0.255 |
| 139 | 11.58 | 0.57 | 0.323 | 0.105 | ( 0.291) | 0.218 |
| 140 | 11.67 | 0.57 | 0.323 | 0.105 | ( 0.291) | 0.218 |
| 141 | 11.75 | 0.57 | 0.323 | 0.104 | ( 0.291) | 0.219 |
| 142 | 11.83 | 0.60 | 0.342 | 0.104 | ( 0.308) | 0.238 |
| 143 | 11.92 | 0.60 | 0.342 | 0.103 | ( 0.308) | 0.239 |
| 144 | 12.00 | 0.60 | 0.342 | 0.103 | ( 0.308) | 0.239 |
| 145 | 12.08 | 0.83 | 0.475 | 0.102 | ( 0.427) | 0.373 |
| 146 | 12.17 | 0.83 | 0.475 | 0.102 | ( 0.427) | 0.373 |
| 147 | 12.25 | 0.83 | 0.475 | 0.101 | ( 0.427) | 0.374 |
| 148 | 12.33 | 0.87 | 0.494 | 0.101 | ( 0.445) | 0.393 |
| 149 | 12.42 | 0.87 | 0.494 | 0.100 | ( 0.445) | 0.394 |
| 150 | 12.50 | 0.87 | 0.494 | 0.100 | ( 0.445) | 0.394 |
| 151 | 12.58 | 0.93 | 0.532 | 0.099 | ( 0.479) | 0.433 |
| 152 | 12.67 | 0.93 | 0.532 | 0.099 | ( 0.479) | 0.433 |
| 153 | 12.75 | 0.93 | 0.532 | 0.098 | ( 0.479) | 0.434 |
| 154 | 12.83 | 0.97 | 0.551 | 0.098 | ( 0.496) | 0.453 |
| 155 | 12.92 | 0.97 | 0.551 | 0.097 | ( 0.496) | 0.454 |
| 156 | 13.00 | 0.97 | 0.551 | 0.097 | ( 0.496) | 0.454 |
| 157 | 13.08 | 1.13 | 0.646 | 0.096 | ( 0.581) | 0.550 |
| 158 | 13.17 | 1.13 | 0.646 | 0.096 | ( 0.581) | 0.550 |
| 159 | 13.25 | 1.13 | 0.646 | 0.095 | ( 0.581) | 0.551 |
| 160 | 13.33 | 1.13 | 0.646 | 0.095 | ( 0.581) | 0.551 |
| 161 | 13.42 | 1.13 | 0.646 | 0.094 | ( 0.581) | 0.552 |
| 162 | 13.50 | 1.13 | 0.646 | 0.094 | ( 0.581) | 0.552 |
| 163 | 13.58 | 0.77 | 0.437 | 0.093 | ( 0.393) | 0.344 |
| 164 | 13.67 | 0.77 | 0.437 | 0.093 | ( 0.393) | 0.344 |
| 165 | 13.75 | 0.77 | 0.437 | 0.092 | ( 0.393) | 0.345 |
| 166 | 13.83 | 0.77 | 0.437 | 0.092 | ( 0.393) | 0.345 |
| 167 | 13.92 | 0.77 | 0.437 | 0.091 | ( 0.393) | 0.346 |
| 168 | 14.00 | 0.77 | 0.437 | 0.091 | ( 0.393) | 0.346 |
| 169 | 14.08 | 0.90 | 0.513 | 0.090 | ( 0.462) | 0.423 |
| 170 | 14.17 | 0.90 | 0.513 | 0.090 | ( 0.462) | 0.423 |
| 171 | 14.25 | 0.90 | 0.513 | 0.089 | ( 0.462) | 0.424 |
| 172 | 14.33 | 0.87 | 0.494 | 0.089 | ( 0.445) | 0.405 |
| 173 | 14.42 | 0.87 | 0.494 | 0.089 | ( 0.445) | 0.405 |
| 174 | 14.50 | 0.87 | 0.494 | 0.088 | ( 0.445) | 0.406 |
| 175 | 14.58 | 0.87 | 0.494 | 0.088 | ( 0.445) | 0.406 |
| 176 | 14.67 | 0.87 | 0.494 | 0.087 | ( 0.445) | 0.407 |
| 177 | 14.75 | 0.87 | 0.494 | 0.087 | ( 0.445) | 0.407 |
| 178 | 14.83 | 0.83 | 0.475 | 0.086 | ( 0.427) | 0.389 |
| 179 | 14.92 | 0.83 | 0.475 | 0.086 | ( 0.427) | 0.389 |
| 180 | 15.00 | 0.83 | 0.475 | 0.085 | ( 0.427) | 0.390 |
| 181 | 15.08 | 0.80 | 0.456 | 0.085 | ( 0.410) | 0.371 |
| 182 | 15.17 | 0.80 | 0.456 | 0.085 | ( 0.410) | 0.371 |
| 183 | 15.25 | 0.80 | 0.456 | 0.084 | ( 0.410) | 0.372 |
| 184 | 15.33 | 0.77 | 0.437 | 0.084 | ( 0.393) | 0.353 |
| 185 | 15.42 | 0.77 | 0.437 | 0.083 | ( 0.393) | 0.354 |
| 186 | 15.50 | 0.77 | 0.437 | 0.083 | ( 0.393) | 0.354 |
| 187 | 15.58 | 0.63 | 0.361 | 0.082 | ( 0.325) | 0.279 |
| 188 | 15.67 | 0.63 | 0.361 | 0.082 | ( 0.325) | 0.279 |
| 189 | 15.75 | 0.63 | 0.361 | 0.082 | ( 0.325) | 0.279 |
| 190 | 15.83 | 0.63 | 0.361 | 0.081 | ( 0.325) | 0.280 |
| 191 | 15.92 | 0.63 | 0.361 | 0.081 | ( 0.325) | 0.280 |
| 192 | 16.00 | 0.63 | 0.361 | 0.080 | ( 0.325) | 0.281 |
| 193 | 16.08 | 0.13 | 0.076 | ( 0.080) | 0.068 | 0.008 |
| 194 | 16.17 | 0.13 | 0.076 | ( 0.079) | 0.068 | 0.008 |
| 195 | 16.25 | 0.13 | 0.076 | ( 0.079) | 0.068 | 0.008 |
| 196 | 16.33 | 0.13 | 0.076 | ( 0.079) | 0.068 | 0.008 |
| 197 | 16.42 | 0.13 | 0.076 | ( 0.078) | 0.068 | 0.008 |
| 198 | 16.50 | 0.13 | 0.076 | ( 0.078) | 0.068 | 0.008 |
| 199 | 16.58 | 0.10 | 0.057 | ( 0.077) | 0.051 | 0.006 |
| 200 | 16.67 | 0.10 | 0.057 | ( 0.077) | 0.051 | 0.006 |
| 201 | 16.75 | 0.10 | 0.057 | ( 0.077) | 0.051 | 0.006 |
| 202 | 16.83 | 0.10 | 0.057 | ( 0.076) | 0.051 | 0.006 |
| 203 | 16.92 | 0.10 | 0.057 | ( 0.076) | 0.051 | 0.006 |
| 204 | 17.00 | 0.10 | 0.057 | ( 0.076) | 0.051 | 0.006 |
| 205 | 17.08 | 0.17 | 0.095 | 0.075 | ( 0.085) | 0.020 |
| 206 | 17.17 | 0.17 | 0.095 | 0.075 | ( 0.085) | 0.020 |
| 207 | 17.25 | 0.17 | 0.095 | 0.074 | ( 0.085) | 0.021 |
| 208 | 17.33 | 0.17 | 0.095 | 0.074 | ( 0.085) | 0.021 |
| 209 | 17.42 | 0.17 | 0.095 | 0.074 | ( 0.085) | 0.021 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 210 | 17.50 | 0.17 | 0.095 | 0.073 | ( 0.085) | 0.022 |
| 211 | 17.58 | 0.17 | 0.095 | 0.073 | ( 0.085) | 0.022 |
| 212 | 17.67 | 0.17 | 0.095 | 0.073 | ( 0.085) | 0.022 |
| 213 | 17.75 | 0.17 | 0.095 | 0.072 | ( 0.085) | 0.023 |
| 214 | 17.83 | 0.13 | 0.076 | ( 0.072) | 0.068 | 0.008 |
| 215 | 17.92 | 0.13 | 0.076 | ( 0.071) | 0.068 | 0.008 |
| 216 | 18.00 | 0.13 | 0.076 | ( 0.071) | 0.068 | 0.008 |
| 217 | 18.08 | 0.13 | 0.076 | ( 0.071) | 0.068 | 0.008 |
| 218 | 18.17 | 0.13 | 0.076 | ( 0.070) | 0.068 | 0.008 |
| 219 | 18.25 | 0.13 | 0.076 | ( 0.070) | 0.068 | 0.008 |
| 220 | 18.33 | 0.13 | 0.076 | ( 0.070) | 0.068 | 0.008 |
| 221 | 18.42 | 0.13 | 0.076 | ( 0.069) | 0.068 | 0.008 |
| 222 | 18.50 | 0.13 | 0.076 | ( 0.069) | 0.068 | 0.008 |
| 223 | 18.58 | 0.10 | 0.057 | ( 0.069) | 0.051 | 0.006 |
| 224 | 18.67 | 0.10 | 0.057 | ( 0.068) | 0.051 | 0.006 |
| 225 | 18.75 | 0.10 | 0.057 | ( 0.068) | 0.051 | 0.006 |
| 226 | 18.83 | 0.07 | 0.038 | ( 0.068) | 0.034 | 0.004 |
| 227 | 18.92 | 0.07 | 0.038 | ( 0.067) | 0.034 | 0.004 |
| 228 | 19.00 | 0.07 | 0.038 | ( 0.067) | 0.034 | 0.004 |
| 229 | 19.08 | 0.10 | 0.057 | ( 0.067) | 0.051 | 0.006 |
| 230 | 19.17 | 0.10 | 0.057 | ( 0.066) | 0.051 | 0.006 |
| 231 | 19.25 | 0.10 | 0.057 | ( 0.066) | 0.051 | 0.006 |
| 232 | 19.33 | 0.13 | 0.076 | 0.066 | ( 0.068) | 0.010 |
| 233 | 19.42 | 0.13 | 0.076 | 0.066 | ( 0.068) | 0.010 |
| 234 | 19.50 | 0.13 | 0.076 | 0.065 | ( 0.068) | 0.011 |
| 235 | 19.58 | 0.10 | 0.057 | ( 0.065) | 0.051 | 0.006 |
| 236 | 19.67 | 0.10 | 0.057 | ( 0.065) | 0.051 | 0.006 |
| 237 | 19.75 | 0.10 | 0.057 | ( 0.064) | 0.051 | 0.006 |
| 238 | 19.83 | 0.07 | 0.038 | ( 0.064) | 0.034 | 0.004 |
| 239 | 19.92 | 0.07 | 0.038 | ( 0.064) | 0.034 | 0.004 |
| 240 | 20.00 | 0.07 | 0.038 | ( 0.064) | 0.034 | 0.004 |
| 241 | 20.08 | 0.10 | 0.057 | ( 0.063) | 0.051 | 0.006 |
| 242 | 20.17 | 0.10 | 0.057 | ( 0.063) | 0.051 | 0.006 |
| 243 | 20.25 | 0.10 | 0.057 | ( 0.063) | 0.051 | 0.006 |
| 244 | 20.33 | 0.10 | 0.057 | ( 0.062) | 0.051 | 0.006 |
| 245 | 20.42 | 0.10 | 0.057 | ( 0.062) | 0.051 | 0.006 |
| 246 | 20.50 | 0.10 | 0.057 | ( 0.062) | 0.051 | 0.006 |
| 247 | 20.58 | 0.10 | 0.057 | ( 0.062) | 0.051 | 0.006 |
| 248 | 20.67 | 0.10 | 0.057 | ( 0.061) | 0.051 | 0.006 |
| 249 | 20.75 | 0.10 | 0.057 | ( 0.061) | 0.051 | 0.006 |
| 250 | 20.83 | 0.07 | 0.038 | ( 0.061) | 0.034 | 0.004 |
| 251 | 20.92 | 0.07 | 0.038 | ( 0.061) | 0.034 | 0.004 |
| 252 | 21.00 | 0.07 | 0.038 | ( 0.060) | 0.034 | 0.004 |
| 253 | 21.08 | 0.10 | 0.057 | ( 0.060) | 0.051 | 0.006 |
| 254 | 21.17 | 0.10 | 0.057 | ( 0.060) | 0.051 | 0.006 |
| 255 | 21.25 | 0.10 | 0.057 | ( 0.060) | 0.051 | 0.006 |
| 256 | 21.33 | 0.07 | 0.038 | ( 0.059) | 0.034 | 0.004 |
| 257 | 21.42 | 0.07 | 0.038 | ( 0.059) | 0.034 | 0.004 |
| 258 | 21.50 | 0.07 | 0.038 | ( 0.059) | 0.034 | 0.004 |
| 259 | 21.58 | 0.10 | 0.057 | ( 0.059) | 0.051 | 0.006 |
| 260 | 21.67 | 0.10 | 0.057 | ( 0.059) | 0.051 | 0.006 |
| 261 | 21.75 | 0.10 | 0.057 | ( 0.058) | 0.051 | 0.006 |
| 262 | 21.83 | 0.07 | 0.038 | ( 0.058) | 0.034 | 0.004 |
| 263 | 21.92 | 0.07 | 0.038 | ( 0.058) | 0.034 | 0.004 |
| 264 | 22.00 | 0.07 | 0.038 | ( 0.058) | 0.034 | 0.004 |
| 265 | 22.08 | 0.10 | 0.057 | ( 0.058) | 0.051 | 0.006 |
| 266 | 22.17 | 0.10 | 0.057 | ( 0.057) | 0.051 | 0.006 |
| 267 | 22.25 | 0.10 | 0.057 | ( 0.057) | 0.051 | 0.006 |
| 268 | 22.33 | 0.07 | 0.038 | ( 0.057) | 0.034 | 0.004 |
| 269 | 22.42 | 0.07 | 0.038 | ( 0.057) | 0.034 | 0.004 |
| 270 | 22.50 | 0.07 | 0.038 | ( 0.057) | 0.034 | 0.004 |
| 271 | 22.58 | 0.07 | 0.038 | ( 0.056) | 0.034 | 0.004 |
| 272 | 22.67 | 0.07 | 0.038 | ( 0.056) | 0.034 | 0.004 |
| 273 | 22.75 | 0.07 | 0.038 | ( 0.056) | 0.034 | 0.004 |
| 274 | 22.83 | 0.07 | 0.038 | ( 0.056) | 0.034 | 0.004 |
| 275 | 22.92 | 0.07 | 0.038 | ( 0.056) | 0.034 | 0.004 |
| 276 | 23.00 | 0.07 | 0.038 | ( 0.056) | 0.034 | 0.004 |
| 277 | 23.08 | 0.07 | 0.038 | ( 0.056) | 0.034 | 0.004 |
| 278 | 23.17 | 0.07 | 0.038 | ( 0.056) | 0.034 | 0.004 |
| 279 | 23.25 | 0.07 | 0.038 | ( 0.055) | 0.034 | 0.004 |
| 280 | 23.33 | 0.07 | 0.038 | ( 0.055) | 0.034 | 0.004 |
| 281 | 23.42 | 0.07 | 0.038 | ( 0.055) | 0.034 | 0.004 |
| 282 | 23.50 | 0.07 | 0.038 | ( 0.055) | 0.034 | 0.004 |
| 283 | 23.58 | 0.07 | 0.038 | ( 0.055) | 0.034 | 0.004 |
| 284 | 23.67 | 0.07 | 0.038 | ( 0.055) | 0.034 | 0.004 |
| 285 | 23.75 | 0.07 | 0.038 | ( 0.055) | 0.034 | 0.004 |
| 286 | 23.83 | 0.07 | 0.038 | ( 0.055) | 0.034 | 0.004 |
| 287 | 23.92 | 0.07 | 0.038 | ( 0.055) | 0.034 | 0.004 |

288 24.00 0.07 0.038 ( 0.055) 0.034 0.004
(Loss Rate Not Used)
Sum = 100.0 Sum = 32.8
Flood volume = Effective rainfall 2.73(In)
times area 2.7(Ac.)/[(In)/(Ft.)] = 0.6(Ac.Ft)
Total soil loss = 2.02(In)
Total soil loss = 0.454(Ac.Ft)
Total rainfall = 4.75(In)
Flood volume = 26797.6 Cubic Feet
Total soil loss = 19756.9 Cubic Feet

Peak flow rate of this hydrograph = 1.503(CFS)

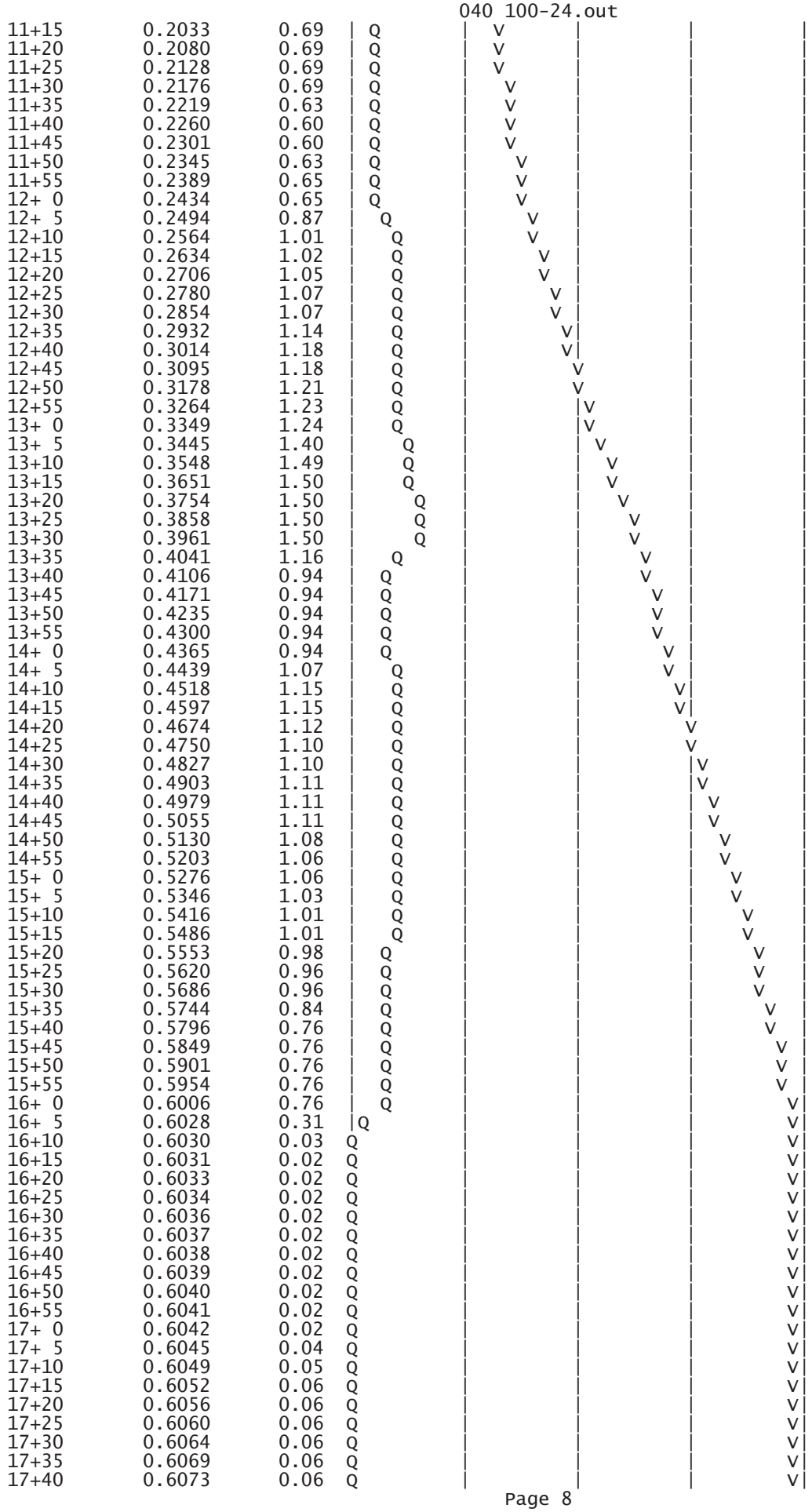
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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0000 | 0.01 | Q | | | | |
| 0+10 | 0.0001 | 0.01 | Q | | | | |
| 0+15 | 0.0002 | 0.01 | Q | | | | |
| 0+20 | 0.0003 | 0.01 | Q | | | | |
| 0+25 | 0.0004 | 0.02 | Q | | | | |
| 0+30 | 0.0005 | 0.02 | Q | | | | |
| 0+35 | 0.0006 | 0.02 | Q | | | | |
| 0+40 | 0.0007 | 0.02 | Q | | | | |
| 0+45 | 0.0008 | 0.02 | Q | | | | |
| 0+50 | 0.0009 | 0.02 | Q | | | | |
| 0+55 | 0.0011 | 0.02 | Q | | | | |
| 1+ 0 | 0.0012 | 0.02 | Q | | | | |
| 1+ 5 | 0.0013 | 0.02 | Q | | | | |
| 1+10 | 0.0015 | 0.02 | Q | | | | |
| 1+15 | 0.0016 | 0.02 | Q | | | | |
| 1+20 | 0.0017 | 0.02 | Q | | | | |
| 1+25 | 0.0018 | 0.02 | Q | | | | |
| 1+30 | 0.0019 | 0.02 | Q | | | | |
| 1+35 | 0.0020 | 0.02 | Q | | | | |
| 1+40 | 0.0021 | 0.02 | Q | | | | |
| 1+45 | 0.0022 | 0.02 | Q | | | | |
| 1+50 | 0.0023 | 0.02 | Q | | | | |
| 1+55 | 0.0025 | 0.02 | Q | | | | |
| 2+ 0 | 0.0026 | 0.02 | Q | | | | |
| 2+ 5 | 0.0028 | 0.02 | Q | | | | |
| 2+10 | 0.0029 | 0.02 | Q | | | | |
| 2+15 | 0.0030 | 0.02 | Q | | | | |
| 2+20 | 0.0032 | 0.02 | Q | | | | |
| 2+25 | 0.0033 | 0.02 | Q | | | | |
| 2+30 | 0.0035 | 0.02 | Q | | | | |
| 2+35 | 0.0036 | 0.02 | Q | | | | |
| 2+40 | 0.0038 | 0.03 | Q | | | | |
| 2+45 | 0.0040 | 0.03 | Q | | | | |
| 2+50 | 0.0042 | 0.03 | Q | | | | |
| 2+55 | 0.0043 | 0.03 | Q | | | | |
| 3+ 0 | 0.0045 | 0.03 | Q | | | | |
| 3+ 5 | 0.0047 | 0.03 | Q | | | | |
| 3+10 | 0.0049 | 0.03 | Q | | | | |
| 3+15 | 0.0051 | 0.03 | Q | | | | |
| 3+20 | 0.0052 | 0.03 | Q | | | | |
| 3+25 | 0.0054 | 0.03 | Q | | | | |
| 3+30 | 0.0056 | 0.03 | Q | | | | |
| 3+35 | 0.0058 | 0.03 | Q | | | | |
| 3+40 | 0.0059 | 0.03 | Q | | | | |
| 3+45 | 0.0061 | 0.03 | Q | | | | |
| 3+50 | 0.0063 | 0.03 | Q | | | | |
| 3+55 | 0.0065 | 0.03 | Q | | | | |
| 4+ 0 | 0.0068 | 0.03 | Q | | | | |
| 4+ 5 | 0.0070 | 0.03 | Q | | | | |
| 4+10 | 0.0072 | 0.03 | Q | | | | |
| 4+15 | 0.0074 | 0.03 | Q | | | | |
| 4+20 | 0.0076 | 0.03 | Q | | | | |
| 4+25 | 0.0079 | 0.04 | Q | | | | |
| 4+30 | 0.0081 | 0.04 | Q | | | | |
| 4+35 | 0.0084 | 0.04 | Q | | | | |
| 4+40 | 0.0086 | 0.04 | Q | | | | |

```
 4+45       0.0089      0.04  Q          |          |          |          |
 4+50       0.0091      0.04  Q          |          |          |          |
 4+55       0.0094      0.04  Q          |          |          |          |
 5+ 0       0.0097      0.04  Q          |          |          |          |
 5+ 5       0.0100      0.04  Q          |          |          |          |
 5+10       0.0102      0.03  Q          |          |          |          |
 5+15       0.0104      0.03  Q          |          |          |          |
 5+20       0.0106      0.03  Q          |          |          |          |
 5+25       0.0109      0.04  Q          |          |          |          |
 5+30       0.0111      0.04  Q          |          |          |          |
 5+35       0.0114      0.04  Q          |          |          |          |
 5+40       0.0117      0.04  Q          |          |          |          |
 5+45       0.0120      0.04  Q          |          |          |          |
 5+50       0.0122      0.04  Q          |          |          |          |
 5+55       0.0125      0.04  Q          |          |          |          |
 6+ 0       0.0128      0.04  Q          |          |          |          |
 6+ 5       0.0132      0.06  Q          |          |          |          |
 6+10       0.0138      0.07  Q          |          |          |          |
 6+15       0.0143      0.08  Q          |          |          |          |
 6+20       0.0148      0.08  Q          |          |          |          |
 6+25       0.0154      0.08  QV         |          |          |          |
 6+30       0.0159      0.08  QV         |          |          |          |
 6+35       0.0167      0.12  QV         |          |          |          |
 6+40       0.0177      0.14  QV         |          |          |          |
 6+45       0.0186      0.14  QV         |          |          |          |
 6+50       0.0196      0.14  QV         |          |          |          |
 6+55       0.0206      0.14  QV         |          |          |          |
 7+ 0       0.0216      0.14  QV         |          |          |          |
 7+ 5       0.0226      0.15  QV         |          |          |          |
 7+10       0.0236      0.15  QV         |          |          |          |
 7+15       0.0246      0.15  QV         |          |          |          |
 7+20       0.0259      0.18  QV         |          |          |          |
 7+25       0.0273      0.20  QV         |          |          |          |
 7+30       0.0287      0.21  QV         |          |          |          |
 7+35       0.0304      0.24  QV         |          |          |          |
 7+40       0.0322      0.26  |QV         |          |          |          |
 7+45       0.0340      0.26  |QV         |          |          |          |
 7+50       0.0360      0.30  |QV         |          |          |          |
 7+55       0.0382      0.32  |QV         |          |          |          |
 8+ 0       0.0404      0.32  |QV         |          |          |          |
 8+ 5       0.0430      0.38  |QV         |          |          |          |
 8+10       0.0460      0.42  |QV         |          |          |          |
 8+15       0.0489      0.43  |Q V        |          |          |          |
 8+20       0.0519      0.43  |Q V        |          |          |          |
 8+25       0.0548      0.43  |Q V        |          |          |          |
 8+30       0.0578      0.43  |Q V        |          |          |          |
 8+35       0.0610      0.47  |Q V        |          |          |          |
 8+40       0.0644      0.49  |Q  V       |          |          |          |
 8+45       0.0677      0.49  |Q  V       |          |          |          |
 8+50       0.0713      0.52  | Q V       |          |          |          |
 8+55       0.0751      0.54  | Q V       |          |          |          |
 9+ 0       0.0788      0.55  | Q  V      |          |          |          |
 9+ 5       0.0830      0.61  | Q  V      |          |          |          |
 9+10       0.0875      0.65  | Q  V      |          |          |          |
 9+15       0.0920      0.65  | Q  V      |          |          |          |
 9+20       0.0968      0.69  | Q   V     |          |          |          |
 9+25       0.1016      0.71  | Q   V     |          |          |          |
 9+30       0.1065      0.71  | Q   V     |          |          |          |
 9+35       0.1116      0.74  | Q    V    |          |          |          |
 9+40       0.1169      0.76  |  Q   V    |          |          |          |
 9+45       0.1222      0.77  |  Q   V    |          |          |          |
 9+50       0.1277      0.80  |  Q    V   |          |          |          |
 9+55       0.1334      0.82  |  Q    V   |          |          |          |
10+ 0       0.1390      0.82  |  Q     V  |          |          |          |
10+ 5       0.1432      0.60  | Q      V  |          |          |          |
10+10       0.1464      0.47  |Q       V  |          |          |          |
10+15       0.1496      0.47  |Q       V  |          |          |          |
10+20       0.1528      0.47  |Q       V  |          |          |          |
10+25       0.1561      0.47  |Q        V |          |          |          |
10+30       0.1593      0.47  |Q        V |          |          |          |
10+35       0.1636      0.63  | Q       V |          |          |          |
10+40       0.1686      0.73  | Q       V |          |          |          |
10+45       0.1737      0.73  | Q       |V |          |          |          |
10+50       0.1787      0.73  | Q       |V |          |          |          |
10+55       0.1838      0.74  | Q       |V |          |          |          |
11+ 0       0.1889      0.74  | Q       | V|          |          |          |
11+ 5       0.1938      0.71  | Q       | V|          |          |          |
11+10       0.1985      0.69  | Q       | V|          |          |          |
```



| | | | |
|---|---|---|---|
| 11+15 | 0.2033 | 0.69 | |
| 11+20 | 0.2080 | 0.69 | |
| 11+25 | 0.2128 | 0.69 | |
| 11+30 | 0.2176 | 0.69 | |
| 11+35 | 0.2219 | 0.63 | |
| 11+40 | 0.2260 | 0.60 | |
| 11+45 | 0.2301 | 0.60 | |
| 11+50 | 0.2345 | 0.63 | |
| 11+55 | 0.2389 | 0.65 | |
| 12+ 0 | 0.2434 | 0.65 | |
| 12+ 5 | 0.2494 | 0.87 | |
| 12+10 | 0.2564 | 1.01 | |
| 12+15 | 0.2634 | 1.02 | |
| 12+20 | 0.2706 | 1.05 | |
| 12+25 | 0.2780 | 1.07 | |
| 12+30 | 0.2854 | 1.07 | |
| 12+35 | 0.2932 | 1.14 | |
| 12+40 | 0.3014 | 1.18 | |
| 12+45 | 0.3095 | 1.18 | |
| 12+50 | 0.3178 | 1.21 | |
| 12+55 | 0.3264 | 1.23 | |
| 13+ 0 | 0.3349 | 1.24 | |
| 13+ 5 | 0.3445 | 1.40 | |
| 13+10 | 0.3548 | 1.49 | |
| 13+15 | 0.3651 | 1.50 | |
| 13+20 | 0.3754 | 1.50 | |
| 13+25 | 0.3858 | 1.50 | |
| 13+30 | 0.3961 | 1.50 | |
| 13+35 | 0.4041 | 1.16 | |
| 13+40 | 0.4106 | 0.94 | |
| 13+45 | 0.4171 | 0.94 | |
| 13+50 | 0.4235 | 0.94 | |
| 13+55 | 0.4300 | 0.94 | |
| 14+ 0 | 0.4365 | 0.94 | |
| 14+ 5 | 0.4439 | 1.07 | |
| 14+10 | 0.4518 | 1.15 | |
| 14+15 | 0.4597 | 1.15 | |
| 14+20 | 0.4674 | 1.12 | |
| 14+25 | 0.4750 | 1.10 | |
| 14+30 | 0.4827 | 1.10 | |
| 14+35 | 0.4903 | 1.11 | |
| 14+40 | 0.4979 | 1.11 | |
| 14+45 | 0.5055 | 1.11 | |
| 14+50 | 0.5130 | 1.08 | |
| 14+55 | 0.5203 | 1.06 | |
| 15+ 0 | 0.5276 | 1.06 | |
| 15+ 5 | 0.5346 | 1.03 | |
| 15+10 | 0.5416 | 1.01 | |
| 15+15 | 0.5486 | 1.01 | |
| 15+20 | 0.5553 | 0.98 | |
| 15+25 | 0.5620 | 0.96 | |
| 15+30 | 0.5686 | 0.96 | |
| 15+35 | 0.5744 | 0.84 | |
| 15+40 | 0.5796 | 0.76 | |
| 15+45 | 0.5849 | 0.76 | |
| 15+50 | 0.5901 | 0.76 | |
| 15+55 | 0.5954 | 0.76 | |
| 16+ 0 | 0.6006 | 0.76 | |
| 16+ 5 | 0.6028 | 0.31 | |
| 16+10 | 0.6030 | 0.03 | |
| 16+15 | 0.6031 | 0.02 | |
| 16+20 | 0.6033 | 0.02 | |
| 16+25 | 0.6034 | 0.02 | |
| 16+30 | 0.6036 | 0.02 | |
| 16+35 | 0.6037 | 0.02 | |
| 16+40 | 0.6038 | 0.02 | |
| 16+45 | 0.6039 | 0.02 | |
| 16+50 | 0.6040 | 0.02 | |
| 16+55 | 0.6041 | 0.02 | |
| 17+ 0 | 0.6042 | 0.02 | |
| 17+ 5 | 0.6045 | 0.04 | |
| 17+10 | 0.6049 | 0.05 | |
| 17+15 | 0.6052 | 0.06 | |
| 17+20 | 0.6056 | 0.06 | |
| 17+25 | 0.6060 | 0.06 | |
| 17+30 | 0.6064 | 0.06 | |
| 17+35 | 0.6069 | 0.06 | |
| 17+40 | 0.6073 | 0.06 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+45 | 0.6077 | 0.06 | Q | \| | \| | \| | V\| |
| 17+50 | 0.6079 | 0.04 | Q | \| | \| | \| | V\| |
| 17+55 | 0.6081 | 0.02 | Q | \| | \| | \| | V\| |
| 18+ 0 | 0.6082 | 0.02 | Q | \| | \| | \| | V\| |
| 18+ 5 | 0.6084 | 0.02 | Q | \| | \| | \| | V\| |
| 18+10 | 0.6085 | 0.02 | Q | \| | \| | \| | V\| |
| 18+15 | 0.6087 | 0.02 | Q | \| | \| | \| | V\| |
| 18+20 | 0.6088 | 0.02 | Q | \| | \| | \| | V\| |
| 18+25 | 0.6089 | 0.02 | Q | \| | \| | \| | V\| |
| 18+30 | 0.6091 | 0.02 | Q | \| | \| | \| | V\| |
| 18+35 | 0.6092 | 0.02 | Q | \| | \| | \| | V\| |
| 18+40 | 0.6093 | 0.02 | Q | \| | \| | \| | V\| |
| 18+45 | 0.6094 | 0.02 | Q | \| | \| | \| | V\| |
| 18+50 | 0.6095 | 0.01 | Q | \| | \| | \| | V\| |
| 18+55 | 0.6096 | 0.01 | Q | \| | \| | \| | V\| |
| 19+ 0 | 0.6097 | 0.01 | Q | \| | \| | \| | V\| |
| 19+ 5 | 0.6097 | 0.01 | Q | \| | \| | \| | V\| |
| 19+10 | 0.6099 | 0.02 | Q | \| | \| | \| | V\| |
| 19+15 | 0.6100 | 0.02 | Q | \| | \| | \| | V\| |
| 19+20 | 0.6101 | 0.02 | Q | \| | \| | \| | V\| |
| 19+25 | 0.6103 | 0.03 | Q | \| | \| | \| | V\| |
| 19+30 | 0.6105 | 0.03 | Q | \| | \| | \| | V\| |
| 19+35 | 0.6107 | 0.02 | Q | \| | \| | \| | V\| |
| 19+40 | 0.6108 | 0.02 | Q | \| | \| | \| | V\| |
| 19+45 | 0.6109 | 0.02 | Q | \| | \| | \| | V\| |
| 19+50 | 0.6110 | 0.01 | Q | \| | \| | \| | V\| |
| 19+55 | 0.6110 | 0.01 | Q | \| | \| | \| | V\| |
| 20+ 0 | 0.6111 | 0.01 | Q | \| | \| | \| | V\| |
| 20+ 5 | 0.6112 | 0.01 | Q | \| | \| | \| | V\| |
| 20+10 | 0.6113 | 0.02 | Q | \| | \| | \| | V\| |
| 20+15 | 0.6114 | 0.02 | Q | \| | \| | \| | V\| |
| 20+20 | 0.6115 | 0.02 | Q | \| | \| | \| | V\| |
| 20+25 | 0.6116 | 0.02 | Q | \| | \| | \| | V\| |
| 20+30 | 0.6117 | 0.02 | Q | \| | \| | \| | V\| |
| 20+35 | 0.6118 | 0.02 | Q | \| | \| | \| | V\| |
| 20+40 | 0.6119 | 0.02 | Q | \| | \| | \| | V\| |
| 20+45 | 0.6120 | 0.02 | Q | \| | \| | \| | V\| |
| 20+50 | 0.6121 | 0.01 | Q | \| | \| | \| | V\| |
| 20+55 | 0.6122 | 0.01 | Q | \| | \| | \| | V\| |
| 21+ 0 | 0.6123 | 0.01 | Q | \| | \| | \| | V\| |
| 21+ 5 | 0.6124 | 0.01 | Q | \| | \| | \| | V\| |
| 21+10 | 0.6125 | 0.02 | Q | \| | \| | \| | V\| |
| 21+15 | 0.6126 | 0.02 | Q | \| | \| | \| | V\| |
| 21+20 | 0.6127 | 0.01 | Q | \| | \| | \| | V\| |
| 21+25 | 0.6127 | 0.01 | Q | \| | \| | \| | V\| |
| 21+30 | 0.6128 | 0.01 | Q | \| | \| | \| | V\| |
| 21+35 | 0.6129 | 0.01 | Q | \| | \| | \| | V\| |
| 21+40 | 0.6130 | 0.02 | Q | \| | \| | \| | V\| |
| 21+45 | 0.6131 | 0.02 | Q | \| | \| | \| | V\| |
| 21+50 | 0.6132 | 0.01 | Q | \| | \| | \| | V\| |
| 21+55 | 0.6133 | 0.01 | Q | \| | \| | \| | V\| |
| 22+ 0 | 0.6133 | 0.01 | Q | \| | \| | \| | V\| |
| 22+ 5 | 0.6134 | 0.01 | Q | \| | \| | \| | V\| |
| 22+10 | 0.6135 | 0.02 | Q | \| | \| | \| | V\| |
| 22+15 | 0.6136 | 0.02 | Q | \| | \| | \| | V\| |
| 22+20 | 0.6137 | 0.01 | Q | \| | \| | \| | V\| |
| 22+25 | 0.6138 | 0.01 | Q | \| | \| | \| | V\| |
| 22+30 | 0.6139 | 0.01 | Q | \| | \| | \| | V\| |
| 22+35 | 0.6139 | 0.01 | Q | \| | \| | \| | V\| |
| 22+40 | 0.6140 | 0.01 | Q | \| | \| | \| | V\| |
| 22+45 | 0.6141 | 0.01 | Q | \| | \| | \| | V\| |
| 22+50 | 0.6142 | 0.01 | Q | \| | \| | \| | V\| |
| 22+55 | 0.6142 | 0.01 | Q | \| | \| | \| | V\| |
| 23+ 0 | 0.6143 | 0.01 | Q | \| | \| | \| | V\| |
| 23+ 5 | 0.6144 | 0.01 | Q | \| | \| | \| | V\| |
| 23+10 | 0.6144 | 0.01 | Q | \| | \| | \| | V\| |
| 23+15 | 0.6145 | 0.01 | Q | \| | \| | \| | V\| |
| 23+20 | 0.6146 | 0.01 | Q | \| | \| | \| | V\| |
| 23+25 | 0.6147 | 0.01 | Q | \| | \| | \| | V\| |
| 23+30 | 0.6147 | 0.01 | Q | \| | \| | \| | V\| |
| 23+35 | 0.6148 | 0.01 | Q | \| | \| | \| | V\| |
| 23+40 | 0.6149 | 0.01 | Q | \| | \| | \| | V\| |
| 23+45 | 0.6149 | 0.01 | Q | \| | \| | \| | V\| |
| 23+50 | 0.6150 | 0.01 | Q | \| | \| | \| | V\| |
| 23+55 | 0.6151 | 0.01 | Q | \| | \| | \| | V\| |
| 24+ 0 | 0.6152 | 0.01 | Q | \| | \| | \| | V\| |
| 24+ 5 | 0.6152 | 0.00 | Q | \| | \| | \| | V\| |
| 24+10 | 0.6152 | 0.00 | Q | \| | \| | \| | V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX411100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 41
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.60(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.60(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 340.00(Ft.)
Length along longest watercourse measured to centroid = 159.00(Ft.)
Length along longest watercourse = 0.064 Mi.
Length along longest watercourse measured to centroid = 0.030 Mi.
Difference in elevation = 156.00(Ft.)
Slope along watercourse = 2422.5882 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.018 Hr.
Lag time = 1.07 Min.
25% of lag time = 0.27 Min.
40% of lag time = 0.43 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 0.50 | 0.30 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 1.20 | 0.72 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.600 | 84.00 | 0.000 |

Total Area Entered = 0.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

---

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 468.017 | 71.794 | 0.434 |
| 2 0.167 | 936.034 | 28.206 | 0.171 |
| | Sum = 100.000 | Sum= | 0.605 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 4.20 | 0.605 | 0.086 | ( 0.544) | 0.519 |
| 2 0.17 | 4.30 | 0.619 | 0.086 | ( 0.557) | 0.533 |
| 3 0.25 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 4 0.33 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 5 0.42 | 5.80 | 0.835 | 0.086 | ( 0.752) | 0.749 |
| 6 0.50 | 6.50 | 0.936 | 0.086 | ( 0.842) | 0.850 |
| 7 0.58 | 7.40 | 1.066 | 0.086 | ( 0.959) | 0.980 |
| 8 0.67 | 8.60 | 1.238 | 0.086 | ( 1.115) | 1.153 |
| 9 0.75 | 12.30 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 10 0.83 | 29.10 | 4.190 | 0.086 | ( 3.771) | 4.105 |
| 11 0.92 | 6.80 | 0.979 | 0.086 | ( 0.881) | 0.893 |
| 12 1.00 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 13.4 |

Flood volume = Effective rainfall 1.11(In)
times area 0.6(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.004(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 2426.7 Cubic Feet
Total soil loss = 186.9 Cubic Feet

---

Peak flow rate of this hydrograph = 2.070(CFS)

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++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++

1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

---

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0016 | 0.23 | QV | | | | |
| 0+10 | 0.0038 | 0.32 | \|QV | | | | |
| 0+15 | 0.0063 | 0.37 | \|Q V | | | | |
| 0+20 | 0.0089 | 0.38 | \|Q V | | | | |
| 0+25 | 0.0119 | 0.43 | \|Q V | | | | |
| 0+30 | 0.0153 | 0.50 | \|Q \|V | | | | |
| 0+35 | 0.0193 | 0.57 | \| Q \| V | | | | |
| 0+40 | 0.0239 | 0.67 | \| Q \| V | | | | |
| 0+45 | 0.0303 | 0.93 | \| Q \| \|V | | | | |
| 0+50 | 0.0445 | 2.07 | \| Q \| \|V | | | | |
| 0+55 | 0.0520 | 1.09 | \| Q \| \| V | | | | |
| 1+ 0 | 0.0550 | 0.43 | \|Q \| \| V\| | | | | |
| 1+ 5 | 0.0557 | 0.11 | Q \| \| V | | | | |

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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX413100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 41
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 0.60(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.60(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 340.00(Ft.)
Length along longest watercourse measured to centroid = 159.00(Ft.)
Length along longest watercourse = 0.064 Mi.
Length along longest watercourse measured to centroid = 0.030 Mi.
Difference in elevation = 156.00(Ft.)
Slope along watercourse = 2422.5882 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.018 Hr.
Lag time = 1.07 Min.
25% of lag time = 0.27 Min.
40% of lag time = 0.43 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 0.81 | 0.49 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 1.82 | 1.09 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.810(In)
Area Averaged 100-Year Rainfall = 1.820(In)

Point rain (area averaged) = 1.820(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.820(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.600 | 84.00 | 0.000 |

Total Area Entered = 0.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 468.017 | 71.794 | 0.434 |
| 2 0.167 | 936.034 | 28.206 | 0.171 |
| | | Sum = 100.000 Sum= | 0.605 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 1.30 | 0.284 | 0.086 | ( 0.256) | 0.198 |
| 2 0.17 | 1.30 | 0.284 | 0.086 | ( 0.256) | 0.198 |
| 3 0.25 | 1.10 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 4 0.33 | 1.50 | 0.328 | 0.086 | ( 0.295) | 0.242 |
| 5 0.42 | 1.50 | 0.328 | 0.086 | ( 0.295) | 0.242 |
| 6 0.50 | 1.80 | 0.393 | 0.086 | ( 0.354) | 0.307 |
| 7 0.58 | 1.50 | 0.328 | 0.086 | ( 0.295) | 0.242 |
| 8 0.67 | 1.80 | 0.393 | 0.086 | ( 0.354) | 0.307 |
| 9 0.75 | 1.80 | 0.393 | 0.086 | ( 0.354) | 0.307 |
| 10 0.83 | 1.50 | 0.328 | 0.086 | ( 0.295) | 0.242 |
| 11 0.92 | 1.60 | 0.349 | 0.086 | ( 0.314) | 0.264 |
| 12 1.00 | 1.80 | 0.393 | 0.086 | ( 0.354) | 0.307 |
| 13 1.08 | 2.20 | 0.480 | 0.086 | ( 0.432) | 0.395 |
| 14 1.17 | 2.20 | 0.480 | 0.086 | ( 0.432) | 0.395 |
| 15 1.25 | 2.20 | 0.480 | 0.086 | ( 0.432) | 0.395 |
| 16 1.33 | 2.00 | 0.437 | 0.086 | ( 0.393) | 0.351 |
| 17 1.42 | 2.60 | 0.568 | 0.086 | ( 0.511) | 0.482 |
| 18 1.50 | 2.70 | 0.590 | 0.086 | ( 0.531) | 0.504 |
| 19 1.58 | 2.40 | 0.524 | 0.086 | ( 0.472) | 0.438 |
| 20 1.67 | 2.70 | 0.590 | 0.086 | ( 0.531) | 0.504 |
| 21 1.75 | 3.30 | 0.721 | 0.086 | ( 0.649) | 0.635 |
| 22 1.83 | 3.10 | 0.677 | 0.086 | ( 0.609) | 0.591 |
| 23 1.92 | 2.90 | 0.633 | 0.086 | ( 0.570) | 0.548 |
| 24 2.00 | 3.00 | 0.655 | 0.086 | ( 0.590) | 0.569 |
| 25 2.08 | 3.10 | 0.677 | 0.086 | ( 0.609) | 0.591 |
| 26 2.17 | 4.20 | 0.917 | 0.086 | ( 0.826) | 0.831 |
| 27 2.25 | 5.00 | 1.092 | 0.086 | ( 0.983) | 1.006 |
| 28 2.33 | 3.50 | 0.764 | 0.086 | ( 0.688) | 0.679 |
| 29 2.42 | 6.80 | 1.485 | 0.086 | ( 1.337) | 1.399 |
| 30 2.50 | 7.30 | 1.594 | 0.086 | ( 1.435) | 1.509 |
| 31 2.58 | 8.20 | 1.791 | 0.086 | ( 1.612) | 1.705 |
| 32 2.67 | 5.90 | 1.289 | 0.086 | ( 1.160) | 1.203 |
| 33 2.75 | 2.00 | 0.437 | 0.086 | ( 0.393) | 0.351 |
| 34 2.83 | 1.80 | 0.393 | 0.086 | ( 0.354) | 0.307 |
| 35 2.92 | 1.80 | 0.393 | 0.086 | ( 0.354) | 0.307 |
| 36 3.00 | 0.60 | 0.131 | 0.086 | ( 0.118) | 0.045 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 18.8 |

Flood volume = Effective rainfall 1.56(In)
times area 0.6(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.013(Ac.Ft)
Total rainfall = 1.82(In)
Flood volume = 3403.3 Cubic Feet
Total soil loss = 560.6 Cubic Feet

Peak flow rate of this hydrograph = 0.998(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0006 | 0.09 | Q | | | | |
| 0+10 | 0.0014 | 0.12 | Q | | | | |
| 0+15 | 0.0021 | 0.10 | QV | | | | |
| 0+20 | 0.0030 | 0.13 | QV | | | | |
| 0+25 | 0.0040 | 0.15 | Q V | | | | |
| 0+30 | 0.0052 | 0.17 | Q V | | | | |
| 0+35 | 0.0063 | 0.16 | Q V | | | | |
| 0+40 | 0.0075 | 0.17 | Q V | | | | |
| 0+45 | 0.0088 | 0.19 | Q V | | | | |
| 0+50 | 0.0099 | 0.16 | Q V | | | | |
| 0+55 | 0.0110 | 0.16 | Q V | | | | |
| 1+ 0 | 0.0122 | 0.18 | Q V | | | | |
| 1+ 5 | 0.0137 | 0.22 | Q V | | | | |
| 1+10 | 0.0154 | 0.24 | Q V | | | | |
| 1+15 | 0.0170 | 0.24 | Q V | | | | |
| 1+20 | 0.0185 | 0.22 | Q V | | | | |
| 1+25 | 0.0204 | 0.27 | Q V | | | | |
| 1+30 | 0.0225 | 0.30 | Q V | | | | |
| 1+35 | 0.0244 | 0.28 | Q V | | | | |
| 1+40 | 0.0264 | 0.29 | Q V | | | | |
| 1+45 | 0.0289 | 0.36 | Q V | | | | |
| 1+50 | 0.0314 | 0.37 | Q V | | | | |
| 1+55 | 0.0337 | 0.34 | Q V | | | | |
| 2+ 0 | 0.0361 | 0.34 | Q V | | | | |
| 2+ 5 | 0.0385 | 0.35 | Q V | | | | |
| 2+10 | 0.0417 | 0.46 | Q V | | | | |
| 2+15 | 0.0457 | 0.58 | Q V | | | | |
| 2+20 | 0.0489 | 0.47 | Q V | | | | |
| 2+25 | 0.0539 | 0.72 | Q V | | | | |
| 2+30 | 0.0600 | 0.89 | Q V | | | | |
| 2+35 | 0.0669 | 1.00 | Q V | | | | |
| 2+40 | 0.0725 | 0.81 | Q V | | | | |
| 2+45 | 0.0750 | 0.36 | Q V | | | | |
| 2+50 | 0.0763 | 0.19 | Q V | | | | |
| 2+55 | 0.0776 | 0.19 | Q V | | | | |
| 3+ 0 | 0.0781 | 0.07 | Q V | | | | |
| 3+ 5 | 0.0781 | 0.01 | Q V | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX416100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 41
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.60(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.60(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 340.00(Ft.)
Length along longest watercourse measured to centroid = 159.00(Ft.)
Length along longest watercourse = 0.064 Mi.
Length along longest watercourse measured to centroid = 0.030 Mi.
Difference in elevation = 156.00(Ft.)
Slope along watercourse = 2422.5882 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.018 Hr.
Lag time = 1.07 Min.
25% of lag time = 0.27 Min.
40% of lag time = 0.43 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 1.16 | 0.70 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 2.50 | 1.50 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.160(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.600 | 84.00 | 0.000 |

Total Area Entered = 0.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 468.017 | 71.794 | 0.434 |
| 2 0.167 | 936.034 | 28.206 | 0.171 |
| | | Sum = 100.000 Sum= | 0.605 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.086 | ( 0.135) | 0.064 |
| 2 | 0.17 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 3 | 0.25 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 4 | 0.33 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 5 | 0.42 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 6 | 0.50 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 7 | 0.58 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 8 | 0.67 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 9 | 0.75 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 10 | 0.83 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 11 | 0.92 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 12 | 1.00 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 13 | 1.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 14 | 1.17 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 15 | 1.25 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 16 | 1.33 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 17 | 1.42 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 18 | 1.50 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 19 | 1.58 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 20 | 1.67 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 21 | 1.75 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 22 | 1.83 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 23 | 1.92 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 24 | 2.00 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 25 | 2.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 26 | 2.17 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 27 | 2.25 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 28 | 2.33 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 29 | 2.42 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 30 | 2.50 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 31 | 2.58 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 32 | 2.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 33 | 2.75 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 34 | 2.83 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 35 | 2.92 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 36 | 3.00 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 37 | 3.08 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 38 | 3.17 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 39 | 3.25 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 40 | 3.33 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 41 | 3.42 | 1.20 | 0.360 | 0.086 | ( 0.324) | 0.274 |
| 42 | 3.50 | 1.30 | 0.390 | 0.086 | ( 0.351) | 0.304 |
| 43 | 3.58 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 44 | 3.67 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 45 | 3.75 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 46 | 3.83 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 47 | 3.92 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 48 | 4.00 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 49 | 4.08 | 1.70 | 0.510 | 0.086 | ( 0.459) | 0.424 |
| 50 | 4.17 | 1.80 | 0.540 | 0.086 | ( 0.486) | 0.454 |
| 51 | 4.25 | 1.90 | 0.570 | 0.086 | ( 0.513) | 0.484 |
| 52 | 4.33 | 2.00 | 0.600 | 0.086 | ( 0.540) | 0.514 |
| 53 | 4.42 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 |
| 54 | 4.50 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 55 | 4.58 | 2.20 | 0.660 | 0.086 | ( 0.594) | | 0.574 |
| 56 | 4.67 | 2.30 | 0.690 | 0.086 | ( 0.621) | | 0.604 |
| 57 | 4.75 | 2.40 | 0.720 | 0.086 | ( 0.648) | | 0.634 |
| 58 | 4.83 | 2.40 | 0.720 | 0.086 | ( 0.648) | | 0.634 |
| 59 | 4.92 | 2.50 | 0.750 | 0.086 | ( 0.675) | | 0.664 |
| 60 | 5.00 | 2.60 | 0.780 | 0.086 | ( 0.702) | | 0.694 |
| 61 | 5.08 | 3.10 | 0.930 | 0.086 | ( 0.837) | | 0.844 |
| 62 | 5.17 | 3.60 | 1.080 | 0.086 | ( 0.972) | | 0.994 |
| 63 | 5.25 | 3.90 | 1.170 | 0.086 | ( 1.053) | | 1.084 |
| 64 | 5.33 | 4.20 | 1.260 | 0.086 | ( 1.134) | | 1.174 |
| 65 | 5.42 | 4.70 | 1.410 | 0.086 | ( 1.269) | | 1.324 |
| 66 | 5.50 | 5.60 | 1.680 | 0.086 | ( 1.512) | | 1.594 |
| 67 | 5.58 | 1.90 | 0.570 | 0.086 | ( 0.513) | | 0.484 |
| 68 | 5.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | | 0.184 |
| 69 | 5.75 | 0.60 | 0.180 | 0.086 | ( 0.162) | | 0.094 |
| 70 | 5.83 | 0.50 | 0.150 | 0.086 | ( 0.135) | | 0.064 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.086) | 0.081 | | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.086) | 0.054 | | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.9

Flood volume = Effective rainfall 1.99(In)
times area 0.6(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.51(In)
Total soil loss = 0.026(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 4330.4 Cubic Feet
Total soil loss = 1114.6 Cubic Feet

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Peak flow rate of this hydrograph = 0.918(CFS)

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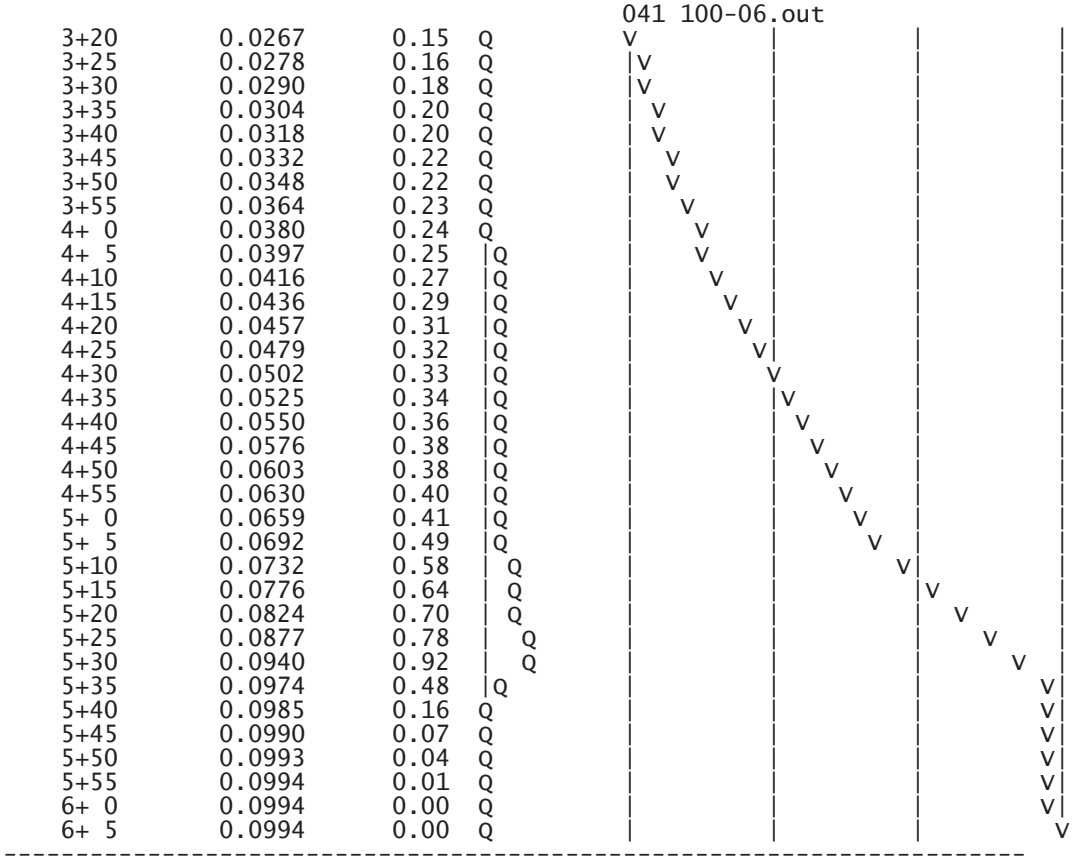
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0002 | 0.03 | Q | | | | |
| 0+10 | 0.0005 | 0.05 | Q | | | | |
| 0+15 | 0.0009 | 0.06 | Q | | | | |
| 0+20 | 0.0013 | 0.06 | Q | | | | |
| 0+25 | 0.0017 | 0.06 | Q | | | | |
| 0+30 | 0.0022 | 0.07 | Q | | | | |
| 0+35 | 0.0027 | 0.08 | QV | | | | |
| 0+40 | 0.0032 | 0.08 | QV | | | | |
| 0+45 | 0.0038 | 0.08 | QV | | | | |
| 0+50 | 0.0043 | 0.08 | QV | | | | |
| 0+55 | 0.0048 | 0.08 | QV | | | | |
| 1+ 0 | 0.0054 | 0.09 | Q V | | | | |
| 1+ 5 | 0.0060 | 0.09 | Q V | | | | |
| 1+10 | 0.0067 | 0.09 | Q V | | | | |
| 1+15 | 0.0073 | 0.09 | Q V | | | | |
| 1+20 | 0.0080 | 0.09 | Q V | | | | |
| 1+25 | 0.0086 | 0.09 | Q V | | | | |
| 1+30 | 0.0093 | 0.09 | Q V | | | | |
| 1+35 | 0.0099 | 0.09 | Q V | | | | |
| 1+40 | 0.0105 | 0.09 | Q V | | | | |
| 1+45 | 0.0112 | 0.09 | Q V | | | | |
| 1+50 | 0.0118 | 0.09 | Q V | | | | |
| 1+55 | 0.0125 | 0.09 | Q V | | | | |
| 2+ 0 | 0.0132 | 0.11 | Q V | | | | |
| 2+ 5 | 0.0139 | 0.10 | Q V | | | | |
| 2+10 | 0.0146 | 0.11 | Q V | | | | |
| 2+15 | 0.0154 | 0.11 | Q V | | | | |
| 2+20 | 0.0161 | 0.11 | Q V | | | | |
| 2+25 | 0.0169 | 0.11 | Q V | | | | |
| 2+30 | 0.0177 | 0.11 | Q V | | | | |
| 2+35 | 0.0185 | 0.11 | Q V | | | | |
| 2+40 | 0.0192 | 0.11 | Q V | | | | |
| 2+45 | 0.0201 | 0.12 | Q V | | | | |
| 2+50 | 0.0210 | 0.13 | Q V | | | | |
| 2+55 | 0.0219 | 0.13 | Q V | | | | |
| 3+ 0 | 0.0228 | 0.13 | Q V | | | | |
| 3+ 5 | 0.0236 | 0.13 | Q V | | | | |
| 3+10 | 0.0246 | 0.14 | Q V | | | | |
| 3+15 | 0.0256 | 0.15 | Q V | | | | |



| | | | |
|---|---|---|---|
| 3+20 | 0.0267 | 0.15 | Q |
| 3+25 | 0.0278 | 0.16 | Q |
| 3+30 | 0.0290 | 0.18 | Q |
| 3+35 | 0.0304 | 0.20 | Q |
| 3+40 | 0.0318 | 0.20 | Q |
| 3+45 | 0.0332 | 0.22 | Q |
| 3+50 | 0.0348 | 0.22 | Q |
| 3+55 | 0.0364 | 0.23 | Q |
| 4+ 0 | 0.0380 | 0.24 | Q |
| 4+ 5 | 0.0397 | 0.25 | Q |
| 4+10 | 0.0416 | 0.27 | Q |
| 4+15 | 0.0436 | 0.29 | Q |
| 4+20 | 0.0457 | 0.31 | Q |
| 4+25 | 0.0479 | 0.32 | Q |
| 4+30 | 0.0502 | 0.33 | Q |
| 4+35 | 0.0525 | 0.34 | Q |
| 4+40 | 0.0550 | 0.36 | Q |
| 4+45 | 0.0576 | 0.38 | Q |
| 4+50 | 0.0603 | 0.38 | Q |
| 4+55 | 0.0630 | 0.40 | Q |
| 5+ 0 | 0.0659 | 0.41 | Q |
| 5+ 5 | 0.0692 | 0.49 | Q |
| 5+10 | 0.0732 | 0.58 | Q |
| 5+15 | 0.0776 | 0.64 | Q |
| 5+20 | 0.0824 | 0.70 | Q |
| 5+25 | 0.0877 | 0.78 | Q |
| 5+30 | 0.0940 | 0.92 | Q |
| 5+35 | 0.0974 | 0.48 | Q |
| 5+40 | 0.0985 | 0.16 | Q |
| 5+45 | 0.0990 | 0.07 | Q |
| 5+50 | 0.0993 | 0.04 | Q |
| 5+55 | 0.0994 | 0.01 | Q |
| 6+ 0 | 0.0994 | 0.00 | Q |
| 6+ 5 | 0.0994 | 0.00 | Q |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX4124100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 41
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 0.60(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.60(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 340.00(Ft.)
Length along longest watercourse measured to centroid = 159.00(Ft.)
Length along longest watercourse = 0.064 Mi.
Length along longest watercourse measured to centroid = 0.030 Mi.
Difference in elevation = 156.00(Ft.)
Slope along watercourse = 2422.5882 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.018 Hr.
Lag time = 1.07 Min.
25% of lag time = 0.27 Min.
40% of lag time = 0.43 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 1.80 | 1.08 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.60 | 4.75 | 2.85 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.750(In)

Point rain (area averaged) = 4.750(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.750(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.600 | 84.00 | 0.000 |

Total Area Entered = 0.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 468.017 | 71.794 | 0.434 |
| 2 0.167 | 936.034 | 28.206 | 0.171 |
| | | Sum = 100.000 | Sum= 0.605 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 0.07 | 0.038 | ( 0.152) | 0.034 | 0.004 |
| 2 0.17 | 0.07 | 0.038 | ( 0.152) | 0.034 | 0.004 |
| 3 0.25 | 0.07 | 0.038 | ( 0.151) | 0.034 | 0.004 |
| 4 0.33 | 0.10 | 0.057 | ( 0.150) | 0.051 | 0.006 |
| 5 0.42 | 0.10 | 0.057 | ( 0.150) | 0.051 | 0.006 |
| 6 0.50 | 0.10 | 0.057 | ( 0.149) | 0.051 | 0.006 |
| 7 0.58 | 0.10 | 0.057 | ( 0.149) | 0.051 | 0.006 |
| 8 0.67 | 0.10 | 0.057 | ( 0.148) | 0.051 | 0.006 |
| 9 0.75 | 0.10 | 0.057 | ( 0.147) | 0.051 | 0.006 |
| 10 0.83 | 0.13 | 0.076 | ( 0.147) | 0.068 | 0.008 |
| 11 0.92 | 0.13 | 0.076 | ( 0.146) | 0.068 | 0.008 |
| 12 1.00 | 0.13 | 0.076 | ( 0.146) | 0.068 | 0.008 |
| 13 1.08 | 0.10 | 0.057 | ( 0.145) | 0.051 | 0.006 |
| 14 1.17 | 0.10 | 0.057 | ( 0.145) | 0.051 | 0.006 |
| 15 1.25 | 0.10 | 0.057 | ( 0.144) | 0.051 | 0.006 |
| 16 1.33 | 0.10 | 0.057 | ( 0.143) | 0.051 | 0.006 |
| 17 1.42 | 0.10 | 0.057 | ( 0.143) | 0.051 | 0.006 |
| 18 1.50 | 0.10 | 0.057 | ( 0.142) | 0.051 | 0.006 |
| 19 1.58 | 0.10 | 0.057 | ( 0.142) | 0.051 | 0.006 |
| 20 1.67 | 0.10 | 0.057 | ( 0.141) | 0.051 | 0.006 |
| 21 1.75 | 0.10 | 0.057 | ( 0.141) | 0.051 | 0.006 |
| 22 1.83 | 0.13 | 0.076 | ( 0.140) | 0.068 | 0.008 |
| 23 1.92 | 0.13 | 0.076 | ( 0.139) | 0.068 | 0.008 |
| 24 2.00 | 0.13 | 0.076 | ( 0.139) | 0.068 | 0.008 |
| 25 2.08 | 0.13 | 0.076 | ( 0.138) | 0.068 | 0.008 |
| 26 2.17 | 0.13 | 0.076 | ( 0.138) | 0.068 | 0.008 |
| 27 2.25 | 0.13 | 0.076 | ( 0.137) | 0.068 | 0.008 |
| 28 2.33 | 0.13 | 0.076 | ( 0.137) | 0.068 | 0.008 |
| 29 2.42 | 0.13 | 0.076 | ( 0.136) | 0.068 | 0.008 |
| 30 2.50 | 0.13 | 0.076 | ( 0.136) | 0.068 | 0.008 |
| 31 2.58 | 0.17 | 0.095 | ( 0.135) | 0.085 | 0.009 |
| 32 2.67 | 0.17 | 0.095 | ( 0.134) | 0.085 | 0.009 |
| 33 2.75 | 0.17 | 0.095 | ( 0.134) | 0.085 | 0.009 |
| 34 2.83 | 0.17 | 0.095 | ( 0.133) | 0.085 | 0.009 |
| 35 2.92 | 0.17 | 0.095 | ( 0.133) | 0.085 | 0.009 |
| 36 3.00 | 0.17 | 0.095 | ( 0.132) | 0.085 | 0.009 |
| 37 3.08 | 0.17 | 0.095 | ( 0.132) | 0.085 | 0.009 |
| 38 3.17 | 0.17 | 0.095 | ( 0.131) | 0.085 | 0.009 |
| 39 3.25 | 0.17 | 0.095 | ( 0.131) | 0.085 | 0.009 |
| 40 3.33 | 0.17 | 0.095 | ( 0.130) | 0.085 | 0.009 |
| 41 3.42 | 0.17 | 0.095 | ( 0.129) | 0.085 | 0.009 |
| 42 3.50 | 0.17 | 0.095 | ( 0.129) | 0.085 | 0.009 |
| 43 3.58 | 0.17 | 0.095 | ( 0.128) | 0.085 | 0.009 |
| 44 3.67 | 0.17 | 0.095 | ( 0.128) | 0.085 | 0.009 |
| 45 3.75 | 0.17 | 0.095 | ( 0.127) | 0.085 | 0.009 |
| 46 3.83 | 0.20 | 0.114 | ( 0.127) | 0.103 | 0.011 |
| 47 3.92 | 0.20 | 0.114 | ( 0.126) | 0.103 | 0.011 |
| 48 4.00 | 0.20 | 0.114 | ( 0.126) | 0.103 | 0.011 |
| 49 4.08 | 0.20 | 0.114 | ( 0.125) | 0.103 | 0.011 |
| 50 4.17 | 0.20 | 0.114 | ( 0.125) | 0.103 | 0.011 |
| 51 4.25 | 0.20 | 0.114 | ( 0.124) | 0.103 | 0.011 |
| 52 4.33 | 0.23 | 0.133 | ( 0.124) | 0.120 | 0.013 |
| 53 4.42 | 0.23 | 0.133 | ( 0.123) | 0.120 | 0.013 |
| 54 4.50 | 0.23 | 0.133 | ( 0.123) | 0.120 | 0.013 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 55 | 4.58 | 0.23 | 0.133 | ( | 0.122) | 0.120 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.133 | ( | 0.121) | 0.120 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.133 | ( | 0.121) | 0.120 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.152 | | 0.120 | ( 0.137) | | 0.032 |
| 59 | 4.92 | 0.27 | 0.152 | | 0.120 | ( 0.137) | | 0.032 |
| 60 | 5.00 | 0.27 | 0.152 | | 0.119 | ( 0.137) | | 0.033 |
| 61 | 5.08 | 0.20 | 0.114 | ( | 0.119) | 0.103 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.114 | ( | 0.118) | 0.103 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.114 | ( | 0.118) | 0.103 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.133 | | 0.117 | ( 0.120) | | 0.016 |
| 65 | 5.42 | 0.23 | 0.133 | | 0.117 | ( 0.120) | | 0.016 |
| 66 | 5.50 | 0.23 | 0.133 | | 0.116 | ( 0.120) | | 0.017 |
| 67 | 5.58 | 0.27 | 0.152 | | 0.116 | ( 0.137) | | 0.036 |
| 68 | 5.67 | 0.27 | 0.152 | | 0.115 | ( 0.137) | | 0.037 |
| 69 | 5.75 | 0.27 | 0.152 | | 0.115 | ( 0.137) | | 0.037 |
| 70 | 5.83 | 0.27 | 0.152 | | 0.114 | ( 0.137) | | 0.038 |
| 71 | 5.92 | 0.27 | 0.152 | | 0.114 | ( 0.137) | | 0.038 |
| 72 | 6.00 | 0.27 | 0.152 | | 0.113 | ( 0.137) | | 0.039 |
| 73 | 6.08 | 0.30 | 0.171 | | 0.113 | ( 0.154) | | 0.058 |
| 74 | 6.17 | 0.30 | 0.171 | | 0.112 | ( 0.154) | | 0.059 |
| 75 | 6.25 | 0.30 | 0.171 | | 0.112 | ( 0.154) | | 0.059 |
| 76 | 6.33 | 0.30 | 0.171 | | 0.111 | ( 0.154) | | 0.060 |
| 77 | 6.42 | 0.30 | 0.171 | | 0.111 | ( 0.154) | | 0.060 |
| 78 | 6.50 | 0.30 | 0.171 | | 0.110 | ( 0.154) | | 0.061 |
| 79 | 6.58 | 0.33 | 0.190 | | 0.110 | ( 0.171) | | 0.080 |
| 80 | 6.67 | 0.33 | 0.190 | | 0.109 | ( 0.171) | | 0.081 |
| 81 | 6.75 | 0.33 | 0.190 | | 0.109 | ( 0.171) | | 0.081 |
| 82 | 6.83 | 0.33 | 0.190 | | 0.108 | ( 0.171) | | 0.082 |
| 83 | 6.92 | 0.33 | 0.190 | | 0.108 | ( 0.171) | | 0.082 |
| 84 | 7.00 | 0.33 | 0.190 | | 0.107 | ( 0.171) | | 0.083 |
| 85 | 7.08 | 0.33 | 0.190 | | 0.107 | ( 0.171) | | 0.083 |
| 86 | 7.17 | 0.33 | 0.190 | | 0.106 | ( 0.171) | | 0.084 |
| 87 | 7.25 | 0.33 | 0.190 | | 0.106 | ( 0.171) | | 0.084 |
| 88 | 7.33 | 0.37 | 0.209 | | 0.105 | ( 0.188) | | 0.104 |
| 89 | 7.42 | 0.37 | 0.209 | | 0.105 | ( 0.188) | | 0.104 |
| 90 | 7.50 | 0.37 | 0.209 | | 0.104 | ( 0.188) | | 0.105 |
| 91 | 7.58 | 0.40 | 0.228 | | 0.104 | ( 0.205) | | 0.124 |
| 92 | 7.67 | 0.40 | 0.228 | | 0.103 | ( 0.205) | | 0.125 |
| 93 | 7.75 | 0.40 | 0.228 | | 0.103 | ( 0.205) | | 0.125 |
| 94 | 7.83 | 0.43 | 0.247 | | 0.102 | ( 0.222) | | 0.145 |
| 95 | 7.92 | 0.43 | 0.247 | | 0.102 | ( 0.222) | | 0.145 |
| 96 | 8.00 | 0.43 | 0.247 | | 0.102 | ( 0.222) | | 0.145 |
| 97 | 8.08 | 0.50 | 0.285 | | 0.101 | ( 0.256) | | 0.184 |
| 98 | 8.17 | 0.50 | 0.285 | | 0.101 | ( 0.256) | | 0.184 |
| 99 | 8.25 | 0.50 | 0.285 | | 0.100 | ( 0.256) | | 0.185 |
| 100 | 8.33 | 0.50 | 0.285 | | 0.100 | ( 0.256) | | 0.185 |
| 101 | 8.42 | 0.50 | 0.285 | | 0.099 | ( 0.256) | | 0.186 |
| 102 | 8.50 | 0.50 | 0.285 | | 0.099 | ( 0.256) | | 0.186 |
| 103 | 8.58 | 0.53 | 0.304 | | 0.098 | ( 0.274) | | 0.206 |
| 104 | 8.67 | 0.53 | 0.304 | | 0.098 | ( 0.274) | | 0.206 |
| 105 | 8.75 | 0.53 | 0.304 | | 0.097 | ( 0.274) | | 0.207 |
| 106 | 8.83 | 0.57 | 0.323 | | 0.097 | ( 0.291) | | 0.226 |
| 107 | 8.92 | 0.57 | 0.323 | | 0.096 | ( 0.291) | | 0.227 |
| 108 | 9.00 | 0.57 | 0.323 | | 0.096 | ( 0.291) | | 0.227 |
| 109 | 9.08 | 0.63 | 0.361 | | 0.096 | ( 0.325) | | 0.265 |
| 110 | 9.17 | 0.63 | 0.361 | | 0.095 | ( 0.325) | | 0.266 |
| 111 | 9.25 | 0.63 | 0.361 | | 0.095 | ( 0.325) | | 0.266 |
| 112 | 9.33 | 0.67 | 0.380 | | 0.094 | ( 0.342) | | 0.286 |
| 113 | 9.42 | 0.67 | 0.380 | | 0.094 | ( 0.342) | | 0.286 |
| 114 | 9.50 | 0.67 | 0.380 | | 0.093 | ( 0.342) | | 0.287 |
| 115 | 9.58 | 0.70 | 0.399 | | 0.093 | ( 0.359) | | 0.306 |
| 116 | 9.67 | 0.70 | 0.399 | | 0.092 | ( 0.359) | | 0.307 |
| 117 | 9.75 | 0.70 | 0.399 | | 0.092 | ( 0.359) | | 0.307 |
| 118 | 9.83 | 0.73 | 0.418 | | 0.091 | ( 0.376) | | 0.327 |
| 119 | 9.92 | 0.73 | 0.418 | | 0.091 | ( 0.376) | | 0.327 |
| 120 | 10.00 | 0.73 | 0.418 | | 0.091 | ( 0.376) | | 0.327 |
| 121 | 10.08 | 0.50 | 0.285 | | 0.090 | ( 0.256) | | 0.195 |
| 122 | 10.17 | 0.50 | 0.285 | | 0.090 | ( 0.256) | | 0.195 |
| 123 | 10.25 | 0.50 | 0.285 | | 0.089 | ( 0.256) | | 0.196 |
| 124 | 10.33 | 0.50 | 0.285 | | 0.089 | ( 0.256) | | 0.196 |
| 125 | 10.42 | 0.50 | 0.285 | | 0.088 | ( 0.256) | | 0.197 |
| 126 | 10.50 | 0.50 | 0.285 | | 0.088 | ( 0.256) | | 0.197 |
| 127 | 10.58 | 0.67 | 0.380 | | 0.088 | ( 0.342) | | 0.292 |
| 128 | 10.67 | 0.67 | 0.380 | | 0.087 | ( 0.342) | | 0.293 |
| 129 | 10.75 | 0.67 | 0.380 | | 0.087 | ( 0.342) | | 0.293 |
| 130 | 10.83 | 0.67 | 0.380 | | 0.086 | ( 0.342) | | 0.294 |
| 131 | 10.92 | 0.67 | 0.380 | | 0.086 | ( 0.342) | | 0.294 |
| 132 | 11.00 | 0.67 | 0.380 | | 0.085 | ( 0.342) | | 0.295 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 133 | 11.08 | 0.63 | 0.361 | 0.085 | ( 0.325) | 0.276 |
| 134 | 11.17 | 0.63 | 0.361 | 0.085 | ( 0.325) | 0.276 |
| 135 | 11.25 | 0.63 | 0.361 | 0.084 | ( 0.325) | 0.277 |
| 136 | 11.33 | 0.63 | 0.361 | 0.084 | ( 0.325) | 0.277 |
| 137 | 11.42 | 0.63 | 0.361 | 0.083 | ( 0.325) | 0.278 |
| 138 | 11.50 | 0.63 | 0.361 | 0.083 | ( 0.325) | 0.278 |
| 139 | 11.58 | 0.57 | 0.323 | 0.083 | ( 0.291) | 0.240 |
| 140 | 11.67 | 0.57 | 0.323 | 0.082 | ( 0.291) | 0.241 |
| 141 | 11.75 | 0.57 | 0.323 | 0.082 | ( 0.291) | 0.241 |
| 142 | 11.83 | 0.60 | 0.342 | 0.081 | ( 0.308) | 0.261 |
| 143 | 11.92 | 0.60 | 0.342 | 0.081 | ( 0.308) | 0.261 |
| 144 | 12.00 | 0.60 | 0.342 | 0.080 | ( 0.308) | 0.262 |
| 145 | 12.08 | 0.83 | 0.475 | 0.080 | ( 0.427) | 0.395 |
| 146 | 12.17 | 0.83 | 0.475 | 0.080 | ( 0.427) | 0.395 |
| 147 | 12.25 | 0.83 | 0.475 | 0.079 | ( 0.427) | 0.396 |
| 148 | 12.33 | 0.87 | 0.494 | 0.079 | ( 0.445) | 0.415 |
| 149 | 12.42 | 0.87 | 0.494 | 0.078 | ( 0.445) | 0.416 |
| 150 | 12.50 | 0.87 | 0.494 | 0.078 | ( 0.445) | 0.416 |
| 151 | 12.58 | 0.93 | 0.532 | 0.078 | ( 0.479) | 0.454 |
| 152 | 12.67 | 0.93 | 0.532 | 0.077 | ( 0.479) | 0.455 |
| 153 | 12.75 | 0.93 | 0.532 | 0.077 | ( 0.479) | 0.455 |
| 154 | 12.83 | 0.97 | 0.551 | 0.077 | ( 0.496) | 0.474 |
| 155 | 12.92 | 0.97 | 0.551 | 0.076 | ( 0.496) | 0.475 |
| 156 | 13.00 | 0.97 | 0.551 | 0.076 | ( 0.496) | 0.475 |
| 157 | 13.08 | 1.13 | 0.646 | 0.075 | ( 0.581) | 0.571 |
| 158 | 13.17 | 1.13 | 0.646 | 0.075 | ( 0.581) | 0.571 |
| 159 | 13.25 | 1.13 | 0.646 | 0.075 | ( 0.581) | 0.571 |
| 160 | 13.33 | 1.13 | 0.646 | 0.074 | ( 0.581) | 0.572 |
| 161 | 13.42 | 1.13 | 0.646 | 0.074 | ( 0.581) | 0.572 |
| 162 | 13.50 | 1.13 | 0.646 | 0.073 | ( 0.581) | 0.573 |
| 163 | 13.58 | 0.77 | 0.437 | 0.073 | ( 0.393) | 0.364 |
| 164 | 13.67 | 0.77 | 0.437 | 0.073 | ( 0.393) | 0.364 |
| 165 | 13.75 | 0.77 | 0.437 | 0.072 | ( 0.393) | 0.365 |
| 166 | 13.83 | 0.77 | 0.437 | 0.072 | ( 0.393) | 0.365 |
| 167 | 13.92 | 0.77 | 0.437 | 0.072 | ( 0.393) | 0.365 |
| 168 | 14.00 | 0.77 | 0.437 | 0.071 | ( 0.393) | 0.366 |
| 169 | 14.08 | 0.90 | 0.513 | 0.071 | ( 0.462) | 0.442 |
| 170 | 14.17 | 0.90 | 0.513 | 0.071 | ( 0.462) | 0.442 |
| 171 | 14.25 | 0.90 | 0.513 | 0.070 | ( 0.462) | 0.443 |
| 172 | 14.33 | 0.87 | 0.494 | 0.070 | ( 0.445) | 0.424 |
| 173 | 14.42 | 0.87 | 0.494 | 0.069 | ( 0.445) | 0.425 |
| 174 | 14.50 | 0.87 | 0.494 | 0.069 | ( 0.445) | 0.425 |
| 175 | 14.58 | 0.87 | 0.494 | 0.069 | ( 0.445) | 0.425 |
| 176 | 14.67 | 0.87 | 0.494 | 0.068 | ( 0.445) | 0.426 |
| 177 | 14.75 | 0.87 | 0.494 | 0.068 | ( 0.445) | 0.426 |
| 178 | 14.83 | 0.83 | 0.475 | 0.068 | ( 0.427) | 0.407 |
| 179 | 14.92 | 0.83 | 0.475 | 0.067 | ( 0.427) | 0.408 |
| 180 | 15.00 | 0.83 | 0.475 | 0.067 | ( 0.427) | 0.408 |
| 181 | 15.08 | 0.80 | 0.456 | 0.067 | ( 0.410) | 0.389 |
| 182 | 15.17 | 0.80 | 0.456 | 0.066 | ( 0.410) | 0.390 |
| 183 | 15.25 | 0.80 | 0.456 | 0.066 | ( 0.410) | 0.390 |
| 184 | 15.33 | 0.77 | 0.437 | 0.066 | ( 0.393) | 0.371 |
| 185 | 15.42 | 0.77 | 0.437 | 0.065 | ( 0.393) | 0.372 |
| 186 | 15.50 | 0.77 | 0.437 | 0.065 | ( 0.393) | 0.372 |
| 187 | 15.58 | 0.63 | 0.361 | 0.065 | ( 0.325) | 0.296 |
| 188 | 15.67 | 0.63 | 0.361 | 0.064 | ( 0.325) | 0.297 |
| 189 | 15.75 | 0.63 | 0.361 | 0.064 | ( 0.325) | 0.297 |
| 190 | 15.83 | 0.63 | 0.361 | 0.064 | ( 0.325) | 0.297 |
| 191 | 15.92 | 0.63 | 0.361 | 0.063 | ( 0.325) | 0.298 |
| 192 | 16.00 | 0.63 | 0.361 | 0.063 | ( 0.325) | 0.298 |
| 193 | 16.08 | 0.13 | 0.076 | 0.063 | ( 0.068) | 0.013 |
| 194 | 16.17 | 0.13 | 0.076 | 0.062 | ( 0.068) | 0.014 |
| 195 | 16.25 | 0.13 | 0.076 | 0.062 | ( 0.068) | 0.014 |
| 196 | 16.33 | 0.13 | 0.076 | 0.062 | ( 0.068) | 0.014 |
| 197 | 16.42 | 0.13 | 0.076 | 0.061 | ( 0.068) | 0.015 |
| 198 | 16.50 | 0.13 | 0.076 | 0.061 | ( 0.068) | 0.015 |
| 199 | 16.58 | 0.10 | 0.057 | ( 0.061) | 0.051 | 0.006 |
| 200 | 16.67 | 0.10 | 0.057 | ( 0.060) | 0.051 | 0.006 |
| 201 | 16.75 | 0.10 | 0.057 | ( 0.060) | 0.051 | 0.006 |
| 202 | 16.83 | 0.10 | 0.057 | ( 0.060) | 0.051 | 0.006 |
| 203 | 16.92 | 0.10 | 0.057 | ( 0.060) | 0.051 | 0.006 |
| 204 | 17.00 | 0.10 | 0.057 | ( 0.059) | 0.051 | 0.006 |
| 205 | 17.08 | 0.17 | 0.095 | 0.059 | ( 0.085) | 0.036 |
| 206 | 17.17 | 0.17 | 0.095 | 0.059 | ( 0.085) | 0.036 |
| 207 | 17.25 | 0.17 | 0.095 | 0.058 | ( 0.085) | 0.037 |
| 208 | 17.33 | 0.17 | 0.095 | 0.058 | ( 0.085) | 0.037 |
| 209 | 17.42 | 0.17 | 0.095 | 0.058 | ( 0.085) | 0.037 |
| 210 | 17.50 | 0.17 | 0.095 | 0.058 | ( 0.085) | 0.037 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 211 | 17.58 | 0.17 | 0.095 | | 0.057 | ( | 0.085) | 0.038 |
| 212 | 17.67 | 0.17 | 0.095 | | 0.057 | ( | 0.085) | 0.038 |
| 213 | 17.75 | 0.17 | 0.095 | | 0.057 | ( | 0.085) | 0.038 |
| 214 | 17.83 | 0.13 | 0.076 | | 0.056 | ( | 0.068) | 0.020 |
| 215 | 17.92 | 0.13 | 0.076 | | 0.056 | ( | 0.068) | 0.020 |
| 216 | 18.00 | 0.13 | 0.076 | | 0.056 | ( | 0.068) | 0.020 |
| 217 | 18.08 | 0.13 | 0.076 | | 0.056 | ( | 0.068) | 0.020 |
| 218 | 18.17 | 0.13 | 0.076 | | 0.055 | ( | 0.068) | 0.021 |
| 219 | 18.25 | 0.13 | 0.076 | | 0.055 | ( | 0.068) | 0.021 |
| 220 | 18.33 | 0.13 | 0.076 | | 0.055 | ( | 0.068) | 0.021 |
| 221 | 18.42 | 0.13 | 0.076 | | 0.054 | ( | 0.068) | 0.022 |
| 222 | 18.50 | 0.13 | 0.076 | | 0.054 | ( | 0.068) | 0.022 |
| 223 | 18.58 | 0.10 | 0.057 | ( | 0.054) | | 0.051 | 0.006 |
| 224 | 18.67 | 0.10 | 0.057 | ( | 0.054) | | 0.051 | 0.006 |
| 225 | 18.75 | 0.10 | 0.057 | ( | 0.053) | | 0.051 | 0.006 |
| 226 | 18.83 | 0.07 | 0.038 | ( | 0.053) | | 0.034 | 0.004 |
| 227 | 18.92 | 0.07 | 0.038 | ( | 0.053) | | 0.034 | 0.004 |
| 228 | 19.00 | 0.07 | 0.038 | ( | 0.053) | | 0.034 | 0.004 |
| 229 | 19.08 | 0.10 | 0.057 | ( | 0.052) | | 0.051 | 0.006 |
| 230 | 19.17 | 0.10 | 0.057 | ( | 0.052) | | 0.051 | 0.006 |
| 231 | 19.25 | 0.10 | 0.057 | ( | 0.052) | | 0.051 | 0.006 |
| 232 | 19.33 | 0.13 | 0.076 | | 0.052 | ( | 0.068) | 0.024 |
| 233 | 19.42 | 0.13 | 0.076 | | 0.051 | ( | 0.068) | 0.025 |
| 234 | 19.50 | 0.13 | 0.076 | | 0.051 | ( | 0.068) | 0.025 |
| 235 | 19.58 | 0.10 | 0.057 | | 0.051 | ( | 0.051) | 0.006 |
| 236 | 19.67 | 0.10 | 0.057 | | 0.051 | ( | 0.051) | 0.006 |
| 237 | 19.75 | 0.10 | 0.057 | | 0.050 | ( | 0.051) | 0.007 |
| 238 | 19.83 | 0.07 | 0.038 | ( | 0.050) | | 0.034 | 0.004 |
| 239 | 19.92 | 0.07 | 0.038 | ( | 0.050) | | 0.034 | 0.004 |
| 240 | 20.00 | 0.07 | 0.038 | ( | 0.050) | | 0.034 | 0.004 |
| 241 | 20.08 | 0.10 | 0.057 | | 0.050 | ( | 0.051) | 0.007 |
| 242 | 20.17 | 0.10 | 0.057 | | 0.049 | ( | 0.051) | 0.008 |
| 243 | 20.25 | 0.10 | 0.057 | | 0.049 | ( | 0.051) | 0.008 |
| 244 | 20.33 | 0.10 | 0.057 | | 0.049 | ( | 0.051) | 0.008 |
| 245 | 20.42 | 0.10 | 0.057 | | 0.049 | ( | 0.051) | 0.008 |
| 246 | 20.50 | 0.10 | 0.057 | | 0.049 | ( | 0.051) | 0.008 |
| 247 | 20.58 | 0.10 | 0.057 | | 0.048 | ( | 0.051) | 0.009 |
| 248 | 20.67 | 0.10 | 0.057 | | 0.048 | ( | 0.051) | 0.009 |
| 249 | 20.75 | 0.10 | 0.057 | | 0.048 | ( | 0.051) | 0.009 |
| 250 | 20.83 | 0.07 | 0.038 | ( | 0.048) | | 0.034 | 0.004 |
| 251 | 20.92 | 0.07 | 0.038 | ( | 0.048) | | 0.034 | 0.004 |
| 252 | 21.00 | 0.07 | 0.038 | ( | 0.047) | | 0.034 | 0.004 |
| 253 | 21.08 | 0.10 | 0.057 | | 0.047 | ( | 0.051) | 0.010 |
| 254 | 21.17 | 0.10 | 0.057 | | 0.047 | ( | 0.051) | 0.010 |
| 255 | 21.25 | 0.10 | 0.057 | | 0.047 | ( | 0.051) | 0.010 |
| 256 | 21.33 | 0.07 | 0.038 | ( | 0.047) | | 0.034 | 0.004 |
| 257 | 21.42 | 0.07 | 0.038 | ( | 0.046) | | 0.034 | 0.004 |
| 258 | 21.50 | 0.07 | 0.038 | ( | 0.046) | | 0.034 | 0.004 |
| 259 | 21.58 | 0.10 | 0.057 | | 0.046 | ( | 0.051) | 0.011 |
| 260 | 21.67 | 0.10 | 0.057 | | 0.046 | ( | 0.051) | 0.011 |
| 261 | 21.75 | 0.10 | 0.057 | | 0.046 | ( | 0.051) | 0.011 |
| 262 | 21.83 | 0.07 | 0.038 | ( | 0.046) | | 0.034 | 0.004 |
| 263 | 21.92 | 0.07 | 0.038 | ( | 0.045) | | 0.034 | 0.004 |
| 264 | 22.00 | 0.07 | 0.038 | ( | 0.045) | | 0.034 | 0.004 |
| 265 | 22.08 | 0.10 | 0.057 | | 0.045 | ( | 0.051) | 0.012 |
| 266 | 22.17 | 0.10 | 0.057 | | 0.045 | ( | 0.051) | 0.012 |
| 267 | 22.25 | 0.10 | 0.057 | | 0.045 | ( | 0.051) | 0.012 |
| 268 | 22.33 | 0.07 | 0.038 | ( | 0.045) | | 0.034 | 0.004 |
| 269 | 22.42 | 0.07 | 0.038 | ( | 0.045) | | 0.034 | 0.004 |
| 270 | 22.50 | 0.07 | 0.038 | ( | 0.044) | | 0.034 | 0.004 |
| 271 | 22.58 | 0.07 | 0.038 | ( | 0.044) | | 0.034 | 0.004 |
| 272 | 22.67 | 0.07 | 0.038 | ( | 0.044) | | 0.034 | 0.004 |
| 273 | 22.75 | 0.07 | 0.038 | ( | 0.044) | | 0.034 | 0.004 |
| 274 | 22.83 | 0.07 | 0.038 | ( | 0.044) | | 0.034 | 0.004 |
| 275 | 22.92 | 0.07 | 0.038 | ( | 0.044) | | 0.034 | 0.004 |
| 276 | 23.00 | 0.07 | 0.038 | ( | 0.044) | | 0.034 | 0.004 |
| 277 | 23.08 | 0.07 | 0.038 | ( | 0.044) | | 0.034 | 0.004 |
| 278 | 23.17 | 0.07 | 0.038 | ( | 0.044) | | 0.034 | 0.004 |
| 279 | 23.25 | 0.07 | 0.038 | ( | 0.043) | | 0.034 | 0.004 |
| 280 | 23.33 | 0.07 | 0.038 | ( | 0.043) | | 0.034 | 0.004 |
| 281 | 23.42 | 0.07 | 0.038 | ( | 0.043) | | 0.034 | 0.004 |
| 282 | 23.50 | 0.07 | 0.038 | ( | 0.043) | | 0.034 | 0.004 |
| 283 | 23.58 | 0.07 | 0.038 | ( | 0.043) | | 0.034 | 0.004 |
| 284 | 23.67 | 0.07 | 0.038 | ( | 0.043) | | 0.034 | 0.004 |
| 285 | 23.75 | 0.07 | 0.038 | ( | 0.043) | | 0.034 | 0.004 |
| 286 | 23.83 | 0.07 | 0.038 | ( | 0.043) | | 0.034 | 0.004 |
| 287 | 23.92 | 0.07 | 0.038 | ( | 0.043) | | 0.034 | 0.004 |
| 288 | 24.00 | 0.07 | 0.038 | ( | 0.043) | | 0.034 | 0.004 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 36.3

Flood volume = Effective rainfall 3.02(In)
times area 0.6(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 1.73(In)
Total soil loss = 0.086(Ac.Ft)
Total rainfall = 4.75(In)
Flood volume = 6580.4 Cubic Feet
Total soil loss = 3765.1 Cubic Feet

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Peak flow rate of this hydrograph = 0.346(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0000 | 0.00 | Q | | | | |
| 0+10 | 0.0000 | 0.00 | Q | | | | |
| 0+15 | 0.0000 | 0.00 | Q | | | | |
| 0+20 | 0.0001 | 0.00 | Q | | | | |
| 0+25 | 0.0001 | 0.00 | Q | | | | |
| 0+30 | 0.0001 | 0.00 | Q | | | | |
| 0+35 | 0.0001 | 0.00 | Q | | | | |
| 0+40 | 0.0002 | 0.00 | Q | | | | |
| 0+45 | 0.0002 | 0.00 | Q | | | | |
| 0+50 | 0.0002 | 0.00 | Q | | | | |
| 0+55 | 0.0002 | 0.00 | Q | | | | |
| 1+ 0 | 0.0003 | 0.00 | Q | | | | |
| 1+ 5 | 0.0003 | 0.00 | Q | | | | |
| 1+10 | 0.0003 | 0.00 | Q | | | | |
| 1+15 | 0.0003 | 0.00 | Q | | | | |
| 1+20 | 0.0004 | 0.00 | Q | | | | |
| 1+25 | 0.0004 | 0.00 | Q | | | | |
| 1+30 | 0.0004 | 0.00 | Q | | | | |
| 1+35 | 0.0004 | 0.00 | Q | | | | |
| 1+40 | 0.0005 | 0.00 | Q | | | | |
| 1+45 | 0.0005 | 0.00 | Q | | | | |
| 1+50 | 0.0005 | 0.00 | Q | | | | |
| 1+55 | 0.0006 | 0.00 | Q | | | | |
| 2+ 0 | 0.0006 | 0.00 | Q | | | | |
| 2+ 5 | 0.0006 | 0.00 | Q | | | | |
| 2+10 | 0.0006 | 0.00 | Q | | | | |
| 2+15 | 0.0007 | 0.00 | Q | | | | |
| 2+20 | 0.0007 | 0.00 | Q | | | | |
| 2+25 | 0.0007 | 0.00 | Q | | | | |
| 2+30 | 0.0008 | 0.00 | Q | | | | |
| 2+35 | 0.0008 | 0.01 | Q | | | | |
| 2+40 | 0.0009 | 0.01 | Q | | | | |
| 2+45 | 0.0009 | 0.01 | Q | | | | |
| 2+50 | 0.0009 | 0.01 | Q | | | | |
| 2+55 | 0.0010 | 0.01 | Q | | | | |
| 3+ 0 | 0.0010 | 0.01 | Q | | | | |
| 3+ 5 | 0.0010 | 0.01 | Q | | | | |
| 3+10 | 0.0011 | 0.01 | Q | | | | |
| 3+15 | 0.0011 | 0.01 | Q | | | | |
| 3+20 | 0.0012 | 0.01 | Q | | | | |
| 3+25 | 0.0012 | 0.01 | Q | | | | |
| 3+30 | 0.0012 | 0.01 | Q | | | | |
| 3+35 | 0.0013 | 0.01 | Q | | | | |
| 3+40 | 0.0013 | 0.01 | Q | | | | |
| 3+45 | 0.0014 | 0.01 | Q | | | | |
| 3+50 | 0.0014 | 0.01 | Q | | | | |
| 3+55 | 0.0015 | 0.01 | Q | | | | |
| 4+ 0 | 0.0015 | 0.01 | Q | | | | |
| 4+ 5 | 0.0016 | 0.01 | Q | | | | |
| 4+10 | 0.0016 | 0.01 | Q | | | | |
| 4+15 | 0.0016 | 0.01 | Q | | | | |
| 4+20 | 0.0017 | 0.01 | Q | | | | |
| 4+25 | 0.0018 | 0.01 | Q | | | | |
| 4+30 | 0.0018 | 0.01 | Q | | | | |
| 4+35 | 0.0019 | 0.01 | Q | | | | |
| 4+40 | 0.0019 | 0.01 | Q | | | | |
| 4+45 | 0.0020 | 0.01 | Q | | | | |

```
 4+50       0.0021      0.02  Q          |          |          |          |
 4+55       0.0022      0.02  Q          |          |          |          |
 5+ 0       0.0024      0.02  Q          |          |          |          |
 5+ 5       0.0024      0.01  Q          |          |          |          |
 5+10       0.0025      0.01  Q          |          |          |          |
 5+15       0.0025      0.01  Q          |          |          |          |
 5+20       0.0026      0.01  Q          |          |          |          |
 5+25       0.0027      0.01  Q          |          |          |          |
 5+30       0.0027      0.01  Q          |          |          |          |
 5+35       0.0028      0.02  Q          |          |          |          |
 5+40       0.0030      0.02  Q          |          |          |          |
 5+45       0.0032      0.02  Q          |          |          |          |
 5+50       0.0033      0.02  Q          |          |          |          |
 5+55       0.0035      0.02  Q          |          |          |          |
 6+ 0       0.0036      0.02  Q          |          |          |          |
 6+ 5       0.0039      0.03  QV         |          |          |          |
 6+10       0.0041      0.04  QV         |          |          |          |
 6+15       0.0043      0.04  QV         |          |          |          |
 6+20       0.0046      0.04  QV         |          |          |          |
 6+25       0.0048      0.04  QV         |          |          |          |
 6+30       0.0051      0.04  QV         |          |          |          |
 6+35       0.0054      0.05  QV         |          |          |          |
 6+40       0.0057      0.05  QV         |          |          |          |
 6+45       0.0061      0.05  QV         |          |          |          |
 6+50       0.0064      0.05  QV         |          |          |          |
 6+55       0.0068      0.05  QV         |          |          |          |
 7+ 0       0.0071      0.05  QV         |          |          |          |
 7+ 5       0.0075      0.05  QV         |          |          |          |
 7+10       0.0078      0.05  Q V        |          |          |          |
 7+15       0.0081      0.05  Q V        |          |          |          |
 7+20       0.0086      0.06  Q V        |          |          |          |
 7+25       0.0090      0.06  Q V        |          |          |          |
 7+30       0.0094      0.06  Q V        |          |          |          |
 7+35       0.0099      0.07  Q V        |          |          |          |
 7+40       0.0104      0.08  Q V        |          |          |          |
 7+45       0.0110      0.08  Q V        |          |          |          |
 7+50       0.0115      0.08  Q  V       |          |          |          |
 7+55       0.0121      0.09  Q  V       |          |          |          |
 8+ 0       0.0127      0.09  Q  V       |          |          |          |
 8+ 5       0.0135      0.10  Q  V       |          |          |          |
 8+10       0.0142      0.11  Q  V       |          |          |          |
 8+15       0.0150      0.11  Q  V       |          |          |          |
 8+20       0.0158      0.11  Q   V      |          |          |          |
 8+25       0.0166      0.11  Q   V      |          |          |          |
 8+30       0.0173      0.11  Q   V      |          |          |          |
 8+35       0.0182      0.12  Q   V      |          |          |          |
 8+40       0.0190      0.12  Q    V     |          |          |          |
 8+45       0.0199      0.12  Q    V     |          |          |          |
 8+50       0.0208      0.13  Q    V     |          |          |          |
 8+55       0.0217      0.14  Q    V     |          |          |          |
 9+ 0       0.0227      0.14  Q     V    |          |          |          |
 9+ 5       0.0238      0.15  Q     V    |          |          |          |
 9+10       0.0249      0.16  Q     V    |          |          |          |
 9+15       0.0260      0.16  Q     V    |          |          |          |
 9+20       0.0271      0.17  Q      V   |          |          |          |
 9+25       0.0283      0.17  Q      V   |          |          |          |
 9+30       0.0295      0.17  Q      V   |          |          |          |
 9+35       0.0308      0.18  Q       V  |          |          |          |
 9+40       0.0321      0.19  Q       V  |          |          |          |
 9+45       0.0333      0.19  Q       V  |          |          |          |
 9+50       0.0347      0.19  Q        V |          |          |          |
 9+55       0.0360      0.20  Q        V |          |          |          |
10+ 0       0.0374      0.20  Q        V |          |          |          |
10+ 5       0.0384      0.14  Q         V          |          |          |
10+10       0.0392      0.12  Q         V          |          |          |
10+15       0.0400      0.12  Q         V          |          |          |
10+20       0.0408      0.12  Q         V          |          |          |
10+25       0.0416      0.12  Q         |V         |          |          |
10+30       0.0424      0.12  Q         |V         |          |          |
10+35       0.0436      0.16  Q         |V         |          |          |
10+40       0.0448      0.18  Q         |V         |          |          |
10+45       0.0460      0.18  Q         | V        |          |          |
10+50       0.0472      0.18  Q         | V        |          |          |
10+55       0.0484      0.18  Q         | V        |          |          |
11+ 0       0.0497      0.18  Q         |  V       |          |          |
11+ 5       0.0508      0.17  Q         |  V       |          |          |
11+10       0.0520      0.17  Q         |  V       |          |          |
11+15       0.0531      0.17  Q         |   V      |          |          |
```

| | | | | |
|---|---|---|---|---|
| 11+20 | 0.0543 | 0.17 | Q | \| V \| \| \| |
| 11+25 | 0.0555 | 0.17 | Q | \| V \| \| \| |
| 11+30 | 0.0566 | 0.17 | Q | \| V \| \| \| |
| 11+35 | 0.0577 | 0.15 | Q | \| V \| \| \| |
| 11+40 | 0.0587 | 0.15 | Q | \| V \| \| \| |
| 11+45 | 0.0597 | 0.15 | Q | \| V \| \| \| |
| 11+50 | 0.0607 | 0.15 | Q | \| V \| \| \| |
| 11+55 | 0.0618 | 0.16 | Q | \| V \| \| \| |
| 12+ 0 | 0.0629 | 0.16 | Q | \| V \| \| \| |
| 12+ 5 | 0.0644 | 0.22 | Q | \| V \| \| \| |
| 12+10 | 0.0660 | 0.24 | Q | \| V \| \| \| |
| 12+15 | 0.0677 | 0.24 | Q | \| V \| \| \| |
| 12+20 | 0.0694 | 0.25 | Q | \| V \| \| \| |
| 12+25 | 0.0711 | 0.25 | \|Q | \| V \| \| \| |
| 12+30 | 0.0729 | 0.25 | \|Q | \| V\| \| \| |
| 12+35 | 0.0747 | 0.27 | \|Q | \| V\| \| \| |
| 12+40 | 0.0766 | 0.28 | \|Q | \| V \| \| |
| 12+45 | 0.0785 | 0.28 | \|Q | \| V \| \| |
| 12+50 | 0.0805 | 0.28 | \|Q | \| \|V \| \| |
| 12+55 | 0.0824 | 0.29 | \|Q | \| \|V \| \| |
| 13+ 0 | 0.0844 | 0.29 | \|Q | \| V \| \| |
| 13+ 5 | 0.0867 | 0.33 | \|Q | \| V \| \| |
| 13+10 | 0.0891 | 0.35 | \|Q | \| V \| \| |
| 13+15 | 0.0914 | 0.35 | \|Q | \| V \| \| |
| 13+20 | 0.0938 | 0.35 | \|Q | \| V \| \| |
| 13+25 | 0.0962 | 0.35 | \|Q | \| V \| \| |
| 13+30 | 0.0986 | 0.35 | \|Q | \| V \| \| |
| 13+35 | 0.1003 | 0.26 | \|Q | \| V \| \| |
| 13+40 | 0.1019 | 0.22 | Q | \| V \| \| |
| 13+45 | 0.1034 | 0.22 | Q | \| V \| \| |
| 13+50 | 0.1049 | 0.22 | Q | \| V \| \| |
| 13+55 | 0.1064 | 0.22 | Q | \| V \| \| |
| 14+ 0 | 0.1079 | 0.22 | Q | \| V \| \| |
| 14+ 5 | 0.1097 | 0.25 | \|Q | \| V\| \| |
| 14+10 | 0.1115 | 0.27 | \|Q | \| V\| \| |
| 14+15 | 0.1134 | 0.27 | \|Q | \| V \| |
| 14+20 | 0.1152 | 0.26 | \|Q | \| V \| |
| 14+25 | 0.1169 | 0.26 | \|Q | \| V \| |
| 14+30 | 0.1187 | 0.26 | \|Q | \| \|V \| |
| 14+35 | 0.1205 | 0.26 | \|Q | \| \|V \| |
| 14+40 | 0.1223 | 0.26 | \|Q | \| \| V \| |
| 14+45 | 0.1240 | 0.26 | \|Q | \| \| V \| |
| 14+50 | 0.1258 | 0.25 | Q | \| \| V \| |
| 14+55 | 0.1275 | 0.25 | Q | \| \| V \| |
| 15+ 0 | 0.1292 | 0.25 | Q | \| \| V \| |
| 15+ 5 | 0.1308 | 0.24 | Q | \| \| V \| |
| 15+10 | 0.1324 | 0.24 | Q | \| \| V \| |
| 15+15 | 0.1340 | 0.24 | Q | \| \| V \| |
| 15+20 | 0.1356 | 0.23 | Q | \| \| V \| |
| 15+25 | 0.1372 | 0.22 | Q | \| \| V \| |
| 15+30 | 0.1387 | 0.23 | Q | \| \| V \| |
| 15+35 | 0.1400 | 0.19 | Q | \| \| V \| |
| 15+40 | 0.1413 | 0.18 | Q | \| \| V \| |
| 15+45 | 0.1425 | 0.18 | Q | \| \| V \| |
| 15+50 | 0.1437 | 0.18 | Q | \| \| V \| |
| 15+55 | 0.1450 | 0.18 | Q | \| \| V \| |
| 16+ 0 | 0.1462 | 0.18 | Q | \| \| V \| |
| 16+ 5 | 0.1466 | 0.06 | Q | \| \| V \| |
| 16+10 | 0.1467 | 0.01 | Q | \| \| V \| |
| 16+15 | 0.1467 | 0.01 | Q | \| \| V \| |
| 16+20 | 0.1468 | 0.01 | Q | \| \| V \| |
| 16+25 | 0.1469 | 0.01 | Q | \| \| V \| |
| 16+30 | 0.1469 | 0.01 | Q | \| \| V \| |
| 16+35 | 0.1469 | 0.01 | Q | \| \| V \| |
| 16+40 | 0.1470 | 0.00 | Q | \| \| V \| |
| 16+45 | 0.1470 | 0.00 | Q | \| \| V \| |
| 16+50 | 0.1470 | 0.00 | Q | \| \| V \| |
| 16+55 | 0.1470 | 0.00 | Q | \| \| V \| |
| 17+ 0 | 0.1471 | 0.00 | Q | \| \| V \| |
| 17+ 5 | 0.1472 | 0.02 | Q | \| \| V \| |
| 17+10 | 0.1473 | 0.02 | Q | \| \| V\| |
| 17+15 | 0.1475 | 0.02 | Q | \| \| V\| |
| 17+20 | 0.1476 | 0.02 | Q | \| \| V\| |
| 17+25 | 0.1478 | 0.02 | Q | \| \| V\| |
| 17+30 | 0.1479 | 0.02 | Q | \| \| V\| |
| 17+35 | 0.1481 | 0.02 | Q | \| \| V\| |
| 17+40 | 0.1483 | 0.02 | Q | \| \| V\| |
| 17+45 | 0.1484 | 0.02 | Q | \| \| V\| |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+50 | 0.1485 | 0.02 | Q | \| | \| | \| | V\| |
| 17+55 | 0.1486 | 0.01 | Q | \| | \| | \| | V\| |
| 18+ 0 | 0.1487 | 0.01 | Q | \| | \| | \| | V\| |
| 18+ 5 | 0.1488 | 0.01 | Q | \| | \| | \| | V\| |
| 18+10 | 0.1489 | 0.01 | Q | \| | \| | \| | V\| |
| 18+15 | 0.1490 | 0.01 | Q | \| | \| | \| | V\| |
| 18+20 | 0.1490 | 0.01 | Q | \| | \| | \| | V\| |
| 18+25 | 0.1491 | 0.01 | Q | \| | \| | \| | V\| |
| 18+30 | 0.1492 | 0.01 | Q | \| | \| | \| | V\| |
| 18+35 | 0.1493 | 0.01 | Q | \| | \| | \| | V\| |
| 18+40 | 0.1493 | 0.00 | Q | \| | \| | \| | V\| |
| 18+45 | 0.1493 | 0.00 | Q | \| | \| | \| | V\| |
| 18+50 | 0.1493 | 0.00 | Q | \| | \| | \| | V\| |
| 18+55 | 0.1493 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 0 | 0.1494 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 5 | 0.1494 | 0.00 | Q | \| | \| | \| | V\| |
| 19+10 | 0.1494 | 0.00 | Q | \| | \| | \| | V\| |
| 19+15 | 0.1494 | 0.00 | Q | \| | \| | \| | V\| |
| 19+20 | 0.1495 | 0.01 | Q | \| | \| | \| | V\| |
| 19+25 | 0.1496 | 0.01 | Q | \| | \| | \| | V\| |
| 19+30 | 0.1497 | 0.01 | Q | \| | \| | \| | V\| |
| 19+35 | 0.1498 | 0.01 | Q | \| | \| | \| | V\| |
| 19+40 | 0.1498 | 0.00 | Q | \| | \| | \| | V\| |
| 19+45 | 0.1498 | 0.00 | Q | \| | \| | \| | V\| |
| 19+50 | 0.1498 | 0.00 | Q | \| | \| | \| | V\| |
| 19+55 | 0.1498 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 0 | 0.1499 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 5 | 0.1499 | 0.00 | Q | \| | \| | \| | V\| |
| 20+10 | 0.1499 | 0.00 | Q | \| | \| | \| | V\| |
| 20+15 | 0.1500 | 0.00 | Q | \| | \| | \| | V\| |
| 20+20 | 0.1500 | 0.00 | Q | \| | \| | \| | V\| |
| 20+25 | 0.1500 | 0.00 | Q | \| | \| | \| | V\| |
| 20+30 | 0.1501 | 0.01 | Q | \| | \| | \| | V\| |
| 20+35 | 0.1501 | 0.01 | Q | \| | \| | \| | V\| |
| 20+40 | 0.1501 | 0.01 | Q | \| | \| | \| | V\| |
| 20+45 | 0.1502 | 0.01 | Q | \| | \| | \| | V\| |
| 20+50 | 0.1502 | 0.00 | Q | \| | \| | \| | V\| |
| 20+55 | 0.1502 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 0 | 0.1502 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 5 | 0.1503 | 0.00 | Q | \| | \| | \| | V\| |
| 21+10 | 0.1503 | 0.01 | Q | \| | \| | \| | V\| |
| 21+15 | 0.1503 | 0.01 | Q | \| | \| | \| | V\| |
| 21+20 | 0.1504 | 0.00 | Q | \| | \| | \| | V\| |
| 21+25 | 0.1504 | 0.00 | Q | \| | \| | \| | V\| |
| 21+30 | 0.1504 | 0.00 | Q | \| | \| | \| | V\| |
| 21+35 | 0.1504 | 0.01 | Q | \| | \| | \| | V\| |
| 21+40 | 0.1505 | 0.01 | Q | \| | \| | \| | V\| |
| 21+45 | 0.1505 | 0.01 | Q | \| | \| | \| | V\| |
| 21+50 | 0.1505 | 0.00 | Q | \| | \| | \| | V\| |
| 21+55 | 0.1506 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 0 | 0.1506 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 5 | 0.1506 | 0.01 | Q | \| | \| | \| | V\| |
| 22+10 | 0.1507 | 0.01 | Q | \| | \| | \| | V\| |
| 22+15 | 0.1507 | 0.01 | Q | \| | \| | \| | V\| |
| 22+20 | 0.1507 | 0.00 | Q | \| | \| | \| | V\| |
| 22+25 | 0.1508 | 0.00 | Q | \| | \| | \| | V\| |
| 22+30 | 0.1508 | 0.00 | Q | \| | \| | \| | V\| |
| 22+35 | 0.1508 | 0.00 | Q | \| | \| | \| | V\| |
| 22+40 | 0.1508 | 0.00 | Q | \| | \| | \| | V\| |
| 22+45 | 0.1508 | 0.00 | Q | \| | \| | \| | V\| |
| 22+50 | 0.1508 | 0.00 | Q | \| | \| | \| | V\| |
| 22+55 | 0.1509 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 0 | 0.1509 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 5 | 0.1509 | 0.00 | Q | \| | \| | \| | V\| |
| 23+10 | 0.1509 | 0.00 | Q | \| | \| | \| | V\| |
| 23+15 | 0.1509 | 0.00 | Q | \| | \| | \| | V\| |
| 23+20 | 0.1509 | 0.00 | Q | \| | \| | \| | V\| |
| 23+25 | 0.1509 | 0.00 | Q | \| | \| | \| | V\| |
| 23+30 | 0.1510 | 0.00 | Q | \| | \| | \| | V\| |
| 23+35 | 0.1510 | 0.00 | Q | \| | \| | \| | V\| |
| 23+40 | 0.1510 | 0.00 | Q | \| | \| | \| | V\| |
| 23+45 | 0.1510 | 0.00 | Q | \| | \| | \| | V\| |
| 23+50 | 0.1510 | 0.00 | Q | \| | \| | \| | V\| |
| 23+55 | 0.1510 | 0.00 | Q | \| | \| | \| | V\| |
| 24+ 0 | 0.1511 | 0.00 | Q | \| | \| | \| | V\| |
| 24+ 5 | 0.1511 | 0.00 | Q | \| | \| | \| | V\| |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX421100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 42
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.80(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.80(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 337.00(Ft.)
Length along longest watercourse measured to centroid = 100.00(Ft.)
Length along longest watercourse = 0.064 Mi.
Length along longest watercourse measured to centroid = 0.019 Mi.
Difference in elevation = 142.00(Ft.)
Slope along watercourse = 2224.8071 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.015 Hr.
Lag time = 0.91 Min.
25% of lag time = 0.23 Min.
40% of lag time = 0.36 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.80 | 0.50 | 0.40 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.80 | 1.20 | 0.96 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.800 | 83.97 | 0.000 |

Total Area Entered = 0.80(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

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| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 | 0.083 | 551.096 | 75.900 | 0.612 |
| 2 | 0.167 | 1102.192 | 24.100 | 0.194 |
| | | Sum = 100.000 | Sum= | 0.806 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.086 | ( 0.544) | 0.519 |
| 2 | 0.17 | 4.30 | 0.619 | 0.086 | ( 0.557) | 0.533 |
| 3 | 0.25 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 4 | 0.33 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 5 | 0.42 | 5.80 | 0.835 | 0.086 | ( 0.752) | 0.749 |
| 6 | 0.50 | 6.50 | 0.936 | 0.086 | ( 0.842) | 0.850 |
| 7 | 0.58 | 7.40 | 1.066 | 0.086 | ( 0.959) | 0.980 |
| 8 | 0.67 | 8.60 | 1.238 | 0.086 | ( 1.115) | 1.152 |
| 9 | 0.75 | 12.30 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 10 | 0.83 | 29.10 | 4.190 | 0.086 | ( 3.771) | 4.104 |
| 11 | 0.92 | 6.80 | 0.979 | 0.086 | ( 0.881) | 0.893 |
| 12 | 1.00 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| | | (Loss Rate Not Used) | | | |
| Sum = | | 100.0 | | | Sum = | 13.4 |

Flood volume = Effective rainfall 1.11(In)
times area 0.8(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.006(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 3234.9 Cubic Feet
Total soil loss = 249.8 Cubic Feet

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Peak flow rate of this hydrograph = 2.841(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0022 | 0.32 | Q | | | | |
| 0+10 | 0.0051 | 0.43 | QV | | | | |
| 0+15 | 0.0085 | 0.49 | Q V | | | | |
| 0+20 | 0.0120 | 0.51 | Q V | | | | |
| 0+25 | 0.0160 | 0.58 | Q V | | | | |
| 0+30 | 0.0206 | 0.67 | Q V | | | | |
| 0+35 | 0.0259 | 0.76 | Q V | | | | |
| 0+40 | 0.0321 | 0.90 | Q V | | | | |
| 0+45 | 0.0407 | 1.26 | Q V | | | | |
| 0+50 | 0.0603 | 2.84 | Q V | | | | |
| 0+55 | 0.0695 | 1.34 | Q V | | | | |
| 1+ 0 | 0.0734 | 0.56 | Q V | | | | |
| 1+ 5 | 0.0743 | 0.12 | Q V | | | | |

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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX423100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 42
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.80(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.80(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 337.00(Ft.)
Length along longest watercourse measured to centroid = 100.00(Ft.)
Length along longest watercourse = 0.064 Mi.
Length along longest watercourse measured to centroid = 0.019 Mi.
Difference in elevation = 142.00(Ft.)
Slope along watercourse = 2224.8071 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.015 Hr.
Lag time = 0.91 Min.
25% of lag time = 0.23 Min.
40% of lag time = 0.36 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.80 | 0.81 | 0.65 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.80 | 1.82 | 1.46 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.810(In)
Area Averaged 100-Year Rainfall = 1.820(In)

Point rain (area averaged) = 1.820(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.820(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.800 | 83.97 | 0.000 |

Total Area Entered = 0.80(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 551.096 | 75.900 | 0.612 |
| 2 0.167 | 1102.192 | 24.100 | 0.194 |
| | | Sum = 100.000 Sum= | 0.806 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 1.30 | 0.284 | 0.086 | ( 0.256) | 0.198 |
| 2 0.17 | 1.30 | 0.284 | 0.086 | ( 0.256) | 0.198 |
| 3 0.25 | 1.10 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 4 0.33 | 1.50 | 0.328 | 0.086 | ( 0.295) | 0.242 |
| 5 0.42 | 1.50 | 0.328 | 0.086 | ( 0.295) | 0.242 |
| 6 0.50 | 1.80 | 0.393 | 0.086 | ( 0.354) | 0.307 |
| 7 0.58 | 1.50 | 0.328 | 0.086 | ( 0.295) | 0.242 |
| 8 0.67 | 1.80 | 0.393 | 0.086 | ( 0.354) | 0.307 |
| 9 0.75 | 1.80 | 0.393 | 0.086 | ( 0.354) | 0.307 |
| 10 0.83 | 1.50 | 0.328 | 0.086 | ( 0.295) | 0.242 |
| 11 0.92 | 1.60 | 0.349 | 0.086 | ( 0.314) | 0.263 |
| 12 1.00 | 1.80 | 0.393 | 0.086 | ( 0.354) | 0.307 |
| 13 1.08 | 2.20 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 14 1.17 | 2.20 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 15 1.25 | 2.20 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 16 1.33 | 2.00 | 0.437 | 0.086 | ( 0.393) | 0.351 |
| 17 1.42 | 2.60 | 0.568 | 0.086 | ( 0.511) | 0.482 |
| 18 1.50 | 2.70 | 0.590 | 0.086 | ( 0.531) | 0.504 |
| 19 1.58 | 2.40 | 0.524 | 0.086 | ( 0.472) | 0.438 |
| 20 1.67 | 2.70 | 0.590 | 0.086 | ( 0.531) | 0.504 |
| 21 1.75 | 3.30 | 0.721 | 0.086 | ( 0.649) | 0.635 |
| 22 1.83 | 3.10 | 0.677 | 0.086 | ( 0.609) | 0.591 |
| 23 1.92 | 2.90 | 0.633 | 0.086 | ( 0.570) | 0.547 |
| 24 2.00 | 3.00 | 0.655 | 0.086 | ( 0.590) | 0.569 |
| 25 2.08 | 3.10 | 0.677 | 0.086 | ( 0.609) | 0.591 |
| 26 2.17 | 4.20 | 0.917 | 0.086 | ( 0.826) | 0.831 |
| 27 2.25 | 5.00 | 1.092 | 0.086 | ( 0.983) | 1.006 |
| 28 2.33 | 3.50 | 0.764 | 0.086 | ( 0.688) | 0.678 |
| 29 2.42 | 6.80 | 1.485 | 0.086 | ( 1.337) | 1.399 |
| 30 2.50 | 7.30 | 1.594 | 0.086 | ( 1.435) | 1.508 |
| 31 2.58 | 8.20 | 1.791 | 0.086 | ( 1.612) | 1.705 |
| 32 2.67 | 5.90 | 1.289 | 0.086 | ( 1.160) | 1.203 |
| 33 2.75 | 2.00 | 0.437 | 0.086 | ( 0.393) | 0.351 |
| 34 2.83 | 1.80 | 0.393 | 0.086 | ( 0.354) | 0.307 |
| 35 2.92 | 1.80 | 0.393 | 0.086 | ( 0.354) | 0.307 |
| 36 3.00 | 0.60 | 0.131 | 0.086 | ( 0.118) | 0.045 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 18.7 |

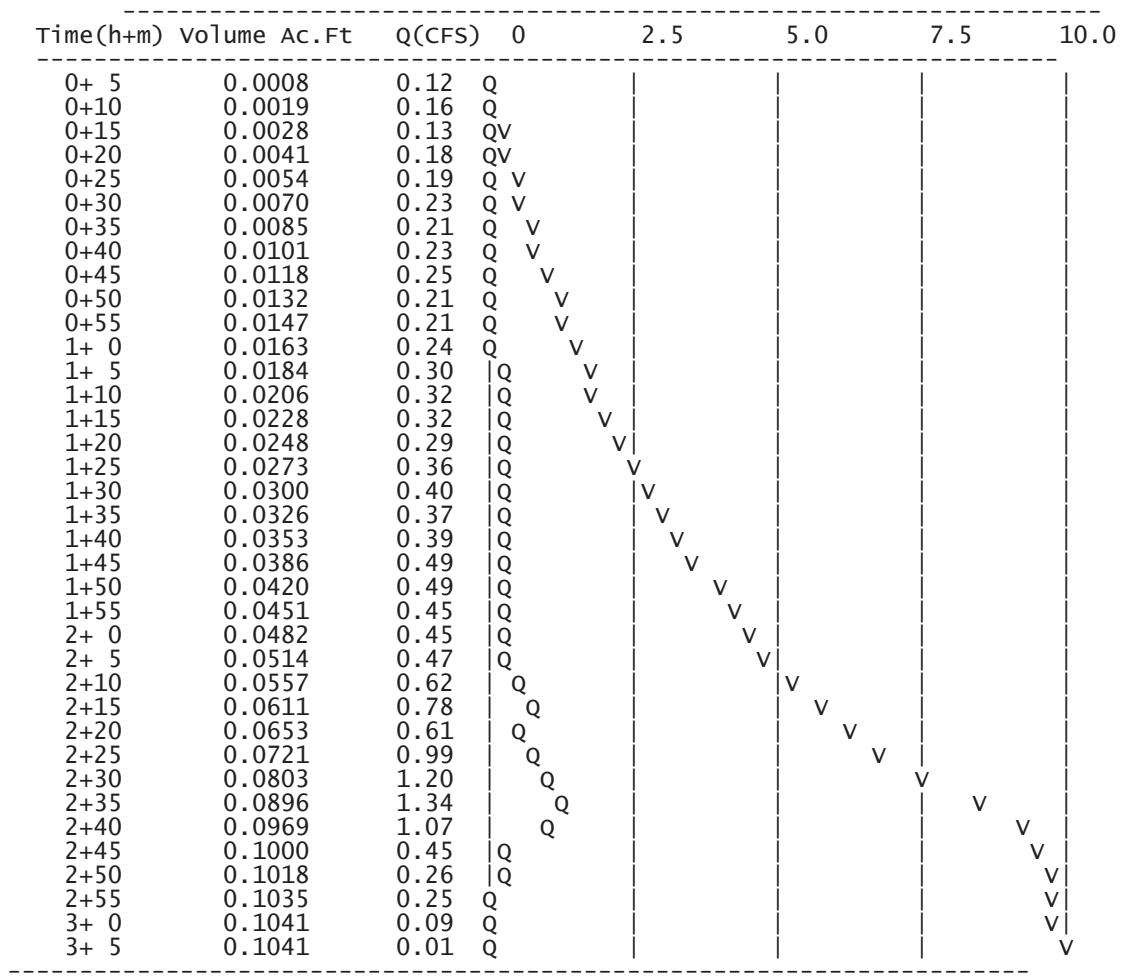
Flood volume = Effective rainfall 1.56(In)
times area 0.8(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.017(Ac.Ft)
Total rainfall = 1.82(In)
Flood volume = 4535.7 Cubic Feet
Total soil loss = 749.5 Cubic Feet

Peak flow rate of this hydrograph = 1.337(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))


Time(h+m) Volume Ac.Ft Q(CFS) 0 2.5 5.0 7.5 10.0
0+ 5 0.0008 0.12
0+10 0.0019 0.16
0+15 0.0028 0.13
0+20 0.0041 0.18
0+25 0.0054 0.19
0+30 0.0070 0.23
0+35 0.0085 0.21
0+40 0.0101 0.23
0+45 0.0118 0.25
0+50 0.0132 0.21
0+55 0.0147 0.21
1+ 0 0.0163 0.24
1+ 5 0.0184 0.30
1+10 0.0206 0.32
1+15 0.0228 0.32
1+20 0.0248 0.29
1+25 0.0273 0.36
1+30 0.0300 0.40
1+35 0.0326 0.37
1+40 0.0353 0.39
1+45 0.0386 0.49
1+50 0.0420 0.49
1+55 0.0451 0.45
2+ 0 0.0482 0.45
2+ 5 0.0514 0.47
2+10 0.0557 0.62
2+15 0.0611 0.78
2+20 0.0653 0.61
2+25 0.0721 0.99
2+30 0.0803 1.20
2+35 0.0896 1.34
2+40 0.0969 1.07
2+45 0.1000 0.45
2+50 0.1018 0.26
2+55 0.1035 0.25
3+ 0 0.1041 0.09
3+ 5 0.1041 0.01

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX426100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 42
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 0.80(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.80(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 337.00(Ft.)
Length along longest watercourse measured to centroid = 100.00(Ft.)
Length along longest watercourse = 0.064 Mi.
Length along longest watercourse measured to centroid = 0.019 Mi.
Difference in elevation = 142.00(Ft.)
Slope along watercourse = 2224.8071 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.015 Hr.
Lag time = 0.91 Min.
25% of lag time = 0.23 Min.
40% of lag time = 0.36 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.80 | 1.15 | 0.92 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.80 | 2.50 | 2.00 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.150(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.800 | 83.97 | 0.000 |

Total Area Entered = 0.80(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 551.096 | 75.900 | 0.612 |
| 2 0.167 | 1102.192 | 24.100 | 0.194 |
| | | Sum = 100.000 Sum= | 0.806 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 0.50 | 0.150 | 0.086 | ( 0.135) | 0.064 |
| 2 0.17 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 3 0.25 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 4 0.33 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 5 0.42 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 6 0.50 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 7 0.58 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 8 0.67 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 9 0.75 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 10 0.83 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 11 0.92 | 0.70 | 0.210 | 0.086 | ( 0.189) | 0.124 |
| 12 1.00 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 13 1.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 14 1.17 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 15 1.25 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 16 1.33 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 17 1.42 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 18 1.50 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 19 1.58 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 20 1.67 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 21 1.75 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 22 1.83 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 23 1.92 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 24 2.00 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 25 2.08 | 0.80 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 26 2.17 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 27 2.25 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 28 2.33 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 29 2.42 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 30 2.50 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 31 2.58 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 32 2.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 33 2.75 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 34 2.83 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 35 2.92 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 36 3.00 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 37 3.08 | 1.00 | 0.300 | 0.086 | ( 0.270) | 0.214 |
| 38 3.17 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 39 3.25 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 40 3.33 | 1.10 | 0.330 | 0.086 | ( 0.297) | 0.244 |
| 41 3.42 | 1.20 | 0.360 | 0.086 | ( 0.324) | 0.274 |
| 42 3.50 | 1.30 | 0.390 | 0.086 | ( 0.351) | 0.304 |
| 43 3.58 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 44 3.67 | 1.40 | 0.420 | 0.086 | ( 0.378) | 0.334 |
| 45 3.75 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 46 3.83 | 1.50 | 0.450 | 0.086 | ( 0.405) | 0.364 |
| 47 3.92 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 48 4.00 | 1.60 | 0.480 | 0.086 | ( 0.432) | 0.394 |
| 49 4.08 | 1.70 | 0.510 | 0.086 | ( 0.459) | 0.424 |
| 50 4.17 | 1.80 | 0.540 | 0.086 | ( 0.486) | 0.454 |
| 51 4.25 | 1.90 | 0.570 | 0.086 | ( 0.513) | 0.484 |
| 52 4.33 | 2.00 | 0.600 | 0.086 | ( 0.540) | 0.514 |
| 53 4.42 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 |
| 54 4.50 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 55 | 4.58 | 2.20 | 0.660 | 0.086 | ( 0.594) | 0.574 |
| 56 | 4.67 | 2.30 | 0.690 | 0.086 | ( 0.621) | 0.604 |
| 57 | 4.75 | 2.40 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 58 | 4.83 | 2.40 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 59 | 4.92 | 2.50 | 0.750 | 0.086 | ( 0.675) | 0.664 |
| 60 | 5.00 | 2.60 | 0.780 | 0.086 | ( 0.702) | 0.694 |
| 61 | 5.08 | 3.10 | 0.930 | 0.086 | ( 0.837) | 0.844 |
| 62 | 5.17 | 3.60 | 1.080 | 0.086 | ( 0.972) | 0.994 |
| 63 | 5.25 | 3.90 | 1.170 | 0.086 | ( 1.053) | 1.084 |
| 64 | 5.33 | 4.20 | 1.260 | 0.086 | ( 1.134) | 1.174 |
| 65 | 5.42 | 4.70 | 1.410 | 0.086 | ( 1.269) | 1.324 |
| 66 | 5.50 | 5.60 | 1.680 | 0.086 | ( 1.512) | 1.594 |
| 67 | 5.58 | 1.90 | 0.570 | 0.086 | ( 0.513) | 0.484 |
| 68 | 5.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 |
| 69 | 5.75 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 |
| 70 | 5.83 | 0.50 | 0.150 | 0.086 | ( 0.135) | 0.064 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.086) | 0.081 | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.086) | 0.054 | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.8

Flood volume = Effective rainfall 1.99(In)
times area 0.8(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.51(In)
Total soil loss = 0.034(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 5769.9 Cubic Feet
Total soil loss = 1490.1 Cubic Feet

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Peak flow rate of this hydrograph = 1.233(CFS)

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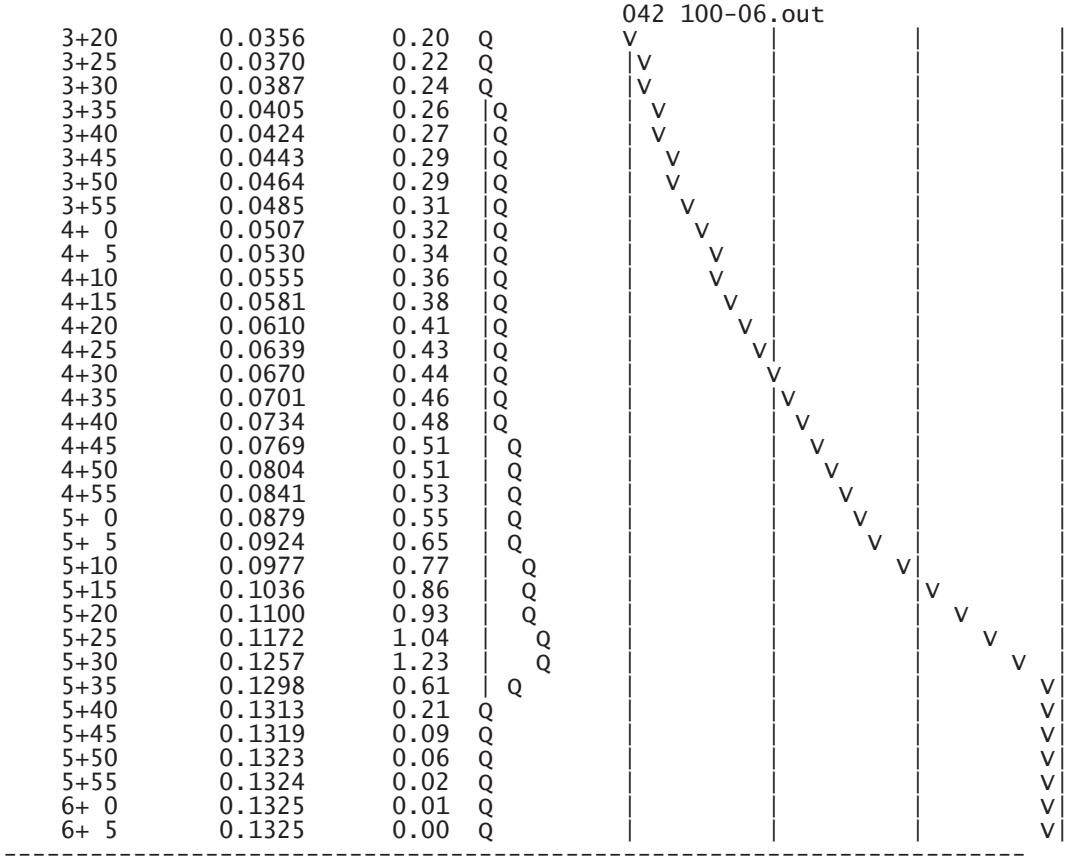
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0003 | 0.04 | Q | | | | |
| 0+10 | 0.0008 | 0.07 | Q | | | | |
| 0+15 | 0.0013 | 0.08 | Q | | | | |
| 0+20 | 0.0018 | 0.08 | Q | | | | |
| 0+25 | 0.0023 | 0.08 | Q | | | | |
| 0+30 | 0.0030 | 0.09 | Q | | | | |
| 0+35 | 0.0037 | 0.10 | QV | | | | |
| 0+40 | 0.0043 | 0.10 | QV | | | | |
| 0+45 | 0.0050 | 0.10 | QV | | | | |
| 0+50 | 0.0057 | 0.10 | QV | | | | |
| 0+55 | 0.0064 | 0.10 | QV | | | | |
| 1+ 0 | 0.0072 | 0.12 | Q V | | | | |
| 1+ 5 | 0.0081 | 0.12 | Q V | | | | |
| 1+10 | 0.0089 | 0.12 | Q V | | | | |
| 1+15 | 0.0098 | 0.12 | Q V | | | | |
| 1+20 | 0.0106 | 0.12 | Q V | | | | |
| 1+25 | 0.0115 | 0.12 | Q V | | | | |
| 1+30 | 0.0124 | 0.12 | Q V | | | | |
| 1+35 | 0.0132 | 0.12 | Q V | | | | |
| 1+40 | 0.0141 | 0.12 | Q V | | | | |
| 1+45 | 0.0149 | 0.12 | Q V | | | | |
| 1+50 | 0.0158 | 0.12 | Q V | | | | |
| 1+55 | 0.0166 | 0.12 | Q V | | | | |
| 2+ 0 | 0.0176 | 0.14 | Q V | | | | |
| 2+ 5 | 0.0185 | 0.13 | Q V | | | | |
| 2+10 | 0.0195 | 0.14 | Q V | | | | |
| 2+15 | 0.0205 | 0.15 | Q V | | | | |
| 2+20 | 0.0215 | 0.15 | Q V | | | | |
| 2+25 | 0.0226 | 0.15 | Q V | | | | |
| 2+30 | 0.0236 | 0.15 | Q V | | | | |
| 2+35 | 0.0246 | 0.15 | Q V | | | | |
| 2+40 | 0.0256 | 0.15 | Q V | | | | |
| 2+45 | 0.0268 | 0.17 | Q V | | | | |
| 2+50 | 0.0280 | 0.17 | Q V | | | | |
| 2+55 | 0.0292 | 0.17 | Q V | | | | |
| 3+ 0 | 0.0303 | 0.17 | Q V | | | | |
| 3+ 5 | 0.0315 | 0.17 | Q V | | | | |
| 3+10 | 0.0328 | 0.19 | Q V | | | | |
| 3+15 | 0.0342 | 0.20 | Q V | | | | |



| | | | |
|---|---|---|---|
| 3+20 | 0.0356 | 0.20 | Q |
| 3+25 | 0.0370 | 0.22 | Q |
| 3+30 | 0.0387 | 0.24 | Q |
| 3+35 | 0.0405 | 0.26 | Q |
| 3+40 | 0.0424 | 0.27 | Q |
| 3+45 | 0.0443 | 0.29 | Q |
| 3+50 | 0.0464 | 0.29 | Q |
| 3+55 | 0.0485 | 0.31 | Q |
| 4+ 0 | 0.0507 | 0.32 | Q |
| 4+ 5 | 0.0530 | 0.34 | Q |
| 4+10 | 0.0555 | 0.36 | Q |
| 4+15 | 0.0581 | 0.38 | Q |
| 4+20 | 0.0610 | 0.41 | Q |
| 4+25 | 0.0639 | 0.43 | Q |
| 4+30 | 0.0670 | 0.44 | Q |
| 4+35 | 0.0701 | 0.46 | Q |
| 4+40 | 0.0734 | 0.48 | Q |
| 4+45 | 0.0769 | 0.51 | Q |
| 4+50 | 0.0804 | 0.51 | Q |
| 4+55 | 0.0841 | 0.53 | Q |
| 5+ 0 | 0.0879 | 0.55 | Q |
| 5+ 5 | 0.0924 | 0.65 | Q |
| 5+10 | 0.0977 | 0.77 | Q |
| 5+15 | 0.1036 | 0.86 | Q |
| 5+20 | 0.1100 | 0.93 | Q |
| 5+25 | 0.1172 | 1.04 | Q |
| 5+30 | 0.1257 | 1.23 | Q |
| 5+35 | 0.1298 | 0.61 | Q |
| 5+40 | 0.1313 | 0.21 | Q |
| 5+45 | 0.1319 | 0.09 | Q |
| 5+50 | 0.1323 | 0.06 | Q |
| 5+55 | 0.1324 | 0.02 | Q |
| 6+ 0 | 0.1325 | 0.01 | Q |
| 6+ 5 | 0.1325 | 0.00 | Q |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX4224100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 42
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 0.80(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.80(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 337.00(Ft.)
Length along longest watercourse measured to centroid = 100.00(Ft.)
Length along longest watercourse = 0.064 Mi.
Length along longest watercourse measured to centroid = 0.019 Mi.
Difference in elevation = 142.00(Ft.)
Slope along watercourse = 2224.8071 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.015 Hr.
Lag time = 0.91 Min.
25% of lag time = 0.23 Min.
40% of lag time = 0.36 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.80 | 1.80 | 1.44 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 0.80 | 4.75 | 3.80 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.750(In)

Point rain (area averaged) = 4.750(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.750(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 0.800 | 83.97 | 0.000 |

Total Area Entered = 0.80(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 551.096 | 75.900 | 0.612 |
| 2 0.167 | 1102.192 | 24.100 | 0.194 |
| | | Sum = 100.000 Sum= | 0.806 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.038 | ( 0.153) | 0.034 | 0.004 |
| 2 | 0.17 | 0.07 | 0.038 | ( 0.152) | 0.034 | 0.004 |
| 3 | 0.25 | 0.07 | 0.038 | ( 0.151) | 0.034 | 0.004 |
| 4 | 0.33 | 0.10 | 0.057 | ( 0.151) | 0.051 | 0.006 |
| 5 | 0.42 | 0.10 | 0.057 | ( 0.150) | 0.051 | 0.006 |
| 6 | 0.50 | 0.10 | 0.057 | ( 0.150) | 0.051 | 0.006 |
| 7 | 0.58 | 0.10 | 0.057 | ( 0.149) | 0.051 | 0.006 |
| 8 | 0.67 | 0.10 | 0.057 | ( 0.148) | 0.051 | 0.006 |
| 9 | 0.75 | 0.10 | 0.057 | ( 0.148) | 0.051 | 0.006 |
| 10 | 0.83 | 0.13 | 0.076 | ( 0.147) | 0.068 | 0.008 |
| 11 | 0.92 | 0.13 | 0.076 | ( 0.147) | 0.068 | 0.008 |
| 12 | 1.00 | 0.13 | 0.076 | ( 0.146) | 0.068 | 0.008 |
| 13 | 1.08 | 0.10 | 0.057 | ( 0.146) | 0.051 | 0.006 |
| 14 | 1.17 | 0.10 | 0.057 | ( 0.145) | 0.051 | 0.006 |
| 15 | 1.25 | 0.10 | 0.057 | ( 0.144) | 0.051 | 0.006 |
| 16 | 1.33 | 0.10 | 0.057 | ( 0.144) | 0.051 | 0.006 |
| 17 | 1.42 | 0.10 | 0.057 | ( 0.143) | 0.051 | 0.006 |
| 18 | 1.50 | 0.10 | 0.057 | ( 0.143) | 0.051 | 0.006 |
| 19 | 1.58 | 0.10 | 0.057 | ( 0.142) | 0.051 | 0.006 |
| 20 | 1.67 | 0.10 | 0.057 | ( 0.142) | 0.051 | 0.006 |
| 21 | 1.75 | 0.10 | 0.057 | ( 0.141) | 0.051 | 0.006 |
| 22 | 1.83 | 0.13 | 0.076 | ( 0.140) | 0.068 | 0.008 |
| 23 | 1.92 | 0.13 | 0.076 | ( 0.140) | 0.068 | 0.008 |
| 24 | 2.00 | 0.13 | 0.076 | ( 0.139) | 0.068 | 0.008 |
| 25 | 2.08 | 0.13 | 0.076 | ( 0.139) | 0.068 | 0.008 |
| 26 | 2.17 | 0.13 | 0.076 | ( 0.138) | 0.068 | 0.008 |
| 27 | 2.25 | 0.13 | 0.076 | ( 0.138) | 0.068 | 0.008 |
| 28 | 2.33 | 0.13 | 0.076 | ( 0.137) | 0.068 | 0.008 |
| 29 | 2.42 | 0.13 | 0.076 | ( 0.136) | 0.068 | 0.008 |
| 30 | 2.50 | 0.13 | 0.076 | ( 0.136) | 0.068 | 0.008 |
| 31 | 2.58 | 0.17 | 0.095 | ( 0.135) | 0.085 | 0.009 |
| 32 | 2.67 | 0.17 | 0.095 | ( 0.135) | 0.085 | 0.009 |
| 33 | 2.75 | 0.17 | 0.095 | ( 0.134) | 0.085 | 0.009 |
| 34 | 2.83 | 0.17 | 0.095 | ( 0.134) | 0.085 | 0.009 |
| 35 | 2.92 | 0.17 | 0.095 | ( 0.133) | 0.085 | 0.009 |
| 36 | 3.00 | 0.17 | 0.095 | ( 0.133) | 0.085 | 0.009 |
| 37 | 3.08 | 0.17 | 0.095 | ( 0.132) | 0.085 | 0.009 |
| 38 | 3.17 | 0.17 | 0.095 | ( 0.131) | 0.085 | 0.009 |
| 39 | 3.25 | 0.17 | 0.095 | ( 0.131) | 0.085 | 0.009 |
| 40 | 3.33 | 0.17 | 0.095 | ( 0.130) | 0.085 | 0.009 |
| 41 | 3.42 | 0.17 | 0.095 | ( 0.130) | 0.085 | 0.009 |
| 42 | 3.50 | 0.17 | 0.095 | ( 0.129) | 0.085 | 0.009 |
| 43 | 3.58 | 0.17 | 0.095 | ( 0.129) | 0.085 | 0.009 |
| 44 | 3.67 | 0.17 | 0.095 | ( 0.128) | 0.085 | 0.009 |
| 45 | 3.75 | 0.17 | 0.095 | ( 0.128) | 0.085 | 0.009 |
| 46 | 3.83 | 0.20 | 0.114 | ( 0.127) | 0.103 | 0.011 |
| 47 | 3.92 | 0.20 | 0.114 | ( 0.127) | 0.103 | 0.011 |
| 48 | 4.00 | 0.20 | 0.114 | ( 0.126) | 0.103 | 0.011 |
| 49 | 4.08 | 0.20 | 0.114 | ( 0.126) | 0.103 | 0.011 |
| 50 | 4.17 | 0.20 | 0.114 | ( 0.125) | 0.103 | 0.011 |
| 51 | 4.25 | 0.20 | 0.114 | ( 0.124) | 0.103 | 0.011 |
| 52 | 4.33 | 0.23 | 0.133 | ( 0.124) | 0.120 | 0.013 |
| 53 | 4.42 | 0.23 | 0.133 | ( 0.123) | 0.120 | 0.013 |
| 54 | 4.50 | 0.23 | 0.133 | ( 0.123) | 0.120 | 0.013 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 55 | 4.58 | 0.23 | 0.133 | ( | 0.122) | 0.120 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.133 | ( | 0.122) | 0.120 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.133 | ( | 0.121) | 0.120 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.152 | | 0.121 | ( 0.137) | | 0.031 |
| 59 | 4.92 | 0.27 | 0.152 | | 0.120 | ( 0.137) | | 0.032 |
| 60 | 5.00 | 0.27 | 0.152 | | 0.120 | ( 0.137) | | 0.032 |
| 61 | 5.08 | 0.20 | 0.114 | ( | 0.119) | 0.103 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.114 | ( | 0.119) | 0.103 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.114 | ( | 0.118) | 0.103 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.133 | | 0.118 | ( 0.120) | | 0.015 |
| 65 | 5.42 | 0.23 | 0.133 | | 0.117 | ( 0.120) | | 0.016 |
| 66 | 5.50 | 0.23 | 0.133 | | 0.117 | ( 0.120) | | 0.016 |
| 67 | 5.58 | 0.27 | 0.152 | | 0.116 | ( 0.137) | | 0.036 |
| 68 | 5.67 | 0.27 | 0.152 | | 0.116 | ( 0.137) | | 0.036 |
| 69 | 5.75 | 0.27 | 0.152 | | 0.115 | ( 0.137) | | 0.037 |
| 70 | 5.83 | 0.27 | 0.152 | | 0.115 | ( 0.137) | | 0.037 |
| 71 | 5.92 | 0.27 | 0.152 | | 0.114 | ( 0.137) | | 0.038 |
| 72 | 6.00 | 0.27 | 0.152 | | 0.114 | ( 0.137) | | 0.038 |
| 73 | 6.08 | 0.30 | 0.171 | | 0.113 | ( 0.154) | | 0.058 |
| 74 | 6.17 | 0.30 | 0.171 | | 0.113 | ( 0.154) | | 0.058 |
| 75 | 6.25 | 0.30 | 0.171 | | 0.112 | ( 0.154) | | 0.059 |
| 76 | 6.33 | 0.30 | 0.171 | | 0.112 | ( 0.154) | | 0.059 |
| 77 | 6.42 | 0.30 | 0.171 | | 0.111 | ( 0.154) | | 0.060 |
| 78 | 6.50 | 0.30 | 0.171 | | 0.111 | ( 0.154) | | 0.060 |
| 79 | 6.58 | 0.33 | 0.190 | | 0.110 | ( 0.171) | | 0.080 |
| 80 | 6.67 | 0.33 | 0.190 | | 0.110 | ( 0.171) | | 0.080 |
| 81 | 6.75 | 0.33 | 0.190 | | 0.109 | ( 0.171) | | 0.081 |
| 82 | 6.83 | 0.33 | 0.190 | | 0.109 | ( 0.171) | | 0.081 |
| 83 | 6.92 | 0.33 | 0.190 | | 0.108 | ( 0.171) | | 0.082 |
| 84 | 7.00 | 0.33 | 0.190 | | 0.108 | ( 0.171) | | 0.082 |
| 85 | 7.08 | 0.33 | 0.190 | | 0.107 | ( 0.171) | | 0.083 |
| 86 | 7.17 | 0.33 | 0.190 | | 0.107 | ( 0.171) | | 0.083 |
| 87 | 7.25 | 0.33 | 0.190 | | 0.106 | ( 0.171) | | 0.084 |
| 88 | 7.33 | 0.37 | 0.209 | | 0.106 | ( 0.188) | | 0.103 |
| 89 | 7.42 | 0.37 | 0.209 | | 0.105 | ( 0.188) | | 0.104 |
| 90 | 7.50 | 0.37 | 0.209 | | 0.105 | ( 0.188) | | 0.104 |
| 91 | 7.58 | 0.40 | 0.228 | | 0.104 | ( 0.205) | | 0.124 |
| 92 | 7.67 | 0.40 | 0.228 | | 0.104 | ( 0.205) | | 0.124 |
| 93 | 7.75 | 0.40 | 0.228 | | 0.103 | ( 0.205) | | 0.125 |
| 94 | 7.83 | 0.43 | 0.247 | | 0.103 | ( 0.222) | | 0.144 |
| 95 | 7.92 | 0.43 | 0.247 | | 0.102 | ( 0.222) | | 0.145 |
| 96 | 8.00 | 0.43 | 0.247 | | 0.102 | ( 0.222) | | 0.145 |
| 97 | 8.08 | 0.50 | 0.285 | | 0.101 | ( 0.256) | | 0.184 |
| 98 | 8.17 | 0.50 | 0.285 | | 0.101 | ( 0.256) | | 0.184 |
| 99 | 8.25 | 0.50 | 0.285 | | 0.100 | ( 0.256) | | 0.185 |
| 100 | 8.33 | 0.50 | 0.285 | | 0.100 | ( 0.256) | | 0.185 |
| 101 | 8.42 | 0.50 | 0.285 | | 0.099 | ( 0.256) | | 0.186 |
| 102 | 8.50 | 0.50 | 0.285 | | 0.099 | ( 0.256) | | 0.186 |
| 103 | 8.58 | 0.53 | 0.304 | | 0.099 | ( 0.274) | | 0.205 |
| 104 | 8.67 | 0.53 | 0.304 | | 0.098 | ( 0.274) | | 0.206 |
| 105 | 8.75 | 0.53 | 0.304 | | 0.098 | ( 0.274) | | 0.206 |
| 106 | 8.83 | 0.57 | 0.323 | | 0.097 | ( 0.291) | | 0.226 |
| 107 | 8.92 | 0.57 | 0.323 | | 0.097 | ( 0.291) | | 0.226 |
| 108 | 9.00 | 0.57 | 0.323 | | 0.096 | ( 0.291) | | 0.227 |
| 109 | 9.08 | 0.63 | 0.361 | | 0.096 | ( 0.325) | | 0.265 |
| 110 | 9.17 | 0.63 | 0.361 | | 0.095 | ( 0.325) | | 0.266 |
| 111 | 9.25 | 0.63 | 0.361 | | 0.095 | ( 0.325) | | 0.266 |
| 112 | 9.33 | 0.67 | 0.380 | | 0.094 | ( 0.342) | | 0.286 |
| 113 | 9.42 | 0.67 | 0.380 | | 0.094 | ( 0.342) | | 0.286 |
| 114 | 9.50 | 0.67 | 0.380 | | 0.094 | ( 0.342) | | 0.286 |
| 115 | 9.58 | 0.70 | 0.399 | | 0.093 | ( 0.359) | | 0.306 |
| 116 | 9.67 | 0.70 | 0.399 | | 0.093 | ( 0.359) | | 0.306 |
| 117 | 9.75 | 0.70 | 0.399 | | 0.092 | ( 0.359) | | 0.307 |
| 118 | 9.83 | 0.73 | 0.418 | | 0.092 | ( 0.376) | | 0.326 |
| 119 | 9.92 | 0.73 | 0.418 | | 0.091 | ( 0.376) | | 0.327 |
| 120 | 10.00 | 0.73 | 0.418 | | 0.091 | ( 0.376) | | 0.327 |
| 121 | 10.08 | 0.50 | 0.285 | | 0.090 | ( 0.256) | | 0.195 |
| 122 | 10.17 | 0.50 | 0.285 | | 0.090 | ( 0.256) | | 0.195 |
| 123 | 10.25 | 0.50 | 0.285 | | 0.090 | ( 0.256) | | 0.195 |
| 124 | 10.33 | 0.50 | 0.285 | | 0.089 | ( 0.256) | | 0.196 |
| 125 | 10.42 | 0.50 | 0.285 | | 0.089 | ( 0.256) | | 0.196 |
| 126 | 10.50 | 0.50 | 0.285 | | 0.088 | ( 0.256) | | 0.197 |
| 127 | 10.58 | 0.67 | 0.380 | | 0.088 | ( 0.342) | | 0.292 |
| 128 | 10.67 | 0.67 | 0.380 | | 0.087 | ( 0.342) | | 0.293 |
| 129 | 10.75 | 0.67 | 0.380 | | 0.087 | ( 0.342) | | 0.293 |
| 130 | 10.83 | 0.67 | 0.380 | | 0.087 | ( 0.342) | | 0.293 |
| 131 | 10.92 | 0.67 | 0.380 | | 0.086 | ( 0.342) | | 0.294 |
| 132 | 11.00 | 0.67 | 0.380 | | 0.086 | ( 0.342) | | 0.294 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 133 | 11.08 | 0.63 | 0.361 | 0.085 | ( 0.325) | 0.276 |
| 134 | 11.17 | 0.63 | 0.361 | 0.085 | ( 0.325) | 0.276 |
| 135 | 11.25 | 0.63 | 0.361 | 0.084 | ( 0.325) | 0.277 |
| 136 | 11.33 | 0.63 | 0.361 | 0.084 | ( 0.325) | 0.277 |
| 137 | 11.42 | 0.63 | 0.361 | 0.084 | ( 0.325) | 0.277 |
| 138 | 11.50 | 0.63 | 0.361 | 0.083 | ( 0.325) | 0.278 |
| 139 | 11.58 | 0.57 | 0.323 | 0.083 | ( 0.291) | 0.240 |
| 140 | 11.67 | 0.57 | 0.323 | 0.082 | ( 0.291) | 0.241 |
| 141 | 11.75 | 0.57 | 0.323 | 0.082 | ( 0.291) | 0.241 |
| 142 | 11.83 | 0.60 | 0.342 | 0.082 | ( 0.308) | 0.260 |
| 143 | 11.92 | 0.60 | 0.342 | 0.081 | ( 0.308) | 0.261 |
| 144 | 12.00 | 0.60 | 0.342 | 0.081 | ( 0.308) | 0.261 |
| 145 | 12.08 | 0.83 | 0.475 | 0.080 | ( 0.427) | 0.395 |
| 146 | 12.17 | 0.83 | 0.475 | 0.080 | ( 0.427) | 0.395 |
| 147 | 12.25 | 0.83 | 0.475 | 0.080 | ( 0.427) | 0.395 |
| 148 | 12.33 | 0.87 | 0.494 | 0.079 | ( 0.445) | 0.415 |
| 149 | 12.42 | 0.87 | 0.494 | 0.079 | ( 0.445) | 0.415 |
| 150 | 12.50 | 0.87 | 0.494 | 0.078 | ( 0.445) | 0.416 |
| 151 | 12.58 | 0.93 | 0.532 | 0.078 | ( 0.479) | 0.454 |
| 152 | 12.67 | 0.93 | 0.532 | 0.078 | ( 0.479) | 0.454 |
| 153 | 12.75 | 0.93 | 0.532 | 0.077 | ( 0.479) | 0.455 |
| 154 | 12.83 | 0.97 | 0.551 | 0.077 | ( 0.496) | 0.474 |
| 155 | 12.92 | 0.97 | 0.551 | 0.076 | ( 0.496) | 0.475 |
| 156 | 13.00 | 0.97 | 0.551 | 0.076 | ( 0.496) | 0.475 |
| 157 | 13.08 | 1.13 | 0.646 | 0.076 | ( 0.581) | 0.570 |
| 158 | 13.17 | 1.13 | 0.646 | 0.075 | ( 0.581) | 0.571 |
| 159 | 13.25 | 1.13 | 0.646 | 0.075 | ( 0.581) | 0.571 |
| 160 | 13.33 | 1.13 | 0.646 | 0.074 | ( 0.581) | 0.572 |
| 161 | 13.42 | 1.13 | 0.646 | 0.074 | ( 0.581) | 0.572 |
| 162 | 13.50 | 1.13 | 0.646 | 0.074 | ( 0.581) | 0.572 |
| 163 | 13.58 | 0.77 | 0.437 | 0.073 | ( 0.393) | 0.364 |
| 164 | 13.67 | 0.77 | 0.437 | 0.073 | ( 0.393) | 0.364 |
| 165 | 13.75 | 0.77 | 0.437 | 0.073 | ( 0.393) | 0.364 |
| 166 | 13.83 | 0.77 | 0.437 | 0.072 | ( 0.393) | 0.365 |
| 167 | 13.92 | 0.77 | 0.437 | 0.072 | ( 0.393) | 0.365 |
| 168 | 14.00 | 0.77 | 0.437 | 0.071 | ( 0.393) | 0.366 |
| 169 | 14.08 | 0.90 | 0.513 | 0.071 | ( 0.462) | 0.442 |
| 170 | 14.17 | 0.90 | 0.513 | 0.071 | ( 0.462) | 0.442 |
| 171 | 14.25 | 0.90 | 0.513 | 0.070 | ( 0.462) | 0.443 |
| 172 | 14.33 | 0.87 | 0.494 | 0.070 | ( 0.445) | 0.424 |
| 173 | 14.42 | 0.87 | 0.494 | 0.070 | ( 0.445) | 0.424 |
| 174 | 14.50 | 0.87 | 0.494 | 0.069 | ( 0.445) | 0.425 |
| 175 | 14.58 | 0.87 | 0.494 | 0.069 | ( 0.445) | 0.425 |
| 176 | 14.67 | 0.87 | 0.494 | 0.069 | ( 0.445) | 0.425 |
| 177 | 14.75 | 0.87 | 0.494 | 0.068 | ( 0.445) | 0.426 |
| 178 | 14.83 | 0.83 | 0.475 | 0.068 | ( 0.427) | 0.407 |
| 179 | 14.92 | 0.83 | 0.475 | 0.068 | ( 0.427) | 0.407 |
| 180 | 15.00 | 0.83 | 0.475 | 0.067 | ( 0.427) | 0.408 |
| 181 | 15.08 | 0.80 | 0.456 | 0.067 | ( 0.410) | 0.389 |
| 182 | 15.17 | 0.80 | 0.456 | 0.067 | ( 0.410) | 0.389 |
| 183 | 15.25 | 0.80 | 0.456 | 0.066 | ( 0.410) | 0.390 |
| 184 | 15.33 | 0.77 | 0.437 | 0.066 | ( 0.393) | 0.371 |
| 185 | 15.42 | 0.77 | 0.437 | 0.065 | ( 0.393) | 0.372 |
| 186 | 15.50 | 0.77 | 0.437 | 0.065 | ( 0.393) | 0.372 |
| 187 | 15.58 | 0.63 | 0.361 | 0.065 | ( 0.325) | 0.296 |
| 188 | 15.67 | 0.63 | 0.361 | 0.064 | ( 0.325) | 0.297 |
| 189 | 15.75 | 0.63 | 0.361 | 0.064 | ( 0.325) | 0.297 |
| 190 | 15.83 | 0.63 | 0.361 | 0.064 | ( 0.325) | 0.297 |
| 191 | 15.92 | 0.63 | 0.361 | 0.064 | ( 0.325) | 0.297 |
| 192 | 16.00 | 0.63 | 0.361 | 0.063 | ( 0.325) | 0.298 |
| 193 | 16.08 | 0.13 | 0.076 | 0.063 | ( 0.068) | 0.013 |
| 194 | 16.17 | 0.13 | 0.076 | 0.063 | ( 0.068) | 0.013 |
| 195 | 16.25 | 0.13 | 0.076 | 0.062 | ( 0.068) | 0.014 |
| 196 | 16.33 | 0.13 | 0.076 | 0.062 | ( 0.068) | 0.014 |
| 197 | 16.42 | 0.13 | 0.076 | 0.062 | ( 0.068) | 0.014 |
| 198 | 16.50 | 0.13 | 0.076 | 0.061 | ( 0.068) | 0.015 |
| 199 | 16.58 | 0.10 | 0.057 | ( 0.061) | 0.051 | 0.006 |
| 200 | 16.67 | 0.10 | 0.057 | ( 0.061) | 0.051 | 0.006 |
| 201 | 16.75 | 0.10 | 0.057 | ( 0.060) | 0.051 | 0.006 |
| 202 | 16.83 | 0.10 | 0.057 | ( 0.060) | 0.051 | 0.006 |
| 203 | 16.92 | 0.10 | 0.057 | ( 0.060) | 0.051 | 0.006 |
| 204 | 17.00 | 0.10 | 0.057 | ( 0.059) | 0.051 | 0.006 |
| 205 | 17.08 | 0.17 | 0.095 | 0.059 | ( 0.085) | 0.036 |
| 206 | 17.17 | 0.17 | 0.095 | 0.059 | ( 0.085) | 0.036 |
| 207 | 17.25 | 0.17 | 0.095 | 0.059 | ( 0.085) | 0.036 |
| 208 | 17.33 | 0.17 | 0.095 | 0.058 | ( 0.085) | 0.037 |
| 209 | 17.42 | 0.17 | 0.095 | 0.058 | ( 0.085) | 0.037 |
| 210 | 17.50 | 0.17 | 0.095 | 0.058 | ( 0.085) | 0.037 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 211 | 17.58 | 0.17 | 0.095 | | 0.057 | ( | 0.085) | 0.038 |
| 212 | 17.67 | 0.17 | 0.095 | | 0.057 | ( | 0.085) | 0.038 |
| 213 | 17.75 | 0.17 | 0.095 | | 0.057 | ( | 0.085) | 0.038 |
| 214 | 17.83 | 0.13 | 0.076 | | 0.057 | ( | 0.068) | 0.019 |
| 215 | 17.92 | 0.13 | 0.076 | | 0.056 | ( | 0.068) | 0.020 |
| 216 | 18.00 | 0.13 | 0.076 | | 0.056 | ( | 0.068) | 0.020 |
| 217 | 18.08 | 0.13 | 0.076 | | 0.056 | ( | 0.068) | 0.020 |
| 218 | 18.17 | 0.13 | 0.076 | | 0.055 | ( | 0.068) | 0.021 |
| 219 | 18.25 | 0.13 | 0.076 | | 0.055 | ( | 0.068) | 0.021 |
| 220 | 18.33 | 0.13 | 0.076 | | 0.055 | ( | 0.068) | 0.021 |
| 221 | 18.42 | 0.13 | 0.076 | | 0.055 | ( | 0.068) | 0.021 |
| 222 | 18.50 | 0.13 | 0.076 | | 0.054 | ( | 0.068) | 0.022 |
| 223 | 18.58 | 0.10 | 0.057 | ( | 0.054) | | 0.051 | 0.006 |
| 224 | 18.67 | 0.10 | 0.057 | ( | 0.054) | | 0.051 | 0.006 |
| 225 | 18.75 | 0.10 | 0.057 | ( | 0.054) | | 0.051 | 0.006 |
| 226 | 18.83 | 0.07 | 0.038 | ( | 0.053) | | 0.034 | 0.004 |
| 227 | 18.92 | 0.07 | 0.038 | ( | 0.053) | | 0.034 | 0.004 |
| 228 | 19.00 | 0.07 | 0.038 | ( | 0.053) | | 0.034 | 0.004 |
| 229 | 19.08 | 0.10 | 0.057 | ( | 0.053) | | 0.051 | 0.006 |
| 230 | 19.17 | 0.10 | 0.057 | ( | 0.052) | | 0.051 | 0.006 |
| 231 | 19.25 | 0.10 | 0.057 | ( | 0.052) | | 0.051 | 0.006 |
| 232 | 19.33 | 0.13 | 0.076 | | 0.052 | ( | 0.068) | 0.024 |
| 233 | 19.42 | 0.13 | 0.076 | | 0.052 | ( | 0.068) | 0.024 |
| 234 | 19.50 | 0.13 | 0.076 | | 0.051 | ( | 0.068) | 0.025 |
| 235 | 19.58 | 0.10 | 0.057 | | 0.051 | ( | 0.051) | 0.006 |
| 236 | 19.67 | 0.10 | 0.057 | | 0.051 | ( | 0.051) | 0.006 |
| 237 | 19.75 | 0.10 | 0.057 | | 0.051 | ( | 0.051) | 0.006 |
| 238 | 19.83 | 0.07 | 0.038 | ( | 0.050) | | 0.034 | 0.004 |
| 239 | 19.92 | 0.07 | 0.038 | ( | 0.050) | | 0.034 | 0.004 |
| 240 | 20.00 | 0.07 | 0.038 | ( | 0.050) | | 0.034 | 0.004 |
| 241 | 20.08 | 0.10 | 0.057 | | 0.050 | ( | 0.051) | 0.007 |
| 242 | 20.17 | 0.10 | 0.057 | | 0.050 | ( | 0.051) | 0.007 |
| 243 | 20.25 | 0.10 | 0.057 | | 0.049 | ( | 0.051) | 0.008 |
| 244 | 20.33 | 0.10 | 0.057 | | 0.049 | ( | 0.051) | 0.008 |
| 245 | 20.42 | 0.10 | 0.057 | | 0.049 | ( | 0.051) | 0.008 |
| 246 | 20.50 | 0.10 | 0.057 | | 0.049 | ( | 0.051) | 0.008 |
| 247 | 20.58 | 0.10 | 0.057 | | 0.048 | ( | 0.051) | 0.009 |
| 248 | 20.67 | 0.10 | 0.057 | | 0.048 | ( | 0.051) | 0.009 |
| 249 | 20.75 | 0.10 | 0.057 | | 0.048 | ( | 0.051) | 0.009 |
| 250 | 20.83 | 0.07 | 0.038 | ( | 0.048) | | 0.034 | 0.004 |
| 251 | 20.92 | 0.07 | 0.038 | ( | 0.048) | | 0.034 | 0.004 |
| 252 | 21.00 | 0.07 | 0.038 | ( | 0.047) | | 0.034 | 0.004 |
| 253 | 21.08 | 0.10 | 0.057 | | 0.047 | ( | 0.051) | 0.010 |
| 254 | 21.17 | 0.10 | 0.057 | | 0.047 | ( | 0.051) | 0.010 |
| 255 | 21.25 | 0.10 | 0.057 | | 0.047 | ( | 0.051) | 0.010 |
| 256 | 21.33 | 0.07 | 0.038 | ( | 0.047) | | 0.034 | 0.004 |
| 257 | 21.42 | 0.07 | 0.038 | ( | 0.047) | | 0.034 | 0.004 |
| 258 | 21.50 | 0.07 | 0.038 | ( | 0.046) | | 0.034 | 0.004 |
| 259 | 21.58 | 0.10 | 0.057 | | 0.046 | ( | 0.051) | 0.011 |
| 260 | 21.67 | 0.10 | 0.057 | | 0.046 | ( | 0.051) | 0.011 |
| 261 | 21.75 | 0.10 | 0.057 | | 0.046 | ( | 0.051) | 0.011 |
| 262 | 21.83 | 0.07 | 0.038 | ( | 0.046) | | 0.034 | 0.004 |
| 263 | 21.92 | 0.07 | 0.038 | ( | 0.046) | | 0.034 | 0.004 |
| 264 | 22.00 | 0.07 | 0.038 | ( | 0.045) | | 0.034 | 0.004 |
| 265 | 22.08 | 0.10 | 0.057 | | 0.045 | ( | 0.051) | 0.012 |
| 266 | 22.17 | 0.10 | 0.057 | | 0.045 | ( | 0.051) | 0.012 |
| 267 | 22.25 | 0.10 | 0.057 | | 0.045 | ( | 0.051) | 0.012 |
| 268 | 22.33 | 0.07 | 0.038 | ( | 0.045) | | 0.034 | 0.004 |
| 269 | 22.42 | 0.07 | 0.038 | ( | 0.045) | | 0.034 | 0.004 |
| 270 | 22.50 | 0.07 | 0.038 | ( | 0.045) | | 0.034 | 0.004 |
| 271 | 22.58 | 0.07 | 0.038 | ( | 0.044) | | 0.034 | 0.004 |
| 272 | 22.67 | 0.07 | 0.038 | ( | 0.044) | | 0.034 | 0.004 |
| 273 | 22.75 | 0.07 | 0.038 | ( | 0.044) | | 0.034 | 0.004 |
| 274 | 22.83 | 0.07 | 0.038 | ( | 0.044) | | 0.034 | 0.004 |
| 275 | 22.92 | 0.07 | 0.038 | ( | 0.044) | | 0.034 | 0.004 |
| 276 | 23.00 | 0.07 | 0.038 | ( | 0.044) | | 0.034 | 0.004 |
| 277 | 23.08 | 0.07 | 0.038 | ( | 0.044) | | 0.034 | 0.004 |
| 278 | 23.17 | 0.07 | 0.038 | ( | 0.044) | | 0.034 | 0.004 |
| 279 | 23.25 | 0.07 | 0.038 | ( | 0.044) | | 0.034 | 0.004 |
| 280 | 23.33 | 0.07 | 0.038 | ( | 0.043) | | 0.034 | 0.004 |
| 281 | 23.42 | 0.07 | 0.038 | ( | 0.043) | | 0.034 | 0.004 |
| 282 | 23.50 | 0.07 | 0.038 | ( | 0.043) | | 0.034 | 0.004 |
| 283 | 23.58 | 0.07 | 0.038 | ( | 0.043) | | 0.034 | 0.004 |
| 284 | 23.67 | 0.07 | 0.038 | ( | 0.043) | | 0.034 | 0.004 |
| 285 | 23.75 | 0.07 | 0.038 | ( | 0.043) | | 0.034 | 0.004 |
| 286 | 23.83 | 0.07 | 0.038 | ( | 0.043) | | 0.034 | 0.004 |
| 287 | 23.92 | 0.07 | 0.038 | ( | 0.043) | | 0.034 | 0.004 |
| 288 | 24.00 | 0.07 | 0.038 | ( | 0.043) | | 0.034 | 0.004 |

(Loss Rate Not Used)
Sum = 100.0 Sum = 36.2
Flood volume = Effective rainfall 3.02(In)
times area 0.8(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 1.73(In)
Total soil loss = 0.115(Ac.Ft)
Total rainfall = 4.75(In)
Flood volume = 8764.4 Cubic Feet
Total soil loss = 5029.5 Cubic Feet

Peak flow rate of this hydrograph = 0.462(CFS)

24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0000 | 0.00 | Q | | | | |
| 0+10 | 0.0000 | 0.00 | Q | | | | |
| 0+15 | 0.0001 | 0.00 | Q | | | | |
| 0+20 | 0.0001 | 0.00 | Q | | | | |
| 0+25 | 0.0001 | 0.00 | Q | | | | |
| 0+30 | 0.0002 | 0.00 | Q | | | | |
| 0+35 | 0.0002 | 0.00 | Q | | | | |
| 0+40 | 0.0002 | 0.00 | Q | | | | |
| 0+45 | 0.0002 | 0.00 | Q | | | | |
| 0+50 | 0.0003 | 0.01 | Q | | | | |
| 0+55 | 0.0003 | 0.01 | Q | | | | |
| 1+ 0 | 0.0004 | 0.01 | Q | | | | |
| 1+ 5 | 0.0004 | 0.00 | Q | | | | |
| 1+10 | 0.0004 | 0.00 | Q | | | | |
| 1+15 | 0.0005 | 0.00 | Q | | | | |
| 1+20 | 0.0005 | 0.00 | Q | | | | |
| 1+25 | 0.0005 | 0.00 | Q | | | | |
| 1+30 | 0.0006 | 0.00 | Q | | | | |
| 1+35 | 0.0006 | 0.00 | Q | | | | |
| 1+40 | 0.0006 | 0.00 | Q | | | | |
| 1+45 | 0.0007 | 0.00 | Q | | | | |
| 1+50 | 0.0007 | 0.01 | Q | | | | |
| 1+55 | 0.0007 | 0.01 | Q | | | | |
| 2+ 0 | 0.0008 | 0.01 | Q | | | | |
| 2+ 5 | 0.0008 | 0.01 | Q | | | | |
| 2+10 | 0.0009 | 0.01 | Q | | | | |
| 2+15 | 0.0009 | 0.01 | Q | | | | |
| 2+20 | 0.0010 | 0.01 | Q | | | | |
| 2+25 | 0.0010 | 0.01 | Q | | | | |
| 2+30 | 0.0010 | 0.01 | Q | | | | |
| 2+35 | 0.0011 | 0.01 | Q | | | | |
| 2+40 | 0.0011 | 0.01 | Q | | | | |
| 2+45 | 0.0012 | 0.01 | Q | | | | |
| 2+50 | 0.0012 | 0.01 | Q | | | | |
| 2+55 | 0.0013 | 0.01 | Q | | | | |
| 3+ 0 | 0.0013 | 0.01 | Q | | | | |
| 3+ 5 | 0.0014 | 0.01 | Q | | | | |
| 3+10 | 0.0015 | 0.01 | Q | | | | |
| 3+15 | 0.0015 | 0.01 | Q | | | | |
| 3+20 | 0.0016 | 0.01 | Q | | | | |
| 3+25 | 0.0016 | 0.01 | Q | | | | |
| 3+30 | 0.0017 | 0.01 | Q | | | | |
| 3+35 | 0.0017 | 0.01 | Q | | | | |
| 3+40 | 0.0018 | 0.01 | Q | | | | |
| 3+45 | 0.0018 | 0.01 | Q | | | | |
| 3+50 | 0.0019 | 0.01 | Q | | | | |
| 3+55 | 0.0019 | 0.01 | Q | | | | |
| 4+ 0 | 0.0020 | 0.01 | Q | | | | |
| 4+ 5 | 0.0021 | 0.01 | Q | | | | |
| 4+10 | 0.0021 | 0.01 | Q | | | | |
| 4+15 | 0.0022 | 0.01 | Q | | | | |
| 4+20 | 0.0023 | 0.01 | Q | | | | |
| 4+25 | 0.0023 | 0.01 | Q | | | | |
| 4+30 | 0.0024 | 0.01 | Q | | | | |
| 4+35 | 0.0025 | 0.01 | Q | | | | |
| 4+40 | 0.0026 | 0.01 | Q | | | | |
| 4+45 | 0.0026 | 0.01 | Q | | | | |

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 4+50       0.0028      0.02  Q          |          |          |          |
 4+55       0.0030      0.03  Q          |          |          |          |
 5+ 0       0.0031      0.03  Q          |          |          |          |
 5+ 5       0.0032      0.01  Q          |          |          |          |
 5+10       0.0033      0.01  Q          |          |          |          |
 5+15       0.0034      0.01  Q          |          |          |          |
 5+20       0.0034      0.01  Q          |          |          |          |
 5+25       0.0035      0.01  Q          |          |          |          |
 5+30       0.0036      0.01  Q          |          |          |          |
 5+35       0.0038      0.03  Q          |          |          |          |
 5+40       0.0040      0.03  Q          |          |          |          |
 5+45       0.0042      0.03  Q          |          |          |          |
 5+50       0.0044      0.03  Q          |          |          |          |
 5+55       0.0046      0.03  Q          |          |          |          |
 6+ 0       0.0048      0.03  Q          |          |          |          |
 6+ 5       0.0051      0.04  QV         |          |          |          |
 6+10       0.0055      0.05  QV         |          |          |          |
 6+15       0.0058      0.05  QV         |          |          |          |
 6+20       0.0061      0.05  QV         |          |          |          |
 6+25       0.0064      0.05  QV         |          |          |          |
 6+30       0.0068      0.05  QV         |          |          |          |
 6+35       0.0072      0.06  QV         |          |          |          |
 6+40       0.0076      0.06  QV         |          |          |          |
 6+45       0.0081      0.07  QV         |          |          |          |
 6+50       0.0085      0.07  QV         |          |          |          |
 6+55       0.0090      0.07  QV         |          |          |          |
 7+ 0       0.0095      0.07  QV         |          |          |          |
 7+ 5       0.0099      0.07  QV         |          |          |          |
 7+10       0.0104      0.07  Q V        |          |          |          |
 7+15       0.0108      0.07  Q V        |          |          |          |
 7+20       0.0114      0.08  Q V        |          |          |          |
 7+25       0.0120      0.08  Q V        |          |          |          |
 7+30       0.0125      0.08  Q V        |          |          |          |
 7+35       0.0132      0.10  Q V        |          |          |          |
 7+40       0.0139      0.10  Q V        |          |          |          |
 7+45       0.0146      0.10  Q V        |          |          |          |
 7+50       0.0154      0.11  Q  V       |          |          |          |
 7+55       0.0162      0.12  Q  V       |          |          |          |
 8+ 0       0.0170      0.12  Q  V       |          |          |          |
 8+ 5       0.0179      0.14  Q  V       |          |          |          |
 8+10       0.0190      0.15  Q  V       |          |          |          |
 8+15       0.0200      0.15  Q  V       |          |          |          |
 8+20       0.0210      0.15  Q   V      |          |          |          |
 8+25       0.0220      0.15  Q   V      |          |          |          |
 8+30       0.0231      0.15  Q   V      |          |          |          |
 8+35       0.0242      0.16  Q   V      |          |          |          |
 8+40       0.0253      0.17  Q    V     |          |          |          |
 8+45       0.0265      0.17  Q    V     |          |          |          |
 8+50       0.0277      0.18  Q    V     |          |          |          |
 8+55       0.0290      0.18  Q    V     |          |          |          |
 9+ 0       0.0302      0.18  Q     V    |          |          |          |
 9+ 5       0.0316      0.21  Q     V    |          |          |          |
 9+10       0.0331      0.21  Q     V    |          |          |          |
 9+15       0.0346      0.21  Q     V    |          |          |          |
 9+20       0.0362      0.23  Q      V   |          |          |          |
 9+25       0.0378      0.23  Q      V   |          |          |          |
 9+30       0.0393      0.23  Q      V   |          |          |          |
 9+35       0.0410      0.24  Q       V  |          |          |          |
 9+40       0.0427      0.25  Q       V  |          |          |          |
 9+45       0.0444      0.25  Q       V  |          |          |          |
 9+50       0.0462      0.26  |Q       V|          |          |          |
 9+55       0.0480      0.26  |Q       V|          |          |          |
10+ 0       0.0498      0.26  |Q       V|          |          |          |
10+ 5       0.0511      0.18  Q         V          |          |          |
10+10       0.0522      0.16  Q         V          |          |          |
10+15       0.0533      0.16  Q         V          |          |          |
10+20       0.0544      0.16  Q         V          |          |          |
10+25       0.0554      0.16  Q         |V         |          |          |
10+30       0.0565      0.16  Q         |V         |          |          |
10+35       0.0580      0.22  Q         |V         |          |          |
10+40       0.0597      0.24  Q         |V         |          |          |
10+45       0.0613      0.24  Q         | V        |          |          |
10+50       0.0629      0.24  Q         | V        |          |          |
10+55       0.0645      0.24  Q         | V        |          |          |
11+ 0       0.0662      0.24  Q         |  V       |          |          |
11+ 5       0.0677      0.23  Q         |  V       |          |          |
11+10       0.0693      0.22  Q         |  V       |          |          |
11+15       0.0708      0.22  Q         |   V      |          |          |
```

```
11+20       0.0723      0.22  Q          |   V     |         |          |
11+25       0.0739      0.22  Q          |   V     |         |          |
11+30       0.0754      0.22  Q          |   V     |         |          |
11+35       0.0768      0.20  Q          |    V    |         |          |
11+40       0.0782      0.19  Q          |    V    |         |          |
11+45       0.0795      0.19  Q          |    V    |         |          |
11+50       0.0809      0.21  Q          |     V   |         |          |
11+55       0.0824      0.21  Q          |     V   |         |          |
12+ 0       0.0838      0.21  Q          |     V   |         |          |
12+ 5       0.0858      0.29  |Q         |      V  |         |          |
12+10       0.0880      0.32  |Q         |      V  |         |          |
12+15       0.0902      0.32  |Q         |      V  |         |          |
12+20       0.0925      0.33  |Q         |       V |         |          |
12+25       0.0948      0.33  |Q         |       V |         |          |
12+30       0.0971      0.34  |Q         |        V|         |          |
12+35       0.0996      0.36  |Q         |        V|         |          |
12+40       0.1021      0.37  |Q         |         V         |          |
12+45       0.1046      0.37  |Q         |         V         |          |
12+50       0.1072      0.38  |Q         |         |V        |          |
12+55       0.1099      0.38  |Q         |         |V        |          |
13+ 0       0.1125      0.38  |Q         |         | V       |          |
13+ 5       0.1156      0.44  |Q         |         | V       |          |
13+10       0.1187      0.46  |Q         |         |  V      |          |
13+15       0.1219      0.46  |Q         |         |   V     |          |
13+20       0.1251      0.46  |Q         |         |   V     |          |
13+25       0.1283      0.46  |Q         |         |    V    |          |
13+30       0.1314      0.46  |Q         |         |     V   |          |
13+35       0.1337      0.33  |Q         |         |     V   |          |
13+40       0.1358      0.29  |Q         |         |     V   |          |
13+45       0.1378      0.29  |Q         |         |      V  |          |
13+50       0.1398      0.29  |Q         |         |      V  |          |
13+55       0.1418      0.29  |Q         |         |       V |          |
14+ 0       0.1439      0.29  |Q         |         |       V |          |
14+ 5       0.1462      0.34  |Q         |         |        V|          |
14+10       0.1487      0.36  |Q         |         |        V|          |
14+15       0.1511      0.36  |Q         |         |         V          |
14+20       0.1535      0.35  |Q         |         |         V          |
14+25       0.1559      0.34  |Q         |         |         V          |
14+30       0.1582      0.34  |Q         |         |         |V         |
14+35       0.1606      0.34  |Q         |         |         |V         |
14+40       0.1629      0.34  |Q         |         |         | V        |
14+45       0.1653      0.34  |Q         |         |         | V        |
14+50       0.1676      0.33  |Q         |         |         |  V       |
14+55       0.1699      0.33  |Q         |         |         |  V       |
15+ 0       0.1721      0.33  |Q         |         |         |   V      |
15+ 5       0.1743      0.32  |Q         |         |         |   V      |
15+10       0.1765      0.31  |Q         |         |         |    V     |
15+15       0.1786      0.31  |Q         |         |         |    V     |
15+20       0.1807      0.30  |Q         |         |         |    V     |
15+25       0.1828      0.30  |Q         |         |         |     V    |
15+30       0.1849      0.30  |Q         |         |         |     V    |
15+35       0.1866      0.25  |Q         |         |         |      V   |
15+40       0.1883      0.24  Q          |         |         |      V   |
15+45       0.1899      0.24  Q          |         |         |      V   |
15+50       0.1916      0.24  Q          |         |         |       V  |
15+55       0.1932      0.24  Q          |         |         |       V  |
16+ 0       0.1949      0.24  Q          |         |         |       V  |
16+ 5       0.1953      0.07  Q          |         |         |       V  |
16+10       0.1954      0.01  Q          |         |         |       V  |
16+15       0.1955      0.01  Q          |         |         |       V  |
16+20       0.1955      0.01  Q          |         |         |       V  |
16+25       0.1956      0.01  Q          |         |         |       V  |
16+30       0.1957      0.01  Q          |         |         |       V  |
16+35       0.1957      0.01  Q          |         |         |       V  |
16+40       0.1958      0.00  Q          |         |         |       V  |
16+45       0.1958      0.00  Q          |         |         |       V  |
16+50       0.1958      0.00  Q          |         |         |       V  |
16+55       0.1959      0.00  Q          |         |         |       V  |
17+ 0       0.1959      0.00  Q          |         |         |       V  |
17+ 5       0.1961      0.02  Q          |         |         |       V  |
17+10       0.1963      0.03  Q          |         |         |        V|
17+15       0.1965      0.03  Q          |         |         |        V|
17+20       0.1967      0.03  Q          |         |         |        V|
17+25       0.1969      0.03  Q          |         |         |        V|
17+30       0.1971      0.03  Q          |         |         |        V|
17+35       0.1973      0.03  Q          |         |         |        V|
17+40       0.1975      0.03  Q          |         |         |        V|
17+45       0.1977      0.03  Q          |         |         |        V|
```

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+50 | 0.1978 | 0.02 | Q | \| | \| | \| | V\| |
| 17+55 | 0.1980 | 0.02 | Q | \| | \| | \| | V\| |
| 18+ 0 | 0.1981 | 0.02 | Q | \| | \| | \| | V\| |
| 18+ 5 | 0.1982 | 0.02 | Q | \| | \| | \| | V\| |
| 18+10 | 0.1983 | 0.02 | Q | \| | \| | \| | V\| |
| 18+15 | 0.1984 | 0.02 | Q | \| | \| | \| | V\| |
| 18+20 | 0.1985 | 0.02 | Q | \| | \| | \| | V\| |
| 18+25 | 0.1986 | 0.02 | Q | \| | \| | \| | V\| |
| 18+30 | 0.1988 | 0.02 | Q | \| | \| | \| | V\| |
| 18+35 | 0.1988 | 0.01 | Q | \| | \| | \| | V\| |
| 18+40 | 0.1988 | 0.00 | Q | \| | \| | \| | V\| |
| 18+45 | 0.1989 | 0.00 | Q | \| | \| | \| | V\| |
| 18+50 | 0.1989 | 0.00 | Q | \| | \| | \| | V\| |
| 18+55 | 0.1989 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 0 | 0.1989 | 0.00 | Q | \| | \| | \| | V\| |
| 19+ 5 | 0.1990 | 0.00 | Q | \| | \| | \| | V\| |
| 19+10 | 0.1990 | 0.00 | Q | \| | \| | \| | V\| |
| 19+15 | 0.1990 | 0.00 | Q | \| | \| | \| | V\| |
| 19+20 | 0.1991 | 0.02 | Q | \| | \| | \| | V\| |
| 19+25 | 0.1993 | 0.02 | Q | \| | \| | \| | V\| |
| 19+30 | 0.1994 | 0.02 | Q | \| | \| | \| | V\| |
| 19+35 | 0.1995 | 0.01 | Q | \| | \| | \| | V\| |
| 19+40 | 0.1995 | 0.00 | Q | \| | \| | \| | V\| |
| 19+45 | 0.1995 | 0.01 | Q | \| | \| | \| | V\| |
| 19+50 | 0.1996 | 0.00 | Q | \| | \| | \| | V\| |
| 19+55 | 0.1996 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 0 | 0.1996 | 0.00 | Q | \| | \| | \| | V\| |
| 20+ 5 | 0.1997 | 0.01 | Q | \| | \| | \| | V\| |
| 20+10 | 0.1997 | 0.01 | Q | \| | \| | \| | V\| |
| 20+15 | 0.1997 | 0.01 | Q | \| | \| | \| | V\| |
| 20+20 | 0.1998 | 0.01 | Q | \| | \| | \| | V\| |
| 20+25 | 0.1998 | 0.01 | Q | \| | \| | \| | V\| |
| 20+30 | 0.1999 | 0.01 | Q | \| | \| | \| | V\| |
| 20+35 | 0.1999 | 0.01 | Q | \| | \| | \| | V\| |
| 20+40 | 0.2000 | 0.01 | Q | \| | \| | \| | V\| |
| 20+45 | 0.2000 | 0.01 | Q | \| | \| | \| | V\| |
| 20+50 | 0.2000 | 0.00 | Q | \| | \| | \| | V\| |
| 20+55 | 0.2001 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 0 | 0.2001 | 0.00 | Q | \| | \| | \| | V\| |
| 21+ 5 | 0.2001 | 0.01 | Q | \| | \| | \| | V\| |
| 21+10 | 0.2002 | 0.01 | Q | \| | \| | \| | V\| |
| 21+15 | 0.2002 | 0.01 | Q | \| | \| | \| | V\| |
| 21+20 | 0.2003 | 0.00 | Q | \| | \| | \| | V\| |
| 21+25 | 0.2003 | 0.00 | Q | \| | \| | \| | V\| |
| 21+30 | 0.2003 | 0.00 | Q | \| | \| | \| | V\| |
| 21+35 | 0.2004 | 0.01 | Q | \| | \| | \| | V\| |
| 21+40 | 0.2004 | 0.01 | Q | \| | \| | \| | V\| |
| 21+45 | 0.2005 | 0.01 | Q | \| | \| | \| | V\| |
| 21+50 | 0.2005 | 0.00 | Q | \| | \| | \| | V\| |
| 21+55 | 0.2005 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 0 | 0.2006 | 0.00 | Q | \| | \| | \| | V\| |
| 22+ 5 | 0.2006 | 0.01 | Q | \| | \| | \| | V\| |
| 22+10 | 0.2007 | 0.01 | Q | \| | \| | \| | V\| |
| 22+15 | 0.2007 | 0.01 | Q | \| | \| | \| | V\| |
| 22+20 | 0.2008 | 0.00 | Q | \| | \| | \| | V\| |
| 22+25 | 0.2008 | 0.00 | Q | \| | \| | \| | V\| |
| 22+30 | 0.2008 | 0.00 | Q | \| | \| | \| | V\| |
| 22+35 | 0.2008 | 0.00 | Q | \| | \| | \| | V\| |
| 22+40 | 0.2009 | 0.00 | Q | \| | \| | \| | V\| |
| 22+45 | 0.2009 | 0.00 | Q | \| | \| | \| | V\| |
| 22+50 | 0.2009 | 0.00 | Q | \| | \| | \| | V\| |
| 22+55 | 0.2009 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 0 | 0.2009 | 0.00 | Q | \| | \| | \| | V\| |
| 23+ 5 | 0.2010 | 0.00 | Q | \| | \| | \| | V\| |
| 23+10 | 0.2010 | 0.00 | Q | \| | \| | \| | V\| |
| 23+15 | 0.2010 | 0.00 | Q | \| | \| | \| | V\| |
| 23+20 | 0.2010 | 0.00 | Q | \| | \| | \| | V\| |
| 23+25 | 0.2011 | 0.00 | Q | \| | \| | \| | V\| |
| 23+30 | 0.2011 | 0.00 | Q | \| | \| | \| | V\| |
| 23+35 | 0.2011 | 0.00 | Q | \| | \| | \| | V\| |
| 23+40 | 0.2011 | 0.00 | Q | \| | \| | \| | V\| |
| 23+45 | 0.2011 | 0.00 | Q | \| | \| | \| | V\| |
| 23+50 | 0.2012 | 0.00 | Q | \| | \| | \| | V\| |
| 23+55 | 0.2012 | 0.00 | Q | \| | \| | \| | V\| |
| 24+ 0 | 0.2012 | 0.00 | Q | \| | \| | \| | V\| |
| 24+ 5 | 0.2012 | 0.00 | Q | \| | \| | \| | V\| |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX431100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 43
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 16.60(Ac.) = 0.026 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 16.60(Ac.) = 0.026 Sq. Mi.
Length along longest watercourse = 1645.00(Ft.)
Length along longest watercourse measured to centroid = 715.00(Ft.)
Length along longest watercourse = 0.312 Mi.
Length along longest watercourse measured to centroid = 0.135 Mi.
Difference in elevation = 364.00(Ft.)
Slope along watercourse = 1168.3404 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.066 Hr.
Lag time = 3.96 Min.
25% of lag time = 0.99 Min.
40% of lag time = 1.58 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 16.60 | 0.50 | 8.30 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 16.60 | 1.20 | 19.92 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.98 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 16.600 | 84.00 | 0.000 |

Total Area Entered = 16.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

---

Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 126.415 | 23.511 | 3.933 |
| 2 0.167 | 252.831 | 55.818 | 9.338 |
| 3 0.250 | 379.246 | 14.711 | 2.461 |
| 4 0.333 | 505.662 | 4.317 | 0.722 |
| 5 0.417 | 632.077 | 1.093 | 0.183 |
| 6 0.500 | 758.493 | 0.550 | 0.092 |
| | Sum = 100.000 | Sum= | 16.730 |

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 4.20 | 0.605 | 0.086 | ( 0.544) | 0.519 |
| 2 0.17 | 4.30 | 0.619 | 0.086 | ( 0.557) | 0.533 |
| 3 0.25 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 4 0.33 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| 5 0.42 | 5.80 | 0.835 | 0.086 | ( 0.752) | 0.749 |
| 6 0.50 | 6.50 | 0.936 | 0.086 | ( 0.842) | 0.850 |
| 7 0.58 | 7.40 | 1.065 | 0.086 | ( 0.959) | 0.980 |
| 8 0.67 | 8.60 | 1.238 | 0.086 | ( 1.114) | 1.152 |
| 9 0.75 | 12.30 | 1.771 | 0.086 | ( 1.594) | 1.685 |
| 10 0.83 | 29.10 | 4.190 | 0.086 | ( 3.771) | 4.104 |
| 11 0.92 | 6.80 | 0.979 | 0.086 | ( 0.881) | 0.893 |
| 12 1.00 | 5.00 | 0.720 | 0.086 | ( 0.648) | 0.634 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 13.4 |

Flood volume = Effective rainfall 1.11(In)
times area 16.6(Ac.)/[(In)/(Ft.)] = 1.5(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.119(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 67128.6 Cubic Feet
Total soil loss = 5170.1 Cubic Feet

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Peak flow rate of this hydrograph = 47.098(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 12.5 25.0 37.5 50.0 |
|---|---|---|---|
| 0+ 5 | 0.0141 | 2.04 | VQ |
| 0+10 | 0.0619 | 6.95 | V Q |
| 0+15 | 0.1222 | 8.76 | V Q |
| 0+20 | 0.1918 | 10.11 | V Q |
| 0+25 | 0.2670 | 10.91 | V Q |
| 0+30 | 0.3532 | 12.51 | VQ |
| 0+35 | 0.4514 | 14.27 | Q |
| 0+40 | 0.5650 | 16.50 | QV |
| 0+45 | 0.7070 | 20.62 | Q V |
| 0+50 | 0.9527 | 35.66 | V Q |
| 0+55 | 1.2770 | 47.10 | V Q |
| 1+ 0 | 1.4317 | 22.47 | Q V |
| 1+ 5 | 1.5110 | 11.50 | Q V |
| 1+10 | 1.5324 | 3.11 | Q V |
| 1+15 | 1.5393 | 1.00 | Q V |

```
    1+20       1.5407      0.20  Q          |          |          |        V|
    1+25       1.5411      0.06  Q          |          |          |         V
-------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX433100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 43
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 16.60(Ac.) = 0.026 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 16.60(Ac.) = 0.026 Sq. Mi.
Length along longest watercourse = 1645.00(Ft.)
Length along longest watercourse measured to centroid = 715.00(Ft.)
Length along longest watercourse = 0.312 Mi.
Length along longest watercourse measured to centroid = 0.135 Mi.
Difference in elevation = 364.00(Ft.)
Slope along watercourse = 1168.3404 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.066 Hr.
Lag time = 3.96 Min.
25% of lag time = 0.99 Min.
40% of lag time = 1.58 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 16.60 | 0.81 | 13.45 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 16.60 | 1.82 | 30.21 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.810(In)
Area Averaged 100-Year Rainfall = 1.820(In)

Point rain (area averaged) = 1.820(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.820(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 16.600 | 84.00 | 0.000 |

Total Area Entered = 16.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 126.415 | 23.511 | 3.933 |
| 2 0.167 | 252.831 | 55.818 | 9.338 |
| 3 0.250 | 379.246 | 14.711 | 2.461 |
| 4 0.333 | 505.662 | 4.317 | 0.722 |
| 5 0.417 | 632.077 | 1.093 | 0.183 |
| 6 0.500 | 758.493 | 0.550 | 0.092 |
| | Sum = | 100.000 Sum= | 16.730 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.284 | 0.086 | ( 0.256) | 0.198 |
| 2 | 0.17 | 1.30 | 0.284 | 0.086 | ( 0.256) | 0.198 |
| 3 | 0.25 | 1.10 | 0.240 | 0.086 | ( 0.216) | 0.154 |
| 4 | 0.33 | 1.50 | 0.328 | 0.086 | ( 0.295) | 0.242 |
| 5 | 0.42 | 1.50 | 0.328 | 0.086 | ( 0.295) | 0.242 |
| 6 | 0.50 | 1.80 | 0.393 | 0.086 | ( 0.354) | 0.307 |
| 7 | 0.58 | 1.50 | 0.328 | 0.086 | ( 0.295) | 0.242 |
| 8 | 0.67 | 1.80 | 0.393 | 0.086 | ( 0.354) | 0.307 |
| 9 | 0.75 | 1.80 | 0.393 | 0.086 | ( 0.354) | 0.307 |
| 10 | 0.83 | 1.50 | 0.328 | 0.086 | ( 0.295) | 0.242 |
| 11 | 0.92 | 1.60 | 0.349 | 0.086 | ( 0.314) | 0.264 |
| 12 | 1.00 | 1.80 | 0.393 | 0.086 | ( 0.354) | 0.307 |
| 13 | 1.08 | 2.20 | 0.480 | 0.086 | ( 0.432) | 0.395 |
| 14 | 1.17 | 2.20 | 0.480 | 0.086 | ( 0.432) | 0.395 |
| 15 | 1.25 | 2.20 | 0.480 | 0.086 | ( 0.432) | 0.395 |
| 16 | 1.33 | 2.00 | 0.437 | 0.086 | ( 0.393) | 0.351 |
| 17 | 1.42 | 2.60 | 0.568 | 0.086 | ( 0.511) | 0.482 |
| 18 | 1.50 | 2.70 | 0.590 | 0.086 | ( 0.531) | 0.504 |
| 19 | 1.58 | 2.40 | 0.524 | 0.086 | ( 0.472) | 0.438 |
| 20 | 1.67 | 2.70 | 0.590 | 0.086 | ( 0.531) | 0.504 |
| 21 | 1.75 | 3.30 | 0.721 | 0.086 | ( 0.649) | 0.635 |
| 22 | 1.83 | 3.10 | 0.677 | 0.086 | ( 0.609) | 0.591 |
| 23 | 1.92 | 2.90 | 0.633 | 0.086 | ( 0.570) | 0.548 |
| 24 | 2.00 | 3.00 | 0.655 | 0.086 | ( 0.590) | 0.569 |
| 25 | 2.08 | 3.10 | 0.677 | 0.086 | ( 0.609) | 0.591 |
| 26 | 2.17 | 4.20 | 0.917 | 0.086 | ( 0.825) | 0.831 |
| 27 | 2.25 | 5.00 | 1.092 | 0.086 | ( 0.983) | 1.006 |
| 28 | 2.33 | 3.50 | 0.764 | 0.086 | ( 0.688) | 0.679 |
| 29 | 2.42 | 6.80 | 1.485 | 0.086 | ( 1.337) | 1.399 |
| 30 | 2.50 | 7.30 | 1.594 | 0.086 | ( 1.435) | 1.508 |
| 31 | 2.58 | 8.20 | 1.791 | 0.086 | ( 1.612) | 1.705 |
| 32 | 2.67 | 5.90 | 1.288 | 0.086 | ( 1.160) | 1.203 |
| 33 | 2.75 | 2.00 | 0.437 | 0.086 | ( 0.393) | 0.351 |
| 34 | 2.83 | 1.80 | 0.393 | 0.086 | ( 0.354) | 0.307 |
| 35 | 2.92 | 1.80 | 0.393 | 0.086 | ( 0.354) | 0.307 |
| 36 | 3.00 | 0.60 | 0.131 | 0.086 | ( 0.118) | 0.045 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 18.7 |

Flood volume = Effective rainfall 1.56(In)
times area 16.6(Ac.)/[(In)/(Ft.)] = 2.2(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.356(Ac.Ft)
Total rainfall = 1.82(In)
Flood volume = 94151.2 Cubic Feet
Total soil loss = 15510.4 Cubic Feet

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Peak flow rate of this hydrograph = 25.604(CFS)

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3 - H O U R S T O R M

R u n o f f  H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 7.5 | 15.0 | 22.5 | 30.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0054 | 0.78 | VQ | | | | |
| 0+10 | 0.0235 | 2.63 | V Q | | | | |
| 0+15 | 0.0438 | 2.95 | V Q | | | | |
| 0+20 | 0.0646 | 3.03 | V Q | | | | |
| 0+25 | 0.0906 | 3.77 | V Q | | | | |
| 0+30 | 0.1197 | 4.23 | V Q | | | | |
| 0+35 | 0.1517 | 4.64 | V Q | | | | |
| 0+40 | 0.1824 | 4.46 | V Q | | | | |
| 0+45 | 0.2165 | 4.96 | V Q | | | | |
| 0+50 | 0.2498 | 4.83 | V Q | | | | |
| 0+55 | 0.2798 | 4.35 | Q | | | | |
| 1+ 0 | 0.3112 | 4.57 | VQ | | | | |
| 1+ 5 | 0.3480 | 5.33 | VQ | | | | |
| 1+10 | 0.3911 | 6.26 | VQ | | | | |
| 1+15 | 0.4359 | 6.50 | Q | | | | |
| 1+20 | 0.4800 | 6.41 | Q | | | | |
| 1+25 | 0.5250 | 6.53 | QV | | | | |
| 1+30 | 0.5783 | 7.74 | Q | | | | |
| 1+35 | 0.6333 | 7.98 | QV | | | | |
| 1+40 | 0.6868 | 7.77 | Q V | | | | |
| 1+45 | 0.7472 | 8.77 | Q V | | | | |
| 1+50 | 0.8157 | 9.95 | Q V | | | | |
| 1+55 | 0.8827 | 9.73 | Q V | | | | |
| 2+ 0 | 0.9475 | 9.40 | Q V | | | | |
| 2+ 5 | 1.0135 | 9.58 | Q V | | | | |
| 2+10 | 1.0876 | 10.76 | Q V | | | | |
| 2+15 | 1.1823 | 13.75 | Q V | | | | |
| 2+20 | 1.2835 | 14.70 | Q V | | | | |
| 2+25 | 1.3874 | 15.08 | Q V | | | | |
| 2+30 | 1.5363 | 21.61 | Q | | | | |
| 2+35 | 1.7084 | 25.00 | V Q | | | | |
| 2+40 | 1.8848 | 25.60 | Q | | | | |
| 2+45 | 2.0103 | 18.22 | Q V | | | | |
| 2+50 | 2.0729 | 9.09 | Q V | | | | |
| 2+55 | 2.1160 | 6.26 | Q V | | | | |
| 3+ 0 | 2.1466 | 4.44 | Q V | | | | |
| 3+ 5 | 2.1574 | 1.58 | Q V | | | | |
| 3+10 | 2.1603 | 0.42 | Q V | | | | |
| 3+15 | 2.1611 | 0.12 | Q V | | | | |
| 3+20 | 2.1614 | 0.04 | Q V | | | | |
| 3+25 | 2.1614 | 0.00 | Q V | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX436100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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100-YEAR STORM EVENT
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Drainage Area for Depth-Area Areal Adjustment = 16.60(Ac.) = 0.026 Sq. Mi.
Length along longest watercourse = 1645.00(Ft.)
Length along longest watercourse measured to centroid = 715.00(Ft.)
Length along longest watercourse = 0.312 Mi.
Length along longest watercourse measured to centroid = 0.135 Mi.
Difference in elevation = 364.00(Ft.)
Slope along watercourse = 1168.3404 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.066 Hr.
Lag time = 3.96 Min.
25% of lag time = 0.99 Min.
40% of lag time = 1.58 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 16.60 | 1.15 | 19.09 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 16.60 | 2.50 | 41.50 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.150(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 16.600 | 84.00 | 0.000 |

Total Area Entered = 16.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 126.415 | 23.511 | 3.933 |
| 2 | 0.167 | 252.831 | 55.818 | 9.338 |
| 3 | 0.250 | 379.246 | 14.711 | 2.461 |
| 4 | 0.333 | 505.662 | 4.317 | 0.722 |
| 5 | 0.417 | 632.077 | 1.093 | 0.183 |
| 6 | 0.500 | 758.493 | 0.550 | 0.092 |
| | | | Sum = 100.000 | Sum= 16.730 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.086 | ( | 0.135) | 0.064 |
| 2 | 0.17 | 0.60 | 0.180 | 0.086 | ( | 0.162) | 0.094 |
| 3 | 0.25 | 0.60 | 0.180 | 0.086 | ( | 0.162) | 0.094 |
| 4 | 0.33 | 0.60 | 0.180 | 0.086 | ( | 0.162) | 0.094 |
| 5 | 0.42 | 0.60 | 0.180 | 0.086 | ( | 0.162) | 0.094 |
| 6 | 0.50 | 0.70 | 0.210 | 0.086 | ( | 0.189) | 0.124 |
| 7 | 0.58 | 0.70 | 0.210 | 0.086 | ( | 0.189) | 0.124 |
| 8 | 0.67 | 0.70 | 0.210 | 0.086 | ( | 0.189) | 0.124 |
| 9 | 0.75 | 0.70 | 0.210 | 0.086 | ( | 0.189) | 0.124 |
| 10 | 0.83 | 0.70 | 0.210 | 0.086 | ( | 0.189) | 0.124 |
| 11 | 0.92 | 0.70 | 0.210 | 0.086 | ( | 0.189) | 0.124 |
| 12 | 1.00 | 0.80 | 0.240 | 0.086 | ( | 0.216) | 0.154 |
| 13 | 1.08 | 0.80 | 0.240 | 0.086 | ( | 0.216) | 0.154 |
| 14 | 1.17 | 0.80 | 0.240 | 0.086 | ( | 0.216) | 0.154 |
| 15 | 1.25 | 0.80 | 0.240 | 0.086 | ( | 0.216) | 0.154 |
| 16 | 1.33 | 0.80 | 0.240 | 0.086 | ( | 0.216) | 0.154 |
| 17 | 1.42 | 0.80 | 0.240 | 0.086 | ( | 0.216) | 0.154 |
| 18 | 1.50 | 0.80 | 0.240 | 0.086 | ( | 0.216) | 0.154 |
| 19 | 1.58 | 0.80 | 0.240 | 0.086 | ( | 0.216) | 0.154 |
| 20 | 1.67 | 0.80 | 0.240 | 0.086 | ( | 0.216) | 0.154 |
| 21 | 1.75 | 0.80 | 0.240 | 0.086 | ( | 0.216) | 0.154 |
| 22 | 1.83 | 0.80 | 0.240 | 0.086 | ( | 0.216) | 0.154 |
| 23 | 1.92 | 0.80 | 0.240 | 0.086 | ( | 0.216) | 0.154 |
| 24 | 2.00 | 0.90 | 0.270 | 0.086 | ( | 0.243) | 0.184 |
| 25 | 2.08 | 0.80 | 0.240 | 0.086 | ( | 0.216) | 0.154 |
| 26 | 2.17 | 0.90 | 0.270 | 0.086 | ( | 0.243) | 0.184 |
| 27 | 2.25 | 0.90 | 0.270 | 0.086 | ( | 0.243) | 0.184 |
| 28 | 2.33 | 0.90 | 0.270 | 0.086 | ( | 0.243) | 0.184 |
| 29 | 2.42 | 0.90 | 0.270 | 0.086 | ( | 0.243) | 0.184 |
| 30 | 2.50 | 0.90 | 0.270 | 0.086 | ( | 0.243) | 0.184 |
| 31 | 2.58 | 0.90 | 0.270 | 0.086 | ( | 0.243) | 0.184 |
| 32 | 2.67 | 0.90 | 0.270 | 0.086 | ( | 0.243) | 0.184 |
| 33 | 2.75 | 1.00 | 0.300 | 0.086 | ( | 0.270) | 0.214 |
| 34 | 2.83 | 1.00 | 0.300 | 0.086 | ( | 0.270) | 0.214 |
| 35 | 2.92 | 1.00 | 0.300 | 0.086 | ( | 0.270) | 0.214 |
| 36 | 3.00 | 1.00 | 0.300 | 0.086 | ( | 0.270) | 0.214 |
| 37 | 3.08 | 1.00 | 0.300 | 0.086 | ( | 0.270) | 0.214 |
| 38 | 3.17 | 1.10 | 0.330 | 0.086 | ( | 0.297) | 0.244 |
| 39 | 3.25 | 1.10 | 0.330 | 0.086 | ( | 0.297) | 0.244 |
| 40 | 3.33 | 1.10 | 0.330 | 0.086 | ( | 0.297) | 0.244 |
| 41 | 3.42 | 1.20 | 0.360 | 0.086 | ( | 0.324) | 0.274 |
| 42 | 3.50 | 1.30 | 0.390 | 0.086 | ( | 0.351) | 0.304 |
| 43 | 3.58 | 1.40 | 0.420 | 0.086 | ( | 0.378) | 0.334 |
| 44 | 3.67 | 1.40 | 0.420 | 0.086 | ( | 0.378) | 0.334 |
| 45 | 3.75 | 1.50 | 0.450 | 0.086 | ( | 0.405) | 0.364 |
| 46 | 3.83 | 1.50 | 0.450 | 0.086 | ( | 0.405) | 0.364 |
| 47 | 3.92 | 1.60 | 0.480 | 0.086 | ( | 0.432) | 0.394 |
| 48 | 4.00 | 1.60 | 0.480 | 0.086 | ( | 0.432) | 0.394 |
| 49 | 4.08 | 1.70 | 0.510 | 0.086 | ( | 0.459) | 0.424 |
| 50 | 4.17 | 1.80 | 0.540 | 0.086 | ( | 0.486) | 0.454 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 51 | 4.25 | 1.90 | 0.570 | 0.086 | ( 0.513) | 0.484 | |
| 52 | 4.33 | 2.00 | 0.600 | 0.086 | ( 0.540) | 0.514 | |
| 53 | 4.42 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 | |
| 54 | 4.50 | 2.10 | 0.630 | 0.086 | ( 0.567) | 0.544 | |
| 55 | 4.58 | 2.20 | 0.660 | 0.086 | ( 0.594) | 0.574 | |
| 56 | 4.67 | 2.30 | 0.690 | 0.086 | ( 0.621) | 0.604 | |
| 57 | 4.75 | 2.40 | 0.720 | 0.086 | ( 0.648) | 0.634 | |
| 58 | 4.83 | 2.40 | 0.720 | 0.086 | ( 0.648) | 0.634 | |
| 59 | 4.92 | 2.50 | 0.750 | 0.086 | ( 0.675) | 0.664 | |
| 60 | 5.00 | 2.60 | 0.780 | 0.086 | ( 0.702) | 0.694 | |
| 61 | 5.08 | 3.10 | 0.930 | 0.086 | ( 0.837) | 0.844 | |
| 62 | 5.17 | 3.60 | 1.080 | 0.086 | ( 0.972) | 0.994 | |
| 63 | 5.25 | 3.90 | 1.170 | 0.086 | ( 1.053) | 1.084 | |
| 64 | 5.33 | 4.20 | 1.260 | 0.086 | ( 1.134) | 1.174 | |
| 65 | 5.42 | 4.70 | 1.410 | 0.086 | ( 1.269) | 1.324 | |
| 66 | 5.50 | 5.60 | 1.680 | 0.086 | ( 1.512) | 1.594 | |
| 67 | 5.58 | 1.90 | 0.570 | 0.086 | ( 0.513) | 0.484 | |
| 68 | 5.67 | 0.90 | 0.270 | 0.086 | ( 0.243) | 0.184 | |
| 69 | 5.75 | 0.60 | 0.180 | 0.086 | ( 0.162) | 0.094 | |
| 70 | 5.83 | 0.50 | 0.150 | 0.086 | ( 0.135) | 0.064 | |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.086) | 0.081 | 0.009 | |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.086) | 0.054 | 0.006 | |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.9

Flood volume = Effective rainfall 1.99(In)
times area 16.6(Ac.)/[(In)/(Ft.)] = 2.8(Ac.Ft)
Total soil loss = 0.51(In)
Total soil loss = 0.708(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 119799.4 Cubic Feet
Total soil loss = 30837.0 Cubic Feet

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Peak flow rate of this hydrograph = 22.579(CFS)

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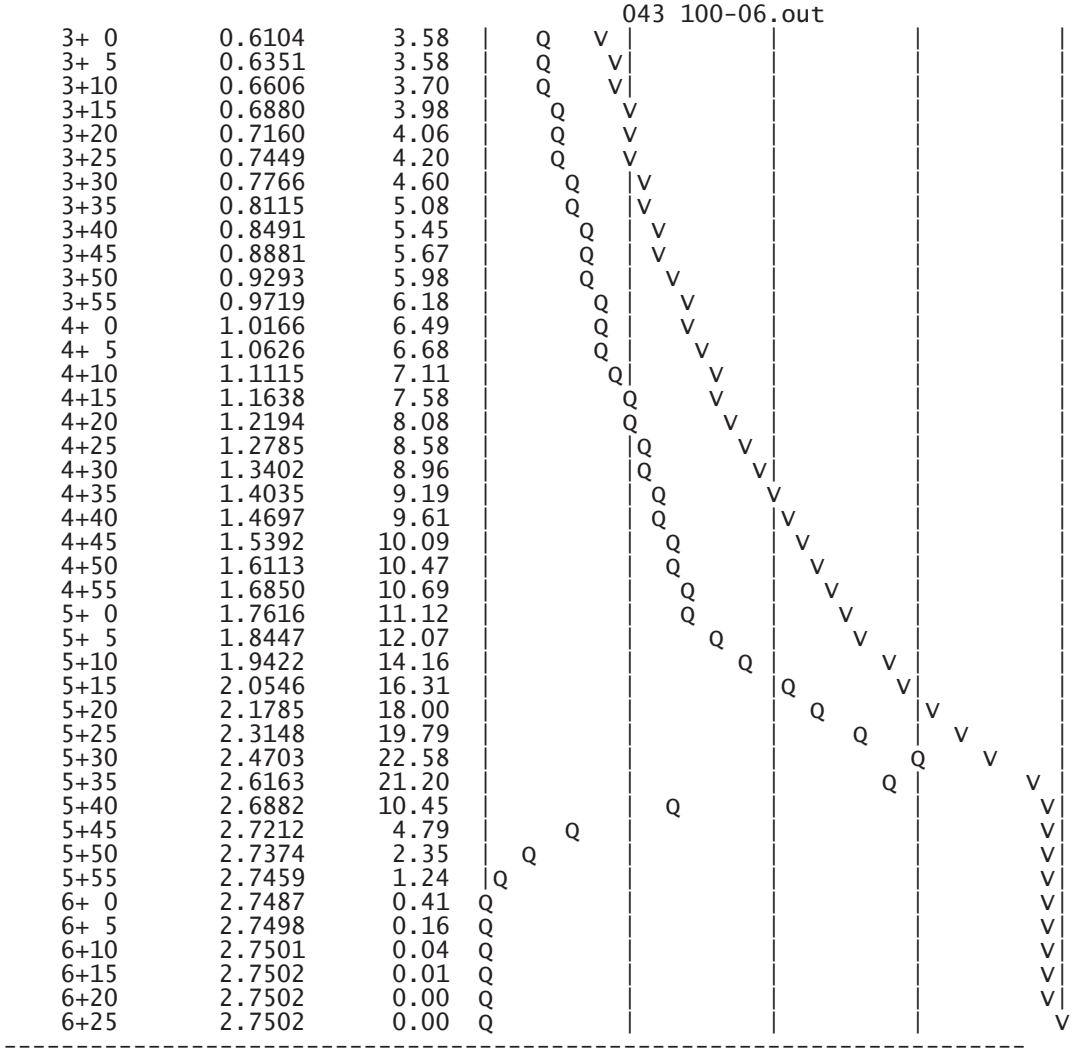
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 7.5 | 15.0 | 22.5 | 30.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0017 | 0.25 | Q | | | | |
| 0+10 | 0.0084 | 0.97 | VQ | | | | |
| 0+15 | 0.0181 | 1.41 | VQ | | | | |
| 0+20 | 0.0287 | 1.53 | V Q | | | | |
| 0+25 | 0.0394 | 1.56 | V Q | | | | |
| 0+30 | 0.0511 | 1.69 | V Q | | | | |
| 0+35 | 0.0647 | 1.97 | V Q | | | | |
| 0+40 | 0.0788 | 2.05 | \|VQ | | | | |
| 0+45 | 0.0930 | 2.07 | \|VQ | | | | |
| 0+50 | 0.1073 | 2.08 | \|VQ | | | | |
| 0+55 | 0.1217 | 2.08 | \|VQ | | | | |
| 1+ 0 | 0.1368 | 2.20 | \|VQ | | | | |
| 1+ 5 | 0.1538 | 2.48 | \| VQ | | | | |
| 1+10 | 0.1714 | 2.55 | \| VQ | | | | |
| 1+15 | 0.1891 | 2.57 | \| VQ | | | | |
| 1+20 | 0.2069 | 2.58 | \| Q | | | | |
| 1+25 | 0.2247 | 2.58 | \| Q | | | | |
| 1+30 | 0.2424 | 2.58 | \| Q | | | | |
| 1+35 | 0.2602 | 2.58 | \| Q | | | | |
| 1+40 | 0.2780 | 2.58 | \| QV | | | | |
| 1+45 | 0.2958 | 2.58 | \| QV | | | | |
| 1+50 | 0.3135 | 2.58 | \| QV | | | | |
| 1+55 | 0.3313 | 2.58 | \| QV | | | | |
| 2+ 0 | 0.3499 | 2.70 | \| Q V | | | | |
| 2+ 5 | 0.3696 | 2.86 | \| Q V | | | | |
| 2+10 | 0.3887 | 2.77 | \| Q V | | | | |
| 2+15 | 0.4094 | 3.00 | \| QV | | | | |
| 2+20 | 0.4304 | 3.06 | \| Q V | | | | |
| 2+25 | 0.4516 | 3.08 | \| Q V | | | | |
| 2+30 | 0.4728 | 3.08 | \| Q V | | | | |
| 2+35 | 0.4941 | 3.08 | \| Q V | | | | |
| 2+40 | 0.5153 | 3.08 | \| Q V | | | | |
| 2+45 | 0.5373 | 3.20 | \| Q V | | | | |
| 2+50 | 0.5613 | 3.48 | \| Q V | | | | |
| 2+55 | 0.5858 | 3.56 | \| Q V | | | | |



| | | | |
|---|---|---|---|
| 3+ 0 | 0.6104 | 3.58 | |
| 3+ 5 | 0.6351 | 3.58 | |
| 3+10 | 0.6606 | 3.70 | |
| 3+15 | 0.6880 | 3.98 | |
| 3+20 | 0.7160 | 4.06 | |
| 3+25 | 0.7449 | 4.20 | |
| 3+30 | 0.7766 | 4.60 | |
| 3+35 | 0.8115 | 5.08 | |
| 3+40 | 0.8491 | 5.45 | |
| 3+45 | 0.8881 | 5.67 | |
| 3+50 | 0.9293 | 5.98 | |
| 3+55 | 0.9719 | 6.18 | |
| 4+ 0 | 1.0166 | 6.49 | |
| 4+ 5 | 1.0626 | 6.68 | |
| 4+10 | 1.1115 | 7.11 | |
| 4+15 | 1.1638 | 7.58 | |
| 4+20 | 1.2194 | 8.08 | |
| 4+25 | 1.2785 | 8.58 | |
| 4+30 | 1.3402 | 8.96 | |
| 4+35 | 1.4035 | 9.19 | |
| 4+40 | 1.4697 | 9.61 | |
| 4+45 | 1.5392 | 10.09 | |
| 4+50 | 1.6113 | 10.47 | |
| 4+55 | 1.6850 | 10.69 | |
| 5+ 0 | 1.7616 | 11.12 | |
| 5+ 5 | 1.8447 | 12.07 | |
| 5+10 | 1.9422 | 14.16 | |
| 5+15 | 2.0546 | 16.31 | |
| 5+20 | 2.1785 | 18.00 | |
| 5+25 | 2.3148 | 19.79 | |
| 5+30 | 2.4703 | 22.58 | |
| 5+35 | 2.6163 | 21.20 | |
| 5+40 | 2.6882 | 10.45 | |
| 5+45 | 2.7212 | 4.79 | |
| 5+50 | 2.7374 | 2.35 | |
| 5+55 | 2.7459 | 1.24 | |
| 6+ 0 | 2.7487 | 0.41 | |
| 6+ 5 | 2.7498 | 0.16 | |
| 6+10 | 2.7501 | 0.04 | |
| 6+15 | 2.7502 | 0.01 | |
| 6+20 | 2.7502 | 0.00 | |
| 6+25 | 2.7502 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 12/21/17 File: EX4324100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 43
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 16.60(Ac.) = 0.026 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 16.60(Ac.) = 0.026 Sq. Mi.
Length along longest watercourse = 1645.00(Ft.)
Length along longest watercourse measured to centroid = 715.00(Ft.)
Length along longest watercourse = 0.312 Mi.
Length along longest watercourse measured to centroid = 0.135 Mi.
Difference in elevation = 364.00(Ft.)
Slope along watercourse = 1168.3404 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.066 Hr.
Lag time = 3.96 Min.
25% of lag time = 0.99 Min.
40% of lag time = 1.58 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 16.60 | 1.80 | 29.88 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 16.60 | 4.74 | 78.68 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.740(In)

Point rain (area averaged) = 4.740(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.740(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 16.600 | 84.00 | 0.000 |

Total Area Entered = 16.60(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 84.0 | 93.4 | 0.086 | 0.000 | 0.086 | 1.000 | 0.086 |
| | | | | | Sum (F) = | 0.086 |

Area averaged mean soil loss (F) (In/Hr) = 0.086

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 126.415 | 23.511 | 3.933 |
| 2 | 0.167 | 252.831 | 55.818 | 9.338 |
| 3 | 0.250 | 379.246 | 14.711 | 2.461 |
| 4 | 0.333 | 505.662 | 4.317 | 0.722 |
| 5 | 0.417 | 632.077 | 1.093 | 0.183 |
| 6 | 0.500 | 758.493 | 0.550 | 0.092 |
| | | | Sum = 100.000 | Sum= 16.730 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.038 | ( 0.152) | 0.034 | 0.004 |
| 2 | 0.17 | 0.07 | 0.038 | ( 0.152) | 0.034 | 0.004 |
| 3 | 0.25 | 0.07 | 0.038 | ( 0.151) | 0.034 | 0.004 |
| 4 | 0.33 | 0.10 | 0.057 | ( 0.150) | 0.051 | 0.006 |
| 5 | 0.42 | 0.10 | 0.057 | ( 0.150) | 0.051 | 0.006 |
| 6 | 0.50 | 0.10 | 0.057 | ( 0.149) | 0.051 | 0.006 |
| 7 | 0.58 | 0.10 | 0.057 | ( 0.149) | 0.051 | 0.006 |
| 8 | 0.67 | 0.10 | 0.057 | ( 0.148) | 0.051 | 0.006 |
| 9 | 0.75 | 0.10 | 0.057 | ( 0.147) | 0.051 | 0.006 |
| 10 | 0.83 | 0.13 | 0.076 | ( 0.147) | 0.068 | 0.008 |
| 11 | 0.92 | 0.13 | 0.076 | ( 0.146) | 0.068 | 0.008 |
| 12 | 1.00 | 0.13 | 0.076 | ( 0.146) | 0.068 | 0.008 |
| 13 | 1.08 | 0.10 | 0.057 | ( 0.145) | 0.051 | 0.006 |
| 14 | 1.17 | 0.10 | 0.057 | ( 0.145) | 0.051 | 0.006 |
| 15 | 1.25 | 0.10 | 0.057 | ( 0.144) | 0.051 | 0.006 |
| 16 | 1.33 | 0.10 | 0.057 | ( 0.143) | 0.051 | 0.006 |
| 17 | 1.42 | 0.10 | 0.057 | ( 0.143) | 0.051 | 0.006 |
| 18 | 1.50 | 0.10 | 0.057 | ( 0.142) | 0.051 | 0.006 |
| 19 | 1.58 | 0.10 | 0.057 | ( 0.142) | 0.051 | 0.006 |
| 20 | 1.67 | 0.10 | 0.057 | ( 0.141) | 0.051 | 0.006 |
| 21 | 1.75 | 0.10 | 0.057 | ( 0.141) | 0.051 | 0.006 |
| 22 | 1.83 | 0.13 | 0.076 | ( 0.140) | 0.068 | 0.008 |
| 23 | 1.92 | 0.13 | 0.076 | ( 0.139) | 0.068 | 0.008 |
| 24 | 2.00 | 0.13 | 0.076 | ( 0.139) | 0.068 | 0.008 |
| 25 | 2.08 | 0.13 | 0.076 | ( 0.138) | 0.068 | 0.008 |
| 26 | 2.17 | 0.13 | 0.076 | ( 0.138) | 0.068 | 0.008 |
| 27 | 2.25 | 0.13 | 0.076 | ( 0.137) | 0.068 | 0.008 |
| 28 | 2.33 | 0.13 | 0.076 | ( 0.137) | 0.068 | 0.008 |
| 29 | 2.42 | 0.13 | 0.076 | ( 0.136) | 0.068 | 0.008 |
| 30 | 2.50 | 0.13 | 0.076 | ( 0.136) | 0.068 | 0.008 |
| 31 | 2.58 | 0.17 | 0.095 | ( 0.135) | 0.085 | 0.009 |
| 32 | 2.67 | 0.17 | 0.095 | ( 0.134) | 0.085 | 0.009 |
| 33 | 2.75 | 0.17 | 0.095 | ( 0.134) | 0.085 | 0.009 |
| 34 | 2.83 | 0.17 | 0.095 | ( 0.133) | 0.085 | 0.009 |
| 35 | 2.92 | 0.17 | 0.095 | ( 0.133) | 0.085 | 0.009 |
| 36 | 3.00 | 0.17 | 0.095 | ( 0.132) | 0.085 | 0.009 |
| 37 | 3.08 | 0.17 | 0.095 | ( 0.132) | 0.085 | 0.009 |
| 38 | 3.17 | 0.17 | 0.095 | ( 0.131) | 0.085 | 0.009 |
| 39 | 3.25 | 0.17 | 0.095 | ( 0.131) | 0.085 | 0.009 |
| 40 | 3.33 | 0.17 | 0.095 | ( 0.130) | 0.085 | 0.009 |
| 41 | 3.42 | 0.17 | 0.095 | ( 0.129) | 0.085 | 0.009 |
| 42 | 3.50 | 0.17 | 0.095 | ( 0.129) | 0.085 | 0.009 |
| 43 | 3.58 | 0.17 | 0.095 | ( 0.128) | 0.085 | 0.009 |
| 44 | 3.67 | 0.17 | 0.095 | ( 0.128) | 0.085 | 0.009 |
| 45 | 3.75 | 0.17 | 0.095 | ( 0.127) | 0.085 | 0.009 |
| 46 | 3.83 | 0.20 | 0.114 | ( 0.127) | 0.102 | 0.011 |
| 47 | 3.92 | 0.20 | 0.114 | ( 0.126) | 0.102 | 0.011 |
| 48 | 4.00 | 0.20 | 0.114 | ( 0.126) | 0.102 | 0.011 |
| 49 | 4.08 | 0.20 | 0.114 | ( 0.125) | 0.102 | 0.011 |
| 50 | 4.17 | 0.20 | 0.114 | ( 0.125) | 0.102 | 0.011 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 51 | 4.25 | 0.20 | 0.114 | ( | 0.124) | 0.102 | | 0.011 |
| 52 | 4.33 | 0.23 | 0.133 | ( | 0.124) | 0.119 | | 0.013 |
| 53 | 4.42 | 0.23 | 0.133 | ( | 0.123) | 0.119 | | 0.013 |
| 54 | 4.50 | 0.23 | 0.133 | ( | 0.123) | 0.119 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.133 | ( | 0.122) | 0.119 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.133 | ( | 0.121) | 0.119 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.133 | ( | 0.121) | 0.119 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.152 | | 0.120 | ( 0.137) | | 0.031 |
| 59 | 4.92 | 0.27 | 0.152 | | 0.120 | ( 0.137) | | 0.032 |
| 60 | 5.00 | 0.27 | 0.152 | | 0.119 | ( 0.137) | | 0.032 |
| 61 | 5.08 | 0.20 | 0.114 | ( | 0.119) | 0.102 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.114 | ( | 0.118) | 0.102 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.114 | ( | 0.118) | 0.102 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.133 | | 0.117 | ( 0.119) | | 0.015 |
| 65 | 5.42 | 0.23 | 0.133 | | 0.117 | ( 0.119) | | 0.016 |
| 66 | 5.50 | 0.23 | 0.133 | | 0.116 | ( 0.119) | | 0.016 |
| 67 | 5.58 | 0.27 | 0.152 | | 0.116 | ( 0.137) | | 0.036 |
| 68 | 5.67 | 0.27 | 0.152 | | 0.115 | ( 0.137) | | 0.036 |
| 69 | 5.75 | 0.27 | 0.152 | | 0.115 | ( 0.137) | | 0.037 |
| 70 | 5.83 | 0.27 | 0.152 | | 0.114 | ( 0.137) | | 0.037 |
| 71 | 5.92 | 0.27 | 0.152 | | 0.114 | ( 0.137) | | 0.038 |
| 72 | 6.00 | 0.27 | 0.152 | | 0.113 | ( 0.137) | | 0.038 |
| 73 | 6.08 | 0.30 | 0.171 | | 0.113 | ( 0.154) | | 0.058 |
| 74 | 6.17 | 0.30 | 0.171 | | 0.112 | ( 0.154) | | 0.058 |
| 75 | 6.25 | 0.30 | 0.171 | | 0.112 | ( 0.154) | | 0.059 |
| 76 | 6.33 | 0.30 | 0.171 | | 0.111 | ( 0.154) | | 0.059 |
| 77 | 6.42 | 0.30 | 0.171 | | 0.111 | ( 0.154) | | 0.060 |
| 78 | 6.50 | 0.30 | 0.171 | | 0.110 | ( 0.154) | | 0.060 |
| 79 | 6.58 | 0.33 | 0.190 | | 0.110 | ( 0.171) | | 0.080 |
| 80 | 6.67 | 0.33 | 0.190 | | 0.109 | ( 0.171) | | 0.080 |
| 81 | 6.75 | 0.33 | 0.190 | | 0.109 | ( 0.171) | | 0.081 |
| 82 | 6.83 | 0.33 | 0.190 | | 0.108 | ( 0.171) | | 0.081 |
| 83 | 6.92 | 0.33 | 0.190 | | 0.108 | ( 0.171) | | 0.082 |
| 84 | 7.00 | 0.33 | 0.190 | | 0.107 | ( 0.171) | | 0.082 |
| 85 | 7.08 | 0.33 | 0.190 | | 0.107 | ( 0.171) | | 0.083 |
| 86 | 7.17 | 0.33 | 0.190 | | 0.106 | ( 0.171) | | 0.083 |
| 87 | 7.25 | 0.33 | 0.190 | | 0.106 | ( 0.171) | | 0.084 |
| 88 | 7.33 | 0.37 | 0.209 | | 0.105 | ( 0.188) | | 0.103 |
| 89 | 7.42 | 0.37 | 0.209 | | 0.105 | ( 0.188) | | 0.104 |
| 90 | 7.50 | 0.37 | 0.209 | | 0.104 | ( 0.188) | | 0.104 |
| 91 | 7.58 | 0.40 | 0.228 | | 0.104 | ( 0.205) | | 0.124 |
| 92 | 7.67 | 0.40 | 0.228 | | 0.103 | ( 0.205) | | 0.124 |
| 93 | 7.75 | 0.40 | 0.228 | | 0.103 | ( 0.205) | | 0.125 |
| 94 | 7.83 | 0.43 | 0.246 | | 0.102 | ( 0.222) | | 0.144 |
| 95 | 7.92 | 0.43 | 0.246 | | 0.102 | ( 0.222) | | 0.144 |
| 96 | 8.00 | 0.43 | 0.246 | | 0.102 | ( 0.222) | | 0.145 |
| 97 | 8.08 | 0.50 | 0.284 | | 0.101 | ( 0.256) | | 0.183 |
| 98 | 8.17 | 0.50 | 0.284 | | 0.101 | ( 0.256) | | 0.184 |
| 99 | 8.25 | 0.50 | 0.284 | | 0.100 | ( 0.256) | | 0.184 |
| 100 | 8.33 | 0.50 | 0.284 | | 0.100 | ( 0.256) | | 0.185 |
| 101 | 8.42 | 0.50 | 0.284 | | 0.099 | ( 0.256) | | 0.185 |
| 102 | 8.50 | 0.50 | 0.284 | | 0.099 | ( 0.256) | | 0.186 |
| 103 | 8.58 | 0.53 | 0.303 | | 0.098 | ( 0.273) | | 0.205 |
| 104 | 8.67 | 0.53 | 0.303 | | 0.098 | ( 0.273) | | 0.206 |
| 105 | 8.75 | 0.53 | 0.303 | | 0.097 | ( 0.273) | | 0.206 |
| 106 | 8.83 | 0.57 | 0.322 | | 0.097 | ( 0.290) | | 0.225 |
| 107 | 8.92 | 0.57 | 0.322 | | 0.096 | ( 0.290) | | 0.226 |
| 108 | 9.00 | 0.57 | 0.322 | | 0.096 | ( 0.290) | | 0.226 |
| 109 | 9.08 | 0.63 | 0.360 | | 0.096 | ( 0.324) | | 0.265 |
| 110 | 9.17 | 0.63 | 0.360 | | 0.095 | ( 0.324) | | 0.265 |
| 111 | 9.25 | 0.63 | 0.360 | | 0.095 | ( 0.324) | | 0.266 |
| 112 | 9.33 | 0.67 | 0.379 | | 0.094 | ( 0.341) | | 0.285 |
| 113 | 9.42 | 0.67 | 0.379 | | 0.094 | ( 0.341) | | 0.285 |
| 114 | 9.50 | 0.67 | 0.379 | | 0.093 | ( 0.341) | | 0.286 |
| 115 | 9.58 | 0.70 | 0.398 | | 0.093 | ( 0.358) | | 0.305 |
| 116 | 9.67 | 0.70 | 0.398 | | 0.092 | ( 0.358) | | 0.306 |
| 117 | 9.75 | 0.70 | 0.398 | | 0.092 | ( 0.358) | | 0.306 |
| 118 | 9.83 | 0.73 | 0.417 | | 0.091 | ( 0.375) | | 0.326 |
| 119 | 9.92 | 0.73 | 0.417 | | 0.091 | ( 0.375) | | 0.326 |
| 120 | 10.00 | 0.73 | 0.417 | | 0.091 | ( 0.375) | | 0.327 |
| 121 | 10.08 | 0.50 | 0.284 | | 0.090 | ( 0.256) | | 0.194 |
| 122 | 10.17 | 0.50 | 0.284 | | 0.090 | ( 0.256) | | 0.195 |
| 123 | 10.25 | 0.50 | 0.284 | | 0.089 | ( 0.256) | | 0.195 |
| 124 | 10.33 | 0.50 | 0.284 | | 0.089 | ( 0.256) | | 0.196 |
| 125 | 10.42 | 0.50 | 0.284 | | 0.088 | ( 0.256) | | 0.196 |
| 126 | 10.50 | 0.50 | 0.284 | | 0.088 | ( 0.256) | | 0.196 |
| 127 | 10.58 | 0.67 | 0.379 | | 0.088 | ( 0.341) | | 0.292 |
| 128 | 10.67 | 0.67 | 0.379 | | 0.087 | ( 0.341) | | 0.292 |

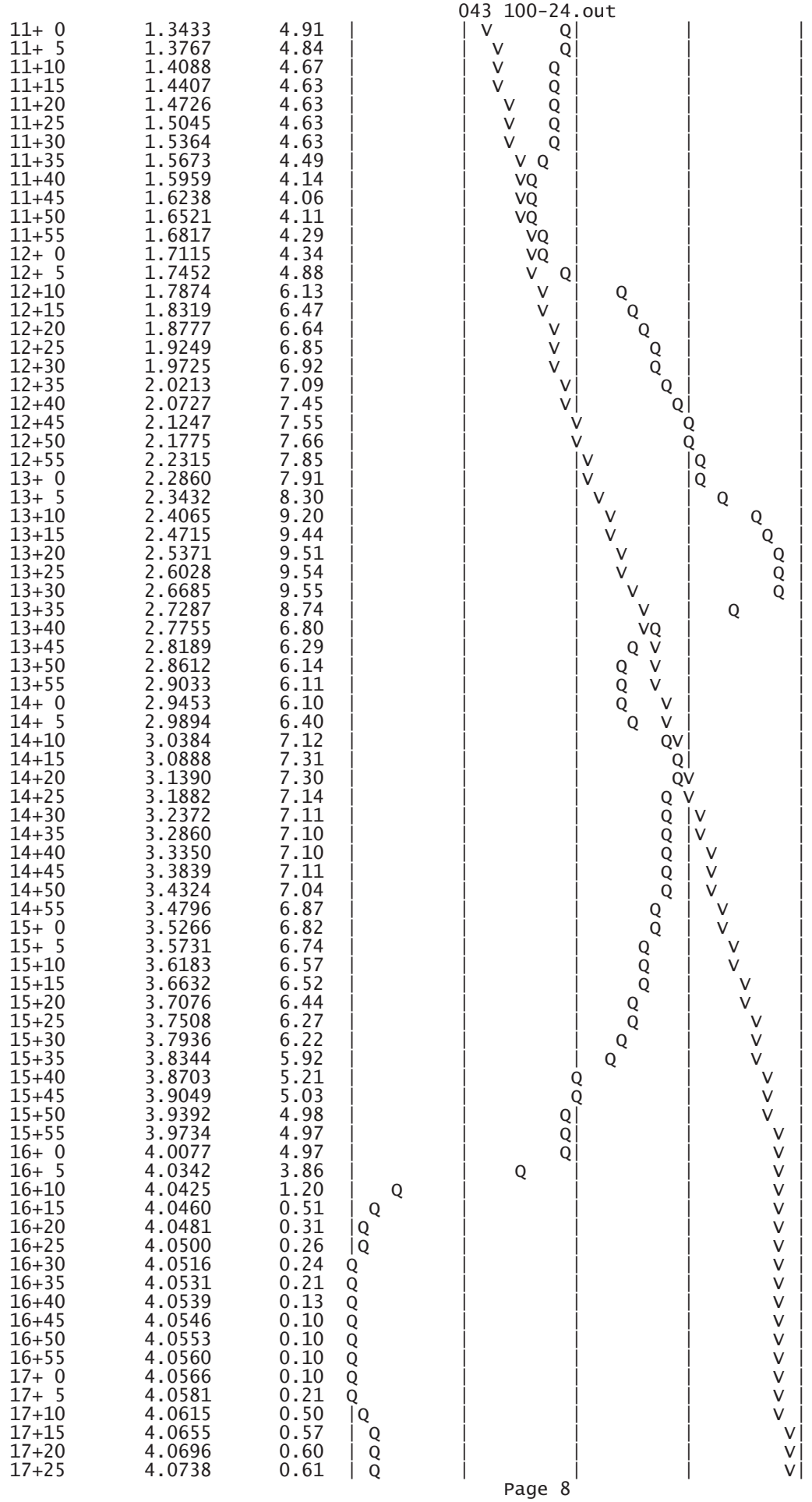
| | | | | | | |
|---|---|---|---|---|---|---|
| 129 | 10.75 | 0.67 | 0.379 | 0.087 | ( 0.341) | 0.292 |
| 130 | 10.83 | 0.67 | 0.379 | 0.086 | ( 0.341) | 0.293 |
| 131 | 10.92 | 0.67 | 0.379 | 0.086 | ( 0.341) | 0.293 |
| 132 | 11.00 | 0.67 | 0.379 | 0.085 | ( 0.341) | 0.294 |
| 133 | 11.08 | 0.63 | 0.360 | 0.085 | ( 0.324) | 0.275 |
| 134 | 11.17 | 0.63 | 0.360 | 0.085 | ( 0.324) | 0.276 |
| 135 | 11.25 | 0.63 | 0.360 | 0.084 | ( 0.324) | 0.276 |
| 136 | 11.33 | 0.63 | 0.360 | 0.084 | ( 0.324) | 0.276 |
| 137 | 11.42 | 0.63 | 0.360 | 0.083 | ( 0.324) | 0.277 |
| 138 | 11.50 | 0.63 | 0.360 | 0.083 | ( 0.324) | 0.277 |
| 139 | 11.58 | 0.57 | 0.322 | 0.083 | ( 0.290) | 0.240 |
| 140 | 11.67 | 0.57 | 0.322 | 0.082 | ( 0.290) | 0.240 |
| 141 | 11.75 | 0.57 | 0.322 | 0.082 | ( 0.290) | 0.241 |
| 142 | 11.83 | 0.60 | 0.341 | 0.081 | ( 0.307) | 0.260 |
| 143 | 11.92 | 0.60 | 0.341 | 0.081 | ( 0.307) | 0.260 |
| 144 | 12.00 | 0.60 | 0.341 | 0.080 | ( 0.307) | 0.261 |
| 145 | 12.08 | 0.83 | 0.474 | 0.080 | ( 0.427) | 0.394 |
| 146 | 12.17 | 0.83 | 0.474 | 0.080 | ( 0.427) | 0.394 |
| 147 | 12.25 | 0.83 | 0.474 | 0.079 | ( 0.427) | 0.395 |
| 148 | 12.33 | 0.87 | 0.493 | 0.079 | ( 0.444) | 0.414 |
| 149 | 12.42 | 0.87 | 0.493 | 0.078 | ( 0.444) | 0.414 |
| 150 | 12.50 | 0.87 | 0.493 | 0.078 | ( 0.444) | 0.415 |
| 151 | 12.58 | 0.93 | 0.531 | 0.078 | ( 0.478) | 0.453 |
| 152 | 12.67 | 0.93 | 0.531 | 0.077 | ( 0.478) | 0.454 |
| 153 | 12.75 | 0.93 | 0.531 | 0.077 | ( 0.478) | 0.454 |
| 154 | 12.83 | 0.97 | 0.550 | 0.077 | ( 0.495) | 0.473 |
| 155 | 12.92 | 0.97 | 0.550 | 0.076 | ( 0.495) | 0.474 |
| 156 | 13.00 | 0.97 | 0.550 | 0.076 | ( 0.495) | 0.474 |
| 157 | 13.08 | 1.13 | 0.645 | 0.075 | ( 0.580) | 0.569 |
| 158 | 13.17 | 1.13 | 0.645 | 0.075 | ( 0.580) | 0.570 |
| 159 | 13.25 | 1.13 | 0.645 | 0.075 | ( 0.580) | 0.570 |
| 160 | 13.33 | 1.13 | 0.645 | 0.074 | ( 0.580) | 0.570 |
| 161 | 13.42 | 1.13 | 0.645 | 0.074 | ( 0.580) | 0.571 |
| 162 | 13.50 | 1.13 | 0.645 | 0.073 | ( 0.580) | 0.571 |
| 163 | 13.58 | 0.77 | 0.436 | 0.073 | ( 0.392) | 0.363 |
| 164 | 13.67 | 0.77 | 0.436 | 0.073 | ( 0.392) | 0.363 |
| 165 | 13.75 | 0.77 | 0.436 | 0.072 | ( 0.392) | 0.364 |
| 166 | 13.83 | 0.77 | 0.436 | 0.072 | ( 0.392) | 0.364 |
| 167 | 13.92 | 0.77 | 0.436 | 0.072 | ( 0.392) | 0.364 |
| 168 | 14.00 | 0.77 | 0.436 | 0.071 | ( 0.392) | 0.365 |
| 169 | 14.08 | 0.90 | 0.512 | 0.071 | ( 0.461) | 0.441 |
| 170 | 14.17 | 0.90 | 0.512 | 0.071 | ( 0.461) | 0.441 |
| 171 | 14.25 | 0.90 | 0.512 | 0.070 | ( 0.461) | 0.442 |
| 172 | 14.33 | 0.87 | 0.493 | 0.070 | ( 0.444) | 0.423 |
| 173 | 14.42 | 0.87 | 0.493 | 0.069 | ( 0.444) | 0.423 |
| 174 | 14.50 | 0.87 | 0.493 | 0.069 | ( 0.444) | 0.424 |
| 175 | 14.58 | 0.87 | 0.493 | 0.069 | ( 0.444) | 0.424 |
| 176 | 14.67 | 0.87 | 0.493 | 0.068 | ( 0.444) | 0.425 |
| 177 | 14.75 | 0.87 | 0.493 | 0.068 | ( 0.444) | 0.425 |
| 178 | 14.83 | 0.83 | 0.474 | 0.068 | ( 0.427) | 0.406 |
| 179 | 14.92 | 0.83 | 0.474 | 0.067 | ( 0.427) | 0.407 |
| 180 | 15.00 | 0.83 | 0.474 | 0.067 | ( 0.427) | 0.407 |
| 181 | 15.08 | 0.80 | 0.455 | 0.067 | ( 0.410) | 0.388 |
| 182 | 15.17 | 0.80 | 0.455 | 0.066 | ( 0.410) | 0.389 |
| 183 | 15.25 | 0.80 | 0.455 | 0.066 | ( 0.410) | 0.389 |
| 184 | 15.33 | 0.77 | 0.436 | 0.066 | ( 0.392) | 0.370 |
| 185 | 15.42 | 0.77 | 0.436 | 0.065 | ( 0.392) | 0.371 |
| 186 | 15.50 | 0.77 | 0.436 | 0.065 | ( 0.392) | 0.371 |
| 187 | 15.58 | 0.63 | 0.360 | 0.065 | ( 0.324) | 0.296 |
| 188 | 15.67 | 0.63 | 0.360 | 0.064 | ( 0.324) | 0.296 |
| 189 | 15.75 | 0.63 | 0.360 | 0.064 | ( 0.324) | 0.296 |
| 190 | 15.83 | 0.63 | 0.360 | 0.064 | ( 0.324) | 0.297 |
| 191 | 15.92 | 0.63 | 0.360 | 0.063 | ( 0.324) | 0.297 |
| 192 | 16.00 | 0.63 | 0.360 | 0.063 | ( 0.324) | 0.297 |
| 193 | 16.08 | 0.13 | 0.076 | 0.063 | ( 0.068) | 0.013 |
| 194 | 16.17 | 0.13 | 0.076 | 0.062 | ( 0.068) | 0.013 |
| 195 | 16.25 | 0.13 | 0.076 | 0.062 | ( 0.068) | 0.014 |
| 196 | 16.33 | 0.13 | 0.076 | 0.062 | ( 0.068) | 0.014 |
| 197 | 16.42 | 0.13 | 0.076 | 0.061 | ( 0.068) | 0.014 |
| 198 | 16.50 | 0.13 | 0.076 | 0.061 | ( 0.068) | 0.015 |
| 199 | 16.58 | 0.10 | 0.057 | ( 0.061) | 0.051 | 0.006 |
| 200 | 16.67 | 0.10 | 0.057 | ( 0.060) | 0.051 | 0.006 |
| 201 | 16.75 | 0.10 | 0.057 | ( 0.060) | 0.051 | 0.006 |
| 202 | 16.83 | 0.10 | 0.057 | ( 0.060) | 0.051 | 0.006 |
| 203 | 16.92 | 0.10 | 0.057 | ( 0.060) | 0.051 | 0.006 |
| 204 | 17.00 | 0.10 | 0.057 | ( 0.059) | 0.051 | 0.006 |
| 205 | 17.08 | 0.17 | 0.095 | 0.059 | ( 0.085) | 0.036 |
| 206 | 17.17 | 0.17 | 0.095 | 0.059 | ( 0.085) | 0.036 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 207 | 17.25 | 0.17 | 0.095 | 0.058 | ( 0.085) | 0.036 |
| 208 | 17.33 | 0.17 | 0.095 | 0.058 | ( 0.085) | 0.037 |
| 209 | 17.42 | 0.17 | 0.095 | 0.058 | ( 0.085) | 0.037 |
| 210 | 17.50 | 0.17 | 0.095 | 0.058 | ( 0.085) | 0.037 |
| 211 | 17.58 | 0.17 | 0.095 | 0.057 | ( 0.085) | 0.038 |
| 212 | 17.67 | 0.17 | 0.095 | 0.057 | ( 0.085) | 0.038 |
| 213 | 17.75 | 0.17 | 0.095 | 0.057 | ( 0.085) | 0.038 |
| 214 | 17.83 | 0.13 | 0.076 | 0.056 | ( 0.068) | 0.019 |
| 215 | 17.92 | 0.13 | 0.076 | 0.056 | ( 0.068) | 0.020 |
| 216 | 18.00 | 0.13 | 0.076 | 0.056 | ( 0.068) | 0.020 |
| 217 | 18.08 | 0.13 | 0.076 | 0.056 | ( 0.068) | 0.020 |
| 218 | 18.17 | 0.13 | 0.076 | 0.055 | ( 0.068) | 0.021 |
| 219 | 18.25 | 0.13 | 0.076 | 0.055 | ( 0.068) | 0.021 |
| 220 | 18.33 | 0.13 | 0.076 | 0.055 | ( 0.068) | 0.021 |
| 221 | 18.42 | 0.13 | 0.076 | 0.054 | ( 0.068) | 0.021 |
| 222 | 18.50 | 0.13 | 0.076 | 0.054 | ( 0.068) | 0.022 |
| 223 | 18.58 | 0.10 | 0.057 | ( 0.054) | 0.051 | 0.006 |
| 224 | 18.67 | 0.10 | 0.057 | ( 0.054) | 0.051 | 0.006 |
| 225 | 18.75 | 0.10 | 0.057 | ( 0.053) | 0.051 | 0.006 |
| 226 | 18.83 | 0.07 | 0.038 | ( 0.053) | 0.034 | 0.004 |
| 227 | 18.92 | 0.07 | 0.038 | ( 0.053) | 0.034 | 0.004 |
| 228 | 19.00 | 0.07 | 0.038 | ( 0.053) | 0.034 | 0.004 |
| 229 | 19.08 | 0.10 | 0.057 | ( 0.052) | 0.051 | 0.006 |
| 230 | 19.17 | 0.10 | 0.057 | ( 0.052) | 0.051 | 0.006 |
| 231 | 19.25 | 0.10 | 0.057 | ( 0.052) | 0.051 | 0.006 |
| 232 | 19.33 | 0.13 | 0.076 | 0.052 | ( 0.068) | 0.024 |
| 233 | 19.42 | 0.13 | 0.076 | 0.051 | ( 0.068) | 0.024 |
| 234 | 19.50 | 0.13 | 0.076 | 0.051 | ( 0.068) | 0.025 |
| 235 | 19.58 | 0.10 | 0.057 | 0.051 | ( 0.051) | 0.006 |
| 236 | 19.67 | 0.10 | 0.057 | 0.051 | ( 0.051) | 0.006 |
| 237 | 19.75 | 0.10 | 0.057 | 0.050 | ( 0.051) | 0.006 |
| 238 | 19.83 | 0.07 | 0.038 | ( 0.050) | 0.034 | 0.004 |
| 239 | 19.92 | 0.07 | 0.038 | ( 0.050) | 0.034 | 0.004 |
| 240 | 20.00 | 0.07 | 0.038 | ( 0.050) | 0.034 | 0.004 |
| 241 | 20.08 | 0.10 | 0.057 | 0.050 | ( 0.051) | 0.007 |
| 242 | 20.17 | 0.10 | 0.057 | 0.049 | ( 0.051) | 0.007 |
| 243 | 20.25 | 0.10 | 0.057 | 0.049 | ( 0.051) | 0.008 |
| 244 | 20.33 | 0.10 | 0.057 | 0.049 | ( 0.051) | 0.008 |
| 245 | 20.42 | 0.10 | 0.057 | 0.049 | ( 0.051) | 0.008 |
| 246 | 20.50 | 0.10 | 0.057 | 0.049 | ( 0.051) | 0.008 |
| 247 | 20.58 | 0.10 | 0.057 | 0.048 | ( 0.051) | 0.009 |
| 248 | 20.67 | 0.10 | 0.057 | 0.048 | ( 0.051) | 0.009 |
| 249 | 20.75 | 0.10 | 0.057 | 0.048 | ( 0.051) | 0.009 |
| 250 | 20.83 | 0.07 | 0.038 | ( 0.048) | 0.034 | 0.004 |
| 251 | 20.92 | 0.07 | 0.038 | ( 0.048) | 0.034 | 0.004 |
| 252 | 21.00 | 0.07 | 0.038 | ( 0.047) | 0.034 | 0.004 |
| 253 | 21.08 | 0.10 | 0.057 | 0.047 | ( 0.051) | 0.010 |
| 254 | 21.17 | 0.10 | 0.057 | 0.047 | ( 0.051) | 0.010 |
| 255 | 21.25 | 0.10 | 0.057 | 0.047 | ( 0.051) | 0.010 |
| 256 | 21.33 | 0.07 | 0.038 | ( 0.047) | 0.034 | 0.004 |
| 257 | 21.42 | 0.07 | 0.038 | ( 0.046) | 0.034 | 0.004 |
| 258 | 21.50 | 0.07 | 0.038 | ( 0.046) | 0.034 | 0.004 |
| 259 | 21.58 | 0.10 | 0.057 | 0.046 | ( 0.051) | 0.011 |
| 260 | 21.67 | 0.10 | 0.057 | 0.046 | ( 0.051) | 0.011 |
| 261 | 21.75 | 0.10 | 0.057 | 0.046 | ( 0.051) | 0.011 |
| 262 | 21.83 | 0.07 | 0.038 | ( 0.046) | 0.034 | 0.004 |
| 263 | 21.92 | 0.07 | 0.038 | ( 0.045) | 0.034 | 0.004 |
| 264 | 22.00 | 0.07 | 0.038 | ( 0.045) | 0.034 | 0.004 |
| 265 | 22.08 | 0.10 | 0.057 | 0.045 | ( 0.051) | 0.012 |
| 266 | 22.17 | 0.10 | 0.057 | 0.045 | ( 0.051) | 0.012 |
| 267 | 22.25 | 0.10 | 0.057 | 0.045 | ( 0.051) | 0.012 |
| 268 | 22.33 | 0.07 | 0.038 | ( 0.045) | 0.034 | 0.004 |
| 269 | 22.42 | 0.07 | 0.038 | ( 0.045) | 0.034 | 0.004 |
| 270 | 22.50 | 0.07 | 0.038 | ( 0.044) | 0.034 | 0.004 |
| 271 | 22.58 | 0.07 | 0.038 | ( 0.044) | 0.034 | 0.004 |
| 272 | 22.67 | 0.07 | 0.038 | ( 0.044) | 0.034 | 0.004 |
| 273 | 22.75 | 0.07 | 0.038 | ( 0.044) | 0.034 | 0.004 |
| 274 | 22.83 | 0.07 | 0.038 | ( 0.044) | 0.034 | 0.004 |
| 275 | 22.92 | 0.07 | 0.038 | ( 0.044) | 0.034 | 0.004 |
| 276 | 23.00 | 0.07 | 0.038 | ( 0.044) | 0.034 | 0.004 |
| 277 | 23.08 | 0.07 | 0.038 | ( 0.044) | 0.034 | 0.004 |
| 278 | 23.17 | 0.07 | 0.038 | ( 0.044) | 0.034 | 0.004 |
| 279 | 23.25 | 0.07 | 0.038 | ( 0.043) | 0.034 | 0.004 |
| 280 | 23.33 | 0.07 | 0.038 | ( 0.043) | 0.034 | 0.004 |
| 281 | 23.42 | 0.07 | 0.038 | ( 0.043) | 0.034 | 0.004 |
| 282 | 23.50 | 0.07 | 0.038 | ( 0.043) | 0.034 | 0.004 |
| 283 | 23.58 | 0.07 | 0.038 | ( 0.043) | 0.034 | 0.004 |
| 284 | 23.67 | 0.07 | 0.038 | ( 0.043) | 0.034 | 0.004 |

```
285  23.75     0.07      0.038       (  0.043)       0.034        0.004
286  23.83     0.07      0.038       (  0.043)       0.034        0.004
287  23.92     0.07      0.038       (  0.043)       0.034        0.004
288  24.00     0.07      0.038       (  0.043)       0.034        0.004
            (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    36.1
       Flood volume = Effective rainfall      3.01(In)
        times area      16.6(Ac.)/[(In)/(Ft.)] =       4.2(Ac.Ft)
       Total soil loss =      1.73(In)
       Total soil loss =     2.390(Ac.Ft)
       Total rainfall =      4.74(In)
       Flood volume =      181515.6 Cubic Feet
       Total soil loss =      104098.1 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =      9.553(CFS)
       ---------------------------------------------------------------------
       +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
       ---------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))

       ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5       10.0
 ----------------------------------------------------------------------------
   0+ 5       0.0001      0.01  Q          |         |         |         |
   0+10       0.0004      0.05  Q          |         |         |         |
   0+15       0.0009      0.06  Q          |         |         |         |
   0+20       0.0013      0.07  Q          |         |         |         |
   0+25       0.0020      0.09  Q          |         |         |         |
   0+30       0.0026      0.09  Q          |         |         |         |
   0+35       0.0032      0.09  Q          |         |         |         |
   0+40       0.0039      0.10  Q          |         |         |         |
   0+45       0.0046      0.10  Q          |         |         |         |
   0+50       0.0053      0.10  Q          |         |         |         |
   0+55       0.0061      0.12  Q          |         |         |         |
   1+ 0       0.0070      0.13  Q          |         |         |         |
   1+ 5       0.0078      0.12  Q          |         |         |         |
   1+10       0.0085      0.10  Q          |         |         |         |
   1+15       0.0091      0.10  Q          |         |         |         |
   1+20       0.0098      0.10  Q          |         |         |         |
   1+25       0.0105      0.10  Q          |         |         |         |
   1+30       0.0111      0.10  Q          |         |         |         |
   1+35       0.0118      0.10  Q          |         |         |         |
   1+40       0.0124      0.10  Q          |         |         |         |
   1+45       0.0131      0.10  Q          |         |         |         |
   1+50       0.0138      0.10  Q          |         |         |         |
   1+55       0.0146      0.12  Q          |         |         |         |
   2+ 0       0.0155      0.13  Q          |         |         |         |
   2+ 5       0.0163      0.13  Q          |         |         |         |
   2+10       0.0172      0.13  Q          |         |         |         |
   2+15       0.0181      0.13  Q          |         |         |         |
   2+20       0.0190      0.13  Q          |         |         |         |
   2+25       0.0198      0.13  Q          |         |         |         |
   2+30       0.0207      0.13  Q          |         |         |         |
   2+35       0.0216      0.13  Q          |         |         |         |
   2+40       0.0227      0.15  Q          |         |         |         |
   2+45       0.0238      0.16  Q          |         |         |         |
   2+50       0.0249      0.16  Q          |         |         |         |
   2+55       0.0260      0.16  Q          |         |         |         |
   3+ 0       0.0270      0.16  Q          |         |         |         |
   3+ 5       0.0281      0.16  Q          |         |         |         |
   3+10       0.0292      0.16  Q          |         |         |         |
   3+15       0.0303      0.16  Q          |         |         |         |
   3+20       0.0314      0.16  Q          |         |         |         |
   3+25       0.0325      0.16  Q          |         |         |         |
   3+30       0.0336      0.16  Q          |         |         |         |
   3+35       0.0347      0.16  Q          |         |         |         |
   3+40       0.0358      0.16  Q          |         |         |         |
   3+45       0.0369      0.16  Q          |         |         |         |
   3+50       0.0380      0.17  Q          |         |         |         |
   3+55       0.0393      0.18  Q          |         |         |         |
   4+ 0       0.0406      0.19  Q          |         |         |         |
   4+ 5       0.0419      0.19  Q          |         |         |         |
   4+10       0.0432      0.19  Q          |         |         |         |
   4+15       0.0445      0.19  Q          |         |         |         |
   4+20       0.0459      0.20  Q          |         |         |         |
   4+25       0.0474      0.22  Q          |         |         |         |
```

```
 4+30       0.0489      0.22  Q          |          |          |          |
 4+35       0.0504      0.22  Q          |          |          |          |
 4+40       0.0519      0.22  Q          |          |          |          |
 4+45       0.0535      0.22  Q          |          |          |          |
 4+50       0.0555      0.29  VQ         |          |          |          |
 4+55       0.0587      0.46  VQ         |          |          |          |
 5+ 0       0.0622      0.51  V Q        |          |          |          |
 5+ 5       0.0653      0.45  VQ         |          |          |          |
 5+10       0.0671      0.26  VQ         |          |          |          |
 5+15       0.0686      0.21  Q          |          |          |          |
 5+20       0.0700      0.21  Q          |          |          |          |
 5+25       0.0717      0.25  Q          |          |          |          |
 5+30       0.0735      0.26  VQ         |          |          |          |
 5+35       0.0759      0.35  VQ         |          |          |          |
 5+40       0.0796      0.53  V Q        |          |          |          |
 5+45       0.0837      0.59  V Q        |          |          |          |
 5+50       0.0879      0.61  V Q        |          |          |          |
 5+55       0.0922      0.62  V Q        |          |          |          |
 6+ 0       0.0966      0.63  V Q        |          |          |          |
 6+ 5       0.1015      0.72  V Q        |          |          |          |
 6+10       0.1077      0.90  |V Q       |          |          |          |
 6+15       0.1143      0.96  |V Q       |          |          |          |
 6+20       0.1211      0.98  |V Q       |          |          |          |
 6+25       0.1279      0.99  |V Q       |          |          |          |
 6+30       0.1348      1.00  |V  Q      |          |          |          |
 6+35       0.1423      1.08  |V  Q      |          |          |          |
 6+40       0.1510      1.27  |V   Q     |          |          |          |
 6+45       0.1601      1.33  |V   Q     |          |          |          |
 6+50       0.1694      1.35  |V   Q     |          |          |          |
 6+55       0.1788      1.36  |V   Q     |          |          |          |
 7+ 0       0.1882      1.37  |V   Q     |          |          |          |
 7+ 5       0.1977      1.38  |V   Q     |          |          |          |
 7+10       0.2072      1.39  |V   Q     |          |          |          |
 7+15       0.2168      1.39  | V  Q     |          |          |          |
 7+20       0.2270      1.48  | V  Q     |          |          |          |
 7+25       0.2384      1.66  | V   Q    |          |          |          |
 7+30       0.2502      1.72  | V   Q    |          |          |          |
 7+35       0.2627      1.81  | V    Q   |          |          |          |
 7+40       0.2765      2.00  | V     Q  |          |          |          |
 7+45       0.2907      2.06  | V     Q  |          |          |          |
 7+50       0.3055      2.15  | V     Q  |          |          |          |
 7+55       0.3216      2.34  |  V     Q |          |          |          |
 8+ 0       0.3382      2.40  |  V     Q|          |          |          |
 8+ 5       0.3559      2.57  |  V      Q          |          |          |
 8+10       0.3761      2.94  |  V      |Q         |          |          |
 8+15       0.3970      3.04  |  V      | Q        |          |          |
 8+20       0.4182      3.07  |   V     | Q        |          |          |
 8+25       0.4394      3.09  |   V     | Q        |          |          |
 8+30       0.4608      3.10  |   V     | Q        |          |          |
 8+35       0.4827      3.18  |   V     | Q        |          |          |
 8+40       0.5059      3.37  |   V     |  Q       |          |          |
 8+45       0.5294      3.42  |    V    |  Q       |          |          |
 8+50       0.5537      3.52  |    V    |   Q      |          |          |
 8+55       0.5792      3.71  |    V    |   Q      |          |          |
 9+ 0       0.6051      3.76  |    V    |    Q     |          |          |
 9+ 5       0.6322      3.93  |     V   |    Q     |          |          |
 9+10       0.6618      4.30  |     V   |      Q   |          |          |
 9+15       0.6921      4.40  |     V   |      Q   |          |          |
 9+20       0.7231      4.51  |     V   |       Q  |          |          |
 9+25       0.7555      4.70  |      V  |       Q  |          |          |
 9+30       0.7883      4.76  |      V  |        Q|          |          |
 9+35       0.8217      4.85  |      V  |        Q|          |          |
 9+40       0.8564      5.04  |       V |         Q          |          |
 9+45       0.8916      5.10  |       V |         Q          |          |
 9+50       0.9273      5.19  |       V |         Q          |          |
 9+55       0.9644      5.38  |        V|         |Q         |          |
10+ 0       1.0019      5.44  |        V|         |Q         |          |
10+ 5       1.0359      4.94  |        V|        Q|          |          |
10+10       1.0614      3.71  |         V   Q     |          |          |
10+15       1.0847      3.39  |         V  Q      |          |          |
10+20       1.1075      3.30  |         V  Q      |          |          |
10+25       1.1301      3.28  |         V  Q      |          |          |
10+30       1.1527      3.28  |         |V Q      |          |          |
10+35       1.1779      3.66  |         |V  Q     |          |          |
10+40       1.2093      4.55  |         |V      Q |          |          |
10+45       1.2423      4.79  |         |V       Q|          |          |
10+50       1.2758      4.87  |         | V      Q|          |          |
10+55       1.3095      4.89  |         | V      Q|          |          |
```



| | | | |
|---|---|---|---|
| 11+ 0 | 1.3433 | 4.91 | |
| 11+ 5 | 1.3767 | 4.84 | |
| 11+10 | 1.4088 | 4.67 | |
| 11+15 | 1.4407 | 4.63 | |
| 11+20 | 1.4726 | 4.63 | |
| 11+25 | 1.5045 | 4.63 | |
| 11+30 | 1.5364 | 4.63 | |
| 11+35 | 1.5673 | 4.49 | |
| 11+40 | 1.5959 | 4.14 | |
| 11+45 | 1.6238 | 4.06 | |
| 11+50 | 1.6521 | 4.11 | |
| 11+55 | 1.6817 | 4.29 | |
| 12+ 0 | 1.7115 | 4.34 | |
| 12+ 5 | 1.7452 | 4.88 | |
| 12+10 | 1.7874 | 6.13 | |
| 12+15 | 1.8319 | 6.47 | |
| 12+20 | 1.8777 | 6.64 | |
| 12+25 | 1.9249 | 6.85 | |
| 12+30 | 1.9725 | 6.92 | |
| 12+35 | 2.0213 | 7.09 | |
| 12+40 | 2.0727 | 7.45 | |
| 12+45 | 2.1247 | 7.55 | |
| 12+50 | 2.1775 | 7.66 | |
| 12+55 | 2.2315 | 7.85 | |
| 13+ 0 | 2.2860 | 7.91 | |
| 13+ 5 | 2.3432 | 8.30 | |
| 13+10 | 2.4065 | 9.20 | |
| 13+15 | 2.4715 | 9.44 | |
| 13+20 | 2.5371 | 9.51 | |
| 13+25 | 2.6028 | 9.54 | |
| 13+30 | 2.6685 | 9.55 | |
| 13+35 | 2.7287 | 8.74 | |
| 13+40 | 2.7755 | 6.80 | |
| 13+45 | 2.8189 | 6.29 | |
| 13+50 | 2.8612 | 6.14 | |
| 13+55 | 2.9033 | 6.11 | |
| 14+ 0 | 2.9453 | 6.10 | |
| 14+ 5 | 2.9894 | 6.40 | |
| 14+10 | 3.0384 | 7.12 | |
| 14+15 | 3.0888 | 7.31 | |
| 14+20 | 3.1390 | 7.30 | |
| 14+25 | 3.1882 | 7.14 | |
| 14+30 | 3.2372 | 7.11 | |
| 14+35 | 3.2860 | 7.10 | |
| 14+40 | 3.3350 | 7.10 | |
| 14+45 | 3.3839 | 7.11 | |
| 14+50 | 3.4324 | 7.04 | |
| 14+55 | 3.4796 | 6.87 | |
| 15+ 0 | 3.5266 | 6.82 | |
| 15+ 5 | 3.5731 | 6.74 | |
| 15+10 | 3.6183 | 6.57 | |
| 15+15 | 3.6632 | 6.52 | |
| 15+20 | 3.7076 | 6.44 | |
| 15+25 | 3.7508 | 6.27 | |
| 15+30 | 3.7936 | 6.22 | |
| 15+35 | 3.8344 | 5.92 | |
| 15+40 | 3.8703 | 5.21 | |
| 15+45 | 3.9049 | 5.03 | |
| 15+50 | 3.9392 | 4.98 | |
| 15+55 | 3.9734 | 4.97 | |
| 16+ 0 | 4.0077 | 4.97 | |
| 16+ 5 | 4.0342 | 3.86 | |
| 16+10 | 4.0425 | 1.20 | |
| 16+15 | 4.0460 | 0.51 | |
| 16+20 | 4.0481 | 0.31 | |
| 16+25 | 4.0500 | 0.26 | |
| 16+30 | 4.0516 | 0.24 | |
| 16+35 | 4.0531 | 0.21 | |
| 16+40 | 4.0539 | 0.13 | |
| 16+45 | 4.0546 | 0.10 | |
| 16+50 | 4.0553 | 0.10 | |
| 16+55 | 4.0560 | 0.10 | |
| 17+ 0 | 4.0566 | 0.10 | |
| 17+ 5 | 4.0581 | 0.21 | |
| 17+10 | 4.0615 | 0.50 | |
| 17+15 | 4.0655 | 0.57 | |
| 17+20 | 4.0696 | 0.60 | |
| 17+25 | 4.0738 | 0.61 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+30 | 4.0781 | 0.62 | \| Q | \| | \| | \| | V\| |
| 17+35 | 4.0824 | 0.62 | \| Q | \| | \| | \| | V\| |
| 17+40 | 4.0867 | 0.63 | \| Q | \| | \| | \| | V\| |
| 17+45 | 4.0911 | 0.63 | \| Q | \| | \| | \| | V\| |
| 17+50 | 4.0950 | 0.56 | \| Q | \| | \| | \| | V\| |
| 17+55 | 4.0977 | 0.39 | \|Q | \| | \| | \| | V\| |
| 18+ 0 | 4.1001 | 0.35 | \|Q | \| | \| | \| | V\| |
| 18+ 5 | 4.1024 | 0.34 | \|Q | \| | \| | \| | V\| |
| 18+10 | 4.1048 | 0.34 | \|Q | \| | \| | \| | V\| |
| 18+15 | 4.1071 | 0.34 | \|Q | \| | \| | \| | V\| |
| 18+20 | 4.1095 | 0.35 | \|Q | \| | \| | \| | V\| |
| 18+25 | 4.1120 | 0.35 | \|Q | \| | \| | \| | V\| |
| 18+30 | 4.1144 | 0.36 | \|Q | \| | \| | \| | V\| |
| 18+35 | 4.1165 | 0.30 | \|Q | \| | \| | \| | V\| |
| 18+40 | 4.1175 | 0.15 | Q | \| | \| | \| | V\| |
| 18+45 | 4.1183 | 0.11 | Q | \| | \| | \| | V\| |
| 18+50 | 4.1189 | 0.09 | Q | \| | \| | \| | V\| |
| 18+55 | 4.1194 | 0.07 | Q | \| | \| | \| | V\| |
| 19+ 0 | 4.1199 | 0.07 | Q | \| | \| | \| | V\| |
| 19+ 5 | 4.1204 | 0.07 | Q | \| | \| | \| | V\| |
| 19+10 | 4.1210 | 0.09 | Q | \| | \| | \| | V\| |
| 19+15 | 4.1216 | 0.09 | Q | \| | \| | \| | V\| |
| 19+20 | 4.1228 | 0.17 | Q | \| | \| | \| | V\| |
| 19+25 | 4.1251 | 0.34 | \|Q | \| | \| | \| | V\| |
| 19+30 | 4.1278 | 0.39 | \|Q | \| | \| | \| | V\| |
| 19+35 | 4.1301 | 0.33 | \|Q | \| | \| | \| | V\| |
| 19+40 | 4.1312 | 0.16 | Q | \| | \| | \| | V\| |
| 19+45 | 4.1321 | 0.12 | Q | \| | \| | \| | V\| |
| 19+50 | 4.1327 | 0.10 | Q | \| | \| | \| | V\| |
| 19+55 | 4.1333 | 0.07 | Q | \| | \| | \| | V\| |
| 20+ 0 | 4.1337 | 0.07 | Q | \| | \| | \| | V\| |
| 20+ 5 | 4.1342 | 0.08 | Q | \| | \| | \| | V\| |
| 20+10 | 4.1350 | 0.11 | Q | \| | \| | \| | V\| |
| 20+15 | 4.1358 | 0.12 | Q | \| | \| | \| | V\| |
| 20+20 | 4.1367 | 0.13 | Q | \| | \| | \| | V\| |
| 20+25 | 4.1376 | 0.13 | Q | \| | \| | \| | V\| |
| 20+30 | 4.1386 | 0.14 | Q | \| | \| | \| | V\| |
| 20+35 | 4.1395 | 0.14 | Q | \| | \| | \| | V\| |
| 20+40 | 4.1405 | 0.14 | Q | \| | \| | \| | V\| |
| 20+45 | 4.1415 | 0.15 | Q | \| | \| | \| | V\| |
| 20+50 | 4.1424 | 0.13 | Q | \| | \| | \| | V\| |
| 20+55 | 4.1430 | 0.08 | Q | \| | \| | \| | V\| |
| 21+ 0 | 4.1434 | 0.07 | Q | \| | \| | \| | V\| |
| 21+ 5 | 4.1440 | 0.09 | Q | \| | \| | \| | V\| |
| 21+10 | 4.1450 | 0.14 | Q | \| | \| | \| | V\| |
| 21+15 | 4.1461 | 0.16 | Q | \| | \| | \| | V\| |
| 21+20 | 4.1471 | 0.14 | Q | \| | \| | \| | V\| |
| 21+25 | 4.1477 | 0.08 | Q | \| | \| | \| | V\| |
| 21+30 | 4.1482 | 0.07 | Q | \| | \| | \| | V\| |
| 21+35 | 4.1488 | 0.09 | Q | \| | \| | \| | V\| |
| 21+40 | 4.1499 | 0.16 | Q | \| | \| | \| | V\| |
| 21+45 | 4.1511 | 0.18 | Q | \| | \| | \| | V\| |
| 21+50 | 4.1522 | 0.15 | Q | \| | \| | \| | V\| |
| 21+55 | 4.1528 | 0.09 | Q | \| | \| | \| | V\| |
| 22+ 0 | 4.1533 | 0.07 | Q | \| | \| | \| | V\| |
| 22+ 5 | 4.1539 | 0.10 | Q | \| | \| | \| | V\| |
| 22+10 | 4.1551 | 0.17 | Q | \| | \| | \| | V\| |
| 22+15 | 4.1564 | 0.19 | Q | \| | \| | \| | V\| |
| 22+20 | 4.1576 | 0.17 | Q | \| | \| | \| | V\| |
| 22+25 | 4.1582 | 0.09 | Q | \| | \| | \| | V\| |
| 22+30 | 4.1587 | 0.07 | Q | \| | \| | \| | V\| |
| 22+35 | 4.1591 | 0.07 | Q | \| | \| | \| | V\| |
| 22+40 | 4.1596 | 0.06 | Q | \| | \| | \| | V\| |
| 22+45 | 4.1600 | 0.06 | Q | \| | \| | \| | V\| |
| 22+50 | 4.1604 | 0.06 | Q | \| | \| | \| | V\| |
| 22+55 | 4.1609 | 0.06 | Q | \| | \| | \| | V\| |
| 23+ 0 | 4.1613 | 0.06 | Q | \| | \| | \| | V\| |
| 23+ 5 | 4.1618 | 0.06 | Q | \| | \| | \| | V\| |
| 23+10 | 4.1622 | 0.06 | Q | \| | \| | \| | V\| |
| 23+15 | 4.1626 | 0.06 | Q | \| | \| | \| | V\| |
| 23+20 | 4.1631 | 0.06 | Q | \| | \| | \| | V\| |
| 23+25 | 4.1635 | 0.06 | Q | \| | \| | \| | V\| |
| 23+30 | 4.1639 | 0.06 | Q | \| | \| | \| | V\| |
| 23+35 | 4.1644 | 0.06 | Q | \| | \| | \| | V\| |
| 23+40 | 4.1648 | 0.06 | Q | \| | \| | \| | V\| |
| 23+45 | 4.1653 | 0.06 | Q | \| | \| | \| | V\| |
| 23+50 | 4.1657 | 0.06 | Q | \| | \| | \| | V\| |
| 23+55 | 4.1661 | 0.06 | Q | \| | \| | \| | V\| |

```
   24+ 0       4.1666      0.06  Q         |          |          |         V|
   24+ 5       4.1669      0.05  Q         |          |          |         V|
   24+10       4.1670      0.01  Q         |          |          |         V|
   24+15       4.1670      0.00  Q         |          |          |         V|
   24+20       4.1670      0.00  Q         |          |          |         V|
   24+25       4.1670      0.00  Q         |          |          |         V|
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/09/18 File: EX441100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 44
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

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Drainage Area = 12.00(Ac.) = 0.019 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 12.00(Ac.) = 0.019 Sq. Mi.
Length along longest watercourse = 1692.00(Ft.)
Length along longest watercourse measured to centroid = 1195.00(Ft.)
Length along longest watercourse = 0.320 Mi.
Length along longest watercourse measured to centroid = 0.226 Mi.
Difference in elevation = 334.00(Ft.)
Slope along watercourse = 1042.2695 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.083 Hr.
Lag time = 4.97 Min.
25% of lag time = 1.24 Min.
40% of lag time = 1.99 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 12.00 | 0.50 | 6.00 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 12.00 | 1.20 | 14.40 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 12.000 | 83.86 | 0.000 |

Total Area Entered = 12.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.9 | 93.3 | 0.087 | 0.000 | 0.087 | 1.000 | 0.087 |
| | | | | | Sum (F) = | 0.087 |

Area averaged mean soil loss (F) (In/Hr) = 0.087

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

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Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 100.685 | 14.661 | 1.773 |
| 2 | 0.167 | 201.370 | 55.782 | 6.746 |
| 3 | 0.250 | 302.056 | 18.314 | 2.215 |
| 4 | 0.333 | 402.741 | 7.359 | 0.890 |
| 5 | 0.417 | 503.426 | 2.392 | 0.289 |
| 6 | 0.500 | 604.111 | 0.843 | 0.102 |
| 7 | 0.583 | 704.796 | 0.649 | 0.078 |
| | | Sum = | 100.000 Sum= | 12.094 |

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time | | Pattern | Storm Rain | Loss rate(In./Hr) | | | Effective |
|---|---|---|---|---|---|---|---|
| | (Hr.) | Percent | (In/Hr) | Max | | Low | (In/Hr) |
| 1 | 0.08 | 4.20 | 0.605 | 0.087 | ( | 0.544) | 0.518 |
| 2 | 0.17 | 4.30 | 0.619 | 0.087 | ( | 0.557) | 0.532 |
| 3 | 0.25 | 5.00 | 0.720 | 0.087 | ( | 0.648) | 0.633 |
| 4 | 0.33 | 5.00 | 0.720 | 0.087 | ( | 0.648) | 0.633 |
| 5 | 0.42 | 5.80 | 0.835 | 0.087 | ( | 0.752) | 0.748 |
| 6 | 0.50 | 6.50 | 0.936 | 0.087 | ( | 0.842) | 0.849 |
| 7 | 0.58 | 7.40 | 1.065 | 0.087 | ( | 0.959) | 0.979 |
| 8 | 0.67 | 8.60 | 1.238 | 0.087 | ( | 1.114) | 1.151 |
| 9 | 0.75 | 12.30 | 1.771 | 0.087 | ( | 1.594) | 1.684 |
| 10 | 0.83 | 29.10 | 4.190 | 0.087 | ( | 3.771) | 4.103 |
| 11 | 0.92 | 6.80 | 0.979 | 0.087 | ( | 0.881) | 0.892 |
| 12 | 1.00 | 5.00 | 0.720 | 0.087 | ( | 0.648) | 0.633 |
| | | (Loss Rate Not Used) | | | | | |
| Sum = | | 100.0 | | | | Sum = | 13.4 |

Flood volume = Effective rainfall 1.11(In)
times area 12.0(Ac.)/[(In)/(Ft.)] = 1.1(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.087(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 48481.3 Cubic Feet
Total soil loss = 3785.0 Cubic Feet

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Peak flow rate of this hydrograph = 34.463(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 10.0 | 20.0 | 30.0 | 40.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0063 | 0.92 | Q | \| | \| | \| | \| |
| 0+10 | 0.0369 | 4.44 | \|V Q | \| | \| | \| | \| |
| 0+15 | 0.0773 | 5.86 | \| V Q | \| | \| | \| | \| |
| 0+20 | 0.1257 | 7.04 | \| V Q | \| | \| | \| | \| |
| 0+25 | 0.1783 | 7.63 | \| VQ | \| | \| | \| | \| |
| 0+30 | 0.2384 | 8.73 | \| Q | \| | \| | \| | \| |
| 0+35 | 0.3070 | 9.97 | \| Q\|V | \| | \| | \| | \| |
| 0+40 | 0.3861 | 11.48 | \| \|Q V | \| | \| | \| | \| |
| 0+45 | 0.4826 | 14.01 | \| \| Q V | \| | \| | \| | \| |
| 0+50 | 0.6372 | 22.44 | \| \| \| Q | \| | \| | \| | \| |
| 0+55 | 0.8745 | 34.46 | \| \| \| | \| | \|V Q | \| | \| |
| 1+ 0 | 1.0001 | 18.24 | \| \| Q | \| | \| V | \| | \| |
| 1+ 5 | 1.0730 | 10.58 | \| Q | \| | \| | \| V | \| |
| 1+10 | 1.0981 | 3.65 | \| Q | \| | \| | \| | \| V\| |

```
    1+15       1.1076      1.37  |Q        |         |         |        V|
    1+20       1.1117      0.60  Q         |         |         |        V|
    1+25       1.1126      0.13  Q         |         |         |        V|
    1+30       1.1130      0.05  Q         |         |         |        V|
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/09/18 File: EX443100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 44
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 12.00(Ac.) = 0.019 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 12.00(Ac.) = 0.019 Sq. Mi.
Length along longest watercourse = 1692.00(Ft.)
Length along longest watercourse measured to centroid = 1195.00(Ft.)
Length along longest watercourse = 0.320 Mi.
Length along longest watercourse measured to centroid = 0.226 Mi.
Difference in elevation = 334.00(Ft.)
Slope along watercourse = 1042.2695 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.083 Hr.
Lag time = 4.97 Min.
25% of lag time = 1.24 Min.
40% of lag time = 1.99 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 12.00 | 0.81 | 9.72 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 12.00 | 1.82 | 21.84 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.810(In)
Area Averaged 100-Year Rainfall = 1.820(In)

Point rain (area averaged) = 1.820(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.820(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 12.000 | 83.86 | 0.000 |

Total Area Entered = 12.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.9 | 93.3 | 0.087 | 0.000 | 0.087 | 1.000 | 0.087 |
| | | | | | Sum (F) = | 0.087 |

Area averaged mean soil loss (F) (In/Hr) = 0.087

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 100.685 | 14.661 | 1.773 |
| 2 0.167 | 201.370 | 55.782 | 6.746 |
| 3 0.250 | 302.056 | 18.314 | 2.215 |
| 4 0.333 | 402.741 | 7.359 | 0.890 |
| 5 0.417 | 503.426 | 2.392 | 0.289 |
| 6 0.500 | 604.111 | 0.843 | 0.102 |
| 7 0.583 | 704.796 | 0.649 | 0.078 |
| | Sum = | 100.000 Sum= | 12.094 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.284 | 0.087 | ( 0.256) | 0.197 |
| 2 | 0.17 | 1.30 | 0.284 | 0.087 | ( 0.256) | 0.197 |
| 3 | 0.25 | 1.10 | 0.240 | 0.087 | ( 0.216) | 0.153 |
| 4 | 0.33 | 1.50 | 0.328 | 0.087 | ( 0.295) | 0.241 |
| 5 | 0.42 | 1.50 | 0.328 | 0.087 | ( 0.295) | 0.241 |
| 6 | 0.50 | 1.80 | 0.393 | 0.087 | ( 0.354) | 0.306 |
| 7 | 0.58 | 1.50 | 0.328 | 0.087 | ( 0.295) | 0.241 |
| 8 | 0.67 | 1.80 | 0.393 | 0.087 | ( 0.354) | 0.306 |
| 9 | 0.75 | 1.80 | 0.393 | 0.087 | ( 0.354) | 0.306 |
| 10 | 0.83 | 1.50 | 0.328 | 0.087 | ( 0.295) | 0.241 |
| 11 | 0.92 | 1.60 | 0.349 | 0.087 | ( 0.314) | 0.263 |
| 12 | 1.00 | 1.80 | 0.393 | 0.087 | ( 0.354) | 0.306 |
| 13 | 1.08 | 2.20 | 0.480 | 0.087 | ( 0.432) | 0.394 |
| 14 | 1.17 | 2.20 | 0.480 | 0.087 | ( 0.432) | 0.394 |
| 15 | 1.25 | 2.20 | 0.480 | 0.087 | ( 0.432) | 0.394 |
| 16 | 1.33 | 2.00 | 0.437 | 0.087 | ( 0.393) | 0.350 |
| 17 | 1.42 | 2.60 | 0.568 | 0.087 | ( 0.511) | 0.481 |
| 18 | 1.50 | 2.70 | 0.590 | 0.087 | ( 0.531) | 0.503 |
| 19 | 1.58 | 2.40 | 0.524 | 0.087 | ( 0.472) | 0.437 |
| 20 | 1.67 | 2.70 | 0.590 | 0.087 | ( 0.531) | 0.503 |
| 21 | 1.75 | 3.30 | 0.721 | 0.087 | ( 0.649) | 0.634 |
| 22 | 1.83 | 3.10 | 0.677 | 0.087 | ( 0.609) | 0.590 |
| 23 | 1.92 | 2.90 | 0.633 | 0.087 | ( 0.570) | 0.546 |
| 24 | 2.00 | 3.00 | 0.655 | 0.087 | ( 0.590) | 0.568 |
| 25 | 2.08 | 3.10 | 0.677 | 0.087 | ( 0.609) | 0.590 |
| 26 | 2.17 | 4.20 | 0.917 | 0.087 | ( 0.826) | 0.830 |
| 27 | 2.25 | 5.00 | 1.092 | 0.087 | ( 0.983) | 1.005 |
| 28 | 2.33 | 3.50 | 0.764 | 0.087 | ( 0.688) | 0.677 |
| 29 | 2.42 | 6.80 | 1.485 | 0.087 | ( 1.337) | 1.398 |
| 30 | 2.50 | 7.30 | 1.594 | 0.087 | ( 1.435) | 1.507 |
| 31 | 2.58 | 8.20 | 1.791 | 0.087 | ( 1.612) | 1.704 |
| 32 | 2.67 | 5.90 | 1.288 | 0.087 | ( 1.160) | 1.202 |
| 33 | 2.75 | 2.00 | 0.437 | 0.087 | ( 0.393) | 0.350 |
| 34 | 2.83 | 1.80 | 0.393 | 0.087 | ( 0.354) | 0.306 |
| 35 | 2.92 | 1.80 | 0.393 | 0.087 | ( 0.354) | 0.306 |
| 36 | 3.00 | 0.60 | 0.131 | 0.087 | ( 0.118) | 0.044 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 18.7 |

Flood volume = Effective rainfall 1.56(In)
times area 12.0(Ac.)/[(In)/(Ft.)] = 1.6(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.261(Ac.Ft)
Total rainfall = 1.82(In)
Flood volume = 67920.0 Cubic Feet
Total soil loss = 11355.0 Cubic Feet

Peak flow rate of this hydrograph = 18.581(CFS)

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3 - H O U R  S T O R M
R u n o f f  H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 5.0 | 10.0 | 15.0 | 20.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0024 | 0.35 | Q | | | | |
| 0+10 | 0.0140 | 1.68 | V Q | | | | |
| 0+15 | 0.0280 | 2.04 | V Q | | | | |
| 0+20 | 0.0423 | 2.07 | V Q | | | | |
| 0+25 | 0.0604 | 2.62 | V Q | | | | |
| 0+30 | 0.0804 | 2.91 | V Q | | | | |
| 0+35 | 0.1033 | 3.32 | V Q | | | | |
| 0+40 | 0.1251 | 3.16 | V Q | | | | |
| 0+45 | 0.1493 | 3.52 | V Q | | | | |
| 0+50 | 0.1736 | 3.52 | V Q | | | | |
| 0+55 | 0.1954 | 3.16 | VQ | | | | |
| 1+ 0 | 0.2178 | 3.26 | VQ | | | | |
| 1+ 5 | 0.2433 | 3.70 | VQ | | | | |
| 1+10 | 0.2735 | 4.39 | VQ | | | | |
| 1+15 | 0.3054 | 4.62 | V Q | | | | |
| 1+20 | 0.3373 | 4.63 | VQ | | | | |
| 1+25 | 0.3690 | 4.60 | Q | | | | |
| 1+30 | 0.4065 | 5.44 | Q | | | | |
| 1+35 | 0.4459 | 5.73 | Q | | | | |
| 1+40 | 0.4842 | 5.56 | QV | | | | |
| 1+45 | 0.5265 | 6.14 | QV | | | | |
| 1+50 | 0.5750 | 7.05 | Q | | | | |
| 1+55 | 0.6234 | 7.02 | QV | | | | |
| 2+ 0 | 0.6702 | 6.80 | Q V | | | | |
| 2+ 5 | 0.7177 | 6.89 | Q V | | | | |
| 2+10 | 0.7691 | 7.48 | Q V | | | | |
| 2+15 | 0.8344 | 9.47 | Q V | | | | |
| 2+20 | 0.9075 | 10.62 | Q V | | | | |
| 2+25 | 0.9784 | 10.29 | Q V | | | | |
| 2+30 | 1.0807 | 14.85 | V Q | | | | |
| 2+35 | 1.1999 | 17.32 | V Q | | | | |
| 2+40 | 1.3279 | 18.58 | V Q | | | | |
| 2+45 | 1.4271 | 14.40 | Q V | | | | |
| 2+50 | 1.4802 | 7.72 | Q V | | | | |
| 2+55 | 1.5161 | 5.21 | Q V | | | | |
| 3+ 0 | 1.5421 | 3.78 | Q V | | | | |
| 3+ 5 | 1.5532 | 1.61 | Q V | | | | |
| 3+10 | 1.5573 | 0.59 | Q V | | | | |
| 3+15 | 1.5585 | 0.19 | Q V | | | | |
| 3+20 | 1.5590 | 0.07 | Q V | | | | |
| 3+25 | 1.5592 | 0.03 | Q V | | | | |
| 3+30 | 1.5592 | 0.00 | Q V | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/09/18 File: EX446100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 44
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 12.00(Ac.) = 0.019 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 12.00(Ac.) = 0.019 Sq. Mi.
Length along longest watercourse = 1692.00(Ft.)
Length along longest watercourse measured to centroid = 1195.00(Ft.)
Length along longest watercourse = 0.320 Mi.
Length along longest watercourse measured to centroid = 0.226 Mi.
Difference in elevation = 334.00(Ft.)
Slope along watercourse = 1042.2695 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.083 Hr.
Lag time = 4.97 Min.
25% of lag time = 1.24 Min.
40% of lag time = 1.99 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 12.00 | 1.15 | 13.80 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 12.00 | 2.50 | 30.00 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.150(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 12.000 | 83.86 | 0.000 |

Total Area Entered = 12.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.9 | 93.3 | 0.087 | 0.000 | 0.087 | 1.000 | 0.087 |
| | | | | | Sum (F) = | 0.087 |

Area averaged mean soil loss (F) (In/Hr) = 0.087

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 100.685 | 14.661 | 1.773 |
| 2 | 0.167 | 201.370 | 55.782 | 6.746 |
| 3 | 0.250 | 302.056 | 18.314 | 2.215 |
| 4 | 0.333 | 402.741 | 7.359 | 0.890 |
| 5 | 0.417 | 503.426 | 2.392 | 0.289 |
| 6 | 0.500 | 604.111 | 0.843 | 0.102 |
| 7 | 0.583 | 704.796 | 0.649 | 0.078 |
| | | Sum = | 100.000 Sum= | 12.094 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.087 | ( | 0.135) | 0.063 |
| 2 | 0.17 | 0.60 | 0.180 | 0.087 | ( | 0.162) | 0.093 |
| 3 | 0.25 | 0.60 | 0.180 | 0.087 | ( | 0.162) | 0.093 |
| 4 | 0.33 | 0.60 | 0.180 | 0.087 | ( | 0.162) | 0.093 |
| 5 | 0.42 | 0.60 | 0.180 | 0.087 | ( | 0.162) | 0.093 |
| 6 | 0.50 | 0.70 | 0.210 | 0.087 | ( | 0.189) | 0.123 |
| 7 | 0.58 | 0.70 | 0.210 | 0.087 | ( | 0.189) | 0.123 |
| 8 | 0.67 | 0.70 | 0.210 | 0.087 | ( | 0.189) | 0.123 |
| 9 | 0.75 | 0.70 | 0.210 | 0.087 | ( | 0.189) | 0.123 |
| 10 | 0.83 | 0.70 | 0.210 | 0.087 | ( | 0.189) | 0.123 |
| 11 | 0.92 | 0.70 | 0.210 | 0.087 | ( | 0.189) | 0.123 |
| 12 | 1.00 | 0.80 | 0.240 | 0.087 | ( | 0.216) | 0.153 |
| 13 | 1.08 | 0.80 | 0.240 | 0.087 | ( | 0.216) | 0.153 |
| 14 | 1.17 | 0.80 | 0.240 | 0.087 | ( | 0.216) | 0.153 |
| 15 | 1.25 | 0.80 | 0.240 | 0.087 | ( | 0.216) | 0.153 |
| 16 | 1.33 | 0.80 | 0.240 | 0.087 | ( | 0.216) | 0.153 |
| 17 | 1.42 | 0.80 | 0.240 | 0.087 | ( | 0.216) | 0.153 |
| 18 | 1.50 | 0.80 | 0.240 | 0.087 | ( | 0.216) | 0.153 |
| 19 | 1.58 | 0.80 | 0.240 | 0.087 | ( | 0.216) | 0.153 |
| 20 | 1.67 | 0.80 | 0.240 | 0.087 | ( | 0.216) | 0.153 |
| 21 | 1.75 | 0.80 | 0.240 | 0.087 | ( | 0.216) | 0.153 |
| 22 | 1.83 | 0.80 | 0.240 | 0.087 | ( | 0.216) | 0.153 |
| 23 | 1.92 | 0.80 | 0.240 | 0.087 | ( | 0.216) | 0.153 |
| 24 | 2.00 | 0.90 | 0.270 | 0.087 | ( | 0.243) | 0.183 |
| 25 | 2.08 | 0.80 | 0.240 | 0.087 | ( | 0.216) | 0.153 |
| 26 | 2.17 | 0.90 | 0.270 | 0.087 | ( | 0.243) | 0.183 |
| 27 | 2.25 | 0.90 | 0.270 | 0.087 | ( | 0.243) | 0.183 |
| 28 | 2.33 | 0.90 | 0.270 | 0.087 | ( | 0.243) | 0.183 |
| 29 | 2.42 | 0.90 | 0.270 | 0.087 | ( | 0.243) | 0.183 |
| 30 | 2.50 | 0.90 | 0.270 | 0.087 | ( | 0.243) | 0.183 |
| 31 | 2.58 | 0.90 | 0.270 | 0.087 | ( | 0.243) | 0.183 |
| 32 | 2.67 | 0.90 | 0.270 | 0.087 | ( | 0.243) | 0.183 |
| 33 | 2.75 | 1.00 | 0.300 | 0.087 | ( | 0.270) | 0.213 |
| 34 | 2.83 | 1.00 | 0.300 | 0.087 | ( | 0.270) | 0.213 |
| 35 | 2.92 | 1.00 | 0.300 | 0.087 | ( | 0.270) | 0.213 |
| 36 | 3.00 | 1.00 | 0.300 | 0.087 | ( | 0.270) | 0.213 |
| 37 | 3.08 | 1.00 | 0.300 | 0.087 | ( | 0.270) | 0.213 |
| 38 | 3.17 | 1.10 | 0.330 | 0.087 | ( | 0.297) | 0.243 |
| 39 | 3.25 | 1.10 | 0.330 | 0.087 | ( | 0.297) | 0.243 |
| 40 | 3.33 | 1.10 | 0.330 | 0.087 | ( | 0.297) | 0.243 |
| 41 | 3.42 | 1.20 | 0.360 | 0.087 | ( | 0.324) | 0.273 |
| 42 | 3.50 | 1.30 | 0.390 | 0.087 | ( | 0.351) | 0.303 |
| 43 | 3.58 | 1.40 | 0.420 | 0.087 | ( | 0.378) | 0.333 |
| 44 | 3.67 | 1.40 | 0.420 | 0.087 | ( | 0.378) | 0.333 |
| 45 | 3.75 | 1.50 | 0.450 | 0.087 | ( | 0.405) | 0.363 |
| 46 | 3.83 | 1.50 | 0.450 | 0.087 | ( | 0.405) | 0.363 |
| 47 | 3.92 | 1.60 | 0.480 | 0.087 | ( | 0.432) | 0.393 |
| 48 | 4.00 | 1.60 | 0.480 | 0.087 | ( | 0.432) | 0.393 |
| 49 | 4.08 | 1.70 | 0.510 | 0.087 | ( | 0.459) | 0.423 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 50 | 4.17 | 1.80 | 0.540 | 0.087 | ( 0.486) | | 0.453 |
| 51 | 4.25 | 1.90 | 0.570 | 0.087 | ( 0.513) | | 0.483 |
| 52 | 4.33 | 2.00 | 0.600 | 0.087 | ( 0.540) | | 0.513 |
| 53 | 4.42 | 2.10 | 0.630 | 0.087 | ( 0.567) | | 0.543 |
| 54 | 4.50 | 2.10 | 0.630 | 0.087 | ( 0.567) | | 0.543 |
| 55 | 4.58 | 2.20 | 0.660 | 0.087 | ( 0.594) | | 0.573 |
| 56 | 4.67 | 2.30 | 0.690 | 0.087 | ( 0.621) | | 0.603 |
| 57 | 4.75 | 2.40 | 0.720 | 0.087 | ( 0.648) | | 0.633 |
| 58 | 4.83 | 2.40 | 0.720 | 0.087 | ( 0.648) | | 0.633 |
| 59 | 4.92 | 2.50 | 0.750 | 0.087 | ( 0.675) | | 0.663 |
| 60 | 5.00 | 2.60 | 0.780 | 0.087 | ( 0.702) | | 0.693 |
| 61 | 5.08 | 3.10 | 0.930 | 0.087 | ( 0.837) | | 0.843 |
| 62 | 5.17 | 3.60 | 1.080 | 0.087 | ( 0.972) | | 0.993 |
| 63 | 5.25 | 3.90 | 1.170 | 0.087 | ( 1.053) | | 1.083 |
| 64 | 5.33 | 4.20 | 1.260 | 0.087 | ( 1.134) | | 1.173 |
| 65 | 5.42 | 4.70 | 1.410 | 0.087 | ( 1.269) | | 1.323 |
| 66 | 5.50 | 5.60 | 1.680 | 0.087 | ( 1.512) | | 1.593 |
| 67 | 5.58 | 1.90 | 0.570 | 0.087 | ( 0.513) | | 0.483 |
| 68 | 5.67 | 0.90 | 0.270 | 0.087 | ( 0.243) | | 0.183 |
| 69 | 5.75 | 0.60 | 0.180 | 0.087 | ( 0.162) | | 0.093 |
| 70 | 5.83 | 0.50 | 0.150 | 0.087 | ( 0.135) | | 0.063 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.087) | 0.081 | | 0.009 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.087) | 0.054 | | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.8

Flood volume = Effective rainfall 1.98(In)
times area 12.0(Ac.)/[(In)/(Ft.)] = 2.0(Ac.Ft)
Total soil loss = 0.52(In)
Total soil loss = 0.518(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 86326.2 Cubic Feet
Total soil loss = 22569.3 Cubic Feet

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Peak flow rate of this hydrograph = 16.067(CFS)

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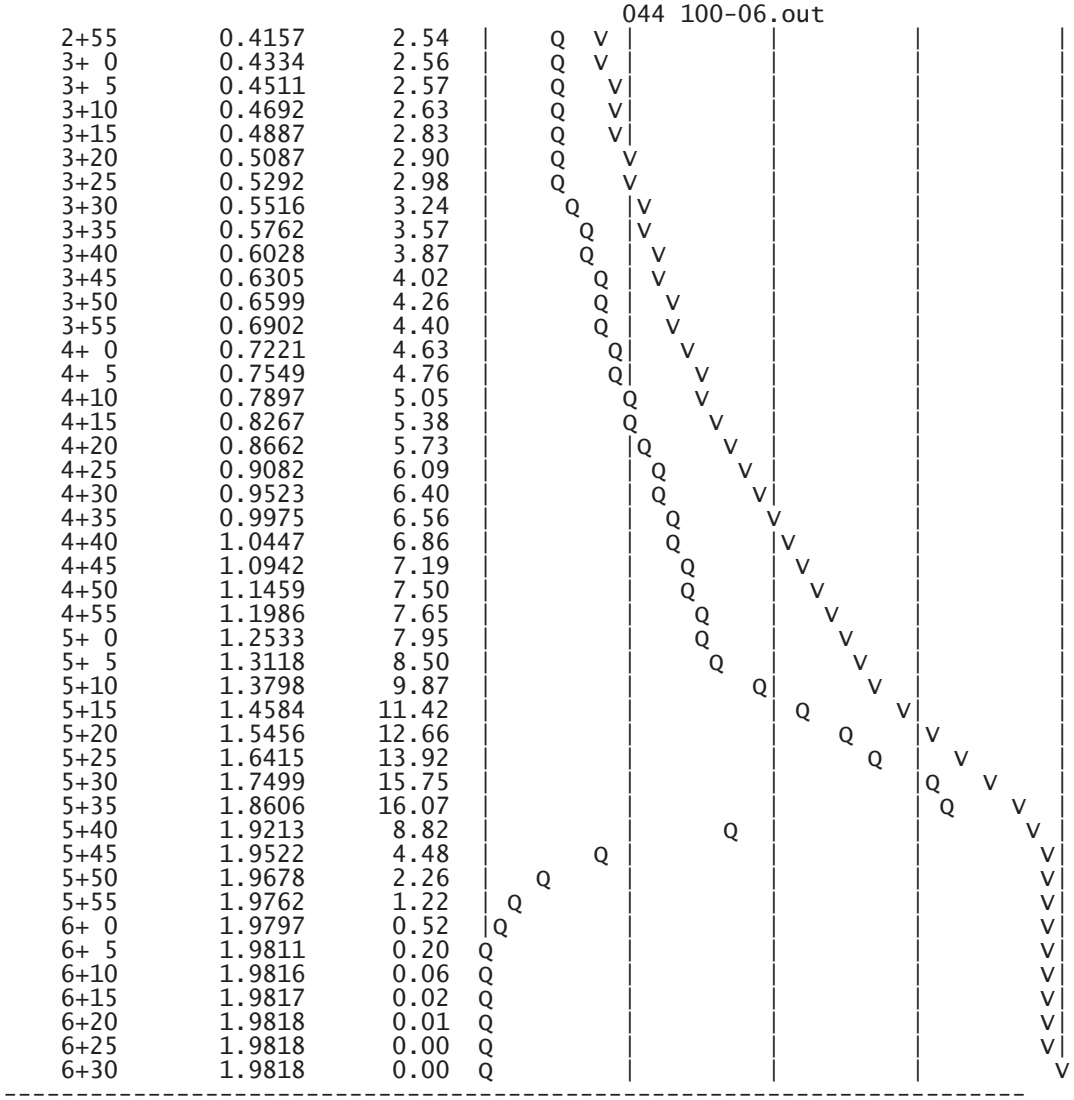
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 5.0 | 10.0 | 15.0 | 20.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0008 | 0.11 | Q | | | | |
| 0+10 | 0.0048 | 0.59 | VQ | | | | |
| 0+15 | 0.0113 | 0.93 | VQ | | | | |
| 0+20 | 0.0185 | 1.06 | V Q | | | | |
| 0+25 | 0.0261 | 1.10 | V Q | | | | |
| 0+30 | 0.0342 | 1.17 | V Q | | | | |
| 0+35 | 0.0437 | 1.38 | V Q | | | | |
| 0+40 | 0.0537 | 1.45 | \|VQ | | | | |
| 0+45 | 0.0638 | 1.48 | \|VQ | | | | |
| 0+50 | 0.0740 | 1.48 | \|VQ | | | | |
| 0+55 | 0.0843 | 1.49 | \|VQ | | | | |
| 1+ 0 | 0.0949 | 1.54 | \|V Q | | | | |
| 1+ 5 | 0.1069 | 1.75 | \| VQ | | | | |
| 1+10 | 0.1194 | 1.81 | \| VQ | | | | |
| 1+15 | 0.1321 | 1.84 | \| VQ | | | | |
| 1+20 | 0.1448 | 1.85 | \| VQ | | | | |
| 1+25 | 0.1575 | 1.85 | \| Q | | | | |
| 1+30 | 0.1703 | 1.85 | \| Q | | | | |
| 1+35 | 0.1830 | 1.85 | \| Q | | | | |
| 1+40 | 0.1958 | 1.85 | \| Q | | | | |
| 1+45 | 0.2086 | 1.85 | \| QV | | | | |
| 1+50 | 0.2213 | 1.85 | \| QV | | | | |
| 1+55 | 0.2341 | 1.85 | \| QV | | | | |
| 2+ 0 | 0.2472 | 1.91 | \| QV | | | | |
| 2+ 5 | 0.2614 | 2.05 | \| QV | | | | |
| 2+10 | 0.2749 | 1.97 | \| Q V | | | | |
| 2+15 | 0.2896 | 2.13 | \| QV | | | | |
| 2+20 | 0.3047 | 2.18 | \| Q V | | | | |
| 2+25 | 0.3199 | 2.20 | \| Q V | | | | |
| 2+30 | 0.3351 | 2.21 | \| Q V | | | | |
| 2+35 | 0.3503 | 2.21 | \| Q V | | | | |
| 2+40 | 0.3656 | 2.22 | \| Q V | | | | |
| 2+45 | 0.3812 | 2.27 | \| Q V | | | | |
| 2+50 | 0.3982 | 2.47 | \| Q V | | | | |



| | | | |
|---|---|---|---|
| 2+55 | 0.4157 | 2.54 | |
| 3+ 0 | 0.4334 | 2.56 | |
| 3+ 5 | 0.4511 | 2.57 | |
| 3+10 | 0.4692 | 2.63 | |
| 3+15 | 0.4887 | 2.83 | |
| 3+20 | 0.5087 | 2.90 | |
| 3+25 | 0.5292 | 2.98 | |
| 3+30 | 0.5516 | 3.24 | |
| 3+35 | 0.5762 | 3.57 | |
| 3+40 | 0.6028 | 3.87 | |
| 3+45 | 0.6305 | 4.02 | |
| 3+50 | 0.6599 | 4.26 | |
| 3+55 | 0.6902 | 4.40 | |
| 4+ 0 | 0.7221 | 4.63 | |
| 4+ 5 | 0.7549 | 4.76 | |
| 4+10 | 0.7897 | 5.05 | |
| 4+15 | 0.8267 | 5.38 | |
| 4+20 | 0.8662 | 5.73 | |
| 4+25 | 0.9082 | 6.09 | |
| 4+30 | 0.9523 | 6.40 | |
| 4+35 | 0.9975 | 6.56 | |
| 4+40 | 1.0447 | 6.86 | |
| 4+45 | 1.0942 | 7.19 | |
| 4+50 | 1.1459 | 7.50 | |
| 4+55 | 1.1986 | 7.65 | |
| 5+ 0 | 1.2533 | 7.95 | |
| 5+ 5 | 1.3118 | 8.50 | |
| 5+10 | 1.3798 | 9.87 | |
| 5+15 | 1.4584 | 11.42 | |
| 5+20 | 1.5456 | 12.66 | |
| 5+25 | 1.6415 | 13.92 | |
| 5+30 | 1.7499 | 15.75 | |
| 5+35 | 1.8606 | 16.07 | |
| 5+40 | 1.9213 | 8.82 | |
| 5+45 | 1.9522 | 4.48 | |
| 5+50 | 1.9678 | 2.26 | |
| 5+55 | 1.9762 | 1.22 | |
| 6+ 0 | 1.9797 | 0.52 | |
| 6+ 5 | 1.9811 | 0.20 | |
| 6+10 | 1.9816 | 0.06 | |
| 6+15 | 1.9817 | 0.02 | |
| 6+20 | 1.9818 | 0.01 | |
| 6+25 | 1.9818 | 0.00 | |
| 6+30 | 1.9818 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 01/09/18 File: EX4424100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 44
100-YEAR STORM EVENT
BY: JDN, DATE: 12-21-17

---

Drainage Area = 12.00(Ac.) = 0.019 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 12.00(Ac.) = 0.019 Sq. Mi.
Length along longest watercourse = 1692.00(Ft.)
Length along longest watercourse measured to centroid = 1195.00(Ft.)
Length along longest watercourse = 0.320 Mi.
Length along longest watercourse measured to centroid = 0.226 Mi.
Difference in elevation = 334.00(Ft.)
Slope along watercourse = 1042.2695 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.083 Hr.
Lag time = 4.97 Min.
25% of lag time = 1.24 Min.
40% of lag time = 1.99 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 12.00 | 1.80 | 21.60 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 12.00 | 4.71 | 56.52 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.710(In)

Point rain (area averaged) = 4.710(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.710(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 12.000 | 83.86 | 0.000 |

Total Area Entered = 12.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 83.9 | 93.3 | 0.087 | 0.000 | 0.087 | 1.000 | 0.087 |
| | | | | | Sum (F) = | 0.087 |

Area averaged mean soil loss (F) (In/Hr) = 0.087

Minimum soil loss rate ((In/Hr)) = 0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 100.685 | 14.661 | 1.773 |
| 2 | 0.167 | 201.370 | 55.782 | 6.746 |
| 3 | 0.250 | 302.056 | 18.314 | 2.215 |
| 4 | 0.333 | 402.741 | 7.359 | 0.890 |
| 5 | 0.417 | 503.426 | 2.392 | 0.289 |
| 6 | 0.500 | 604.111 | 0.843 | 0.102 |
| 7 | 0.583 | 704.796 | 0.649 | 0.078 |
| | | | Sum = 100.000 | Sum= 12.094 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.038 | ( 0.154) | 0.034 | 0.004 |
| 2 | 0.17 | 0.07 | 0.038 | ( 0.153) | 0.034 | 0.004 |
| 3 | 0.25 | 0.07 | 0.038 | ( 0.153) | 0.034 | 0.004 |
| 4 | 0.33 | 0.10 | 0.057 | ( 0.152) | 0.051 | 0.006 |
| 5 | 0.42 | 0.10 | 0.057 | ( 0.152) | 0.051 | 0.006 |
| 6 | 0.50 | 0.10 | 0.057 | ( 0.151) | 0.051 | 0.006 |
| 7 | 0.58 | 0.10 | 0.057 | ( 0.150) | 0.051 | 0.006 |
| 8 | 0.67 | 0.10 | 0.057 | ( 0.150) | 0.051 | 0.006 |
| 9 | 0.75 | 0.10 | 0.057 | ( 0.149) | 0.051 | 0.006 |
| 10 | 0.83 | 0.13 | 0.075 | ( 0.149) | 0.068 | 0.008 |
| 11 | 0.92 | 0.13 | 0.075 | ( 0.148) | 0.068 | 0.008 |
| 12 | 1.00 | 0.13 | 0.075 | ( 0.148) | 0.068 | 0.008 |
| 13 | 1.08 | 0.10 | 0.057 | ( 0.147) | 0.051 | 0.006 |
| 14 | 1.17 | 0.10 | 0.057 | ( 0.146) | 0.051 | 0.006 |
| 15 | 1.25 | 0.10 | 0.057 | ( 0.146) | 0.051 | 0.006 |
| 16 | 1.33 | 0.10 | 0.057 | ( 0.145) | 0.051 | 0.006 |
| 17 | 1.42 | 0.10 | 0.057 | ( 0.145) | 0.051 | 0.006 |
| 18 | 1.50 | 0.10 | 0.057 | ( 0.144) | 0.051 | 0.006 |
| 19 | 1.58 | 0.10 | 0.057 | ( 0.143) | 0.051 | 0.006 |
| 20 | 1.67 | 0.10 | 0.057 | ( 0.143) | 0.051 | 0.006 |
| 21 | 1.75 | 0.10 | 0.057 | ( 0.142) | 0.051 | 0.006 |
| 22 | 1.83 | 0.13 | 0.075 | ( 0.142) | 0.068 | 0.008 |
| 23 | 1.92 | 0.13 | 0.075 | ( 0.141) | 0.068 | 0.008 |
| 24 | 2.00 | 0.13 | 0.075 | ( 0.141) | 0.068 | 0.008 |
| 25 | 2.08 | 0.13 | 0.075 | ( 0.140) | 0.068 | 0.008 |
| 26 | 2.17 | 0.13 | 0.075 | ( 0.139) | 0.068 | 0.008 |
| 27 | 2.25 | 0.13 | 0.075 | ( 0.139) | 0.068 | 0.008 |
| 28 | 2.33 | 0.13 | 0.075 | ( 0.138) | 0.068 | 0.008 |
| 29 | 2.42 | 0.13 | 0.075 | ( 0.138) | 0.068 | 0.008 |
| 30 | 2.50 | 0.13 | 0.075 | ( 0.137) | 0.068 | 0.008 |
| 31 | 2.58 | 0.17 | 0.094 | ( 0.137) | 0.085 | 0.009 |
| 32 | 2.67 | 0.17 | 0.094 | ( 0.136) | 0.085 | 0.009 |
| 33 | 2.75 | 0.17 | 0.094 | ( 0.136) | 0.085 | 0.009 |
| 34 | 2.83 | 0.17 | 0.094 | ( 0.135) | 0.085 | 0.009 |
| 35 | 2.92 | 0.17 | 0.094 | ( 0.134) | 0.085 | 0.009 |
| 36 | 3.00 | 0.17 | 0.094 | ( 0.134) | 0.085 | 0.009 |
| 37 | 3.08 | 0.17 | 0.094 | ( 0.133) | 0.085 | 0.009 |
| 38 | 3.17 | 0.17 | 0.094 | ( 0.133) | 0.085 | 0.009 |
| 39 | 3.25 | 0.17 | 0.094 | ( 0.132) | 0.085 | 0.009 |
| 40 | 3.33 | 0.17 | 0.094 | ( 0.132) | 0.085 | 0.009 |
| 41 | 3.42 | 0.17 | 0.094 | ( 0.131) | 0.085 | 0.009 |
| 42 | 3.50 | 0.17 | 0.094 | ( 0.131) | 0.085 | 0.009 |
| 43 | 3.58 | 0.17 | 0.094 | ( 0.130) | 0.085 | 0.009 |
| 44 | 3.67 | 0.17 | 0.094 | ( 0.129) | 0.085 | 0.009 |
| 45 | 3.75 | 0.17 | 0.094 | ( 0.129) | 0.085 | 0.009 |
| 46 | 3.83 | 0.20 | 0.113 | ( 0.128) | 0.102 | 0.011 |
| 47 | 3.92 | 0.20 | 0.113 | ( 0.128) | 0.102 | 0.011 |
| 48 | 4.00 | 0.20 | 0.113 | ( 0.127) | 0.102 | 0.011 |
| 49 | 4.08 | 0.20 | 0.113 | ( 0.127) | 0.102 | 0.011 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 50 | 4.17 | 0.20 | 0.113 | ( | 0.126) | 0.102 | | 0.011 |
| 51 | 4.25 | 0.20 | 0.113 | ( | 0.126) | 0.102 | | 0.011 |
| 52 | 4.33 | 0.23 | 0.132 | ( | 0.125) | 0.119 | | 0.013 |
| 53 | 4.42 | 0.23 | 0.132 | ( | 0.125) | 0.119 | | 0.013 |
| 54 | 4.50 | 0.23 | 0.132 | ( | 0.124) | 0.119 | | 0.013 |
| 55 | 4.58 | 0.23 | 0.132 | ( | 0.124) | 0.119 | | 0.013 |
| 56 | 4.67 | 0.23 | 0.132 | ( | 0.123) | 0.119 | | 0.013 |
| 57 | 4.75 | 0.23 | 0.132 | ( | 0.122) | 0.119 | | 0.013 |
| 58 | 4.83 | 0.27 | 0.151 | | 0.122 | ( | 0.136) | 0.029 |
| 59 | 4.92 | 0.27 | 0.151 | | 0.121 | ( | 0.136) | 0.029 |
| 60 | 5.00 | 0.27 | 0.151 | | 0.121 | ( | 0.136) | 0.030 |
| 61 | 5.08 | 0.20 | 0.113 | ( | 0.120) | 0.102 | | 0.011 |
| 62 | 5.17 | 0.20 | 0.113 | ( | 0.120) | 0.102 | | 0.011 |
| 63 | 5.25 | 0.20 | 0.113 | ( | 0.119) | 0.102 | | 0.011 |
| 64 | 5.33 | 0.23 | 0.132 | ( | 0.119) | 0.119 | | 0.013 |
| 65 | 5.42 | 0.23 | 0.132 | | 0.118 | ( | 0.119) | 0.014 |
| 66 | 5.50 | 0.23 | 0.132 | | 0.118 | ( | 0.119) | 0.014 |
| 67 | 5.58 | 0.27 | 0.151 | | 0.117 | ( | 0.136) | 0.033 |
| 68 | 5.67 | 0.27 | 0.151 | | 0.117 | ( | 0.136) | 0.034 |
| 69 | 5.75 | 0.27 | 0.151 | | 0.116 | ( | 0.136) | 0.034 |
| 70 | 5.83 | 0.27 | 0.151 | | 0.116 | ( | 0.136) | 0.035 |
| 71 | 5.92 | 0.27 | 0.151 | | 0.115 | ( | 0.136) | 0.036 |
| 72 | 6.00 | 0.27 | 0.151 | | 0.115 | ( | 0.136) | 0.036 |
| 73 | 6.08 | 0.30 | 0.170 | | 0.114 | ( | 0.153) | 0.055 |
| 74 | 6.17 | 0.30 | 0.170 | | 0.114 | ( | 0.153) | 0.056 |
| 75 | 6.25 | 0.30 | 0.170 | | 0.113 | ( | 0.153) | 0.056 |
| 76 | 6.33 | 0.30 | 0.170 | | 0.113 | ( | 0.153) | 0.057 |
| 77 | 6.42 | 0.30 | 0.170 | | 0.112 | ( | 0.153) | 0.057 |
| 78 | 6.50 | 0.30 | 0.170 | | 0.112 | ( | 0.153) | 0.058 |
| 79 | 6.58 | 0.33 | 0.188 | | 0.111 | ( | 0.170) | 0.077 |
| 80 | 6.67 | 0.33 | 0.188 | | 0.111 | ( | 0.170) | 0.078 |
| 81 | 6.75 | 0.33 | 0.188 | | 0.110 | ( | 0.170) | 0.078 |
| 82 | 6.83 | 0.33 | 0.188 | | 0.110 | ( | 0.170) | 0.079 |
| 83 | 6.92 | 0.33 | 0.188 | | 0.109 | ( | 0.170) | 0.079 |
| 84 | 7.00 | 0.33 | 0.188 | | 0.109 | ( | 0.170) | 0.080 |
| 85 | 7.08 | 0.33 | 0.188 | | 0.108 | ( | 0.170) | 0.080 |
| 86 | 7.17 | 0.33 | 0.188 | | 0.108 | ( | 0.170) | 0.081 |
| 87 | 7.25 | 0.33 | 0.188 | | 0.107 | ( | 0.170) | 0.081 |
| 88 | 7.33 | 0.37 | 0.207 | | 0.107 | ( | 0.187) | 0.101 |
| 89 | 7.42 | 0.37 | 0.207 | | 0.106 | ( | 0.187) | 0.101 |
| 90 | 7.50 | 0.37 | 0.207 | | 0.106 | ( | 0.187) | 0.102 |
| 91 | 7.58 | 0.40 | 0.226 | | 0.105 | ( | 0.203) | 0.121 |
| 92 | 7.67 | 0.40 | 0.226 | | 0.105 | ( | 0.203) | 0.121 |
| 93 | 7.75 | 0.40 | 0.226 | | 0.104 | ( | 0.203) | 0.122 |
| 94 | 7.83 | 0.43 | 0.245 | | 0.104 | ( | 0.220) | 0.141 |
| 95 | 7.92 | 0.43 | 0.245 | | 0.103 | ( | 0.220) | 0.142 |
| 96 | 8.00 | 0.43 | 0.245 | | 0.103 | ( | 0.220) | 0.142 |
| 97 | 8.08 | 0.50 | 0.283 | | 0.102 | ( | 0.254) | 0.180 |
| 98 | 8.17 | 0.50 | 0.283 | | 0.102 | ( | 0.254) | 0.181 |
| 99 | 8.25 | 0.50 | 0.283 | | 0.101 | ( | 0.254) | 0.181 |
| 100 | 8.33 | 0.50 | 0.283 | | 0.101 | ( | 0.254) | 0.182 |
| 101 | 8.42 | 0.50 | 0.283 | | 0.100 | ( | 0.254) | 0.182 |
| 102 | 8.50 | 0.50 | 0.283 | | 0.100 | ( | 0.254) | 0.183 |
| 103 | 8.58 | 0.53 | 0.301 | | 0.100 | ( | 0.271) | 0.202 |
| 104 | 8.67 | 0.53 | 0.301 | | 0.099 | ( | 0.271) | 0.202 |
| 105 | 8.75 | 0.53 | 0.301 | | 0.099 | ( | 0.271) | 0.203 |
| 106 | 8.83 | 0.57 | 0.320 | | 0.098 | ( | 0.288) | 0.222 |
| 107 | 8.92 | 0.57 | 0.320 | | 0.098 | ( | 0.288) | 0.223 |
| 108 | 9.00 | 0.57 | 0.320 | | 0.097 | ( | 0.288) | 0.223 |
| 109 | 9.08 | 0.63 | 0.358 | | 0.097 | ( | 0.322) | 0.261 |
| 110 | 9.17 | 0.63 | 0.358 | | 0.096 | ( | 0.322) | 0.262 |
| 111 | 9.25 | 0.63 | 0.358 | | 0.096 | ( | 0.322) | 0.262 |
| 112 | 9.33 | 0.67 | 0.377 | | 0.095 | ( | 0.339) | 0.281 |
| 113 | 9.42 | 0.67 | 0.377 | | 0.095 | ( | 0.339) | 0.282 |
| 114 | 9.50 | 0.67 | 0.377 | | 0.094 | ( | 0.339) | 0.282 |
| 115 | 9.58 | 0.70 | 0.396 | | 0.094 | ( | 0.356) | 0.302 |
| 116 | 9.67 | 0.70 | 0.396 | | 0.094 | ( | 0.356) | 0.302 |
| 117 | 9.75 | 0.70 | 0.396 | | 0.093 | ( | 0.356) | 0.303 |
| 118 | 9.83 | 0.73 | 0.414 | | 0.093 | ( | 0.373) | 0.322 |
| 119 | 9.92 | 0.73 | 0.414 | | 0.092 | ( | 0.373) | 0.322 |
| 120 | 10.00 | 0.73 | 0.414 | | 0.092 | ( | 0.373) | 0.323 |
| 121 | 10.08 | 0.50 | 0.283 | | 0.091 | ( | 0.254) | 0.191 |
| 122 | 10.17 | 0.50 | 0.283 | | 0.091 | ( | 0.254) | 0.192 |
| 123 | 10.25 | 0.50 | 0.283 | | 0.090 | ( | 0.254) | 0.192 |
| 124 | 10.33 | 0.50 | 0.283 | | 0.090 | ( | 0.254) | 0.193 |
| 125 | 10.42 | 0.50 | 0.283 | | 0.090 | ( | 0.254) | 0.193 |
| 126 | 10.50 | 0.50 | 0.283 | | 0.089 | ( | 0.254) | 0.193 |
| 127 | 10.58 | 0.67 | 0.377 | | 0.089 | ( | 0.339) | 0.288 |

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|---|---|---|---|---|---|---|---|
| 128 | 10.67 | 0.67 | 0.377 | | 0.088 | ( 0.339) | 0.289 |
| 129 | 10.75 | 0.67 | 0.377 | | 0.088 | ( 0.339) | 0.289 |
| 130 | 10.83 | 0.67 | 0.377 | | 0.087 | ( 0.339) | 0.289 |
| 131 | 10.92 | 0.67 | 0.377 | | 0.087 | ( 0.339) | 0.290 |
| 132 | 11.00 | 0.67 | 0.377 | | 0.087 | ( 0.339) | 0.290 |
| 133 | 11.08 | 0.63 | 0.358 | | 0.086 | ( 0.322) | 0.272 |
| 134 | 11.17 | 0.63 | 0.358 | | 0.086 | ( 0.322) | 0.272 |
| 135 | 11.25 | 0.63 | 0.358 | | 0.085 | ( 0.322) | 0.273 |
| 136 | 11.33 | 0.63 | 0.358 | | 0.085 | ( 0.322) | 0.273 |
| 137 | 11.42 | 0.63 | 0.358 | | 0.084 | ( 0.322) | 0.274 |
| 138 | 11.50 | 0.63 | 0.358 | | 0.084 | ( 0.322) | 0.274 |
| 139 | 11.58 | 0.57 | 0.320 | | 0.084 | ( 0.288) | 0.237 |
| 140 | 11.67 | 0.57 | 0.320 | | 0.083 | ( 0.288) | 0.237 |
| 141 | 11.75 | 0.57 | 0.320 | | 0.083 | ( 0.288) | 0.238 |
| 142 | 11.83 | 0.60 | 0.339 | | 0.082 | ( 0.305) | 0.257 |
| 143 | 11.92 | 0.60 | 0.339 | | 0.082 | ( 0.305) | 0.257 |
| 144 | 12.00 | 0.60 | 0.339 | | 0.082 | ( 0.305) | 0.258 |
| 145 | 12.08 | 0.83 | 0.471 | | 0.081 | ( 0.424) | 0.390 |
| 146 | 12.17 | 0.83 | 0.471 | | 0.081 | ( 0.424) | 0.390 |
| 147 | 12.25 | 0.83 | 0.471 | | 0.080 | ( 0.424) | 0.391 |
| 148 | 12.33 | 0.87 | 0.490 | | 0.080 | ( 0.441) | 0.410 |
| 149 | 12.42 | 0.87 | 0.490 | | 0.079 | ( 0.441) | 0.410 |
| 150 | 12.50 | 0.87 | 0.490 | | 0.079 | ( 0.441) | 0.411 |
| 151 | 12.58 | 0.93 | 0.528 | | 0.079 | ( 0.475) | 0.449 |
| 152 | 12.67 | 0.93 | 0.528 | | 0.078 | ( 0.475) | 0.449 |
| 153 | 12.75 | 0.93 | 0.528 | | 0.078 | ( 0.475) | 0.450 |
| 154 | 12.83 | 0.97 | 0.546 | | 0.078 | ( 0.492) | 0.469 |
| 155 | 12.92 | 0.97 | 0.546 | | 0.077 | ( 0.492) | 0.469 |
| 156 | 13.00 | 0.97 | 0.546 | | 0.077 | ( 0.492) | 0.470 |
| 157 | 13.08 | 1.13 | 0.641 | | 0.076 | ( 0.576) | 0.564 |
| 158 | 13.17 | 1.13 | 0.641 | | 0.076 | ( 0.576) | 0.565 |
| 159 | 13.25 | 1.13 | 0.641 | | 0.076 | ( 0.576) | 0.565 |
| 160 | 13.33 | 1.13 | 0.641 | | 0.075 | ( 0.576) | 0.565 |
| 161 | 13.42 | 1.13 | 0.641 | | 0.075 | ( 0.576) | 0.566 |
| 162 | 13.50 | 1.13 | 0.641 | | 0.074 | ( 0.576) | 0.566 |
| 163 | 13.58 | 0.77 | 0.433 | | 0.074 | ( 0.390) | 0.359 |
| 164 | 13.67 | 0.77 | 0.433 | | 0.074 | ( 0.390) | 0.360 |
| 165 | 13.75 | 0.77 | 0.433 | | 0.073 | ( 0.390) | 0.360 |
| 166 | 13.83 | 0.77 | 0.433 | | 0.073 | ( 0.390) | 0.360 |
| 167 | 13.92 | 0.77 | 0.433 | | 0.073 | ( 0.390) | 0.361 |
| 168 | 14.00 | 0.77 | 0.433 | | 0.072 | ( 0.390) | 0.361 |
| 169 | 14.08 | 0.90 | 0.509 | | 0.072 | ( 0.458) | 0.437 |
| 170 | 14.17 | 0.90 | 0.509 | | 0.071 | ( 0.458) | 0.437 |
| 171 | 14.25 | 0.90 | 0.509 | | 0.071 | ( 0.458) | 0.438 |
| 172 | 14.33 | 0.87 | 0.490 | | 0.071 | ( 0.441) | 0.419 |
| 173 | 14.42 | 0.87 | 0.490 | | 0.070 | ( 0.441) | 0.419 |
| 174 | 14.50 | 0.87 | 0.490 | | 0.070 | ( 0.441) | 0.420 |
| 175 | 14.58 | 0.87 | 0.490 | | 0.070 | ( 0.441) | 0.420 |
| 176 | 14.67 | 0.87 | 0.490 | | 0.069 | ( 0.441) | 0.421 |
| 177 | 14.75 | 0.87 | 0.490 | | 0.069 | ( 0.441) | 0.421 |
| 178 | 14.83 | 0.83 | 0.471 | | 0.069 | ( 0.424) | 0.402 |
| 179 | 14.92 | 0.83 | 0.471 | | 0.068 | ( 0.424) | 0.403 |
| 180 | 15.00 | 0.83 | 0.471 | | 0.068 | ( 0.424) | 0.403 |
| 181 | 15.08 | 0.80 | 0.452 | | 0.068 | ( 0.407) | 0.385 |
| 182 | 15.17 | 0.80 | 0.452 | | 0.067 | ( 0.407) | 0.385 |
| 183 | 15.25 | 0.80 | 0.452 | | 0.067 | ( 0.407) | 0.385 |
| 184 | 15.33 | 0.77 | 0.433 | | 0.066 | ( 0.390) | 0.367 |
| 185 | 15.42 | 0.77 | 0.433 | | 0.066 | ( 0.390) | 0.367 |
| 186 | 15.50 | 0.77 | 0.433 | | 0.066 | ( 0.390) | 0.368 |
| 187 | 15.58 | 0.63 | 0.358 | | 0.065 | ( 0.322) | 0.292 |
| 188 | 15.67 | 0.63 | 0.358 | | 0.065 | ( 0.322) | 0.293 |
| 189 | 15.75 | 0.63 | 0.358 | | 0.065 | ( 0.322) | 0.293 |
| 190 | 15.83 | 0.63 | 0.358 | | 0.064 | ( 0.322) | 0.293 |
| 191 | 15.92 | 0.63 | 0.358 | | 0.064 | ( 0.322) | 0.294 |
| 192 | 16.00 | 0.63 | 0.358 | | 0.064 | ( 0.322) | 0.294 |
| 193 | 16.08 | 0.13 | 0.075 | | 0.063 | ( 0.068) | 0.012 |
| 194 | 16.17 | 0.13 | 0.075 | | 0.063 | ( 0.068) | 0.012 |
| 195 | 16.25 | 0.13 | 0.075 | | 0.063 | ( 0.068) | 0.013 |
| 196 | 16.33 | 0.13 | 0.075 | | 0.063 | ( 0.068) | 0.013 |
| 197 | 16.42 | 0.13 | 0.075 | | 0.062 | ( 0.068) | 0.013 |
| 198 | 16.50 | 0.13 | 0.075 | | 0.062 | ( 0.068) | 0.013 |
| 199 | 16.58 | 0.10 | 0.057 | ( 0.062) | 0.051 | | 0.006 |
| 200 | 16.67 | 0.10 | 0.057 | ( 0.061) | 0.051 | | 0.006 |
| 201 | 16.75 | 0.10 | 0.057 | ( 0.061) | 0.051 | | 0.006 |
| 202 | 16.83 | 0.10 | 0.057 | ( 0.061) | 0.051 | | 0.006 |
| 203 | 16.92 | 0.10 | 0.057 | ( 0.060) | 0.051 | | 0.006 |
| 204 | 17.00 | 0.10 | 0.057 | ( 0.060) | 0.051 | | 0.006 |
| 205 | 17.08 | 0.17 | 0.094 | | 0.060 | ( 0.085) | 0.034 |

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|---|---|---|---|---|---|---|---|---|
| 206 | 17.17 | 0.17 | 0.094 | | 0.059 | ( 0.085) | | 0.035 |
| 207 | 17.25 | 0.17 | 0.094 | | 0.059 | ( 0.085) | | 0.035 |
| 208 | 17.33 | 0.17 | 0.094 | | 0.059 | ( 0.085) | | 0.035 |
| 209 | 17.42 | 0.17 | 0.094 | | 0.059 | ( 0.085) | | 0.036 |
| 210 | 17.50 | 0.17 | 0.094 | | 0.058 | ( 0.085) | | 0.036 |
| 211 | 17.58 | 0.17 | 0.094 | | 0.058 | ( 0.085) | | 0.036 |
| 212 | 17.67 | 0.17 | 0.094 | | 0.058 | ( 0.085) | | 0.037 |
| 213 | 17.75 | 0.17 | 0.094 | | 0.057 | ( 0.085) | | 0.037 |
| 214 | 17.83 | 0.13 | 0.075 | | 0.057 | ( 0.068) | | 0.018 |
| 215 | 17.92 | 0.13 | 0.075 | | 0.057 | ( 0.068) | | 0.019 |
| 216 | 18.00 | 0.13 | 0.075 | | 0.057 | ( 0.068) | | 0.019 |
| 217 | 18.08 | 0.13 | 0.075 | | 0.056 | ( 0.068) | | 0.019 |
| 218 | 18.17 | 0.13 | 0.075 | | 0.056 | ( 0.068) | | 0.019 |
| 219 | 18.25 | 0.13 | 0.075 | | 0.056 | ( 0.068) | | 0.020 |
| 220 | 18.33 | 0.13 | 0.075 | | 0.055 | ( 0.068) | | 0.020 |
| 221 | 18.42 | 0.13 | 0.075 | | 0.055 | ( 0.068) | | 0.020 |
| 222 | 18.50 | 0.13 | 0.075 | | 0.055 | ( 0.068) | | 0.020 |
| 223 | 18.58 | 0.10 | 0.057 | ( 0.055) | | 0.051 | | 0.006 |
| 224 | 18.67 | 0.10 | 0.057 | ( 0.054) | | 0.051 | | 0.006 |
| 225 | 18.75 | 0.10 | 0.057 | ( 0.054) | | 0.051 | | 0.006 |
| 226 | 18.83 | 0.07 | 0.038 | ( 0.054) | | 0.034 | | 0.004 |
| 227 | 18.92 | 0.07 | 0.038 | ( 0.054) | | 0.034 | | 0.004 |
| 228 | 19.00 | 0.07 | 0.038 | ( 0.053) | | 0.034 | | 0.004 |
| 229 | 19.08 | 0.10 | 0.057 | ( 0.053) | | 0.051 | | 0.006 |
| 230 | 19.17 | 0.10 | 0.057 | ( 0.053) | | 0.051 | | 0.006 |
| 231 | 19.25 | 0.10 | 0.057 | ( 0.053) | | 0.051 | | 0.006 |
| 232 | 19.33 | 0.13 | 0.075 | | 0.052 | ( 0.068) | | 0.023 |
| 233 | 19.42 | 0.13 | 0.075 | | 0.052 | ( 0.068) | | 0.023 |
| 234 | 19.50 | 0.13 | 0.075 | | 0.052 | ( 0.068) | | 0.024 |
| 235 | 19.58 | 0.10 | 0.057 | ( 0.052) | | 0.051 | | 0.006 |
| 236 | 19.67 | 0.10 | 0.057 | ( 0.051) | | 0.051 | | 0.006 |
| 237 | 19.75 | 0.10 | 0.057 | ( 0.051) | | 0.051 | | 0.006 |
| 238 | 19.83 | 0.07 | 0.038 | ( 0.051) | | 0.034 | | 0.004 |
| 239 | 19.92 | 0.07 | 0.038 | ( 0.051) | | 0.034 | | 0.004 |
| 240 | 20.00 | 0.07 | 0.038 | ( 0.050) | | 0.034 | | 0.004 |
| 241 | 20.08 | 0.10 | 0.057 | | 0.050 | ( 0.051) | | 0.006 |
| 242 | 20.17 | 0.10 | 0.057 | | 0.050 | ( 0.051) | | 0.007 |
| 243 | 20.25 | 0.10 | 0.057 | | 0.050 | ( 0.051) | | 0.007 |
| 244 | 20.33 | 0.10 | 0.057 | | 0.050 | ( 0.051) | | 0.007 |
| 245 | 20.42 | 0.10 | 0.057 | | 0.049 | ( 0.051) | | 0.007 |
| 246 | 20.50 | 0.10 | 0.057 | | 0.049 | ( 0.051) | | 0.007 |
| 247 | 20.58 | 0.10 | 0.057 | | 0.049 | ( 0.051) | | 0.008 |
| 248 | 20.67 | 0.10 | 0.057 | | 0.049 | ( 0.051) | | 0.008 |
| 249 | 20.75 | 0.10 | 0.057 | | 0.049 | ( 0.051) | | 0.008 |
| 250 | 20.83 | 0.07 | 0.038 | ( 0.048) | | 0.034 | | 0.004 |
| 251 | 20.92 | 0.07 | 0.038 | ( 0.048) | | 0.034 | | 0.004 |
| 252 | 21.00 | 0.07 | 0.038 | ( 0.048) | | 0.034 | | 0.004 |
| 253 | 21.08 | 0.10 | 0.057 | | 0.048 | ( 0.051) | | 0.009 |
| 254 | 21.17 | 0.10 | 0.057 | | 0.048 | ( 0.051) | | 0.009 |
| 255 | 21.25 | 0.10 | 0.057 | | 0.047 | ( 0.051) | | 0.009 |
| 256 | 21.33 | 0.07 | 0.038 | ( 0.047) | | 0.034 | | 0.004 |
| 257 | 21.42 | 0.07 | 0.038 | ( 0.047) | | 0.034 | | 0.004 |
| 258 | 21.50 | 0.07 | 0.038 | ( 0.047) | | 0.034 | | 0.004 |
| 259 | 21.58 | 0.10 | 0.057 | | 0.047 | ( 0.051) | | 0.010 |
| 260 | 21.67 | 0.10 | 0.057 | | 0.047 | ( 0.051) | | 0.010 |
| 261 | 21.75 | 0.10 | 0.057 | | 0.046 | ( 0.051) | | 0.010 |
| 262 | 21.83 | 0.07 | 0.038 | ( 0.046) | | 0.034 | | 0.004 |
| 263 | 21.92 | 0.07 | 0.038 | ( 0.046) | | 0.034 | | 0.004 |
| 264 | 22.00 | 0.07 | 0.038 | ( 0.046) | | 0.034 | | 0.004 |
| 265 | 22.08 | 0.10 | 0.057 | | 0.046 | ( 0.051) | | 0.011 |
| 266 | 22.17 | 0.10 | 0.057 | | 0.046 | ( 0.051) | | 0.011 |
| 267 | 22.25 | 0.10 | 0.057 | | 0.045 | ( 0.051) | | 0.011 |
| 268 | 22.33 | 0.07 | 0.038 | ( 0.045) | | 0.034 | | 0.004 |
| 269 | 22.42 | 0.07 | 0.038 | ( 0.045) | | 0.034 | | 0.004 |
| 270 | 22.50 | 0.07 | 0.038 | ( 0.045) | | 0.034 | | 0.004 |
| 271 | 22.58 | 0.07 | 0.038 | ( 0.045) | | 0.034 | | 0.004 |
| 272 | 22.67 | 0.07 | 0.038 | ( 0.045) | | 0.034 | | 0.004 |
| 273 | 22.75 | 0.07 | 0.038 | ( 0.045) | | 0.034 | | 0.004 |
| 274 | 22.83 | 0.07 | 0.038 | ( 0.045) | | 0.034 | | 0.004 |
| 275 | 22.92 | 0.07 | 0.038 | ( 0.044) | | 0.034 | | 0.004 |
| 276 | 23.00 | 0.07 | 0.038 | ( 0.044) | | 0.034 | | 0.004 |
| 277 | 23.08 | 0.07 | 0.038 | ( 0.044) | | 0.034 | | 0.004 |
| 278 | 23.17 | 0.07 | 0.038 | ( 0.044) | | 0.034 | | 0.004 |
| 279 | 23.25 | 0.07 | 0.038 | ( 0.044) | | 0.034 | | 0.004 |
| 280 | 23.33 | 0.07 | 0.038 | ( 0.044) | | 0.034 | | 0.004 |
| 281 | 23.42 | 0.07 | 0.038 | ( 0.044) | | 0.034 | | 0.004 |
| 282 | 23.50 | 0.07 | 0.038 | ( 0.044) | | 0.034 | | 0.004 |
| 283 | 23.58 | 0.07 | 0.038 | ( 0.044) | | 0.034 | | 0.004 |

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|---|---|---|---|---|---|---|---|
| 284 | 23.67 | 0.07 | 0.038 | ( | 0.044) | 0.034 | 0.004 |
| 285 | 23.75 | 0.07 | 0.038 | ( | 0.044) | 0.034 | 0.004 |
| 286 | 23.83 | 0.07 | 0.038 | ( | 0.044) | 0.034 | 0.004 |
| 287 | 23.92 | 0.07 | 0.038 | ( | 0.043) | 0.034 | 0.004 |
| 288 | 24.00 | 0.07 | 0.038 | ( | 0.043) | 0.034 | 0.004 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 35.6

Flood volume = Effective rainfall 2.97(In)
times area 12.0(Ac.)/[(In)/(Ft.)] = 3.0(Ac.Ft)
Total soil loss = 1.74(In)
Total soil loss = 1.739(Ac.Ft)
Total rainfall = 4.71(In)
Flood volume = 129405.4 Cubic Feet
Total soil loss = 75757.4 Cubic Feet

---

Peak flow rate of this hydrograph = 6.837(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

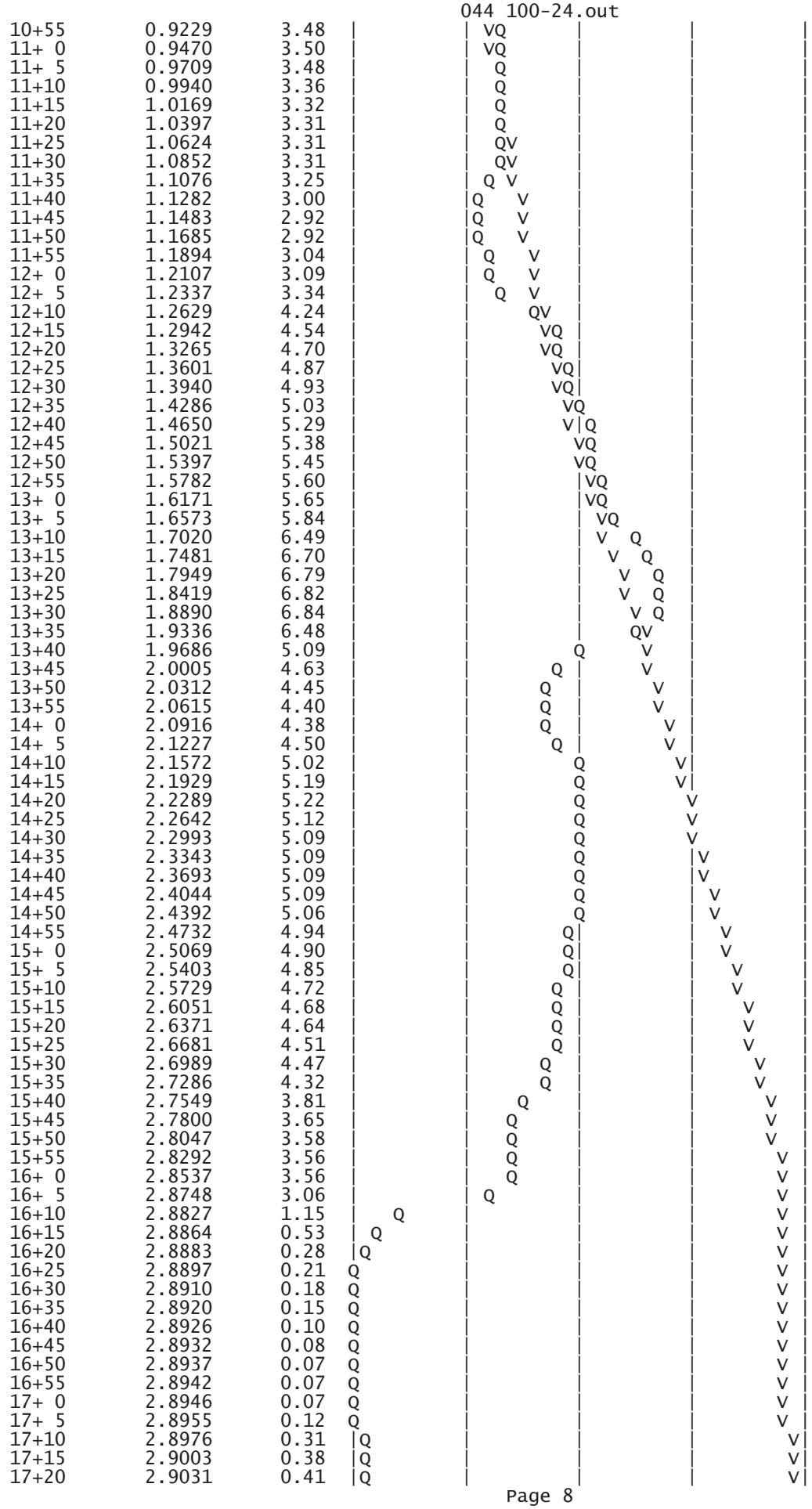
---

Hydrograph in 5 Minute intervals ((CFS))

---

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0000 | 0.01 | Q | | | | |
| 0+10 | 0.0003 | 0.03 | Q | | | | |
| 0+15 | 0.0005 | 0.04 | Q | | | | |
| 0+20 | 0.0009 | 0.05 | Q | | | | |
| 0+25 | 0.0013 | 0.06 | Q | | | | |
| 0+30 | 0.0017 | 0.07 | Q | | | | |
| 0+35 | 0.0022 | 0.07 | Q | | | | |
| 0+40 | 0.0027 | 0.07 | Q | | | | |
| 0+45 | 0.0031 | 0.07 | Q | | | | |
| 0+50 | 0.0036 | 0.07 | Q | | | | |
| 0+55 | 0.0042 | 0.08 | Q | | | | |
| 1+ 0 | 0.0048 | 0.09 | Q | | | | |
| 1+ 5 | 0.0054 | 0.09 | Q | | | | |
| 1+10 | 0.0059 | 0.07 | Q | | | | |
| 1+15 | 0.0064 | 0.07 | Q | | | | |
| 1+20 | 0.0069 | 0.07 | Q | | | | |
| 1+25 | 0.0074 | 0.07 | Q | | | | |
| 1+30 | 0.0079 | 0.07 | Q | | | | |
| 1+35 | 0.0083 | 0.07 | Q | | | | |
| 1+40 | 0.0088 | 0.07 | Q | | | | |
| 1+45 | 0.0093 | 0.07 | Q | | | | |
| 1+50 | 0.0098 | 0.07 | Q | | | | |
| 1+55 | 0.0103 | 0.08 | Q | | | | |
| 2+ 0 | 0.0110 | 0.09 | Q | | | | |
| 2+ 5 | 0.0116 | 0.09 | Q | | | | |
| 2+10 | 0.0122 | 0.09 | Q | | | | |
| 2+15 | 0.0128 | 0.09 | Q | | | | |
| 2+20 | 0.0135 | 0.09 | Q | | | | |
| 2+25 | 0.0141 | 0.09 | Q | | | | |
| 2+30 | 0.0147 | 0.09 | Q | | | | |
| 2+35 | 0.0154 | 0.09 | Q | | | | |
| 2+40 | 0.0161 | 0.11 | Q | | | | |
| 2+45 | 0.0169 | 0.11 | Q | | | | |
| 2+50 | 0.0176 | 0.11 | Q | | | | |
| 2+55 | 0.0184 | 0.11 | Q | | | | |
| 3+ 0 | 0.0192 | 0.11 | Q | | | | |
| 3+ 5 | 0.0200 | 0.11 | Q | | | | |
| 3+10 | 0.0208 | 0.11 | Q | | | | |
| 3+15 | 0.0216 | 0.11 | Q | | | | |
| 3+20 | 0.0224 | 0.11 | Q | | | | |
| 3+25 | 0.0231 | 0.11 | Q | | | | |
| 3+30 | 0.0239 | 0.11 | Q | | | | |
| 3+35 | 0.0247 | 0.11 | Q | | | | |
| 3+40 | 0.0255 | 0.11 | Q | | | | |
| 3+45 | 0.0263 | 0.11 | Q | | | | |
| 3+50 | 0.0271 | 0.12 | Q | | | | |
| 3+55 | 0.0280 | 0.13 | Q | | | | |
| 4+ 0 | 0.0289 | 0.13 | Q | | | | |
| 4+ 5 | 0.0298 | 0.14 | Q | | | | |
| 4+10 | 0.0308 | 0.14 | Q | | | | |
| 4+15 | 0.0317 | 0.14 | Q | | | | |
| 4+20 | 0.0327 | 0.14 | Q | | | | |

```
 4+25       0.0337      0.15  Q          |          |          |          |
 4+30       0.0348      0.16  Q          |          |          |          |
 4+35       0.0359      0.16  Q          |          |          |          |
 4+40       0.0370      0.16  Q          |          |          |          |
 4+45       0.0381      0.16  Q          |          |          |          |
 4+50       0.0394      0.19  Q          |          |          |          |
 4+55       0.0414      0.29  VQ         |          |          |          |
 5+ 0       0.0437      0.33  VQ         |          |          |          |
 5+ 5       0.0459      0.32  VQ         |          |          |          |
 5+10       0.0473      0.20  Q          |          |          |          |
 5+15       0.0484      0.16  Q          |          |          |          |
 5+20       0.0494      0.15  Q          |          |          |          |
 5+25       0.0505      0.16  Q          |          |          |          |
 5+30       0.0516      0.16  Q          |          |          |          |
 5+35       0.0530      0.20  Q          |          |          |          |
 5+40       0.0553      0.34  VQ         |          |          |          |
 5+45       0.0579      0.38  VQ         |          |          |          |
 5+50       0.0607      0.41  VQ         |          |          |          |
 5+55       0.0636      0.42  VQ         |          |          |          |
 6+ 0       0.0665      0.43  VQ         |          |          |          |
 6+ 5       0.0698      0.47  VQ         |          |          |          |
 6+10       0.0739      0.60  V Q        |          |          |          |
 6+15       0.0784      0.65  |VQ        |          |          |          |
 6+20       0.0830      0.67  |VQ        |          |          |          |
 6+25       0.0877      0.68  |VQ        |          |          |          |
 6+30       0.0925      0.69  |VQ        |          |          |          |
 6+35       0.0975      0.73  |VQ        |          |          |          |
 6+40       0.1035      0.87  |V Q       |          |          |          |
 6+45       0.1097      0.91  |V Q       |          |          |          |
 6+50       0.1162      0.94  |V Q       |          |          |          |
 6+55       0.1227      0.95  |V Q       |          |          |          |
 7+ 0       0.1293      0.96  |V Q       |          |          |          |
 7+ 5       0.1359      0.96  |V Q       |          |          |          |
 7+10       0.1426      0.97  |V Q       |          |          |          |
 7+15       0.1493      0.97  | VQ       |          |          |          |
 7+20       0.1563      1.01  | V Q      |          |          |          |
 7+25       0.1642      1.15  | V Q      |          |          |          |
 7+30       0.1724      1.19  | V Q      |          |          |          |
 7+35       0.1810      1.25  | V  Q     |          |          |          |
 7+40       0.1906      1.39  | V  Q     |          |          |          |
 7+45       0.2005      1.44  | V  Q     |          |          |          |
 7+50       0.2108      1.50  | V  Q     |          |          |          |
 7+55       0.2221      1.63  | V   Q    |          |          |          |
 8+ 0       0.2337      1.68  |  V  Q    |          |          |          |
 8+ 5       0.2459      1.78  |  V   Q   |          |          |          |
 8+10       0.2600      2.04  |  V    Q  |          |          |          |
 8+15       0.2746      2.13  |  V    Q  |          |          |          |
 8+20       0.2896      2.17  |  V    Q  |          |          |          |
 8+25       0.3047      2.19  |   V   Q  |          |          |          |
 8+30       0.3198      2.20  |   V   Q  |          |          |          |
 8+35       0.3353      2.24  |   V   Q  |          |          |          |
 8+40       0.3516      2.37  |   V    Q|          |          |          |
 8+45       0.3683      2.42  |   V    Q|          |          |          |
 8+50       0.3854      2.48  |    V   Q|          |          |          |
 8+55       0.4034      2.62  |    V    Q          |          |          |
 9+ 0       0.4217      2.66  |    V    Q          |          |          |
 9+ 5       0.4407      2.76  |    V    |Q         |          |          |
 9+10       0.4615      3.02  |     V   | Q        |          |          |
 9+15       0.4829      3.11  |     V   | Q        |          |          |
 9+20       0.5049      3.19  |     V   | Q        |          |          |
 9+25       0.5278      3.33  |      V  |  Q       |          |          |
 9+30       0.5511      3.38  |      V  |  Q       |          |          |
 9+35       0.5748      3.44  |      V  |  Q       |          |          |
 9+40       0.5994      3.58  |       V |   Q      |          |          |
 9+45       0.6244      3.63  |       V |   Q      |          |          |
 9+50       0.6498      3.68  |       V |   Q      |          |          |
 9+55       0.6761      3.82  |        V|    Q     |          |          |
10+ 0       0.7027      3.87  |        V|    Q     |          |          |
10+ 5       0.7279      3.66  |        V|   Q      |          |          |
10+10       0.7471      2.78  |         VQ         |          |          |
10+15       0.7643      2.50  |         QV         |          |          |
10+20       0.7807      2.39  |         QV         |          |          |
10+25       0.7969      2.35  |         QV         |          |          |
10+30       0.8131      2.34  |         QV         |          |          |
10+35       0.8303      2.51  |          QV        |          |          |
10+40       0.8520      3.15  |          |VQ       |          |          |
10+45       0.8751      3.36  |          |V Q      |          |          |
10+50       0.8989      3.45  |          | VQ      |          |          |
```



| | | | |
|---|---|---|---|
| 10+55 | 0.9229 | 3.48 | |
| 11+ 0 | 0.9470 | 3.50 | |
| 11+ 5 | 0.9709 | 3.48 | |
| 11+10 | 0.9940 | 3.36 | |
| 11+15 | 1.0169 | 3.32 | |
| 11+20 | 1.0397 | 3.31 | |
| 11+25 | 1.0624 | 3.31 | |
| 11+30 | 1.0852 | 3.31 | |
| 11+35 | 1.1076 | 3.25 | |
| 11+40 | 1.1282 | 3.00 | |
| 11+45 | 1.1483 | 2.92 | |
| 11+50 | 1.1685 | 2.92 | |
| 11+55 | 1.1894 | 3.04 | |
| 12+ 0 | 1.2107 | 3.09 | |
| 12+ 5 | 1.2337 | 3.34 | |
| 12+10 | 1.2629 | 4.24 | |
| 12+15 | 1.2942 | 4.54 | |
| 12+20 | 1.3265 | 4.70 | |
| 12+25 | 1.3601 | 4.87 | |
| 12+30 | 1.3940 | 4.93 | |
| 12+35 | 1.4286 | 5.03 | |
| 12+40 | 1.4650 | 5.29 | |
| 12+45 | 1.5021 | 5.38 | |
| 12+50 | 1.5397 | 5.45 | |
| 12+55 | 1.5782 | 5.60 | |
| 13+ 0 | 1.6171 | 5.65 | |
| 13+ 5 | 1.6573 | 5.84 | |
| 13+10 | 1.7020 | 6.49 | |
| 13+15 | 1.7481 | 6.70 | |
| 13+20 | 1.7949 | 6.79 | |
| 13+25 | 1.8419 | 6.82 | |
| 13+30 | 1.8890 | 6.84 | |
| 13+35 | 1.9336 | 6.48 | |
| 13+40 | 1.9686 | 5.09 | |
| 13+45 | 2.0005 | 4.63 | |
| 13+50 | 2.0312 | 4.45 | |
| 13+55 | 2.0615 | 4.40 | |
| 14+ 0 | 2.0916 | 4.38 | |
| 14+ 5 | 2.1227 | 4.50 | |
| 14+10 | 2.1572 | 5.02 | |
| 14+15 | 2.1929 | 5.19 | |
| 14+20 | 2.2289 | 5.22 | |
| 14+25 | 2.2642 | 5.12 | |
| 14+30 | 2.2993 | 5.09 | |
| 14+35 | 2.3343 | 5.09 | |
| 14+40 | 2.3693 | 5.09 | |
| 14+45 | 2.4044 | 5.09 | |
| 14+50 | 2.4392 | 5.06 | |
| 14+55 | 2.4732 | 4.94 | |
| 15+ 0 | 2.5069 | 4.90 | |
| 15+ 5 | 2.5403 | 4.85 | |
| 15+10 | 2.5729 | 4.72 | |
| 15+15 | 2.6051 | 4.68 | |
| 15+20 | 2.6371 | 4.64 | |
| 15+25 | 2.6681 | 4.51 | |
| 15+30 | 2.6989 | 4.47 | |
| 15+35 | 2.7286 | 4.32 | |
| 15+40 | 2.7549 | 3.81 | |
| 15+45 | 2.7800 | 3.65 | |
| 15+50 | 2.8047 | 3.58 | |
| 15+55 | 2.8292 | 3.56 | |
| 16+ 0 | 2.8537 | 3.56 | |
| 16+ 5 | 2.8748 | 3.06 | |
| 16+10 | 2.8827 | 1.15 | |
| 16+15 | 2.8864 | 0.53 | |
| 16+20 | 2.8883 | 0.28 | |
| 16+25 | 2.8897 | 0.21 | |
| 16+30 | 2.8910 | 0.18 | |
| 16+35 | 2.8920 | 0.15 | |
| 16+40 | 2.8926 | 0.10 | |
| 16+45 | 2.8932 | 0.08 | |
| 16+50 | 2.8937 | 0.07 | |
| 16+55 | 2.8942 | 0.07 | |
| 17+ 0 | 2.8946 | 0.07 | |
| 17+ 5 | 2.8955 | 0.12 | |
| 17+10 | 2.8976 | 0.31 | |
| 17+15 | 2.9003 | 0.38 | |
| 17+20 | 2.9031 | 0.41 | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 17+25 | 2.9060 | 0.42 | \|Q | \| | \| | V\| |
| 17+30 | 2.9089 | 0.43 | \|Q | \| | \| | V\| |
| 17+35 | 2.9119 | 0.43 | \|Q | \| | \| | V\| |
| 17+40 | 2.9149 | 0.44 | \|Q | \| | \| | V\| |
| 17+45 | 2.9180 | 0.44 | \|Q | \| | \| | V\| |
| 17+50 | 2.9208 | 0.41 | \|Q | \| | \| | V\| |
| 17+55 | 2.9228 | 0.29 | \|Q | \| | \| | V\| |
| 18+ 0 | 2.9245 | 0.25 | Q | \| | \| | V\| |
| 18+ 5 | 2.9261 | 0.24 | Q | \| | \| | V\| |
| 18+10 | 2.9277 | 0.23 | Q | \| | \| | V\| |
| 18+15 | 2.9294 | 0.24 | Q | \| | \| | V\| |
| 18+20 | 2.9310 | 0.24 | Q | \| | \| | V\| |
| 18+25 | 2.9326 | 0.24 | Q | \| | \| | V\| |
| 18+30 | 2.9343 | 0.24 | Q | \| | \| | V\| |
| 18+35 | 2.9358 | 0.22 | Q | \| | \| | V\| |
| 18+40 | 2.9367 | 0.12 | Q | \| | \| | V\| |
| 18+45 | 2.9373 | 0.09 | Q | \| | \| | V\| |
| 18+50 | 2.9378 | 0.07 | Q | \| | \| | V\| |
| 18+55 | 2.9381 | 0.05 | Q | \| | \| | V\| |
| 19+ 0 | 2.9385 | 0.05 | Q | \| | \| | V\| |
| 19+ 5 | 2.9388 | 0.05 | Q | \| | \| | V\| |
| 19+10 | 2.9393 | 0.06 | Q | \| | \| | V\| |
| 19+15 | 2.9397 | 0.07 | Q | \| | \| | V\| |
| 19+20 | 2.9404 | 0.10 | Q | \| | \| | V\| |
| 19+25 | 2.9419 | 0.22 | Q | \| | \| | V\| |
| 19+30 | 2.9436 | 0.26 | \|Q | \| | \| | V\| |
| 19+35 | 2.9453 | 0.24 | Q | \| | \| | V\| |
| 19+40 | 2.9462 | 0.13 | Q | \| | \| | V\| |
| 19+45 | 2.9468 | 0.09 | Q | \| | \| | V\| |
| 19+50 | 2.9473 | 0.07 | Q | \| | \| | V\| |
| 19+55 | 2.9477 | 0.06 | Q | \| | \| | V\| |
| 20+ 0 | 2.9481 | 0.05 | Q | \| | \| | V\| |
| 20+ 5 | 2.9484 | 0.05 | Q | \| | \| | V\| |
| 20+10 | 2.9489 | 0.07 | Q | \| | \| | V\| |
| 20+15 | 2.9494 | 0.08 | Q | \| | \| | V\| |
| 20+20 | 2.9500 | 0.08 | Q | \| | \| | V\| |
| 20+25 | 2.9505 | 0.08 | Q | \| | \| | V\| |
| 20+30 | 2.9511 | 0.09 | Q | \| | \| | V\| |
| 20+35 | 2.9517 | 0.09 | Q | \| | \| | V\| |
| 20+40 | 2.9523 | 0.09 | Q | \| | \| | V\| |
| 20+45 | 2.9530 | 0.09 | Q | \| | \| | V\| |
| 20+50 | 2.9536 | 0.09 | Q | \| | \| | V\| |
| 20+55 | 2.9540 | 0.06 | Q | \| | \| | V\| |
| 21+ 0 | 2.9544 | 0.05 | Q | \| | \| | V\| |
| 21+ 5 | 2.9547 | 0.06 | Q | \| | \| | V\| |
| 21+10 | 2.9554 | 0.09 | Q | \| | \| | V\| |
| 21+15 | 2.9561 | 0.10 | Q | \| | \| | V\| |
| 21+20 | 2.9567 | 0.10 | Q | \| | \| | V\| |
| 21+25 | 2.9572 | 0.06 | Q | \| | \| | V\| |
| 21+30 | 2.9575 | 0.05 | Q | \| | \| | V\| |
| 21+35 | 2.9579 | 0.06 | Q | \| | \| | V\| |
| 21+40 | 2.9586 | 0.10 | Q | \| | \| | V\| |
| 21+45 | 2.9594 | 0.11 | Q | \| | \| | V\| |
| 21+50 | 2.9601 | 0.11 | Q | \| | \| | V\| |
| 21+55 | 2.9606 | 0.07 | Q | \| | \| | V\| |
| 22+ 0 | 2.9610 | 0.05 | Q | \| | \| | V\| |
| 22+ 5 | 2.9614 | 0.06 | Q | \| | \| | V\| |
| 22+10 | 2.9621 | 0.11 | Q | \| | \| | V\| |
| 22+15 | 2.9630 | 0.12 | Q | \| | \| | V\| |
| 22+20 | 2.9638 | 0.12 | Q | \| | \| | V\| |
| 22+25 | 2.9643 | 0.07 | Q | \| | \| | V\| |
| 22+30 | 2.9646 | 0.05 | Q | \| | \| | V\| |
| 22+35 | 2.9650 | 0.05 | Q | \| | \| | V\| |
| 22+40 | 2.9653 | 0.05 | Q | \| | \| | V\| |
| 22+45 | 2.9656 | 0.05 | Q | \| | \| | V\| |
| 22+50 | 2.9659 | 0.05 | Q | \| | \| | V\| |
| 22+55 | 2.9662 | 0.05 | Q | \| | \| | V\| |
| 23+ 0 | 2.9666 | 0.05 | Q | \| | \| | V\| |
| 23+ 5 | 2.9669 | 0.05 | Q | \| | \| | V\| |
| 23+10 | 2.9672 | 0.05 | Q | \| | \| | V\| |
| 23+15 | 2.9675 | 0.05 | Q | \| | \| | V\| |
| 23+20 | 2.9678 | 0.05 | Q | \| | \| | V\| |
| 23+25 | 2.9681 | 0.05 | Q | \| | \| | V\| |
| 23+30 | 2.9684 | 0.05 | Q | \| | \| | V\| |
| 23+35 | 2.9688 | 0.05 | Q | \| | \| | V\| |
| 23+40 | 2.9691 | 0.05 | Q | \| | \| | V\| |
| 23+45 | 2.9694 | 0.05 | Q | \| | \| | V\| |
| 23+50 | 2.9697 | 0.05 | Q | \| | \| | V\| |

```
   23+55       2.9700      0.05  Q          |          |          |         V|
   24+ 0       2.9703      0.05  Q          |          |          |         V|
   24+ 5       2.9706      0.04  Q          |          |          |         V|
   24+10       2.9707      0.01  Q          |          |          |         V|
   24+15       2.9707      0.01  Q          |          |          |         V|
   24+20       2.9707      0.00  Q          |          |          |         V|
   24+25       2.9707      0.00  Q          |          |          |         V|
   24+30       2.9707      0.00  Q          |          |          |          V
---------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2012, Version 8.2
Study date 04/18/19 File: EX451100.out

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----------------------------------------------------------------------

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 45
100-YEAR, 5-DAY STORM EVENT
BY: JTS, DATE: 04-18-19

---

Drainage Area = 108.20(Ac.) = 0.169 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 108.20(Ac.) = 0.169 Sq. Mi.
Length along longest watercourse = 2240.00(Ft.)
Length along longest watercourse measured to centroid = 946.00(Ft.)
Length along longest watercourse = 0.424 Mi.
Length along longest watercourse measured to centroid = 0.179 Mi.
Difference in elevation = 232.00(Ft.)
Slope along watercourse = 546.8571 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.095 Hr.
Lag time = 5.71 Min.
25% of lag time = 1.43 Min.
40% of lag time = 2.29 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 108.20 | 0.50 | 54.10 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 108.20 | 1.20 | 129.84 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.90 %
Adjusted average point rain = 1.199(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 108.200 | 92.89 | 1.000 |

Total Area Entered = 108.20(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 92.9 | 97.2 | 0.037 | 1.000 | 0.004 | 1.000 | 0.004 |
| | | | | | Sum (F) = | 0.004 |

Area averaged mean soil loss (F) (In/Hr) = 0.004
Minimum soil loss rate ((In/Hr)) = 0.002

(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.100

Slope of intensity-duration curve for a 1 hour storm =0.5000

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 87.499 | 10.657 | 11.621 |
| 2 0.167 | 174.999 | 52.437 | 57.180 |
| 3 0.250 | 262.498 | 21.649 | 23.607 |
| 4 0.333 | 349.997 | 8.857 | 9.658 |
| 5 0.417 | 437.496 | 3.954 | 4.311 |
| 6 0.500 | 524.996 | 1.243 | 1.355 |
| 7 0.583 | 612.495 | 0.657 | 0.717 |
| 8 0.667 | 699.994 | 0.443 | 0.483 |
| 9 0.750 | 787.493 | 0.104 | 0.113 |
| | | Sum = 100.000 | Sum= 109.045 |

Storm Event 5 Effective Rainfall = 0.120(In)

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 4.20 | 0.060 | 0.004 | ( 0.006) | 0.057 |
| 2 0.17 | 4.30 | 0.062 | 0.004 | ( 0.006) | 0.058 |
| 3 0.25 | 5.00 | 0.072 | 0.004 | ( 0.007) | 0.068 |
| 4 0.33 | 5.00 | 0.072 | 0.004 | ( 0.007) | 0.068 |
| 5 0.42 | 5.80 | 0.083 | 0.004 | ( 0.008) | 0.080 |
| 6 0.50 | 6.50 | 0.094 | 0.004 | ( 0.009) | 0.090 |
| 7 0.58 | 7.40 | 0.106 | 0.004 | ( 0.011) | 0.103 |
| 8 0.67 | 8.60 | 0.124 | 0.004 | ( 0.012) | 0.120 |
| 9 0.75 | 12.30 | 0.177 | 0.004 | ( 0.018) | 0.173 |
| 10 0.83 | 29.10 | 0.419 | 0.004 | ( 0.042) | 0.415 |
| 11 0.92 | 6.80 | 0.098 | 0.004 | ( 0.010) | 0.094 |
| 12 1.00 | 5.00 | 0.072 | 0.004 | ( 0.007) | 0.068 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 1.4 |

Flood volume = Effective rainfall 0.12(In)
times area 108.2(Ac.)/[(In)/(Ft.)] = 1.0(Ac.Ft)
Total soil loss = 0.00(In)
Total soil loss = 0.033(Ac.Ft)
Total rainfall = 0.12(In)
Flood volume = 45633.6 Cubic Feet
Total soil loss = 1452.1 Cubic Feet

Storm Event 4 Effective Rainfall = 0.180(In)

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 4.20 | 0.091 | 0.004 | ( 0.009) | 0.087 |
| 2 0.17 | 4.30 | 0.093 | 0.004 | ( 0.009) | 0.089 |
| 3 0.25 | 5.00 | 0.108 | 0.004 | ( 0.011) | 0.104 |
| 4 0.33 | 5.00 | 0.108 | 0.004 | ( 0.011) | 0.104 |
| 5 0.42 | 5.80 | 0.125 | 0.004 | ( 0.013) | 0.121 |
| 6 0.50 | 6.50 | 0.140 | 0.004 | ( 0.014) | 0.137 |
| 7 0.58 | 7.40 | 0.160 | 0.004 | ( 0.016) | 0.156 |
| 8 0.67 | 8.60 | 0.186 | 0.004 | ( 0.019) | 0.182 |
| 9 0.75 | 12.30 | 0.265 | 0.004 | ( 0.027) | 0.262 |
| 10 0.83 | 29.10 | 0.628 | 0.004 | ( 0.063) | 0.624 |
| 11 0.92 | 6.80 | 0.147 | 0.004 | ( 0.015) | 0.143 |
| 12 1.00 | 5.00 | 0.108 | 0.004 | ( 0.011) | 0.104 |
| | (Loss Rate Not Used) | | | | |

```
    Sum =     100.0                                  Sum =     2.1
       Flood volume = Effective rainfall      0.18(In)
        times area     108.2(Ac.)/[(In)/(Ft.)] =       1.6(Ac.Ft)
       Total soil loss =      0.00(In)
       Total soil loss =     0.033(Ac.Ft)
       Total rainfall =      0.18(In)
       Flood volume =       69176.4 Cubic Feet
       Total soil loss =        1452.1 Cubic Feet
---------------------------------------------------------------------
          Storm Event 3   Effective Rainfall =   0.228(In)
---------------------------------------------------------------------

 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
   1   0.08     4.20      0.115          0.004    (  0.011)        0.111
   2   0.17     4.30      0.118          0.004    (  0.012)        0.114
   3   0.25     5.00      0.137          0.004    (  0.014)        0.133
   4   0.33     5.00      0.137          0.004    (  0.014)        0.133
   5   0.42     5.80      0.159          0.004    (  0.016)        0.155
   6   0.50     6.50      0.178          0.004    (  0.018)        0.174
   7   0.58     7.40      0.202          0.004    (  0.020)        0.199
   8   0.67     8.60      0.235          0.004    (  0.024)        0.231
   9   0.75    12.30      0.336          0.004    (  0.034)        0.333
  10   0.83    29.10      0.795          0.004    (  0.080)        0.792
  11   0.92     6.80      0.186          0.004    (  0.019)        0.182
  12   1.00     5.00      0.137          0.004    (  0.014)        0.133
                (Loss Rate Not Used)
    Sum =     100.0                                  Sum =     2.7
       Flood volume = Effective rainfall      0.22(In)
        times area     108.2(Ac.)/[(In)/(Ft.)] =       2.0(Ac.Ft)
       Total soil loss =      0.00(In)
       Total soil loss =     0.033(Ac.Ft)
       Total rainfall =      0.23(In)
       Flood volume =       88010.7 Cubic Feet
       Total soil loss =        1452.1 Cubic Feet
---------------------------------------------------------------------
          Storm Event 2   Effective Rainfall =   0.432(In)
---------------------------------------------------------------------

 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
   1   0.08     4.20      0.218          0.004    (  0.022)        0.214
   2   0.17     4.30      0.223          0.004    (  0.022)        0.219
   3   0.25     5.00      0.259          0.004    (  0.026)        0.255
   4   0.33     5.00      0.259          0.004    (  0.026)        0.255
   5   0.42     5.80      0.300          0.004    (  0.030)        0.297
   6   0.50     6.50      0.337          0.004    (  0.034)        0.333
   7   0.58     7.40      0.383          0.004    (  0.038)        0.380
   8   0.67     8.60      0.445          0.004    (  0.045)        0.442
   9   0.75    12.30      0.637          0.004    (  0.064)        0.633
  10   0.83    29.10      1.507          0.004    (  0.151)        1.503
  11   0.92     6.80      0.352          0.004    (  0.035)        0.348
  12   1.00     5.00      0.259          0.004    (  0.026)        0.255
                (Loss Rate Not Used)
    Sum =     100.0                                  Sum =     5.1
       Flood volume = Effective rainfall      0.43(In)
        times area     108.2(Ac.)/[(In)/(Ft.)] =       3.9(Ac.Ft)
       Total soil loss =      0.00(In)
       Total soil loss =     0.033(Ac.Ft)
       Total rainfall =      0.43(In)
       Flood volume =      168056.4 Cubic Feet
       Total soil loss =        1452.1 Cubic Feet
---------------------------------------------------------------------
          Storm Event 1   Effective Rainfall =   1.199(In)
---------------------------------------------------------------------

 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
   1   0.08     4.20      0.604          0.004    (  0.060)        0.601
   2   0.17     4.30      0.619          0.004    (  0.062)        0.615
```

| | | | | | | |
|---|---|---|---|---|---|---|
| 3 | 0.25 | 5.00 | 0.719 | 0.004 | ( 0.072) | 0.716 |
| 4 | 0.33 | 5.00 | 0.719 | 0.004 | ( 0.072) | 0.716 |
| 5 | 0.42 | 5.80 | 0.834 | 0.004 | ( 0.083) | 0.831 |
| 6 | 0.50 | 6.50 | 0.935 | 0.004 | ( 0.094) | 0.931 |
| 7 | 0.58 | 7.40 | 1.065 | 0.004 | ( 0.106) | 1.061 |
| 8 | 0.67 | 8.60 | 1.237 | 0.004 | ( 0.124) | 1.233 |
| 9 | 0.75 | 12.30 | 1.769 | 0.004 | ( 0.177) | 1.766 |
| 10 | 0.83 | 29.10 | 4.186 | 0.004 | ( 0.419) | 4.183 |
| 11 | 0.92 | 6.80 | 0.978 | 0.004 | ( 0.098) | 0.975 |
| 12 | 1.00 | 5.00 | 0.719 | 0.004 | ( 0.072) | 0.716 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 14.3

Flood volume = Effective rainfall 1.20(In)
times area 108.2(Ac.)/[(In)/(Ft.)] = 10.8(Ac.Ft)
Total soil loss = 0.00(In)
Total soil loss = 0.033(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 469404.9 Cubic Feet
Total soil loss = 1452.1 Cubic Feet

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Peak flow rate of this hydrograph = 311.102(CFS)

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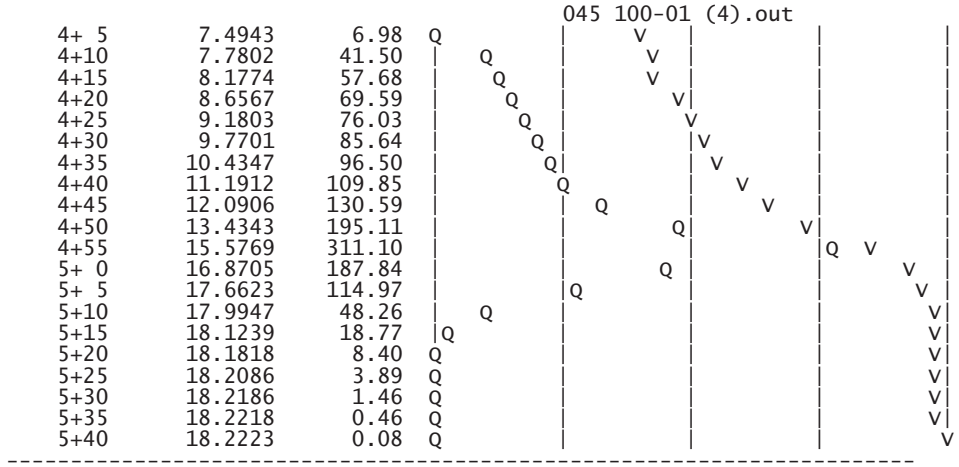
TOTAL OF: 5 1 - H O U R S T O R M E V E N T S
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

---

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 100.0 200.0 300.0 400.0 |
|---|---|---|---|
| 0+ 5 | 0.0045 | 0.66 | Q |
| 0+10 | 0.0315 | 3.92 | Q |
| 0+15 | 0.0692 | 5.46 | Q |
| 0+20 | 0.1147 | 6.62 | Q |
| 0+25 | 0.1647 | 7.25 | Q |
| 0+30 | 0.2212 | 8.20 | Q |
| 0+35 | 0.2851 | 9.29 | Q |
| 0+40 | 0.3583 | 10.62 | VQ |
| 0+45 | 0.4457 | 12.70 | VQ |
| 0+50 | 0.5776 | 19.15 | \|Q |
| 0+55 | 0.7894 | 30.75 | \|V Q |
| 1+ 0 | 0.9162 | 18.42 | \|QV |
| 1+ 5 | 0.9232 | 1.01 | Q V |
| 1+10 | 0.9646 | 6.01 | Q V |
| 1+15 | 1.0222 | 8.36 | Q V |
| 1+20 | 1.0918 | 10.12 | \|QV |
| 1+25 | 1.1681 | 11.07 | \|QV |
| 1+30 | 1.2542 | 12.51 | \|QV |
| 1+35 | 1.3516 | 14.13 | \|QV |
| 1+40 | 1.4627 | 16.13 | \|Q V |
| 1+45 | 1.5952 | 19.25 | \|Q V |
| 1+50 | 1.7944 | 28.92 | \| QV |
| 1+55 | 2.1134 | 46.32 | \| Q |
| 2+ 0 | 2.3051 | 27.83 | \| Q V |
| 2+ 5 | 2.3140 | 1.29 | Q V |
| 2+10 | 2.3669 | 7.68 | Q V |
| 2+15 | 2.4405 | 10.68 | \|Q V |
| 2+20 | 2.5294 | 12.92 | \|Q V |
| 2+25 | 2.6267 | 14.13 | \|Q V |
| 2+30 | 2.7366 | 15.95 | \|Q V |
| 2+35 | 2.8606 | 18.01 | \|Q V |
| 2+40 | 3.0021 | 20.54 | \| Q V |
| 2+45 | 3.1707 | 24.48 | \| Q V |
| 2+50 | 3.4238 | 36.74 | \| Q V |
| 2+55 | 3.8286 | 58.78 | \| Q V |
| 3+ 0 | 4.0722 | 35.36 | \| Q V |
| 3+ 5 | 4.0893 | 2.49 | Q V |
| 3+10 | 4.1911 | 14.78 | \|Q V |
| 3+15 | 4.3326 | 20.55 | \| Q V |
| 3+20 | 4.5034 | 24.81 | \| Q V |
| 3+25 | 4.6902 | 27.12 | \| Q V |
| 3+30 | 4.9008 | 30.57 | \| Q V |
| 3+35 | 5.1383 | 34.48 | \| Q \|V |
| 3+40 | 5.4088 | 39.29 | \| Q \|V |
| 3+45 | 5.7308 | 46.75 | \| Q \| V |
| 3+50 | 6.2128 | 69.98 | \| Q \| V |
| 3+55 | 6.9823 | 111.74 | \| \|Q V |
| 4+ 0 | 7.4463 | 67.36 | \| Q \| V |


4+ 5 7.4943 6.98
4+10 7.7802 41.50
4+15 8.1774 57.68
4+20 8.6567 69.59
4+25 9.1803 76.03
4+30 9.7701 85.64
4+35 10.4347 96.50
4+40 11.1912 109.85
4+45 12.0906 130.59
4+50 13.4343 195.11
4+55 15.5769 311.10
5+ 0 16.8705 187.84
5+ 5 17.6623 114.97
5+10 17.9947 48.26
5+15 18.1239 18.77
5+20 18.1818 8.40
5+25 18.2086 3.89
5+30 18.2186 1.46
5+35 18.2218 0.46
5+40 18.2223 0.08

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 04/18/19 File: EX453100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 45
100-YEAR, 5-DAY STORM EVENT
BY: JTS, DATE: 04-18-19

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Drainage Area = 108.20(Ac.) = 0.169 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 108.20(Ac.) = 0.169 Sq. Mi.
Length along longest watercourse = 2240.00(Ft.)
Length along longest watercourse measured to centroid = 946.00(Ft.)
Length along longest watercourse = 0.424 Mi.
Length along longest watercourse measured to centroid = 0.179 Mi.
Difference in elevation = 232.00(Ft.)
Slope along watercourse = 546.8571 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.095 Hr.
Lag time = 5.71 Min.
25% of lag time = 1.43 Min.
40% of lag time = 2.29 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 108.20 | 0.80 | 86.56 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 108.20 | 1.81 | 195.84 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.810(In)

Point rain (area averaged) = 1.810(In)
Areal adjustment factor = 99.95 %
Adjusted average point rain = 1.809(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 108.200 | 92.89 | 1.000 |

Total Area Entered = 108.20(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 92.9 | 97.2 | 0.037 | 1.000 | 0.004 | 1.000 | 0.004 |
| | | | | | Sum (F) = | 0.004 |

Area averaged mean soil loss (F) (In/Hr) = 0.004
Minimum soil loss rate ((In/Hr)) = 0.002

(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.100

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 87.499 | 10.657 | 11.621 |
| 2 | 0.167 | 174.999 | 52.437 | 57.180 |
| 3 | 0.250 | 262.498 | 21.649 | 23.607 |
| 4 | 0.333 | 349.997 | 8.857 | 9.658 |
| 5 | 0.417 | 437.496 | 3.954 | 4.311 |
| 6 | 0.500 | 524.996 | 1.243 | 1.355 |
| 7 | 0.583 | 612.495 | 0.657 | 0.717 |
| 8 | 0.667 | 699.994 | 0.443 | 0.483 |
| 9 | 0.750 | 787.493 | 0.104 | 0.113 |
| | | | Sum = 100.000 | Sum= 109.045 |

Storm Event 5 Effective Rainfall = 0.181(In)

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.028 | ( 0.004) | 0.003 | 0.025 |
| 2 | 0.17 | 1.30 | 0.028 | ( 0.004) | 0.003 | 0.025 |
| 3 | 0.25 | 1.10 | 0.024 | ( 0.004) | 0.002 | 0.021 |
| 4 | 0.33 | 1.50 | 0.033 | ( 0.004) | 0.003 | 0.029 |
| 5 | 0.42 | 1.50 | 0.033 | ( 0.004) | 0.003 | 0.029 |
| 6 | 0.50 | 1.80 | 0.039 | 0.004 | ( 0.004) | 0.035 |
| 7 | 0.58 | 1.50 | 0.033 | ( 0.004) | 0.003 | 0.029 |
| 8 | 0.67 | 1.80 | 0.039 | 0.004 | ( 0.004) | 0.035 |
| 9 | 0.75 | 1.80 | 0.039 | 0.004 | ( 0.004) | 0.035 |
| 10 | 0.83 | 1.50 | 0.033 | ( 0.004) | 0.003 | 0.029 |
| 11 | 0.92 | 1.60 | 0.035 | ( 0.004) | 0.003 | 0.031 |
| 12 | 1.00 | 1.80 | 0.039 | 0.004 | ( 0.004) | 0.035 |
| 13 | 1.08 | 2.20 | 0.048 | 0.004 | ( 0.005) | 0.044 |
| 14 | 1.17 | 2.20 | 0.048 | 0.004 | ( 0.005) | 0.044 |
| 15 | 1.25 | 2.20 | 0.048 | 0.004 | ( 0.005) | 0.044 |
| 16 | 1.33 | 2.00 | 0.043 | 0.004 | ( 0.004) | 0.040 |
| 17 | 1.42 | 2.60 | 0.056 | 0.004 | ( 0.006) | 0.053 |
| 18 | 1.50 | 2.70 | 0.059 | 0.004 | ( 0.006) | 0.055 |
| 19 | 1.58 | 2.40 | 0.052 | 0.004 | ( 0.005) | 0.048 |
| 20 | 1.67 | 2.70 | 0.059 | 0.004 | ( 0.006) | 0.055 |
| 21 | 1.75 | 3.30 | 0.072 | 0.004 | ( 0.007) | 0.068 |
| 22 | 1.83 | 3.10 | 0.067 | 0.004 | ( 0.007) | 0.064 |
| 23 | 1.92 | 2.90 | 0.063 | 0.004 | ( 0.006) | 0.059 |
| 24 | 2.00 | 3.00 | 0.065 | 0.004 | ( 0.007) | 0.061 |
| 25 | 2.08 | 3.10 | 0.067 | 0.004 | ( 0.007) | 0.064 |
| 26 | 2.17 | 4.20 | 0.091 | 0.004 | ( 0.009) | 0.087 |
| 27 | 2.25 | 5.00 | 0.109 | 0.004 | ( 0.011) | 0.105 |
| 28 | 2.33 | 3.50 | 0.076 | 0.004 | ( 0.008) | 0.072 |
| 29 | 2.42 | 6.80 | 0.148 | 0.004 | ( 0.015) | 0.144 |
| 30 | 2.50 | 7.30 | 0.158 | 0.004 | ( 0.016) | 0.155 |
| 31 | 2.58 | 8.20 | 0.178 | 0.004 | ( 0.018) | 0.174 |
| 32 | 2.67 | 5.90 | 0.128 | 0.004 | ( 0.013) | 0.124 |
| 33 | 2.75 | 2.00 | 0.043 | 0.004 | ( 0.004) | 0.040 |
| 34 | 2.83 | 1.80 | 0.039 | 0.004 | ( 0.004) | 0.035 |
| 35 | 2.92 | 1.80 | 0.039 | 0.004 | ( 0.004) | 0.035 |
| 36 | 3.00 | 0.60 | 0.013 | ( 0.004) | 0.001 | 0.012 |
| | | (Loss Rate Not Used) | | | |
| Sum = | | 100.0 | | | Sum = 2.0 |

Flood volume = Effective rainfall 0.17(In)
times area 108.2(Ac.)/[(In)/(Ft.)] = 1.5(Ac.Ft)
Total soil loss = 0.01(In)
Total soil loss = 0.094(Ac.Ft)
Total rainfall = 0.18(In)
Flood volume = 66944.1 Cubic Feet
Total soil loss = 4112.9 Cubic Feet

Storm Event 4  Effective Rainfall =  0.271(In)

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.042 | 0.004 | ( 0.004) | 0.039 |
| 2 | 0.17 | 1.30 | 0.042 | 0.004 | ( 0.004) | 0.039 |
| 3 | 0.25 | 1.10 | 0.036 | ( 0.004) | 0.004 | 0.032 |
| 4 | 0.33 | 1.50 | 0.049 | 0.004 | ( 0.005) | 0.045 |
| 5 | 0.42 | 1.50 | 0.049 | 0.004 | ( 0.005) | 0.045 |
| 6 | 0.50 | 1.80 | 0.059 | 0.004 | ( 0.006) | 0.055 |
| 7 | 0.58 | 1.50 | 0.049 | 0.004 | ( 0.005) | 0.045 |
| 8 | 0.67 | 1.80 | 0.059 | 0.004 | ( 0.006) | 0.055 |
| 9 | 0.75 | 1.80 | 0.059 | 0.004 | ( 0.006) | 0.055 |
| 10 | 0.83 | 1.50 | 0.049 | 0.004 | ( 0.005) | 0.045 |
| 11 | 0.92 | 1.60 | 0.052 | 0.004 | ( 0.005) | 0.048 |
| 12 | 1.00 | 1.80 | 0.059 | 0.004 | ( 0.006) | 0.055 |
| 13 | 1.08 | 2.20 | 0.072 | 0.004 | ( 0.007) | 0.068 |
| 14 | 1.17 | 2.20 | 0.072 | 0.004 | ( 0.007) | 0.068 |
| 15 | 1.25 | 2.20 | 0.072 | 0.004 | ( 0.007) | 0.068 |
| 16 | 1.33 | 2.00 | 0.065 | 0.004 | ( 0.007) | 0.061 |
| 17 | 1.42 | 2.60 | 0.085 | 0.004 | ( 0.008) | 0.081 |
| 18 | 1.50 | 2.70 | 0.088 | 0.004 | ( 0.009) | 0.084 |
| 19 | 1.58 | 2.40 | 0.078 | 0.004 | ( 0.008) | 0.074 |
| 20 | 1.67 | 2.70 | 0.088 | 0.004 | ( 0.009) | 0.084 |
| 21 | 1.75 | 3.30 | 0.107 | 0.004 | ( 0.011) | 0.104 |
| 22 | 1.83 | 3.10 | 0.101 | 0.004 | ( 0.010) | 0.097 |
| 23 | 1.92 | 2.90 | 0.094 | 0.004 | ( 0.009) | 0.091 |
| 24 | 2.00 | 3.00 | 0.098 | 0.004 | ( 0.010) | 0.094 |
| 25 | 2.08 | 3.10 | 0.101 | 0.004 | ( 0.010) | 0.097 |
| 26 | 2.17 | 4.20 | 0.137 | 0.004 | ( 0.014) | 0.133 |
| 27 | 2.25 | 5.00 | 0.163 | 0.004 | ( 0.016) | 0.159 |
| 28 | 2.33 | 3.50 | 0.114 | 0.004 | ( 0.011) | 0.110 |
| 29 | 2.42 | 6.80 | 0.221 | 0.004 | ( 0.022) | 0.218 |
| 30 | 2.50 | 7.30 | 0.238 | 0.004 | ( 0.024) | 0.234 |
| 31 | 2.58 | 8.20 | 0.267 | 0.004 | ( 0.027) | 0.263 |
| 32 | 2.67 | 5.90 | 0.192 | 0.004 | ( 0.019) | 0.188 |
| 33 | 2.75 | 2.00 | 0.065 | 0.004 | ( 0.007) | 0.061 |
| 34 | 2.83 | 1.80 | 0.059 | 0.004 | ( 0.006) | 0.055 |
| 35 | 2.92 | 1.80 | 0.059 | 0.004 | ( 0.006) | 0.055 |
| 36 | 3.00 | 0.60 | 0.020 | ( 0.004) | 0.002 | 0.018 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 3.1 |

Flood volume = Effective rainfall 0.26(In)
times area 108.2(Ac.)/[(In)/(Ft.)] = 2.3(Ac.Ft)
Total soil loss = 0.01(In)
Total soil loss = 0.099(Ac.Ft)
Total rainfall = 0.27(In)
Flood volume = 102289.9 Cubic Feet
Total soil loss = 4295.6 Cubic Feet

Storm Event 3  Effective Rainfall =  0.344(In)

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.054 | 0.004 | ( 0.005) | 0.050 |
| 2 | 0.17 | 1.30 | 0.054 | 0.004 | ( 0.005) | 0.050 |
| 3 | 0.25 | 1.10 | 0.045 | 0.004 | ( 0.005) | 0.042 |
| 4 | 0.33 | 1.50 | 0.062 | 0.004 | ( 0.006) | 0.058 |
| 5 | 0.42 | 1.50 | 0.062 | 0.004 | ( 0.006) | 0.058 |
| 6 | 0.50 | 1.80 | 0.074 | 0.004 | ( 0.007) | 0.071 |
| 7 | 0.58 | 1.50 | 0.062 | 0.004 | ( 0.006) | 0.058 |
| 8 | 0.67 | 1.80 | 0.074 | 0.004 | ( 0.007) | 0.071 |
| 9 | 0.75 | 1.80 | 0.074 | 0.004 | ( 0.007) | 0.071 |
| 10 | 0.83 | 1.50 | 0.062 | 0.004 | ( 0.006) | 0.058 |
| 11 | 0.92 | 1.60 | 0.066 | 0.004 | ( 0.007) | 0.062 |
| 12 | 1.00 | 1.80 | 0.074 | 0.004 | ( 0.007) | 0.071 |
| 13 | 1.08 | 2.20 | 0.091 | 0.004 | ( 0.009) | 0.087 |
| 14 | 1.17 | 2.20 | 0.091 | 0.004 | ( 0.009) | 0.087 |
| 15 | 1.25 | 2.20 | 0.091 | 0.004 | ( 0.009) | 0.087 |
| 16 | 1.33 | 2.00 | 0.082 | 0.004 | ( 0.008) | 0.079 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 17 | 1.42 | 2.60 | 0.107 | 0.004 | ( 0.011) | 0.104 |
| 18 | 1.50 | 2.70 | 0.111 | 0.004 | ( 0.011) | 0.108 |
| 19 | 1.58 | 2.40 | 0.099 | 0.004 | ( 0.010) | 0.095 |
| 20 | 1.67 | 2.70 | 0.111 | 0.004 | ( 0.011) | 0.108 |
| 21 | 1.75 | 3.30 | 0.136 | 0.004 | ( 0.014) | 0.132 |
| 22 | 1.83 | 3.10 | 0.128 | 0.004 | ( 0.013) | 0.124 |
| 23 | 1.92 | 2.90 | 0.120 | 0.004 | ( 0.012) | 0.116 |
| 24 | 2.00 | 3.00 | 0.124 | 0.004 | ( 0.012) | 0.120 |
| 25 | 2.08 | 3.10 | 0.128 | 0.004 | ( 0.013) | 0.124 |
| 26 | 2.17 | 4.20 | 0.173 | 0.004 | ( 0.017) | 0.170 |
| 27 | 2.25 | 5.00 | 0.206 | 0.004 | ( 0.021) | 0.203 |
| 28 | 2.33 | 3.50 | 0.144 | 0.004 | ( 0.014) | 0.141 |
| 29 | 2.42 | 6.80 | 0.280 | 0.004 | ( 0.028) | 0.277 |
| 30 | 2.50 | 7.30 | 0.301 | 0.004 | ( 0.030) | 0.297 |
| 31 | 2.58 | 8.20 | 0.338 | 0.004 | ( 0.034) | 0.335 |
| 32 | 2.67 | 5.90 | 0.243 | 0.004 | ( 0.024) | 0.240 |
| 33 | 2.75 | 2.00 | 0.082 | 0.004 | ( 0.008) | 0.079 |
| 34 | 2.83 | 1.80 | 0.074 | 0.004 | ( 0.007) | 0.071 |
| 35 | 2.92 | 1.80 | 0.074 | 0.004 | ( 0.007) | 0.071 |
| 36 | 3.00 | 0.60 | 0.025 | ( 0.004) | 0.002 | 0.022 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 4.0

Flood volume = Effective rainfall 0.33(In)
times area 108.2(Ac.)/[(In)/(Ft.)] = 3.0(Ac.Ft)
Total soil loss = 0.01(In)
Total soil loss = 0.099(Ac.Ft)
Total rainfall = 0.34(In)
Flood volume = 130691.9 Cubic Feet
Total soil loss = 4316.4 Cubic Feet

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Storm Event 2 Effective Rainfall = 0.651(In)

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.102 | 0.004 | ( | 0.010) | 0.098 |
| 2 | 0.17 | 1.30 | 0.102 | 0.004 | ( | 0.010) | 0.098 |
| 3 | 0.25 | 1.10 | 0.086 | 0.004 | ( | 0.009) | 0.082 |
| 4 | 0.33 | 1.50 | 0.117 | 0.004 | ( | 0.012) | 0.114 |
| 5 | 0.42 | 1.50 | 0.117 | 0.004 | ( | 0.012) | 0.114 |
| 6 | 0.50 | 1.80 | 0.141 | 0.004 | ( | 0.014) | 0.137 |
| 7 | 0.58 | 1.50 | 0.117 | 0.004 | ( | 0.012) | 0.114 |
| 8 | 0.67 | 1.80 | 0.141 | 0.004 | ( | 0.014) | 0.137 |
| 9 | 0.75 | 1.80 | 0.141 | 0.004 | ( | 0.014) | 0.137 |
| 10 | 0.83 | 1.50 | 0.117 | 0.004 | ( | 0.012) | 0.114 |
| 11 | 0.92 | 1.60 | 0.125 | 0.004 | ( | 0.013) | 0.121 |
| 12 | 1.00 | 1.80 | 0.141 | 0.004 | ( | 0.014) | 0.137 |
| 13 | 1.08 | 2.20 | 0.172 | 0.004 | ( | 0.017) | 0.168 |
| 14 | 1.17 | 2.20 | 0.172 | 0.004 | ( | 0.017) | 0.168 |
| 15 | 1.25 | 2.20 | 0.172 | 0.004 | ( | 0.017) | 0.168 |
| 16 | 1.33 | 2.00 | 0.156 | 0.004 | ( | 0.016) | 0.153 |
| 17 | 1.42 | 2.60 | 0.203 | 0.004 | ( | 0.020) | 0.200 |
| 18 | 1.50 | 2.70 | 0.211 | 0.004 | ( | 0.021) | 0.207 |
| 19 | 1.58 | 2.40 | 0.188 | 0.004 | ( | 0.019) | 0.184 |
| 20 | 1.67 | 2.70 | 0.211 | 0.004 | ( | 0.021) | 0.207 |
| 21 | 1.75 | 3.30 | 0.258 | 0.004 | ( | 0.026) | 0.254 |
| 22 | 1.83 | 3.10 | 0.242 | 0.004 | ( | 0.024) | 0.239 |
| 23 | 1.92 | 2.90 | 0.227 | 0.004 | ( | 0.023) | 0.223 |
| 24 | 2.00 | 3.00 | 0.234 | 0.004 | ( | 0.023) | 0.231 |
| 25 | 2.08 | 3.10 | 0.242 | 0.004 | ( | 0.024) | 0.239 |
| 26 | 2.17 | 4.20 | 0.328 | 0.004 | ( | 0.033) | 0.325 |
| 27 | 2.25 | 5.00 | 0.391 | 0.004 | ( | 0.039) | 0.387 |
| 28 | 2.33 | 3.50 | 0.274 | 0.004 | ( | 0.027) | 0.270 |
| 29 | 2.42 | 6.80 | 0.531 | 0.004 | ( | 0.053) | 0.528 |
| 30 | 2.50 | 7.30 | 0.571 | 0.004 | ( | 0.057) | 0.567 |
| 31 | 2.58 | 8.20 | 0.641 | 0.004 | ( | 0.064) | 0.637 |
| 32 | 2.67 | 5.90 | 0.461 | 0.004 | ( | 0.046) | 0.457 |
| 33 | 2.75 | 2.00 | 0.156 | 0.004 | ( | 0.016) | 0.153 |
| 34 | 2.83 | 1.80 | 0.141 | 0.004 | ( | 0.014) | 0.137 |
| 35 | 2.92 | 1.80 | 0.141 | 0.004 | ( | 0.014) | 0.137 |
| 36 | 3.00 | 0.60 | 0.047 | 0.004 | ( | 0.005) | 0.043 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 7.7

Flood volume = Effective rainfall 0.64(In)
times area 108.2(Ac.)/[(In)/(Ft.)] = 5.8(Ac.Ft)
Total soil loss = 0.01(In)

Total soil loss = 0.100(Ac.Ft)
Total rainfall = 0.65(In)
Flood volume = 251448.8 Cubic Feet
Total soil loss = 4356.4 Cubic Feet

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Storm Event 1 Effective Rainfall = 1.809(In)

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 0.08 | 1.30 | 0.282 | 0.004 | ( 0.028) | 0.279 |
| 2 0.17 | 1.30 | 0.282 | 0.004 | ( 0.028) | 0.279 |
| 3 0.25 | 1.10 | 0.239 | 0.004 | ( 0.024) | 0.235 |
| 4 0.33 | 1.50 | 0.326 | 0.004 | ( 0.033) | 0.322 |
| 5 0.42 | 1.50 | 0.326 | 0.004 | ( 0.033) | 0.322 |
| 6 0.50 | 1.80 | 0.391 | 0.004 | ( 0.039) | 0.387 |
| 7 0.58 | 1.50 | 0.326 | 0.004 | ( 0.033) | 0.322 |
| 8 0.67 | 1.80 | 0.391 | 0.004 | ( 0.039) | 0.387 |
| 9 0.75 | 1.80 | 0.391 | 0.004 | ( 0.039) | 0.387 |
| 10 0.83 | 1.50 | 0.326 | 0.004 | ( 0.033) | 0.322 |
| 11 0.92 | 1.60 | 0.347 | 0.004 | ( 0.035) | 0.344 |
| 12 1.00 | 1.80 | 0.391 | 0.004 | ( 0.039) | 0.387 |
| 13 1.08 | 2.20 | 0.478 | 0.004 | ( 0.048) | 0.474 |
| 14 1.17 | 2.20 | 0.478 | 0.004 | ( 0.048) | 0.474 |
| 15 1.25 | 2.20 | 0.478 | 0.004 | ( 0.048) | 0.474 |
| 16 1.33 | 2.00 | 0.434 | 0.004 | ( 0.043) | 0.430 |
| 17 1.42 | 2.60 | 0.564 | 0.004 | ( 0.056) | 0.561 |
| 18 1.50 | 2.70 | 0.586 | 0.004 | ( 0.059) | 0.582 |
| 19 1.58 | 2.40 | 0.521 | 0.004 | ( 0.052) | 0.517 |
| 20 1.67 | 2.70 | 0.586 | 0.004 | ( 0.059) | 0.582 |
| 21 1.75 | 3.30 | 0.716 | 0.004 | ( 0.072) | 0.713 |
| 22 1.83 | 3.10 | 0.673 | 0.004 | ( 0.067) | 0.669 |
| 23 1.92 | 2.90 | 0.630 | 0.004 | ( 0.063) | 0.626 |
| 24 2.00 | 3.00 | 0.651 | 0.004 | ( 0.065) | 0.648 |
| 25 2.08 | 3.10 | 0.673 | 0.004 | ( 0.067) | 0.669 |
| 26 2.17 | 4.20 | 0.912 | 0.004 | ( 0.091) | 0.908 |
| 27 2.25 | 5.00 | 1.085 | 0.004 | ( 0.109) | 1.082 |
| 28 2.33 | 3.50 | 0.760 | 0.004 | ( 0.076) | 0.756 |
| 29 2.42 | 6.80 | 1.476 | 0.004 | ( 0.148) | 1.473 |
| 30 2.50 | 7.30 | 1.585 | 0.004 | ( 0.158) | 1.581 |
| 31 2.58 | 8.20 | 1.780 | 0.004 | ( 0.178) | 1.776 |
| 32 2.67 | 5.90 | 1.281 | 0.004 | ( 0.128) | 1.277 |
| 33 2.75 | 2.00 | 0.434 | 0.004 | ( 0.043) | 0.430 |
| 34 2.83 | 1.80 | 0.391 | 0.004 | ( 0.039) | 0.387 |
| 35 2.92 | 1.80 | 0.391 | 0.004 | ( 0.039) | 0.387 |
| 36 3.00 | 0.60 | 0.130 | 0.004 | ( 0.013) | 0.127 |
| | (Loss Rate Not Used) | | | | |
| Sum = | 100.0 | | | Sum = | 21.6 |

Flood volume = Effective rainfall 1.80(In)
times area 108.2(Ac.)/[(In)/(Ft.)] = 16.2(Ac.Ft)
Total soil loss = 0.01(In)
Total soil loss = 0.100(Ac.Ft)
Total rainfall = 1.81(In)
Flood volume = 706213.5 Cubic Feet
Total soil loss = 4356.4 Cubic Feet

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Peak flow rate of this hydrograph = 173.833(CFS)

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TOTAL OF: 5 3 - H O U R S T O R M E V E N T S
R u n o f f H y d r o g r a p h

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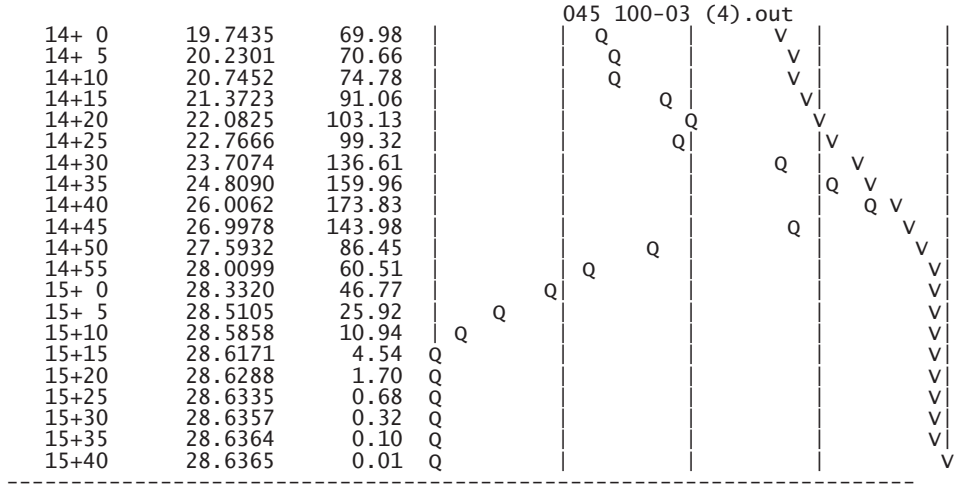
Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 50.0 | 100.0 | 150.0 | 200.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0020 | 0.30 | Q | \| | \| | \| | \| |
| 0+10 | 0.0141 | 1.75 | Q | \| | \| | \| | \| |
| 0+15 | 0.0299 | 2.30 | Q | \| | \| | \| | \| |
| 0+20 | 0.0466 | 2.42 | Q | \| | \| | \| | \| |
| 0+25 | 0.0664 | 2.88 | Q | \| | \| | \| | \| |
| 0+30 | 0.0880 | 3.13 | Q | \| | \| | \| | \| |
| 0+35 | 0.1120 | 3.49 | Q | \| | \| | \| | \| |
| 0+40 | 0.1354 | 3.39 | Q | \| | \| | \| | \| |
| 0+45 | 0.1606 | 3.67 | Q | \| | \| | \| | \| |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 0+50 | 0.1862 | 3.71 | Q | \| | \| | \| | \| |
| 0+55 | 0.2098 | 3.43 | Q | \| | \| | \| | \| |
| 1+ 0 | 0.2337 | 3.47 | Q | \| | \| | \| | \| |
| 1+ 5 | 0.2598 | 3.80 | Q | \| | \| | \| | \| |
| 1+10 | 0.2901 | 4.39 | Q | \| | \| | \| | \| |
| 1+15 | 0.3220 | 4.64 | Q | \| | \| | \| | \| |
| 1+20 | 0.3543 | 4.69 | Q | \| | \| | \| | \| |
| 1+25 | 0.3862 | 4.63 | Q | \| | \| | \| | \| |
| 1+30 | 0.4228 | 5.31 | VQ | \| | \| | \| | \| |
| 1+35 | 0.4616 | 5.64 | VQ | \| | \| | \| | \| |
| 1+40 | 0.4995 | 5.50 | VQ | \| | \| | \| | \| |
| 1+45 | 0.5404 | 5.95 | VQ | \| | \| | \| | \| |
| 1+50 | 0.5869 | 6.75 | VQ | \| | \| | \| | \| |
| 1+55 | 0.6338 | 6.81 | VQ | \| | \| | \| | \| |
| 2+ 0 | 0.6795 | 6.64 | VQ | \| | \| | \| | \| |
| 2+ 5 | 0.7257 | 6.70 | \|Q | \| | \| | \| | \| |
| 2+10 | 0.7747 | 7.11 | \|Q | \| | \| | \| | \| |
| 2+15 | 0.8349 | 8.74 | \|Q | \| | \| | \| | \| |
| 2+20 | 0.9034 | 9.95 | \|Q | \| | \| | \| | \| |
| 2+25 | 0.9693 | 9.57 | \|Q | \| | \| | \| | \| |
| 2+30 | 1.0609 | 13.30 | \|VQ | \| | \| | \| | \| |
| 2+35 | 1.1686 | 15.63 | \|V Q | \| | \| | \| | \| |
| 2+40 | 1.2858 | 17.02 | \|V Q | \| | \| | \| | \| |
| 2+45 | 1.3825 | 14.03 | \|VQ | \| | \| | \| | \| |
| 2+50 | 1.4395 | 8.28 | \|QV | \| | \| | \| | \| |
| 2+55 | 1.4787 | 5.69 | \|QV | \| | \| | \| | \| |
| 3+ 0 | 1.5086 | 4.34 | Q V | \| | \| | \| | \| |
| 3+ 5 | 1.5117 | 0.45 | Q V | \| | \| | \| | \| |
| 3+10 | 1.5300 | 2.66 | Q V | \| | \| | \| | \| |
| 3+15 | 1.5541 | 3.50 | Q V | \| | \| | \| | \| |
| 3+20 | 1.5792 | 3.66 | Q V | \| | \| | \| | \| |
| 3+25 | 1.6096 | 4.41 | Q V | \| | \| | \| | \| |
| 3+30 | 1.6428 | 4.82 | Q V | \| | \| | \| | \| |
| 3+35 | 1.6799 | 5.39 | \|QV | \| | \| | \| | \| |
| 3+40 | 1.7160 | 5.24 | \|QV | \| | \| | \| | \| |
| 3+45 | 1.7551 | 5.68 | \|QV | \| | \| | \| | \| |
| 3+50 | 1.7947 | 5.75 | \|QV | \| | \| | \| | \| |
| 3+55 | 1.8312 | 5.30 | \|QV | \| | \| | \| | \| |
| 4+ 0 | 1.8682 | 5.37 | \|QV | \| | \| | \| | \| |
| 4+ 5 | 1.9087 | 5.89 | \|QV | \| | \| | \| | \| |
| 4+10 | 1.9554 | 6.78 | \|QV | \| | \| | \| | \| |
| 4+15 | 2.0047 | 7.15 | \|QV | \| | \| | \| | \| |
| 4+20 | 2.0545 | 7.23 | \|QV | \| | \| | \| | \| |
| 4+25 | 2.1037 | 7.15 | \|QV | \| | \| | \| | \| |
| 4+30 | 2.1600 | 8.17 | \|Q V | \| | \| | \| | \| |
| 4+35 | 2.2196 | 8.66 | \|Q V | \| | \| | \| | \| |
| 4+40 | 2.2779 | 8.46 | \|Q V | \| | \| | \| | \| |
| 4+45 | 2.3407 | 9.12 | \|Q V | \| | \| | \| | \| |
| 4+50 | 2.4118 | 10.33 | \| QV | \| | \| | \| | \| |
| 4+55 | 2.4836 | 10.41 | \| QV | \| | \| | \| | \| |
| 5+ 0 | 2.5535 | 10.15 | \| QV | \| | \| | \| | \| |
| 5+ 5 | 2.6241 | 10.26 | \| QV | \| | \| | \| | \| |
| 5+10 | 2.6990 | 10.87 | \| QV | \| | \| | \| | \| |
| 5+15 | 2.7907 | 13.32 | \| QV | \| | \| | \| | \| |
| 5+20 | 2.8949 | 15.13 | \|  QV | \| | \| | \| | \| |
| 5+25 | 2.9951 | 14.56 | \| Q V | \| | \| | \| | \| |
| 5+30 | 3.1339 | 20.15 | \|  Q | \| | \| | \| | \| |
| 5+35 | 3.2968 | 23.65 | \|  Q | \| | \| | \| | \| |
| 5+40 | 3.4740 | 25.73 | \|  VQ | \| | \| | \| | \| |
| 5+45 | 3.6204 | 21.25 | \|  QV | \| | \| | \| | \| |
| 5+50 | 3.7073 | 12.62 | \| Q  V | \| | \| | \| | \| |
| 5+55 | 3.7675 | 8.73 | \|Q  V | \| | \| | \| | \| |
| 6+ 0 | 3.8136 | 6.69 | \|Q  V | \| | \| | \| | \| |
| 6+ 5 | 3.8176 | 0.58 | Q  V | \| | \| | \| | \| |
| 6+10 | 3.8412 | 3.44 | Q  V | \| | \| | \| | \| |
| 6+15 | 3.8724 | 4.52 | Q  V | \| | \| | \| | \| |
| 6+20 | 3.9049 | 4.72 | Q  V | \| | \| | \| | \| |
| 6+25 | 3.9440 | 5.69 | \|Q  V | \| | \| | \| | \| |
| 6+30 | 3.9868 | 6.21 | \|Q  V | \| | \| | \| | \| |
| 6+35 | 4.0345 | 6.93 | \|Q  V | \| | \| | \| | \| |
| 6+40 | 4.0810 | 6.74 | \|Q  V | \| | \| | \| | \| |
| 6+45 | 4.1313 | 7.30 | \|Q  V | \| | \| | \| | \| |
| 6+50 | 4.1822 | 7.39 | \|Q  V | \| | \| | \| | \| |
| 6+55 | 4.2292 | 6.82 | \|Q  V | \| | \| | \| | \| |
| 7+ 0 | 4.2767 | 6.91 | \|Q  V | \| | \| | \| | \| |
| 7+ 5 | 4.3288 | 7.56 | \|Q  V | \| | \| | \| | \| |
| 7+10 | 4.3887 | 8.69 | \|Q  V | \| | \| | \| | \| |
| 7+15 | 4.4519 | 9.17 | \|Q  V | \| | \| | \| | \| |
| 7+20 | 4.5157 | 9.27 | \|Q  V | \| | \| | \| | \| |

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 7+25       4.5788      9.16  |Q    V   |           |           |           |
 7+30       4.6508     10.46  | Q   V   |           |           |           |
 7+35       4.7271     11.07  | Q   V   |           |           |           |
 7+40       4.8016     10.82  | Q   V   |           |           |           |
 7+45       4.8819     11.66  | Q   V   |           |           |           |
 7+50       4.9727     13.20  | Q   V   |           |           |           |
 7+55       5.0643     13.30  | Q    V  |           |           |           |
 8+ 0       5.1537     12.97  | Q    V  |           |           |           |
 8+ 5       5.2439     13.10  | Q    V  |           |           |           |
 8+10       5.3395     13.88  | Q    V  |           |           |           |
 8+15       5.4564     16.97  |  Q   V  |           |           |           |
 8+20       5.5891     19.27  |  Q   V  |           |           |           |
 8+25       5.7168     18.54  |  Q   V  |           |           |           |
 8+30       5.8933     25.63  |    Q  V |           |           |           |
 8+35       6.1004     30.07  |     Q V |           |           |           |
 8+40       6.3256     32.70  |     Q V |           |           |           |
 8+45       6.5117     27.03  |    Q   V|           |           |           |
 8+50       6.6226     16.10  |  Q     V|           |           |           |
 8+55       6.6995     11.17  | Q      V|           |           |           |
 9+ 0       6.7586      8.57  |Q       V|           |           |           |
 9+ 5       6.7664      1.14  Q        V|           |           |           |
 9+10       6.8128      6.74  |Q       V|           |           |           |
 9+15       6.8739      8.87  |Q       V|           |           |           |
 9+20       6.9379      9.29  |Q       V|           |           |           |
 9+25       7.0145     11.13  | Q      V|           |           |           |
 9+30       7.0980     12.12  | Q      V|           |           |           |
 9+35       7.1909     13.49  | Q       V           |           |           |
 9+40       7.2814     13.14  | Q       V           |           |           |
 9+45       7.3791     14.20  | Q       V           |           |           |
 9+50       7.4781     14.37  | Q       V           |           |           |
 9+55       7.5696     13.29  | Q       V           |           |           |
10+ 0       7.6622     13.45  | Q       V           |           |           |
10+ 5       7.7634     14.69  | Q       V           |           |           |
10+10       7.8794     16.83  |  Q      |V          |           |           |
10+15       8.0015     17.73  |  Q      |V          |           |           |
10+20       8.1249     17.92  |  Q      |V          |           |           |
10+25       8.2469     17.72  |  Q      |V          |           |           |
10+30       8.3859     20.18  |   Q     |V          |           |           |
10+35       8.5329     21.34  |   Q     |V          |           |           |
10+40       8.6765     20.86  |   Q     | V         |           |           |
10+45       8.8311     22.45  |   Q     | V         |           |           |
10+50       9.0058     25.37  |    Q    | V         |           |           |
10+55       9.1819     25.56  |    Q    | V         |           |           |
11+ 0       9.3536     24.94  |   Q     |  V        |           |           |
11+ 5       9.5270     25.18  |    Q    |  V        |           |           |
11+10       9.7106     26.66  |    Q    |  V        |           |           |
11+15       9.9346     32.52  |     Q   |  V        |           |           |
11+20      10.1885     36.87  |      Q  |   V       |           |           |
11+25      10.4330     35.50  |      Q  |   V       |           |           |
11+30      10.7699     48.92  |        Q|    V      |           |           |
11+35      11.1647     57.33  |         |Q   V      |           |           |
11+40      11.5940     62.32  |         | Q   V     |           |           |
11+45      11.9491     51.57  |        Q|     V     |           |           |
11+50      12.1617     30.86  |       Q |     V     |           |           |
11+55      12.3099     21.52  |   Q     |      V    |           |           |
12+ 0      12.4241     16.58  |  Q      |      V    |           |           |
12+ 5      12.4464      3.24  Q         |      V    |           |           |
12+10      12.5785     19.17  |  Q      |      V    |           |           |
12+15      12.7523     25.25  |    Q    |      V    |           |           |
12+20      12.9346     26.46  |    Q    |       V   |           |           |
12+25      13.1523     31.61  |     Q   |       V   |           |           |
12+30      13.3890     34.37  |     Q   |       V   |           |           |
12+35      13.6521     38.19  |      Q  |        V  |           |           |
12+40      13.9084     37.21  |      Q  |        V  |           |           |
12+45      14.1849     40.15  |       Q |        V  |           |           |
12+50      14.4646     40.62  |       Q |         V |           |           |
12+55      14.7238     37.62  |      Q  |         V |           |           |
13+ 0      14.9860     38.08  |      Q  |         V |           |           |
13+ 5      15.2721     41.53  |       Q |          |V          |           |
13+10      15.5990     47.48  |        Q|          |V          |           |
13+15      15.9432     49.98  |        Q|          | V         |           |
13+20      16.2909     50.49  |         Q          | V         |           |
13+25      16.6349     49.94  |        Q|          |  V        |           |
13+30      17.0258     56.77  |         |Q         |  V        |           |
13+35      17.4390     59.99  |         |Q         |   V       |           |
13+40      17.8430     58.66  |         |Q         |   V       |           |
13+45      18.2774     63.08  |         | Q        |    V      |           |
13+50      18.7676     71.18  |         |   Q      |     V     |           |
13+55      19.2615     71.72  |         |   Q      |     V     |           |
```



| | | | |
|---|---|---|---|
| 14+ 0 | 19.7435 | 69.98 | |
| 14+ 5 | 20.2301 | 70.66 | |
| 14+10 | 20.7452 | 74.78 | |
| 14+15 | 21.3723 | 91.06 | |
| 14+20 | 22.0825 | 103.13 | |
| 14+25 | 22.7666 | 99.32 | |
| 14+30 | 23.7074 | 136.61 | |
| 14+35 | 24.8090 | 159.96 | |
| 14+40 | 26.0062 | 173.83 | |
| 14+45 | 26.9978 | 143.98 | |
| 14+50 | 27.5932 | 86.45 | |
| 14+55 | 28.0099 | 60.51 | |
| 15+ 0 | 28.3320 | 46.77 | |
| 15+ 5 | 28.5105 | 25.92 | |
| 15+10 | 28.5858 | 10.94 | |
| 15+15 | 28.6171 | 4.54 | |
| 15+20 | 28.6288 | 1.70 | |
| 15+25 | 28.6335 | 0.68 | |
| 15+30 | 28.6357 | 0.32 | |
| 15+35 | 28.6364 | 0.10 | |
| 15+40 | 28.6365 | 0.01 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 04/18/19 File: EX456100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 45
100-YEAR, 5-DAY STORM EVENT
BY: JTS, DATE: 04-18-19

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Drainage Area = 108.20(Ac.) = 0.169 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 108.20(Ac.) = 0.169 Sq. Mi.
Length along longest watercourse = 2240.00(Ft.)
Length along longest watercourse measured to centroid = 946.00(Ft.)
Length along longest watercourse = 0.424 Mi.
Length along longest watercourse measured to centroid = 0.179 Mi.
Difference in elevation = 232.00(Ft.)
Slope along watercourse = 546.8571 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.095 Hr.
Lag time = 5.71 Min.
25% of lag time = 1.43 Min.
40% of lag time = 2.29 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 108.20 | 1.14 | 123.35 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 108.20 | 2.50 | 270.50 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.140(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 99.96 %
Adjusted average point rain = 2.499(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 108.200 | 92.89 | 1.000 |

Total Area Entered = 108.20(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 92.9 | 97.2 | 0.037 | 1.000 | 0.004 | 1.000 | 0.004 |
| | | | | | Sum (F) = | 0.004 |

Area averaged mean soil loss (F) (In/Hr) = 0.004
Minimum soil loss rate ((In/Hr)) = 0.002

(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.100

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 87.499 | 10.657 | 11.621 |
| 2 | 0.167 | 174.999 | 52.437 | 57.180 |
| 3 | 0.250 | 262.498 | 21.649 | 23.607 |
| 4 | 0.333 | 349.997 | 8.857 | 9.658 |
| 5 | 0.417 | 437.496 | 3.954 | 4.311 |
| 6 | 0.500 | 524.996 | 1.243 | 1.355 |
| 7 | 0.583 | 612.495 | 0.657 | 0.717 |
| 8 | 0.667 | 699.994 | 0.443 | 0.483 |
| 9 | 0.750 | 787.493 | 0.104 | 0.113 |
| | | | Sum = 100.000 | Sum= 109.045 |

Storm Event 5 Effective Rainfall = 0.250(In)

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.015 | ( 0.004) | 0.001 | 0.013 |
| 2 | 0.17 | 0.60 | 0.018 | ( 0.004) | 0.002 | 0.016 |
| 3 | 0.25 | 0.60 | 0.018 | ( 0.004) | 0.002 | 0.016 |
| 4 | 0.33 | 0.60 | 0.018 | ( 0.004) | 0.002 | 0.016 |
| 5 | 0.42 | 0.60 | 0.018 | ( 0.004) | 0.002 | 0.016 |
| 6 | 0.50 | 0.70 | 0.021 | ( 0.004) | 0.002 | 0.019 |
| 7 | 0.58 | 0.70 | 0.021 | ( 0.004) | 0.002 | 0.019 |
| 8 | 0.67 | 0.70 | 0.021 | ( 0.004) | 0.002 | 0.019 |
| 9 | 0.75 | 0.70 | 0.021 | ( 0.004) | 0.002 | 0.019 |
| 10 | 0.83 | 0.70 | 0.021 | ( 0.004) | 0.002 | 0.019 |
| 11 | 0.92 | 0.70 | 0.021 | ( 0.004) | 0.002 | 0.019 |
| 12 | 1.00 | 0.80 | 0.024 | ( 0.004) | 0.002 | 0.022 |
| 13 | 1.08 | 0.80 | 0.024 | ( 0.004) | 0.002 | 0.022 |
| 14 | 1.17 | 0.80 | 0.024 | ( 0.004) | 0.002 | 0.022 |
| 15 | 1.25 | 0.80 | 0.024 | ( 0.004) | 0.002 | 0.022 |
| 16 | 1.33 | 0.80 | 0.024 | ( 0.004) | 0.002 | 0.022 |
| 17 | 1.42 | 0.80 | 0.024 | ( 0.004) | 0.002 | 0.022 |
| 18 | 1.50 | 0.80 | 0.024 | ( 0.004) | 0.002 | 0.022 |
| 19 | 1.58 | 0.80 | 0.024 | ( 0.004) | 0.002 | 0.022 |
| 20 | 1.67 | 0.80 | 0.024 | ( 0.004) | 0.002 | 0.022 |
| 21 | 1.75 | 0.80 | 0.024 | ( 0.004) | 0.002 | 0.022 |
| 22 | 1.83 | 0.80 | 0.024 | ( 0.004) | 0.002 | 0.022 |
| 23 | 1.92 | 0.80 | 0.024 | ( 0.004) | 0.002 | 0.022 |
| 24 | 2.00 | 0.90 | 0.027 | ( 0.004) | 0.003 | 0.024 |
| 25 | 2.08 | 0.80 | 0.024 | ( 0.004) | 0.002 | 0.022 |
| 26 | 2.17 | 0.90 | 0.027 | ( 0.004) | 0.003 | 0.024 |
| 27 | 2.25 | 0.90 | 0.027 | ( 0.004) | 0.003 | 0.024 |
| 28 | 2.33 | 0.90 | 0.027 | ( 0.004) | 0.003 | 0.024 |
| 29 | 2.42 | 0.90 | 0.027 | ( 0.004) | 0.003 | 0.024 |
| 30 | 2.50 | 0.90 | 0.027 | ( 0.004) | 0.003 | 0.024 |
| 31 | 2.58 | 0.90 | 0.027 | ( 0.004) | 0.003 | 0.024 |
| 32 | 2.67 | 0.90 | 0.027 | ( 0.004) | 0.003 | 0.024 |
| 33 | 2.75 | 1.00 | 0.030 | ( 0.004) | 0.003 | 0.027 |
| 34 | 2.83 | 1.00 | 0.030 | ( 0.004) | 0.003 | 0.027 |
| 35 | 2.92 | 1.00 | 0.030 | ( 0.004) | 0.003 | 0.027 |
| 36 | 3.00 | 1.00 | 0.030 | ( 0.004) | 0.003 | 0.027 |
| 37 | 3.08 | 1.00 | 0.030 | ( 0.004) | 0.003 | 0.027 |
| 38 | 3.17 | 1.10 | 0.033 | ( 0.004) | 0.003 | 0.030 |
| 39 | 3.25 | 1.10 | 0.033 | ( 0.004) | 0.003 | 0.030 |
| 40 | 3.33 | 1.10 | 0.033 | ( 0.004) | 0.003 | 0.030 |
| 41 | 3.42 | 1.20 | 0.036 | ( 0.004) | 0.004 | 0.032 |
| 42 | 3.50 | 1.30 | 0.039 | 0.004 | ( 0.004) | 0.035 |
| 43 | 3.58 | 1.40 | 0.042 | 0.004 | ( 0.004) | 0.038 |
| 44 | 3.67 | 1.40 | 0.042 | 0.004 | ( 0.004) | 0.038 |
| 45 | 3.75 | 1.50 | 0.045 | 0.004 | ( 0.004) | 0.041 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 46 | 3.83 | 1.50 | 0.045 | 0.004 | ( 0.004) | 0.041 |
| 47 | 3.92 | 1.60 | 0.048 | 0.004 | ( 0.005) | 0.044 |
| 48 | 4.00 | 1.60 | 0.048 | 0.004 | ( 0.005) | 0.044 |
| 49 | 4.08 | 1.70 | 0.051 | 0.004 | ( 0.005) | 0.047 |
| 50 | 4.17 | 1.80 | 0.054 | 0.004 | ( 0.005) | 0.050 |
| 51 | 4.25 | 1.90 | 0.057 | 0.004 | ( 0.006) | 0.053 |
| 52 | 4.33 | 2.00 | 0.060 | 0.004 | ( 0.006) | 0.056 |
| 53 | 4.42 | 2.10 | 0.063 | 0.004 | ( 0.006) | 0.059 |
| 54 | 4.50 | 2.10 | 0.063 | 0.004 | ( 0.006) | 0.059 |
| 55 | 4.58 | 2.20 | 0.066 | 0.004 | ( 0.007) | 0.062 |
| 56 | 4.67 | 2.30 | 0.069 | 0.004 | ( 0.007) | 0.065 |
| 57 | 4.75 | 2.40 | 0.072 | 0.004 | ( 0.007) | 0.068 |
| 58 | 4.83 | 2.40 | 0.072 | 0.004 | ( 0.007) | 0.068 |
| 59 | 4.92 | 2.50 | 0.075 | 0.004 | ( 0.007) | 0.071 |
| 60 | 5.00 | 2.60 | 0.078 | 0.004 | ( 0.008) | 0.074 |
| 61 | 5.08 | 3.10 | 0.093 | 0.004 | ( 0.009) | 0.089 |
| 62 | 5.17 | 3.60 | 0.108 | 0.004 | ( 0.011) | 0.104 |
| 63 | 5.25 | 3.90 | 0.117 | 0.004 | ( 0.012) | 0.113 |
| 64 | 5.33 | 4.20 | 0.126 | 0.004 | ( 0.013) | 0.122 |
| 65 | 5.42 | 4.70 | 0.141 | 0.004 | ( 0.014) | 0.137 |
| 66 | 5.50 | 5.60 | 0.168 | 0.004 | ( 0.017) | 0.164 |
| 67 | 5.58 | 1.90 | 0.057 | 0.004 | ( 0.006) | 0.053 |
| 68 | 5.67 | 0.90 | 0.027 | ( 0.004) | 0.003 | 0.024 |
| 69 | 5.75 | 0.60 | 0.018 | ( 0.004) | 0.002 | 0.016 |
| 70 | 5.83 | 0.50 | 0.015 | ( 0.004) | 0.001 | 0.013 |
| 71 | 5.92 | 0.30 | 0.009 | ( 0.004) | 0.001 | 0.008 |
| 72 | 6.00 | 0.20 | 0.006 | ( 0.004) | 0.001 | 0.005 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 2.8

Flood volume = Effective rainfall 0.23(In)
times area 108.2(Ac.)/[(In)/(Ft.)] = 2.1(Ac.Ft)
Total soil loss = 0.02(In)
Total soil loss = 0.155(Ac.Ft)
Total rainfall = 0.25(In)
Flood volume = 91406.4 Cubic Feet
Total soil loss = 6748.6 Cubic Feet

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Storm Event 4 Effective Rainfall = 0.375(In)

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.022 | ( 0.004) | 0.002 | 0.020 |
| 2 | 0.17 | 0.60 | 0.027 | ( 0.004) | 0.003 | 0.024 |
| 3 | 0.25 | 0.60 | 0.027 | ( 0.004) | 0.003 | 0.024 |
| 4 | 0.33 | 0.60 | 0.027 | ( 0.004) | 0.003 | 0.024 |
| 5 | 0.42 | 0.60 | 0.027 | ( 0.004) | 0.003 | 0.024 |
| 6 | 0.50 | 0.70 | 0.031 | ( 0.004) | 0.003 | 0.028 |
| 7 | 0.58 | 0.70 | 0.031 | ( 0.004) | 0.003 | 0.028 |
| 8 | 0.67 | 0.70 | 0.031 | ( 0.004) | 0.003 | 0.028 |
| 9 | 0.75 | 0.70 | 0.031 | ( 0.004) | 0.003 | 0.028 |
| 10 | 0.83 | 0.70 | 0.031 | ( 0.004) | 0.003 | 0.028 |
| 11 | 0.92 | 0.70 | 0.031 | ( 0.004) | 0.003 | 0.028 |
| 12 | 1.00 | 0.80 | 0.036 | ( 0.004) | 0.004 | 0.032 |
| 13 | 1.08 | 0.80 | 0.036 | ( 0.004) | 0.004 | 0.032 |
| 14 | 1.17 | 0.80 | 0.036 | ( 0.004) | 0.004 | 0.032 |
| 15 | 1.25 | 0.80 | 0.036 | ( 0.004) | 0.004 | 0.032 |
| 16 | 1.33 | 0.80 | 0.036 | ( 0.004) | 0.004 | 0.032 |
| 17 | 1.42 | 0.80 | 0.036 | ( 0.004) | 0.004 | 0.032 |
| 18 | 1.50 | 0.80 | 0.036 | ( 0.004) | 0.004 | 0.032 |
| 19 | 1.58 | 0.80 | 0.036 | ( 0.004) | 0.004 | 0.032 |
| 20 | 1.67 | 0.80 | 0.036 | ( 0.004) | 0.004 | 0.032 |
| 21 | 1.75 | 0.80 | 0.036 | ( 0.004) | 0.004 | 0.032 |
| 22 | 1.83 | 0.80 | 0.036 | ( 0.004) | 0.004 | 0.032 |
| 23 | 1.92 | 0.80 | 0.036 | ( 0.004) | 0.004 | 0.032 |
| 24 | 2.00 | 0.90 | 0.040 | 0.004 | ( 0.004) | 0.037 |
| 25 | 2.08 | 0.80 | 0.036 | ( 0.004) | 0.004 | 0.032 |
| 26 | 2.17 | 0.90 | 0.040 | 0.004 | ( 0.004) | 0.037 |
| 27 | 2.25 | 0.90 | 0.040 | 0.004 | ( 0.004) | 0.037 |
| 28 | 2.33 | 0.90 | 0.040 | 0.004 | ( 0.004) | 0.037 |
| 29 | 2.42 | 0.90 | 0.040 | 0.004 | ( 0.004) | 0.037 |
| 30 | 2.50 | 0.90 | 0.040 | 0.004 | ( 0.004) | 0.037 |
| 31 | 2.58 | 0.90 | 0.040 | 0.004 | ( 0.004) | 0.037 |
| 32 | 2.67 | 0.90 | 0.040 | 0.004 | ( 0.004) | 0.037 |
| 33 | 2.75 | 1.00 | 0.045 | 0.004 | ( 0.004) | 0.041 |
| 34 | 2.83 | 1.00 | 0.045 | 0.004 | ( 0.004) | 0.041 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 35 | 2.92 | 1.00 | 0.045 | 0.004 | ( 0.004) | | 0.041 |
| 36 | 3.00 | 1.00 | 0.045 | 0.004 | ( 0.004) | | 0.041 |
| 37 | 3.08 | 1.00 | 0.045 | 0.004 | ( 0.004) | | 0.041 |
| 38 | 3.17 | 1.10 | 0.049 | 0.004 | ( 0.005) | | 0.046 |
| 39 | 3.25 | 1.10 | 0.049 | 0.004 | ( 0.005) | | 0.046 |
| 40 | 3.33 | 1.10 | 0.049 | 0.004 | ( 0.005) | | 0.046 |
| 41 | 3.42 | 1.20 | 0.054 | 0.004 | ( 0.005) | | 0.050 |
| 42 | 3.50 | 1.30 | 0.058 | 0.004 | ( 0.006) | | 0.055 |
| 43 | 3.58 | 1.40 | 0.063 | 0.004 | ( 0.006) | | 0.059 |
| 44 | 3.67 | 1.40 | 0.063 | 0.004 | ( 0.006) | | 0.059 |
| 45 | 3.75 | 1.50 | 0.067 | 0.004 | ( 0.007) | | 0.064 |
| 46 | 3.83 | 1.50 | 0.067 | 0.004 | ( 0.007) | | 0.064 |
| 47 | 3.92 | 1.60 | 0.072 | 0.004 | ( 0.007) | | 0.068 |
| 48 | 4.00 | 1.60 | 0.072 | 0.004 | ( 0.007) | | 0.068 |
| 49 | 4.08 | 1.70 | 0.076 | 0.004 | ( 0.008) | | 0.073 |
| 50 | 4.17 | 1.80 | 0.081 | 0.004 | ( 0.008) | | 0.077 |
| 51 | 4.25 | 1.90 | 0.085 | 0.004 | ( 0.009) | | 0.082 |
| 52 | 4.33 | 2.00 | 0.090 | 0.004 | ( 0.009) | | 0.086 |
| 53 | 4.42 | 2.10 | 0.094 | 0.004 | ( 0.009) | | 0.091 |
| 54 | 4.50 | 2.10 | 0.094 | 0.004 | ( 0.009) | | 0.091 |
| 55 | 4.58 | 2.20 | 0.099 | 0.004 | ( 0.010) | | 0.095 |
| 56 | 4.67 | 2.30 | 0.103 | 0.004 | ( 0.010) | | 0.100 |
| 57 | 4.75 | 2.40 | 0.108 | 0.004 | ( 0.011) | | 0.104 |
| 58 | 4.83 | 2.40 | 0.108 | 0.004 | ( 0.011) | | 0.104 |
| 59 | 4.92 | 2.50 | 0.112 | 0.004 | ( 0.011) | | 0.109 |
| 60 | 5.00 | 2.60 | 0.117 | 0.004 | ( 0.012) | | 0.113 |
| 61 | 5.08 | 3.10 | 0.139 | 0.004 | ( 0.014) | | 0.136 |
| 62 | 5.17 | 3.60 | 0.162 | 0.004 | ( 0.016) | | 0.158 |
| 63 | 5.25 | 3.90 | 0.175 | 0.004 | ( 0.018) | | 0.172 |
| 64 | 5.33 | 4.20 | 0.189 | 0.004 | ( 0.019) | | 0.185 |
| 65 | 5.42 | 4.70 | 0.211 | 0.004 | ( 0.021) | | 0.208 |
| 66 | 5.50 | 5.60 | 0.252 | 0.004 | ( 0.025) | | 0.248 |
| 67 | 5.58 | 1.90 | 0.085 | 0.004 | ( 0.009) | | 0.082 |
| 68 | 5.67 | 0.90 | 0.040 | 0.004 | ( 0.004) | | 0.037 |
| 69 | 5.75 | 0.60 | 0.027 | ( 0.004) | | 0.003 | 0.024 |
| 70 | 5.83 | 0.50 | 0.022 | ( 0.004) | | 0.002 | 0.020 |
| 71 | 5.92 | 0.30 | 0.013 | ( 0.004) | | 0.001 | 0.012 |
| 72 | 6.00 | 0.20 | 0.009 | ( 0.004) | | 0.001 | 0.008 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 4.2

Flood volume = Effective rainfall 0.35(In)
times area 108.2(Ac.)/[(In)/(Ft.)] = 3.2(Ac.Ft)
Total soil loss = 0.02(In)
Total soil loss = 0.187(Ac.Ft)
Total rainfall = 0.37(In)
Flood volume = 139095.8 Cubic Feet
Total soil loss = 8136.6 Cubic Feet

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Storm Event 3 Effective Rainfall = 0.475(In)

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.028 | ( 0.004) | 0.003 | 0.026 |
| 2 | 0.17 | 0.60 | 0.034 | ( 0.004) | 0.003 | 0.031 |
| 3 | 0.25 | 0.60 | 0.034 | ( 0.004) | 0.003 | 0.031 |
| 4 | 0.33 | 0.60 | 0.034 | ( 0.004) | 0.003 | 0.031 |
| 5 | 0.42 | 0.60 | 0.034 | ( 0.004) | 0.003 | 0.031 |
| 6 | 0.50 | 0.70 | 0.040 | 0.004 | ( 0.004) | 0.036 |
| 7 | 0.58 | 0.70 | 0.040 | 0.004 | ( 0.004) | 0.036 |
| 8 | 0.67 | 0.70 | 0.040 | 0.004 | ( 0.004) | 0.036 |
| 9 | 0.75 | 0.70 | 0.040 | 0.004 | ( 0.004) | 0.036 |
| 10 | 0.83 | 0.70 | 0.040 | 0.004 | ( 0.004) | 0.036 |
| 11 | 0.92 | 0.70 | 0.040 | 0.004 | ( 0.004) | 0.036 |
| 12 | 1.00 | 0.80 | 0.046 | 0.004 | ( 0.005) | 0.042 |
| 13 | 1.08 | 0.80 | 0.046 | 0.004 | ( 0.005) | 0.042 |
| 14 | 1.17 | 0.80 | 0.046 | 0.004 | ( 0.005) | 0.042 |
| 15 | 1.25 | 0.80 | 0.046 | 0.004 | ( 0.005) | 0.042 |
| 16 | 1.33 | 0.80 | 0.046 | 0.004 | ( 0.005) | 0.042 |
| 17 | 1.42 | 0.80 | 0.046 | 0.004 | ( 0.005) | 0.042 |
| 18 | 1.50 | 0.80 | 0.046 | 0.004 | ( 0.005) | 0.042 |
| 19 | 1.58 | 0.80 | 0.046 | 0.004 | ( 0.005) | 0.042 |
| 20 | 1.67 | 0.80 | 0.046 | 0.004 | ( 0.005) | 0.042 |
| 21 | 1.75 | 0.80 | 0.046 | 0.004 | ( 0.005) | 0.042 |
| 22 | 1.83 | 0.80 | 0.046 | 0.004 | ( 0.005) | 0.042 |
| 23 | 1.92 | 0.80 | 0.046 | 0.004 | ( 0.005) | 0.042 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 24 | 2.00 | 0.90 | 0.051 | 0.004 | ( 0.005) | 0.048 |
| 25 | 2.08 | 0.80 | 0.046 | 0.004 | ( 0.005) | 0.042 |
| 26 | 2.17 | 0.90 | 0.051 | 0.004 | ( 0.005) | 0.048 |
| 27 | 2.25 | 0.90 | 0.051 | 0.004 | ( 0.005) | 0.048 |
| 28 | 2.33 | 0.90 | 0.051 | 0.004 | ( 0.005) | 0.048 |
| 29 | 2.42 | 0.90 | 0.051 | 0.004 | ( 0.005) | 0.048 |
| 30 | 2.50 | 0.90 | 0.051 | 0.004 | ( 0.005) | 0.048 |
| 31 | 2.58 | 0.90 | 0.051 | 0.004 | ( 0.005) | 0.048 |
| 32 | 2.67 | 0.90 | 0.051 | 0.004 | ( 0.005) | 0.048 |
| 33 | 2.75 | 1.00 | 0.057 | 0.004 | ( 0.006) | 0.053 |
| 34 | 2.83 | 1.00 | 0.057 | 0.004 | ( 0.006) | 0.053 |
| 35 | 2.92 | 1.00 | 0.057 | 0.004 | ( 0.006) | 0.053 |
| 36 | 3.00 | 1.00 | 0.057 | 0.004 | ( 0.006) | 0.053 |
| 37 | 3.08 | 1.00 | 0.057 | 0.004 | ( 0.006) | 0.053 |
| 38 | 3.17 | 1.10 | 0.063 | 0.004 | ( 0.006) | 0.059 |
| 39 | 3.25 | 1.10 | 0.063 | 0.004 | ( 0.006) | 0.059 |
| 40 | 3.33 | 1.10 | 0.063 | 0.004 | ( 0.006) | 0.059 |
| 41 | 3.42 | 1.20 | 0.068 | 0.004 | ( 0.007) | 0.065 |
| 42 | 3.50 | 1.30 | 0.074 | 0.004 | ( 0.007) | 0.070 |
| 43 | 3.58 | 1.40 | 0.080 | 0.004 | ( 0.008) | 0.076 |
| 44 | 3.67 | 1.40 | 0.080 | 0.004 | ( 0.008) | 0.076 |
| 45 | 3.75 | 1.50 | 0.085 | 0.004 | ( 0.009) | 0.082 |
| 46 | 3.83 | 1.50 | 0.085 | 0.004 | ( 0.009) | 0.082 |
| 47 | 3.92 | 1.60 | 0.091 | 0.004 | ( 0.009) | 0.087 |
| 48 | 4.00 | 1.60 | 0.091 | 0.004 | ( 0.009) | 0.087 |
| 49 | 4.08 | 1.70 | 0.097 | 0.004 | ( 0.010) | 0.093 |
| 50 | 4.17 | 1.80 | 0.103 | 0.004 | ( 0.010) | 0.099 |
| 51 | 4.25 | 1.90 | 0.108 | 0.004 | ( 0.011) | 0.105 |
| 52 | 4.33 | 2.00 | 0.114 | 0.004 | ( 0.011) | 0.110 |
| 53 | 4.42 | 2.10 | 0.120 | 0.004 | ( 0.012) | 0.116 |
| 54 | 4.50 | 2.10 | 0.120 | 0.004 | ( 0.012) | 0.116 |
| 55 | 4.58 | 2.20 | 0.125 | 0.004 | ( 0.013) | 0.122 |
| 56 | 4.67 | 2.30 | 0.131 | 0.004 | ( 0.013) | 0.127 |
| 57 | 4.75 | 2.40 | 0.137 | 0.004 | ( 0.014) | 0.133 |
| 58 | 4.83 | 2.40 | 0.137 | 0.004 | ( 0.014) | 0.133 |
| 59 | 4.92 | 2.50 | 0.142 | 0.004 | ( 0.014) | 0.139 |
| 60 | 5.00 | 2.60 | 0.148 | 0.004 | ( 0.015) | 0.144 |
| 61 | 5.08 | 3.10 | 0.177 | 0.004 | ( 0.018) | 0.173 |
| 62 | 5.17 | 3.60 | 0.205 | 0.004 | ( 0.021) | 0.201 |
| 63 | 5.25 | 3.90 | 0.222 | 0.004 | ( 0.022) | 0.219 |
| 64 | 5.33 | 4.20 | 0.239 | 0.004 | ( 0.024) | 0.236 |
| 65 | 5.42 | 4.70 | 0.268 | 0.004 | ( 0.027) | 0.264 |
| 66 | 5.50 | 5.60 | 0.319 | 0.004 | ( 0.032) | 0.315 |
| 67 | 5.58 | 1.90 | 0.108 | 0.004 | ( 0.011) | 0.105 |
| 68 | 5.67 | 0.90 | 0.051 | 0.004 | ( 0.005) | 0.048 |
| 69 | 5.75 | 0.60 | 0.034 | ( 0.004) | 0.003 | 0.031 |
| 70 | 5.83 | 0.50 | 0.028 | ( 0.004) | 0.003 | 0.026 |
| 71 | 5.92 | 0.30 | 0.017 | ( 0.004) | 0.002 | 0.015 |
| 72 | 6.00 | 0.20 | 0.011 | ( 0.004) | 0.001 | 0.010 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 5.4

Flood volume = Effective rainfall 0.45(In)
times area 108.2(Ac.)/[(In)/(Ft.)] = 4.1(Ac.Ft)
Total soil loss = 0.02(In)
Total soil loss = 0.194(Ac.Ft)
Total rainfall = 0.47(In)
Flood volume = 178031.5 Cubic Feet
Total soil loss = 8462.9 Cubic Feet

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Storm Event 2 Effective Rainfall = 0.900(In)

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.054 | 0.004 | ( | 0.005) | 0.050 |
| 2 | 0.17 | 0.60 | 0.065 | 0.004 | ( | 0.006) | 0.061 |
| 3 | 0.25 | 0.60 | 0.065 | 0.004 | ( | 0.006) | 0.061 |
| 4 | 0.33 | 0.60 | 0.065 | 0.004 | ( | 0.006) | 0.061 |
| 5 | 0.42 | 0.60 | 0.065 | 0.004 | ( | 0.006) | 0.061 |
| 6 | 0.50 | 0.70 | 0.076 | 0.004 | ( | 0.008) | 0.072 |
| 7 | 0.58 | 0.70 | 0.076 | 0.004 | ( | 0.008) | 0.072 |
| 8 | 0.67 | 0.70 | 0.076 | 0.004 | ( | 0.008) | 0.072 |
| 9 | 0.75 | 0.70 | 0.076 | 0.004 | ( | 0.008) | 0.072 |
| 10 | 0.83 | 0.70 | 0.076 | 0.004 | ( | 0.008) | 0.072 |
| 11 | 0.92 | 0.70 | 0.076 | 0.004 | ( | 0.008) | 0.072 |
| 12 | 1.00 | 0.80 | 0.086 | 0.004 | ( | 0.009) | 0.083 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 13 | 1.08 | 0.80 | 0.086 | 0.004 | ( 0.009) | 0.083 |
| 14 | 1.17 | 0.80 | 0.086 | 0.004 | ( 0.009) | 0.083 |
| 15 | 1.25 | 0.80 | 0.086 | 0.004 | ( 0.009) | 0.083 |
| 16 | 1.33 | 0.80 | 0.086 | 0.004 | ( 0.009) | 0.083 |
| 17 | 1.42 | 0.80 | 0.086 | 0.004 | ( 0.009) | 0.083 |
| 18 | 1.50 | 0.80 | 0.086 | 0.004 | ( 0.009) | 0.083 |
| 19 | 1.58 | 0.80 | 0.086 | 0.004 | ( 0.009) | 0.083 |
| 20 | 1.67 | 0.80 | 0.086 | 0.004 | ( 0.009) | 0.083 |
| 21 | 1.75 | 0.80 | 0.086 | 0.004 | ( 0.009) | 0.083 |
| 22 | 1.83 | 0.80 | 0.086 | 0.004 | ( 0.009) | 0.083 |
| 23 | 1.92 | 0.80 | 0.086 | 0.004 | ( 0.009) | 0.083 |
| 24 | 2.00 | 0.90 | 0.097 | 0.004 | ( 0.010) | 0.093 |
| 25 | 2.08 | 0.80 | 0.086 | 0.004 | ( 0.009) | 0.083 |
| 26 | 2.17 | 0.90 | 0.097 | 0.004 | ( 0.010) | 0.093 |
| 27 | 2.25 | 0.90 | 0.097 | 0.004 | ( 0.010) | 0.093 |
| 28 | 2.33 | 0.90 | 0.097 | 0.004 | ( 0.010) | 0.093 |
| 29 | 2.42 | 0.90 | 0.097 | 0.004 | ( 0.010) | 0.093 |
| 30 | 2.50 | 0.90 | 0.097 | 0.004 | ( 0.010) | 0.093 |
| 31 | 2.58 | 0.90 | 0.097 | 0.004 | ( 0.010) | 0.093 |
| 32 | 2.67 | 0.90 | 0.097 | 0.004 | ( 0.010) | 0.093 |
| 33 | 2.75 | 1.00 | 0.108 | 0.004 | ( 0.011) | 0.104 |
| 34 | 2.83 | 1.00 | 0.108 | 0.004 | ( 0.011) | 0.104 |
| 35 | 2.92 | 1.00 | 0.108 | 0.004 | ( 0.011) | 0.104 |
| 36 | 3.00 | 1.00 | 0.108 | 0.004 | ( 0.011) | 0.104 |
| 37 | 3.08 | 1.00 | 0.108 | 0.004 | ( 0.011) | 0.104 |
| 38 | 3.17 | 1.10 | 0.119 | 0.004 | ( 0.012) | 0.115 |
| 39 | 3.25 | 1.10 | 0.119 | 0.004 | ( 0.012) | 0.115 |
| 40 | 3.33 | 1.10 | 0.119 | 0.004 | ( 0.012) | 0.115 |
| 41 | 3.42 | 1.20 | 0.130 | 0.004 | ( 0.013) | 0.126 |
| 42 | 3.50 | 1.30 | 0.140 | 0.004 | ( 0.014) | 0.137 |
| 43 | 3.58 | 1.40 | 0.151 | 0.004 | ( 0.015) | 0.147 |
| 44 | 3.67 | 1.40 | 0.151 | 0.004 | ( 0.015) | 0.147 |
| 45 | 3.75 | 1.50 | 0.162 | 0.004 | ( 0.016) | 0.158 |
| 46 | 3.83 | 1.50 | 0.162 | 0.004 | ( 0.016) | 0.158 |
| 47 | 3.92 | 1.60 | 0.173 | 0.004 | ( 0.017) | 0.169 |
| 48 | 4.00 | 1.60 | 0.173 | 0.004 | ( 0.017) | 0.169 |
| 49 | 4.08 | 1.70 | 0.184 | 0.004 | ( 0.018) | 0.180 |
| 50 | 4.17 | 1.80 | 0.194 | 0.004 | ( 0.019) | 0.191 |
| 51 | 4.25 | 1.90 | 0.205 | 0.004 | ( 0.021) | 0.201 |
| 52 | 4.33 | 2.00 | 0.216 | 0.004 | ( 0.022) | 0.212 |
| 53 | 4.42 | 2.10 | 0.227 | 0.004 | ( 0.023) | 0.223 |
| 54 | 4.50 | 2.10 | 0.227 | 0.004 | ( 0.023) | 0.223 |
| 55 | 4.58 | 2.20 | 0.238 | 0.004 | ( 0.024) | 0.234 |
| 56 | 4.67 | 2.30 | 0.248 | 0.004 | ( 0.025) | 0.245 |
| 57 | 4.75 | 2.40 | 0.259 | 0.004 | ( 0.026) | 0.255 |
| 58 | 4.83 | 2.40 | 0.259 | 0.004 | ( 0.026) | 0.255 |
| 59 | 4.92 | 2.50 | 0.270 | 0.004 | ( 0.027) | 0.266 |
| 60 | 5.00 | 2.60 | 0.281 | 0.004 | ( 0.028) | 0.277 |
| 61 | 5.08 | 3.10 | 0.335 | 0.004 | ( 0.033) | 0.331 |
| 62 | 5.17 | 3.60 | 0.389 | 0.004 | ( 0.039) | 0.385 |
| 63 | 5.25 | 3.90 | 0.421 | 0.004 | ( 0.042) | 0.417 |
| 64 | 5.33 | 4.20 | 0.453 | 0.004 | ( 0.045) | 0.450 |
| 65 | 5.42 | 4.70 | 0.507 | 0.004 | ( 0.051) | 0.504 |
| 66 | 5.50 | 5.60 | 0.605 | 0.004 | ( 0.060) | 0.601 |
| 67 | 5.58 | 1.90 | 0.205 | 0.004 | ( 0.021) | 0.201 |
| 68 | 5.67 | 0.90 | 0.097 | 0.004 | ( 0.010) | 0.093 |
| 69 | 5.75 | 0.60 | 0.065 | 0.004 | ( 0.006) | 0.061 |
| 70 | 5.83 | 0.50 | 0.054 | 0.004 | ( 0.005) | 0.050 |
| 71 | 5.92 | 0.30 | 0.032 | ( 0.004) | 0.003 | 0.029 |
| 72 | 6.00 | 0.20 | 0.022 | ( 0.004) | 0.002 | 0.019 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 10.5

Flood volume = Effective rainfall 0.88(In)
times area 108.2(Ac.)/[(In)/(Ft.)] = 7.9(Ac.Ft)
Total soil loss = 0.02(In)
Total soil loss = 0.199(Ac.Ft)
Total rainfall = 0.90(In)
Flood volume = 344710.5 Cubic Feet
Total soil loss = 8647.5 Cubic Feet

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Storm Event 1 Effective Rainfall = 2.499(In)

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | 0.004 | ( 0.015) | 0.146 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 2 | 0.17 | 0.60 | 0.180 | 0.004 | ( 0.018) | 0.176 |
| 3 | 0.25 | 0.60 | 0.180 | 0.004 | ( 0.018) | 0.176 |
| 4 | 0.33 | 0.60 | 0.180 | 0.004 | ( 0.018) | 0.176 |
| 5 | 0.42 | 0.60 | 0.180 | 0.004 | ( 0.018) | 0.176 |
| 6 | 0.50 | 0.70 | 0.210 | 0.004 | ( 0.021) | 0.206 |
| 7 | 0.58 | 0.70 | 0.210 | 0.004 | ( 0.021) | 0.206 |
| 8 | 0.67 | 0.70 | 0.210 | 0.004 | ( 0.021) | 0.206 |
| 9 | 0.75 | 0.70 | 0.210 | 0.004 | ( 0.021) | 0.206 |
| 10 | 0.83 | 0.70 | 0.210 | 0.004 | ( 0.021) | 0.206 |
| 11 | 0.92 | 0.70 | 0.210 | 0.004 | ( 0.021) | 0.206 |
| 12 | 1.00 | 0.80 | 0.240 | 0.004 | ( 0.024) | 0.236 |
| 13 | 1.08 | 0.80 | 0.240 | 0.004 | ( 0.024) | 0.236 |
| 14 | 1.17 | 0.80 | 0.240 | 0.004 | ( 0.024) | 0.236 |
| 15 | 1.25 | 0.80 | 0.240 | 0.004 | ( 0.024) | 0.236 |
| 16 | 1.33 | 0.80 | 0.240 | 0.004 | ( 0.024) | 0.236 |
| 17 | 1.42 | 0.80 | 0.240 | 0.004 | ( 0.024) | 0.236 |
| 18 | 1.50 | 0.80 | 0.240 | 0.004 | ( 0.024) | 0.236 |
| 19 | 1.58 | 0.80 | 0.240 | 0.004 | ( 0.024) | 0.236 |
| 20 | 1.67 | 0.80 | 0.240 | 0.004 | ( 0.024) | 0.236 |
| 21 | 1.75 | 0.80 | 0.240 | 0.004 | ( 0.024) | 0.236 |
| 22 | 1.83 | 0.80 | 0.240 | 0.004 | ( 0.024) | 0.236 |
| 23 | 1.92 | 0.80 | 0.240 | 0.004 | ( 0.024) | 0.236 |
| 24 | 2.00 | 0.90 | 0.270 | 0.004 | ( 0.027) | 0.266 |
| 25 | 2.08 | 0.80 | 0.240 | 0.004 | ( 0.024) | 0.236 |
| 26 | 2.17 | 0.90 | 0.270 | 0.004 | ( 0.027) | 0.266 |
| 27 | 2.25 | 0.90 | 0.270 | 0.004 | ( 0.027) | 0.266 |
| 28 | 2.33 | 0.90 | 0.270 | 0.004 | ( 0.027) | 0.266 |
| 29 | 2.42 | 0.90 | 0.270 | 0.004 | ( 0.027) | 0.266 |
| 30 | 2.50 | 0.90 | 0.270 | 0.004 | ( 0.027) | 0.266 |
| 31 | 2.58 | 0.90 | 0.270 | 0.004 | ( 0.027) | 0.266 |
| 32 | 2.67 | 0.90 | 0.270 | 0.004 | ( 0.027) | 0.266 |
| 33 | 2.75 | 1.00 | 0.300 | 0.004 | ( 0.030) | 0.296 |
| 34 | 2.83 | 1.00 | 0.300 | 0.004 | ( 0.030) | 0.296 |
| 35 | 2.92 | 1.00 | 0.300 | 0.004 | ( 0.030) | 0.296 |
| 36 | 3.00 | 1.00 | 0.300 | 0.004 | ( 0.030) | 0.296 |
| 37 | 3.08 | 1.00 | 0.300 | 0.004 | ( 0.030) | 0.296 |
| 38 | 3.17 | 1.10 | 0.330 | 0.004 | ( 0.033) | 0.326 |
| 39 | 3.25 | 1.10 | 0.330 | 0.004 | ( 0.033) | 0.326 |
| 40 | 3.33 | 1.10 | 0.330 | 0.004 | ( 0.033) | 0.326 |
| 41 | 3.42 | 1.20 | 0.360 | 0.004 | ( 0.036) | 0.356 |
| 42 | 3.50 | 1.30 | 0.390 | 0.004 | ( 0.039) | 0.386 |
| 43 | 3.58 | 1.40 | 0.420 | 0.004 | ( 0.042) | 0.416 |
| 44 | 3.67 | 1.40 | 0.420 | 0.004 | ( 0.042) | 0.416 |
| 45 | 3.75 | 1.50 | 0.450 | 0.004 | ( 0.045) | 0.446 |
| 46 | 3.83 | 1.50 | 0.450 | 0.004 | ( 0.045) | 0.446 |
| 47 | 3.92 | 1.60 | 0.480 | 0.004 | ( 0.048) | 0.476 |
| 48 | 4.00 | 1.60 | 0.480 | 0.004 | ( 0.048) | 0.476 |
| 49 | 4.08 | 1.70 | 0.510 | 0.004 | ( 0.051) | 0.506 |
| 50 | 4.17 | 1.80 | 0.540 | 0.004 | ( 0.054) | 0.536 |
| 51 | 4.25 | 1.90 | 0.570 | 0.004 | ( 0.057) | 0.566 |
| 52 | 4.33 | 2.00 | 0.600 | 0.004 | ( 0.060) | 0.596 |
| 53 | 4.42 | 2.10 | 0.630 | 0.004 | ( 0.063) | 0.626 |
| 54 | 4.50 | 2.10 | 0.630 | 0.004 | ( 0.063) | 0.626 |
| 55 | 4.58 | 2.20 | 0.660 | 0.004 | ( 0.066) | 0.656 |
| 56 | 4.67 | 2.30 | 0.690 | 0.004 | ( 0.069) | 0.686 |
| 57 | 4.75 | 2.40 | 0.720 | 0.004 | ( 0.072) | 0.716 |
| 58 | 4.83 | 2.40 | 0.720 | 0.004 | ( 0.072) | 0.716 |
| 59 | 4.92 | 2.50 | 0.750 | 0.004 | ( 0.075) | 0.746 |
| 60 | 5.00 | 2.60 | 0.780 | 0.004 | ( 0.078) | 0.776 |
| 61 | 5.08 | 3.10 | 0.930 | 0.004 | ( 0.093) | 0.926 |
| 62 | 5.17 | 3.60 | 1.080 | 0.004 | ( 0.108) | 1.076 |
| 63 | 5.25 | 3.90 | 1.170 | 0.004 | ( 0.117) | 1.166 |
| 64 | 5.33 | 4.20 | 1.260 | 0.004 | ( 0.126) | 1.256 |
| 65 | 5.42 | 4.70 | 1.409 | 0.004 | ( 0.141) | 1.406 |
| 66 | 5.50 | 5.60 | 1.679 | 0.004 | ( 0.168) | 1.676 |
| 67 | 5.58 | 1.90 | 0.570 | 0.004 | ( 0.057) | 0.566 |
| 68 | 5.67 | 0.90 | 0.270 | 0.004 | ( 0.027) | 0.266 |
| 69 | 5.75 | 0.60 | 0.180 | 0.004 | ( 0.018) | 0.176 |
| 70 | 5.83 | 0.50 | 0.150 | 0.004 | ( 0.015) | 0.146 |
| 71 | 5.92 | 0.30 | 0.090 | 0.004 | ( 0.009) | 0.086 |
| 72 | 6.00 | 0.20 | 0.060 | 0.004 | ( 0.006) | 0.056 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 29.7

Flood volume = Effective rainfall 2.48(In)
times area 108.2(Ac.)/[(In)/(Ft.)] = 22.3(Ac.Ft)
Total soil loss = 0.02(In)
Total soil loss = 0.200(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 972837.0 Cubic Feet

Total soil loss = 8712.8 Cubic Feet

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Peak flow rate of this hydrograph = 155.397(CFS)

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TOTAL OF: 5 6 - H O U R S T O R M E V E N T S

R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

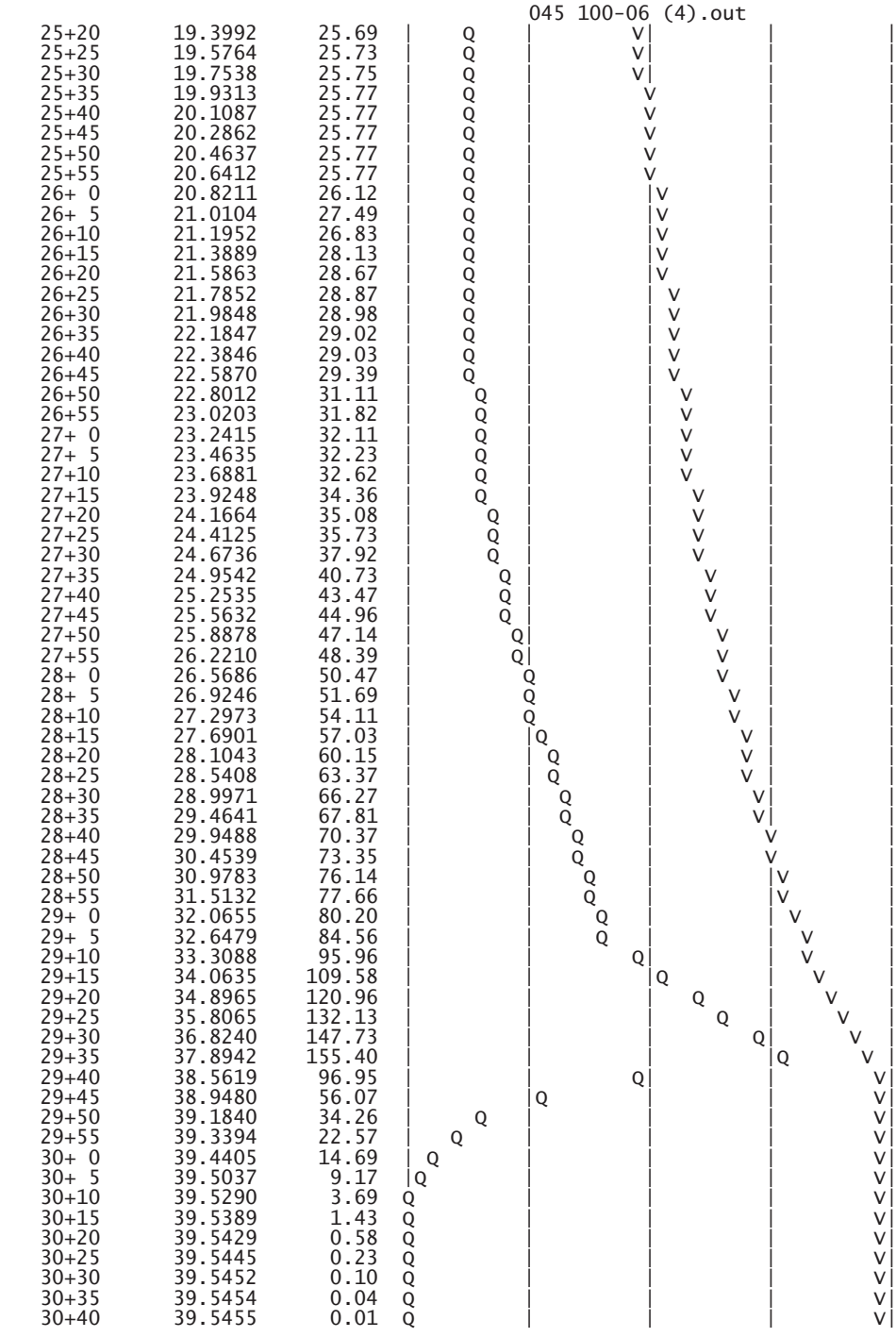
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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 50.0 | 100.0 | 150.0 | 200.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0011 | 0.16 | Q | | | | |
| 0+10 | 0.0077 | 0.96 | Q | | | | |
| 0+15 | 0.0176 | 1.43 | Q | | | | |
| 0+20 | 0.0288 | 1.63 | Q | | | | |
| 0+25 | 0.0406 | 1.71 | Q | | | | |
| 0+30 | 0.0528 | 1.77 | Q | | | | |
| 0+35 | 0.0661 | 1.94 | Q | | | | |
| 0+40 | 0.0800 | 2.01 | Q | | | | |
| 0+45 | 0.0941 | 2.04 | Q | | | | |
| 0+50 | 0.1082 | 2.05 | Q | | | | |
| 0+55 | 0.1224 | 2.06 | Q | | | | |
| 1+ 0 | 0.1368 | 2.09 | Q | | | | |
| 1+ 5 | 0.1523 | 2.25 | Q | | | | |
| 1+10 | 0.1682 | 2.31 | Q | | | | |
| 1+15 | 0.1843 | 2.34 | Q | | | | |
| 1+20 | 0.2005 | 2.35 | Q | | | | |
| 1+25 | 0.2167 | 2.35 | Q | | | | |
| 1+30 | 0.2329 | 2.35 | Q | | | | |
| 1+35 | 0.2491 | 2.36 | Q | | | | |
| 1+40 | 0.2653 | 2.36 | Q | | | | |
| 1+45 | 0.2815 | 2.36 | Q | | | | |
| 1+50 | 0.2978 | 2.36 | Q | | | | |
| 1+55 | 0.3140 | 2.36 | Q | | | | |
| 2+ 0 | 0.3304 | 2.39 | Q | | | | |
| 2+ 5 | 0.3477 | 2.51 | Q | | | | |
| 2+10 | 0.3646 | 2.45 | Q | | | | |
| 2+15 | 0.3823 | 2.57 | Q | | | | |
| 2+20 | 0.4003 | 2.62 | Q | | | | |
| 2+25 | 0.4184 | 2.63 | Q | | | | |
| 2+30 | 0.4367 | 2.64 | Q | | | | |
| 2+35 | 0.4549 | 2.65 | Q | | | | |
| 2+40 | 0.4731 | 2.65 | Q | | | | |
| 2+45 | 0.4916 | 2.68 | Q | | | | |
| 2+50 | 0.5111 | 2.84 | Q | | | | |
| 2+55 | 0.5311 | 2.90 | Q | | | | |
| 3+ 0 | 0.5513 | 2.93 | Q | | | | |
| 3+ 5 | 0.5715 | 2.94 | Q | | | | |
| 3+10 | 0.5920 | 2.97 | Q | | | | |
| 3+15 | 0.6135 | 3.13 | Q | | | | |
| 3+20 | 0.6355 | 3.19 | Q | | | | |
| 3+25 | 0.6579 | 3.25 | Q | | | | |
| 3+30 | 0.6817 | 3.45 | Q | | | | |
| 3+35 | 0.7073 | 3.72 | Q | | | | |
| 3+40 | 0.7347 | 3.99 | Q | | | | |
| 3+45 | 0.7632 | 4.13 | Q | | | | |
| 3+50 | 0.7932 | 4.35 | Q | | | | |
| 3+55 | 0.8240 | 4.48 | Q | | | | |
| 4+ 0 | 0.8563 | 4.68 | Q | | | | |
| 4+ 5 | 0.8894 | 4.81 | Q | | | | |
| 4+10 | 0.9241 | 5.05 | VQ | | | | |
| 4+15 | 0.9609 | 5.34 | VQ | | | | |
| 4+20 | 0.9998 | 5.65 | \|Q | | | | |
| 4+25 | 1.0410 | 5.97 | \|Q | | | | |
| 4+30 | 1.0841 | 6.26 | \|Q | | | | |
| 4+35 | 1.1283 | 6.42 | \|Q | | | | |
| 4+40 | 1.1743 | 6.67 | \|Q | | | | |
| 4+45 | 1.2223 | 6.97 | \|Q | | | | |
| 4+50 | 1.2722 | 7.25 | \|Q | | | | |
| 4+55 | 1.3232 | 7.40 | \|Q | | | | |
| 5+ 0 | 1.3760 | 7.66 | \|Q | | | | |
| 5+ 5 | 1.4317 | 8.09 | \|Q | | | | |
| 5+10 | 1.4953 | 9.23 | \|Q | | | | |
| 5+15 | 1.5683 | 10.60 | \|VQ | | | | |
| 5+20 | 1.6491 | 11.73 | \|VQ | | | | |
| 5+25 | 1.7376 | 12.85 | \|VQ | | | | |
| 5+30 | 1.8368 | 14.41 | \|VQ | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 5+35 | 1.9413 | 15.18 | \|V Q | \| | \| | \| |
| 5+40 | 2.0057 | 9.34 | \|QV | \| | \| | \| |
| 5+45 | 2.0423 | 5.32 | \|QV | \| | \| | \| |
| 5+50 | 2.0645 | 3.22 | Q V | \| | \| | \| |
| 5+55 | 2.0790 | 2.11 | Q V | \| | \| | \| |
| 6+ 0 | 2.0885 | 1.38 | Q V | \| | \| | \| |
| 6+ 5 | 2.0901 | 0.24 | Q V | \| | \| | \| |
| 6+10 | 2.1000 | 1.44 | Q V | \| | \| | \| |
| 6+15 | 2.1148 | 2.15 | Q V | \| | \| | \| |
| 6+20 | 2.1317 | 2.44 | Q V | \| | \| | \| |
| 6+25 | 2.1493 | 2.57 | Q V | \| | \| | \| |
| 6+30 | 2.1677 | 2.66 | Q V | \| | \| | \| |
| 6+35 | 2.1877 | 2.91 | Q V | \| | \| | \| |
| 6+40 | 2.2085 | 3.02 | Q V | \| | \| | \| |
| 6+45 | 2.2296 | 3.06 | Q V | \| | \| | \| |
| 6+50 | 2.2508 | 3.08 | Q V | \| | \| | \| |
| 6+55 | 2.2721 | 3.09 | Q V | \| | \| | \| |
| 7+ 0 | 2.2937 | 3.14 | Q V | \| | \| | \| |
| 7+ 5 | 2.3169 | 3.37 | Q V | \| | \| | \| |
| 7+10 | 2.3408 | 3.47 | Q V | \| | \| | \| |
| 7+15 | 2.3649 | 3.51 | Q V | \| | \| | \| |
| 7+20 | 2.3892 | 3.52 | Q V | \| | \| | \| |
| 7+25 | 2.4135 | 3.53 | Q V | \| | \| | \| |
| 7+30 | 2.4378 | 3.53 | Q V | \| | \| | \| |
| 7+35 | 2.4621 | 3.53 | Q V | \| | \| | \| |
| 7+40 | 2.4865 | 3.53 | Q V | \| | \| | \| |
| 7+45 | 2.5108 | 3.53 | Q V | \| | \| | \| |
| 7+50 | 2.5351 | 3.53 | Q V | \| | \| | \| |
| 7+55 | 2.5595 | 3.53 | Q V | \| | \| | \| |
| 8+ 0 | 2.5842 | 3.58 | Q V | \| | \| | \| |
| 8+ 5 | 2.6102 | 3.79 | Q V | \| | \| | \| |
| 8+10 | 2.6356 | 3.69 | Q V | \| | \| | \| |
| 8+15 | 2.6623 | 3.88 | Q V | \| | \| | \| |
| 8+20 | 2.6896 | 3.96 | Q V | \| | \| | \| |
| 8+25 | 2.7171 | 3.99 | Q V | \| | \| | \| |
| 8+30 | 2.7447 | 4.01 | Q V | \| | \| | \| |
| 8+35 | 2.7723 | 4.01 | Q V | \| | \| | \| |
| 8+40 | 2.7999 | 4.01 | Q V | \| | \| | \| |
| 8+45 | 2.8279 | 4.07 | Q V | \| | \| | \| |
| 8+50 | 2.8577 | 4.32 | Q V | \| | \| | \| |
| 8+55 | 2.8882 | 4.43 | Q V | \| | \| | \| |
| 9+ 0 | 2.9190 | 4.47 | Q V | \| | \| | \| |
| 9+ 5 | 2.9499 | 4.49 | Q V | \| | \| | \| |
| 9+10 | 2.9813 | 4.55 | Q  V | \| | \| | \| |
| 9+15 | 3.0144 | 4.81 | Q  V | \| | \| | \| |
| 9+20 | 3.0483 | 4.92 | Q  V | \| | \| | \| |
| 9+25 | 3.0828 | 5.02 | \|Q V | \| | \| | \| |
| 9+30 | 3.1197 | 5.35 | \|Q V | \| | \| | \| |
| 9+35 | 3.1594 | 5.77 | \|Q V | \| | \| | \| |
| 9+40 | 3.2019 | 6.18 | \|Q V | \| | \| | \| |
| 9+45 | 3.2460 | 6.40 | \|Q V | \| | \| | \| |
| 9+50 | 3.2923 | 6.73 | \|Q V | \| | \| | \| |
| 9+55 | 3.3400 | 6.92 | \|Q V | \| | \| | \| |
| 10+ 0 | 3.3897 | 7.23 | \|Q V | \| | \| | \| |
| 10+ 5 | 3.4408 | 7.41 | \|Q V | \| | \| | \| |
| 10+10 | 3.4943 | 7.77 | \|Q V | \| | \| | \| |
| 10+15 | 3.5509 | 8.21 | \|Q V | \| | \| | \| |
| 10+20 | 3.6106 | 8.68 | \|Q V | \| | \| | \| |
| 10+25 | 3.6737 | 9.16 | \|Q V | \| | \| | \| |
| 10+30 | 3.7398 | 9.60 | \|Q V | \| | \| | \| |
| 10+35 | 3.8075 | 9.83 | \|Q V | \| | \| | \| |
| 10+40 | 3.8779 | 10.21 | \| QV | \| | \| | \| |
| 10+45 | 3.9513 | 10.66 | \| QV | \| | \| | \| |
| 10+50 | 4.0276 | 11.08 | \| Q V | \| | \| | \| |
| 10+55 | 4.1054 | 11.31 | \| Q V | \| | \| | \| |
| 11+ 0 | 4.1859 | 11.69 | \| Q V | \| | \| | \| |
| 11+ 5 | 4.2709 | 12.34 | \| Q V | \| | \| | \| |
| 11+10 | 4.3677 | 14.05 | \| Q V | \| | \| | \| |
| 11+15 | 4.4785 | 16.09 | \|  QV | \| | \| | \| |
| 11+20 | 4.6011 | 17.80 | \|  QV | \| | \| | \| |
| 11+25 | 4.7353 | 19.48 | \|  QV | \| | \| | \| |
| 11+30 | 4.8855 | 21.82 | \|   Q | \| | \| | \| |
| 11+35 | 5.0437 | 22.97 | \|   QV | \| | \| | \| |
| 11+40 | 5.1415 | 14.20 | \| Q  V | \| | \| | \| |
| 11+45 | 5.1971 | 8.08 | \|Q   V | \| | \| | \| |
| 11+50 | 5.2307 | 4.87 | Q    V | \| | \| | \| |
| 11+55 | 5.2525 | 3.18 | Q    V | \| | \| | \| |
| 12+ 0 | 5.2668 | 2.07 | Q    V | \| | \| | \| |
| 12+ 5 | 5.2689 | 0.30 | Q    V | \| | \| | \| |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12+10 | 5.2814 | 1.82 | Q V | \| | \| | \| | \| |
| 12+15 | 5.3002 | 2.72 | Q V | \| | \| | \| | \| |
| 12+20 | 5.3215 | 3.09 | Q V | \| | \| | \| | \| |
| 12+25 | 5.3439 | 3.25 | Q V | \| | \| | \| | \| |
| 12+30 | 5.3671 | 3.37 | Q V | \| | \| | \| | \| |
| 12+35 | 5.3926 | 3.71 | Q V | \| | \| | \| | \| |
| 12+40 | 5.4192 | 3.85 | Q V | \| | \| | \| | \| |
| 12+45 | 5.4461 | 3.91 | Q V | \| | \| | \| | \| |
| 12+50 | 5.4732 | 3.93 | Q V | \| | \| | \| | \| |
| 12+55 | 5.5003 | 3.94 | Q V | \| | \| | \| | \| |
| 13+ 0 | 5.5280 | 4.01 | Q V | \| | \| | \| | \| |
| 13+ 5 | 5.5579 | 4.34 | Q V | \| | \| | \| | \| |
| 13+10 | 5.5887 | 4.47 | Q V | \| | \| | \| | \| |
| 13+15 | 5.6199 | 4.53 | Q V | \| | \| | \| | \| |
| 13+20 | 5.6512 | 4.55 | Q V | \| | \| | \| | \| |
| 13+25 | 5.6827 | 4.56 | Q V | \| | \| | \| | \| |
| 13+30 | 5.7141 | 4.57 | Q V | \| | \| | \| | \| |
| 13+35 | 5.7456 | 4.57 | Q V | \| | \| | \| | \| |
| 13+40 | 5.7770 | 4.57 | Q V | \| | \| | \| | \| |
| 13+45 | 5.8085 | 4.57 | Q V | \| | \| | \| | \| |
| 13+50 | 5.8400 | 4.57 | Q V | \| | \| | \| | \| |
| 13+55 | 5.8715 | 4.57 | Q V | \| | \| | \| | \| |
| 14+ 0 | 5.9034 | 4.64 | Q V | \| | \| | \| | \| |
| 14+ 5 | 5.9371 | 4.90 | Q V | \| | \| | \| | \| |
| 14+10 | 5.9700 | 4.77 | Q V | \| | \| | \| | \| |
| 14+15 | 6.0045 | 5.02 | \|Q V | \| | \| | \| | \| |
| 14+20 | 6.0398 | 5.12 | \|Q V | \| | \| | \| | \| |
| 14+25 | 6.0753 | 5.16 | \|Q V | \| | \| | \| | \| |
| 14+30 | 6.1110 | 5.18 | \|Q V | \| | \| | \| | \| |
| 14+35 | 6.1467 | 5.19 | \|Q V | \| | \| | \| | \| |
| 14+40 | 6.1825 | 5.19 | \|Q V | \| | \| | \| | \| |
| 14+45 | 6.2187 | 5.26 | \|Q V | \| | \| | \| | \| |
| 14+50 | 6.2571 | 5.58 | \|Q V | \| | \| | \| | \| |
| 14+55 | 6.2965 | 5.72 | \|Q V | \| | \| | \| | \| |
| 15+ 0 | 6.3363 | 5.77 | \|Q V | \| | \| | \| | \| |
| 15+ 5 | 6.3762 | 5.80 | \|Q V | \| | \| | \| | \| |
| 15+10 | 6.4166 | 5.87 | \|Q V | \| | \| | \| | \| |
| 15+15 | 6.4593 | 6.20 | \|Q V | \| | \| | \| | \| |
| 15+20 | 6.5030 | 6.34 | \|Q V | \| | \| | \| | \| |
| 15+25 | 6.5475 | 6.46 | \|Q V | \| | \| | \| | \| |
| 15+30 | 6.5949 | 6.88 | \|Q V | \| | \| | \| | \| |
| 15+35 | 6.6459 | 7.41 | \|Q V | \| | \| | \| | \| |
| 15+40 | 6.7006 | 7.93 | \|Q V | \| | \| | \| | \| |
| 15+45 | 6.7571 | 8.22 | \|Q V | \| | \| | \| | \| |
| 15+50 | 6.8166 | 8.63 | \|Q V | \| | \| | \| | \| |
| 15+55 | 6.8776 | 8.87 | \|Q V | \| | \| | \| | \| |
| 16+ 0 | 6.9414 | 9.26 | \|Q V | \| | \| | \| | \| |
| 16+ 5 | 7.0068 | 9.50 | \|Q V | \| | \| | \| | \| |
| 16+10 | 7.0754 | 9.95 | \|Q V | \| | \| | \| | \| |
| 16+15 | 7.1477 | 10.51 | \| Q V | \| | \| | \| | \| |
| 16+20 | 7.2242 | 11.10 | \| Q V | \| | \| | \| | \| |
| 16+25 | 7.3049 | 11.71 | \| Q V | \| | \| | \| | \| |
| 16+30 | 7.3893 | 12.26 | \| Q V | \| | \| | \| | \| |
| 16+35 | 7.4758 | 12.56 | \| Q V | \| | \| | \| | \| |
| 16+40 | 7.5656 | 13.04 | \| Q V | \| | \| | \| | \| |
| 16+45 | 7.6594 | 13.61 | \| Q V | \| | \| | \| | \| |
| 16+50 | 7.7568 | 14.14 | \| Q V | \| | \| | \| | \| |
| 16+55 | 7.8561 | 14.43 | \| Q V | \| | \| | \| | \| |
| 17+ 0 | 7.9588 | 14.91 | \| Q V | \| | \| | \| | \| |
| 17+ 5 | 8.0672 | 15.74 | \| Q V | \| | \| | \| | \| |
| 17+10 | 8.1906 | 17.91 | \| Q V | \| | \| | \| | \| |
| 17+15 | 8.3317 | 20.49 | \| Q V | \| | \| | \| | \| |
| 17+20 | 8.4877 | 22.65 | \| Q V | \| | \| | \| | \| |
| 17+25 | 8.6584 | 24.78 | \| Q V | \| | \| | \| | \| |
| 17+30 | 8.8494 | 27.74 | \| Q V | \| | \| | \| | \| |
| 17+35 | 9.0505 | 29.20 | \| Q V\| | \| | \| | \| | \| |
| 17+40 | 9.1751 | 18.09 | \| Q V\| | \| | \| | \| | \| |
| 17+45 | 9.2463 | 10.33 | \| Q V\| | \| | \| | \| | \| |
| 17+50 | 9.2890 | 6.21 | \|Q V\| | \| | \| | \| | \| |
| 17+55 | 9.3168 | 4.04 | Q V\| | \| | \| | \| | \| |
| 18+ 0 | 9.3350 | 2.63 | Q V\| | \| | \| | \| | \| |
| 18+ 5 | 9.3390 | 0.58 | Q V\| | \| | \| | \| | \| |
| 18+10 | 9.3637 | 3.59 | Q V\| | \| | \| | \| | \| |
| 18+15 | 9.4008 | 5.39 | \|Q V\| | \| | \| | \| | \| |
| 18+20 | 9.4431 | 6.13 | \|Q V\| | \| | \| | \| | \| |
| 18+25 | 9.4875 | 6.45 | \|Q V\| | \| | \| | \| | \| |
| 18+30 | 9.5336 | 6.69 | \|Q V\| | \| | \| | \| | \| |
| 18+35 | 9.5843 | 7.36 | \|Q V\| | \| | \| | \| | \| |
| 18+40 | 9.6370 | 7.65 | \|Q V\| | \| | \| | \| | \| |

```
18+45       9.6905      7.77  |Q       V|          |          |          |
18+50       9.7443      7.81  |Q       V|          |          |          |
18+55       9.7982      7.83  |Q       V|          |          |          |
19+ 0       9.8530      7.96  |Q       V|          |          |          |
19+ 5       9.9121      8.58  |Q        V          |          |          |
19+10       9.9730      8.84  |Q        V          |          |          |
19+15      10.0346      8.94  |Q        V          |          |          |
19+20      10.0965      8.99  |Q        V          |          |          |
19+25      10.1586      9.01  |Q        V          |          |          |
19+30      10.2206      9.01  |Q        V          |          |          |
19+35      10.2827      9.02  |Q        V          |          |          |
19+40      10.3449      9.02  |Q        V          |          |          |
19+45      10.4070      9.02  |Q        V          |          |          |
19+50      10.4691      9.02  |Q        V          |          |          |
19+55      10.5312      9.02  |Q        V          |          |          |
20+ 0      10.5942      9.15  |Q        V          |          |          |
20+ 5      10.6606      9.64  |Q        V          |          |          |
20+10      10.7253      9.40  |Q        V          |          |          |
20+15      10.7933      9.87  |Q        V          |          |          |
20+20      10.8626     10.06  | Q       V          |          |          |
20+25      10.9324     10.14  | Q       |V         |          |          |
20+30      11.0025     10.18  | Q       |V         |          |          |
20+35      11.0726     10.19  | Q       |V         |          |          |
20+40      11.1428     10.19  | Q       |V         |          |          |
20+45      11.2139     10.32  | Q       |V         |          |          |
20+50      11.2893     10.94  | Q       |V         |          |          |
20+55      11.3664     11.20  | Q       |V         |          |          |
21+ 0      11.4442     11.30  | Q       |V         |          |          |
21+ 5      11.5223     11.35  | Q       |V         |          |          |
21+10      11.6014     11.49  | Q       |V         |          |          |
21+15      11.6849     12.11  | Q       |V         |          |          |
21+20      11.7701     12.37  | Q       |V         |          |          |
21+25      11.8569     12.60  | Q       |V         |          |          |
21+30      11.9491     13.39  | Q       | V        |          |          |
21+35      12.0483     14.41  | Q       | V        |          |          |
21+40      12.1543     15.39  |  Q      | V        |          |          |
21+45      12.2640     15.93  |  Q      | V        |          |          |
21+50      12.3791     16.71  |  Q      | V        |          |          |
21+55      12.4973     17.16  |  Q      | V        |          |          |
22+ 0      12.6206     17.91  |  Q      | V        |          |          |
22+ 5      12.7470     18.35  |  Q      | V        |          |          |
22+10      12.8794     19.22  |  Q      |  V       |          |          |
22+15      13.0190     20.27  |   Q     |  V       |          |          |
22+20      13.1664     21.40  |   Q     |  V       |          |          |
22+25      13.3217     22.55  |   Q     |  V       |          |          |
22+30      13.4842     23.60  |   Q     |  V       |          |          |
22+35      13.6506     24.15  |   Q     |  V       |          |          |
22+40      13.8233     25.07  |    Q    |  V       |          |          |
22+45      14.0033     26.15  |    Q    |   V      |          |          |
22+50      14.1904     27.15  |    Q    |   V      |          |          |
22+55      14.3811     27.70  |    Q    |   V      |          |          |
23+ 0      14.5782     28.61  |    Q    |   V      |          |          |
23+ 5      14.7861     30.18  |     Q   |   V      |          |          |
23+10      15.0222     34.29  |     Q   |    V     |          |          |
23+15      15.2921     39.19  |      Q  |    V     |          |          |
23+20      15.5902     43.29  |       Q |    V     |          |          |
23+25      15.9161     47.31  |        Q|     V    |          |          |
23+30      16.2806     52.92  |         Q     V    |          |          |
23+35      16.6641     55.68  |          Q    V    |          |          |
23+40      16.9027     34.64  |     Q    |     V   |          |          |
23+45      17.0399     19.93  |  Q       |     V   |          |          |
23+50      17.1231     12.08  | Q        |     V   |          |          |
23+55      17.1773      7.87  |Q         |     V   |          |          |
24+ 0      17.2122      5.07  |Q         |     V   |          |          |
24+ 5      17.2239      1.70  Q          |     V   |          |          |
24+10      17.2956     10.42  | Q        |     V   |          |          |
24+15      17.4030     15.59  |  Q       |     V   |          |          |
24+20      17.5249     17.71  |  Q       |     V   |          |          |
24+25      17.6532     18.63  |  Q       |     V   |          |          |
24+30      17.7862     19.30  |  Q       |     V   |          |          |
24+35      17.9319     21.17  |   Q      |      V  |          |          |
24+40      18.0832     21.97  |   Q      |      V  |          |          |
24+45      18.2367     22.29  |   Q      |      V  |          |          |
24+50      18.3911     22.42  |   Q      |      V  |          |          |
24+55      18.5458     22.46  |   Q      |      V  |          |          |
25+ 0      18.7030     22.83  |   Q      |      V  |          |          |
25+ 5      18.8722     24.56  |   Q      |       V |          |          |
25+10      19.0462     25.27  |    Q     |       V |          |          |
25+15      19.2223     25.56  |    Q     |       V |          |          |
```



| | | | |
|---|---|---|---|
| 25+20 | 19.3992 | 25.69 | |
| 25+25 | 19.5764 | 25.73 | |
| 25+30 | 19.7538 | 25.75 | |
| 25+35 | 19.9313 | 25.77 | |
| 25+40 | 20.1087 | 25.77 | |
| 25+45 | 20.2862 | 25.77 | |
| 25+50 | 20.4637 | 25.77 | |
| 25+55 | 20.6412 | 25.77 | |
| 26+ 0 | 20.8211 | 26.12 | |
| 26+ 5 | 21.0104 | 27.49 | |
| 26+10 | 21.1952 | 26.83 | |
| 26+15 | 21.3889 | 28.13 | |
| 26+20 | 21.5863 | 28.67 | |
| 26+25 | 21.7852 | 28.87 | |
| 26+30 | 21.9848 | 28.98 | |
| 26+35 | 22.1847 | 29.02 | |
| 26+40 | 22.3846 | 29.03 | |
| 26+45 | 22.5870 | 29.39 | |
| 26+50 | 22.8012 | 31.11 | |
| 26+55 | 23.0203 | 31.82 | |
| 27+ 0 | 23.2415 | 32.11 | |
| 27+ 5 | 23.4635 | 32.23 | |
| 27+10 | 23.6881 | 32.62 | |
| 27+15 | 23.9248 | 34.36 | |
| 27+20 | 24.1664 | 35.08 | |
| 27+25 | 24.4125 | 35.73 | |
| 27+30 | 24.6736 | 37.92 | |
| 27+35 | 24.9542 | 40.73 | |
| 27+40 | 25.2535 | 43.47 | |
| 27+45 | 25.5632 | 44.96 | |
| 27+50 | 25.8878 | 47.14 | |
| 27+55 | 26.2210 | 48.39 | |
| 28+ 0 | 26.5686 | 50.47 | |
| 28+ 5 | 26.9246 | 51.69 | |
| 28+10 | 27.2973 | 54.11 | |
| 28+15 | 27.6901 | 57.03 | |
| 28+20 | 28.1043 | 60.15 | |
| 28+25 | 28.5408 | 63.37 | |
| 28+30 | 28.9971 | 66.27 | |
| 28+35 | 29.4641 | 67.81 | |
| 28+40 | 29.9488 | 70.37 | |
| 28+45 | 30.4539 | 73.35 | |
| 28+50 | 30.9783 | 76.14 | |
| 28+55 | 31.5132 | 77.66 | |
| 29+ 0 | 32.0655 | 80.20 | |
| 29+ 5 | 32.6479 | 84.56 | |
| 29+10 | 33.3088 | 95.96 | |
| 29+15 | 34.0635 | 109.58 | |
| 29+20 | 34.8965 | 120.96 | |
| 29+25 | 35.8065 | 132.13 | |
| 29+30 | 36.8240 | 147.73 | |
| 29+35 | 37.8942 | 155.40 | |
| 29+40 | 38.5619 | 96.95 | |
| 29+45 | 38.9480 | 56.07 | |
| 29+50 | 39.1840 | 34.26 | |
| 29+55 | 39.3394 | 22.57 | |
| 30+ 0 | 39.4405 | 14.69 | |
| 30+ 5 | 39.5037 | 9.17 | |
| 30+10 | 39.5290 | 3.69 | |
| 30+15 | 39.5389 | 1.43 | |
| 30+20 | 39.5429 | 0.58 | |
| 30+25 | 39.5445 | 0.23 | |
| 30+30 | 39.5452 | 0.10 | |
| 30+35 | 39.5454 | 0.04 | |
| 30+40 | 39.5455 | 0.01 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 04/18/19 File: EX4524100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 45
100-YEAR, 5-DAY STORM EVENT
BY: JTS, DATE: 04-18-19

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Drainage Area = 108.20(Ac.) = 0.169 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 108.20(Ac.) = 0.169 Sq. Mi.
Length along longest watercourse = 2240.00(Ft.)
Length along longest watercourse measured to centroid = 946.00(Ft.)
Length along longest watercourse = 0.424 Mi.
Length along longest watercourse measured to centroid = 0.179 Mi.
Difference in elevation = 232.00(Ft.)
Slope along watercourse = 546.8571 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.095 Hr.
Lag time = 5.71 Min.
25% of lag time = 1.43 Min.
40% of lag time = 2.29 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 108.20 | 1.80 | 194.76 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 108.20 | 4.68 | 506.38 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.680(In)

Point rain (area averaged) = 4.680(In)
Areal adjustment factor = 99.98 %
Adjusted average point rain = 4.679(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 108.200 | 92.89 | 1.000 |

Total Area Entered = 108.20(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 92.9 | 97.2 | 0.037 | 1.000 | 0.004 | 1.000 | 0.004 |
| | | | | | Sum (F) = | 0.004 |

Area averaged mean soil loss (F) (In/Hr) = 0.004
Minimum soil loss rate ((In/Hr)) = 0.002

(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.100

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 87.499 | 10.657 | 11.621 |
| 2 | 0.167 | 174.999 | 52.437 | 57.180 |
| 3 | 0.250 | 262.498 | 21.649 | 23.607 |
| 4 | 0.333 | 349.997 | 8.857 | 9.658 |
| 5 | 0.417 | 437.496 | 3.954 | 4.311 |
| 6 | 0.500 | 524.996 | 1.243 | 1.355 |
| 7 | 0.583 | 612.495 | 0.657 | 0.717 |
| 8 | 0.667 | 699.994 | 0.443 | 0.483 |
| 9 | 0.750 | 787.493 | 0.104 | 0.113 |
| | | Sum = | 100.000 Sum= | 109.045 |

Storm Event 5 Effective Rainfall = 0.468(In)

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.004 | ( 0.007) | 0.000 | 0.003 |
| 2 | 0.17 | 0.07 | 0.004 | ( 0.007) | 0.000 | 0.003 |
| 3 | 0.25 | 0.07 | 0.004 | ( 0.007) | 0.000 | 0.003 |
| 4 | 0.33 | 0.10 | 0.006 | ( 0.006) | 0.001 | 0.005 |
| 5 | 0.42 | 0.10 | 0.006 | ( 0.006) | 0.001 | 0.005 |
| 6 | 0.50 | 0.10 | 0.006 | ( 0.006) | 0.001 | 0.005 |
| 7 | 0.58 | 0.10 | 0.006 | ( 0.006) | 0.001 | 0.005 |
| 8 | 0.67 | 0.10 | 0.006 | ( 0.006) | 0.001 | 0.005 |
| 9 | 0.75 | 0.10 | 0.006 | ( 0.006) | 0.001 | 0.005 |
| 10 | 0.83 | 0.13 | 0.007 | ( 0.006) | 0.001 | 0.007 |
| 11 | 0.92 | 0.13 | 0.007 | ( 0.006) | 0.001 | 0.007 |
| 12 | 1.00 | 0.13 | 0.007 | ( 0.006) | 0.001 | 0.007 |
| 13 | 1.08 | 0.10 | 0.006 | ( 0.006) | 0.001 | 0.005 |
| 14 | 1.17 | 0.10 | 0.006 | ( 0.006) | 0.001 | 0.005 |
| 15 | 1.25 | 0.10 | 0.006 | ( 0.006) | 0.001 | 0.005 |
| 16 | 1.33 | 0.10 | 0.006 | ( 0.006) | 0.001 | 0.005 |
| 17 | 1.42 | 0.10 | 0.006 | ( 0.006) | 0.001 | 0.005 |
| 18 | 1.50 | 0.10 | 0.006 | ( 0.006) | 0.001 | 0.005 |
| 19 | 1.58 | 0.10 | 0.006 | ( 0.006) | 0.001 | 0.005 |
| 20 | 1.67 | 0.10 | 0.006 | ( 0.006) | 0.001 | 0.005 |
| 21 | 1.75 | 0.10 | 0.006 | ( 0.006) | 0.001 | 0.005 |
| 22 | 1.83 | 0.13 | 0.007 | ( 0.006) | 0.001 | 0.007 |
| 23 | 1.92 | 0.13 | 0.007 | ( 0.006) | 0.001 | 0.007 |
| 24 | 2.00 | 0.13 | 0.007 | ( 0.006) | 0.001 | 0.007 |
| 25 | 2.08 | 0.13 | 0.007 | ( 0.006) | 0.001 | 0.007 |
| 26 | 2.17 | 0.13 | 0.007 | ( 0.006) | 0.001 | 0.007 |
| 27 | 2.25 | 0.13 | 0.007 | ( 0.006) | 0.001 | 0.007 |
| 28 | 2.33 | 0.13 | 0.007 | ( 0.006) | 0.001 | 0.007 |
| 29 | 2.42 | 0.13 | 0.007 | ( 0.006) | 0.001 | 0.007 |
| 30 | 2.50 | 0.13 | 0.007 | ( 0.006) | 0.001 | 0.007 |
| 31 | 2.58 | 0.17 | 0.009 | ( 0.006) | 0.001 | 0.008 |
| 32 | 2.67 | 0.17 | 0.009 | ( 0.006) | 0.001 | 0.008 |
| 33 | 2.75 | 0.17 | 0.009 | ( 0.006) | 0.001 | 0.008 |
| 34 | 2.83 | 0.17 | 0.009 | ( 0.006) | 0.001 | 0.008 |
| 35 | 2.92 | 0.17 | 0.009 | ( 0.006) | 0.001 | 0.008 |
| 36 | 3.00 | 0.17 | 0.009 | ( 0.006) | 0.001 | 0.008 |
| 37 | 3.08 | 0.17 | 0.009 | ( 0.006) | 0.001 | 0.008 |
| 38 | 3.17 | 0.17 | 0.009 | ( 0.006) | 0.001 | 0.008 |
| 39 | 3.25 | 0.17 | 0.009 | ( 0.006) | 0.001 | 0.008 |
| 40 | 3.33 | 0.17 | 0.009 | ( 0.006) | 0.001 | 0.008 |
| 41 | 3.42 | 0.17 | 0.009 | ( 0.006) | 0.001 | 0.008 |
| 42 | 3.50 | 0.17 | 0.009 | ( 0.006) | 0.001 | 0.008 |
| 43 | 3.58 | 0.17 | 0.009 | ( 0.006) | 0.001 | 0.008 |
| 44 | 3.67 | 0.17 | 0.009 | ( 0.006) | 0.001 | 0.008 |
| 45 | 3.75 | 0.17 | 0.009 | ( 0.005) | 0.001 | 0.008 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 46 | 3.83 | 0.20 | 0.011 | ( 0.005) | 0.001 | 0.010 |
| 47 | 3.92 | 0.20 | 0.011 | ( 0.005) | 0.001 | 0.010 |
| 48 | 4.00 | 0.20 | 0.011 | ( 0.005) | 0.001 | 0.010 |
| 49 | 4.08 | 0.20 | 0.011 | ( 0.005) | 0.001 | 0.010 |
| 50 | 4.17 | 0.20 | 0.011 | ( 0.005) | 0.001 | 0.010 |
| 51 | 4.25 | 0.20 | 0.011 | ( 0.005) | 0.001 | 0.010 |
| 52 | 4.33 | 0.23 | 0.013 | ( 0.005) | 0.001 | 0.012 |
| 53 | 4.42 | 0.23 | 0.013 | ( 0.005) | 0.001 | 0.012 |
| 54 | 4.50 | 0.23 | 0.013 | ( 0.005) | 0.001 | 0.012 |
| 55 | 4.58 | 0.23 | 0.013 | ( 0.005) | 0.001 | 0.012 |
| 56 | 4.67 | 0.23 | 0.013 | ( 0.005) | 0.001 | 0.012 |
| 57 | 4.75 | 0.23 | 0.013 | ( 0.005) | 0.001 | 0.012 |
| 58 | 4.83 | 0.27 | 0.015 | ( 0.005) | 0.001 | 0.013 |
| 59 | 4.92 | 0.27 | 0.015 | ( 0.005) | 0.001 | 0.013 |
| 60 | 5.00 | 0.27 | 0.015 | ( 0.005) | 0.001 | 0.013 |
| 61 | 5.08 | 0.20 | 0.011 | ( 0.005) | 0.001 | 0.010 |
| 62 | 5.17 | 0.20 | 0.011 | ( 0.005) | 0.001 | 0.010 |
| 63 | 5.25 | 0.20 | 0.011 | ( 0.005) | 0.001 | 0.010 |
| 64 | 5.33 | 0.23 | 0.013 | ( 0.005) | 0.001 | 0.012 |
| 65 | 5.42 | 0.23 | 0.013 | ( 0.005) | 0.001 | 0.012 |
| 66 | 5.50 | 0.23 | 0.013 | ( 0.005) | 0.001 | 0.012 |
| 67 | 5.58 | 0.27 | 0.015 | ( 0.005) | 0.001 | 0.013 |
| 68 | 5.67 | 0.27 | 0.015 | ( 0.005) | 0.001 | 0.013 |
| 69 | 5.75 | 0.27 | 0.015 | ( 0.005) | 0.001 | 0.013 |
| 70 | 5.83 | 0.27 | 0.015 | ( 0.005) | 0.001 | 0.013 |
| 71 | 5.92 | 0.27 | 0.015 | ( 0.005) | 0.001 | 0.013 |
| 72 | 6.00 | 0.27 | 0.015 | ( 0.005) | 0.001 | 0.013 |
| 73 | 6.08 | 0.30 | 0.017 | ( 0.005) | 0.002 | 0.015 |
| 74 | 6.17 | 0.30 | 0.017 | ( 0.005) | 0.002 | 0.015 |
| 75 | 6.25 | 0.30 | 0.017 | ( 0.005) | 0.002 | 0.015 |
| 76 | 6.33 | 0.30 | 0.017 | ( 0.005) | 0.002 | 0.015 |
| 77 | 6.42 | 0.30 | 0.017 | ( 0.005) | 0.002 | 0.015 |
| 78 | 6.50 | 0.30 | 0.017 | ( 0.005) | 0.002 | 0.015 |
| 79 | 6.58 | 0.33 | 0.019 | ( 0.005) | 0.002 | 0.017 |
| 80 | 6.67 | 0.33 | 0.019 | ( 0.005) | 0.002 | 0.017 |
| 81 | 6.75 | 0.33 | 0.019 | ( 0.005) | 0.002 | 0.017 |
| 82 | 6.83 | 0.33 | 0.019 | ( 0.005) | 0.002 | 0.017 |
| 83 | 6.92 | 0.33 | 0.019 | ( 0.005) | 0.002 | 0.017 |
| 84 | 7.00 | 0.33 | 0.019 | ( 0.005) | 0.002 | 0.017 |
| 85 | 7.08 | 0.33 | 0.019 | ( 0.005) | 0.002 | 0.017 |
| 86 | 7.17 | 0.33 | 0.019 | ( 0.005) | 0.002 | 0.017 |
| 87 | 7.25 | 0.33 | 0.019 | ( 0.005) | 0.002 | 0.017 |
| 88 | 7.33 | 0.37 | 0.021 | ( 0.005) | 0.002 | 0.019 |
| 89 | 7.42 | 0.37 | 0.021 | ( 0.005) | 0.002 | 0.019 |
| 90 | 7.50 | 0.37 | 0.021 | ( 0.004) | 0.002 | 0.019 |
| 91 | 7.58 | 0.40 | 0.022 | ( 0.004) | 0.002 | 0.020 |
| 92 | 7.67 | 0.40 | 0.022 | ( 0.004) | 0.002 | 0.020 |
| 93 | 7.75 | 0.40 | 0.022 | ( 0.004) | 0.002 | 0.020 |
| 94 | 7.83 | 0.43 | 0.024 | ( 0.004) | 0.002 | 0.022 |
| 95 | 7.92 | 0.43 | 0.024 | ( 0.004) | 0.002 | 0.022 |
| 96 | 8.00 | 0.43 | 0.024 | ( 0.004) | 0.002 | 0.022 |
| 97 | 8.08 | 0.50 | 0.028 | ( 0.004) | 0.003 | 0.025 |
| 98 | 8.17 | 0.50 | 0.028 | ( 0.004) | 0.003 | 0.025 |
| 99 | 8.25 | 0.50 | 0.028 | ( 0.004) | 0.003 | 0.025 |
| 100 | 8.33 | 0.50 | 0.028 | ( 0.004) | 0.003 | 0.025 |
| 101 | 8.42 | 0.50 | 0.028 | ( 0.004) | 0.003 | 0.025 |
| 102 | 8.50 | 0.50 | 0.028 | ( 0.004) | 0.003 | 0.025 |
| 103 | 8.58 | 0.53 | 0.030 | ( 0.004) | 0.003 | 0.027 |
| 104 | 8.67 | 0.53 | 0.030 | ( 0.004) | 0.003 | 0.027 |
| 105 | 8.75 | 0.53 | 0.030 | ( 0.004) | 0.003 | 0.027 |
| 106 | 8.83 | 0.57 | 0.032 | ( 0.004) | 0.003 | 0.029 |
| 107 | 8.92 | 0.57 | 0.032 | ( 0.004) | 0.003 | 0.029 |
| 108 | 9.00 | 0.57 | 0.032 | ( 0.004) | 0.003 | 0.029 |
| 109 | 9.08 | 0.63 | 0.036 | ( 0.004) | 0.004 | 0.032 |
| 110 | 9.17 | 0.63 | 0.036 | ( 0.004) | 0.004 | 0.032 |
| 111 | 9.25 | 0.63 | 0.036 | ( 0.004) | 0.004 | 0.032 |
| 112 | 9.33 | 0.67 | 0.037 | ( 0.004) | 0.004 | 0.034 |
| 113 | 9.42 | 0.67 | 0.037 | ( 0.004) | 0.004 | 0.034 |
| 114 | 9.50 | 0.67 | 0.037 | ( 0.004) | 0.004 | 0.034 |
| 115 | 9.58 | 0.70 | 0.039 | ( 0.004) | 0.004 | 0.035 |
| 116 | 9.67 | 0.70 | 0.039 | ( 0.004) | 0.004 | 0.035 |
| 117 | 9.75 | 0.70 | 0.039 | ( 0.004) | 0.004 | 0.035 |
| 118 | 9.83 | 0.73 | 0.041 | 0.004 | ( 0.004) | 0.037 |
| 119 | 9.92 | 0.73 | 0.041 | 0.004 | ( 0.004) | 0.037 |
| 120 | 10.00 | 0.73 | 0.041 | 0.004 | ( 0.004) | 0.037 |
| 121 | 10.08 | 0.50 | 0.028 | ( 0.004) | 0.003 | 0.025 |
| 122 | 10.17 | 0.50 | 0.028 | ( 0.004) | 0.003 | 0.025 |
| 123 | 10.25 | 0.50 | 0.028 | ( 0.004) | 0.003 | 0.025 |
| 124 | 10.33 | 0.50 | 0.028 | ( 0.004) | 0.003 | 0.025 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 125 | 10.42 | 0.50 | 0.028 | ( 0.004) | 0.003 | 0.025 |
| 126 | 10.50 | 0.50 | 0.028 | ( 0.004) | 0.003 | 0.025 |
| 127 | 10.58 | 0.67 | 0.037 | ( 0.004) | 0.004 | 0.034 |
| 128 | 10.67 | 0.67 | 0.037 | ( 0.004) | 0.004 | 0.034 |
| 129 | 10.75 | 0.67 | 0.037 | 0.004 | ( 0.004) | 0.034 |
| 130 | 10.83 | 0.67 | 0.037 | 0.004 | ( 0.004) | 0.034 |
| 131 | 10.92 | 0.67 | 0.037 | 0.004 | ( 0.004) | 0.034 |
| 132 | 11.00 | 0.67 | 0.037 | 0.004 | ( 0.004) | 0.034 |
| 133 | 11.08 | 0.63 | 0.036 | ( 0.004) | 0.004 | 0.032 |
| 134 | 11.17 | 0.63 | 0.036 | ( 0.004) | 0.004 | 0.032 |
| 135 | 11.25 | 0.63 | 0.036 | ( 0.004) | 0.004 | 0.032 |
| 136 | 11.33 | 0.63 | 0.036 | ( 0.004) | 0.004 | 0.032 |
| 137 | 11.42 | 0.63 | 0.036 | ( 0.004) | 0.004 | 0.032 |
| 138 | 11.50 | 0.63 | 0.036 | ( 0.004) | 0.004 | 0.032 |
| 139 | 11.58 | 0.57 | 0.032 | ( 0.004) | 0.003 | 0.029 |
| 140 | 11.67 | 0.57 | 0.032 | ( 0.004) | 0.003 | 0.029 |
| 141 | 11.75 | 0.57 | 0.032 | ( 0.004) | 0.003 | 0.029 |
| 142 | 11.83 | 0.60 | 0.034 | ( 0.004) | 0.003 | 0.030 |
| 143 | 11.92 | 0.60 | 0.034 | ( 0.003) | 0.003 | 0.030 |
| 144 | 12.00 | 0.60 | 0.034 | ( 0.003) | 0.003 | 0.030 |
| 145 | 12.08 | 0.83 | 0.047 | 0.003 | ( 0.005) | 0.043 |
| 146 | 12.17 | 0.83 | 0.047 | 0.003 | ( 0.005) | 0.043 |
| 147 | 12.25 | 0.83 | 0.047 | 0.003 | ( 0.005) | 0.043 |
| 148 | 12.33 | 0.87 | 0.049 | 0.003 | ( 0.005) | 0.045 |
| 149 | 12.42 | 0.87 | 0.049 | 0.003 | ( 0.005) | 0.045 |
| 150 | 12.50 | 0.87 | 0.049 | 0.003 | ( 0.005) | 0.045 |
| 151 | 12.58 | 0.93 | 0.052 | 0.003 | ( 0.005) | 0.049 |
| 152 | 12.67 | 0.93 | 0.052 | 0.003 | ( 0.005) | 0.049 |
| 153 | 12.75 | 0.93 | 0.052 | 0.003 | ( 0.005) | 0.049 |
| 154 | 12.83 | 0.97 | 0.054 | 0.003 | ( 0.005) | 0.051 |
| 155 | 12.92 | 0.97 | 0.054 | 0.003 | ( 0.005) | 0.051 |
| 156 | 13.00 | 0.97 | 0.054 | 0.003 | ( 0.005) | 0.051 |
| 157 | 13.08 | 1.13 | 0.064 | 0.003 | ( 0.006) | 0.060 |
| 158 | 13.17 | 1.13 | 0.064 | 0.003 | ( 0.006) | 0.060 |
| 159 | 13.25 | 1.13 | 0.064 | 0.003 | ( 0.006) | 0.060 |
| 160 | 13.33 | 1.13 | 0.064 | 0.003 | ( 0.006) | 0.060 |
| 161 | 13.42 | 1.13 | 0.064 | 0.003 | ( 0.006) | 0.060 |
| 162 | 13.50 | 1.13 | 0.064 | 0.003 | ( 0.006) | 0.060 |
| 163 | 13.58 | 0.77 | 0.043 | 0.003 | ( 0.004) | 0.040 |
| 164 | 13.67 | 0.77 | 0.043 | 0.003 | ( 0.004) | 0.040 |
| 165 | 13.75 | 0.77 | 0.043 | 0.003 | ( 0.004) | 0.040 |
| 166 | 13.83 | 0.77 | 0.043 | 0.003 | ( 0.004) | 0.040 |
| 167 | 13.92 | 0.77 | 0.043 | 0.003 | ( 0.004) | 0.040 |
| 168 | 14.00 | 0.77 | 0.043 | 0.003 | ( 0.004) | 0.040 |
| 169 | 14.08 | 0.90 | 0.051 | 0.003 | ( 0.005) | 0.047 |
| 170 | 14.17 | 0.90 | 0.051 | 0.003 | ( 0.005) | 0.047 |
| 171 | 14.25 | 0.90 | 0.051 | 0.003 | ( 0.005) | 0.048 |
| 172 | 14.33 | 0.87 | 0.049 | 0.003 | ( 0.005) | 0.046 |
| 173 | 14.42 | 0.87 | 0.049 | 0.003 | ( 0.005) | 0.046 |
| 174 | 14.50 | 0.87 | 0.049 | 0.003 | ( 0.005) | 0.046 |
| 175 | 14.58 | 0.87 | 0.049 | 0.003 | ( 0.005) | 0.046 |
| 176 | 14.67 | 0.87 | 0.049 | 0.003 | ( 0.005) | 0.046 |
| 177 | 14.75 | 0.87 | 0.049 | 0.003 | ( 0.005) | 0.046 |
| 178 | 14.83 | 0.83 | 0.047 | 0.003 | ( 0.005) | 0.044 |
| 179 | 14.92 | 0.83 | 0.047 | 0.003 | ( 0.005) | 0.044 |
| 180 | 15.00 | 0.83 | 0.047 | 0.003 | ( 0.005) | 0.044 |
| 181 | 15.08 | 0.80 | 0.045 | 0.003 | ( 0.004) | 0.042 |
| 182 | 15.17 | 0.80 | 0.045 | 0.003 | ( 0.004) | 0.042 |
| 183 | 15.25 | 0.80 | 0.045 | 0.003 | ( 0.004) | 0.042 |
| 184 | 15.33 | 0.77 | 0.043 | 0.003 | ( 0.004) | 0.040 |
| 185 | 15.42 | 0.77 | 0.043 | 0.003 | ( 0.004) | 0.040 |
| 186 | 15.50 | 0.77 | 0.043 | 0.003 | ( 0.004) | 0.040 |
| 187 | 15.58 | 0.63 | 0.036 | 0.003 | ( 0.004) | 0.033 |
| 188 | 15.67 | 0.63 | 0.036 | 0.003 | ( 0.004) | 0.033 |
| 189 | 15.75 | 0.63 | 0.036 | 0.003 | ( 0.004) | 0.033 |
| 190 | 15.83 | 0.63 | 0.036 | 0.003 | ( 0.004) | 0.033 |
| 191 | 15.92 | 0.63 | 0.036 | 0.003 | ( 0.004) | 0.033 |
| 192 | 16.00 | 0.63 | 0.036 | 0.003 | ( 0.004) | 0.033 |
| 193 | 16.08 | 0.13 | 0.007 | ( 0.003) | 0.001 | 0.007 |
| 194 | 16.17 | 0.13 | 0.007 | ( 0.003) | 0.001 | 0.007 |
| 195 | 16.25 | 0.13 | 0.007 | ( 0.003) | 0.001 | 0.007 |
| 196 | 16.33 | 0.13 | 0.007 | ( 0.003) | 0.001 | 0.007 |
| 197 | 16.42 | 0.13 | 0.007 | ( 0.003) | 0.001 | 0.007 |
| 198 | 16.50 | 0.13 | 0.007 | ( 0.003) | 0.001 | 0.007 |
| 199 | 16.58 | 0.10 | 0.006 | ( 0.003) | 0.001 | 0.005 |
| 200 | 16.67 | 0.10 | 0.006 | ( 0.003) | 0.001 | 0.005 |
| 201 | 16.75 | 0.10 | 0.006 | ( 0.003) | 0.001 | 0.005 |
| 202 | 16.83 | 0.10 | 0.006 | ( 0.003) | 0.001 | 0.005 |
| 203 | 16.92 | 0.10 | 0.006 | ( 0.003) | 0.001 | 0.005 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 204 | 17.00 | 0.10 | 0.006 | ( 0.003) | 0.001 | 0.005 |
| 205 | 17.08 | 0.17 | 0.009 | ( 0.003) | 0.001 | 0.008 |
| 206 | 17.17 | 0.17 | 0.009 | ( 0.003) | 0.001 | 0.008 |
| 207 | 17.25 | 0.17 | 0.009 | ( 0.003) | 0.001 | 0.008 |
| 208 | 17.33 | 0.17 | 0.009 | ( 0.003) | 0.001 | 0.008 |
| 209 | 17.42 | 0.17 | 0.009 | ( 0.002) | 0.001 | 0.008 |
| 210 | 17.50 | 0.17 | 0.009 | ( 0.002) | 0.001 | 0.008 |
| 211 | 17.58 | 0.17 | 0.009 | ( 0.002) | 0.001 | 0.008 |
| 212 | 17.67 | 0.17 | 0.009 | ( 0.002) | 0.001 | 0.008 |
| 213 | 17.75 | 0.17 | 0.009 | ( 0.002) | 0.001 | 0.008 |
| 214 | 17.83 | 0.13 | 0.007 | ( 0.002) | 0.001 | 0.007 |
| 215 | 17.92 | 0.13 | 0.007 | ( 0.002) | 0.001 | 0.007 |
| 216 | 18.00 | 0.13 | 0.007 | ( 0.002) | 0.001 | 0.007 |
| 217 | 18.08 | 0.13 | 0.007 | ( 0.002) | 0.001 | 0.007 |
| 218 | 18.17 | 0.13 | 0.007 | ( 0.002) | 0.001 | 0.007 |
| 219 | 18.25 | 0.13 | 0.007 | ( 0.002) | 0.001 | 0.007 |
| 220 | 18.33 | 0.13 | 0.007 | ( 0.002) | 0.001 | 0.007 |
| 221 | 18.42 | 0.13 | 0.007 | ( 0.002) | 0.001 | 0.007 |
| 222 | 18.50 | 0.13 | 0.007 | ( 0.002) | 0.001 | 0.007 |
| 223 | 18.58 | 0.10 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 224 | 18.67 | 0.10 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 225 | 18.75 | 0.10 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 226 | 18.83 | 0.07 | 0.004 | ( 0.002) | 0.000 | 0.003 |
| 227 | 18.92 | 0.07 | 0.004 | ( 0.002) | 0.000 | 0.003 |
| 228 | 19.00 | 0.07 | 0.004 | ( 0.002) | 0.000 | 0.003 |
| 229 | 19.08 | 0.10 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 230 | 19.17 | 0.10 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 231 | 19.25 | 0.10 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 232 | 19.33 | 0.13 | 0.007 | ( 0.002) | 0.001 | 0.007 |
| 233 | 19.42 | 0.13 | 0.007 | ( 0.002) | 0.001 | 0.007 |
| 234 | 19.50 | 0.13 | 0.007 | ( 0.002) | 0.001 | 0.007 |
| 235 | 19.58 | 0.10 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 236 | 19.67 | 0.10 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 237 | 19.75 | 0.10 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 238 | 19.83 | 0.07 | 0.004 | ( 0.002) | 0.000 | 0.003 |
| 239 | 19.92 | 0.07 | 0.004 | ( 0.002) | 0.000 | 0.003 |
| 240 | 20.00 | 0.07 | 0.004 | ( 0.002) | 0.000 | 0.003 |
| 241 | 20.08 | 0.10 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 242 | 20.17 | 0.10 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 243 | 20.25 | 0.10 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 244 | 20.33 | 0.10 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 245 | 20.42 | 0.10 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 246 | 20.50 | 0.10 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 247 | 20.58 | 0.10 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 248 | 20.67 | 0.10 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 249 | 20.75 | 0.10 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 250 | 20.83 | 0.07 | 0.004 | ( 0.002) | 0.000 | 0.003 |
| 251 | 20.92 | 0.07 | 0.004 | ( 0.002) | 0.000 | 0.003 |
| 252 | 21.00 | 0.07 | 0.004 | ( 0.002) | 0.000 | 0.003 |
| 253 | 21.08 | 0.10 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 254 | 21.17 | 0.10 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 255 | 21.25 | 0.10 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 256 | 21.33 | 0.07 | 0.004 | ( 0.002) | 0.000 | 0.003 |
| 257 | 21.42 | 0.07 | 0.004 | ( 0.002) | 0.000 | 0.003 |
| 258 | 21.50 | 0.07 | 0.004 | ( 0.002) | 0.000 | 0.003 |
| 259 | 21.58 | 0.10 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 260 | 21.67 | 0.10 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 261 | 21.75 | 0.10 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 262 | 21.83 | 0.07 | 0.004 | ( 0.002) | 0.000 | 0.003 |
| 263 | 21.92 | 0.07 | 0.004 | ( 0.002) | 0.000 | 0.003 |
| 264 | 22.00 | 0.07 | 0.004 | ( 0.002) | 0.000 | 0.003 |
| 265 | 22.08 | 0.10 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 266 | 22.17 | 0.10 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 267 | 22.25 | 0.10 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 268 | 22.33 | 0.07 | 0.004 | ( 0.002) | 0.000 | 0.003 |
| 269 | 22.42 | 0.07 | 0.004 | ( 0.002) | 0.000 | 0.003 |
| 270 | 22.50 | 0.07 | 0.004 | ( 0.002) | 0.000 | 0.003 |
| 271 | 22.58 | 0.07 | 0.004 | ( 0.002) | 0.000 | 0.003 |
| 272 | 22.67 | 0.07 | 0.004 | ( 0.002) | 0.000 | 0.003 |
| 273 | 22.75 | 0.07 | 0.004 | ( 0.002) | 0.000 | 0.003 |
| 274 | 22.83 | 0.07 | 0.004 | ( 0.002) | 0.000 | 0.003 |
| 275 | 22.92 | 0.07 | 0.004 | ( 0.002) | 0.000 | 0.003 |
| 276 | 23.00 | 0.07 | 0.004 | ( 0.002) | 0.000 | 0.003 |
| 277 | 23.08 | 0.07 | 0.004 | ( 0.002) | 0.000 | 0.003 |
| 278 | 23.17 | 0.07 | 0.004 | ( 0.002) | 0.000 | 0.003 |
| 279 | 23.25 | 0.07 | 0.004 | ( 0.002) | 0.000 | 0.003 |
| 280 | 23.33 | 0.07 | 0.004 | ( 0.002) | 0.000 | 0.003 |
| 281 | 23.42 | 0.07 | 0.004 | ( 0.002) | 0.000 | 0.003 |
| 282 | 23.50 | 0.07 | 0.004 | ( 0.002) | 0.000 | 0.003 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 283 | 23.58 | 0.07 | 0.004 | ( 0.002) | 0.000 | 0.003 |
| 284 | 23.67 | 0.07 | 0.004 | ( 0.002) | 0.000 | 0.003 |
| 285 | 23.75 | 0.07 | 0.004 | ( 0.002) | 0.000 | 0.003 |
| 286 | 23.83 | 0.07 | 0.004 | ( 0.002) | 0.000 | 0.003 |
| 287 | 23.92 | 0.07 | 0.004 | ( 0.002) | 0.000 | 0.003 |
| 288 | 24.00 | 0.07 | 0.004 | ( 0.002) | 0.000 | 0.003 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 5.1

Flood volume = Effective rainfall 0.43(In)
times area 108.2(Ac.)/[(In)/(Ft.)] = 3.9(Ac.Ft)
Total soil loss = 0.04(In)
Total soil loss = 0.359(Ac.Ft)
Total rainfall = 0.47(In)
Flood volume = 168151.4 Cubic Feet
Total soil loss = 15624.3 Cubic Feet

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Storm Event 4 Effective Rainfall = 0.702(In)

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.006 | ( 0.007) | 0.001 | 0.005 |
| 2 | 0.17 | 0.07 | 0.006 | ( 0.007) | 0.001 | 0.005 |
| 3 | 0.25 | 0.07 | 0.006 | ( 0.007) | 0.001 | 0.005 |
| 4 | 0.33 | 0.10 | 0.008 | ( 0.006) | 0.001 | 0.008 |
| 5 | 0.42 | 0.10 | 0.008 | ( 0.006) | 0.001 | 0.008 |
| 6 | 0.50 | 0.10 | 0.008 | ( 0.006) | 0.001 | 0.008 |
| 7 | 0.58 | 0.10 | 0.008 | ( 0.006) | 0.001 | 0.008 |
| 8 | 0.67 | 0.10 | 0.008 | ( 0.006) | 0.001 | 0.008 |
| 9 | 0.75 | 0.10 | 0.008 | ( 0.006) | 0.001 | 0.008 |
| 10 | 0.83 | 0.13 | 0.011 | ( 0.006) | 0.001 | 0.010 |
| 11 | 0.92 | 0.13 | 0.011 | ( 0.006) | 0.001 | 0.010 |
| 12 | 1.00 | 0.13 | 0.011 | ( 0.006) | 0.001 | 0.010 |
| 13 | 1.08 | 0.10 | 0.008 | ( 0.006) | 0.001 | 0.008 |
| 14 | 1.17 | 0.10 | 0.008 | ( 0.006) | 0.001 | 0.008 |
| 15 | 1.25 | 0.10 | 0.008 | ( 0.006) | 0.001 | 0.008 |
| 16 | 1.33 | 0.10 | 0.008 | ( 0.006) | 0.001 | 0.008 |
| 17 | 1.42 | 0.10 | 0.008 | ( 0.006) | 0.001 | 0.008 |
| 18 | 1.50 | 0.10 | 0.008 | ( 0.006) | 0.001 | 0.008 |
| 19 | 1.58 | 0.10 | 0.008 | ( 0.006) | 0.001 | 0.008 |
| 20 | 1.67 | 0.10 | 0.008 | ( 0.006) | 0.001 | 0.008 |
| 21 | 1.75 | 0.10 | 0.008 | ( 0.006) | 0.001 | 0.008 |
| 22 | 1.83 | 0.13 | 0.011 | ( 0.006) | 0.001 | 0.010 |
| 23 | 1.92 | 0.13 | 0.011 | ( 0.006) | 0.001 | 0.010 |
| 24 | 2.00 | 0.13 | 0.011 | ( 0.006) | 0.001 | 0.010 |
| 25 | 2.08 | 0.13 | 0.011 | ( 0.006) | 0.001 | 0.010 |
| 26 | 2.17 | 0.13 | 0.011 | ( 0.006) | 0.001 | 0.010 |
| 27 | 2.25 | 0.13 | 0.011 | ( 0.006) | 0.001 | 0.010 |
| 28 | 2.33 | 0.13 | 0.011 | ( 0.006) | 0.001 | 0.010 |
| 29 | 2.42 | 0.13 | 0.011 | ( 0.006) | 0.001 | 0.010 |
| 30 | 2.50 | 0.13 | 0.011 | ( 0.006) | 0.001 | 0.010 |
| 31 | 2.58 | 0.17 | 0.014 | ( 0.006) | 0.001 | 0.013 |
| 32 | 2.67 | 0.17 | 0.014 | ( 0.006) | 0.001 | 0.013 |
| 33 | 2.75 | 0.17 | 0.014 | ( 0.006) | 0.001 | 0.013 |
| 34 | 2.83 | 0.17 | 0.014 | ( 0.006) | 0.001 | 0.013 |
| 35 | 2.92 | 0.17 | 0.014 | ( 0.006) | 0.001 | 0.013 |
| 36 | 3.00 | 0.17 | 0.014 | ( 0.006) | 0.001 | 0.013 |
| 37 | 3.08 | 0.17 | 0.014 | ( 0.006) | 0.001 | 0.013 |
| 38 | 3.17 | 0.17 | 0.014 | ( 0.006) | 0.001 | 0.013 |
| 39 | 3.25 | 0.17 | 0.014 | ( 0.006) | 0.001 | 0.013 |
| 40 | 3.33 | 0.17 | 0.014 | ( 0.006) | 0.001 | 0.013 |
| 41 | 3.42 | 0.17 | 0.014 | ( 0.006) | 0.001 | 0.013 |
| 42 | 3.50 | 0.17 | 0.014 | ( 0.006) | 0.001 | 0.013 |
| 43 | 3.58 | 0.17 | 0.014 | ( 0.006) | 0.001 | 0.013 |
| 44 | 3.67 | 0.17 | 0.014 | ( 0.006) | 0.001 | 0.013 |
| 45 | 3.75 | 0.17 | 0.014 | ( 0.005) | 0.001 | 0.013 |
| 46 | 3.83 | 0.20 | 0.017 | ( 0.005) | 0.002 | 0.015 |
| 47 | 3.92 | 0.20 | 0.017 | ( 0.005) | 0.002 | 0.015 |
| 48 | 4.00 | 0.20 | 0.017 | ( 0.005) | 0.002 | 0.015 |
| 49 | 4.08 | 0.20 | 0.017 | ( 0.005) | 0.002 | 0.015 |
| 50 | 4.17 | 0.20 | 0.017 | ( 0.005) | 0.002 | 0.015 |
| 51 | 4.25 | 0.20 | 0.017 | ( 0.005) | 0.002 | 0.015 |
| 52 | 4.33 | 0.23 | 0.020 | ( 0.005) | 0.002 | 0.018 |
| 53 | 4.42 | 0.23 | 0.020 | ( 0.005) | 0.002 | 0.018 |
| 54 | 4.50 | 0.23 | 0.020 | ( 0.005) | 0.002 | 0.018 |
| 55 | 4.58 | 0.23 | 0.020 | ( 0.005) | 0.002 | 0.018 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 56 | 4.67 | 0.23 | 0.020 | ( 0.005) | 0.002 | 0.018 |
| 57 | 4.75 | 0.23 | 0.020 | ( 0.005) | 0.002 | 0.018 |
| 58 | 4.83 | 0.27 | 0.022 | ( 0.005) | 0.002 | 0.020 |
| 59 | 4.92 | 0.27 | 0.022 | ( 0.005) | 0.002 | 0.020 |
| 60 | 5.00 | 0.27 | 0.022 | ( 0.005) | 0.002 | 0.020 |
| 61 | 5.08 | 0.20 | 0.017 | ( 0.005) | 0.002 | 0.015 |
| 62 | 5.17 | 0.20 | 0.017 | ( 0.005) | 0.002 | 0.015 |
| 63 | 5.25 | 0.20 | 0.017 | ( 0.005) | 0.002 | 0.015 |
| 64 | 5.33 | 0.23 | 0.020 | ( 0.005) | 0.002 | 0.018 |
| 65 | 5.42 | 0.23 | 0.020 | ( 0.005) | 0.002 | 0.018 |
| 66 | 5.50 | 0.23 | 0.020 | ( 0.005) | 0.002 | 0.018 |
| 67 | 5.58 | 0.27 | 0.022 | ( 0.005) | 0.002 | 0.020 |
| 68 | 5.67 | 0.27 | 0.022 | ( 0.005) | 0.002 | 0.020 |
| 69 | 5.75 | 0.27 | 0.022 | ( 0.005) | 0.002 | 0.020 |
| 70 | 5.83 | 0.27 | 0.022 | ( 0.005) | 0.002 | 0.020 |
| 71 | 5.92 | 0.27 | 0.022 | ( 0.005) | 0.002 | 0.020 |
| 72 | 6.00 | 0.27 | 0.022 | ( 0.005) | 0.002 | 0.020 |
| 73 | 6.08 | 0.30 | 0.025 | ( 0.005) | 0.003 | 0.023 |
| 74 | 6.17 | 0.30 | 0.025 | ( 0.005) | 0.003 | 0.023 |
| 75 | 6.25 | 0.30 | 0.025 | ( 0.005) | 0.003 | 0.023 |
| 76 | 6.33 | 0.30 | 0.025 | ( 0.005) | 0.003 | 0.023 |
| 77 | 6.42 | 0.30 | 0.025 | ( 0.005) | 0.003 | 0.023 |
| 78 | 6.50 | 0.30 | 0.025 | ( 0.005) | 0.003 | 0.023 |
| 79 | 6.58 | 0.33 | 0.028 | ( 0.005) | 0.003 | 0.025 |
| 80 | 6.67 | 0.33 | 0.028 | ( 0.005) | 0.003 | 0.025 |
| 81 | 6.75 | 0.33 | 0.028 | ( 0.005) | 0.003 | 0.025 |
| 82 | 6.83 | 0.33 | 0.028 | ( 0.005) | 0.003 | 0.025 |
| 83 | 6.92 | 0.33 | 0.028 | ( 0.005) | 0.003 | 0.025 |
| 84 | 7.00 | 0.33 | 0.028 | ( 0.005) | 0.003 | 0.025 |
| 85 | 7.08 | 0.33 | 0.028 | ( 0.005) | 0.003 | 0.025 |
| 86 | 7.17 | 0.33 | 0.028 | ( 0.005) | 0.003 | 0.025 |
| 87 | 7.25 | 0.33 | 0.028 | ( 0.005) | 0.003 | 0.025 |
| 88 | 7.33 | 0.37 | 0.031 | ( 0.005) | 0.003 | 0.028 |
| 89 | 7.42 | 0.37 | 0.031 | ( 0.005) | 0.003 | 0.028 |
| 90 | 7.50 | 0.37 | 0.031 | ( 0.004) | 0.003 | 0.028 |
| 91 | 7.58 | 0.40 | 0.034 | ( 0.004) | 0.003 | 0.030 |
| 92 | 7.67 | 0.40 | 0.034 | ( 0.004) | 0.003 | 0.030 |
| 93 | 7.75 | 0.40 | 0.034 | ( 0.004) | 0.003 | 0.030 |
| 94 | 7.83 | 0.43 | 0.036 | ( 0.004) | 0.004 | 0.033 |
| 95 | 7.92 | 0.43 | 0.036 | ( 0.004) | 0.004 | 0.033 |
| 96 | 8.00 | 0.43 | 0.036 | ( 0.004) | 0.004 | 0.033 |
| 97 | 8.08 | 0.50 | 0.042 | ( 0.004) | 0.004 | 0.038 |
| 98 | 8.17 | 0.50 | 0.042 | ( 0.004) | 0.004 | 0.038 |
| 99 | 8.25 | 0.50 | 0.042 | ( 0.004) | 0.004 | 0.038 |
| 100 | 8.33 | 0.50 | 0.042 | ( 0.004) | 0.004 | 0.038 |
| 101 | 8.42 | 0.50 | 0.042 | ( 0.004) | 0.004 | 0.038 |
| 102 | 8.50 | 0.50 | 0.042 | ( 0.004) | 0.004 | 0.038 |
| 103 | 8.58 | 0.53 | 0.045 | 0.004 | ( 0.004) | 0.041 |
| 104 | 8.67 | 0.53 | 0.045 | 0.004 | ( 0.004) | 0.041 |
| 105 | 8.75 | 0.53 | 0.045 | 0.004 | ( 0.004) | 0.041 |
| 106 | 8.83 | 0.57 | 0.048 | 0.004 | ( 0.005) | 0.044 |
| 107 | 8.92 | 0.57 | 0.048 | 0.004 | ( 0.005) | 0.044 |
| 108 | 9.00 | 0.57 | 0.048 | 0.004 | ( 0.005) | 0.044 |
| 109 | 9.08 | 0.63 | 0.053 | 0.004 | ( 0.005) | 0.049 |
| 110 | 9.17 | 0.63 | 0.053 | 0.004 | ( 0.005) | 0.049 |
| 111 | 9.25 | 0.63 | 0.053 | 0.004 | ( 0.005) | 0.049 |
| 112 | 9.33 | 0.67 | 0.056 | 0.004 | ( 0.006) | 0.052 |
| 113 | 9.42 | 0.67 | 0.056 | 0.004 | ( 0.006) | 0.052 |
| 114 | 9.50 | 0.67 | 0.056 | 0.004 | ( 0.006) | 0.052 |
| 115 | 9.58 | 0.70 | 0.059 | 0.004 | ( 0.006) | 0.055 |
| 116 | 9.67 | 0.70 | 0.059 | 0.004 | ( 0.006) | 0.055 |
| 117 | 9.75 | 0.70 | 0.059 | 0.004 | ( 0.006) | 0.055 |
| 118 | 9.83 | 0.73 | 0.062 | 0.004 | ( 0.006) | 0.058 |
| 119 | 9.92 | 0.73 | 0.062 | 0.004 | ( 0.006) | 0.058 |
| 120 | 10.00 | 0.73 | 0.062 | 0.004 | ( 0.006) | 0.058 |
| 121 | 10.08 | 0.50 | 0.042 | 0.004 | ( 0.004) | 0.038 |
| 122 | 10.17 | 0.50 | 0.042 | 0.004 | ( 0.004) | 0.038 |
| 123 | 10.25 | 0.50 | 0.042 | 0.004 | ( 0.004) | 0.038 |
| 124 | 10.33 | 0.50 | 0.042 | 0.004 | ( 0.004) | 0.038 |
| 125 | 10.42 | 0.50 | 0.042 | 0.004 | ( 0.004) | 0.038 |
| 126 | 10.50 | 0.50 | 0.042 | 0.004 | ( 0.004) | 0.038 |
| 127 | 10.58 | 0.67 | 0.056 | 0.004 | ( 0.006) | 0.052 |
| 128 | 10.67 | 0.67 | 0.056 | 0.004 | ( 0.006) | 0.052 |
| 129 | 10.75 | 0.67 | 0.056 | 0.004 | ( 0.006) | 0.052 |
| 130 | 10.83 | 0.67 | 0.056 | 0.004 | ( 0.006) | 0.052 |
| 131 | 10.92 | 0.67 | 0.056 | 0.004 | ( 0.006) | 0.052 |
| 132 | 11.00 | 0.67 | 0.056 | 0.004 | ( 0.006) | 0.052 |
| 133 | 11.08 | 0.63 | 0.053 | 0.004 | ( 0.005) | 0.050 |
| 134 | 11.17 | 0.63 | 0.053 | 0.004 | ( 0.005) | 0.050 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 135 | 11.25 | 0.63 | 0.053 | 0.004 | ( 0.005) | 0.050 |
| 136 | 11.33 | 0.63 | 0.053 | 0.004 | ( 0.005) | 0.050 |
| 137 | 11.42 | 0.63 | 0.053 | 0.004 | ( 0.005) | 0.050 |
| 138 | 11.50 | 0.63 | 0.053 | 0.004 | ( 0.005) | 0.050 |
| 139 | 11.58 | 0.57 | 0.048 | 0.004 | ( 0.005) | 0.044 |
| 140 | 11.67 | 0.57 | 0.048 | 0.004 | ( 0.005) | 0.044 |
| 141 | 11.75 | 0.57 | 0.048 | 0.004 | ( 0.005) | 0.044 |
| 142 | 11.83 | 0.60 | 0.051 | 0.004 | ( 0.005) | 0.047 |
| 143 | 11.92 | 0.60 | 0.051 | 0.003 | ( 0.005) | 0.047 |
| 144 | 12.00 | 0.60 | 0.051 | 0.003 | ( 0.005) | 0.047 |
| 145 | 12.08 | 0.83 | 0.070 | 0.003 | ( 0.007) | 0.067 |
| 146 | 12.17 | 0.83 | 0.070 | 0.003 | ( 0.007) | 0.067 |
| 147 | 12.25 | 0.83 | 0.070 | 0.003 | ( 0.007) | 0.067 |
| 148 | 12.33 | 0.87 | 0.073 | 0.003 | ( 0.007) | 0.070 |
| 149 | 12.42 | 0.87 | 0.073 | 0.003 | ( 0.007) | 0.070 |
| 150 | 12.50 | 0.87 | 0.073 | 0.003 | ( 0.007) | 0.070 |
| 151 | 12.58 | 0.93 | 0.079 | 0.003 | ( 0.008) | 0.075 |
| 152 | 12.67 | 0.93 | 0.079 | 0.003 | ( 0.008) | 0.075 |
| 153 | 12.75 | 0.93 | 0.079 | 0.003 | ( 0.008) | 0.075 |
| 154 | 12.83 | 0.97 | 0.081 | 0.003 | ( 0.008) | 0.078 |
| 155 | 12.92 | 0.97 | 0.081 | 0.003 | ( 0.008) | 0.078 |
| 156 | 13.00 | 0.97 | 0.081 | 0.003 | ( 0.008) | 0.078 |
| 157 | 13.08 | 1.13 | 0.095 | 0.003 | ( 0.010) | 0.092 |
| 158 | 13.17 | 1.13 | 0.095 | 0.003 | ( 0.010) | 0.092 |
| 159 | 13.25 | 1.13 | 0.095 | 0.003 | ( 0.010) | 0.092 |
| 160 | 13.33 | 1.13 | 0.095 | 0.003 | ( 0.010) | 0.092 |
| 161 | 13.42 | 1.13 | 0.095 | 0.003 | ( 0.010) | 0.092 |
| 162 | 13.50 | 1.13 | 0.095 | 0.003 | ( 0.010) | 0.092 |
| 163 | 13.58 | 0.77 | 0.065 | 0.003 | ( 0.006) | 0.061 |
| 164 | 13.67 | 0.77 | 0.065 | 0.003 | ( 0.006) | 0.061 |
| 165 | 13.75 | 0.77 | 0.065 | 0.003 | ( 0.006) | 0.061 |
| 166 | 13.83 | 0.77 | 0.065 | 0.003 | ( 0.006) | 0.061 |
| 167 | 13.92 | 0.77 | 0.065 | 0.003 | ( 0.006) | 0.061 |
| 168 | 14.00 | 0.77 | 0.065 | 0.003 | ( 0.006) | 0.061 |
| 169 | 14.08 | 0.90 | 0.076 | 0.003 | ( 0.008) | 0.073 |
| 170 | 14.17 | 0.90 | 0.076 | 0.003 | ( 0.008) | 0.073 |
| 171 | 14.25 | 0.90 | 0.076 | 0.003 | ( 0.008) | 0.073 |
| 172 | 14.33 | 0.87 | 0.073 | 0.003 | ( 0.007) | 0.070 |
| 173 | 14.42 | 0.87 | 0.073 | 0.003 | ( 0.007) | 0.070 |
| 174 | 14.50 | 0.87 | 0.073 | 0.003 | ( 0.007) | 0.070 |
| 175 | 14.58 | 0.87 | 0.073 | 0.003 | ( 0.007) | 0.070 |
| 176 | 14.67 | 0.87 | 0.073 | 0.003 | ( 0.007) | 0.070 |
| 177 | 14.75 | 0.87 | 0.073 | 0.003 | ( 0.007) | 0.070 |
| 178 | 14.83 | 0.83 | 0.070 | 0.003 | ( 0.007) | 0.067 |
| 179 | 14.92 | 0.83 | 0.070 | 0.003 | ( 0.007) | 0.067 |
| 180 | 15.00 | 0.83 | 0.070 | 0.003 | ( 0.007) | 0.067 |
| 181 | 15.08 | 0.80 | 0.067 | 0.003 | ( 0.007) | 0.065 |
| 182 | 15.17 | 0.80 | 0.067 | 0.003 | ( 0.007) | 0.065 |
| 183 | 15.25 | 0.80 | 0.067 | 0.003 | ( 0.007) | 0.065 |
| 184 | 15.33 | 0.77 | 0.065 | 0.003 | ( 0.006) | 0.062 |
| 185 | 15.42 | 0.77 | 0.065 | 0.003 | ( 0.006) | 0.062 |
| 186 | 15.50 | 0.77 | 0.065 | 0.003 | ( 0.006) | 0.062 |
| 187 | 15.58 | 0.63 | 0.053 | 0.003 | ( 0.005) | 0.051 |
| 188 | 15.67 | 0.63 | 0.053 | 0.003 | ( 0.005) | 0.051 |
| 189 | 15.75 | 0.63 | 0.053 | 0.003 | ( 0.005) | 0.051 |
| 190 | 15.83 | 0.63 | 0.053 | 0.003 | ( 0.005) | 0.051 |
| 191 | 15.92 | 0.63 | 0.053 | 0.003 | ( 0.005) | 0.051 |
| 192 | 16.00 | 0.63 | 0.053 | 0.003 | ( 0.005) | 0.051 |
| 193 | 16.08 | 0.13 | 0.011 | ( 0.003) | 0.001 | 0.010 |
| 194 | 16.17 | 0.13 | 0.011 | ( 0.003) | 0.001 | 0.010 |
| 195 | 16.25 | 0.13 | 0.011 | ( 0.003) | 0.001 | 0.010 |
| 196 | 16.33 | 0.13 | 0.011 | ( 0.003) | 0.001 | 0.010 |
| 197 | 16.42 | 0.13 | 0.011 | ( 0.003) | 0.001 | 0.010 |
| 198 | 16.50 | 0.13 | 0.011 | ( 0.003) | 0.001 | 0.010 |
| 199 | 16.58 | 0.10 | 0.008 | ( 0.003) | 0.001 | 0.008 |
| 200 | 16.67 | 0.10 | 0.008 | ( 0.003) | 0.001 | 0.008 |
| 201 | 16.75 | 0.10 | 0.008 | ( 0.003) | 0.001 | 0.008 |
| 202 | 16.83 | 0.10 | 0.008 | ( 0.003) | 0.001 | 0.008 |
| 203 | 16.92 | 0.10 | 0.008 | ( 0.003) | 0.001 | 0.008 |
| 204 | 17.00 | 0.10 | 0.008 | ( 0.003) | 0.001 | 0.008 |
| 205 | 17.08 | 0.17 | 0.014 | ( 0.003) | 0.001 | 0.013 |
| 206 | 17.17 | 0.17 | 0.014 | ( 0.003) | 0.001 | 0.013 |
| 207 | 17.25 | 0.17 | 0.014 | ( 0.003) | 0.001 | 0.013 |
| 208 | 17.33 | 0.17 | 0.014 | ( 0.003) | 0.001 | 0.013 |
| 209 | 17.42 | 0.17 | 0.014 | ( 0.002) | 0.001 | 0.013 |
| 210 | 17.50 | 0.17 | 0.014 | ( 0.002) | 0.001 | 0.013 |
| 211 | 17.58 | 0.17 | 0.014 | ( 0.002) | 0.001 | 0.013 |
| 212 | 17.67 | 0.17 | 0.014 | ( 0.002) | 0.001 | 0.013 |
| 213 | 17.75 | 0.17 | 0.014 | ( 0.002) | 0.001 | 0.013 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 214 | 17.83 | 0.13 | 0.011 | ( 0.002) | 0.001 | 0.010 |
| 215 | 17.92 | 0.13 | 0.011 | ( 0.002) | 0.001 | 0.010 |
| 216 | 18.00 | 0.13 | 0.011 | ( 0.002) | 0.001 | 0.010 |
| 217 | 18.08 | 0.13 | 0.011 | ( 0.002) | 0.001 | 0.010 |
| 218 | 18.17 | 0.13 | 0.011 | ( 0.002) | 0.001 | 0.010 |
| 219 | 18.25 | 0.13 | 0.011 | ( 0.002) | 0.001 | 0.010 |
| 220 | 18.33 | 0.13 | 0.011 | ( 0.002) | 0.001 | 0.010 |
| 221 | 18.42 | 0.13 | 0.011 | ( 0.002) | 0.001 | 0.010 |
| 222 | 18.50 | 0.13 | 0.011 | ( 0.002) | 0.001 | 0.010 |
| 223 | 18.58 | 0.10 | 0.008 | ( 0.002) | 0.001 | 0.008 |
| 224 | 18.67 | 0.10 | 0.008 | ( 0.002) | 0.001 | 0.008 |
| 225 | 18.75 | 0.10 | 0.008 | ( 0.002) | 0.001 | 0.008 |
| 226 | 18.83 | 0.07 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 227 | 18.92 | 0.07 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 228 | 19.00 | 0.07 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 229 | 19.08 | 0.10 | 0.008 | ( 0.002) | 0.001 | 0.008 |
| 230 | 19.17 | 0.10 | 0.008 | ( 0.002) | 0.001 | 0.008 |
| 231 | 19.25 | 0.10 | 0.008 | ( 0.002) | 0.001 | 0.008 |
| 232 | 19.33 | 0.13 | 0.011 | ( 0.002) | 0.001 | 0.010 |
| 233 | 19.42 | 0.13 | 0.011 | ( 0.002) | 0.001 | 0.010 |
| 234 | 19.50 | 0.13 | 0.011 | ( 0.002) | 0.001 | 0.010 |
| 235 | 19.58 | 0.10 | 0.008 | ( 0.002) | 0.001 | 0.008 |
| 236 | 19.67 | 0.10 | 0.008 | ( 0.002) | 0.001 | 0.008 |
| 237 | 19.75 | 0.10 | 0.008 | ( 0.002) | 0.001 | 0.008 |
| 238 | 19.83 | 0.07 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 239 | 19.92 | 0.07 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 240 | 20.00 | 0.07 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 241 | 20.08 | 0.10 | 0.008 | ( 0.002) | 0.001 | 0.008 |
| 242 | 20.17 | 0.10 | 0.008 | ( 0.002) | 0.001 | 0.008 |
| 243 | 20.25 | 0.10 | 0.008 | ( 0.002) | 0.001 | 0.008 |
| 244 | 20.33 | 0.10 | 0.008 | ( 0.002) | 0.001 | 0.008 |
| 245 | 20.42 | 0.10 | 0.008 | ( 0.002) | 0.001 | 0.008 |
| 246 | 20.50 | 0.10 | 0.008 | ( 0.002) | 0.001 | 0.008 |
| 247 | 20.58 | 0.10 | 0.008 | ( 0.002) | 0.001 | 0.008 |
| 248 | 20.67 | 0.10 | 0.008 | ( 0.002) | 0.001 | 0.008 |
| 249 | 20.75 | 0.10 | 0.008 | ( 0.002) | 0.001 | 0.008 |
| 250 | 20.83 | 0.07 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 251 | 20.92 | 0.07 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 252 | 21.00 | 0.07 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 253 | 21.08 | 0.10 | 0.008 | ( 0.002) | 0.001 | 0.008 |
| 254 | 21.17 | 0.10 | 0.008 | ( 0.002) | 0.001 | 0.008 |
| 255 | 21.25 | 0.10 | 0.008 | ( 0.002) | 0.001 | 0.008 |
| 256 | 21.33 | 0.07 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 257 | 21.42 | 0.07 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 258 | 21.50 | 0.07 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 259 | 21.58 | 0.10 | 0.008 | ( 0.002) | 0.001 | 0.008 |
| 260 | 21.67 | 0.10 | 0.008 | ( 0.002) | 0.001 | 0.008 |
| 261 | 21.75 | 0.10 | 0.008 | ( 0.002) | 0.001 | 0.008 |
| 262 | 21.83 | 0.07 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 263 | 21.92 | 0.07 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 264 | 22.00 | 0.07 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 265 | 22.08 | 0.10 | 0.008 | ( 0.002) | 0.001 | 0.008 |
| 266 | 22.17 | 0.10 | 0.008 | ( 0.002) | 0.001 | 0.008 |
| 267 | 22.25 | 0.10 | 0.008 | ( 0.002) | 0.001 | 0.008 |
| 268 | 22.33 | 0.07 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 269 | 22.42 | 0.07 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 270 | 22.50 | 0.07 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 271 | 22.58 | 0.07 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 272 | 22.67 | 0.07 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 273 | 22.75 | 0.07 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 274 | 22.83 | 0.07 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 275 | 22.92 | 0.07 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 276 | 23.00 | 0.07 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 277 | 23.08 | 0.07 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 278 | 23.17 | 0.07 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 279 | 23.25 | 0.07 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 280 | 23.33 | 0.07 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 281 | 23.42 | 0.07 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 282 | 23.50 | 0.07 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 283 | 23.58 | 0.07 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 284 | 23.67 | 0.07 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 285 | 23.75 | 0.07 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 286 | 23.83 | 0.07 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 287 | 23.92 | 0.07 | 0.006 | ( 0.002) | 0.001 | 0.005 |
| 288 | 24.00 | 0.07 | 0.006 | ( 0.002) | 0.001 | 0.005 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 7.8

Flood volume = Effective rainfall 0.65(In)
times area 108.2(Ac.)/[(In)/(Ft.)] = 5.9(Ac.Ft)

Total soil loss = 0.05(In)
Total soil loss = 0.441(Ac.Ft)
Total rainfall = 0.70(In)
Flood volume = 256432.7 Cubic Feet
Total soil loss = 19230.8 Cubic Feet

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Storm Event 3 Effective Rainfall = 0.889(In)

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.007 | ( 0.007) | 0.001 | 0.006 |
| 2 | 0.17 | 0.07 | 0.007 | ( 0.007) | 0.001 | 0.006 |
| 3 | 0.25 | 0.07 | 0.007 | ( 0.007) | 0.001 | 0.006 |
| 4 | 0.33 | 0.10 | 0.011 | ( 0.006) | 0.001 | 0.010 |
| 5 | 0.42 | 0.10 | 0.011 | ( 0.006) | 0.001 | 0.010 |
| 6 | 0.50 | 0.10 | 0.011 | ( 0.006) | 0.001 | 0.010 |
| 7 | 0.58 | 0.10 | 0.011 | ( 0.006) | 0.001 | 0.010 |
| 8 | 0.67 | 0.10 | 0.011 | ( 0.006) | 0.001 | 0.010 |
| 9 | 0.75 | 0.10 | 0.011 | ( 0.006) | 0.001 | 0.010 |
| 10 | 0.83 | 0.13 | 0.014 | ( 0.006) | 0.001 | 0.013 |
| 11 | 0.92 | 0.13 | 0.014 | ( 0.006) | 0.001 | 0.013 |
| 12 | 1.00 | 0.13 | 0.014 | ( 0.006) | 0.001 | 0.013 |
| 13 | 1.08 | 0.10 | 0.011 | ( 0.006) | 0.001 | 0.010 |
| 14 | 1.17 | 0.10 | 0.011 | ( 0.006) | 0.001 | 0.010 |
| 15 | 1.25 | 0.10 | 0.011 | ( 0.006) | 0.001 | 0.010 |
| 16 | 1.33 | 0.10 | 0.011 | ( 0.006) | 0.001 | 0.010 |
| 17 | 1.42 | 0.10 | 0.011 | ( 0.006) | 0.001 | 0.010 |
| 18 | 1.50 | 0.10 | 0.011 | ( 0.006) | 0.001 | 0.010 |
| 19 | 1.58 | 0.10 | 0.011 | ( 0.006) | 0.001 | 0.010 |
| 20 | 1.67 | 0.10 | 0.011 | ( 0.006) | 0.001 | 0.010 |
| 21 | 1.75 | 0.10 | 0.011 | ( 0.006) | 0.001 | 0.010 |
| 22 | 1.83 | 0.13 | 0.014 | ( 0.006) | 0.001 | 0.013 |
| 23 | 1.92 | 0.13 | 0.014 | ( 0.006) | 0.001 | 0.013 |
| 24 | 2.00 | 0.13 | 0.014 | ( 0.006) | 0.001 | 0.013 |
| 25 | 2.08 | 0.13 | 0.014 | ( 0.006) | 0.001 | 0.013 |
| 26 | 2.17 | 0.13 | 0.014 | ( 0.006) | 0.001 | 0.013 |
| 27 | 2.25 | 0.13 | 0.014 | ( 0.006) | 0.001 | 0.013 |
| 28 | 2.33 | 0.13 | 0.014 | ( 0.006) | 0.001 | 0.013 |
| 29 | 2.42 | 0.13 | 0.014 | ( 0.006) | 0.001 | 0.013 |
| 30 | 2.50 | 0.13 | 0.014 | ( 0.006) | 0.001 | 0.013 |
| 31 | 2.58 | 0.17 | 0.018 | ( 0.006) | 0.002 | 0.016 |
| 32 | 2.67 | 0.17 | 0.018 | ( 0.006) | 0.002 | 0.016 |
| 33 | 2.75 | 0.17 | 0.018 | ( 0.006) | 0.002 | 0.016 |
| 34 | 2.83 | 0.17 | 0.018 | ( 0.006) | 0.002 | 0.016 |
| 35 | 2.92 | 0.17 | 0.018 | ( 0.006) | 0.002 | 0.016 |
| 36 | 3.00 | 0.17 | 0.018 | ( 0.006) | 0.002 | 0.016 |
| 37 | 3.08 | 0.17 | 0.018 | ( 0.006) | 0.002 | 0.016 |
| 38 | 3.17 | 0.17 | 0.018 | ( 0.006) | 0.002 | 0.016 |
| 39 | 3.25 | 0.17 | 0.018 | ( 0.006) | 0.002 | 0.016 |
| 40 | 3.33 | 0.17 | 0.018 | ( 0.006) | 0.002 | 0.016 |
| 41 | 3.42 | 0.17 | 0.018 | ( 0.006) | 0.002 | 0.016 |
| 42 | 3.50 | 0.17 | 0.018 | ( 0.006) | 0.002 | 0.016 |
| 43 | 3.58 | 0.17 | 0.018 | ( 0.006) | 0.002 | 0.016 |
| 44 | 3.67 | 0.17 | 0.018 | ( 0.006) | 0.002 | 0.016 |
| 45 | 3.75 | 0.17 | 0.018 | ( 0.005) | 0.002 | 0.016 |
| 46 | 3.83 | 0.20 | 0.021 | ( 0.005) | 0.002 | 0.019 |
| 47 | 3.92 | 0.20 | 0.021 | ( 0.005) | 0.002 | 0.019 |
| 48 | 4.00 | 0.20 | 0.021 | ( 0.005) | 0.002 | 0.019 |
| 49 | 4.08 | 0.20 | 0.021 | ( 0.005) | 0.002 | 0.019 |
| 50 | 4.17 | 0.20 | 0.021 | ( 0.005) | 0.002 | 0.019 |
| 51 | 4.25 | 0.20 | 0.021 | ( 0.005) | 0.002 | 0.019 |
| 52 | 4.33 | 0.23 | 0.025 | ( 0.005) | 0.002 | 0.022 |
| 53 | 4.42 | 0.23 | 0.025 | ( 0.005) | 0.002 | 0.022 |
| 54 | 4.50 | 0.23 | 0.025 | ( 0.005) | 0.002 | 0.022 |
| 55 | 4.58 | 0.23 | 0.025 | ( 0.005) | 0.002 | 0.022 |
| 56 | 4.67 | 0.23 | 0.025 | ( 0.005) | 0.002 | 0.022 |
| 57 | 4.75 | 0.23 | 0.025 | ( 0.005) | 0.002 | 0.022 |
| 58 | 4.83 | 0.27 | 0.028 | ( 0.005) | 0.003 | 0.026 |
| 59 | 4.92 | 0.27 | 0.028 | ( 0.005) | 0.003 | 0.026 |
| 60 | 5.00 | 0.27 | 0.028 | ( 0.005) | 0.003 | 0.026 |
| 61 | 5.08 | 0.20 | 0.021 | ( 0.005) | 0.002 | 0.019 |
| 62 | 5.17 | 0.20 | 0.021 | ( 0.005) | 0.002 | 0.019 |
| 63 | 5.25 | 0.20 | 0.021 | ( 0.005) | 0.002 | 0.019 |
| 64 | 5.33 | 0.23 | 0.025 | ( 0.005) | 0.002 | 0.022 |
| 65 | 5.42 | 0.23 | 0.025 | ( 0.005) | 0.002 | 0.022 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 66 | 5.50 | 0.23 | 0.025 | ( | 0.005) | 0.002 | | 0.022 |
| 67 | 5.58 | 0.27 | 0.028 | ( | 0.005) | 0.003 | | 0.026 |
| 68 | 5.67 | 0.27 | 0.028 | ( | 0.005) | 0.003 | | 0.026 |
| 69 | 5.75 | 0.27 | 0.028 | ( | 0.005) | 0.003 | | 0.026 |
| 70 | 5.83 | 0.27 | 0.028 | ( | 0.005) | 0.003 | | 0.026 |
| 71 | 5.92 | 0.27 | 0.028 | ( | 0.005) | 0.003 | | 0.026 |
| 72 | 6.00 | 0.27 | 0.028 | ( | 0.005) | 0.003 | | 0.026 |
| 73 | 6.08 | 0.30 | 0.032 | ( | 0.005) | 0.003 | | 0.029 |
| 74 | 6.17 | 0.30 | 0.032 | ( | 0.005) | 0.003 | | 0.029 |
| 75 | 6.25 | 0.30 | 0.032 | ( | 0.005) | 0.003 | | 0.029 |
| 76 | 6.33 | 0.30 | 0.032 | ( | 0.005) | 0.003 | | 0.029 |
| 77 | 6.42 | 0.30 | 0.032 | ( | 0.005) | 0.003 | | 0.029 |
| 78 | 6.50 | 0.30 | 0.032 | ( | 0.005) | 0.003 | | 0.029 |
| 79 | 6.58 | 0.33 | 0.036 | ( | 0.005) | 0.004 | | 0.032 |
| 80 | 6.67 | 0.33 | 0.036 | ( | 0.005) | 0.004 | | 0.032 |
| 81 | 6.75 | 0.33 | 0.036 | ( | 0.005) | 0.004 | | 0.032 |
| 82 | 6.83 | 0.33 | 0.036 | ( | 0.005) | 0.004 | | 0.032 |
| 83 | 6.92 | 0.33 | 0.036 | ( | 0.005) | 0.004 | | 0.032 |
| 84 | 7.00 | 0.33 | 0.036 | ( | 0.005) | 0.004 | | 0.032 |
| 85 | 7.08 | 0.33 | 0.036 | ( | 0.005) | 0.004 | | 0.032 |
| 86 | 7.17 | 0.33 | 0.036 | ( | 0.005) | 0.004 | | 0.032 |
| 87 | 7.25 | 0.33 | 0.036 | ( | 0.005) | 0.004 | | 0.032 |
| 88 | 7.33 | 0.37 | 0.039 | ( | 0.005) | 0.004 | | 0.035 |
| 89 | 7.42 | 0.37 | 0.039 | ( | 0.005) | 0.004 | | 0.035 |
| 90 | 7.50 | 0.37 | 0.039 | ( | 0.004) | 0.004 | | 0.035 |
| 91 | 7.58 | 0.40 | 0.043 | ( | 0.004) | 0.004 | | 0.038 |
| 92 | 7.67 | 0.40 | 0.043 | ( | 0.004) | 0.004 | | 0.038 |
| 93 | 7.75 | 0.40 | 0.043 | ( | 0.004) | 0.004 | | 0.038 |
| 94 | 7.83 | 0.43 | 0.046 | | 0.004 | ( | 0.005) | 0.042 |
| 95 | 7.92 | 0.43 | 0.046 | | 0.004 | ( | 0.005) | 0.042 |
| 96 | 8.00 | 0.43 | 0.046 | | 0.004 | ( | 0.005) | 0.042 |
| 97 | 8.08 | 0.50 | 0.053 | | 0.004 | ( | 0.005) | 0.049 |
| 98 | 8.17 | 0.50 | 0.053 | | 0.004 | ( | 0.005) | 0.049 |
| 99 | 8.25 | 0.50 | 0.053 | | 0.004 | ( | 0.005) | 0.049 |
| 100 | 8.33 | 0.50 | 0.053 | | 0.004 | ( | 0.005) | 0.049 |
| 101 | 8.42 | 0.50 | 0.053 | | 0.004 | ( | 0.005) | 0.049 |
| 102 | 8.50 | 0.50 | 0.053 | | 0.004 | ( | 0.005) | 0.049 |
| 103 | 8.58 | 0.53 | 0.057 | | 0.004 | ( | 0.006) | 0.053 |
| 104 | 8.67 | 0.53 | 0.057 | | 0.004 | ( | 0.006) | 0.053 |
| 105 | 8.75 | 0.53 | 0.057 | | 0.004 | ( | 0.006) | 0.053 |
| 106 | 8.83 | 0.57 | 0.060 | | 0.004 | ( | 0.006) | 0.056 |
| 107 | 8.92 | 0.57 | 0.060 | | 0.004 | ( | 0.006) | 0.056 |
| 108 | 9.00 | 0.57 | 0.060 | | 0.004 | ( | 0.006) | 0.056 |
| 109 | 9.08 | 0.63 | 0.068 | | 0.004 | ( | 0.007) | 0.063 |
| 110 | 9.17 | 0.63 | 0.068 | | 0.004 | ( | 0.007) | 0.063 |
| 111 | 9.25 | 0.63 | 0.068 | | 0.004 | ( | 0.007) | 0.063 |
| 112 | 9.33 | 0.67 | 0.071 | | 0.004 | ( | 0.007) | 0.067 |
| 113 | 9.42 | 0.67 | 0.071 | | 0.004 | ( | 0.007) | 0.067 |
| 114 | 9.50 | 0.67 | 0.071 | | 0.004 | ( | 0.007) | 0.067 |
| 115 | 9.58 | 0.70 | 0.075 | | 0.004 | ( | 0.007) | 0.071 |
| 116 | 9.67 | 0.70 | 0.075 | | 0.004 | ( | 0.007) | 0.071 |
| 117 | 9.75 | 0.70 | 0.075 | | 0.004 | ( | 0.007) | 0.071 |
| 118 | 9.83 | 0.73 | 0.078 | | 0.004 | ( | 0.008) | 0.074 |
| 119 | 9.92 | 0.73 | 0.078 | | 0.004 | ( | 0.008) | 0.074 |
| 120 | 10.00 | 0.73 | 0.078 | | 0.004 | ( | 0.008) | 0.074 |
| 121 | 10.08 | 0.50 | 0.053 | | 0.004 | ( | 0.005) | 0.049 |
| 122 | 10.17 | 0.50 | 0.053 | | 0.004 | ( | 0.005) | 0.049 |
| 123 | 10.25 | 0.50 | 0.053 | | 0.004 | ( | 0.005) | 0.049 |
| 124 | 10.33 | 0.50 | 0.053 | | 0.004 | ( | 0.005) | 0.050 |
| 125 | 10.42 | 0.50 | 0.053 | | 0.004 | ( | 0.005) | 0.050 |
| 126 | 10.50 | 0.50 | 0.053 | | 0.004 | ( | 0.005) | 0.050 |
| 127 | 10.58 | 0.67 | 0.071 | | 0.004 | ( | 0.007) | 0.067 |
| 128 | 10.67 | 0.67 | 0.071 | | 0.004 | ( | 0.007) | 0.067 |
| 129 | 10.75 | 0.67 | 0.071 | | 0.004 | ( | 0.007) | 0.067 |
| 130 | 10.83 | 0.67 | 0.071 | | 0.004 | ( | 0.007) | 0.067 |
| 131 | 10.92 | 0.67 | 0.071 | | 0.004 | ( | 0.007) | 0.067 |
| 132 | 11.00 | 0.67 | 0.071 | | 0.004 | ( | 0.007) | 0.067 |
| 133 | 11.08 | 0.63 | 0.068 | | 0.004 | ( | 0.007) | 0.064 |
| 134 | 11.17 | 0.63 | 0.068 | | 0.004 | ( | 0.007) | 0.064 |
| 135 | 11.25 | 0.63 | 0.068 | | 0.004 | ( | 0.007) | 0.064 |
| 136 | 11.33 | 0.63 | 0.068 | | 0.004 | ( | 0.007) | 0.064 |
| 137 | 11.42 | 0.63 | 0.068 | | 0.004 | ( | 0.007) | 0.064 |
| 138 | 11.50 | 0.63 | 0.068 | | 0.004 | ( | 0.007) | 0.064 |
| 139 | 11.58 | 0.57 | 0.060 | | 0.004 | ( | 0.006) | 0.057 |
| 140 | 11.67 | 0.57 | 0.060 | | 0.004 | ( | 0.006) | 0.057 |
| 141 | 11.75 | 0.57 | 0.060 | | 0.004 | ( | 0.006) | 0.057 |
| 142 | 11.83 | 0.60 | 0.064 | | 0.004 | ( | 0.006) | 0.061 |
| 143 | 11.92 | 0.60 | 0.064 | | 0.003 | ( | 0.006) | 0.061 |
| 144 | 12.00 | 0.60 | 0.064 | | 0.003 | ( | 0.006) | 0.061 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 145 | 12.08 | 0.83 | 0.089 | 0.003 | ( 0.009) | 0.085 |
| 146 | 12.17 | 0.83 | 0.089 | 0.003 | ( 0.009) | 0.085 |
| 147 | 12.25 | 0.83 | 0.089 | 0.003 | ( 0.009) | 0.085 |
| 148 | 12.33 | 0.87 | 0.092 | 0.003 | ( 0.009) | 0.089 |
| 149 | 12.42 | 0.87 | 0.092 | 0.003 | ( 0.009) | 0.089 |
| 150 | 12.50 | 0.87 | 0.092 | 0.003 | ( 0.009) | 0.089 |
| 151 | 12.58 | 0.93 | 0.100 | 0.003 | ( 0.010) | 0.096 |
| 152 | 12.67 | 0.93 | 0.100 | 0.003 | ( 0.010) | 0.096 |
| 153 | 12.75 | 0.93 | 0.100 | 0.003 | ( 0.010) | 0.096 |
| 154 | 12.83 | 0.97 | 0.103 | 0.003 | ( 0.010) | 0.100 |
| 155 | 12.92 | 0.97 | 0.103 | 0.003 | ( 0.010) | 0.100 |
| 156 | 13.00 | 0.97 | 0.103 | 0.003 | ( 0.010) | 0.100 |
| 157 | 13.08 | 1.13 | 0.121 | 0.003 | ( 0.012) | 0.118 |
| 158 | 13.17 | 1.13 | 0.121 | 0.003 | ( 0.012) | 0.118 |
| 159 | 13.25 | 1.13 | 0.121 | 0.003 | ( 0.012) | 0.118 |
| 160 | 13.33 | 1.13 | 0.121 | 0.003 | ( 0.012) | 0.118 |
| 161 | 13.42 | 1.13 | 0.121 | 0.003 | ( 0.012) | 0.118 |
| 162 | 13.50 | 1.13 | 0.121 | 0.003 | ( 0.012) | 0.118 |
| 163 | 13.58 | 0.77 | 0.082 | 0.003 | ( 0.008) | 0.079 |
| 164 | 13.67 | 0.77 | 0.082 | 0.003 | ( 0.008) | 0.079 |
| 165 | 13.75 | 0.77 | 0.082 | 0.003 | ( 0.008) | 0.079 |
| 166 | 13.83 | 0.77 | 0.082 | 0.003 | ( 0.008) | 0.079 |
| 167 | 13.92 | 0.77 | 0.082 | 0.003 | ( 0.008) | 0.079 |
| 168 | 14.00 | 0.77 | 0.082 | 0.003 | ( 0.008) | 0.079 |
| 169 | 14.08 | 0.90 | 0.096 | 0.003 | ( 0.010) | 0.093 |
| 170 | 14.17 | 0.90 | 0.096 | 0.003 | ( 0.010) | 0.093 |
| 171 | 14.25 | 0.90 | 0.096 | 0.003 | ( 0.010) | 0.093 |
| 172 | 14.33 | 0.87 | 0.092 | 0.003 | ( 0.009) | 0.089 |
| 173 | 14.42 | 0.87 | 0.092 | 0.003 | ( 0.009) | 0.089 |
| 174 | 14.50 | 0.87 | 0.092 | 0.003 | ( 0.009) | 0.089 |
| 175 | 14.58 | 0.87 | 0.092 | 0.003 | ( 0.009) | 0.089 |
| 176 | 14.67 | 0.87 | 0.092 | 0.003 | ( 0.009) | 0.090 |
| 177 | 14.75 | 0.87 | 0.092 | 0.003 | ( 0.009) | 0.090 |
| 178 | 14.83 | 0.83 | 0.089 | 0.003 | ( 0.009) | 0.086 |
| 179 | 14.92 | 0.83 | 0.089 | 0.003 | ( 0.009) | 0.086 |
| 180 | 15.00 | 0.83 | 0.089 | 0.003 | ( 0.009) | 0.086 |
| 181 | 15.08 | 0.80 | 0.085 | 0.003 | ( 0.009) | 0.082 |
| 182 | 15.17 | 0.80 | 0.085 | 0.003 | ( 0.009) | 0.082 |
| 183 | 15.25 | 0.80 | 0.085 | 0.003 | ( 0.009) | 0.083 |
| 184 | 15.33 | 0.77 | 0.082 | 0.003 | ( 0.008) | 0.079 |
| 185 | 15.42 | 0.77 | 0.082 | 0.003 | ( 0.008) | 0.079 |
| 186 | 15.50 | 0.77 | 0.082 | 0.003 | ( 0.008) | 0.079 |
| 187 | 15.58 | 0.63 | 0.068 | 0.003 | ( 0.007) | 0.065 |
| 188 | 15.67 | 0.63 | 0.068 | 0.003 | ( 0.007) | 0.065 |
| 189 | 15.75 | 0.63 | 0.068 | 0.003 | ( 0.007) | 0.065 |
| 190 | 15.83 | 0.63 | 0.068 | 0.003 | ( 0.007) | 0.065 |
| 191 | 15.92 | 0.63 | 0.068 | 0.003 | ( 0.007) | 0.065 |
| 192 | 16.00 | 0.63 | 0.068 | 0.003 | ( 0.007) | 0.065 |
| 193 | 16.08 | 0.13 | 0.014 | ( 0.003) | 0.001 | 0.013 |
| 194 | 16.17 | 0.13 | 0.014 | ( 0.003) | 0.001 | 0.013 |
| 195 | 16.25 | 0.13 | 0.014 | ( 0.003) | 0.001 | 0.013 |
| 196 | 16.33 | 0.13 | 0.014 | ( 0.003) | 0.001 | 0.013 |
| 197 | 16.42 | 0.13 | 0.014 | ( 0.003) | 0.001 | 0.013 |
| 198 | 16.50 | 0.13 | 0.014 | ( 0.003) | 0.001 | 0.013 |
| 199 | 16.58 | 0.10 | 0.011 | ( 0.003) | 0.001 | 0.010 |
| 200 | 16.67 | 0.10 | 0.011 | ( 0.003) | 0.001 | 0.010 |
| 201 | 16.75 | 0.10 | 0.011 | ( 0.003) | 0.001 | 0.010 |
| 202 | 16.83 | 0.10 | 0.011 | ( 0.003) | 0.001 | 0.010 |
| 203 | 16.92 | 0.10 | 0.011 | ( 0.003) | 0.001 | 0.010 |
| 204 | 17.00 | 0.10 | 0.011 | ( 0.003) | 0.001 | 0.010 |
| 205 | 17.08 | 0.17 | 0.018 | ( 0.003) | 0.002 | 0.016 |
| 206 | 17.17 | 0.17 | 0.018 | ( 0.003) | 0.002 | 0.016 |
| 207 | 17.25 | 0.17 | 0.018 | ( 0.003) | 0.002 | 0.016 |
| 208 | 17.33 | 0.17 | 0.018 | ( 0.003) | 0.002 | 0.016 |
| 209 | 17.42 | 0.17 | 0.018 | ( 0.002) | 0.002 | 0.016 |
| 210 | 17.50 | 0.17 | 0.018 | ( 0.002) | 0.002 | 0.016 |
| 211 | 17.58 | 0.17 | 0.018 | ( 0.002) | 0.002 | 0.016 |
| 212 | 17.67 | 0.17 | 0.018 | ( 0.002) | 0.002 | 0.016 |
| 213 | 17.75 | 0.17 | 0.018 | ( 0.002) | 0.002 | 0.016 |
| 214 | 17.83 | 0.13 | 0.014 | ( 0.002) | 0.001 | 0.013 |
| 215 | 17.92 | 0.13 | 0.014 | ( 0.002) | 0.001 | 0.013 |
| 216 | 18.00 | 0.13 | 0.014 | ( 0.002) | 0.001 | 0.013 |
| 217 | 18.08 | 0.13 | 0.014 | ( 0.002) | 0.001 | 0.013 |
| 218 | 18.17 | 0.13 | 0.014 | ( 0.002) | 0.001 | 0.013 |
| 219 | 18.25 | 0.13 | 0.014 | ( 0.002) | 0.001 | 0.013 |
| 220 | 18.33 | 0.13 | 0.014 | ( 0.002) | 0.001 | 0.013 |
| 221 | 18.42 | 0.13 | 0.014 | ( 0.002) | 0.001 | 0.013 |
| 222 | 18.50 | 0.13 | 0.014 | ( 0.002) | 0.001 | 0.013 |
| 223 | 18.58 | 0.10 | 0.011 | ( 0.002) | 0.001 | 0.010 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 224 | 18.67 | 0.10 | 0.011 | ( 0.002) | 0.001 | 0.010 |
| 225 | 18.75 | 0.10 | 0.011 | ( 0.002) | 0.001 | 0.010 |
| 226 | 18.83 | 0.07 | 0.007 | ( 0.002) | 0.001 | 0.006 |
| 227 | 18.92 | 0.07 | 0.007 | ( 0.002) | 0.001 | 0.006 |
| 228 | 19.00 | 0.07 | 0.007 | ( 0.002) | 0.001 | 0.006 |
| 229 | 19.08 | 0.10 | 0.011 | ( 0.002) | 0.001 | 0.010 |
| 230 | 19.17 | 0.10 | 0.011 | ( 0.002) | 0.001 | 0.010 |
| 231 | 19.25 | 0.10 | 0.011 | ( 0.002) | 0.001 | 0.010 |
| 232 | 19.33 | 0.13 | 0.014 | ( 0.002) | 0.001 | 0.013 |
| 233 | 19.42 | 0.13 | 0.014 | ( 0.002) | 0.001 | 0.013 |
| 234 | 19.50 | 0.13 | 0.014 | ( 0.002) | 0.001 | 0.013 |
| 235 | 19.58 | 0.10 | 0.011 | ( 0.002) | 0.001 | 0.010 |
| 236 | 19.67 | 0.10 | 0.011 | ( 0.002) | 0.001 | 0.010 |
| 237 | 19.75 | 0.10 | 0.011 | ( 0.002) | 0.001 | 0.010 |
| 238 | 19.83 | 0.07 | 0.007 | ( 0.002) | 0.001 | 0.006 |
| 239 | 19.92 | 0.07 | 0.007 | ( 0.002) | 0.001 | 0.006 |
| 240 | 20.00 | 0.07 | 0.007 | ( 0.002) | 0.001 | 0.006 |
| 241 | 20.08 | 0.10 | 0.011 | ( 0.002) | 0.001 | 0.010 |
| 242 | 20.17 | 0.10 | 0.011 | ( 0.002) | 0.001 | 0.010 |
| 243 | 20.25 | 0.10 | 0.011 | ( 0.002) | 0.001 | 0.010 |
| 244 | 20.33 | 0.10 | 0.011 | ( 0.002) | 0.001 | 0.010 |
| 245 | 20.42 | 0.10 | 0.011 | ( 0.002) | 0.001 | 0.010 |
| 246 | 20.50 | 0.10 | 0.011 | ( 0.002) | 0.001 | 0.010 |
| 247 | 20.58 | 0.10 | 0.011 | ( 0.002) | 0.001 | 0.010 |
| 248 | 20.67 | 0.10 | 0.011 | ( 0.002) | 0.001 | 0.010 |
| 249 | 20.75 | 0.10 | 0.011 | ( 0.002) | 0.001 | 0.010 |
| 250 | 20.83 | 0.07 | 0.007 | ( 0.002) | 0.001 | 0.006 |
| 251 | 20.92 | 0.07 | 0.007 | ( 0.002) | 0.001 | 0.006 |
| 252 | 21.00 | 0.07 | 0.007 | ( 0.002) | 0.001 | 0.006 |
| 253 | 21.08 | 0.10 | 0.011 | ( 0.002) | 0.001 | 0.010 |
| 254 | 21.17 | 0.10 | 0.011 | ( 0.002) | 0.001 | 0.010 |
| 255 | 21.25 | 0.10 | 0.011 | ( 0.002) | 0.001 | 0.010 |
| 256 | 21.33 | 0.07 | 0.007 | ( 0.002) | 0.001 | 0.006 |
| 257 | 21.42 | 0.07 | 0.007 | ( 0.002) | 0.001 | 0.006 |
| 258 | 21.50 | 0.07 | 0.007 | ( 0.002) | 0.001 | 0.006 |
| 259 | 21.58 | 0.10 | 0.011 | ( 0.002) | 0.001 | 0.010 |
| 260 | 21.67 | 0.10 | 0.011 | ( 0.002) | 0.001 | 0.010 |
| 261 | 21.75 | 0.10 | 0.011 | ( 0.002) | 0.001 | 0.010 |
| 262 | 21.83 | 0.07 | 0.007 | ( 0.002) | 0.001 | 0.006 |
| 263 | 21.92 | 0.07 | 0.007 | ( 0.002) | 0.001 | 0.006 |
| 264 | 22.00 | 0.07 | 0.007 | ( 0.002) | 0.001 | 0.006 |
| 265 | 22.08 | 0.10 | 0.011 | ( 0.002) | 0.001 | 0.010 |
| 266 | 22.17 | 0.10 | 0.011 | ( 0.002) | 0.001 | 0.010 |
| 267 | 22.25 | 0.10 | 0.011 | ( 0.002) | 0.001 | 0.010 |
| 268 | 22.33 | 0.07 | 0.007 | ( 0.002) | 0.001 | 0.006 |
| 269 | 22.42 | 0.07 | 0.007 | ( 0.002) | 0.001 | 0.006 |
| 270 | 22.50 | 0.07 | 0.007 | ( 0.002) | 0.001 | 0.006 |
| 271 | 22.58 | 0.07 | 0.007 | ( 0.002) | 0.001 | 0.006 |
| 272 | 22.67 | 0.07 | 0.007 | ( 0.002) | 0.001 | 0.006 |
| 273 | 22.75 | 0.07 | 0.007 | ( 0.002) | 0.001 | 0.006 |
| 274 | 22.83 | 0.07 | 0.007 | ( 0.002) | 0.001 | 0.006 |
| 275 | 22.92 | 0.07 | 0.007 | ( 0.002) | 0.001 | 0.006 |
| 276 | 23.00 | 0.07 | 0.007 | ( 0.002) | 0.001 | 0.006 |
| 277 | 23.08 | 0.07 | 0.007 | ( 0.002) | 0.001 | 0.006 |
| 278 | 23.17 | 0.07 | 0.007 | ( 0.002) | 0.001 | 0.006 |
| 279 | 23.25 | 0.07 | 0.007 | ( 0.002) | 0.001 | 0.006 |
| 280 | 23.33 | 0.07 | 0.007 | ( 0.002) | 0.001 | 0.006 |
| 281 | 23.42 | 0.07 | 0.007 | ( 0.002) | 0.001 | 0.006 |
| 282 | 23.50 | 0.07 | 0.007 | ( 0.002) | 0.001 | 0.006 |
| 283 | 23.58 | 0.07 | 0.007 | ( 0.002) | 0.001 | 0.006 |
| 284 | 23.67 | 0.07 | 0.007 | ( 0.002) | 0.001 | 0.006 |
| 285 | 23.75 | 0.07 | 0.007 | ( 0.002) | 0.001 | 0.006 |
| 286 | 23.83 | 0.07 | 0.007 | ( 0.002) | 0.001 | 0.006 |
| 287 | 23.92 | 0.07 | 0.007 | ( 0.002) | 0.001 | 0.006 |
| 288 | 24.00 | 0.07 | 0.007 | ( 0.002) | 0.001 | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 10.0

Flood volume = Effective rainfall 0.83(In)
times area 108.2(Ac.)/[(In)/(Ft.)] = 7.5(Ac.Ft)
Total soil loss = 0.05(In)
Total soil loss = 0.492(Ac.Ft)
Total rainfall = 0.89(In)
Flood volume = 327734.2 Cubic Feet
Total soil loss = 21439.6 Cubic Feet

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Storm Event 2 Effective Rainfall = 1.684(In)

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The following loss rate calculations reflect use of the minimum calculated loss

rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.013 | ( 0.007) | 0.001 | 0.012 |
| 2 | 0.17 | 0.07 | 0.013 | ( 0.007) | 0.001 | 0.012 |
| 3 | 0.25 | 0.07 | 0.013 | ( 0.007) | 0.001 | 0.012 |
| 4 | 0.33 | 0.10 | 0.020 | ( 0.006) | 0.002 | 0.018 |
| 5 | 0.42 | 0.10 | 0.020 | ( 0.006) | 0.002 | 0.018 |
| 6 | 0.50 | 0.10 | 0.020 | ( 0.006) | 0.002 | 0.018 |
| 7 | 0.58 | 0.10 | 0.020 | ( 0.006) | 0.002 | 0.018 |
| 8 | 0.67 | 0.10 | 0.020 | ( 0.006) | 0.002 | 0.018 |
| 9 | 0.75 | 0.10 | 0.020 | ( 0.006) | 0.002 | 0.018 |
| 10 | 0.83 | 0.13 | 0.027 | ( 0.006) | 0.003 | 0.024 |
| 11 | 0.92 | 0.13 | 0.027 | ( 0.006) | 0.003 | 0.024 |
| 12 | 1.00 | 0.13 | 0.027 | ( 0.006) | 0.003 | 0.024 |
| 13 | 1.08 | 0.10 | 0.020 | ( 0.006) | 0.002 | 0.018 |
| 14 | 1.17 | 0.10 | 0.020 | ( 0.006) | 0.002 | 0.018 |
| 15 | 1.25 | 0.10 | 0.020 | ( 0.006) | 0.002 | 0.018 |
| 16 | 1.33 | 0.10 | 0.020 | ( 0.006) | 0.002 | 0.018 |
| 17 | 1.42 | 0.10 | 0.020 | ( 0.006) | 0.002 | 0.018 |
| 18 | 1.50 | 0.10 | 0.020 | ( 0.006) | 0.002 | 0.018 |
| 19 | 1.58 | 0.10 | 0.020 | ( 0.006) | 0.002 | 0.018 |
| 20 | 1.67 | 0.10 | 0.020 | ( 0.006) | 0.002 | 0.018 |
| 21 | 1.75 | 0.10 | 0.020 | ( 0.006) | 0.002 | 0.018 |
| 22 | 1.83 | 0.13 | 0.027 | ( 0.006) | 0.003 | 0.024 |
| 23 | 1.92 | 0.13 | 0.027 | ( 0.006) | 0.003 | 0.024 |
| 24 | 2.00 | 0.13 | 0.027 | ( 0.006) | 0.003 | 0.024 |
| 25 | 2.08 | 0.13 | 0.027 | ( 0.006) | 0.003 | 0.024 |
| 26 | 2.17 | 0.13 | 0.027 | ( 0.006) | 0.003 | 0.024 |
| 27 | 2.25 | 0.13 | 0.027 | ( 0.006) | 0.003 | 0.024 |
| 28 | 2.33 | 0.13 | 0.027 | ( 0.006) | 0.003 | 0.024 |
| 29 | 2.42 | 0.13 | 0.027 | ( 0.006) | 0.003 | 0.024 |
| 30 | 2.50 | 0.13 | 0.027 | ( 0.006) | 0.003 | 0.024 |
| 31 | 2.58 | 0.17 | 0.034 | ( 0.006) | 0.003 | 0.030 |
| 32 | 2.67 | 0.17 | 0.034 | ( 0.006) | 0.003 | 0.030 |
| 33 | 2.75 | 0.17 | 0.034 | ( 0.006) | 0.003 | 0.030 |
| 34 | 2.83 | 0.17 | 0.034 | ( 0.006) | 0.003 | 0.030 |
| 35 | 2.92 | 0.17 | 0.034 | ( 0.006) | 0.003 | 0.030 |
| 36 | 3.00 | 0.17 | 0.034 | ( 0.006) | 0.003 | 0.030 |
| 37 | 3.08 | 0.17 | 0.034 | ( 0.006) | 0.003 | 0.030 |
| 38 | 3.17 | 0.17 | 0.034 | ( 0.006) | 0.003 | 0.030 |
| 39 | 3.25 | 0.17 | 0.034 | ( 0.006) | 0.003 | 0.030 |
| 40 | 3.33 | 0.17 | 0.034 | ( 0.006) | 0.003 | 0.030 |
| 41 | 3.42 | 0.17 | 0.034 | ( 0.006) | 0.003 | 0.030 |
| 42 | 3.50 | 0.17 | 0.034 | ( 0.006) | 0.003 | 0.030 |
| 43 | 3.58 | 0.17 | 0.034 | ( 0.006) | 0.003 | 0.030 |
| 44 | 3.67 | 0.17 | 0.034 | ( 0.006) | 0.003 | 0.030 |
| 45 | 3.75 | 0.17 | 0.034 | ( 0.005) | 0.003 | 0.030 |
| 46 | 3.83 | 0.20 | 0.040 | ( 0.005) | 0.004 | 0.036 |
| 47 | 3.92 | 0.20 | 0.040 | ( 0.005) | 0.004 | 0.036 |
| 48 | 4.00 | 0.20 | 0.040 | ( 0.005) | 0.004 | 0.036 |
| 49 | 4.08 | 0.20 | 0.040 | ( 0.005) | 0.004 | 0.036 |
| 50 | 4.17 | 0.20 | 0.040 | ( 0.005) | 0.004 | 0.036 |
| 51 | 4.25 | 0.20 | 0.040 | ( 0.005) | 0.004 | 0.036 |
| 52 | 4.33 | 0.23 | 0.047 | ( 0.005) | 0.005 | 0.042 |
| 53 | 4.42 | 0.23 | 0.047 | ( 0.005) | 0.005 | 0.042 |
| 54 | 4.50 | 0.23 | 0.047 | ( 0.005) | 0.005 | 0.042 |
| 55 | 4.58 | 0.23 | 0.047 | ( 0.005) | 0.005 | 0.042 |
| 56 | 4.67 | 0.23 | 0.047 | ( 0.005) | 0.005 | 0.042 |
| 57 | 4.75 | 0.23 | 0.047 | ( 0.005) | 0.005 | 0.042 |
| 58 | 4.83 | 0.27 | 0.054 | 0.005 | ( 0.005) | 0.049 |
| 59 | 4.92 | 0.27 | 0.054 | 0.005 | ( 0.005) | 0.049 |
| 60 | 5.00 | 0.27 | 0.054 | 0.005 | ( 0.005) | 0.049 |
| 61 | 5.08 | 0.20 | 0.040 | ( 0.005) | 0.004 | 0.036 |
| 62 | 5.17 | 0.20 | 0.040 | ( 0.005) | 0.004 | 0.036 |
| 63 | 5.25 | 0.20 | 0.040 | ( 0.005) | 0.004 | 0.036 |
| 64 | 5.33 | 0.23 | 0.047 | ( 0.005) | 0.005 | 0.042 |
| 65 | 5.42 | 0.23 | 0.047 | ( 0.005) | 0.005 | 0.042 |
| 66 | 5.50 | 0.23 | 0.047 | ( 0.005) | 0.005 | 0.042 |
| 67 | 5.58 | 0.27 | 0.054 | 0.005 | ( 0.005) | 0.049 |
| 68 | 5.67 | 0.27 | 0.054 | 0.005 | ( 0.005) | 0.049 |
| 69 | 5.75 | 0.27 | 0.054 | 0.005 | ( 0.005) | 0.049 |
| 70 | 5.83 | 0.27 | 0.054 | 0.005 | ( 0.005) | 0.049 |
| 71 | 5.92 | 0.27 | 0.054 | 0.005 | ( 0.005) | 0.049 |
| 72 | 6.00 | 0.27 | 0.054 | 0.005 | ( 0.005) | 0.049 |
| 73 | 6.08 | 0.30 | 0.061 | 0.005 | ( 0.006) | 0.056 |
| 74 | 6.17 | 0.30 | 0.061 | 0.005 | ( 0.006) | 0.056 |
| 75 | 6.25 | 0.30 | 0.061 | 0.005 | ( 0.006) | 0.056 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 76 | 6.33 | 0.30 | 0.061 | 0.005 | ( 0.006) | 0.056 |
| 77 | 6.42 | 0.30 | 0.061 | 0.005 | ( 0.006) | 0.056 |
| 78 | 6.50 | 0.30 | 0.061 | 0.005 | ( 0.006) | 0.056 |
| 79 | 6.58 | 0.33 | 0.067 | 0.005 | ( 0.007) | 0.063 |
| 80 | 6.67 | 0.33 | 0.067 | 0.005 | ( 0.007) | 0.063 |
| 81 | 6.75 | 0.33 | 0.067 | 0.005 | ( 0.007) | 0.063 |
| 82 | 6.83 | 0.33 | 0.067 | 0.005 | ( 0.007) | 0.063 |
| 83 | 6.92 | 0.33 | 0.067 | 0.005 | ( 0.007) | 0.063 |
| 84 | 7.00 | 0.33 | 0.067 | 0.005 | ( 0.007) | 0.063 |
| 85 | 7.08 | 0.33 | 0.067 | 0.005 | ( 0.007) | 0.063 |
| 86 | 7.17 | 0.33 | 0.067 | 0.005 | ( 0.007) | 0.063 |
| 87 | 7.25 | 0.33 | 0.067 | 0.005 | ( 0.007) | 0.063 |
| 88 | 7.33 | 0.37 | 0.074 | 0.005 | ( 0.007) | 0.070 |
| 89 | 7.42 | 0.37 | 0.074 | 0.005 | ( 0.007) | 0.070 |
| 90 | 7.50 | 0.37 | 0.074 | 0.004 | ( 0.007) | 0.070 |
| 91 | 7.58 | 0.40 | 0.081 | 0.004 | ( 0.008) | 0.076 |
| 92 | 7.67 | 0.40 | 0.081 | 0.004 | ( 0.008) | 0.076 |
| 93 | 7.75 | 0.40 | 0.081 | 0.004 | ( 0.008) | 0.076 |
| 94 | 7.83 | 0.43 | 0.088 | 0.004 | ( 0.009) | 0.083 |
| 95 | 7.92 | 0.43 | 0.088 | 0.004 | ( 0.009) | 0.083 |
| 96 | 8.00 | 0.43 | 0.088 | 0.004 | ( 0.009) | 0.083 |
| 97 | 8.08 | 0.50 | 0.101 | 0.004 | ( 0.010) | 0.097 |
| 98 | 8.17 | 0.50 | 0.101 | 0.004 | ( 0.010) | 0.097 |
| 99 | 8.25 | 0.50 | 0.101 | 0.004 | ( 0.010) | 0.097 |
| 100 | 8.33 | 0.50 | 0.101 | 0.004 | ( 0.010) | 0.097 |
| 101 | 8.42 | 0.50 | 0.101 | 0.004 | ( 0.010) | 0.097 |
| 102 | 8.50 | 0.50 | 0.101 | 0.004 | ( 0.010) | 0.097 |
| 103 | 8.58 | 0.53 | 0.108 | 0.004 | ( 0.011) | 0.104 |
| 104 | 8.67 | 0.53 | 0.108 | 0.004 | ( 0.011) | 0.104 |
| 105 | 8.75 | 0.53 | 0.108 | 0.004 | ( 0.011) | 0.104 |
| 106 | 8.83 | 0.57 | 0.115 | 0.004 | ( 0.011) | 0.110 |
| 107 | 8.92 | 0.57 | 0.115 | 0.004 | ( 0.011) | 0.110 |
| 108 | 9.00 | 0.57 | 0.115 | 0.004 | ( 0.011) | 0.110 |
| 109 | 9.08 | 0.63 | 0.128 | 0.004 | ( 0.013) | 0.124 |
| 110 | 9.17 | 0.63 | 0.128 | 0.004 | ( 0.013) | 0.124 |
| 111 | 9.25 | 0.63 | 0.128 | 0.004 | ( 0.013) | 0.124 |
| 112 | 9.33 | 0.67 | 0.135 | 0.004 | ( 0.013) | 0.131 |
| 113 | 9.42 | 0.67 | 0.135 | 0.004 | ( 0.013) | 0.131 |
| 114 | 9.50 | 0.67 | 0.135 | 0.004 | ( 0.013) | 0.131 |
| 115 | 9.58 | 0.70 | 0.141 | 0.004 | ( 0.014) | 0.137 |
| 116 | 9.67 | 0.70 | 0.141 | 0.004 | ( 0.014) | 0.138 |
| 117 | 9.75 | 0.70 | 0.141 | 0.004 | ( 0.014) | 0.138 |
| 118 | 9.83 | 0.73 | 0.148 | 0.004 | ( 0.015) | 0.144 |
| 119 | 9.92 | 0.73 | 0.148 | 0.004 | ( 0.015) | 0.144 |
| 120 | 10.00 | 0.73 | 0.148 | 0.004 | ( 0.015) | 0.144 |
| 121 | 10.08 | 0.50 | 0.101 | 0.004 | ( 0.010) | 0.097 |
| 122 | 10.17 | 0.50 | 0.101 | 0.004 | ( 0.010) | 0.097 |
| 123 | 10.25 | 0.50 | 0.101 | 0.004 | ( 0.010) | 0.097 |
| 124 | 10.33 | 0.50 | 0.101 | 0.004 | ( 0.010) | 0.097 |
| 125 | 10.42 | 0.50 | 0.101 | 0.004 | ( 0.010) | 0.097 |
| 126 | 10.50 | 0.50 | 0.101 | 0.004 | ( 0.010) | 0.097 |
| 127 | 10.58 | 0.67 | 0.135 | 0.004 | ( 0.013) | 0.131 |
| 128 | 10.67 | 0.67 | 0.135 | 0.004 | ( 0.013) | 0.131 |
| 129 | 10.75 | 0.67 | 0.135 | 0.004 | ( 0.013) | 0.131 |
| 130 | 10.83 | 0.67 | 0.135 | 0.004 | ( 0.013) | 0.131 |
| 131 | 10.92 | 0.67 | 0.135 | 0.004 | ( 0.013) | 0.131 |
| 132 | 11.00 | 0.67 | 0.135 | 0.004 | ( 0.013) | 0.131 |
| 133 | 11.08 | 0.63 | 0.128 | 0.004 | ( 0.013) | 0.124 |
| 134 | 11.17 | 0.63 | 0.128 | 0.004 | ( 0.013) | 0.124 |
| 135 | 11.25 | 0.63 | 0.128 | 0.004 | ( 0.013) | 0.124 |
| 136 | 11.33 | 0.63 | 0.128 | 0.004 | ( 0.013) | 0.124 |
| 137 | 11.42 | 0.63 | 0.128 | 0.004 | ( 0.013) | 0.124 |
| 138 | 11.50 | 0.63 | 0.128 | 0.004 | ( 0.013) | 0.124 |
| 139 | 11.58 | 0.57 | 0.115 | 0.004 | ( 0.011) | 0.111 |
| 140 | 11.67 | 0.57 | 0.115 | 0.004 | ( 0.011) | 0.111 |
| 141 | 11.75 | 0.57 | 0.115 | 0.004 | ( 0.011) | 0.111 |
| 142 | 11.83 | 0.60 | 0.121 | 0.004 | ( 0.012) | 0.118 |
| 143 | 11.92 | 0.60 | 0.121 | 0.003 | ( 0.012) | 0.118 |
| 144 | 12.00 | 0.60 | 0.121 | 0.003 | ( 0.012) | 0.118 |
| 145 | 12.08 | 0.83 | 0.168 | 0.003 | ( 0.017) | 0.165 |
| 146 | 12.17 | 0.83 | 0.168 | 0.003 | ( 0.017) | 0.165 |
| 147 | 12.25 | 0.83 | 0.168 | 0.003 | ( 0.017) | 0.165 |
| 148 | 12.33 | 0.87 | 0.175 | 0.003 | ( 0.018) | 0.172 |
| 149 | 12.42 | 0.87 | 0.175 | 0.003 | ( 0.018) | 0.172 |
| 150 | 12.50 | 0.87 | 0.175 | 0.003 | ( 0.018) | 0.172 |
| 151 | 12.58 | 0.93 | 0.189 | 0.003 | ( 0.019) | 0.185 |
| 152 | 12.67 | 0.93 | 0.189 | 0.003 | ( 0.019) | 0.185 |
| 153 | 12.75 | 0.93 | 0.189 | 0.003 | ( 0.019) | 0.185 |
| 154 | 12.83 | 0.97 | 0.195 | 0.003 | ( 0.020) | 0.192 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 155 | 12.92 | 0.97 | 0.195 | 0.003 | ( 0.020) | 0.192 |
| 156 | 13.00 | 0.97 | 0.195 | 0.003 | ( 0.020) | 0.192 |
| 157 | 13.08 | 1.13 | 0.229 | 0.003 | ( 0.023) | 0.226 |
| 158 | 13.17 | 1.13 | 0.229 | 0.003 | ( 0.023) | 0.226 |
| 159 | 13.25 | 1.13 | 0.229 | 0.003 | ( 0.023) | 0.226 |
| 160 | 13.33 | 1.13 | 0.229 | 0.003 | ( 0.023) | 0.226 |
| 161 | 13.42 | 1.13 | 0.229 | 0.003 | ( 0.023) | 0.226 |
| 162 | 13.50 | 1.13 | 0.229 | 0.003 | ( 0.023) | 0.226 |
| 163 | 13.58 | 0.77 | 0.155 | 0.003 | ( 0.015) | 0.152 |
| 164 | 13.67 | 0.77 | 0.155 | 0.003 | ( 0.015) | 0.152 |
| 165 | 13.75 | 0.77 | 0.155 | 0.003 | ( 0.015) | 0.152 |
| 166 | 13.83 | 0.77 | 0.155 | 0.003 | ( 0.015) | 0.152 |
| 167 | 13.92 | 0.77 | 0.155 | 0.003 | ( 0.015) | 0.152 |
| 168 | 14.00 | 0.77 | 0.155 | 0.003 | ( 0.015) | 0.152 |
| 169 | 14.08 | 0.90 | 0.182 | 0.003 | ( 0.018) | 0.179 |
| 170 | 14.17 | 0.90 | 0.182 | 0.003 | ( 0.018) | 0.179 |
| 171 | 14.25 | 0.90 | 0.182 | 0.003 | ( 0.018) | 0.179 |
| 172 | 14.33 | 0.87 | 0.175 | 0.003 | ( 0.018) | 0.172 |
| 173 | 14.42 | 0.87 | 0.175 | 0.003 | ( 0.018) | 0.172 |
| 174 | 14.50 | 0.87 | 0.175 | 0.003 | ( 0.018) | 0.172 |
| 175 | 14.58 | 0.87 | 0.175 | 0.003 | ( 0.018) | 0.172 |
| 176 | 14.67 | 0.87 | 0.175 | 0.003 | ( 0.018) | 0.172 |
| 177 | 14.75 | 0.87 | 0.175 | 0.003 | ( 0.018) | 0.172 |
| 178 | 14.83 | 0.83 | 0.168 | 0.003 | ( 0.017) | 0.166 |
| 179 | 14.92 | 0.83 | 0.168 | 0.003 | ( 0.017) | 0.166 |
| 180 | 15.00 | 0.83 | 0.168 | 0.003 | ( 0.017) | 0.166 |
| 181 | 15.08 | 0.80 | 0.162 | 0.003 | ( 0.016) | 0.159 |
| 182 | 15.17 | 0.80 | 0.162 | 0.003 | ( 0.016) | 0.159 |
| 183 | 15.25 | 0.80 | 0.162 | 0.003 | ( 0.016) | 0.159 |
| 184 | 15.33 | 0.77 | 0.155 | 0.003 | ( 0.015) | 0.152 |
| 185 | 15.42 | 0.77 | 0.155 | 0.003 | ( 0.015) | 0.152 |
| 186 | 15.50 | 0.77 | 0.155 | 0.003 | ( 0.015) | 0.152 |
| 187 | 15.58 | 0.63 | 0.128 | 0.003 | ( 0.013) | 0.125 |
| 188 | 15.67 | 0.63 | 0.128 | 0.003 | ( 0.013) | 0.125 |
| 189 | 15.75 | 0.63 | 0.128 | 0.003 | ( 0.013) | 0.125 |
| 190 | 15.83 | 0.63 | 0.128 | 0.003 | ( 0.013) | 0.125 |
| 191 | 15.92 | 0.63 | 0.128 | 0.003 | ( 0.013) | 0.125 |
| 192 | 16.00 | 0.63 | 0.128 | 0.003 | ( 0.013) | 0.125 |
| 193 | 16.08 | 0.13 | 0.027 | ( 0.003) | 0.003 | 0.024 |
| 194 | 16.17 | 0.13 | 0.027 | 0.003 | ( 0.003) | 0.024 |
| 195 | 16.25 | 0.13 | 0.027 | 0.003 | ( 0.003) | 0.024 |
| 196 | 16.33 | 0.13 | 0.027 | 0.003 | ( 0.003) | 0.024 |
| 197 | 16.42 | 0.13 | 0.027 | 0.003 | ( 0.003) | 0.024 |
| 198 | 16.50 | 0.13 | 0.027 | 0.003 | ( 0.003) | 0.024 |
| 199 | 16.58 | 0.10 | 0.020 | ( 0.003) | 0.002 | 0.018 |
| 200 | 16.67 | 0.10 | 0.020 | ( 0.003) | 0.002 | 0.018 |
| 201 | 16.75 | 0.10 | 0.020 | ( 0.003) | 0.002 | 0.018 |
| 202 | 16.83 | 0.10 | 0.020 | ( 0.003) | 0.002 | 0.018 |
| 203 | 16.92 | 0.10 | 0.020 | ( 0.003) | 0.002 | 0.018 |
| 204 | 17.00 | 0.10 | 0.020 | ( 0.003) | 0.002 | 0.018 |
| 205 | 17.08 | 0.17 | 0.034 | 0.003 | ( 0.003) | 0.031 |
| 206 | 17.17 | 0.17 | 0.034 | 0.003 | ( 0.003) | 0.031 |
| 207 | 17.25 | 0.17 | 0.034 | 0.003 | ( 0.003) | 0.031 |
| 208 | 17.33 | 0.17 | 0.034 | 0.003 | ( 0.003) | 0.031 |
| 209 | 17.42 | 0.17 | 0.034 | 0.002 | ( 0.003) | 0.031 |
| 210 | 17.50 | 0.17 | 0.034 | 0.002 | ( 0.003) | 0.031 |
| 211 | 17.58 | 0.17 | 0.034 | 0.002 | ( 0.003) | 0.031 |
| 212 | 17.67 | 0.17 | 0.034 | 0.002 | ( 0.003) | 0.031 |
| 213 | 17.75 | 0.17 | 0.034 | 0.002 | ( 0.003) | 0.031 |
| 214 | 17.83 | 0.13 | 0.027 | 0.002 | ( 0.003) | 0.025 |
| 215 | 17.92 | 0.13 | 0.027 | 0.002 | ( 0.003) | 0.025 |
| 216 | 18.00 | 0.13 | 0.027 | 0.002 | ( 0.003) | 0.025 |
| 217 | 18.08 | 0.13 | 0.027 | 0.002 | ( 0.003) | 0.025 |
| 218 | 18.17 | 0.13 | 0.027 | 0.002 | ( 0.003) | 0.025 |
| 219 | 18.25 | 0.13 | 0.027 | 0.002 | ( 0.003) | 0.025 |
| 220 | 18.33 | 0.13 | 0.027 | 0.002 | ( 0.003) | 0.025 |
| 221 | 18.42 | 0.13 | 0.027 | 0.002 | ( 0.003) | 0.025 |
| 222 | 18.50 | 0.13 | 0.027 | 0.002 | ( 0.003) | 0.025 |
| 223 | 18.58 | 0.10 | 0.020 | ( 0.002) | 0.002 | 0.018 |
| 224 | 18.67 | 0.10 | 0.020 | ( 0.002) | 0.002 | 0.018 |
| 225 | 18.75 | 0.10 | 0.020 | ( 0.002) | 0.002 | 0.018 |
| 226 | 18.83 | 0.07 | 0.013 | ( 0.002) | 0.001 | 0.012 |
| 227 | 18.92 | 0.07 | 0.013 | ( 0.002) | 0.001 | 0.012 |
| 228 | 19.00 | 0.07 | 0.013 | ( 0.002) | 0.001 | 0.012 |
| 229 | 19.08 | 0.10 | 0.020 | ( 0.002) | 0.002 | 0.018 |
| 230 | 19.17 | 0.10 | 0.020 | ( 0.002) | 0.002 | 0.018 |
| 231 | 19.25 | 0.10 | 0.020 | ( 0.002) | 0.002 | 0.018 |
| 232 | 19.33 | 0.13 | 0.027 | 0.002 | ( 0.003) | 0.025 |
| 233 | 19.42 | 0.13 | 0.027 | 0.002 | ( 0.003) | 0.025 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 234 | 19.50 | 0.13 | 0.027 | 0.002 | ( 0.003) | 0.025 |
| 235 | 19.58 | 0.10 | 0.020 | ( 0.002) | 0.002 | 0.018 |
| 236 | 19.67 | 0.10 | 0.020 | ( 0.002) | 0.002 | 0.018 |
| 237 | 19.75 | 0.10 | 0.020 | ( 0.002) | 0.002 | 0.018 |
| 238 | 19.83 | 0.07 | 0.013 | ( 0.002) | 0.001 | 0.012 |
| 239 | 19.92 | 0.07 | 0.013 | ( 0.002) | 0.001 | 0.012 |
| 240 | 20.00 | 0.07 | 0.013 | ( 0.002) | 0.001 | 0.012 |
| 241 | 20.08 | 0.10 | 0.020 | ( 0.002) | 0.002 | 0.018 |
| 242 | 20.17 | 0.10 | 0.020 | ( 0.002) | 0.002 | 0.018 |
| 243 | 20.25 | 0.10 | 0.020 | ( 0.002) | 0.002 | 0.018 |
| 244 | 20.33 | 0.10 | 0.020 | ( 0.002) | 0.002 | 0.018 |
| 245 | 20.42 | 0.10 | 0.020 | ( 0.002) | 0.002 | 0.018 |
| 246 | 20.50 | 0.10 | 0.020 | ( 0.002) | 0.002 | 0.018 |
| 247 | 20.58 | 0.10 | 0.020 | ( 0.002) | 0.002 | 0.018 |
| 248 | 20.67 | 0.10 | 0.020 | ( 0.002) | 0.002 | 0.018 |
| 249 | 20.75 | 0.10 | 0.020 | ( 0.002) | 0.002 | 0.018 |
| 250 | 20.83 | 0.07 | 0.013 | ( 0.002) | 0.001 | 0.012 |
| 251 | 20.92 | 0.07 | 0.013 | ( 0.002) | 0.001 | 0.012 |
| 252 | 21.00 | 0.07 | 0.013 | ( 0.002) | 0.001 | 0.012 |
| 253 | 21.08 | 0.10 | 0.020 | ( 0.002) | 0.002 | 0.018 |
| 254 | 21.17 | 0.10 | 0.020 | ( 0.002) | 0.002 | 0.018 |
| 255 | 21.25 | 0.10 | 0.020 | 0.002 | ( 0.002) | 0.018 |
| 256 | 21.33 | 0.07 | 0.013 | ( 0.002) | 0.001 | 0.012 |
| 257 | 21.42 | 0.07 | 0.013 | ( 0.002) | 0.001 | 0.012 |
| 258 | 21.50 | 0.07 | 0.013 | ( 0.002) | 0.001 | 0.012 |
| 259 | 21.58 | 0.10 | 0.020 | 0.002 | ( 0.002) | 0.018 |
| 260 | 21.67 | 0.10 | 0.020 | 0.002 | ( 0.002) | 0.018 |
| 261 | 21.75 | 0.10 | 0.020 | 0.002 | ( 0.002) | 0.018 |
| 262 | 21.83 | 0.07 | 0.013 | ( 0.002) | 0.001 | 0.012 |
| 263 | 21.92 | 0.07 | 0.013 | ( 0.002) | 0.001 | 0.012 |
| 264 | 22.00 | 0.07 | 0.013 | ( 0.002) | 0.001 | 0.012 |
| 265 | 22.08 | 0.10 | 0.020 | 0.002 | ( 0.002) | 0.018 |
| 266 | 22.17 | 0.10 | 0.020 | 0.002 | ( 0.002) | 0.018 |
| 267 | 22.25 | 0.10 | 0.020 | 0.002 | ( 0.002) | 0.018 |
| 268 | 22.33 | 0.07 | 0.013 | ( 0.002) | 0.001 | 0.012 |
| 269 | 22.42 | 0.07 | 0.013 | ( 0.002) | 0.001 | 0.012 |
| 270 | 22.50 | 0.07 | 0.013 | ( 0.002) | 0.001 | 0.012 |
| 271 | 22.58 | 0.07 | 0.013 | ( 0.002) | 0.001 | 0.012 |
| 272 | 22.67 | 0.07 | 0.013 | ( 0.002) | 0.001 | 0.012 |
| 273 | 22.75 | 0.07 | 0.013 | ( 0.002) | 0.001 | 0.012 |
| 274 | 22.83 | 0.07 | 0.013 | ( 0.002) | 0.001 | 0.012 |
| 275 | 22.92 | 0.07 | 0.013 | ( 0.002) | 0.001 | 0.012 |
| 276 | 23.00 | 0.07 | 0.013 | ( 0.002) | 0.001 | 0.012 |
| 277 | 23.08 | 0.07 | 0.013 | ( 0.002) | 0.001 | 0.012 |
| 278 | 23.17 | 0.07 | 0.013 | ( 0.002) | 0.001 | 0.012 |
| 279 | 23.25 | 0.07 | 0.013 | ( 0.002) | 0.001 | 0.012 |
| 280 | 23.33 | 0.07 | 0.013 | ( 0.002) | 0.001 | 0.012 |
| 281 | 23.42 | 0.07 | 0.013 | ( 0.002) | 0.001 | 0.012 |
| 282 | 23.50 | 0.07 | 0.013 | ( 0.002) | 0.001 | 0.012 |
| 283 | 23.58 | 0.07 | 0.013 | ( 0.002) | 0.001 | 0.012 |
| 284 | 23.67 | 0.07 | 0.013 | ( 0.002) | 0.001 | 0.012 |
| 285 | 23.75 | 0.07 | 0.013 | ( 0.002) | 0.001 | 0.012 |
| 286 | 23.83 | 0.07 | 0.013 | ( 0.002) | 0.001 | 0.012 |
| 287 | 23.92 | 0.07 | 0.013 | ( 0.002) | 0.001 | 0.012 |
| 288 | 24.00 | 0.07 | 0.013 | ( 0.002) | 0.001 | 0.012 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 19.3

Flood volume = Effective rainfall 1.61(In)
times area 108.2(Ac.)/[(In)/(Ft.)] = 14.5(Ac.Ft)
Total soil loss = 0.07(In)
Total soil loss = 0.652(Ac.Ft)
Total rainfall = 1.68(In)
Flood volume = 633186.7 Cubic Feet
Total soil loss = 28405.7 Cubic Feet

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Storm Event 1 Effective Rainfall = 4.679(In)

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.037 | ( 0.007) | 0.004 | 0.034 |
| 2 | 0.17 | 0.07 | 0.037 | ( 0.007) | 0.004 | 0.034 |
| 3 | 0.25 | 0.07 | 0.037 | ( 0.007) | 0.004 | 0.034 |
| 4 | 0.33 | 0.10 | 0.056 | ( 0.006) | 0.006 | 0.051 |
| 5 | 0.42 | 0.10 | 0.056 | ( 0.006) | 0.006 | 0.051 |
| 6 | 0.50 | 0.10 | 0.056 | ( 0.006) | 0.006 | 0.051 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 7 | 0.58 | 0.10 | 0.056 | ( 0.006) | 0.006 | 0.051 |
| 8 | 0.67 | 0.10 | 0.056 | ( 0.006) | 0.006 | 0.051 |
| 9 | 0.75 | 0.10 | 0.056 | ( 0.006) | 0.006 | 0.051 |
| 10 | 0.83 | 0.13 | 0.075 | 0.006 | ( 0.007) | 0.069 |
| 11 | 0.92 | 0.13 | 0.075 | 0.006 | ( 0.007) | 0.069 |
| 12 | 1.00 | 0.13 | 0.075 | 0.006 | ( 0.007) | 0.069 |
| 13 | 1.08 | 0.10 | 0.056 | ( 0.006) | 0.006 | 0.051 |
| 14 | 1.17 | 0.10 | 0.056 | ( 0.006) | 0.006 | 0.051 |
| 15 | 1.25 | 0.10 | 0.056 | ( 0.006) | 0.006 | 0.051 |
| 16 | 1.33 | 0.10 | 0.056 | ( 0.006) | 0.006 | 0.051 |
| 17 | 1.42 | 0.10 | 0.056 | ( 0.006) | 0.006 | 0.051 |
| 18 | 1.50 | 0.10 | 0.056 | ( 0.006) | 0.006 | 0.051 |
| 19 | 1.58 | 0.10 | 0.056 | ( 0.006) | 0.006 | 0.051 |
| 20 | 1.67 | 0.10 | 0.056 | ( 0.006) | 0.006 | 0.051 |
| 21 | 1.75 | 0.10 | 0.056 | ( 0.006) | 0.006 | 0.051 |
| 22 | 1.83 | 0.13 | 0.075 | 0.006 | ( 0.007) | 0.069 |
| 23 | 1.92 | 0.13 | 0.075 | 0.006 | ( 0.007) | 0.069 |
| 24 | 2.00 | 0.13 | 0.075 | 0.006 | ( 0.007) | 0.069 |
| 25 | 2.08 | 0.13 | 0.075 | 0.006 | ( 0.007) | 0.069 |
| 26 | 2.17 | 0.13 | 0.075 | 0.006 | ( 0.007) | 0.069 |
| 27 | 2.25 | 0.13 | 0.075 | 0.006 | ( 0.007) | 0.069 |
| 28 | 2.33 | 0.13 | 0.075 | 0.006 | ( 0.007) | 0.069 |
| 29 | 2.42 | 0.13 | 0.075 | 0.006 | ( 0.007) | 0.069 |
| 30 | 2.50 | 0.13 | 0.075 | 0.006 | ( 0.007) | 0.069 |
| 31 | 2.58 | 0.17 | 0.094 | 0.006 | ( 0.009) | 0.088 |
| 32 | 2.67 | 0.17 | 0.094 | 0.006 | ( 0.009) | 0.088 |
| 33 | 2.75 | 0.17 | 0.094 | 0.006 | ( 0.009) | 0.088 |
| 34 | 2.83 | 0.17 | 0.094 | 0.006 | ( 0.009) | 0.088 |
| 35 | 2.92 | 0.17 | 0.094 | 0.006 | ( 0.009) | 0.088 |
| 36 | 3.00 | 0.17 | 0.094 | 0.006 | ( 0.009) | 0.088 |
| 37 | 3.08 | 0.17 | 0.094 | 0.006 | ( 0.009) | 0.088 |
| 38 | 3.17 | 0.17 | 0.094 | 0.006 | ( 0.009) | 0.088 |
| 39 | 3.25 | 0.17 | 0.094 | 0.006 | ( 0.009) | 0.088 |
| 40 | 3.33 | 0.17 | 0.094 | 0.006 | ( 0.009) | 0.088 |
| 41 | 3.42 | 0.17 | 0.094 | 0.006 | ( 0.009) | 0.088 |
| 42 | 3.50 | 0.17 | 0.094 | 0.006 | ( 0.009) | 0.088 |
| 43 | 3.58 | 0.17 | 0.094 | 0.006 | ( 0.009) | 0.088 |
| 44 | 3.67 | 0.17 | 0.094 | 0.006 | ( 0.009) | 0.088 |
| 45 | 3.75 | 0.17 | 0.094 | 0.005 | ( 0.009) | 0.088 |
| 46 | 3.83 | 0.20 | 0.112 | 0.005 | ( 0.011) | 0.107 |
| 47 | 3.92 | 0.20 | 0.112 | 0.005 | ( 0.011) | 0.107 |
| 48 | 4.00 | 0.20 | 0.112 | 0.005 | ( 0.011) | 0.107 |
| 49 | 4.08 | 0.20 | 0.112 | 0.005 | ( 0.011) | 0.107 |
| 50 | 4.17 | 0.20 | 0.112 | 0.005 | ( 0.011) | 0.107 |
| 51 | 4.25 | 0.20 | 0.112 | 0.005 | ( 0.011) | 0.107 |
| 52 | 4.33 | 0.23 | 0.131 | 0.005 | ( 0.013) | 0.126 |
| 53 | 4.42 | 0.23 | 0.131 | 0.005 | ( 0.013) | 0.126 |
| 54 | 4.50 | 0.23 | 0.131 | 0.005 | ( 0.013) | 0.126 |
| 55 | 4.58 | 0.23 | 0.131 | 0.005 | ( 0.013) | 0.126 |
| 56 | 4.67 | 0.23 | 0.131 | 0.005 | ( 0.013) | 0.126 |
| 57 | 4.75 | 0.23 | 0.131 | 0.005 | ( 0.013) | 0.126 |
| 58 | 4.83 | 0.27 | 0.150 | 0.005 | ( 0.015) | 0.145 |
| 59 | 4.92 | 0.27 | 0.150 | 0.005 | ( 0.015) | 0.145 |
| 60 | 5.00 | 0.27 | 0.150 | 0.005 | ( 0.015) | 0.145 |
| 61 | 5.08 | 0.20 | 0.112 | 0.005 | ( 0.011) | 0.107 |
| 62 | 5.17 | 0.20 | 0.112 | 0.005 | ( 0.011) | 0.107 |
| 63 | 5.25 | 0.20 | 0.112 | 0.005 | ( 0.011) | 0.107 |
| 64 | 5.33 | 0.23 | 0.131 | 0.005 | ( 0.013) | 0.126 |
| 65 | 5.42 | 0.23 | 0.131 | 0.005 | ( 0.013) | 0.126 |
| 66 | 5.50 | 0.23 | 0.131 | 0.005 | ( 0.013) | 0.126 |
| 67 | 5.58 | 0.27 | 0.150 | 0.005 | ( 0.015) | 0.145 |
| 68 | 5.67 | 0.27 | 0.150 | 0.005 | ( 0.015) | 0.145 |
| 69 | 5.75 | 0.27 | 0.150 | 0.005 | ( 0.015) | 0.145 |
| 70 | 5.83 | 0.27 | 0.150 | 0.005 | ( 0.015) | 0.145 |
| 71 | 5.92 | 0.27 | 0.150 | 0.005 | ( 0.015) | 0.145 |
| 72 | 6.00 | 0.27 | 0.150 | 0.005 | ( 0.015) | 0.145 |
| 73 | 6.08 | 0.30 | 0.168 | 0.005 | ( 0.017) | 0.164 |
| 74 | 6.17 | 0.30 | 0.168 | 0.005 | ( 0.017) | 0.164 |
| 75 | 6.25 | 0.30 | 0.168 | 0.005 | ( 0.017) | 0.164 |
| 76 | 6.33 | 0.30 | 0.168 | 0.005 | ( 0.017) | 0.164 |
| 77 | 6.42 | 0.30 | 0.168 | 0.005 | ( 0.017) | 0.164 |
| 78 | 6.50 | 0.30 | 0.168 | 0.005 | ( 0.017) | 0.164 |
| 79 | 6.58 | 0.33 | 0.187 | 0.005 | ( 0.019) | 0.182 |
| 80 | 6.67 | 0.33 | 0.187 | 0.005 | ( 0.019) | 0.182 |
| 81 | 6.75 | 0.33 | 0.187 | 0.005 | ( 0.019) | 0.182 |
| 82 | 6.83 | 0.33 | 0.187 | 0.005 | ( 0.019) | 0.182 |
| 83 | 6.92 | 0.33 | 0.187 | 0.005 | ( 0.019) | 0.183 |
| 84 | 7.00 | 0.33 | 0.187 | 0.005 | ( 0.019) | 0.183 |
| 85 | 7.08 | 0.33 | 0.187 | 0.005 | ( 0.019) | 0.183 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 86 | 7.17 | 0.33 | 0.187 | 0.005 | ( 0.019) | 0.183 |
| 87 | 7.25 | 0.33 | 0.187 | 0.005 | ( 0.019) | 0.183 |
| 88 | 7.33 | 0.37 | 0.206 | 0.005 | ( 0.021) | 0.201 |
| 89 | 7.42 | 0.37 | 0.206 | 0.005 | ( 0.021) | 0.201 |
| 90 | 7.50 | 0.37 | 0.206 | 0.004 | ( 0.021) | 0.201 |
| 91 | 7.58 | 0.40 | 0.225 | 0.004 | ( 0.022) | 0.220 |
| 92 | 7.67 | 0.40 | 0.225 | 0.004 | ( 0.022) | 0.220 |
| 93 | 7.75 | 0.40 | 0.225 | 0.004 | ( 0.022) | 0.220 |
| 94 | 7.83 | 0.43 | 0.243 | 0.004 | ( 0.024) | 0.239 |
| 95 | 7.92 | 0.43 | 0.243 | 0.004 | ( 0.024) | 0.239 |
| 96 | 8.00 | 0.43 | 0.243 | 0.004 | ( 0.024) | 0.239 |
| 97 | 8.08 | 0.50 | 0.281 | 0.004 | ( 0.028) | 0.276 |
| 98 | 8.17 | 0.50 | 0.281 | 0.004 | ( 0.028) | 0.276 |
| 99 | 8.25 | 0.50 | 0.281 | 0.004 | ( 0.028) | 0.276 |
| 100 | 8.33 | 0.50 | 0.281 | 0.004 | ( 0.028) | 0.276 |
| 101 | 8.42 | 0.50 | 0.281 | 0.004 | ( 0.028) | 0.276 |
| 102 | 8.50 | 0.50 | 0.281 | 0.004 | ( 0.028) | 0.276 |
| 103 | 8.58 | 0.53 | 0.299 | 0.004 | ( 0.030) | 0.295 |
| 104 | 8.67 | 0.53 | 0.299 | 0.004 | ( 0.030) | 0.295 |
| 105 | 8.75 | 0.53 | 0.299 | 0.004 | ( 0.030) | 0.295 |
| 106 | 8.83 | 0.57 | 0.318 | 0.004 | ( 0.032) | 0.314 |
| 107 | 8.92 | 0.57 | 0.318 | 0.004 | ( 0.032) | 0.314 |
| 108 | 9.00 | 0.57 | 0.318 | 0.004 | ( 0.032) | 0.314 |
| 109 | 9.08 | 0.63 | 0.356 | 0.004 | ( 0.036) | 0.351 |
| 110 | 9.17 | 0.63 | 0.356 | 0.004 | ( 0.036) | 0.352 |
| 111 | 9.25 | 0.63 | 0.356 | 0.004 | ( 0.036) | 0.352 |
| 112 | 9.33 | 0.67 | 0.374 | 0.004 | ( 0.037) | 0.370 |
| 113 | 9.42 | 0.67 | 0.374 | 0.004 | ( 0.037) | 0.370 |
| 114 | 9.50 | 0.67 | 0.374 | 0.004 | ( 0.037) | 0.370 |
| 115 | 9.58 | 0.70 | 0.393 | 0.004 | ( 0.039) | 0.389 |
| 116 | 9.67 | 0.70 | 0.393 | 0.004 | ( 0.039) | 0.389 |
| 117 | 9.75 | 0.70 | 0.393 | 0.004 | ( 0.039) | 0.389 |
| 118 | 9.83 | 0.73 | 0.412 | 0.004 | ( 0.041) | 0.408 |
| 119 | 9.92 | 0.73 | 0.412 | 0.004 | ( 0.041) | 0.408 |
| 120 | 10.00 | 0.73 | 0.412 | 0.004 | ( 0.041) | 0.408 |
| 121 | 10.08 | 0.50 | 0.281 | 0.004 | ( 0.028) | 0.277 |
| 122 | 10.17 | 0.50 | 0.281 | 0.004 | ( 0.028) | 0.277 |
| 123 | 10.25 | 0.50 | 0.281 | 0.004 | ( 0.028) | 0.277 |
| 124 | 10.33 | 0.50 | 0.281 | 0.004 | ( 0.028) | 0.277 |
| 125 | 10.42 | 0.50 | 0.281 | 0.004 | ( 0.028) | 0.277 |
| 126 | 10.50 | 0.50 | 0.281 | 0.004 | ( 0.028) | 0.277 |
| 127 | 10.58 | 0.67 | 0.374 | 0.004 | ( 0.037) | 0.371 |
| 128 | 10.67 | 0.67 | 0.374 | 0.004 | ( 0.037) | 0.371 |
| 129 | 10.75 | 0.67 | 0.374 | 0.004 | ( 0.037) | 0.371 |
| 130 | 10.83 | 0.67 | 0.374 | 0.004 | ( 0.037) | 0.371 |
| 131 | 10.92 | 0.67 | 0.374 | 0.004 | ( 0.037) | 0.371 |
| 132 | 11.00 | 0.67 | 0.374 | 0.004 | ( 0.037) | 0.371 |
| 133 | 11.08 | 0.63 | 0.356 | 0.004 | ( 0.036) | 0.352 |
| 134 | 11.17 | 0.63 | 0.356 | 0.004 | ( 0.036) | 0.352 |
| 135 | 11.25 | 0.63 | 0.356 | 0.004 | ( 0.036) | 0.352 |
| 136 | 11.33 | 0.63 | 0.356 | 0.004 | ( 0.036) | 0.352 |
| 137 | 11.42 | 0.63 | 0.356 | 0.004 | ( 0.036) | 0.352 |
| 138 | 11.50 | 0.63 | 0.356 | 0.004 | ( 0.036) | 0.352 |
| 139 | 11.58 | 0.57 | 0.318 | 0.004 | ( 0.032) | 0.315 |
| 140 | 11.67 | 0.57 | 0.318 | 0.004 | ( 0.032) | 0.315 |
| 141 | 11.75 | 0.57 | 0.318 | 0.004 | ( 0.032) | 0.315 |
| 142 | 11.83 | 0.60 | 0.337 | 0.004 | ( 0.034) | 0.333 |
| 143 | 11.92 | 0.60 | 0.337 | 0.003 | ( 0.034) | 0.333 |
| 144 | 12.00 | 0.60 | 0.337 | 0.003 | ( 0.034) | 0.333 |
| 145 | 12.08 | 0.83 | 0.468 | 0.003 | ( 0.047) | 0.464 |
| 146 | 12.17 | 0.83 | 0.468 | 0.003 | ( 0.047) | 0.464 |
| 147 | 12.25 | 0.83 | 0.468 | 0.003 | ( 0.047) | 0.464 |
| 148 | 12.33 | 0.87 | 0.487 | 0.003 | ( 0.049) | 0.483 |
| 149 | 12.42 | 0.87 | 0.487 | 0.003 | ( 0.049) | 0.483 |
| 150 | 12.50 | 0.87 | 0.487 | 0.003 | ( 0.049) | 0.483 |
| 151 | 12.58 | 0.93 | 0.524 | 0.003 | ( 0.052) | 0.521 |
| 152 | 12.67 | 0.93 | 0.524 | 0.003 | ( 0.052) | 0.521 |
| 153 | 12.75 | 0.93 | 0.524 | 0.003 | ( 0.052) | 0.521 |
| 154 | 12.83 | 0.97 | 0.543 | 0.003 | ( 0.054) | 0.539 |
| 155 | 12.92 | 0.97 | 0.543 | 0.003 | ( 0.054) | 0.539 |
| 156 | 13.00 | 0.97 | 0.543 | 0.003 | ( 0.054) | 0.540 |
| 157 | 13.08 | 1.13 | 0.636 | 0.003 | ( 0.064) | 0.633 |
| 158 | 13.17 | 1.13 | 0.636 | 0.003 | ( 0.064) | 0.633 |
| 159 | 13.25 | 1.13 | 0.636 | 0.003 | ( 0.064) | 0.633 |
| 160 | 13.33 | 1.13 | 0.636 | 0.003 | ( 0.064) | 0.633 |
| 161 | 13.42 | 1.13 | 0.636 | 0.003 | ( 0.064) | 0.633 |
| 162 | 13.50 | 1.13 | 0.636 | 0.003 | ( 0.064) | 0.633 |
| 163 | 13.58 | 0.77 | 0.430 | 0.003 | ( 0.043) | 0.427 |
| 164 | 13.67 | 0.77 | 0.430 | 0.003 | ( 0.043) | 0.427 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 165 | 13.75 | 0.77 | 0.430 | 0.003 | ( 0.043) | 0.427 |
| 166 | 13.83 | 0.77 | 0.430 | 0.003 | ( 0.043) | 0.427 |
| 167 | 13.92 | 0.77 | 0.430 | 0.003 | ( 0.043) | 0.427 |
| 168 | 14.00 | 0.77 | 0.430 | 0.003 | ( 0.043) | 0.427 |
| 169 | 14.08 | 0.90 | 0.505 | 0.003 | ( 0.051) | 0.502 |
| 170 | 14.17 | 0.90 | 0.505 | 0.003 | ( 0.051) | 0.502 |
| 171 | 14.25 | 0.90 | 0.505 | 0.003 | ( 0.051) | 0.502 |
| 172 | 14.33 | 0.87 | 0.487 | 0.003 | ( 0.049) | 0.484 |
| 173 | 14.42 | 0.87 | 0.487 | 0.003 | ( 0.049) | 0.484 |
| 174 | 14.50 | 0.87 | 0.487 | 0.003 | ( 0.049) | 0.484 |
| 175 | 14.58 | 0.87 | 0.487 | 0.003 | ( 0.049) | 0.484 |
| 176 | 14.67 | 0.87 | 0.487 | 0.003 | ( 0.049) | 0.484 |
| 177 | 14.75 | 0.87 | 0.487 | 0.003 | ( 0.049) | 0.484 |
| 178 | 14.83 | 0.83 | 0.468 | 0.003 | ( 0.047) | 0.465 |
| 179 | 14.92 | 0.83 | 0.468 | 0.003 | ( 0.047) | 0.465 |
| 180 | 15.00 | 0.83 | 0.468 | 0.003 | ( 0.047) | 0.465 |
| 181 | 15.08 | 0.80 | 0.449 | 0.003 | ( 0.045) | 0.446 |
| 182 | 15.17 | 0.80 | 0.449 | 0.003 | ( 0.045) | 0.446 |
| 183 | 15.25 | 0.80 | 0.449 | 0.003 | ( 0.045) | 0.446 |
| 184 | 15.33 | 0.77 | 0.430 | 0.003 | ( 0.043) | 0.428 |
| 185 | 15.42 | 0.77 | 0.430 | 0.003 | ( 0.043) | 0.428 |
| 186 | 15.50 | 0.77 | 0.430 | 0.003 | ( 0.043) | 0.428 |
| 187 | 15.58 | 0.63 | 0.356 | 0.003 | ( 0.036) | 0.353 |
| 188 | 15.67 | 0.63 | 0.356 | 0.003 | ( 0.036) | 0.353 |
| 189 | 15.75 | 0.63 | 0.356 | 0.003 | ( 0.036) | 0.353 |
| 190 | 15.83 | 0.63 | 0.356 | 0.003 | ( 0.036) | 0.353 |
| 191 | 15.92 | 0.63 | 0.356 | 0.003 | ( 0.036) | 0.353 |
| 192 | 16.00 | 0.63 | 0.356 | 0.003 | ( 0.036) | 0.353 |
| 193 | 16.08 | 0.13 | 0.075 | 0.003 | ( 0.007) | 0.072 |
| 194 | 16.17 | 0.13 | 0.075 | 0.003 | ( 0.007) | 0.072 |
| 195 | 16.25 | 0.13 | 0.075 | 0.003 | ( 0.007) | 0.072 |
| 196 | 16.33 | 0.13 | 0.075 | 0.003 | ( 0.007) | 0.072 |
| 197 | 16.42 | 0.13 | 0.075 | 0.003 | ( 0.007) | 0.072 |
| 198 | 16.50 | 0.13 | 0.075 | 0.003 | ( 0.007) | 0.072 |
| 199 | 16.58 | 0.10 | 0.056 | 0.003 | ( 0.006) | 0.054 |
| 200 | 16.67 | 0.10 | 0.056 | 0.003 | ( 0.006) | 0.054 |
| 201 | 16.75 | 0.10 | 0.056 | 0.003 | ( 0.006) | 0.054 |
| 202 | 16.83 | 0.10 | 0.056 | 0.003 | ( 0.006) | 0.054 |
| 203 | 16.92 | 0.10 | 0.056 | 0.003 | ( 0.006) | 0.054 |
| 204 | 17.00 | 0.10 | 0.056 | 0.003 | ( 0.006) | 0.054 |
| 205 | 17.08 | 0.17 | 0.094 | 0.003 | ( 0.009) | 0.091 |
| 206 | 17.17 | 0.17 | 0.094 | 0.003 | ( 0.009) | 0.091 |
| 207 | 17.25 | 0.17 | 0.094 | 0.003 | ( 0.009) | 0.091 |
| 208 | 17.33 | 0.17 | 0.094 | 0.003 | ( 0.009) | 0.091 |
| 209 | 17.42 | 0.17 | 0.094 | 0.002 | ( 0.009) | 0.091 |
| 210 | 17.50 | 0.17 | 0.094 | 0.002 | ( 0.009) | 0.091 |
| 211 | 17.58 | 0.17 | 0.094 | 0.002 | ( 0.009) | 0.091 |
| 212 | 17.67 | 0.17 | 0.094 | 0.002 | ( 0.009) | 0.091 |
| 213 | 17.75 | 0.17 | 0.094 | 0.002 | ( 0.009) | 0.091 |
| 214 | 17.83 | 0.13 | 0.075 | 0.002 | ( 0.007) | 0.072 |
| 215 | 17.92 | 0.13 | 0.075 | 0.002 | ( 0.007) | 0.072 |
| 216 | 18.00 | 0.13 | 0.075 | 0.002 | ( 0.007) | 0.072 |
| 217 | 18.08 | 0.13 | 0.075 | 0.002 | ( 0.007) | 0.072 |
| 218 | 18.17 | 0.13 | 0.075 | 0.002 | ( 0.007) | 0.072 |
| 219 | 18.25 | 0.13 | 0.075 | 0.002 | ( 0.007) | 0.072 |
| 220 | 18.33 | 0.13 | 0.075 | 0.002 | ( 0.007) | 0.073 |
| 221 | 18.42 | 0.13 | 0.075 | 0.002 | ( 0.007) | 0.073 |
| 222 | 18.50 | 0.13 | 0.075 | 0.002 | ( 0.007) | 0.073 |
| 223 | 18.58 | 0.10 | 0.056 | 0.002 | ( 0.006) | 0.054 |
| 224 | 18.67 | 0.10 | 0.056 | 0.002 | ( 0.006) | 0.054 |
| 225 | 18.75 | 0.10 | 0.056 | 0.002 | ( 0.006) | 0.054 |
| 226 | 18.83 | 0.07 | 0.037 | 0.002 | ( 0.004) | 0.035 |
| 227 | 18.92 | 0.07 | 0.037 | 0.002 | ( 0.004) | 0.035 |
| 228 | 19.00 | 0.07 | 0.037 | 0.002 | ( 0.004) | 0.035 |
| 229 | 19.08 | 0.10 | 0.056 | 0.002 | ( 0.006) | 0.054 |
| 230 | 19.17 | 0.10 | 0.056 | 0.002 | ( 0.006) | 0.054 |
| 231 | 19.25 | 0.10 | 0.056 | 0.002 | ( 0.006) | 0.054 |
| 232 | 19.33 | 0.13 | 0.075 | 0.002 | ( 0.007) | 0.073 |
| 233 | 19.42 | 0.13 | 0.075 | 0.002 | ( 0.007) | 0.073 |
| 234 | 19.50 | 0.13 | 0.075 | 0.002 | ( 0.007) | 0.073 |
| 235 | 19.58 | 0.10 | 0.056 | 0.002 | ( 0.006) | 0.054 |
| 236 | 19.67 | 0.10 | 0.056 | 0.002 | ( 0.006) | 0.054 |
| 237 | 19.75 | 0.10 | 0.056 | 0.002 | ( 0.006) | 0.054 |
| 238 | 19.83 | 0.07 | 0.037 | 0.002 | ( 0.004) | 0.035 |
| 239 | 19.92 | 0.07 | 0.037 | 0.002 | ( 0.004) | 0.035 |
| 240 | 20.00 | 0.07 | 0.037 | 0.002 | ( 0.004) | 0.035 |
| 241 | 20.08 | 0.10 | 0.056 | 0.002 | ( 0.006) | 0.054 |
| 242 | 20.17 | 0.10 | 0.056 | 0.002 | ( 0.006) | 0.054 |
| 243 | 20.25 | 0.10 | 0.056 | 0.002 | ( 0.006) | 0.054 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 244 | 20.33 | 0.10 | 0.056 | 0.002 | ( 0.006) | 0.054 |
| 245 | 20.42 | 0.10 | 0.056 | 0.002 | ( 0.006) | 0.054 |
| 246 | 20.50 | 0.10 | 0.056 | 0.002 | ( 0.006) | 0.054 |
| 247 | 20.58 | 0.10 | 0.056 | 0.002 | ( 0.006) | 0.054 |
| 248 | 20.67 | 0.10 | 0.056 | 0.002 | ( 0.006) | 0.054 |
| 249 | 20.75 | 0.10 | 0.056 | 0.002 | ( 0.006) | 0.054 |
| 250 | 20.83 | 0.07 | 0.037 | 0.002 | ( 0.004) | 0.035 |
| 251 | 20.92 | 0.07 | 0.037 | 0.002 | ( 0.004) | 0.035 |
| 252 | 21.00 | 0.07 | 0.037 | 0.002 | ( 0.004) | 0.035 |
| 253 | 21.08 | 0.10 | 0.056 | 0.002 | ( 0.006) | 0.054 |
| 254 | 21.17 | 0.10 | 0.056 | 0.002 | ( 0.006) | 0.054 |
| 255 | 21.25 | 0.10 | 0.056 | 0.002 | ( 0.006) | 0.054 |
| 256 | 21.33 | 0.07 | 0.037 | 0.002 | ( 0.004) | 0.035 |
| 257 | 21.42 | 0.07 | 0.037 | 0.002 | ( 0.004) | 0.035 |
| 258 | 21.50 | 0.07 | 0.037 | 0.002 | ( 0.004) | 0.035 |
| 259 | 21.58 | 0.10 | 0.056 | 0.002 | ( 0.006) | 0.054 |
| 260 | 21.67 | 0.10 | 0.056 | 0.002 | ( 0.006) | 0.054 |
| 261 | 21.75 | 0.10 | 0.056 | 0.002 | ( 0.006) | 0.054 |
| 262 | 21.83 | 0.07 | 0.037 | 0.002 | ( 0.004) | 0.035 |
| 263 | 21.92 | 0.07 | 0.037 | 0.002 | ( 0.004) | 0.035 |
| 264 | 22.00 | 0.07 | 0.037 | 0.002 | ( 0.004) | 0.035 |
| 265 | 22.08 | 0.10 | 0.056 | 0.002 | ( 0.006) | 0.054 |
| 266 | 22.17 | 0.10 | 0.056 | 0.002 | ( 0.006) | 0.054 |
| 267 | 22.25 | 0.10 | 0.056 | 0.002 | ( 0.006) | 0.054 |
| 268 | 22.33 | 0.07 | 0.037 | 0.002 | ( 0.004) | 0.036 |
| 269 | 22.42 | 0.07 | 0.037 | 0.002 | ( 0.004) | 0.036 |
| 270 | 22.50 | 0.07 | 0.037 | 0.002 | ( 0.004) | 0.036 |
| 271 | 22.58 | 0.07 | 0.037 | 0.002 | ( 0.004) | 0.036 |
| 272 | 22.67 | 0.07 | 0.037 | 0.002 | ( 0.004) | 0.036 |
| 273 | 22.75 | 0.07 | 0.037 | 0.002 | ( 0.004) | 0.036 |
| 274 | 22.83 | 0.07 | 0.037 | 0.002 | ( 0.004) | 0.036 |
| 275 | 22.92 | 0.07 | 0.037 | 0.002 | ( 0.004) | 0.036 |
| 276 | 23.00 | 0.07 | 0.037 | 0.002 | ( 0.004) | 0.036 |
| 277 | 23.08 | 0.07 | 0.037 | 0.002 | ( 0.004) | 0.036 |
| 278 | 23.17 | 0.07 | 0.037 | 0.002 | ( 0.004) | 0.036 |
| 279 | 23.25 | 0.07 | 0.037 | 0.002 | ( 0.004) | 0.036 |
| 280 | 23.33 | 0.07 | 0.037 | 0.002 | ( 0.004) | 0.036 |
| 281 | 23.42 | 0.07 | 0.037 | 0.002 | ( 0.004) | 0.036 |
| 282 | 23.50 | 0.07 | 0.037 | 0.002 | ( 0.004) | 0.036 |
| 283 | 23.58 | 0.07 | 0.037 | 0.002 | ( 0.004) | 0.036 |
| 284 | 23.67 | 0.07 | 0.037 | 0.002 | ( 0.004) | 0.036 |
| 285 | 23.75 | 0.07 | 0.037 | 0.002 | ( 0.004) | 0.036 |
| 286 | 23.83 | 0.07 | 0.037 | 0.002 | ( 0.004) | 0.036 |
| 287 | 23.92 | 0.07 | 0.037 | 0.002 | ( 0.004) | 0.036 |
| 288 | 24.00 | 0.07 | 0.037 | 0.002 | ( 0.004) | 0.036 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 55.1

Flood volume = Effective rainfall 4.59(In)
times area 108.2(Ac.)/[(In)/(Ft.)] = 41.4(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.787(Ac.Ft)
Total rainfall = 4.68(In)
Flood volume = 1803479.2 Cubic Feet
Total soil loss = 34277.2 Cubic Feet

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Peak flow rate of this hydrograph = 68.955(CFS)

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TOTAL OF: 5 24 - H O U R S T O R M E V E N T S
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 17.5 | 35.0 | 52.5 | 70.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0003 | 0.04 | Q | \| | \| | \| | \| |
| 0+10 | 0.0019 | 0.23 | Q | \| | \| | \| | \| |
| 0+15 | 0.0040 | 0.31 | Q | \| | \| | \| | \| |
| 0+20 | 0.0065 | 0.36 | Q | \| | \| | \| | \| |
| 0+25 | 0.0098 | 0.47 | Q | \| | \| | \| | \| |
| 0+30 | 0.0134 | 0.52 | Q | \| | \| | \| | \| |
| 0+35 | 0.0171 | 0.54 | Q | \| | \| | \| | \| |
| 0+40 | 0.0208 | 0.55 | Q | \| | \| | \| | \| |
| 0+45 | 0.0246 | 0.55 | Q | \| | \| | \| | \| |
| 0+50 | 0.0285 | 0.57 | Q | \| | \| | \| | \| |
| 0+55 | 0.0331 | 0.67 | Q | \| | \| | \| | \| |
| 1+ 0 | 0.0380 | 0.71 | Q | \| | \| | \| | \| |
| 1+ 5 | 0.0428 | 0.70 | Q | \| | \| | \| | \| |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1+10 | 0.0471 | 0.61 | Q | | | | |
| 1+15 | 0.0510 | 0.58 | Q | | | | |
| 1+20 | 0.0549 | 0.56 | Q | | | | |
| 1+25 | 0.0587 | 0.56 | Q | | | | |
| 1+30 | 0.0626 | 0.55 | Q | | | | |
| 1+35 | 0.0664 | 0.55 | Q | | | | |
| 1+40 | 0.0702 | 0.55 | Q | | | | |
| 1+45 | 0.0740 | 0.55 | Q | | | | |
| 1+50 | 0.0779 | 0.57 | Q | | | | |
| 1+55 | 0.0825 | 0.67 | Q | | | | |
| 2+ 0 | 0.0874 | 0.71 | Q | | | | |
| 2+ 5 | 0.0923 | 0.72 | Q | | | | |
| 2+10 | 0.0974 | 0.73 | Q | | | | |
| 2+15 | 0.1024 | 0.73 | Q | | | | |
| 2+20 | 0.1075 | 0.73 | Q | | | | |
| 2+25 | 0.1125 | 0.73 | Q | | | | |
| 2+30 | 0.1176 | 0.74 | Q | | | | |
| 2+35 | 0.1228 | 0.75 | Q | | | | |
| 2+40 | 0.1287 | 0.85 | Q | | | | |
| 2+45 | 0.1348 | 0.89 | Q | | | | |
| 2+50 | 0.1410 | 0.91 | Q | | | | |
| 2+55 | 0.1473 | 0.91 | Q | | | | |
| 3+ 0 | 0.1536 | 0.92 | Q | | | | |
| 3+ 5 | 0.1600 | 0.92 | Q | | | | |
| 3+10 | 0.1663 | 0.92 | Q | | | | |
| 3+15 | 0.1726 | 0.92 | Q | | | | |
| 3+20 | 0.1790 | 0.92 | Q | | | | |
| 3+25 | 0.1853 | 0.92 | Q | | | | |
| 3+30 | 0.1916 | 0.92 | Q | | | | |
| 3+35 | 0.1979 | 0.92 | Q | | | | |
| 3+40 | 0.2043 | 0.92 | Q | | | | |
| 3+45 | 0.2106 | 0.92 | Q | | | | |
| 3+50 | 0.2171 | 0.94 | Q | | | | |
| 3+55 | 0.2242 | 1.03 | Q | | | | |
| 4+ 0 | 0.2316 | 1.07 | Q | | | | |
| 4+ 5 | 0.2391 | 1.09 | Q | | | | |
| 4+10 | 0.2467 | 1.10 | Q | | | | |
| 4+15 | 0.2542 | 1.10 | Q | | | | |
| 4+20 | 0.2620 | 1.12 | Q | | | | |
| 4+25 | 0.2704 | 1.22 | Q | | | | |
| 4+30 | 0.2790 | 1.26 | Q | | | | |
| 4+35 | 0.2878 | 1.27 | Q | | | | |
| 4+40 | 0.2966 | 1.28 | Q | | | | |
| 4+45 | 0.3055 | 1.28 | Q | | | | |
| 4+50 | 0.3145 | 1.31 | Q | | | | |
| 4+55 | 0.3241 | 1.40 | Q | | | | |
| 5+ 0 | 0.3340 | 1.44 | Q | | | | |
| 5+ 5 | 0.3438 | 1.42 | Q | | | | |
| 5+10 | 0.3523 | 1.23 | Q | | | | |
| 5+15 | 0.3603 | 1.16 | Q | | | | |
| 5+20 | 0.3682 | 1.14 | Q | | | | |
| 5+25 | 0.3766 | 1.23 | Q | | | | |
| 5+30 | 0.3853 | 1.26 | Q | | | | |
| 5+35 | 0.3942 | 1.30 | Q | | | | |
| 5+40 | 0.4039 | 1.40 | Q | | | | |
| 5+45 | 0.4138 | 1.44 | Q | | | | |
| 5+50 | 0.4238 | 1.46 | Q | | | | |
| 5+55 | 0.4339 | 1.47 | Q | | | | |
| 6+ 0 | 0.4440 | 1.47 | Q | | | | |
| 6+ 5 | 0.4543 | 1.49 | Q | | | | |
| 6+10 | 0.4652 | 1.59 | Q | | | | |
| 6+15 | 0.4764 | 1.63 | Q | | | | |
| 6+20 | 0.4877 | 1.64 | Q | | | | |
| 6+25 | 0.4991 | 1.65 | Q | | | | |
| 6+30 | 0.5105 | 1.65 | Q | | | | |
| 6+35 | 0.5220 | 1.67 | Q | | | | |
| 6+40 | 0.5342 | 1.77 | VQ | | | | |
| 6+45 | 0.5466 | 1.81 | VQ | | | | |
| 6+50 | 0.5592 | 1.83 | VQ | | | | |
| 6+55 | 0.5718 | 1.83 | VQ | | | | |
| 7+ 0 | 0.5845 | 1.84 | VQ | | | | |
| 7+ 5 | 0.5971 | 1.84 | VQ | | | | |
| 7+10 | 0.6098 | 1.84 | VQ | | | | |
| 7+15 | 0.6224 | 1.84 | VQ | | | | |
| 7+20 | 0.6352 | 1.86 | VQ | | | | |
| 7+25 | 0.6487 | 1.95 | VQ | | | | |
| 7+30 | 0.6624 | 1.99 | VQ | | | | |
| 7+35 | 0.6764 | 2.03 | VQ | | | | |
| 7+40 | 0.6911 | 2.13 | VQ | | | | |

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|---|---|---|---|---|---|---|
| 7+45 | 0.7061 | 2.18 | VQ | | | |
| 7+50 | 0.7213 | 2.21 | VQ | | | |
| 7+55 | 0.7372 | 2.32 | VQ | | | |
| 8+ 0 | 0.7535 | 2.36 | VQ | | | |
| 8+ 5 | 0.7701 | 2.42 | VQ | | | |
| 8+10 | 0.7881 | 2.62 | VQ | | | |
| 8+15 | 0.8067 | 2.70 | VQ | | | |
| 8+20 | 0.8255 | 2.73 | VQ | | | |
| 8+25 | 0.8445 | 2.75 | VQ | | | |
| 8+30 | 0.8634 | 2.75 | VQ | | | |
| 8+35 | 0.8825 | 2.77 | VQ | | | |
| 8+40 | 0.9023 | 2.87 | VQ | | | |
| 8+45 | 0.9224 | 2.91 | VQ | | | |
| 8+50 | 0.9427 | 2.95 | VQ | | | |
| 8+55 | 0.9637 | 3.05 | VQ | | | |
| 9+ 0 | 0.9850 | 3.09 | VQ | | | |
| 9+ 5 | 1.0067 | 3.15 | VQ | | | |
| 9+10 | 1.0298 | 3.35 | VQ | | | |
| 9+15 | 1.0534 | 3.43 | VQ | | | |
| 9+20 | 1.0774 | 3.49 | VQ | | | |
| 9+25 | 1.1022 | 3.60 | V Q | | | |
| 9+30 | 1.1273 | 3.64 | V Q | | | |
| 9+35 | 1.1527 | 3.68 | V Q | | | |
| 9+40 | 1.1787 | 3.79 | V Q | | | |
| 9+45 | 1.2051 | 3.83 | V Q | | | |
| 9+50 | 1.2318 | 3.87 | V Q | | | |
| 9+55 | 1.2592 | 3.98 | V Q | | | |
| 10+ 0 | 1.2869 | 4.03 | V Q | | | |
| 10+ 5 | 1.3139 | 3.91 | V Q | | | |
| 10+10 | 1.3362 | 3.23 | VQ | | | |
| 10+15 | 1.3565 | 2.95 | VQ | | | |
| 10+20 | 1.3761 | 2.84 | VQ | | | |
| 10+25 | 1.3953 | 2.79 | VQ | | | |
| 10+30 | 1.4143 | 2.77 | VQ | | | |
| 10+35 | 1.4341 | 2.86 | VQ | | | |
| 10+40 | 1.4570 | 3.34 | VQ | | | |
| 10+45 | 1.4814 | 3.54 | V Q | | | |
| 10+50 | 1.5063 | 3.62 | V Q | | | |
| 10+55 | 1.5315 | 3.66 | V Q | | | |
| 11+ 0 | 1.5567 | 3.67 | V Q | | | |
| 11+ 5 | 1.5819 | 3.66 | V Q | | | |
| 11+10 | 1.6064 | 3.56 | V Q | | | |
| 11+15 | 1.6307 | 3.52 | V Q | | | |
| 11+20 | 1.6548 | 3.50 | V Q | | | |
| 11+25 | 1.6789 | 3.50 | VQ | | | |
| 11+30 | 1.7030 | 3.49 | VQ | | | |
| 11+35 | 1.7267 | 3.45 | VQ | | | |
| 11+40 | 1.7492 | 3.26 | VQ | | | |
| 11+45 | 1.7711 | 3.18 | VQ | | | |
| 11+50 | 1.7929 | 3.17 | VQ | | | |
| 11+55 | 1.8153 | 3.25 | VQ | | | |
| 12+ 0 | 1.8379 | 3.28 | \|Q | | | |
| 12+ 5 | 1.8617 | 3.45 | \|Q | | | |
| 12+10 | 1.8906 | 4.20 | \|VQ | | | |
| 12+15 | 1.9217 | 4.51 | \|VQ | | | |
| 12+20 | 1.9538 | 4.66 | \|VQ | | | |
| 12+25 | 1.9870 | 4.83 | \|VQ | | | |
| 12+30 | 2.0207 | 4.89 | \|VQ | | | |
| 12+35 | 2.0549 | 4.96 | \|VQ | | | |
| 12+40 | 2.0906 | 5.19 | \|VQ | | | |
| 12+45 | 2.1271 | 5.29 | \|V Q | | | |
| 12+50 | 2.1639 | 5.35 | \|V Q | | | |
| 12+55 | 2.2016 | 5.48 | \|V Q | | | |
| 13+ 0 | 2.2397 | 5.53 | \|V Q | | | |
| 13+ 5 | 2.2786 | 5.66 | \|V Q | | | |
| 13+10 | 2.3214 | 6.21 | \|V Q | | | |
| 13+15 | 2.3657 | 6.43 | \|V Q | | | |
| 13+20 | 2.4106 | 6.52 | \|V Q | | | |
| 13+25 | 2.4558 | 6.57 | \|V Q | | | |
| 13+30 | 2.5012 | 6.58 | \|V Q | | | |
| 13+35 | 2.5449 | 6.35 | \|V Q | | | |
| 13+40 | 2.5806 | 5.18 | \|VQ | | | |
| 13+45 | 2.6129 | 4.70 | \|VQ | | | |
| 13+50 | 2.6439 | 4.50 | \|VQ | | | |
| 13+55 | 2.6743 | 4.41 | \|VQ | | | |
| 14+ 0 | 2.7045 | 4.39 | \|VQ | | | |
| 14+ 5 | 2.7352 | 4.46 | \|VQ | | | |
| 14+10 | 2.7688 | 4.88 | \|VQ | | | |
| 14+15 | 2.8036 | 5.06 | \|VQ | | | |

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|---|---|---|---|---|---|---|
| 14+20 | 2.8388 | 5.11 | \|VQ | \| | \| | \| |
| 14+25 | 2.8735 | 5.04 | \|VQ | \| | \| | \| |
| 14+30 | 2.9080 | 5.00 | \|VQ | \| | \| | \| |
| 14+35 | 2.9423 | 4.99 | \|VQ | \| | \| | \| |
| 14+40 | 2.9767 | 4.99 | \|VQ | \| | \| | \| |
| 14+45 | 3.0111 | 4.99 | \|VQ | \| | \| | \| |
| 14+50 | 3.0453 | 4.97 | \|VQ | \| | \| | \| |
| 14+55 | 3.0788 | 4.86 | \|VQ | \| | \| | \| |
| 15+ 0 | 3.1119 | 4.82 | \|VQ | \| | \| | \| |
| 15+ 5 | 3.1449 | 4.78 | \|VQ | \| | \| | \| |
| 15+10 | 3.1770 | 4.67 | \|VQ | \| | \| | \| |
| 15+15 | 3.2088 | 4.62 | \|VQ | \| | \| | \| |
| 15+20 | 3.2404 | 4.58 | \|VQ | \| | \| | \| |
| 15+25 | 3.2712 | 4.47 | \|VQ | \| | \| | \| |
| 15+30 | 3.3016 | 4.42 | \|VQ | \| | \| | \| |
| 15+35 | 3.3313 | 4.32 | \|VQ | \| | \| | \| |
| 15+40 | 3.3581 | 3.88 | \|VQ | \| | \| | \| |
| 15+45 | 3.3836 | 3.70 | \|VQ | \| | \| | \| |
| 15+50 | 3.4086 | 3.63 | \|VQ | \| | \| | \| |
| 15+55 | 3.4334 | 3.60 | \|VQ | \| | \| | \| |
| 16+ 0 | 3.4581 | 3.59 | \|VQ | \| | \| | \| |
| 16+ 5 | 3.4807 | 3.28 | \|Q | \| | \| | \| |
| 16+10 | 3.4930 | 1.79 | \|Q | \| | \| | \| |
| 16+15 | 3.5011 | 1.17 | QV | \| | \| | \| |
| 16+20 | 3.5074 | 0.92 | QV | \| | \| | \| |
| 16+25 | 3.5130 | 0.80 | QV | \| | \| | \| |
| 16+30 | 3.5183 | 0.77 | QV | \| | \| | \| |
| 16+35 | 3.5233 | 0.73 | QV | \| | \| | \| |
| 16+40 | 3.5276 | 0.62 | QV | \| | \| | \| |
| 16+45 | 3.5316 | 0.58 | QV | \| | \| | \| |
| 16+50 | 3.5354 | 0.56 | QV | \| | \| | \| |
| 16+55 | 3.5393 | 0.56 | QV | \| | \| | \| |
| 17+ 0 | 3.5431 | 0.55 | QV | \| | \| | \| |
| 17+ 5 | 3.5472 | 0.59 | QV | \| | \| | \| |
| 17+10 | 3.5526 | 0.78 | QV | \| | \| | \| |
| 17+15 | 3.5585 | 0.86 | QV | \| | \| | \| |
| 17+20 | 3.5647 | 0.90 | QV | \| | \| | \| |
| 17+25 | 3.5709 | 0.91 | QV | \| | \| | \| |
| 17+30 | 3.5772 | 0.91 | QV | \| | \| | \| |
| 17+35 | 3.5835 | 0.92 | QV | \| | \| | \| |
| 17+40 | 3.5899 | 0.92 | QV | \| | \| | \| |
| 17+45 | 3.5962 | 0.92 | QV | \| | \| | \| |
| 17+50 | 3.6024 | 0.90 | QV | \| | \| | \| |
| 17+55 | 3.6079 | 0.80 | QV | \| | \| | \| |
| 18+ 0 | 3.6132 | 0.76 | QV | \| | \| | \| |
| 18+ 5 | 3.6183 | 0.75 | QV | \| | \| | \| |
| 18+10 | 3.6234 | 0.74 | QV | \| | \| | \| |
| 18+15 | 3.6285 | 0.74 | QV | \| | \| | \| |
| 18+20 | 3.6336 | 0.74 | QV | \| | \| | \| |
| 18+25 | 3.6386 | 0.74 | QV | \| | \| | \| |
| 18+30 | 3.6437 | 0.74 | QV | \| | \| | \| |
| 18+35 | 3.6486 | 0.72 | QV | \| | \| | \| |
| 18+40 | 3.6529 | 0.62 | QV | \| | \| | \| |
| 18+45 | 3.6569 | 0.58 | QV | \| | \| | \| |
| 18+50 | 3.6606 | 0.54 | Q V | \| | \| | \| |
| 18+55 | 3.6636 | 0.44 | Q V | \| | \| | \| |
| 19+ 0 | 3.6664 | 0.40 | Q V | \| | \| | \| |
| 19+ 5 | 3.6691 | 0.40 | Q V | \| | \| | \| |
| 19+10 | 3.6725 | 0.49 | Q V | \| | \| | \| |
| 19+15 | 3.6761 | 0.53 | Q V | \| | \| | \| |
| 19+20 | 3.6800 | 0.56 | Q V | \| | \| | \| |
| 19+25 | 3.6845 | 0.66 | Q V | \| | \| | \| |
| 19+30 | 3.6894 | 0.70 | Q V | \| | \| | \| |
| 19+35 | 3.6942 | 0.70 | Q V | \| | \| | \| |
| 19+40 | 3.6985 | 0.61 | Q V | \| | \| | \| |
| 19+45 | 3.7024 | 0.58 | Q V | \| | \| | \| |
| 19+50 | 3.7062 | 0.54 | Q V | \| | \| | \| |
| 19+55 | 3.7092 | 0.44 | Q V | \| | \| | \| |
| 20+ 0 | 3.7119 | 0.40 | Q V | \| | \| | \| |
| 20+ 5 | 3.7147 | 0.40 | Q V | \| | \| | \| |
| 20+10 | 3.7181 | 0.49 | Q V | \| | \| | \| |
| 20+15 | 3.7217 | 0.53 | Q V | \| | \| | \| |
| 20+20 | 3.7254 | 0.54 | Q V | \| | \| | \| |
| 20+25 | 3.7292 | 0.55 | Q V | \| | \| | \| |
| 20+30 | 3.7329 | 0.55 | Q V | \| | \| | \| |
| 20+35 | 3.7367 | 0.55 | Q V | \| | \| | \| |
| 20+40 | 3.7405 | 0.55 | Q V | \| | \| | \| |
| 20+45 | 3.7443 | 0.55 | Q V | \| | \| | \| |
| 20+50 | 3.7480 | 0.53 | Q V | \| | \| | \| |

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|---|---|---|---|---|---|---|
| 20+55 | 3.7510 | 0.44 | Q V | | | |
| 21+ 0 | 3.7537 | 0.40 | Q V | | | |
| 21+ 5 | 3.7565 | 0.40 | Q V | | | |
| 21+10 | 3.7598 | 0.49 | Q V | | | |
| 21+15 | 3.7634 | 0.53 | Q V | | | |
| 21+20 | 3.7670 | 0.52 | Q V | | | |
| 21+25 | 3.7700 | 0.43 | Q V | | | |
| 21+30 | 3.7727 | 0.39 | Q V | | | |
| 21+35 | 3.7755 | 0.40 | Q V | | | |
| 21+40 | 3.7788 | 0.49 | Q V | | | |
| 21+45 | 3.7824 | 0.53 | Q V | | | |
| 21+50 | 3.7860 | 0.52 | Q V | | | |
| 21+55 | 3.7890 | 0.43 | Q V | | | |
| 22+ 0 | 3.7917 | 0.39 | Q V | | | |
| 22+ 5 | 3.7944 | 0.40 | Q V | | | |
| 22+10 | 3.7978 | 0.49 | Q V | | | |
| 22+15 | 3.8014 | 0.53 | Q V | | | |
| 22+20 | 3.8050 | 0.52 | Q V | | | |
| 22+25 | 3.8080 | 0.43 | Q V | | | |
| 22+30 | 3.8107 | 0.39 | Q V | | | |
| 22+35 | 3.8133 | 0.38 | Q V | | | |
| 22+40 | 3.8158 | 0.37 | Q V | | | |
| 22+45 | 3.8184 | 0.37 | Q V | | | |
| 22+50 | 3.8209 | 0.37 | Q V | | | |
| 22+55 | 3.8235 | 0.37 | Q V | | | |
| 23+ 0 | 3.8260 | 0.37 | Q V | | | |
| 23+ 5 | 3.8285 | 0.37 | Q V | | | |
| 23+10 | 3.8311 | 0.37 | Q V | | | |
| 23+15 | 3.8336 | 0.37 | Q V | | | |
| 23+20 | 3.8361 | 0.37 | Q V | | | |
| 23+25 | 3.8387 | 0.37 | Q V | | | |
| 23+30 | 3.8412 | 0.37 | Q V | | | |
| 23+35 | 3.8437 | 0.37 | Q V | | | |
| 23+40 | 3.8462 | 0.37 | Q V | | | |
| 23+45 | 3.8488 | 0.37 | Q V | | | |
| 23+50 | 3.8513 | 0.37 | Q V | | | |
| 23+55 | 3.8538 | 0.37 | Q V | | | |
| 24+ 0 | 3.8564 | 0.37 | Q V | | | |
| 24+ 5 | 3.8568 | 0.06 | Q V | | | |
| 24+10 | 3.8592 | 0.35 | Q V | | | |
| 24+15 | 3.8624 | 0.47 | Q V | | | |
| 24+20 | 3.8661 | 0.55 | Q V | | | |
| 24+25 | 3.8710 | 0.71 | Q V | | | |
| 24+30 | 3.8764 | 0.78 | Q V | | | |
| 24+35 | 3.8820 | 0.81 | Q V | | | |
| 24+40 | 3.8876 | 0.82 | Q V | | | |
| 24+45 | 3.8933 | 0.82 | Q V | | | |
| 24+50 | 3.8992 | 0.85 | Q V | | | |
| 24+55 | 3.9061 | 1.00 | Q V | | | |
| 25+ 0 | 3.9134 | 1.06 | Q V | | | |
| 25+ 5 | 3.9206 | 1.06 | Q V | | | |
| 25+10 | 3.9270 | 0.92 | Q V | | | |
| 25+15 | 3.9329 | 0.87 | Q V | | | |
| 25+20 | 3.9388 | 0.84 | Q V | | | |
| 25+25 | 3.9445 | 0.83 | Q V | | | |
| 25+30 | 3.9502 | 0.83 | Q V | | | |
| 25+35 | 3.9559 | 0.83 | Q V | | | |
| 25+40 | 3.9616 | 0.83 | Q V | | | |
| 25+45 | 3.9673 | 0.83 | Q V | | | |
| 25+50 | 3.9732 | 0.86 | Q V | | | |
| 25+55 | 3.9801 | 1.00 | Q V | | | |
| 26+ 0 | 3.9874 | 1.06 | Q V | | | |
| 26+ 5 | 3.9949 | 1.09 | Q V | | | |
| 26+10 | 4.0024 | 1.10 | Q V | | | |
| 26+15 | 4.0100 | 1.10 | Q V | | | |
| 26+20 | 4.0176 | 1.10 | Q V | | | |
| 26+25 | 4.0252 | 1.10 | Q V | | | |
| 26+30 | 4.0328 | 1.10 | Q V | | | |
| 26+35 | 4.0406 | 1.13 | Q V | | | |
| 26+40 | 4.0494 | 1.28 | Q V | | | |
| 26+45 | 4.0586 | 1.34 | Q V | | | |
| 26+50 | 4.0679 | 1.36 | Q V | | | |
| 26+55 | 4.0774 | 1.37 | Q V | | | |
| 27+ 0 | 4.0868 | 1.37 | Q V | | | |
| 27+ 5 | 4.0963 | 1.38 | Q V | | | |
| 27+10 | 4.1058 | 1.38 | Q V | | | |
| 27+15 | 4.1153 | 1.38 | Q V | | | |
| 27+20 | 4.1248 | 1.38 | Q V | | | |
| 27+25 | 4.1343 | 1.38 | Q V | | | |

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|---|---|---|---|---|---|---|---|
| 27+30 | 4.1438 | 1.38 | Q V | | | | |
| 27+35 | 4.1533 | 1.38 | Q V | | | | |
| 27+40 | 4.1628 | 1.38 | Q V | | | | |
| 27+45 | 4.1723 | 1.38 | Q V | | | | |
| 27+50 | 4.1820 | 1.41 | Q V | | | | |
| 27+55 | 4.1926 | 1.55 | Q V | | | | |
| 28+ 0 | 4.2038 | 1.61 | Q V | | | | |
| 28+ 5 | 4.2150 | 1.64 | Q V | | | | |
| 28+10 | 4.2264 | 1.65 | Q V | | | | |
| 28+15 | 4.2377 | 1.65 | Q V | | | | |
| 28+20 | 4.2493 | 1.68 | Q V | | | | |
| 28+25 | 4.2619 | 1.83 | QV | | | | |
| 28+30 | 4.2749 | 1.89 | QV | | | | |
| 28+35 | 4.2881 | 1.91 | QV | | | | |
| 28+40 | 4.3013 | 1.92 | QV | | | | |
| 28+45 | 4.3146 | 1.93 | QV | | | | |
| 28+50 | 4.3281 | 1.96 | QV | | | | |
| 28+55 | 4.3425 | 2.10 | QV | | | | |
| 29+ 0 | 4.3574 | 2.16 | QV | | | | |
| 29+ 5 | 4.3721 | 2.13 | QV | | | | |
| 29+10 | 4.3849 | 1.85 | QV | | | | |
| 29+15 | 4.3968 | 1.73 | Q V | | | | |
| 29+20 | 4.4086 | 1.72 | Q V | | | | |
| 29+25 | 4.4213 | 1.84 | QV | | | | |
| 29+30 | 4.4344 | 1.89 | QV | | | | |
| 29+35 | 4.4477 | 1.94 | QV | | | | |
| 29+40 | 4.4622 | 2.10 | QV | | | | |
| 29+45 | 4.4771 | 2.16 | QV | | | | |
| 29+50 | 4.4921 | 2.19 | QV | | | | |
| 29+55 | 4.5073 | 2.20 | QV | | | | |
| 30+ 0 | 4.5224 | 2.20 | QV | | | | |
| 30+ 5 | 4.5378 | 2.23 | QV | | | | |
| 30+10 | 4.5542 | 2.38 | QV | | | | |
| 30+15 | 4.5710 | 2.44 | QV | | | | |
| 30+20 | 4.5880 | 2.46 | QV | | | | |
| 30+25 | 4.6050 | 2.47 | QV | | | | |
| 30+30 | 4.6221 | 2.48 | QV | | | | |
| 30+35 | 4.6393 | 2.51 | QV | | | | |
| 30+40 | 4.6576 | 2.65 | QV | | | | |
| 30+45 | 4.6763 | 2.71 | QV | | | | |
| 30+50 | 4.6952 | 2.74 | QV | | | | |
| 30+55 | 4.7141 | 2.75 | QV | | | | |
| 31+ 0 | 4.7331 | 2.75 | QV | | | | |
| 31+ 5 | 4.7521 | 2.76 | QV | | | | |
| 31+10 | 4.7710 | 2.76 | QV | | | | |
| 31+15 | 4.7900 | 2.76 | QV | | | | |
| 31+20 | 4.8092 | 2.79 | QV | | | | |
| 31+25 | 4.8294 | 2.93 | QV | | | | |
| 31+30 | 4.8500 | 2.99 | QV | | | | |
| 31+35 | 4.8709 | 3.04 | QV | | | | |
| 31+40 | 4.8930 | 3.20 | QV | | | | |
| 31+45 | 4.9155 | 3.26 | QV | | | | |
| 31+50 | 4.9383 | 3.32 | QV | | | | |
| 31+55 | 4.9622 | 3.47 | QV | | | | |
| 32+ 0 | 4.9866 | 3.54 | Q | | | | |
| 32+ 5 | 5.0116 | 3.62 | Q | | | | |
| 32+10 | 5.0386 | 3.92 | Q | | | | |
| 32+15 | 5.0665 | 4.05 | Q | | | | |
| 32+20 | 5.0947 | 4.10 | Q | | | | |
| 32+25 | 5.1231 | 4.12 | Q | | | | |
| 32+30 | 5.1515 | 4.13 | Q | | | | |
| 32+35 | 5.1802 | 4.16 | Q | | | | |
| 32+40 | 5.2100 | 4.33 | Q | | | | |
| 32+45 | 5.2402 | 4.39 | Q | | | | |
| 32+50 | 5.2709 | 4.46 | Q | | | | |
| 32+55 | 5.3028 | 4.63 | Q | | | | |
| 33+ 0 | 5.3352 | 4.70 | Q | | | | |
| 33+ 5 | 5.3682 | 4.80 | Q | | | | |
| 33+10 | 5.4036 | 5.14 | Q | | | | |
| 33+15 | 5.4399 | 5.27 | VQ | | | | |
| 33+20 | 5.4769 | 5.37 | VQ | | | | |
| 33+25 | 5.5151 | 5.55 | Q | | | | |
| 33+30 | 5.5539 | 5.63 | Q | | | | |
| 33+35 | 5.5931 | 5.70 | Q | | | | |
| 33+40 | 5.6336 | 5.87 | Q | | | | |
| 33+45 | 5.6745 | 5.95 | Q | | | | |
| 33+50 | 5.7159 | 6.01 | Q | | | | |
| 33+55 | 5.7585 | 6.19 | Q | | | | |
| 34+ 0 | 5.8016 | 6.26 | Q | | | | |

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|---|---|---|---|---|---|---|
| 34+ 5 | 5.8434 | 6.06 | Q | | | |
| 34+10 | 5.8775 | 4.95 | QV | | | |
| 34+15 | 5.9085 | 4.49 | QV | | | |
| 34+20 | 5.9381 | 4.31 | QV | | | |
| 34+25 | 5.9673 | 4.23 | QV | | | |
| 34+30 | 5.9962 | 4.20 | QV | | | |
| 34+35 | 6.0262 | 4.35 | QV | | | |
| 34+40 | 6.0617 | 5.15 | QV | | | |
| 34+45 | 6.0994 | 5.48 | Q | | | |
| 34+50 | 6.1381 | 5.62 | Q | | | |
| 34+55 | 6.1772 | 5.68 | Q | | | |
| 35+ 0 | 6.2165 | 5.70 | Q | | | |
| 35+ 5 | 6.2556 | 5.68 | Q | | | |
| 35+10 | 6.2937 | 5.53 | Q | | | |
| 35+15 | 6.3314 | 5.47 | Q | | | |
| 35+20 | 6.3689 | 5.44 | Q | | | |
| 35+25 | 6.4063 | 5.43 | Q | | | |
| 35+30 | 6.4437 | 5.43 | Q | | | |
| 35+35 | 6.4806 | 5.37 | Q | | | |
| 35+40 | 6.5154 | 5.04 | QV | | | |
| 35+45 | 6.5492 | 4.91 | QV | | | |
| 35+50 | 6.5829 | 4.89 | QV | | | |
| 35+55 | 6.6176 | 5.03 | QV | | | |
| 36+ 0 | 6.6526 | 5.09 | QV | | | |
| 36+ 5 | 6.6895 | 5.35 | Q | | | |
| 36+10 | 6.7341 | 6.48 | Q | | | |
| 36+15 | 6.7820 | 6.95 | Q | | | |
| 36+20 | 6.8314 | 7.18 | VQ | | | |
| 36+25 | 6.8825 | 7.43 | VQ | | | |
| 36+30 | 6.9343 | 7.52 | VQ | | | |
| 36+35 | 6.9869 | 7.63 | VQ | | | |
| 36+40 | 7.0418 | 7.97 | VQ | | | |
| 36+45 | 7.0977 | 8.11 | VQ | | | |
| 36+50 | 7.1542 | 8.21 | VQ | | | |
| 36+55 | 7.2120 | 8.39 | VQ | | | |
| 37+ 0 | 7.2703 | 8.47 | VQ | | | |
| 37+ 5 | 7.3300 | 8.67 | Q | | | |
| 37+10 | 7.3953 | 9.49 | VQ | | | |
| 37+15 | 7.4630 | 9.82 | VQ | | | |
| 37+20 | 7.5316 | 9.96 | VQ | | | |
| 37+25 | 7.6007 | 10.03 | VQ | | | |
| 37+30 | 7.6699 | 10.05 | VQ | | | |
| 37+35 | 7.7367 | 9.70 | VQ | | | |
| 37+40 | 7.7914 | 7.94 | Q | | | |
| 37+45 | 7.8411 | 7.22 | Q | | | |
| 37+50 | 7.8887 | 6.92 | QV | | | |
| 37+55 | 7.9355 | 6.79 | QV | | | |
| 38+ 0 | 7.9819 | 6.75 | QV | | | |
| 38+ 5 | 8.0292 | 6.86 | QV | | | |
| 38+10 | 8.0807 | 7.49 | Q | | | |
| 38+15 | 8.1341 | 7.75 | Q | | | |
| 38+20 | 8.1880 | 7.83 | Q | | | |
| 38+25 | 8.2412 | 7.72 | Q | | | |
| 38+30 | 8.2940 | 7.67 | Q | | | |
| 38+35 | 8.3467 | 7.65 | Q | | | |
| 38+40 | 8.3993 | 7.65 | Q | | | |
| 38+45 | 8.4520 | 7.64 | Q | | | |
| 38+50 | 8.5044 | 7.61 | Q | | | |
| 38+55 | 8.5557 | 7.45 | Q | | | |
| 39+ 0 | 8.6066 | 7.39 | Q | | | |
| 39+ 5 | 8.6571 | 7.33 | Q | | | |
| 39+10 | 8.7063 | 7.16 | Q | | | |
| 39+15 | 8.7552 | 7.09 | Q | | | |
| 39+20 | 8.8036 | 7.03 | Q | | | |
| 39+25 | 8.8508 | 6.86 | QV | | | |
| 39+30 | 8.8975 | 6.79 | QV | | | |
| 39+35 | 8.9432 | 6.63 | QV | | | |
| 39+40 | 8.9843 | 5.97 | QV | | | |
| 39+45 | 9.0236 | 5.71 | QV | | | |
| 39+50 | 9.0622 | 5.60 | QV | | | |
| 39+55 | 9.1004 | 5.55 | QV | | | |
| 40+ 0 | 9.1385 | 5.54 | QV | | | |
| 40+ 5 | 9.1734 | 5.06 | Q V | | | |
| 40+10 | 9.1922 | 2.74 | Q V | | | |
| 40+15 | 9.2045 | 1.78 | Q V | | | |
| 40+20 | 9.2140 | 1.39 | Q V | | | |
| 40+25 | 9.2223 | 1.21 | Q V | | | |
| 40+30 | 9.2303 | 1.16 | Q V | | | |
| 40+35 | 9.2379 | 1.10 | Q V | | | |

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|---|---|---|---|---|---|---|---|
| 40+40 | 9.2443 | 0.93 | Q | V | | | |
| 40+45 | 9.2503 | 0.87 | Q | V | | | |
| 40+50 | 9.2561 | 0.84 | Q | V | | | |
| 40+55 | 9.2618 | 0.83 | Q | V | | | |
| 41+ 0 | 9.2675 | 0.83 | Q | V | | | |
| 41+ 5 | 9.2737 | 0.89 | Q | V | | | |
| 41+10 | 9.2817 | 1.18 | Q | V | | | |
| 41+15 | 9.2907 | 1.29 | Q | V | | | |
| 41+20 | 9.2999 | 1.34 | Q | V | | | |
| 41+25 | 9.3093 | 1.36 | Q | V | | | |
| 41+30 | 9.3188 | 1.37 | Q | V | | | |
| 41+35 | 9.3282 | 1.38 | Q | V | | | |
| 41+40 | 9.3377 | 1.38 | Q | V | | | |
| 41+45 | 9.3472 | 1.38 | Q | V | | | |
| 41+50 | 9.3565 | 1.35 | Q | V | | | |
| 41+55 | 9.3648 | 1.20 | Q | V | | | |
| 42+ 0 | 9.3727 | 1.14 | Q | V | | | |
| 42+ 5 | 9.3804 | 1.12 | Q | V | | | |
| 42+10 | 9.3880 | 1.11 | Q | V | | | |
| 42+15 | 9.3956 | 1.11 | Q | V | | | |
| 42+20 | 9.4033 | 1.10 | Q | V | | | |
| 42+25 | 9.4108 | 1.10 | Q | V | | | |
| 42+30 | 9.4184 | 1.10 | Q | V | | | |
| 42+35 | 9.4258 | 1.07 | Q | V | | | |
| 42+40 | 9.4322 | 0.93 | Q | V | | | |
| 42+45 | 9.4382 | 0.87 | Q | V | | | |
| 42+50 | 9.4438 | 0.82 | Q | V | | | |
| 42+55 | 9.4484 | 0.66 | Q | V | | | |
| 43+ 0 | 9.4525 | 0.60 | Q | V | | | |
| 43+ 5 | 9.4566 | 0.60 | Q | V | | | |
| 43+10 | 9.4617 | 0.73 | Q | V | | | |
| 43+15 | 9.4671 | 0.79 | Q | V | | | |
| 43+20 | 9.4729 | 0.84 | Q | V | | | |
| 43+25 | 9.4797 | 0.99 | Q | V | | | |
| 43+30 | 9.4870 | 1.06 | Q | V | | | |
| 43+35 | 9.4943 | 1.05 | Q | V | | | |
| 43+40 | 9.5006 | 0.92 | Q | V | | | |
| 43+45 | 9.5066 | 0.87 | Q | V | | | |
| 43+50 | 9.5122 | 0.81 | Q | V | | | |
| 43+55 | 9.5167 | 0.66 | Q | V | | | |
| 44+ 0 | 9.5208 | 0.60 | Q | V | | | |
| 44+ 5 | 9.5250 | 0.60 | Q | V | | | |
| 44+10 | 9.5300 | 0.73 | Q | V | | | |
| 44+15 | 9.5354 | 0.79 | Q | V | | | |
| 44+20 | 9.5410 | 0.81 | Q | V | | | |
| 44+25 | 9.5467 | 0.82 | Q | V | | | |
| 44+30 | 9.5523 | 0.82 | Q | V | | | |
| 44+35 | 9.5580 | 0.83 | Q | V | | | |
| 44+40 | 9.5637 | 0.83 | Q | V | | | |
| 44+45 | 9.5694 | 0.83 | Q | V | | | |
| 44+50 | 9.5749 | 0.80 | Q | V | | | |
| 44+55 | 9.5794 | 0.65 | Q | V | | | |
| 45+ 0 | 9.5835 | 0.59 | Q | V | | | |
| 45+ 5 | 9.5876 | 0.60 | Q | V | | | |
| 45+10 | 9.5927 | 0.73 | Q | V | | | |
| 45+15 | 9.5981 | 0.79 | Q | V | | | |
| 45+20 | 9.6035 | 0.78 | Q | V | | | |
| 45+25 | 9.6079 | 0.65 | Q | V | | | |
| 45+30 | 9.6120 | 0.59 | Q | V | | | |
| 45+35 | 9.6161 | 0.60 | Q | V | | | |
| 45+40 | 9.6211 | 0.73 | Q | V | | | |
| 45+45 | 9.6266 | 0.79 | Q | V | | | |
| 45+50 | 9.6319 | 0.78 | Q | V | | | |
| 45+55 | 9.6364 | 0.65 | Q | V | | | |
| 46+ 0 | 9.6405 | 0.59 | Q | V | | | |
| 46+ 5 | 9.6446 | 0.60 | Q | V | | | |
| 46+10 | 9.6496 | 0.73 | Q | V | | | |
| 46+15 | 9.6550 | 0.79 | Q | V | | | |
| 46+20 | 9.6604 | 0.78 | Q | V | | | |
| 46+25 | 9.6649 | 0.65 | Q | V | | | |
| 46+30 | 9.6689 | 0.59 | Q | V | | | |
| 46+35 | 9.6728 | 0.57 | Q | V | | | |
| 46+40 | 9.6767 | 0.56 | Q | V | | | |
| 46+45 | 9.6805 | 0.55 | Q | V | | | |
| 46+50 | 9.6843 | 0.55 | Q | V | | | |
| 46+55 | 9.6881 | 0.55 | Q | V | | | |
| 47+ 0 | 9.6919 | 0.55 | Q | V | | | |
| 47+ 5 | 9.6957 | 0.55 | Q | V | | | |
| 47+10 | 9.6995 | 0.55 | Q | V | | | |

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|---|---|---|---|---|---|---|---|---|
| 47+15 | 9.7033 | 0.55 | Q | V | | | | |
| 47+20 | 9.7071 | 0.55 | Q | V | | | | |
| 47+25 | 9.7109 | 0.55 | Q | V | | | | |
| 47+30 | 9.7147 | 0.55 | Q | V | | | | |
| 47+35 | 9.7185 | 0.55 | Q | V | | | | |
| 47+40 | 9.7223 | 0.55 | Q | V | | | | |
| 47+45 | 9.7261 | 0.55 | Q | V | | | | |
| 47+50 | 9.7299 | 0.55 | Q | V | | | | |
| 47+55 | 9.7337 | 0.55 | Q | V | | | | |
| 48+ 0 | 9.7375 | 0.55 | Q | V | | | | |
| 48+ 5 | 9.7380 | 0.07 | Q | V | | | | |
| 48+10 | 9.7410 | 0.44 | Q | V | | | | |
| 48+15 | 9.7451 | 0.59 | Q | V | | | | |
| 48+20 | 9.7499 | 0.69 | Q | V | | | | |
| 48+25 | 9.7561 | 0.90 | Q | V | | | | |
| 48+30 | 9.7629 | 0.99 | Q | V | | | | |
| 48+35 | 9.7699 | 1.02 | Q | V | | | | |
| 48+40 | 9.7770 | 1.04 | Q | V | | | | |
| 48+45 | 9.7842 | 1.04 | Q | V | | | | |
| 48+50 | 9.7917 | 1.08 | Q | V | | | | |
| 48+55 | 9.8004 | 1.27 | Q | V | | | | |
| 49+ 0 | 9.8097 | 1.34 | Q | V | | | | |
| 49+ 5 | 9.8189 | 1.34 | Q | V | | | | |
| 49+10 | 9.8269 | 1.17 | Q | V | | | | |
| 49+15 | 9.8345 | 1.10 | Q | V | | | | |
| 49+20 | 9.8418 | 1.07 | Q | V | | | | |
| 49+25 | 9.8491 | 1.06 | Q | V | | | | |
| 49+30 | 9.8563 | 1.05 | Q | V | | | | |
| 49+35 | 9.8636 | 1.05 | Q | V | | | | |
| 49+40 | 9.8708 | 1.05 | Q | V | | | | |
| 49+45 | 9.8780 | 1.05 | Q | V | | | | |
| 49+50 | 9.8855 | 1.08 | Q | V | | | | |
| 49+55 | 9.8942 | 1.27 | Q | V | | | | |
| 50+ 0 | 9.9035 | 1.34 | Q | V | | | | |
| 50+ 5 | 9.9129 | 1.37 | Q | V | | | | |
| 50+10 | 9.9225 | 1.39 | Q | V | | | | |
| 50+15 | 9.9321 | 1.39 | Q | V | | | | |
| 50+20 | 9.9417 | 1.39 | Q | V | | | | |
| 50+25 | 9.9513 | 1.40 | Q | V | | | | |
| 50+30 | 9.9609 | 1.40 | Q | V | | | | |
| 50+35 | 9.9708 | 1.43 | Q | V | | | | |
| 50+40 | 9.9819 | 1.62 | Q | V | | | | |
| 50+45 | 9.9936 | 1.69 | Q | V | | | | |
| 50+50 | 10.0054 | 1.72 | Q | V | | | | |
| 50+55 | 10.0174 | 1.74 | Q | V | | | | |
| 51+ 0 | 10.0294 | 1.74 | Q | V | | | | |
| 51+ 5 | 10.0414 | 1.74 | Q | V | | | | |
| 51+10 | 10.0534 | 1.75 | Q | V | | | | |
| 51+15 | 10.0655 | 1.75 | Q | V | | | | |
| 51+20 | 10.0775 | 1.75 | Q | V | | | | |
| 51+25 | 10.0895 | 1.75 | Q | V | | | | |
| 51+30 | 10.1015 | 1.75 | Q | V | | | | |
| 51+35 | 10.1136 | 1.75 | Q | V | | | | |
| 51+40 | 10.1256 | 1.75 | Q | V | | | | |
| 51+45 | 10.1376 | 1.75 | Q | V | | | | |
| 51+50 | 10.1499 | 1.78 | \|Q | V | | | | |
| 51+55 | 10.1634 | 1.97 | \|Q | V | | | | |
| 52+ 0 | 10.1775 | 2.04 | \|Q | V | | | | |
| 52+ 5 | 10.1918 | 2.07 | \|Q | V | | | | |
| 52+10 | 10.2061 | 2.09 | \|Q | V | | | | |
| 52+15 | 10.2205 | 2.09 | \|Q | V | | | | |
| 52+20 | 10.2352 | 2.13 | \|Q | V | | | | |
| 52+25 | 10.2511 | 2.31 | \|Q | V | | | | |
| 52+30 | 10.2676 | 2.39 | \|Q | V | | | | |
| 52+35 | 10.2843 | 2.42 | \|Q | V | | | | |
| 52+40 | 10.3011 | 2.44 | \|Q | V | | | | |
| 52+45 | 10.3179 | 2.44 | \|Q | V | | | | |
| 52+50 | 10.3350 | 2.48 | \|Q | V | | | | |
| 52+55 | 10.3533 | 2.66 | \|Q | V | | | | |
| 53+ 0 | 10.3722 | 2.74 | \|Q | V | | | | |
| 53+ 5 | 10.3907 | 2.70 | \|Q | V | | | | |
| 53+10 | 10.4069 | 2.34 | \|Q | V | | | | |
| 53+15 | 10.4220 | 2.20 | \|Q | V | | | | |
| 53+20 | 10.4370 | 2.18 | \|Q | V | | | | |
| 53+25 | 10.4531 | 2.33 | \|Q | V | | | | |
| 53+30 | 10.4696 | 2.40 | \|Q | V | | | | |
| 53+35 | 10.4865 | 2.46 | \|Q | V | | | | |
| 53+40 | 10.5048 | 2.66 | \|Q | V | | | | |
| 53+45 | 10.5237 | 2.74 | \|Q | V | | | | |

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|---|---|---|---|---|---|---|
| 53+50 | 10.5428 | 2.77 | Q V | | | |
| 53+55 | 10.5619 | 2.78 | Q V | | | |
| 54+ 0 | 10.5811 | 2.79 | Q V | | | |
| 54+ 5 | 10.6006 | 2.83 | Q V | | | |
| 54+10 | 10.6214 | 3.01 | Q V | | | |
| 54+15 | 10.6427 | 3.09 | Q V | | | |
| 54+20 | 10.6641 | 3.12 | Q V | | | |
| 54+25 | 10.6857 | 3.13 | Q V | | | |
| 54+30 | 10.7073 | 3.14 | Q V | | | |
| 54+35 | 10.7292 | 3.18 | Q V | | | |
| 54+40 | 10.7524 | 3.36 | Q V | | | |
| 54+45 | 10.7761 | 3.44 | Q V | | | |
| 54+50 | 10.8000 | 3.47 | Q V | | | |
| 54+55 | 10.8239 | 3.48 | Q V | | | |
| 55+ 0 | 10.8480 | 3.49 | Q V | | | |
| 55+ 5 | 10.8720 | 3.49 | Q V | | | |
| 55+10 | 10.8960 | 3.49 | Q V | | | |
| 55+15 | 10.9201 | 3.49 | Q V | | | |
| 55+20 | 10.9444 | 3.53 | Q V | | | |
| 55+25 | 10.9700 | 3.71 | Q V | | | |
| 55+30 | 10.9961 | 3.79 | Q V | | | |
| 55+35 | 11.0226 | 3.86 | Q V | | | |
| 55+40 | 11.0505 | 4.05 | Q V | | | |
| 55+45 | 11.0790 | 4.13 | Q V | | | |
| 55+50 | 11.1079 | 4.21 | Q V | | | |
| 55+55 | 11.1384 | 4.42 | Q V | | | |
| 56+ 0 | 11.1694 | 4.50 | Q V | | | |
| 56+ 5 | 11.2012 | 4.62 | Q V | | | |
| 56+10 | 11.2360 | 5.05 | Q V | | | |
| 56+15 | 11.2719 | 5.22 | Q V | | | |
| 56+20 | 11.3084 | 5.30 | Q V | | | |
| 56+25 | 11.3451 | 5.33 | Q V | | | |
| 56+30 | 11.3819 | 5.34 | Q V | | | |
| 56+35 | 11.4190 | 5.39 | Q V | | | |
| 56+40 | 11.4576 | 5.60 | Q V | | | |
| 56+45 | 11.4968 | 5.69 | Q V | | | |
| 56+50 | 11.5365 | 5.77 | Q V | | | |
| 56+55 | 11.5777 | 5.99 | Q V | | | |
| 57+ 0 | 11.6196 | 6.08 | Q V | | | |
| 57+ 5 | 11.6623 | 6.20 | Q V | | | |
| 57+10 | 11.7079 | 6.63 | Q V | | | |
| 57+15 | 11.7547 | 6.80 | Q V | | | |
| 57+20 | 11.8023 | 6.92 | Q V | | | |
| 57+25 | 11.8516 | 7.15 | Q V | | | |
| 57+30 | 11.9015 | 7.25 | Q V | | | |
| 57+35 | 11.9520 | 7.33 | Q V | | | |
| 57+40 | 12.0041 | 7.56 | Q V | | | |
| 57+45 | 12.0567 | 7.65 | Q V | | | |
| 57+50 | 12.1100 | 7.73 | Q V | | | |
| 57+55 | 12.1647 | 7.95 | Q V | | | |
| 58+ 0 | 12.2201 | 8.04 | Q V | | | |
| 58+ 5 | 12.2738 | 7.79 | Q V | | | |
| 58+10 | 12.3178 | 6.39 | Q V | | | |
| 58+15 | 12.3578 | 5.81 | Q V | | | |
| 58+20 | 12.3961 | 5.57 | Q V | | | |
| 58+25 | 12.4338 | 5.47 | Q V | | | |
| 58+30 | 12.4712 | 5.44 | Q V | | | |
| 58+35 | 12.5100 | 5.63 | Q V | | | |
| 58+40 | 12.5556 | 6.63 | Q V | | | |
| 58+45 | 12.6042 | 7.05 | Q V | | | |
| 58+50 | 12.6540 | 7.23 | Q V | | | |
| 58+55 | 12.7043 | 7.31 | Q V | | | |
| 59+ 0 | 12.7548 | 7.33 | Q V | | | |
| 59+ 5 | 12.8051 | 7.30 | Q V | | | |
| 59+10 | 12.8541 | 7.11 | Q V | | | |
| 59+15 | 12.9025 | 7.03 | Q V | | | |
| 59+20 | 12.9507 | 7.00 | Q V | | | |
| 59+25 | 12.9988 | 6.99 | Q V | | | |
| 59+30 | 13.0469 | 6.98 | Q V | | | |
| 59+35 | 13.0944 | 6.90 | Q V | | | |
| 59+40 | 13.1392 | 6.49 | Q V | | | |
| 59+45 | 13.1827 | 6.33 | Q V | | | |
| 59+50 | 13.2261 | 6.30 | Q V | | | |
| 59+55 | 13.2707 | 6.48 | Q V | | | |
| 60+ 0 | 13.3159 | 6.55 | Q V | | | |
| 60+ 5 | 13.3632 | 6.87 | Q V | | | |
| 60+10 | 13.4204 | 8.31 | Q V | | | |
| 60+15 | 13.4818 | 8.90 | Q V | | | |
| 60+20 | 13.5450 | 9.19 | Q V | | | |

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|---|---|---|---|---|---|---|---|
| 60+25 | 13.6105 | 9.51 | Q V | | | | |
| 60+30 | 13.6768 | 9.63 | Q V | | | | |
| 60+35 | 13.7440 | 9.76 | Q V | | | | |
| 60+40 | 13.8143 | 10.20 | Q V | | | | |
| 60+45 | 13.8857 | 10.38 | Q V | | | | |
| 60+50 | 13.9580 | 10.49 | Q V | | | | |
| 60+55 | 14.0319 | 10.73 | QV | | | | |
| 61+ 0 | 14.1064 | 10.82 | QV | | | | |
| 61+ 5 | 14.1827 | 11.07 | QV | | | | |
| 61+10 | 14.2660 | 12.11 | QV | | | | |
| 61+15 | 14.3524 | 12.54 | Q | | | | |
| 61+20 | 14.4399 | 12.71 | Q | | | | |
| 61+25 | 14.5281 | 12.79 | Q | | | | |
| 61+30 | 14.6163 | 12.82 | Q | | | | |
| 61+35 | 14.7016 | 12.38 | QV | | | | |
| 61+40 | 14.7715 | 10.15 | Q V | | | | |
| 61+45 | 14.8351 | 9.23 | Q V | | | | |
| 61+50 | 14.8961 | 8.86 | Q V | | | | |
| 61+55 | 14.9559 | 8.69 | Q V | | | | |
| 62+ 0 | 15.0154 | 8.64 | Q V | | | | |
| 62+ 5 | 15.0758 | 8.78 | Q V | | | | |
| 62+10 | 15.1418 | 9.57 | Q V | | | | |
| 62+15 | 15.2100 | 9.91 | Q V | | | | |
| 62+20 | 15.2789 | 10.00 | Q V | | | | |
| 62+25 | 15.3468 | 9.86 | Q V | | | | |
| 62+30 | 15.4143 | 9.80 | Q V | | | | |
| 62+35 | 15.4817 | 9.78 | Q V | | | | |
| 62+40 | 15.5489 | 9.77 | Q V | | | | |
| 62+45 | 15.6162 | 9.77 | Q V | | | | |
| 62+50 | 15.6832 | 9.73 | Q V | | | | |
| 62+55 | 15.7488 | 9.52 | Q V | | | | |
| 63+ 0 | 15.8138 | 9.44 | Q V | | | | |
| 63+ 5 | 15.8783 | 9.37 | Q V | | | | |
| 63+10 | 15.9414 | 9.15 | Q V | | | | |
| 63+15 | 16.0038 | 9.06 | Q V | | | | |
| 63+20 | 16.0657 | 8.99 | Q V | | | | |
| 63+25 | 16.1260 | 8.77 | Q V | | | | |
| 63+30 | 16.1858 | 8.68 | Q V | | | | |
| 63+35 | 16.2442 | 8.48 | Q V | | | | |
| 63+40 | 16.2969 | 7.65 | Q V | | | | |
| 63+45 | 16.3472 | 7.31 | Q V | | | | |
| 63+50 | 16.3966 | 7.17 | Q V | | | | |
| 63+55 | 16.4456 | 7.11 | Q V | | | | |
| 64+ 0 | 16.4944 | 7.09 | Q V | | | | |
| 64+ 5 | 16.5390 | 6.48 | Q V | | | | |
| 64+10 | 16.5631 | 3.49 | Q V | | | | |
| 64+15 | 16.5787 | 2.26 | Q V | | | | |
| 64+20 | 16.5908 | 1.76 | Q V | | | | |
| 64+25 | 16.6014 | 1.54 | Q V | | | | |
| 64+30 | 16.6115 | 1.47 | Q V | | | | |
| 64+35 | 16.6210 | 1.39 | Q V | | | | |
| 64+40 | 16.6292 | 1.18 | Q V | | | | |
| 64+45 | 16.6368 | 1.10 | Q V | | | | |
| 64+50 | 16.6441 | 1.07 | Q V | | | | |
| 64+55 | 16.6514 | 1.06 | Q V | | | | |
| 65+ 0 | 16.6586 | 1.05 | Q V | | | | |
| 65+ 5 | 16.6664 | 1.12 | Q V | | | | |
| 65+10 | 16.6766 | 1.49 | Q V | | | | |
| 65+15 | 16.6879 | 1.64 | Q V | | | | |
| 65+20 | 16.6996 | 1.70 | Q V | | | | |
| 65+25 | 16.7115 | 1.73 | Q V | | | | |
| 65+30 | 16.7235 | 1.74 | Q V | | | | |
| 65+35 | 16.7355 | 1.74 | Q V | | | | |
| 65+40 | 16.7475 | 1.75 | Q V | | | | |
| 65+45 | 16.7596 | 1.75 | Q V | | | | |
| 65+50 | 16.7713 | 1.71 | Q V | | | | |
| 65+55 | 16.7818 | 1.53 | Q V | | | | |
| 66+ 0 | 16.7918 | 1.45 | Q V | | | | |
| 66+ 5 | 16.8016 | 1.42 | Q V | | | | |
| 66+10 | 16.8113 | 1.41 | Q V | | | | |
| 66+15 | 16.8209 | 1.40 | Q V | | | | |
| 66+20 | 16.8305 | 1.40 | Q V | | | | |
| 66+25 | 16.8402 | 1.40 | Q V | | | | |
| 66+30 | 16.8498 | 1.40 | Q V | | | | |
| 66+35 | 16.8592 | 1.36 | Q V | | | | |
| 66+40 | 16.8673 | 1.18 | Q V | | | | |
| 66+45 | 16.8748 | 1.10 | Q V | | | | |
| 66+50 | 16.8819 | 1.03 | Q V | | | | |
| 66+55 | 16.8877 | 0.84 | Q V | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 67+ 0 | 16.8929 | 0.76 | Q | V | | | |
| 67+ 5 | 16.8981 | 0.76 | Q | V | | | |
| 67+10 | 16.9045 | 0.93 | Q | V | | | |
| 67+15 | 16.9114 | 1.00 | Q | V | | | |
| 67+20 | 16.9187 | 1.06 | Q | V | | | |
| 67+25 | 16.9274 | 1.26 | Q | V | | | |
| 67+30 | 16.9366 | 1.34 | Q | V | | | |
| 67+35 | 16.9458 | 1.34 | Q | V | | | |
| 67+40 | 16.9539 | 1.17 | Q | V | | | |
| 67+45 | 16.9614 | 1.10 | Q | V | | | |
| 67+50 | 16.9685 | 1.03 | Q | V | | | |
| 67+55 | 16.9743 | 0.84 | Q | V | | | |
| 68+ 0 | 16.9795 | 0.76 | Q | V | | | |
| 68+ 5 | 16.9847 | 0.76 | Q | V | | | |
| 68+10 | 16.9911 | 0.93 | Q | V | | | |
| 68+15 | 16.9980 | 1.00 | Q | V | | | |
| 68+20 | 17.0051 | 1.03 | Q | V | | | |
| 68+25 | 17.0122 | 1.04 | Q | V | | | |
| 68+30 | 17.0194 | 1.04 | Q | V | | | |
| 68+35 | 17.0266 | 1.05 | Q | V | | | |
| 68+40 | 17.0338 | 1.05 | Q | V | | | |
| 68+45 | 17.0410 | 1.05 | Q | V | | | |
| 68+50 | 17.0480 | 1.01 | Q | V | | | |
| 68+55 | 17.0537 | 0.83 | Q | V | | | |
| 69+ 0 | 17.0589 | 0.75 | Q | V | | | |
| 69+ 5 | 17.0641 | 0.76 | Q | V | | | |
| 69+10 | 17.0705 | 0.93 | Q | V | | | |
| 69+15 | 17.0773 | 1.00 | Q | V | | | |
| 69+20 | 17.0842 | 0.99 | Q | V | | | |
| 69+25 | 17.0898 | 0.82 | Q | V | | | |
| 69+30 | 17.0949 | 0.75 | Q | V | | | |
| 69+35 | 17.1001 | 0.76 | Q | V | | | |
| 69+40 | 17.1065 | 0.93 | Q | V | | | |
| 69+45 | 17.1134 | 1.00 | Q | V | | | |
| 69+50 | 17.1202 | 0.99 | Q | V | | | |
| 69+55 | 17.1259 | 0.82 | Q | V | | | |
| 70+ 0 | 17.1310 | 0.75 | Q | V | | | |
| 70+ 5 | 17.1362 | 0.76 | Q | V | | | |
| 70+10 | 17.1426 | 0.93 | Q | V | | | |
| 70+15 | 17.1495 | 1.00 | Q | V | | | |
| 70+20 | 17.1563 | 0.99 | Q | V | | | |
| 70+25 | 17.1619 | 0.82 | Q | V | | | |
| 70+30 | 17.1671 | 0.75 | Q | V | | | |
| 70+35 | 17.1720 | 0.72 | Q | V | | | |
| 70+40 | 17.1769 | 0.71 | Q | V | | | |
| 70+45 | 17.1817 | 0.70 | Q | V | | | |
| 70+50 | 17.1866 | 0.70 | Q | V | | | |
| 70+55 | 17.1914 | 0.70 | Q | V | | | |
| 71+ 0 | 17.1962 | 0.70 | Q | V | | | |
| 71+ 5 | 17.2010 | 0.70 | Q | V | | | |
| 71+10 | 17.2058 | 0.70 | Q | V | | | |
| 71+15 | 17.2106 | 0.70 | Q | V | | | |
| 71+20 | 17.2154 | 0.70 | Q | V | | | |
| 71+25 | 17.2202 | 0.70 | Q | V | | | |
| 71+30 | 17.2250 | 0.70 | Q | V | | | |
| 71+35 | 17.2298 | 0.70 | Q | V | | | |
| 71+40 | 17.2347 | 0.70 | Q | V | | | |
| 71+45 | 17.2395 | 0.70 | Q | V | | | |
| 71+50 | 17.2443 | 0.70 | Q | V | | | |
| 71+55 | 17.2491 | 0.70 | Q | V | | | |
| 72+ 0 | 17.2539 | 0.70 | Q | V | | | |
| 72+ 5 | 17.2549 | 0.14 | Q | V | | | |
| 72+10 | 17.2606 | 0.83 | Q | V | | | |
| 72+15 | 17.2683 | 1.12 | Q | V | | | |
| 72+20 | 17.2774 | 1.31 | Q | V | | | |
| 72+25 | 17.2891 | 1.71 | Q | V | | | |
| 72+30 | 17.3020 | 1.87 | \|Q | V | | | |
| 72+35 | 17.3153 | 1.94 | \|Q | V | | | |
| 72+40 | 17.3289 | 1.97 | \|Q | V | | | |
| 72+45 | 17.3425 | 1.98 | \|Q | V | | | |
| 72+50 | 17.3566 | 2.05 | \|Q | V | | | |
| 72+55 | 17.3731 | 2.40 | \|Q | V | | | |
| 73+ 0 | 17.3907 | 2.55 | \|Q | V | | | |
| 73+ 5 | 17.4081 | 2.53 | \|Q | V | | | |
| 73+10 | 17.4234 | 2.21 | \|Q | V | | | |
| 73+15 | 17.4377 | 2.08 | \|Q | V | | | |
| 73+20 | 17.4516 | 2.02 | \|Q | V | | | |
| 73+25 | 17.4654 | 2.00 | \|Q | V | | | |
| 73+30 | 17.4791 | 1.99 | \|Q | V | | | |

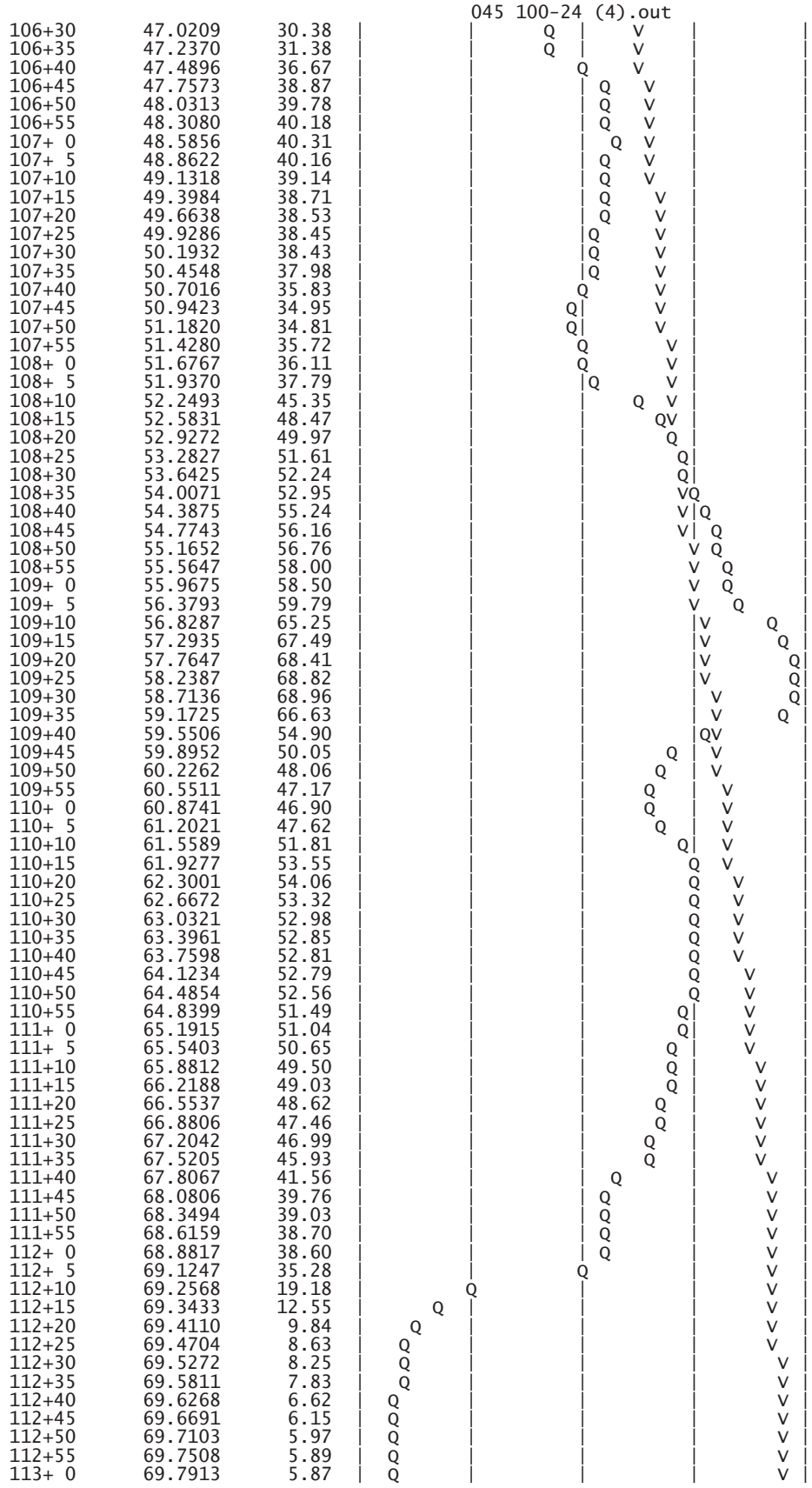
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 73+35 | 17.4928 | 1.99 | Q | V | | | |
| 73+40 | 17.5065 | 1.99 | Q | V | | | |
| 73+45 | 17.5201 | 1.98 | Q | V | | | |
| 73+50 | 17.5343 | 2.06 | Q | V | | | |
| 73+55 | 17.5508 | 2.40 | Q | V | | | |
| 74+ 0 | 17.5684 | 2.55 | Q | V | | | |
| 74+ 5 | 17.5863 | 2.60 | Q | V | | | |
| 74+10 | 17.6044 | 2.63 | Q | V | | | |
| 74+15 | 17.6226 | 2.64 | Q | V | | | |
| 74+20 | 17.6408 | 2.64 | Q | V | | | |
| 74+25 | 17.6590 | 2.65 | Q | V | | | |
| 74+30 | 17.6772 | 2.65 | Q | V | | | |
| 74+35 | 17.6960 | 2.72 | Q | V | | | |
| 74+40 | 17.7171 | 3.06 | Q | V | | | |
| 74+45 | 17.7391 | 3.21 | Q | V | | | |
| 74+50 | 17.7616 | 3.27 | Q | V | | | |
| 74+55 | 17.7843 | 3.29 | Q | V | | | |
| 75+ 0 | 17.8070 | 3.30 | Q | V | | | |
| 75+ 5 | 17.8298 | 3.30 | Q | V | | | |
| 75+10 | 17.8526 | 3.31 | Q | V | | | |
| 75+15 | 17.8753 | 3.31 | Q | V | | | |
| 75+20 | 17.8981 | 3.31 | Q | V | | | |
| 75+25 | 17.9209 | 3.31 | Q | V | | | |
| 75+30 | 17.9437 | 3.31 | Q | V | | | |
| 75+35 | 17.9665 | 3.31 | Q | V | | | |
| 75+40 | 17.9893 | 3.31 | Q | V | | | |
| 75+45 | 18.0120 | 3.31 | Q | V | | | |
| 75+50 | 18.0353 | 3.38 | Q | V | | | |
| 75+55 | 18.0610 | 3.73 | Q | V | | | |
| 76+ 0 | 18.0876 | 3.87 | Q | V | | | |
| 76+ 5 | 18.1147 | 3.93 | Q | V | | | |
| 76+10 | 18.1419 | 3.95 | Q | V | | | |
| 76+15 | 18.1692 | 3.96 | Q | V | | | |
| 76+20 | 18.1970 | 4.04 | Q | V | | | |
| 76+25 | 18.2272 | 4.39 | Q | V | | | |
| 76+30 | 18.2584 | 4.53 | Q | V | | | |
| 76+35 | 18.2900 | 4.59 | Q | V | | | |
| 76+40 | 18.3218 | 4.61 | Q | V | | | |
| 76+45 | 18.3536 | 4.62 | Q | V | | | |
| 76+50 | 18.3860 | 4.70 | Q | V | | | |
| 76+55 | 18.4208 | 5.06 | Q | V | | | |
| 77+ 0 | 18.4567 | 5.21 | Q | V | | | |
| 77+ 5 | 18.4921 | 5.13 | Q | V | | | |
| 77+10 | 18.5227 | 4.45 | Q | V | | | |
| 77+15 | 18.5514 | 4.17 | Q | V | | | |
| 77+20 | 18.5798 | 4.12 | Q | V | | | |
| 77+25 | 18.6102 | 4.42 | Q | V | | | |
| 77+30 | 18.6416 | 4.55 | Q | V | | | |
| 77+35 | 18.6737 | 4.67 | Q | V | | | |
| 77+40 | 18.7086 | 5.06 | Q | V | | | |
| 77+45 | 18.7446 | 5.22 | Q | V | | | |
| 77+50 | 18.7810 | 5.29 | Q | V | | | |
| 77+55 | 18.8177 | 5.32 | Q | V | | | |
| 78+ 0 | 18.8544 | 5.34 | Q | V | | | |
| 78+ 5 | 18.8918 | 5.42 | Q | V | | | |
| 78+10 | 18.9318 | 5.81 | Q | V | | | |
| 78+15 | 18.9729 | 5.97 | Q | V | | | |
| 78+20 | 19.0146 | 6.04 | Q | V | | | |
| 78+25 | 19.0564 | 6.07 | Q | V | | | |
| 78+30 | 19.0983 | 6.09 | Q | V | | | |
| 78+35 | 19.1408 | 6.17 | Q | V | | | |
| 78+40 | 19.1860 | 6.56 | Q | V | | | |
| 78+45 | 19.2323 | 6.72 | Q | V | | | |
| 78+50 | 19.2791 | 6.79 | Q | V | | | |
| 78+55 | 19.3260 | 6.82 | Q | V | | | |
| 79+ 0 | 19.3731 | 6.83 | Q | V | | | |
| 79+ 5 | 19.4202 | 6.84 | Q | V | | | |
| 79+10 | 19.4674 | 6.85 | Q | V | | | |
| 79+15 | 19.5146 | 6.85 | Q | V | | | |
| 79+20 | 19.5623 | 6.93 | Q | V | | | |
| 79+25 | 19.6127 | 7.32 | Q | V | | | |
| 79+30 | 19.6642 | 7.48 | Q | V | | | |
| 79+35 | 19.7167 | 7.63 | Q | V | | | |
| 79+40 | 19.7721 | 8.04 | Q | V | | | |
| 79+45 | 19.8287 | 8.21 | Q | V | | | |
| 79+50 | 19.8863 | 8.36 | Q | V | | | |
| 79+55 | 19.9468 | 8.78 | Q | V | | | |
| 80+ 0 | 20.0084 | 8.95 | Q | V | | | |
| 80+ 5 | 20.0717 | 9.18 | Q | V | | | |

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80+10      20.1405      9.99  |     Q     |V          |           |           |
80+15      20.2115     10.32  |     Q     |V          |           |           |
80+20      20.2836     10.46  |     Q     |V          |           |           |
80+25      20.3560     10.52  |      Q    |V          |           |           |
80+30      20.4286     10.54  |      Q    |V          |           |           |
80+35      20.5018     10.63  |      Q    |V          |           |           |
80+40      20.5778     11.03  |      Q    |V          |           |           |
80+45      20.6548     11.19  |      Q    |V          |           |           |
80+50      20.7329     11.33  |      Q    |V          |           |           |
80+55      20.8138     11.75  |      Q    |V          |           |           |
81+ 0      20.8959     11.92  |      Q    |V          |           |           |
81+ 5      20.9796     12.15  |      Q    |V          |           |           |
81+10      21.0688     12.96  |       Q   |V          |           |           |
81+15      21.1603     13.29  |       Q   |V          |           |           |
81+20      21.2533     13.50  |       Q   |V          |           |           |
81+25      21.3494     13.95  |       Q   |V          |           |           |
81+30      21.4467     14.13  |        Q  |V          |           |           |
81+35      21.5451     14.29  |        Q  |V          |           |           |
81+40      21.6464     14.71  |        Q  |V          |           |           |
81+45      21.7489     14.88  |        Q  |V          |           |           |
81+50      21.8524     15.03  |        Q  |V          |           |           |
81+55      21.9588     15.45  |        Q  | V         |           |           |
82+ 0      22.0664     15.62  |        Q  | V         |           |           |
82+ 5      22.1707     15.15  |        Q  | V         |           |           |
82+10      22.2567     12.48  |       Q   | V         |           |           |
82+15      22.3350     11.38  |      Q    | V         |           |           |
82+20      22.4103     10.93  |      Q    | V         |           |           |
82+25      22.4842     10.73  |      Q    | V         |           |           |
82+30      22.5577     10.67  |      Q    | V         |           |           |
82+35      22.6337     11.03  |      Q    | V         |           |           |
82+40      22.7228     12.94  |       Q   | V         |           |           |
82+45      22.8174     13.73  |       Q   | V         |           |           |
82+50      22.9142     14.06  |        Q  | V         |           |           |
82+55      23.0120     14.21  |        Q  | V         |           |           |
83+ 0      23.1102     14.25  |        Q  | V         |           |           |
83+ 5      23.2080     14.20  |        Q  | V         |           |           |
83+10      23.3033     13.83  |       Q   | V         |           |           |
83+15      23.3975     13.68  |       Q   | V         |           |           |
83+20      23.4913     13.62  |       Q   | V         |           |           |
83+25      23.5849     13.59  |       Q   | V         |           |           |
83+30      23.6784     13.58  |       Q   | V         |           |           |
83+35      23.7709     13.42  |       Q   | V         |           |           |
83+40      23.8580     12.65  |       Q   |  V        |           |           |
83+45      23.9429     12.33  |       Q   |  V        |           |           |
83+50      24.0275     12.28  |       Q   |  V        |           |           |
83+55      24.1144     12.61  |       Q   |  V        |           |           |
84+ 0      24.2022     12.76  |       Q   |  V        |           |           |
84+ 5      24.2943     13.36  |       Q   |  V        |           |           |
84+10      24.4050     16.08  |         Q |  V        |           |           |
84+15      24.5236     17.21  |         Q |  V        |           |           |
84+20      24.6458     17.75  |          Q|  V        |           |           |
84+25      24.7721     18.34  |          Q|  V        |           |           |
84+30      24.9000     18.57  |          Q|  V        |           |           |
84+35      25.0297     18.83  |          Q|  V        |           |           |
84+40      25.1650     19.65  |           |Q V        |           |           |
84+45      25.3026     19.99  |           |Q V        |           |           |
84+50      25.4418     20.20  |           |Q V        |           |           |
84+55      25.5840     20.65  |           |Q V        |           |           |
85+ 0      25.7274     20.83  |           |Q  V       |           |           |
85+ 5      25.8741     21.30  |           | Q V       |           |           |
85+10      26.0343     23.26  |           |  QV       |           |           |
85+15      26.2001     24.07  |           |  QV       |           |           |
85+20      26.3681     24.40  |           |  QV       |           |           |
85+25      26.5372     24.55  |           |   Q       |           |           |
85+30      26.7067     24.60  |           |   Q       |           |           |
85+35      26.8703     23.77  |           |  QV       |           |           |
85+40      27.0049     19.54  |           |Q  V       |           |           |
85+45      27.1275     17.80  |           |Q  V       |           |           |
85+50      27.2452     17.08  |          Q|   V       |           |           |
85+55      27.3606     16.77  |          Q|   V       |           |           |
86+ 0      27.4754     16.67  |          Q|    V      |           |           |
86+ 5      27.5920     16.93  |          Q|    V      |           |           |
86+10      27.7190     18.44  |           Q    V      |           |           |
86+15      27.8503     19.07  |           Q    V      |           |           |
86+20      27.9829     19.25  |           |Q   V      |           |           |
86+25      28.1136     18.98  |           Q    V      |           |           |
86+30      28.2435     18.86  |           Q    V      |           |           |
86+35      28.3731     18.82  |           Q    V      |           |           |
86+40      28.5026     18.80  |           Q    V      |           |           |
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86+45      28.6321     18.80  |          Q    V    |          |          |
86+50      28.7610     18.72  |          Q    V    |          |          |
86+55      28.8872     18.33  |          Q    V    |          |          |
87+ 0      29.0124     18.17  |          Q    V    |          |          |
87+ 5      29.1366     18.03  |          Q    V    |          |          |
87+10      29.2579     17.62  |          Q    V    |          |          |
87+15      29.3781     17.45  |         Q|    V    |          |          |
87+20      29.4973     17.30  |         Q|    V    |          |          |
87+25      29.6136     16.89  |         Q|    V    |          |          |
87+30      29.7287     16.72  |         Q|    V    |          |          |
87+35      29.8412     16.34  |         Q|    V    |          |          |
87+40      29.9429     14.77  |        Q |    V    |          |          |
87+45      30.0402     14.12  |        Q |    V    |          |          |
87+50      30.1356     13.86  |       Q  |    V    |          |          |
87+55      30.2303     13.74  |       Q  |    V    |          |          |
88+ 0      30.3246     13.70  |       Q  |    V    |          |          |
88+ 5      30.4108     12.51  |       Q  |    V    |          |          |
88+10      30.4571      6.72  |   Q      |    V    |          |          |
88+15      30.4869      4.33  |  Q       |    V    |          |          |
88+20      30.5100      3.35  |Q         |    V    |          |          |
88+25      30.5301      2.92  |Q         |    V    |          |          |
88+30      30.5493      2.78  |Q         |    V    |          |          |
88+35      30.5674      2.64  |Q         |    V    |          |          |
88+40      30.5829      2.24  |Q         |    V    |          |          |
88+45      30.5973      2.09  |Q         |    V    |          |          |
88+50      30.6112      2.03  |Q         |    V    |          |          |
88+55      30.6250      2.00  |Q         |    V    |          |          |
89+ 0      30.6387      1.99  |Q         |    V    |          |          |
89+ 5      30.6535      2.14  |Q         |    V    |          |          |
89+10      30.6733      2.88  |Q         |    V    |          |          |
89+15      30.6952      3.18  |Q         |    V    |          |          |
89+20      30.7180      3.31  |Q         |    V    |          |          |
89+25      30.7412      3.37  |Q         |    V    |          |          |
89+30      30.7645      3.39  |Q         |    V    |          |          |
89+35      30.7879      3.40  |Q         |    V    |          |          |
89+40      30.8113      3.40  |Q         |    V    |          |          |
89+45      30.8348      3.41  |Q         |    V    |          |          |
89+50      30.8577      3.33  |Q         |    V    |          |          |
89+55      30.8780      2.95  |Q         |    V    |          |          |
90+ 0      30.8972      2.79  |Q         |    V    |          |          |
90+ 5      30.9160      2.72  |Q         |    V    |          |          |
90+10      30.9346      2.70  |Q         |    V    |          |          |
90+15      30.9531      2.69  |Q         |    V    |          |          |
90+20      30.9716      2.69  |Q         |    V    |          |          |
90+25      30.9901      2.68  |Q         |    V    |          |          |
90+30      31.0085      2.68  |Q         |    V    |          |          |
90+35      31.0265      2.61  |Q         |    V    |          |          |
90+40      31.0420      2.24  |Q         |    V    |          |          |
90+45      31.0564      2.09  |Q         |    V    |          |          |
90+50      31.0699      1.96  |Q         |    V    |          |          |
90+55      31.0808      1.58  Q          |    V    |          |          |
91+ 0      31.0906      1.43  Q          |    V    |          |          |
91+ 5      31.1006      1.44  Q          |    V    |          |          |
91+10      31.1127      1.76  |Q         |     V   |          |          |
91+15      31.1257      1.89  |Q         |     V   |          |          |
91+20      31.1396      2.02  |Q         |     V   |          |          |
91+25      31.1563      2.42  |Q         |     V   |          |          |
91+30      31.1741      2.58  |Q         |     V   |          |          |
91+35      31.1918      2.57  |Q         |     V   |          |          |
91+40      31.2071      2.23  |Q         |     V   |          |          |
91+45      31.2215      2.09  |Q         |     V   |          |          |
91+50      31.2350      1.96  |Q         |     V   |          |          |
91+55      31.2459      1.58  Q          |     V   |          |          |
92+ 0      31.2558      1.43  Q          |     V   |          |          |
92+ 5      31.2657      1.44  Q          |     V   |          |          |
92+10      31.2778      1.76  |Q         |     V   |          |          |
92+15      31.2908      1.89  |Q         |     V   |          |          |
92+20      31.3042      1.95  |Q         |     V   |          |          |
92+25      31.3178      1.97  |Q         |     V   |          |          |
92+30      31.3314      1.98  |Q         |     V   |          |          |
92+35      31.3450      1.98  |Q         |     V   |          |          |
92+40      31.3587      1.98  |Q         |     V   |          |          |
92+45      31.3724      1.98  |Q         |     V   |          |          |
92+50      31.3855      1.91  |Q         |     V   |          |          |
92+55      31.3963      1.57  Q          |     V   |          |          |
93+ 0      31.4062      1.42  Q          |     V   |          |          |
93+ 5      31.4160      1.44  Q          |     V   |          |          |
93+10      31.4281      1.76  |Q         |     V   |          |          |
93+15      31.4412      1.89  |Q         |     V   |          |          |
```

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 93+20 | 31.4541 | 1.88 | \|Q | \| | V | \| | \| |
| 93+25 | 31.4648 | 1.55 | Q | \| | V | \| | \| |
| 93+30 | 31.4745 | 1.42 | Q | \| | V | \| | \| |
| 93+35 | 31.4844 | 1.43 | Q | \| | V | \| | \| |
| 93+40 | 31.4965 | 1.76 | \|Q | \| | V | \| | \| |
| 93+45 | 31.5096 | 1.90 | \|Q | \| | V | \| | \| |
| 93+50 | 31.5225 | 1.88 | \|Q | \| | V | \| | \| |
| 93+55 | 31.5332 | 1.55 | Q | \| | V | \| | \| |
| 94+ 0 | 31.5430 | 1.42 | Q | \| | V | \| | \| |
| 94+ 5 | 31.5528 | 1.43 | Q | \| | V | \| | \| |
| 94+10 | 31.5650 | 1.76 | \|Q | \| | V | \| | \| |
| 94+15 | 31.5781 | 1.90 | \|Q | \| | V | \| | \| |
| 94+20 | 31.5910 | 1.88 | \|Q | \| | V | \| | \| |
| 94+25 | 31.6017 | 1.56 | Q | \| | V | \| | \| |
| 94+30 | 31.6115 | 1.42 | Q | \| | V | \| | \| |
| 94+35 | 31.6209 | 1.36 | Q | \| | V | \| | \| |
| 94+40 | 31.6301 | 1.34 | Q | \| | V | \| | \| |
| 94+45 | 31.6393 | 1.33 | Q | \| | V | \| | \| |
| 94+50 | 31.6484 | 1.33 | Q | \| | V | \| | \| |
| 94+55 | 31.6575 | 1.32 | Q | \| | V | \| | \| |
| 95+ 0 | 31.6666 | 1.32 | Q | \| | V | \| | \| |
| 95+ 5 | 31.6758 | 1.32 | Q | \| | V | \| | \| |
| 95+10 | 31.6849 | 1.32 | Q | \| | V | \| | \| |
| 95+15 | 31.6940 | 1.32 | Q | \| | V | \| | \| |
| 95+20 | 31.7031 | 1.32 | Q | \| | V | \| | \| |
| 95+25 | 31.7122 | 1.32 | Q | \| | V | \| | \| |
| 95+30 | 31.7213 | 1.32 | Q | \| | V | \| | \| |
| 95+35 | 31.7304 | 1.32 | Q | \| | V | \| | \| |
| 95+40 | 31.7395 | 1.32 | Q | \| | V | \| | \| |
| 95+45 | 31.7487 | 1.32 | Q | \| | V | \| | \| |
| 95+50 | 31.7578 | 1.32 | Q | \| | V | \| | \| |
| 95+55 | 31.7669 | 1.32 | Q | \| | V | \| | \| |
| 96+ 0 | 31.7760 | 1.32 | Q | \| | V | \| | \| |
| 96+ 5 | 31.7787 | 0.39 | Q | \| | V | \| | \| |
| 96+10 | 31.7947 | 2.32 | \|Q | \| | V | \| | \| |
| 96+15 | 31.8161 | 3.11 | \|Q | \| | V | \| | \| |
| 96+20 | 31.8412 | 3.64 | \| Q | \| | V | \| | \| |
| 96+25 | 31.8738 | 4.75 | \| Q | \| | V | \| | \| |
| 96+30 | 31.9096 | 5.19 | \| Q | \| | V | \| | \| |
| 96+35 | 31.9466 | 5.38 | \|  Q | \| | V | \| | \| |
| 96+40 | 31.9842 | 5.46 | \|  Q | \| | V | \| | \| |
| 96+45 | 32.0220 | 5.49 | \|  Q | \| | V | \| | \| |
| 96+50 | 32.0614 | 5.71 | \|  Q | \| | V | \| | \| |
| 96+55 | 32.1079 | 6.75 | \|  Q | \| | V | \| | \| |
| 97+ 0 | 32.1573 | 7.18 | \|   Q | \| | V | \| | \| |
| 97+ 5 | 32.2065 | 7.15 | \|   Q | \| | V | \| | \| |
| 97+10 | 32.2492 | 6.19 | \|  Q | \| | V | \| | \| |
| 97+15 | 32.2891 | 5.79 | \|  Q | \| | V | \| | \| |
| 97+20 | 32.3278 | 5.63 | \|  Q | \| | V | \| | \| |
| 97+25 | 32.3661 | 5.56 | \|  Q | \| | V | \| | \| |
| 97+30 | 32.4042 | 5.54 | \|  Q | \| | V | \| | \| |
| 97+35 | 32.4423 | 5.52 | \|  Q | \| | V | \| | \| |
| 97+40 | 32.4803 | 5.52 | \|  Q | \| | V | \| | \| |
| 97+45 | 32.5182 | 5.51 | \|  Q | \| | V | \| | \| |
| 97+50 | 32.5577 | 5.73 | \|  Q | \| | V | \| | \| |
| 97+55 | 32.6043 | 6.77 | \|  Q | \| | V | \| | \| |
| 98+ 0 | 32.6540 | 7.21 | \|   Q | \| | V | \| | \| |
| 98+ 5 | 32.7048 | 7.39 | \|   Q | \| | V | \| | \| |
| 98+10 | 32.7563 | 7.47 | \|   Q | \| | V | \| | \| |
| 98+15 | 32.8079 | 7.49 | \|   Q | \| | V | \| | \| |
| 98+20 | 32.8596 | 7.51 | \|   Q | \| | V | \| | \| |
| 98+25 | 32.9114 | 7.52 | \|   Q | \| | V | \| | \| |
| 98+30 | 32.9632 | 7.53 | \|   Q | \| | V | \| | \| |
| 98+35 | 33.0166 | 7.75 | \|   Q | \| | V | \| | \| |
| 98+40 | 33.0773 | 8.82 | \|    Q | \| | V | \| | \| |
| 98+45 | 33.1412 | 9.26 | \|    Q | \| | V | \| | \| |
| 98+50 | 33.2062 | 9.45 | \|    Q | \| | V | \| | \| |
| 98+55 | 33.2719 | 9.53 | \|    Q | \| | V | \| | \| |
| 99+ 0 | 33.3377 | 9.56 | \|    Q | \| | V | \| | \| |
| 99+ 5 | 33.4037 | 9.58 | \|    Q | \| | V | \| | \| |
| 99+10 | 33.4697 | 9.59 | \|    Q | \| | V | \| | \| |
| 99+15 | 33.5357 | 9.59 | \|    Q | \| | V | \| | \| |
| 99+20 | 33.6018 | 9.59 | \|    Q | \| | V | \| | \| |
| 99+25 | 33.6679 | 9.60 | \|    Q | \| | V | \| | \| |
| 99+30 | 33.7340 | 9.60 | \|    Q | \| | V | \| | \| |
| 99+35 | 33.8002 | 9.60 | \|    Q | \| | V | \| | \| |
| 99+40 | 33.8663 | 9.60 | \|    Q | \| | V | \| | \| |
| 99+45 | 33.9325 | 9.61 | \|    Q | \| | V | \| | \| |
| 99+50 | 34.0002 | 9.83 | \|    Q | \| | V | \| | \| |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 99+55 | 34.0752 | 10.90 | Q | V | | | | |
| 100+ 0 | 34.1534 | 11.35 | Q | V | | | | |
| 100+ 5 | 34.2328 | 11.53 | Q | V | | | | |
| 100+10 | 34.3127 | 11.61 | Q | V | | | | |
| 100+15 | 34.3929 | 11.64 | Q | V | | | | |
| 100+20 | 34.4747 | 11.87 | Q | V | | | | |
| 100+25 | 34.5639 | 12.96 | Q | V | | | | |
| 100+30 | 34.6562 | 13.40 | Q | V | | | | |
| 100+35 | 34.7498 | 13.59 | Q | V | | | | |
| 100+40 | 34.8439 | 13.67 | Q | V | | | | |
| 100+45 | 34.9382 | 13.70 | Q | V | | | | |
| 100+50 | 35.0342 | 13.93 | Q | V | | | | |
| 100+55 | 35.1376 | 15.01 | Q | V | | | | |
| 101+ 0 | 35.2440 | 15.46 | Q | V | | | | |
| 101+ 5 | 35.3488 | 15.21 | Q | V | | | | |
| 101+10 | 35.4393 | 13.15 | Q | V | | | | |
| 101+15 | 35.5240 | 12.29 | Q | V | | | | |
| 101+20 | 35.6078 | 12.16 | Q | V | | | | |
| 101+25 | 35.6979 | 13.09 | Q | V | | | | |
| 101+30 | 35.7907 | 13.48 | Q | V | | | | |
| 101+35 | 35.8861 | 13.85 | Q | V | | | | |
| 101+40 | 35.9894 | 14.99 | Q | V | | | | |
| 101+45 | 36.0958 | 15.46 | Q | V | | | | |
| 101+50 | 36.2036 | 15.65 | Q | V | | | | |
| 101+55 | 36.3121 | 15.75 | Q | V | | | | |
| 102+ 0 | 36.4207 | 15.77 | Q | V | | | | |
| 102+ 5 | 36.5310 | 16.01 | Q | V | | | | |
| 102+10 | 36.6487 | 17.09 | Q | V | | | | |
| 102+15 | 36.7694 | 17.54 | Q | V | | | | |
| 102+20 | 36.8915 | 17.72 | Q | V | | | | |
| 102+25 | 37.0141 | 17.80 | Q | V | | | | |
| 102+30 | 37.1369 | 17.83 | Q | V | | | | |
| 102+35 | 37.2613 | 18.06 | Q | V | | | | |
| 102+40 | 37.3932 | 19.15 | Q | V | | | | |
| 102+45 | 37.5281 | 19.59 | Q | V | | | | |
| 102+50 | 37.6643 | 19.78 | Q | V | | | | |
| 102+55 | 37.8011 | 19.86 | Q | V | | | | |
| 103+ 0 | 37.9381 | 19.89 | Q | V | | | | |
| 103+ 5 | 38.0751 | 19.90 | Q | V | | | | |
| 103+10 | 38.2123 | 19.91 | Q | V | | | | |
| 103+15 | 38.3495 | 19.92 | Q | V | | | | |
| 103+20 | 38.4881 | 20.14 | Q | V | | | | |
| 103+25 | 38.6342 | 21.21 | Q | V | | | | |
| 103+30 | 38.7834 | 21.66 | Q | V | | | | |
| 103+35 | 38.9353 | 22.06 | Q | V | | | | |
| 103+40 | 39.0951 | 23.21 | Q | V | | | | |
| 103+45 | 39.2582 | 23.68 | Q | V | | | | |
| 103+50 | 39.4241 | 24.09 | Q | V | | | | |
| 103+55 | 39.5981 | 25.26 | Q | V | | | | |
| 104+ 0 | 39.7753 | 25.73 | Q | V | | | | |
| 104+ 5 | 39.9568 | 26.36 | Q | V | | | | |
| 104+10 | 40.1538 | 28.59 | Q | V | | | | |
| 104+15 | 40.3570 | 29.51 | Q | V | | | | |
| 104+20 | 40.5628 | 29.88 | Q | V | | | | |
| 104+25 | 40.7698 | 30.06 | Q | V | | | | |
| 104+30 | 40.9772 | 30.11 | Q | V | | | | |
| 104+35 | 41.1863 | 30.36 | Q | V | | | | |
| 104+40 | 41.4029 | 31.45 | Q | V | | | | |
| 104+45 | 41.6226 | 31.90 | Q | V | | | | |
| 104+50 | 41.8450 | 32.30 | Q | V | | | | |
| 104+55 | 42.0754 | 33.45 | Q | V | | | | |
| 105+ 0 | 42.3090 | 33.92 | Q | V | | | | |
| 105+ 5 | 42.5470 | 34.55 | Q | V | | | | |
| 105+10 | 42.8004 | 36.79 | Q | V | | | | |
| 105+15 | 43.0600 | 37.70 | Q | V | | | | |
| 105+20 | 43.3238 | 38.30 | Q | V | | | | |
| 105+25 | 43.5961 | 39.54 | Q | V | | | | |
| 105+30 | 43.8718 | 40.04 | Q | V | | | | |
| 105+35 | 44.1505 | 40.46 | Q | V | | | | |
| 105+40 | 44.4372 | 41.64 | Q | V | | | | |
| 105+45 | 44.7272 | 42.11 | Q | V | | | | |
| 105+50 | 45.0201 | 42.52 | Q | V | | | | |
| 105+55 | 45.3210 | 43.69 | Q | V | | | | |
| 106+ 0 | 45.6251 | 44.16 | Q | V | | | | |
| 106+ 5 | 45.9201 | 42.83 | Q | V | | | | |
| 106+10 | 46.1641 | 35.43 | Q | V | | | | |
| 106+15 | 46.3869 | 32.36 | Q | V | | | | |
| 106+20 | 46.6012 | 31.11 | Q | V | | | | |
| 106+25 | 46.8117 | 30.56 | Q | V | | | | |



| | | | |
|---|---|---|---|
| 106+30 | 47.0209 | 30.38 | |
| 106+35 | 47.2370 | 31.38 | |
| 106+40 | 47.4896 | 36.67 | |
| 106+45 | 47.7573 | 38.87 | |
| 106+50 | 48.0313 | 39.78 | |
| 106+55 | 48.3080 | 40.18 | |
| 107+ 0 | 48.5856 | 40.31 | |
| 107+ 5 | 48.8622 | 40.16 | |
| 107+10 | 49.1318 | 39.14 | |
| 107+15 | 49.3984 | 38.71 | |
| 107+20 | 49.6638 | 38.53 | |
| 107+25 | 49.9286 | 38.45 | |
| 107+30 | 50.1932 | 38.43 | |
| 107+35 | 50.4548 | 37.98 | |
| 107+40 | 50.7016 | 35.83 | |
| 107+45 | 50.9423 | 34.95 | |
| 107+50 | 51.1820 | 34.81 | |
| 107+55 | 51.4280 | 35.72 | |
| 108+ 0 | 51.6767 | 36.11 | |
| 108+ 5 | 51.9370 | 37.79 | |
| 108+10 | 52.2493 | 45.35 | |
| 108+15 | 52.5831 | 48.47 | |
| 108+20 | 52.9272 | 49.97 | |
| 108+25 | 53.2827 | 51.61 | |
| 108+30 | 53.6425 | 52.24 | |
| 108+35 | 54.0071 | 52.95 | |
| 108+40 | 54.3875 | 55.24 | |
| 108+45 | 54.7743 | 56.16 | |
| 108+50 | 55.1652 | 56.76 | |
| 108+55 | 55.5647 | 58.00 | |
| 109+ 0 | 55.9675 | 58.50 | |
| 109+ 5 | 56.3793 | 59.79 | |
| 109+10 | 56.8287 | 65.25 | |
| 109+15 | 57.2935 | 67.49 | |
| 109+20 | 57.7647 | 68.41 | |
| 109+25 | 58.2387 | 68.82 | |
| 109+30 | 58.7136 | 68.96 | |
| 109+35 | 59.1725 | 66.63 | |
| 109+40 | 59.5506 | 54.90 | |
| 109+45 | 59.8952 | 50.05 | |
| 109+50 | 60.2262 | 48.06 | |
| 109+55 | 60.5511 | 47.17 | |
| 110+ 0 | 60.8741 | 46.90 | |
| 110+ 5 | 61.2021 | 47.62 | |
| 110+10 | 61.5589 | 51.81 | |
| 110+15 | 61.9277 | 53.55 | |
| 110+20 | 62.3001 | 54.06 | |
| 110+25 | 62.6672 | 53.32 | |
| 110+30 | 63.0321 | 52.98 | |
| 110+35 | 63.3961 | 52.85 | |
| 110+40 | 63.7598 | 52.81 | |
| 110+45 | 64.1234 | 52.79 | |
| 110+50 | 64.4854 | 52.56 | |
| 110+55 | 64.8399 | 51.49 | |
| 111+ 0 | 65.1915 | 51.04 | |
| 111+ 5 | 65.5403 | 50.65 | |
| 111+10 | 65.8812 | 49.50 | |
| 111+15 | 66.2188 | 49.03 | |
| 111+20 | 66.5537 | 48.62 | |
| 111+25 | 66.8806 | 47.46 | |
| 111+30 | 67.2042 | 46.99 | |
| 111+35 | 67.5205 | 45.93 | |
| 111+40 | 67.8067 | 41.56 | |
| 111+45 | 68.0806 | 39.76 | |
| 111+50 | 68.3494 | 39.03 | |
| 111+55 | 68.6159 | 38.70 | |
| 112+ 0 | 68.8817 | 38.60 | |
| 112+ 5 | 69.1247 | 35.28 | |
| 112+10 | 69.2568 | 19.18 | |
| 112+15 | 69.3433 | 12.55 | |
| 112+20 | 69.4110 | 9.84 | |
| 112+25 | 69.4704 | 8.63 | |
| 112+30 | 69.5272 | 8.25 | |
| 112+35 | 69.5811 | 7.83 | |
| 112+40 | 69.6268 | 6.62 | |
| 112+45 | 69.6691 | 6.15 | |
| 112+50 | 69.7103 | 5.97 | |
| 112+55 | 69.7508 | 5.89 | |
| 113+ 0 | 69.7913 | 5.87 | |

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113+ 5      69.8346      6.29  |  Q       |          |          |        V |
113+10      69.8926      8.43  |   Q      |          |          |        V |
113+15      69.9568      9.31  |    Q     |          |          |        V |
113+20      70.0234      9.67  |    Q     |          |          |        V |
113+25      70.0911      9.84  |    Q     |          |          |        V |
113+30      70.1592      9.89  |    Q     |          |          |        V |
113+35      70.2275      9.92  |    Q     |          |          |        V |
113+40      70.2960      9.94  |    Q     |          |          |        V |
113+45      70.3644      9.94  |    Q     |          |          |        V |
113+50      70.4314      9.73  |    Q     |          |          |        V |
113+55      70.4910      8.66  |   Q      |          |          |        V |
114+ 0      70.5476      8.21  |   Q      |          |          |        V |
114+ 5      70.6029      8.04  |   Q      |          |          |        V |
114+10      70.6577      7.96  |   Q      |          |          |        V |
114+15      70.7123      7.93  |   Q      |          |          |        V |
114+20      70.7669      7.92  |   Q      |          |          |        V |
114+25      70.8214      7.91  |   Q      |          |          |        V |
114+30      70.8759      7.91  |   Q      |          |          |        V |
114+35      70.9289      7.69  |   Q      |          |          |        V |
114+40      70.9745      6.63  |  Q       |          |          |        V |
114+45      71.0171      6.18  |  Q       |          |          |        V |
114+50      71.0569      5.79  |  Q       |          |          |        V |
114+55      71.0889      4.64  | Q        |          |          |        V |
115+ 0      71.1176      4.17  | Q        |          |          |        V |
115+ 5      71.1465      4.20  | Q        |          |          |        V |
115+10      71.1821      5.18  | Q        |          |          |        V |
115+15      71.2207      5.59  |  Q       |          |          |        V |
115+20      71.2618      5.98  |  Q       |          |          |        V |
115+25      71.3109      7.12  |   Q      |          |          |        V |
115+30      71.3632      7.59  |   Q      |          |          |         V|
115+35      71.4153      7.57  |   Q      |          |          |         V|
115+40      71.4606      6.59  |  Q       |          |          |         V|
115+45      71.5032      6.17  |  Q       |          |          |         V|
115+50      71.5430      5.79  |  Q       |          |          |         V|
115+55      71.5751      4.65  | Q        |          |          |         V|
116+ 0      71.6039      4.18  | Q        |          |          |         V|
116+ 5      71.6329      4.21  | Q        |          |          |         V|
116+10      71.6686      5.19  | Q        |          |          |         V|
116+15      71.7072      5.61  |  Q       |          |          |         V|
116+20      71.7470      5.77  |  Q       |          |          |         V|
116+25      71.7873      5.85  |  Q       |          |          |         V|
116+30      71.8277      5.87  |  Q       |          |          |         V|
116+35      71.8682      5.89  |  Q       |          |          |         V|
116+40      71.9088      5.90  |  Q       |          |          |         V|
116+45      71.9495      5.90  |  Q       |          |          |         V|
116+50      71.9886      5.68  |  Q       |          |          |         V|
116+55      72.0204      4.61  | Q        |          |          |         V|
117+ 0      72.0491      4.17  | Q        |          |          |         V|
117+ 5      72.0781      4.21  | Q        |          |          |         V|
117+10      72.1139      5.20  | Q        |          |          |         V|
117+15      72.1526      5.62  |  Q       |          |          |         V|
117+20      72.1909      5.57  |  Q       |          |          |         V|
117+25      72.2224      4.57  | Q        |          |          |         V|
117+30      72.2510      4.15  | Q        |          |          |         V|
117+35      72.2800      4.20  | Q        |          |          |         V|
117+40      72.3158      5.20  | Q        |          |          |         V|
117+45      72.3545      5.62  |  Q       |          |          |         V|
117+50      72.3929      5.57  |  Q       |          |          |         V|
117+55      72.4244      4.57  | Q        |          |          |         V|
118+ 0      72.4530      4.16  | Q        |          |          |         V|
118+ 5      72.4820      4.21  | Q        |          |          |         V|
118+10      72.5179      5.21  | Q        |          |          |         V|
118+15      72.5566      5.63  |  Q       |          |          |         V|
118+20      72.5950      5.58  |  Q       |          |          |         V|
118+25      72.6266      4.58  | Q        |          |          |         V|
118+30      72.6552      4.16  | Q        |          |          |         V|
118+35      72.6827      3.99  | Q        |          |          |         V|
118+40      72.7097      3.92  | Q        |          |          |         V|
118+45      72.7366      3.90  | Q        |          |          |         V|
118+50      72.7634      3.89  | Q        |          |          |         V|
118+55      72.7901      3.88  | Q        |          |          |         V|
119+ 0      72.8168      3.88  | Q        |          |          |         V|
119+ 5      72.8435      3.88  | Q        |          |          |         V|
119+10      72.8702      3.88  | Q        |          |          |         V|
119+15      72.8969      3.88  | Q        |          |          |         V|
119+20      72.9237      3.88  | Q        |          |          |         V|
119+25      72.9504      3.88  | Q        |          |          |         V|
119+30      72.9771      3.88  | Q        |          |          |         V|
119+35      73.0038      3.88  | Q        |          |          |         V|
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 119+40      73.0306      3.88  | Q        |          |          |         V|
 119+45      73.0573      3.88  | Q        |          |          |         V|
 119+50      73.0840      3.88  | Q        |          |          |         V|
 119+55      73.1107      3.88  | Q        |          |          |         V|
 120+ 0      73.1375      3.88  | Q        |          |          |         V|
 120+ 5      73.1614      3.47  |Q         |          |          |         V|
 120+10      73.1712      1.43  Q          |          |          |         V|
 120+15      73.1753      0.59  Q          |          |          |         V|
 120+20      73.1770      0.25  Q          |          |          |         V|
 120+25      73.1777      0.09  Q          |          |          |         V|
 120+30      73.1780      0.05  Q          |          |          |         V|
 120+35      73.1782      0.02  Q          |          |          |         V|
 120+40      73.1782      0.00  Q          |          |          |          V
-------------------------------------------------------------------------------
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U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 04/30/18 File: EX4524100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 45
100-YEAR, 5-DAY STORM EVENT
BY: JDN, DATE: 01-09-18

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Drainage Area = 100.30(Ac.) = 0.157 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 100.30(Ac.) = 0.157 Sq. Mi.
Length along longest watercourse = 2240.00(Ft.)
Length along longest watercourse measured to centroid = 691.00(Ft.)
Length along longest watercourse = 0.424 Mi.
Length along longest watercourse measured to centroid = 0.131 Mi.
Difference in elevation = 232.00(Ft.)
Slope along watercourse = 546.8571 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.085 Hr.
Lag time = 5.07 Min.
25% of lag time = 1.27 Min.
40% of lag time = 2.03 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 100.30 | 1.80 | 180.54 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 100.30 | 4.68 | 469.40 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.680(In)

Point rain (area averaged) = 4.680(In)
Areal adjustment factor = 99.98 %
Adjusted average point rain = 4.679(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 100.300 | 92.89 | 0.010 |

Total Area Entered = 100.30(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 92.9 | 97.2 | 0.037 | 0.010 | 0.037 | 1.000 | 0.037 |
| | | | | | Sum (F) = | 0.037 |

Area averaged mean soil loss (F) (In/Hr) = 0.037

Minimum soil loss rate ((In/Hr)) = 0.018
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.100

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 98.592 | 13.923 | 14.074 |
| 2 | 0.167 | 197.184 | 55.573 | 56.175 |
| 3 | 0.250 | 295.776 | 18.696 | 18.898 |
| 4 | 0.333 | 394.368 | 7.598 | 7.681 |
| 5 | 0.417 | 492.960 | 2.613 | 2.641 |
| 6 | 0.500 | 591.552 | 0.867 | 0.877 |
| 7 | 0.583 | 690.144 | 0.576 | 0.582 |
| 8 | 0.667 | 788.735 | 0.154 | 0.156 |
| | | | Sum = 100.000 | Sum= 101.084 |

Storm Event 5 Effective Rainfall = 0.468(In)

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.004 | ( 0.065) | 0.000 | 0.003 |
| 2 | 0.17 | 0.07 | 0.004 | ( 0.065) | 0.000 | 0.003 |
| 3 | 0.25 | 0.07 | 0.004 | ( 0.064) | 0.000 | 0.003 |
| 4 | 0.33 | 0.10 | 0.006 | ( 0.064) | 0.001 | 0.005 |
| 5 | 0.42 | 0.10 | 0.006 | ( 0.064) | 0.001 | 0.005 |
| 6 | 0.50 | 0.10 | 0.006 | ( 0.064) | 0.001 | 0.005 |
| 7 | 0.58 | 0.10 | 0.006 | ( 0.063) | 0.001 | 0.005 |
| 8 | 0.67 | 0.10 | 0.006 | ( 0.063) | 0.001 | 0.005 |
| 9 | 0.75 | 0.10 | 0.006 | ( 0.063) | 0.001 | 0.005 |
| 10 | 0.83 | 0.13 | 0.007 | ( 0.063) | 0.001 | 0.007 |
| 11 | 0.92 | 0.13 | 0.007 | ( 0.062) | 0.001 | 0.007 |
| 12 | 1.00 | 0.13 | 0.007 | ( 0.062) | 0.001 | 0.007 |
| 13 | 1.08 | 0.10 | 0.006 | ( 0.062) | 0.001 | 0.005 |
| 14 | 1.17 | 0.10 | 0.006 | ( 0.062) | 0.001 | 0.005 |
| 15 | 1.25 | 0.10 | 0.006 | ( 0.061) | 0.001 | 0.005 |
| 16 | 1.33 | 0.10 | 0.006 | ( 0.061) | 0.001 | 0.005 |
| 17 | 1.42 | 0.10 | 0.006 | ( 0.061) | 0.001 | 0.005 |
| 18 | 1.50 | 0.10 | 0.006 | ( 0.061) | 0.001 | 0.005 |
| 19 | 1.58 | 0.10 | 0.006 | ( 0.061) | 0.001 | 0.005 |
| 20 | 1.67 | 0.10 | 0.006 | ( 0.060) | 0.001 | 0.005 |
| 21 | 1.75 | 0.10 | 0.006 | ( 0.060) | 0.001 | 0.005 |
| 22 | 1.83 | 0.13 | 0.007 | ( 0.060) | 0.001 | 0.007 |
| 23 | 1.92 | 0.13 | 0.007 | ( 0.060) | 0.001 | 0.007 |
| 24 | 2.00 | 0.13 | 0.007 | ( 0.059) | 0.001 | 0.007 |
| 25 | 2.08 | 0.13 | 0.007 | ( 0.059) | 0.001 | 0.007 |
| 26 | 2.17 | 0.13 | 0.007 | ( 0.059) | 0.001 | 0.007 |
| 27 | 2.25 | 0.13 | 0.007 | ( 0.059) | 0.001 | 0.007 |
| 28 | 2.33 | 0.13 | 0.007 | ( 0.058) | 0.001 | 0.007 |
| 29 | 2.42 | 0.13 | 0.007 | ( 0.058) | 0.001 | 0.007 |
| 30 | 2.50 | 0.13 | 0.007 | ( 0.058) | 0.001 | 0.007 |
| 31 | 2.58 | 0.17 | 0.009 | ( 0.058) | 0.001 | 0.008 |
| 32 | 2.67 | 0.17 | 0.009 | ( 0.057) | 0.001 | 0.008 |
| 33 | 2.75 | 0.17 | 0.009 | ( 0.057) | 0.001 | 0.008 |
| 34 | 2.83 | 0.17 | 0.009 | ( 0.057) | 0.001 | 0.008 |
| 35 | 2.92 | 0.17 | 0.009 | ( 0.057) | 0.001 | 0.008 |
| 36 | 3.00 | 0.17 | 0.009 | ( 0.056) | 0.001 | 0.008 |
| 37 | 3.08 | 0.17 | 0.009 | ( 0.056) | 0.001 | 0.008 |
| 38 | 3.17 | 0.17 | 0.009 | ( 0.056) | 0.001 | 0.008 |
| 39 | 3.25 | 0.17 | 0.009 | ( 0.056) | 0.001 | 0.008 |
| 40 | 3.33 | 0.17 | 0.009 | ( 0.056) | 0.001 | 0.008 |
| 41 | 3.42 | 0.17 | 0.009 | ( 0.055) | 0.001 | 0.008 |
| 42 | 3.50 | 0.17 | 0.009 | ( 0.055) | 0.001 | 0.008 |
| 43 | 3.58 | 0.17 | 0.009 | ( 0.055) | 0.001 | 0.008 |
| 44 | 3.67 | 0.17 | 0.009 | ( 0.055) | 0.001 | 0.008 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 45 | 3.75 | 0.17 | 0.009 | ( 0.054) | 0.001 | 0.008 |
| 46 | 3.83 | 0.20 | 0.011 | ( 0.054) | 0.001 | 0.010 |
| 47 | 3.92 | 0.20 | 0.011 | ( 0.054) | 0.001 | 0.010 |
| 48 | 4.00 | 0.20 | 0.011 | ( 0.054) | 0.001 | 0.010 |
| 49 | 4.08 | 0.20 | 0.011 | ( 0.053) | 0.001 | 0.010 |
| 50 | 4.17 | 0.20 | 0.011 | ( 0.053) | 0.001 | 0.010 |
| 51 | 4.25 | 0.20 | 0.011 | ( 0.053) | 0.001 | 0.010 |
| 52 | 4.33 | 0.23 | 0.013 | ( 0.053) | 0.001 | 0.012 |
| 53 | 4.42 | 0.23 | 0.013 | ( 0.053) | 0.001 | 0.012 |
| 54 | 4.50 | 0.23 | 0.013 | ( 0.052) | 0.001 | 0.012 |
| 55 | 4.58 | 0.23 | 0.013 | ( 0.052) | 0.001 | 0.012 |
| 56 | 4.67 | 0.23 | 0.013 | ( 0.052) | 0.001 | 0.012 |
| 57 | 4.75 | 0.23 | 0.013 | ( 0.052) | 0.001 | 0.012 |
| 58 | 4.83 | 0.27 | 0.015 | ( 0.051) | 0.001 | 0.013 |
| 59 | 4.92 | 0.27 | 0.015 | ( 0.051) | 0.001 | 0.013 |
| 60 | 5.00 | 0.27 | 0.015 | ( 0.051) | 0.001 | 0.013 |
| 61 | 5.08 | 0.20 | 0.011 | ( 0.051) | 0.001 | 0.010 |
| 62 | 5.17 | 0.20 | 0.011 | ( 0.051) | 0.001 | 0.010 |
| 63 | 5.25 | 0.20 | 0.011 | ( 0.050) | 0.001 | 0.010 |
| 64 | 5.33 | 0.23 | 0.013 | ( 0.050) | 0.001 | 0.012 |
| 65 | 5.42 | 0.23 | 0.013 | ( 0.050) | 0.001 | 0.012 |
| 66 | 5.50 | 0.23 | 0.013 | ( 0.050) | 0.001 | 0.012 |
| 67 | 5.58 | 0.27 | 0.015 | ( 0.049) | 0.001 | 0.013 |
| 68 | 5.67 | 0.27 | 0.015 | ( 0.049) | 0.001 | 0.013 |
| 69 | 5.75 | 0.27 | 0.015 | ( 0.049) | 0.001 | 0.013 |
| 70 | 5.83 | 0.27 | 0.015 | ( 0.049) | 0.001 | 0.013 |
| 71 | 5.92 | 0.27 | 0.015 | ( 0.049) | 0.001 | 0.013 |
| 72 | 6.00 | 0.27 | 0.015 | ( 0.048) | 0.001 | 0.013 |
| 73 | 6.08 | 0.30 | 0.017 | ( 0.048) | 0.002 | 0.015 |
| 74 | 6.17 | 0.30 | 0.017 | ( 0.048) | 0.002 | 0.015 |
| 75 | 6.25 | 0.30 | 0.017 | ( 0.048) | 0.002 | 0.015 |
| 76 | 6.33 | 0.30 | 0.017 | ( 0.048) | 0.002 | 0.015 |
| 77 | 6.42 | 0.30 | 0.017 | ( 0.047) | 0.002 | 0.015 |
| 78 | 6.50 | 0.30 | 0.017 | ( 0.047) | 0.002 | 0.015 |
| 79 | 6.58 | 0.33 | 0.019 | ( 0.047) | 0.002 | 0.017 |
| 80 | 6.67 | 0.33 | 0.019 | ( 0.047) | 0.002 | 0.017 |
| 81 | 6.75 | 0.33 | 0.019 | ( 0.046) | 0.002 | 0.017 |
| 82 | 6.83 | 0.33 | 0.019 | ( 0.046) | 0.002 | 0.017 |
| 83 | 6.92 | 0.33 | 0.019 | ( 0.046) | 0.002 | 0.017 |
| 84 | 7.00 | 0.33 | 0.019 | ( 0.046) | 0.002 | 0.017 |
| 85 | 7.08 | 0.33 | 0.019 | ( 0.046) | 0.002 | 0.017 |
| 86 | 7.17 | 0.33 | 0.019 | ( 0.045) | 0.002 | 0.017 |
| 87 | 7.25 | 0.33 | 0.019 | ( 0.045) | 0.002 | 0.017 |
| 88 | 7.33 | 0.37 | 0.021 | ( 0.045) | 0.002 | 0.019 |
| 89 | 7.42 | 0.37 | 0.021 | ( 0.045) | 0.002 | 0.019 |
| 90 | 7.50 | 0.37 | 0.021 | ( 0.045) | 0.002 | 0.019 |
| 91 | 7.58 | 0.40 | 0.022 | ( 0.044) | 0.002 | 0.020 |
| 92 | 7.67 | 0.40 | 0.022 | ( 0.044) | 0.002 | 0.020 |
| 93 | 7.75 | 0.40 | 0.022 | ( 0.044) | 0.002 | 0.020 |
| 94 | 7.83 | 0.43 | 0.024 | ( 0.044) | 0.002 | 0.022 |
| 95 | 7.92 | 0.43 | 0.024 | ( 0.044) | 0.002 | 0.022 |
| 96 | 8.00 | 0.43 | 0.024 | ( 0.043) | 0.002 | 0.022 |
| 97 | 8.08 | 0.50 | 0.028 | ( 0.043) | 0.003 | 0.025 |
| 98 | 8.17 | 0.50 | 0.028 | ( 0.043) | 0.003 | 0.025 |
| 99 | 8.25 | 0.50 | 0.028 | ( 0.043) | 0.003 | 0.025 |
| 100 | 8.33 | 0.50 | 0.028 | ( 0.043) | 0.003 | 0.025 |
| 101 | 8.42 | 0.50 | 0.028 | ( 0.042) | 0.003 | 0.025 |
| 102 | 8.50 | 0.50 | 0.028 | ( 0.042) | 0.003 | 0.025 |
| 103 | 8.58 | 0.53 | 0.030 | ( 0.042) | 0.003 | 0.027 |
| 104 | 8.67 | 0.53 | 0.030 | ( 0.042) | 0.003 | 0.027 |
| 105 | 8.75 | 0.53 | 0.030 | ( 0.042) | 0.003 | 0.027 |
| 106 | 8.83 | 0.57 | 0.032 | ( 0.041) | 0.003 | 0.029 |
| 107 | 8.92 | 0.57 | 0.032 | ( 0.041) | 0.003 | 0.029 |
| 108 | 9.00 | 0.57 | 0.032 | ( 0.041) | 0.003 | 0.029 |
| 109 | 9.08 | 0.63 | 0.036 | ( 0.041) | 0.004 | 0.032 |
| 110 | 9.17 | 0.63 | 0.036 | ( 0.041) | 0.004 | 0.032 |
| 111 | 9.25 | 0.63 | 0.036 | ( 0.040) | 0.004 | 0.032 |
| 112 | 9.33 | 0.67 | 0.037 | ( 0.040) | 0.004 | 0.034 |
| 113 | 9.42 | 0.67 | 0.037 | ( 0.040) | 0.004 | 0.034 |
| 114 | 9.50 | 0.67 | 0.037 | ( 0.040) | 0.004 | 0.034 |
| 115 | 9.58 | 0.70 | 0.039 | ( 0.040) | 0.004 | 0.035 |
| 116 | 9.67 | 0.70 | 0.039 | ( 0.039) | 0.004 | 0.035 |
| 117 | 9.75 | 0.70 | 0.039 | ( 0.039) | 0.004 | 0.035 |
| 118 | 9.83 | 0.73 | 0.041 | ( 0.039) | 0.004 | 0.037 |
| 119 | 9.92 | 0.73 | 0.041 | ( 0.039) | 0.004 | 0.037 |
| 120 | 10.00 | 0.73 | 0.041 | ( 0.039) | 0.004 | 0.037 |
| 121 | 10.08 | 0.50 | 0.028 | ( 0.039) | 0.003 | 0.025 |
| 122 | 10.17 | 0.50 | 0.028 | ( 0.038) | 0.003 | 0.025 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 123 | 10.25 | 0.50 | 0.028 | ( 0.038) | 0.003 | 0.025 |
| 124 | 10.33 | 0.50 | 0.028 | ( 0.038) | 0.003 | 0.025 |
| 125 | 10.42 | 0.50 | 0.028 | ( 0.038) | 0.003 | 0.025 |
| 126 | 10.50 | 0.50 | 0.028 | ( 0.038) | 0.003 | 0.025 |
| 127 | 10.58 | 0.67 | 0.037 | ( 0.037) | 0.004 | 0.034 |
| 128 | 10.67 | 0.67 | 0.037 | ( 0.037) | 0.004 | 0.034 |
| 129 | 10.75 | 0.67 | 0.037 | ( 0.037) | 0.004 | 0.034 |
| 130 | 10.83 | 0.67 | 0.037 | ( 0.037) | 0.004 | 0.034 |
| 131 | 10.92 | 0.67 | 0.037 | ( 0.037) | 0.004 | 0.034 |
| 132 | 11.00 | 0.67 | 0.037 | ( 0.036) | 0.004 | 0.034 |
| 133 | 11.08 | 0.63 | 0.036 | ( 0.036) | 0.004 | 0.032 |
| 134 | 11.17 | 0.63 | 0.036 | ( 0.036) | 0.004 | 0.032 |
| 135 | 11.25 | 0.63 | 0.036 | ( 0.036) | 0.004 | 0.032 |
| 136 | 11.33 | 0.63 | 0.036 | ( 0.036) | 0.004 | 0.032 |
| 137 | 11.42 | 0.63 | 0.036 | ( 0.036) | 0.004 | 0.032 |
| 138 | 11.50 | 0.63 | 0.036 | ( 0.035) | 0.004 | 0.032 |
| 139 | 11.58 | 0.57 | 0.032 | ( 0.035) | 0.003 | 0.029 |
| 140 | 11.67 | 0.57 | 0.032 | ( 0.035) | 0.003 | 0.029 |
| 141 | 11.75 | 0.57 | 0.032 | ( 0.035) | 0.003 | 0.029 |
| 142 | 11.83 | 0.60 | 0.034 | ( 0.035) | 0.003 | 0.030 |
| 143 | 11.92 | 0.60 | 0.034 | ( 0.035) | 0.003 | 0.030 |
| 144 | 12.00 | 0.60 | 0.034 | ( 0.034) | 0.003 | 0.030 |
| 145 | 12.08 | 0.83 | 0.047 | ( 0.034) | 0.005 | 0.042 |
| 146 | 12.17 | 0.83 | 0.047 | ( 0.034) | 0.005 | 0.042 |
| 147 | 12.25 | 0.83 | 0.047 | ( 0.034) | 0.005 | 0.042 |
| 148 | 12.33 | 0.87 | 0.049 | ( 0.034) | 0.005 | 0.044 |
| 149 | 12.42 | 0.87 | 0.049 | ( 0.034) | 0.005 | 0.044 |
| 150 | 12.50 | 0.87 | 0.049 | ( 0.033) | 0.005 | 0.044 |
| 151 | 12.58 | 0.93 | 0.052 | ( 0.033) | 0.005 | 0.047 |
| 152 | 12.67 | 0.93 | 0.052 | ( 0.033) | 0.005 | 0.047 |
| 153 | 12.75 | 0.93 | 0.052 | ( 0.033) | 0.005 | 0.047 |
| 154 | 12.83 | 0.97 | 0.054 | ( 0.033) | 0.005 | 0.049 |
| 155 | 12.92 | 0.97 | 0.054 | ( 0.033) | 0.005 | 0.049 |
| 156 | 13.00 | 0.97 | 0.054 | ( 0.032) | 0.005 | 0.049 |
| 157 | 13.08 | 1.13 | 0.064 | ( 0.032) | 0.006 | 0.057 |
| 158 | 13.17 | 1.13 | 0.064 | ( 0.032) | 0.006 | 0.057 |
| 159 | 13.25 | 1.13 | 0.064 | ( 0.032) | 0.006 | 0.057 |
| 160 | 13.33 | 1.13 | 0.064 | ( 0.032) | 0.006 | 0.057 |
| 161 | 13.42 | 1.13 | 0.064 | ( 0.032) | 0.006 | 0.057 |
| 162 | 13.50 | 1.13 | 0.064 | ( 0.031) | 0.006 | 0.057 |
| 163 | 13.58 | 0.77 | 0.043 | ( 0.031) | 0.004 | 0.039 |
| 164 | 13.67 | 0.77 | 0.043 | ( 0.031) | 0.004 | 0.039 |
| 165 | 13.75 | 0.77 | 0.043 | ( 0.031) | 0.004 | 0.039 |
| 166 | 13.83 | 0.77 | 0.043 | ( 0.031) | 0.004 | 0.039 |
| 167 | 13.92 | 0.77 | 0.043 | ( 0.031) | 0.004 | 0.039 |
| 168 | 14.00 | 0.77 | 0.043 | ( 0.030) | 0.004 | 0.039 |
| 169 | 14.08 | 0.90 | 0.051 | ( 0.030) | 0.005 | 0.045 |
| 170 | 14.17 | 0.90 | 0.051 | ( 0.030) | 0.005 | 0.045 |
| 171 | 14.25 | 0.90 | 0.051 | ( 0.030) | 0.005 | 0.045 |
| 172 | 14.33 | 0.87 | 0.049 | ( 0.030) | 0.005 | 0.044 |
| 173 | 14.42 | 0.87 | 0.049 | ( 0.030) | 0.005 | 0.044 |
| 174 | 14.50 | 0.87 | 0.049 | ( 0.030) | 0.005 | 0.044 |
| 175 | 14.58 | 0.87 | 0.049 | ( 0.029) | 0.005 | 0.044 |
| 176 | 14.67 | 0.87 | 0.049 | ( 0.029) | 0.005 | 0.044 |
| 177 | 14.75 | 0.87 | 0.049 | ( 0.029) | 0.005 | 0.044 |
| 178 | 14.83 | 0.83 | 0.047 | ( 0.029) | 0.005 | 0.042 |
| 179 | 14.92 | 0.83 | 0.047 | ( 0.029) | 0.005 | 0.042 |
| 180 | 15.00 | 0.83 | 0.047 | ( 0.029) | 0.005 | 0.042 |
| 181 | 15.08 | 0.80 | 0.045 | ( 0.028) | 0.004 | 0.040 |
| 182 | 15.17 | 0.80 | 0.045 | ( 0.028) | 0.004 | 0.040 |
| 183 | 15.25 | 0.80 | 0.045 | ( 0.028) | 0.004 | 0.040 |
| 184 | 15.33 | 0.77 | 0.043 | ( 0.028) | 0.004 | 0.039 |
| 185 | 15.42 | 0.77 | 0.043 | ( 0.028) | 0.004 | 0.039 |
| 186 | 15.50 | 0.77 | 0.043 | ( 0.028) | 0.004 | 0.039 |
| 187 | 15.58 | 0.63 | 0.036 | ( 0.028) | 0.004 | 0.032 |
| 188 | 15.67 | 0.63 | 0.036 | ( 0.027) | 0.004 | 0.032 |
| 189 | 15.75 | 0.63 | 0.036 | ( 0.027) | 0.004 | 0.032 |
| 190 | 15.83 | 0.63 | 0.036 | ( 0.027) | 0.004 | 0.032 |
| 191 | 15.92 | 0.63 | 0.036 | ( 0.027) | 0.004 | 0.032 |
| 192 | 16.00 | 0.63 | 0.036 | ( 0.027) | 0.004 | 0.032 |
| 193 | 16.08 | 0.13 | 0.007 | ( 0.027) | 0.001 | 0.007 |
| 194 | 16.17 | 0.13 | 0.007 | ( 0.027) | 0.001 | 0.007 |
| 195 | 16.25 | 0.13 | 0.007 | ( 0.026) | 0.001 | 0.007 |
| 196 | 16.33 | 0.13 | 0.007 | ( 0.026) | 0.001 | 0.007 |
| 197 | 16.42 | 0.13 | 0.007 | ( 0.026) | 0.001 | 0.007 |
| 198 | 16.50 | 0.13 | 0.007 | ( 0.026) | 0.001 | 0.007 |
| 199 | 16.58 | 0.10 | 0.006 | ( 0.026) | 0.001 | 0.005 |
| 200 | 16.67 | 0.10 | 0.006 | ( 0.026) | 0.001 | 0.005 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 201 | 16.75 | 0.10 | 0.006 | ( 0.026) | 0.001 | 0.005 |
| 202 | 16.83 | 0.10 | 0.006 | ( 0.026) | 0.001 | 0.005 |
| 203 | 16.92 | 0.10 | 0.006 | ( 0.025) | 0.001 | 0.005 |
| 204 | 17.00 | 0.10 | 0.006 | ( 0.025) | 0.001 | 0.005 |
| 205 | 17.08 | 0.17 | 0.009 | ( 0.025) | 0.001 | 0.008 |
| 206 | 17.17 | 0.17 | 0.009 | ( 0.025) | 0.001 | 0.008 |
| 207 | 17.25 | 0.17 | 0.009 | ( 0.025) | 0.001 | 0.008 |
| 208 | 17.33 | 0.17 | 0.009 | ( 0.025) | 0.001 | 0.008 |
| 209 | 17.42 | 0.17 | 0.009 | ( 0.025) | 0.001 | 0.008 |
| 210 | 17.50 | 0.17 | 0.009 | ( 0.025) | 0.001 | 0.008 |
| 211 | 17.58 | 0.17 | 0.009 | ( 0.024) | 0.001 | 0.008 |
| 212 | 17.67 | 0.17 | 0.009 | ( 0.024) | 0.001 | 0.008 |
| 213 | 17.75 | 0.17 | 0.009 | ( 0.024) | 0.001 | 0.008 |
| 214 | 17.83 | 0.13 | 0.007 | ( 0.024) | 0.001 | 0.007 |
| 215 | 17.92 | 0.13 | 0.007 | ( 0.024) | 0.001 | 0.007 |
| 216 | 18.00 | 0.13 | 0.007 | ( 0.024) | 0.001 | 0.007 |
| 217 | 18.08 | 0.13 | 0.007 | ( 0.024) | 0.001 | 0.007 |
| 218 | 18.17 | 0.13 | 0.007 | ( 0.024) | 0.001 | 0.007 |
| 219 | 18.25 | 0.13 | 0.007 | ( 0.023) | 0.001 | 0.007 |
| 220 | 18.33 | 0.13 | 0.007 | ( 0.023) | 0.001 | 0.007 |
| 221 | 18.42 | 0.13 | 0.007 | ( 0.023) | 0.001 | 0.007 |
| 222 | 18.50 | 0.13 | 0.007 | ( 0.023) | 0.001 | 0.007 |
| 223 | 18.58 | 0.10 | 0.006 | ( 0.023) | 0.001 | 0.005 |
| 224 | 18.67 | 0.10 | 0.006 | ( 0.023) | 0.001 | 0.005 |
| 225 | 18.75 | 0.10 | 0.006 | ( 0.023) | 0.001 | 0.005 |
| 226 | 18.83 | 0.07 | 0.004 | ( 0.023) | 0.000 | 0.003 |
| 227 | 18.92 | 0.07 | 0.004 | ( 0.023) | 0.000 | 0.003 |
| 228 | 19.00 | 0.07 | 0.004 | ( 0.022) | 0.000 | 0.003 |
| 229 | 19.08 | 0.10 | 0.006 | ( 0.022) | 0.001 | 0.005 |
| 230 | 19.17 | 0.10 | 0.006 | ( 0.022) | 0.001 | 0.005 |
| 231 | 19.25 | 0.10 | 0.006 | ( 0.022) | 0.001 | 0.005 |
| 232 | 19.33 | 0.13 | 0.007 | ( 0.022) | 0.001 | 0.007 |
| 233 | 19.42 | 0.13 | 0.007 | ( 0.022) | 0.001 | 0.007 |
| 234 | 19.50 | 0.13 | 0.007 | ( 0.022) | 0.001 | 0.007 |
| 235 | 19.58 | 0.10 | 0.006 | ( 0.022) | 0.001 | 0.005 |
| 236 | 19.67 | 0.10 | 0.006 | ( 0.022) | 0.001 | 0.005 |
| 237 | 19.75 | 0.10 | 0.006 | ( 0.022) | 0.001 | 0.005 |
| 238 | 19.83 | 0.07 | 0.004 | ( 0.021) | 0.000 | 0.003 |
| 239 | 19.92 | 0.07 | 0.004 | ( 0.021) | 0.000 | 0.003 |
| 240 | 20.00 | 0.07 | 0.004 | ( 0.021) | 0.000 | 0.003 |
| 241 | 20.08 | 0.10 | 0.006 | ( 0.021) | 0.001 | 0.005 |
| 242 | 20.17 | 0.10 | 0.006 | ( 0.021) | 0.001 | 0.005 |
| 243 | 20.25 | 0.10 | 0.006 | ( 0.021) | 0.001 | 0.005 |
| 244 | 20.33 | 0.10 | 0.006 | ( 0.021) | 0.001 | 0.005 |
| 245 | 20.42 | 0.10 | 0.006 | ( 0.021) | 0.001 | 0.005 |
| 246 | 20.50 | 0.10 | 0.006 | ( 0.021) | 0.001 | 0.005 |
| 247 | 20.58 | 0.10 | 0.006 | ( 0.021) | 0.001 | 0.005 |
| 248 | 20.67 | 0.10 | 0.006 | ( 0.021) | 0.001 | 0.005 |
| 249 | 20.75 | 0.10 | 0.006 | ( 0.020) | 0.001 | 0.005 |
| 250 | 20.83 | 0.07 | 0.004 | ( 0.020) | 0.000 | 0.003 |
| 251 | 20.92 | 0.07 | 0.004 | ( 0.020) | 0.000 | 0.003 |
| 252 | 21.00 | 0.07 | 0.004 | ( 0.020) | 0.000 | 0.003 |
| 253 | 21.08 | 0.10 | 0.006 | ( 0.020) | 0.001 | 0.005 |
| 254 | 21.17 | 0.10 | 0.006 | ( 0.020) | 0.001 | 0.005 |
| 255 | 21.25 | 0.10 | 0.006 | ( 0.020) | 0.001 | 0.005 |
| 256 | 21.33 | 0.07 | 0.004 | ( 0.020) | 0.000 | 0.003 |
| 257 | 21.42 | 0.07 | 0.004 | ( 0.020) | 0.000 | 0.003 |
| 258 | 21.50 | 0.07 | 0.004 | ( 0.020) | 0.000 | 0.003 |
| 259 | 21.58 | 0.10 | 0.006 | ( 0.020) | 0.001 | 0.005 |
| 260 | 21.67 | 0.10 | 0.006 | ( 0.020) | 0.001 | 0.005 |
| 261 | 21.75 | 0.10 | 0.006 | ( 0.020) | 0.001 | 0.005 |
| 262 | 21.83 | 0.07 | 0.004 | ( 0.019) | 0.000 | 0.003 |
| 263 | 21.92 | 0.07 | 0.004 | ( 0.019) | 0.000 | 0.003 |
| 264 | 22.00 | 0.07 | 0.004 | ( 0.019) | 0.000 | 0.003 |
| 265 | 22.08 | 0.10 | 0.006 | ( 0.019) | 0.001 | 0.005 |
| 266 | 22.17 | 0.10 | 0.006 | ( 0.019) | 0.001 | 0.005 |
| 267 | 22.25 | 0.10 | 0.006 | ( 0.019) | 0.001 | 0.005 |
| 268 | 22.33 | 0.07 | 0.004 | ( 0.019) | 0.000 | 0.003 |
| 269 | 22.42 | 0.07 | 0.004 | ( 0.019) | 0.000 | 0.003 |
| 270 | 22.50 | 0.07 | 0.004 | ( 0.019) | 0.000 | 0.003 |
| 271 | 22.58 | 0.07 | 0.004 | ( 0.019) | 0.000 | 0.003 |
| 272 | 22.67 | 0.07 | 0.004 | ( 0.019) | 0.000 | 0.003 |
| 273 | 22.75 | 0.07 | 0.004 | ( 0.019) | 0.000 | 0.003 |
| 274 | 22.83 | 0.07 | 0.004 | ( 0.019) | 0.000 | 0.003 |
| 275 | 22.92 | 0.07 | 0.004 | ( 0.019) | 0.000 | 0.003 |
| 276 | 23.00 | 0.07 | 0.004 | ( 0.019) | 0.000 | 0.003 |
| 277 | 23.08 | 0.07 | 0.004 | ( 0.019) | 0.000 | 0.003 |
| 278 | 23.17 | 0.07 | 0.004 | ( 0.019) | 0.000 | 0.003 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 279 | 23.25 | 0.07 | 0.004 | ( 0.019) | 0.000 | 0.003 |
| 280 | 23.33 | 0.07 | 0.004 | ( 0.019) | 0.000 | 0.003 |
| 281 | 23.42 | 0.07 | 0.004 | ( 0.018) | 0.000 | 0.003 |
| 282 | 23.50 | 0.07 | 0.004 | ( 0.018) | 0.000 | 0.003 |
| 283 | 23.58 | 0.07 | 0.004 | ( 0.018) | 0.000 | 0.003 |
| 284 | 23.67 | 0.07 | 0.004 | ( 0.018) | 0.000 | 0.003 |
| 285 | 23.75 | 0.07 | 0.004 | ( 0.018) | 0.000 | 0.003 |
| 286 | 23.83 | 0.07 | 0.004 | ( 0.018) | 0.000 | 0.003 |
| 287 | 23.92 | 0.07 | 0.004 | ( 0.018) | 0.000 | 0.003 |
| 288 | 24.00 | 0.07 | 0.004 | ( 0.018) | 0.000 | 0.003 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 5.1

Flood volume = Effective rainfall 0.42(In)
times area 100.3(Ac.)/[(In)/(Ft.)] = 3.5(Ac.Ft)
Total soil loss = 0.05(In)
Total soil loss = 0.391(Ac.Ft)
Total rainfall = 0.47(In)
Flood volume = 153324.2 Cubic Feet
Total soil loss = 17036.0 Cubic Feet

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Storm Event 4 Effective Rainfall = 0.702(In)

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.006 | ( 0.065) | 0.001 | 0.005 |
| 2 | 0.17 | 0.07 | 0.006 | ( 0.065) | 0.001 | 0.005 |
| 3 | 0.25 | 0.07 | 0.006 | ( 0.064) | 0.001 | 0.005 |
| 4 | 0.33 | 0.10 | 0.008 | ( 0.064) | 0.001 | 0.008 |
| 5 | 0.42 | 0.10 | 0.008 | ( 0.064) | 0.001 | 0.008 |
| 6 | 0.50 | 0.10 | 0.008 | ( 0.064) | 0.001 | 0.008 |
| 7 | 0.58 | 0.10 | 0.008 | ( 0.063) | 0.001 | 0.008 |
| 8 | 0.67 | 0.10 | 0.008 | ( 0.063) | 0.001 | 0.008 |
| 9 | 0.75 | 0.10 | 0.008 | ( 0.063) | 0.001 | 0.008 |
| 10 | 0.83 | 0.13 | 0.011 | ( 0.063) | 0.001 | 0.010 |
| 11 | 0.92 | 0.13 | 0.011 | ( 0.062) | 0.001 | 0.010 |
| 12 | 1.00 | 0.13 | 0.011 | ( 0.062) | 0.001 | 0.010 |
| 13 | 1.08 | 0.10 | 0.008 | ( 0.062) | 0.001 | 0.008 |
| 14 | 1.17 | 0.10 | 0.008 | ( 0.062) | 0.001 | 0.008 |
| 15 | 1.25 | 0.10 | 0.008 | ( 0.061) | 0.001 | 0.008 |
| 16 | 1.33 | 0.10 | 0.008 | ( 0.061) | 0.001 | 0.008 |
| 17 | 1.42 | 0.10 | 0.008 | ( 0.061) | 0.001 | 0.008 |
| 18 | 1.50 | 0.10 | 0.008 | ( 0.061) | 0.001 | 0.008 |
| 19 | 1.58 | 0.10 | 0.008 | ( 0.061) | 0.001 | 0.008 |
| 20 | 1.67 | 0.10 | 0.008 | ( 0.060) | 0.001 | 0.008 |
| 21 | 1.75 | 0.10 | 0.008 | ( 0.060) | 0.001 | 0.008 |
| 22 | 1.83 | 0.13 | 0.011 | ( 0.060) | 0.001 | 0.010 |
| 23 | 1.92 | 0.13 | 0.011 | ( 0.060) | 0.001 | 0.010 |
| 24 | 2.00 | 0.13 | 0.011 | ( 0.059) | 0.001 | 0.010 |
| 25 | 2.08 | 0.13 | 0.011 | ( 0.059) | 0.001 | 0.010 |
| 26 | 2.17 | 0.13 | 0.011 | ( 0.059) | 0.001 | 0.010 |
| 27 | 2.25 | 0.13 | 0.011 | ( 0.059) | 0.001 | 0.010 |
| 28 | 2.33 | 0.13 | 0.011 | ( 0.058) | 0.001 | 0.010 |
| 29 | 2.42 | 0.13 | 0.011 | ( 0.058) | 0.001 | 0.010 |
| 30 | 2.50 | 0.13 | 0.011 | ( 0.058) | 0.001 | 0.010 |
| 31 | 2.58 | 0.17 | 0.014 | ( 0.058) | 0.001 | 0.013 |
| 32 | 2.67 | 0.17 | 0.014 | ( 0.057) | 0.001 | 0.013 |
| 33 | 2.75 | 0.17 | 0.014 | ( 0.057) | 0.001 | 0.013 |
| 34 | 2.83 | 0.17 | 0.014 | ( 0.057) | 0.001 | 0.013 |
| 35 | 2.92 | 0.17 | 0.014 | ( 0.057) | 0.001 | 0.013 |
| 36 | 3.00 | 0.17 | 0.014 | ( 0.056) | 0.001 | 0.013 |
| 37 | 3.08 | 0.17 | 0.014 | ( 0.056) | 0.001 | 0.013 |
| 38 | 3.17 | 0.17 | 0.014 | ( 0.056) | 0.001 | 0.013 |
| 39 | 3.25 | 0.17 | 0.014 | ( 0.056) | 0.001 | 0.013 |
| 40 | 3.33 | 0.17 | 0.014 | ( 0.056) | 0.001 | 0.013 |
| 41 | 3.42 | 0.17 | 0.014 | ( 0.055) | 0.001 | 0.013 |
| 42 | 3.50 | 0.17 | 0.014 | ( 0.055) | 0.001 | 0.013 |
| 43 | 3.58 | 0.17 | 0.014 | ( 0.055) | 0.001 | 0.013 |
| 44 | 3.67 | 0.17 | 0.014 | ( 0.055) | 0.001 | 0.013 |
| 45 | 3.75 | 0.17 | 0.014 | ( 0.054) | 0.001 | 0.013 |
| 46 | 3.83 | 0.20 | 0.017 | ( 0.054) | 0.002 | 0.015 |
| 47 | 3.92 | 0.20 | 0.017 | ( 0.054) | 0.002 | 0.015 |
| 48 | 4.00 | 0.20 | 0.017 | ( 0.054) | 0.002 | 0.015 |
| 49 | 4.08 | 0.20 | 0.017 | ( 0.053) | 0.002 | 0.015 |
| 50 | 4.17 | 0.20 | 0.017 | ( 0.053) | 0.002 | 0.015 |

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|---|---|---|---|---|---|---|
| 51 | 4.25 | 0.20 | 0.017 | ( 0.053) | 0.002 | 0.015 |
| 52 | 4.33 | 0.23 | 0.020 | ( 0.053) | 0.002 | 0.018 |
| 53 | 4.42 | 0.23 | 0.020 | ( 0.053) | 0.002 | 0.018 |
| 54 | 4.50 | 0.23 | 0.020 | ( 0.052) | 0.002 | 0.018 |
| 55 | 4.58 | 0.23 | 0.020 | ( 0.052) | 0.002 | 0.018 |
| 56 | 4.67 | 0.23 | 0.020 | ( 0.052) | 0.002 | 0.018 |
| 57 | 4.75 | 0.23 | 0.020 | ( 0.052) | 0.002 | 0.018 |
| 58 | 4.83 | 0.27 | 0.022 | ( 0.051) | 0.002 | 0.020 |
| 59 | 4.92 | 0.27 | 0.022 | ( 0.051) | 0.002 | 0.020 |
| 60 | 5.00 | 0.27 | 0.022 | ( 0.051) | 0.002 | 0.020 |
| 61 | 5.08 | 0.20 | 0.017 | ( 0.051) | 0.002 | 0.015 |
| 62 | 5.17 | 0.20 | 0.017 | ( 0.051) | 0.002 | 0.015 |
| 63 | 5.25 | 0.20 | 0.017 | ( 0.050) | 0.002 | 0.015 |
| 64 | 5.33 | 0.23 | 0.020 | ( 0.050) | 0.002 | 0.018 |
| 65 | 5.42 | 0.23 | 0.020 | ( 0.050) | 0.002 | 0.018 |
| 66 | 5.50 | 0.23 | 0.020 | ( 0.050) | 0.002 | 0.018 |
| 67 | 5.58 | 0.27 | 0.022 | ( 0.049) | 0.002 | 0.020 |
| 68 | 5.67 | 0.27 | 0.022 | ( 0.049) | 0.002 | 0.020 |
| 69 | 5.75 | 0.27 | 0.022 | ( 0.049) | 0.002 | 0.020 |
| 70 | 5.83 | 0.27 | 0.022 | ( 0.049) | 0.002 | 0.020 |
| 71 | 5.92 | 0.27 | 0.022 | ( 0.049) | 0.002 | 0.020 |
| 72 | 6.00 | 0.27 | 0.022 | ( 0.048) | 0.002 | 0.020 |
| 73 | 6.08 | 0.30 | 0.025 | ( 0.048) | 0.003 | 0.023 |
| 74 | 6.17 | 0.30 | 0.025 | ( 0.048) | 0.003 | 0.023 |
| 75 | 6.25 | 0.30 | 0.025 | ( 0.048) | 0.003 | 0.023 |
| 76 | 6.33 | 0.30 | 0.025 | ( 0.048) | 0.003 | 0.023 |
| 77 | 6.42 | 0.30 | 0.025 | ( 0.047) | 0.003 | 0.023 |
| 78 | 6.50 | 0.30 | 0.025 | ( 0.047) | 0.003 | 0.023 |
| 79 | 6.58 | 0.33 | 0.028 | ( 0.047) | 0.003 | 0.025 |
| 80 | 6.67 | 0.33 | 0.028 | ( 0.047) | 0.003 | 0.025 |
| 81 | 6.75 | 0.33 | 0.028 | ( 0.046) | 0.003 | 0.025 |
| 82 | 6.83 | 0.33 | 0.028 | ( 0.046) | 0.003 | 0.025 |
| 83 | 6.92 | 0.33 | 0.028 | ( 0.046) | 0.003 | 0.025 |
| 84 | 7.00 | 0.33 | 0.028 | ( 0.046) | 0.003 | 0.025 |
| 85 | 7.08 | 0.33 | 0.028 | ( 0.046) | 0.003 | 0.025 |
| 86 | 7.17 | 0.33 | 0.028 | ( 0.045) | 0.003 | 0.025 |
| 87 | 7.25 | 0.33 | 0.028 | ( 0.045) | 0.003 | 0.025 |
| 88 | 7.33 | 0.37 | 0.031 | ( 0.045) | 0.003 | 0.028 |
| 89 | 7.42 | 0.37 | 0.031 | ( 0.045) | 0.003 | 0.028 |
| 90 | 7.50 | 0.37 | 0.031 | ( 0.045) | 0.003 | 0.028 |
| 91 | 7.58 | 0.40 | 0.034 | ( 0.044) | 0.003 | 0.030 |
| 92 | 7.67 | 0.40 | 0.034 | ( 0.044) | 0.003 | 0.030 |
| 93 | 7.75 | 0.40 | 0.034 | ( 0.044) | 0.003 | 0.030 |
| 94 | 7.83 | 0.43 | 0.036 | ( 0.044) | 0.004 | 0.033 |
| 95 | 7.92 | 0.43 | 0.036 | ( 0.044) | 0.004 | 0.033 |
| 96 | 8.00 | 0.43 | 0.036 | ( 0.043) | 0.004 | 0.033 |
| 97 | 8.08 | 0.50 | 0.042 | ( 0.043) | 0.004 | 0.038 |
| 98 | 8.17 | 0.50 | 0.042 | ( 0.043) | 0.004 | 0.038 |
| 99 | 8.25 | 0.50 | 0.042 | ( 0.043) | 0.004 | 0.038 |
| 100 | 8.33 | 0.50 | 0.042 | ( 0.043) | 0.004 | 0.038 |
| 101 | 8.42 | 0.50 | 0.042 | ( 0.042) | 0.004 | 0.038 |
| 102 | 8.50 | 0.50 | 0.042 | ( 0.042) | 0.004 | 0.038 |
| 103 | 8.58 | 0.53 | 0.045 | ( 0.042) | 0.004 | 0.040 |
| 104 | 8.67 | 0.53 | 0.045 | ( 0.042) | 0.004 | 0.040 |
| 105 | 8.75 | 0.53 | 0.045 | ( 0.042) | 0.004 | 0.040 |
| 106 | 8.83 | 0.57 | 0.048 | ( 0.041) | 0.005 | 0.043 |
| 107 | 8.92 | 0.57 | 0.048 | ( 0.041) | 0.005 | 0.043 |
| 108 | 9.00 | 0.57 | 0.048 | ( 0.041) | 0.005 | 0.043 |
| 109 | 9.08 | 0.63 | 0.053 | ( 0.041) | 0.005 | 0.048 |
| 110 | 9.17 | 0.63 | 0.053 | ( 0.041) | 0.005 | 0.048 |
| 111 | 9.25 | 0.63 | 0.053 | ( 0.040) | 0.005 | 0.048 |
| 112 | 9.33 | 0.67 | 0.056 | ( 0.040) | 0.006 | 0.051 |
| 113 | 9.42 | 0.67 | 0.056 | ( 0.040) | 0.006 | 0.051 |
| 114 | 9.50 | 0.67 | 0.056 | ( 0.040) | 0.006 | 0.051 |
| 115 | 9.58 | 0.70 | 0.059 | ( 0.040) | 0.006 | 0.053 |
| 116 | 9.67 | 0.70 | 0.059 | ( 0.039) | 0.006 | 0.053 |
| 117 | 9.75 | 0.70 | 0.059 | ( 0.039) | 0.006 | 0.053 |
| 118 | 9.83 | 0.73 | 0.062 | ( 0.039) | 0.006 | 0.056 |
| 119 | 9.92 | 0.73 | 0.062 | ( 0.039) | 0.006 | 0.056 |
| 120 | 10.00 | 0.73 | 0.062 | ( 0.039) | 0.006 | 0.056 |
| 121 | 10.08 | 0.50 | 0.042 | ( 0.039) | 0.004 | 0.038 |
| 122 | 10.17 | 0.50 | 0.042 | ( 0.038) | 0.004 | 0.038 |
| 123 | 10.25 | 0.50 | 0.042 | ( 0.038) | 0.004 | 0.038 |
| 124 | 10.33 | 0.50 | 0.042 | ( 0.038) | 0.004 | 0.038 |
| 125 | 10.42 | 0.50 | 0.042 | ( 0.038) | 0.004 | 0.038 |
| 126 | 10.50 | 0.50 | 0.042 | ( 0.038) | 0.004 | 0.038 |
| 127 | 10.58 | 0.67 | 0.056 | ( 0.037) | 0.006 | 0.051 |
| 128 | 10.67 | 0.67 | 0.056 | ( 0.037) | 0.006 | 0.051 |

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|---|---|---|---|---|---|---|
| 129 | 10.75 | 0.67 | 0.056 | ( 0.037) | 0.006 | 0.051 |
| 130 | 10.83 | 0.67 | 0.056 | ( 0.037) | 0.006 | 0.051 |
| 131 | 10.92 | 0.67 | 0.056 | ( 0.037) | 0.006 | 0.051 |
| 132 | 11.00 | 0.67 | 0.056 | ( 0.036) | 0.006 | 0.051 |
| 133 | 11.08 | 0.63 | 0.053 | ( 0.036) | 0.005 | 0.048 |
| 134 | 11.17 | 0.63 | 0.053 | ( 0.036) | 0.005 | 0.048 |
| 135 | 11.25 | 0.63 | 0.053 | ( 0.036) | 0.005 | 0.048 |
| 136 | 11.33 | 0.63 | 0.053 | ( 0.036) | 0.005 | 0.048 |
| 137 | 11.42 | 0.63 | 0.053 | ( 0.036) | 0.005 | 0.048 |
| 138 | 11.50 | 0.63 | 0.053 | ( 0.035) | 0.005 | 0.048 |
| 139 | 11.58 | 0.57 | 0.048 | ( 0.035) | 0.005 | 0.043 |
| 140 | 11.67 | 0.57 | 0.048 | ( 0.035) | 0.005 | 0.043 |
| 141 | 11.75 | 0.57 | 0.048 | ( 0.035) | 0.005 | 0.043 |
| 142 | 11.83 | 0.60 | 0.051 | ( 0.035) | 0.005 | 0.045 |
| 143 | 11.92 | 0.60 | 0.051 | ( 0.035) | 0.005 | 0.045 |
| 144 | 12.00 | 0.60 | 0.051 | ( 0.034) | 0.005 | 0.045 |
| 145 | 12.08 | 0.83 | 0.070 | ( 0.034) | 0.007 | 0.063 |
| 146 | 12.17 | 0.83 | 0.070 | ( 0.034) | 0.007 | 0.063 |
| 147 | 12.25 | 0.83 | 0.070 | ( 0.034) | 0.007 | 0.063 |
| 148 | 12.33 | 0.87 | 0.073 | ( 0.034) | 0.007 | 0.066 |
| 149 | 12.42 | 0.87 | 0.073 | ( 0.034) | 0.007 | 0.066 |
| 150 | 12.50 | 0.87 | 0.073 | ( 0.033) | 0.007 | 0.066 |
| 151 | 12.58 | 0.93 | 0.079 | ( 0.033) | 0.008 | 0.071 |
| 152 | 12.67 | 0.93 | 0.079 | ( 0.033) | 0.008 | 0.071 |
| 153 | 12.75 | 0.93 | 0.079 | ( 0.033) | 0.008 | 0.071 |
| 154 | 12.83 | 0.97 | 0.081 | ( 0.033) | 0.008 | 0.073 |
| 155 | 12.92 | 0.97 | 0.081 | ( 0.033) | 0.008 | 0.073 |
| 156 | 13.00 | 0.97 | 0.081 | ( 0.032) | 0.008 | 0.073 |
| 157 | 13.08 | 1.13 | 0.095 | ( 0.032) | 0.010 | 0.086 |
| 158 | 13.17 | 1.13 | 0.095 | ( 0.032) | 0.010 | 0.086 |
| 159 | 13.25 | 1.13 | 0.095 | ( 0.032) | 0.010 | 0.086 |
| 160 | 13.33 | 1.13 | 0.095 | ( 0.032) | 0.010 | 0.086 |
| 161 | 13.42 | 1.13 | 0.095 | ( 0.032) | 0.010 | 0.086 |
| 162 | 13.50 | 1.13 | 0.095 | ( 0.031) | 0.010 | 0.086 |
| 163 | 13.58 | 0.77 | 0.065 | ( 0.031) | 0.006 | 0.058 |
| 164 | 13.67 | 0.77 | 0.065 | ( 0.031) | 0.006 | 0.058 |
| 165 | 13.75 | 0.77 | 0.065 | ( 0.031) | 0.006 | 0.058 |
| 166 | 13.83 | 0.77 | 0.065 | ( 0.031) | 0.006 | 0.058 |
| 167 | 13.92 | 0.77 | 0.065 | ( 0.031) | 0.006 | 0.058 |
| 168 | 14.00 | 0.77 | 0.065 | ( 0.030) | 0.006 | 0.058 |
| 169 | 14.08 | 0.90 | 0.076 | ( 0.030) | 0.008 | 0.068 |
| 170 | 14.17 | 0.90 | 0.076 | ( 0.030) | 0.008 | 0.068 |
| 171 | 14.25 | 0.90 | 0.076 | ( 0.030) | 0.008 | 0.068 |
| 172 | 14.33 | 0.87 | 0.073 | ( 0.030) | 0.007 | 0.066 |
| 173 | 14.42 | 0.87 | 0.073 | ( 0.030) | 0.007 | 0.066 |
| 174 | 14.50 | 0.87 | 0.073 | ( 0.030) | 0.007 | 0.066 |
| 175 | 14.58 | 0.87 | 0.073 | ( 0.029) | 0.007 | 0.066 |
| 176 | 14.67 | 0.87 | 0.073 | ( 0.029) | 0.007 | 0.066 |
| 177 | 14.75 | 0.87 | 0.073 | ( 0.029) | 0.007 | 0.066 |
| 178 | 14.83 | 0.83 | 0.070 | ( 0.029) | 0.007 | 0.063 |
| 179 | 14.92 | 0.83 | 0.070 | ( 0.029) | 0.007 | 0.063 |
| 180 | 15.00 | 0.83 | 0.070 | ( 0.029) | 0.007 | 0.063 |
| 181 | 15.08 | 0.80 | 0.067 | ( 0.028) | 0.007 | 0.061 |
| 182 | 15.17 | 0.80 | 0.067 | ( 0.028) | 0.007 | 0.061 |
| 183 | 15.25 | 0.80 | 0.067 | ( 0.028) | 0.007 | 0.061 |
| 184 | 15.33 | 0.77 | 0.065 | ( 0.028) | 0.006 | 0.058 |
| 185 | 15.42 | 0.77 | 0.065 | ( 0.028) | 0.006 | 0.058 |
| 186 | 15.50 | 0.77 | 0.065 | ( 0.028) | 0.006 | 0.058 |
| 187 | 15.58 | 0.63 | 0.053 | ( 0.028) | 0.005 | 0.048 |
| 188 | 15.67 | 0.63 | 0.053 | ( 0.027) | 0.005 | 0.048 |
| 189 | 15.75 | 0.63 | 0.053 | ( 0.027) | 0.005 | 0.048 |
| 190 | 15.83 | 0.63 | 0.053 | ( 0.027) | 0.005 | 0.048 |
| 191 | 15.92 | 0.63 | 0.053 | ( 0.027) | 0.005 | 0.048 |
| 192 | 16.00 | 0.63 | 0.053 | ( 0.027) | 0.005 | 0.048 |
| 193 | 16.08 | 0.13 | 0.011 | ( 0.027) | 0.001 | 0.010 |
| 194 | 16.17 | 0.13 | 0.011 | ( 0.027) | 0.001 | 0.010 |
| 195 | 16.25 | 0.13 | 0.011 | ( 0.026) | 0.001 | 0.010 |
| 196 | 16.33 | 0.13 | 0.011 | ( 0.026) | 0.001 | 0.010 |
| 197 | 16.42 | 0.13 | 0.011 | ( 0.026) | 0.001 | 0.010 |
| 198 | 16.50 | 0.13 | 0.011 | ( 0.026) | 0.001 | 0.010 |
| 199 | 16.58 | 0.10 | 0.008 | ( 0.026) | 0.001 | 0.008 |
| 200 | 16.67 | 0.10 | 0.008 | ( 0.026) | 0.001 | 0.008 |
| 201 | 16.75 | 0.10 | 0.008 | ( 0.026) | 0.001 | 0.008 |
| 202 | 16.83 | 0.10 | 0.008 | ( 0.026) | 0.001 | 0.008 |
| 203 | 16.92 | 0.10 | 0.008 | ( 0.025) | 0.001 | 0.008 |
| 204 | 17.00 | 0.10 | 0.008 | ( 0.025) | 0.001 | 0.008 |
| 205 | 17.08 | 0.17 | 0.014 | ( 0.025) | 0.001 | 0.013 |
| 206 | 17.17 | 0.17 | 0.014 | ( 0.025) | 0.001 | 0.013 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 207 | 17.25 | 0.17 | 0.014 | ( 0.025) | 0.001 | 0.013 |
| 208 | 17.33 | 0.17 | 0.014 | ( 0.025) | 0.001 | 0.013 |
| 209 | 17.42 | 0.17 | 0.014 | ( 0.025) | 0.001 | 0.013 |
| 210 | 17.50 | 0.17 | 0.014 | ( 0.025) | 0.001 | 0.013 |
| 211 | 17.58 | 0.17 | 0.014 | ( 0.024) | 0.001 | 0.013 |
| 212 | 17.67 | 0.17 | 0.014 | ( 0.024) | 0.001 | 0.013 |
| 213 | 17.75 | 0.17 | 0.014 | ( 0.024) | 0.001 | 0.013 |
| 214 | 17.83 | 0.13 | 0.011 | ( 0.024) | 0.001 | 0.010 |
| 215 | 17.92 | 0.13 | 0.011 | ( 0.024) | 0.001 | 0.010 |
| 216 | 18.00 | 0.13 | 0.011 | ( 0.024) | 0.001 | 0.010 |
| 217 | 18.08 | 0.13 | 0.011 | ( 0.024) | 0.001 | 0.010 |
| 218 | 18.17 | 0.13 | 0.011 | ( 0.024) | 0.001 | 0.010 |
| 219 | 18.25 | 0.13 | 0.011 | ( 0.023) | 0.001 | 0.010 |
| 220 | 18.33 | 0.13 | 0.011 | ( 0.023) | 0.001 | 0.010 |
| 221 | 18.42 | 0.13 | 0.011 | ( 0.023) | 0.001 | 0.010 |
| 222 | 18.50 | 0.13 | 0.011 | ( 0.023) | 0.001 | 0.010 |
| 223 | 18.58 | 0.10 | 0.008 | ( 0.023) | 0.001 | 0.008 |
| 224 | 18.67 | 0.10 | 0.008 | ( 0.023) | 0.001 | 0.008 |
| 225 | 18.75 | 0.10 | 0.008 | ( 0.023) | 0.001 | 0.008 |
| 226 | 18.83 | 0.07 | 0.006 | ( 0.023) | 0.001 | 0.005 |
| 227 | 18.92 | 0.07 | 0.006 | ( 0.023) | 0.001 | 0.005 |
| 228 | 19.00 | 0.07 | 0.006 | ( 0.022) | 0.001 | 0.005 |
| 229 | 19.08 | 0.10 | 0.008 | ( 0.022) | 0.001 | 0.008 |
| 230 | 19.17 | 0.10 | 0.008 | ( 0.022) | 0.001 | 0.008 |
| 231 | 19.25 | 0.10 | 0.008 | ( 0.022) | 0.001 | 0.008 |
| 232 | 19.33 | 0.13 | 0.011 | ( 0.022) | 0.001 | 0.010 |
| 233 | 19.42 | 0.13 | 0.011 | ( 0.022) | 0.001 | 0.010 |
| 234 | 19.50 | 0.13 | 0.011 | ( 0.022) | 0.001 | 0.010 |
| 235 | 19.58 | 0.10 | 0.008 | ( 0.022) | 0.001 | 0.008 |
| 236 | 19.67 | 0.10 | 0.008 | ( 0.022) | 0.001 | 0.008 |
| 237 | 19.75 | 0.10 | 0.008 | ( 0.022) | 0.001 | 0.008 |
| 238 | 19.83 | 0.07 | 0.006 | ( 0.021) | 0.001 | 0.005 |
| 239 | 19.92 | 0.07 | 0.006 | ( 0.021) | 0.001 | 0.005 |
| 240 | 20.00 | 0.07 | 0.006 | ( 0.021) | 0.001 | 0.005 |
| 241 | 20.08 | 0.10 | 0.008 | ( 0.021) | 0.001 | 0.008 |
| 242 | 20.17 | 0.10 | 0.008 | ( 0.021) | 0.001 | 0.008 |
| 243 | 20.25 | 0.10 | 0.008 | ( 0.021) | 0.001 | 0.008 |
| 244 | 20.33 | 0.10 | 0.008 | ( 0.021) | 0.001 | 0.008 |
| 245 | 20.42 | 0.10 | 0.008 | ( 0.021) | 0.001 | 0.008 |
| 246 | 20.50 | 0.10 | 0.008 | ( 0.021) | 0.001 | 0.008 |
| 247 | 20.58 | 0.10 | 0.008 | ( 0.021) | 0.001 | 0.008 |
| 248 | 20.67 | 0.10 | 0.008 | ( 0.021) | 0.001 | 0.008 |
| 249 | 20.75 | 0.10 | 0.008 | ( 0.020) | 0.001 | 0.008 |
| 250 | 20.83 | 0.07 | 0.006 | ( 0.020) | 0.001 | 0.005 |
| 251 | 20.92 | 0.07 | 0.006 | ( 0.020) | 0.001 | 0.005 |
| 252 | 21.00 | 0.07 | 0.006 | ( 0.020) | 0.001 | 0.005 |
| 253 | 21.08 | 0.10 | 0.008 | ( 0.020) | 0.001 | 0.008 |
| 254 | 21.17 | 0.10 | 0.008 | ( 0.020) | 0.001 | 0.008 |
| 255 | 21.25 | 0.10 | 0.008 | ( 0.020) | 0.001 | 0.008 |
| 256 | 21.33 | 0.07 | 0.006 | ( 0.020) | 0.001 | 0.005 |
| 257 | 21.42 | 0.07 | 0.006 | ( 0.020) | 0.001 | 0.005 |
| 258 | 21.50 | 0.07 | 0.006 | ( 0.020) | 0.001 | 0.005 |
| 259 | 21.58 | 0.10 | 0.008 | ( 0.020) | 0.001 | 0.008 |
| 260 | 21.67 | 0.10 | 0.008 | ( 0.020) | 0.001 | 0.008 |
| 261 | 21.75 | 0.10 | 0.008 | ( 0.020) | 0.001 | 0.008 |
| 262 | 21.83 | 0.07 | 0.006 | ( 0.019) | 0.001 | 0.005 |
| 263 | 21.92 | 0.07 | 0.006 | ( 0.019) | 0.001 | 0.005 |
| 264 | 22.00 | 0.07 | 0.006 | ( 0.019) | 0.001 | 0.005 |
| 265 | 22.08 | 0.10 | 0.008 | ( 0.019) | 0.001 | 0.008 |
| 266 | 22.17 | 0.10 | 0.008 | ( 0.019) | 0.001 | 0.008 |
| 267 | 22.25 | 0.10 | 0.008 | ( 0.019) | 0.001 | 0.008 |
| 268 | 22.33 | 0.07 | 0.006 | ( 0.019) | 0.001 | 0.005 |
| 269 | 22.42 | 0.07 | 0.006 | ( 0.019) | 0.001 | 0.005 |
| 270 | 22.50 | 0.07 | 0.006 | ( 0.019) | 0.001 | 0.005 |
| 271 | 22.58 | 0.07 | 0.006 | ( 0.019) | 0.001 | 0.005 |
| 272 | 22.67 | 0.07 | 0.006 | ( 0.019) | 0.001 | 0.005 |
| 273 | 22.75 | 0.07 | 0.006 | ( 0.019) | 0.001 | 0.005 |
| 274 | 22.83 | 0.07 | 0.006 | ( 0.019) | 0.001 | 0.005 |
| 275 | 22.92 | 0.07 | 0.006 | ( 0.019) | 0.001 | 0.005 |
| 276 | 23.00 | 0.07 | 0.006 | ( 0.019) | 0.001 | 0.005 |
| 277 | 23.08 | 0.07 | 0.006 | ( 0.019) | 0.001 | 0.005 |
| 278 | 23.17 | 0.07 | 0.006 | ( 0.019) | 0.001 | 0.005 |
| 279 | 23.25 | 0.07 | 0.006 | ( 0.019) | 0.001 | 0.005 |
| 280 | 23.33 | 0.07 | 0.006 | ( 0.019) | 0.001 | 0.005 |
| 281 | 23.42 | 0.07 | 0.006 | ( 0.018) | 0.001 | 0.005 |
| 282 | 23.50 | 0.07 | 0.006 | ( 0.018) | 0.001 | 0.005 |
| 283 | 23.58 | 0.07 | 0.006 | ( 0.018) | 0.001 | 0.005 |
| 284 | 23.67 | 0.07 | 0.006 | ( 0.018) | 0.001 | 0.005 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 285 | 23.75 | 0.07 | 0.006 | ( 0.018) | 0.001 | 0.005 |
| 286 | 23.83 | 0.07 | 0.006 | ( 0.018) | 0.001 | 0.005 |
| 287 | 23.92 | 0.07 | 0.006 | ( 0.018) | 0.001 | 0.005 |
| 288 | 24.00 | 0.07 | 0.006 | ( 0.018) | 0.001 | 0.005 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 7.6

Flood volume = Effective rainfall 0.63(In)
times area 100.3(Ac.)/[(In)/(Ft.)] = 5.3(Ac.Ft)
Total soil loss = 0.07(In)
Total soil loss = 0.587(Ac.Ft)
Total rainfall = 0.70(In)
Flood volume = 229986.4 Cubic Feet
Total soil loss = 25554.0 Cubic Feet

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Storm Event 3 Effective Rainfall = 0.889(In)

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.007 | ( 0.065) | 0.001 | 0.006 |
| 2 | 0.17 | 0.07 | 0.007 | ( 0.065) | 0.001 | 0.006 |
| 3 | 0.25 | 0.07 | 0.007 | ( 0.064) | 0.001 | 0.006 |
| 4 | 0.33 | 0.10 | 0.011 | ( 0.064) | 0.001 | 0.010 |
| 5 | 0.42 | 0.10 | 0.011 | ( 0.064) | 0.001 | 0.010 |
| 6 | 0.50 | 0.10 | 0.011 | ( 0.064) | 0.001 | 0.010 |
| 7 | 0.58 | 0.10 | 0.011 | ( 0.063) | 0.001 | 0.010 |
| 8 | 0.67 | 0.10 | 0.011 | ( 0.063) | 0.001 | 0.010 |
| 9 | 0.75 | 0.10 | 0.011 | ( 0.063) | 0.001 | 0.010 |
| 10 | 0.83 | 0.13 | 0.014 | ( 0.063) | 0.001 | 0.013 |
| 11 | 0.92 | 0.13 | 0.014 | ( 0.062) | 0.001 | 0.013 |
| 12 | 1.00 | 0.13 | 0.014 | ( 0.062) | 0.001 | 0.013 |
| 13 | 1.08 | 0.10 | 0.011 | ( 0.062) | 0.001 | 0.010 |
| 14 | 1.17 | 0.10 | 0.011 | ( 0.062) | 0.001 | 0.010 |
| 15 | 1.25 | 0.10 | 0.011 | ( 0.061) | 0.001 | 0.010 |
| 16 | 1.33 | 0.10 | 0.011 | ( 0.061) | 0.001 | 0.010 |
| 17 | 1.42 | 0.10 | 0.011 | ( 0.061) | 0.001 | 0.010 |
| 18 | 1.50 | 0.10 | 0.011 | ( 0.061) | 0.001 | 0.010 |
| 19 | 1.58 | 0.10 | 0.011 | ( 0.061) | 0.001 | 0.010 |
| 20 | 1.67 | 0.10 | 0.011 | ( 0.060) | 0.001 | 0.010 |
| 21 | 1.75 | 0.10 | 0.011 | ( 0.060) | 0.001 | 0.010 |
| 22 | 1.83 | 0.13 | 0.014 | ( 0.060) | 0.001 | 0.013 |
| 23 | 1.92 | 0.13 | 0.014 | ( 0.060) | 0.001 | 0.013 |
| 24 | 2.00 | 0.13 | 0.014 | ( 0.059) | 0.001 | 0.013 |
| 25 | 2.08 | 0.13 | 0.014 | ( 0.059) | 0.001 | 0.013 |
| 26 | 2.17 | 0.13 | 0.014 | ( 0.059) | 0.001 | 0.013 |
| 27 | 2.25 | 0.13 | 0.014 | ( 0.059) | 0.001 | 0.013 |
| 28 | 2.33 | 0.13 | 0.014 | ( 0.058) | 0.001 | 0.013 |
| 29 | 2.42 | 0.13 | 0.014 | ( 0.058) | 0.001 | 0.013 |
| 30 | 2.50 | 0.13 | 0.014 | ( 0.058) | 0.001 | 0.013 |
| 31 | 2.58 | 0.17 | 0.018 | ( 0.058) | 0.002 | 0.016 |
| 32 | 2.67 | 0.17 | 0.018 | ( 0.057) | 0.002 | 0.016 |
| 33 | 2.75 | 0.17 | 0.018 | ( 0.057) | 0.002 | 0.016 |
| 34 | 2.83 | 0.17 | 0.018 | ( 0.057) | 0.002 | 0.016 |
| 35 | 2.92 | 0.17 | 0.018 | ( 0.057) | 0.002 | 0.016 |
| 36 | 3.00 | 0.17 | 0.018 | ( 0.056) | 0.002 | 0.016 |
| 37 | 3.08 | 0.17 | 0.018 | ( 0.056) | 0.002 | 0.016 |
| 38 | 3.17 | 0.17 | 0.018 | ( 0.056) | 0.002 | 0.016 |
| 39 | 3.25 | 0.17 | 0.018 | ( 0.056) | 0.002 | 0.016 |
| 40 | 3.33 | 0.17 | 0.018 | ( 0.056) | 0.002 | 0.016 |
| 41 | 3.42 | 0.17 | 0.018 | ( 0.055) | 0.002 | 0.016 |
| 42 | 3.50 | 0.17 | 0.018 | ( 0.055) | 0.002 | 0.016 |
| 43 | 3.58 | 0.17 | 0.018 | ( 0.055) | 0.002 | 0.016 |
| 44 | 3.67 | 0.17 | 0.018 | ( 0.055) | 0.002 | 0.016 |
| 45 | 3.75 | 0.17 | 0.018 | ( 0.054) | 0.002 | 0.016 |
| 46 | 3.83 | 0.20 | 0.021 | ( 0.054) | 0.002 | 0.019 |
| 47 | 3.92 | 0.20 | 0.021 | ( 0.054) | 0.002 | 0.019 |
| 48 | 4.00 | 0.20 | 0.021 | ( 0.054) | 0.002 | 0.019 |
| 49 | 4.08 | 0.20 | 0.021 | ( 0.053) | 0.002 | 0.019 |
| 50 | 4.17 | 0.20 | 0.021 | ( 0.053) | 0.002 | 0.019 |
| 51 | 4.25 | 0.20 | 0.021 | ( 0.053) | 0.002 | 0.019 |
| 52 | 4.33 | 0.23 | 0.025 | ( 0.053) | 0.002 | 0.022 |
| 53 | 4.42 | 0.23 | 0.025 | ( 0.053) | 0.002 | 0.022 |
| 54 | 4.50 | 0.23 | 0.025 | ( 0.052) | 0.002 | 0.022 |
| 55 | 4.58 | 0.23 | 0.025 | ( 0.052) | 0.002 | 0.022 |
| 56 | 4.67 | 0.23 | 0.025 | ( 0.052) | 0.002 | 0.022 |

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|---|---|---|---|---|---|---|
| 57 | 4.75 | 0.23 | 0.025 | ( 0.052) | 0.002 | 0.022 |
| 58 | 4.83 | 0.27 | 0.028 | ( 0.051) | 0.003 | 0.026 |
| 59 | 4.92 | 0.27 | 0.028 | ( 0.051) | 0.003 | 0.026 |
| 60 | 5.00 | 0.27 | 0.028 | ( 0.051) | 0.003 | 0.026 |
| 61 | 5.08 | 0.20 | 0.021 | ( 0.051) | 0.002 | 0.019 |
| 62 | 5.17 | 0.20 | 0.021 | ( 0.051) | 0.002 | 0.019 |
| 63 | 5.25 | 0.20 | 0.021 | ( 0.050) | 0.002 | 0.019 |
| 64 | 5.33 | 0.23 | 0.025 | ( 0.050) | 0.002 | 0.022 |
| 65 | 5.42 | 0.23 | 0.025 | ( 0.050) | 0.002 | 0.022 |
| 66 | 5.50 | 0.23 | 0.025 | ( 0.050) | 0.002 | 0.022 |
| 67 | 5.58 | 0.27 | 0.028 | ( 0.049) | 0.003 | 0.026 |
| 68 | 5.67 | 0.27 | 0.028 | ( 0.049) | 0.003 | 0.026 |
| 69 | 5.75 | 0.27 | 0.028 | ( 0.049) | 0.003 | 0.026 |
| 70 | 5.83 | 0.27 | 0.028 | ( 0.049) | 0.003 | 0.026 |
| 71 | 5.92 | 0.27 | 0.028 | ( 0.049) | 0.003 | 0.026 |
| 72 | 6.00 | 0.27 | 0.028 | ( 0.048) | 0.003 | 0.026 |
| 73 | 6.08 | 0.30 | 0.032 | ( 0.048) | 0.003 | 0.029 |
| 74 | 6.17 | 0.30 | 0.032 | ( 0.048) | 0.003 | 0.029 |
| 75 | 6.25 | 0.30 | 0.032 | ( 0.048) | 0.003 | 0.029 |
| 76 | 6.33 | 0.30 | 0.032 | ( 0.048) | 0.003 | 0.029 |
| 77 | 6.42 | 0.30 | 0.032 | ( 0.047) | 0.003 | 0.029 |
| 78 | 6.50 | 0.30 | 0.032 | ( 0.047) | 0.003 | 0.029 |
| 79 | 6.58 | 0.33 | 0.036 | ( 0.047) | 0.004 | 0.032 |
| 80 | 6.67 | 0.33 | 0.036 | ( 0.047) | 0.004 | 0.032 |
| 81 | 6.75 | 0.33 | 0.036 | ( 0.046) | 0.004 | 0.032 |
| 82 | 6.83 | 0.33 | 0.036 | ( 0.046) | 0.004 | 0.032 |
| 83 | 6.92 | 0.33 | 0.036 | ( 0.046) | 0.004 | 0.032 |
| 84 | 7.00 | 0.33 | 0.036 | ( 0.046) | 0.004 | 0.032 |
| 85 | 7.08 | 0.33 | 0.036 | ( 0.046) | 0.004 | 0.032 |
| 86 | 7.17 | 0.33 | 0.036 | ( 0.045) | 0.004 | 0.032 |
| 87 | 7.25 | 0.33 | 0.036 | ( 0.045) | 0.004 | 0.032 |
| 88 | 7.33 | 0.37 | 0.039 | ( 0.045) | 0.004 | 0.035 |
| 89 | 7.42 | 0.37 | 0.039 | ( 0.045) | 0.004 | 0.035 |
| 90 | 7.50 | 0.37 | 0.039 | ( 0.045) | 0.004 | 0.035 |
| 91 | 7.58 | 0.40 | 0.043 | ( 0.044) | 0.004 | 0.038 |
| 92 | 7.67 | 0.40 | 0.043 | ( 0.044) | 0.004 | 0.038 |
| 93 | 7.75 | 0.40 | 0.043 | ( 0.044) | 0.004 | 0.038 |
| 94 | 7.83 | 0.43 | 0.046 | ( 0.044) | 0.005 | 0.042 |
| 95 | 7.92 | 0.43 | 0.046 | ( 0.044) | 0.005 | 0.042 |
| 96 | 8.00 | 0.43 | 0.046 | ( 0.043) | 0.005 | 0.042 |
| 97 | 8.08 | 0.50 | 0.053 | ( 0.043) | 0.005 | 0.048 |
| 98 | 8.17 | 0.50 | 0.053 | ( 0.043) | 0.005 | 0.048 |
| 99 | 8.25 | 0.50 | 0.053 | ( 0.043) | 0.005 | 0.048 |
| 100 | 8.33 | 0.50 | 0.053 | ( 0.043) | 0.005 | 0.048 |
| 101 | 8.42 | 0.50 | 0.053 | ( 0.042) | 0.005 | 0.048 |
| 102 | 8.50 | 0.50 | 0.053 | ( 0.042) | 0.005 | 0.048 |
| 103 | 8.58 | 0.53 | 0.057 | ( 0.042) | 0.006 | 0.051 |
| 104 | 8.67 | 0.53 | 0.057 | ( 0.042) | 0.006 | 0.051 |
| 105 | 8.75 | 0.53 | 0.057 | ( 0.042) | 0.006 | 0.051 |
| 106 | 8.83 | 0.57 | 0.060 | ( 0.041) | 0.006 | 0.054 |
| 107 | 8.92 | 0.57 | 0.060 | ( 0.041) | 0.006 | 0.054 |
| 108 | 9.00 | 0.57 | 0.060 | ( 0.041) | 0.006 | 0.054 |
| 109 | 9.08 | 0.63 | 0.068 | ( 0.041) | 0.007 | 0.061 |
| 110 | 9.17 | 0.63 | 0.068 | ( 0.041) | 0.007 | 0.061 |
| 111 | 9.25 | 0.63 | 0.068 | ( 0.040) | 0.007 | 0.061 |
| 112 | 9.33 | 0.67 | 0.071 | ( 0.040) | 0.007 | 0.064 |
| 113 | 9.42 | 0.67 | 0.071 | ( 0.040) | 0.007 | 0.064 |
| 114 | 9.50 | 0.67 | 0.071 | ( 0.040) | 0.007 | 0.064 |
| 115 | 9.58 | 0.70 | 0.075 | ( 0.040) | 0.007 | 0.067 |
| 116 | 9.67 | 0.70 | 0.075 | ( 0.039) | 0.007 | 0.067 |
| 117 | 9.75 | 0.70 | 0.075 | ( 0.039) | 0.007 | 0.067 |
| 118 | 9.83 | 0.73 | 0.078 | ( 0.039) | 0.008 | 0.070 |
| 119 | 9.92 | 0.73 | 0.078 | ( 0.039) | 0.008 | 0.070 |
| 120 | 10.00 | 0.73 | 0.078 | ( 0.039) | 0.008 | 0.070 |
| 121 | 10.08 | 0.50 | 0.053 | ( 0.039) | 0.005 | 0.048 |
| 122 | 10.17 | 0.50 | 0.053 | ( 0.038) | 0.005 | 0.048 |
| 123 | 10.25 | 0.50 | 0.053 | ( 0.038) | 0.005 | 0.048 |
| 124 | 10.33 | 0.50 | 0.053 | ( 0.038) | 0.005 | 0.048 |
| 125 | 10.42 | 0.50 | 0.053 | ( 0.038) | 0.005 | 0.048 |
| 126 | 10.50 | 0.50 | 0.053 | ( 0.038) | 0.005 | 0.048 |
| 127 | 10.58 | 0.67 | 0.071 | ( 0.037) | 0.007 | 0.064 |
| 128 | 10.67 | 0.67 | 0.071 | ( 0.037) | 0.007 | 0.064 |
| 129 | 10.75 | 0.67 | 0.071 | ( 0.037) | 0.007 | 0.064 |
| 130 | 10.83 | 0.67 | 0.071 | ( 0.037) | 0.007 | 0.064 |
| 131 | 10.92 | 0.67 | 0.071 | ( 0.037) | 0.007 | 0.064 |
| 132 | 11.00 | 0.67 | 0.071 | ( 0.036) | 0.007 | 0.064 |
| 133 | 11.08 | 0.63 | 0.068 | ( 0.036) | 0.007 | 0.061 |
| 134 | 11.17 | 0.63 | 0.068 | ( 0.036) | 0.007 | 0.061 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 135 | 11.25 | 0.63 | 0.068 | ( 0.036) | 0.007 | 0.061 |
| 136 | 11.33 | 0.63 | 0.068 | ( 0.036) | 0.007 | 0.061 |
| 137 | 11.42 | 0.63 | 0.068 | ( 0.036) | 0.007 | 0.061 |
| 138 | 11.50 | 0.63 | 0.068 | ( 0.035) | 0.007 | 0.061 |
| 139 | 11.58 | 0.57 | 0.060 | ( 0.035) | 0.006 | 0.054 |
| 140 | 11.67 | 0.57 | 0.060 | ( 0.035) | 0.006 | 0.054 |
| 141 | 11.75 | 0.57 | 0.060 | ( 0.035) | 0.006 | 0.054 |
| 142 | 11.83 | 0.60 | 0.064 | ( 0.035) | 0.006 | 0.058 |
| 143 | 11.92 | 0.60 | 0.064 | ( 0.035) | 0.006 | 0.058 |
| 144 | 12.00 | 0.60 | 0.064 | ( 0.034) | 0.006 | 0.058 |
| 145 | 12.08 | 0.83 | 0.089 | ( 0.034) | 0.009 | 0.080 |
| 146 | 12.17 | 0.83 | 0.089 | ( 0.034) | 0.009 | 0.080 |
| 147 | 12.25 | 0.83 | 0.089 | ( 0.034) | 0.009 | 0.080 |
| 148 | 12.33 | 0.87 | 0.092 | ( 0.034) | 0.009 | 0.083 |
| 149 | 12.42 | 0.87 | 0.092 | ( 0.034) | 0.009 | 0.083 |
| 150 | 12.50 | 0.87 | 0.092 | ( 0.033) | 0.009 | 0.083 |
| 151 | 12.58 | 0.93 | 0.100 | ( 0.033) | 0.010 | 0.090 |
| 152 | 12.67 | 0.93 | 0.100 | ( 0.033) | 0.010 | 0.090 |
| 153 | 12.75 | 0.93 | 0.100 | ( 0.033) | 0.010 | 0.090 |
| 154 | 12.83 | 0.97 | 0.103 | ( 0.033) | 0.010 | 0.093 |
| 155 | 12.92 | 0.97 | 0.103 | ( 0.033) | 0.010 | 0.093 |
| 156 | 13.00 | 0.97 | 0.103 | ( 0.032) | 0.010 | 0.093 |
| 157 | 13.08 | 1.13 | 0.121 | ( 0.032) | 0.012 | 0.109 |
| 158 | 13.17 | 1.13 | 0.121 | ( 0.032) | 0.012 | 0.109 |
| 159 | 13.25 | 1.13 | 0.121 | ( 0.032) | 0.012 | 0.109 |
| 160 | 13.33 | 1.13 | 0.121 | ( 0.032) | 0.012 | 0.109 |
| 161 | 13.42 | 1.13 | 0.121 | ( 0.032) | 0.012 | 0.109 |
| 162 | 13.50 | 1.13 | 0.121 | ( 0.031) | 0.012 | 0.109 |
| 163 | 13.58 | 0.77 | 0.082 | ( 0.031) | 0.008 | 0.074 |
| 164 | 13.67 | 0.77 | 0.082 | ( 0.031) | 0.008 | 0.074 |
| 165 | 13.75 | 0.77 | 0.082 | ( 0.031) | 0.008 | 0.074 |
| 166 | 13.83 | 0.77 | 0.082 | ( 0.031) | 0.008 | 0.074 |
| 167 | 13.92 | 0.77 | 0.082 | ( 0.031) | 0.008 | 0.074 |
| 168 | 14.00 | 0.77 | 0.082 | ( 0.030) | 0.008 | 0.074 |
| 169 | 14.08 | 0.90 | 0.096 | ( 0.030) | 0.010 | 0.086 |
| 170 | 14.17 | 0.90 | 0.096 | ( 0.030) | 0.010 | 0.086 |
| 171 | 14.25 | 0.90 | 0.096 | ( 0.030) | 0.010 | 0.086 |
| 172 | 14.33 | 0.87 | 0.092 | ( 0.030) | 0.009 | 0.083 |
| 173 | 14.42 | 0.87 | 0.092 | ( 0.030) | 0.009 | 0.083 |
| 174 | 14.50 | 0.87 | 0.092 | ( 0.030) | 0.009 | 0.083 |
| 175 | 14.58 | 0.87 | 0.092 | ( 0.029) | 0.009 | 0.083 |
| 176 | 14.67 | 0.87 | 0.092 | ( 0.029) | 0.009 | 0.083 |
| 177 | 14.75 | 0.87 | 0.092 | ( 0.029) | 0.009 | 0.083 |
| 178 | 14.83 | 0.83 | 0.089 | ( 0.029) | 0.009 | 0.080 |
| 179 | 14.92 | 0.83 | 0.089 | ( 0.029) | 0.009 | 0.080 |
| 180 | 15.00 | 0.83 | 0.089 | ( 0.029) | 0.009 | 0.080 |
| 181 | 15.08 | 0.80 | 0.085 | ( 0.028) | 0.009 | 0.077 |
| 182 | 15.17 | 0.80 | 0.085 | ( 0.028) | 0.009 | 0.077 |
| 183 | 15.25 | 0.80 | 0.085 | ( 0.028) | 0.009 | 0.077 |
| 184 | 15.33 | 0.77 | 0.082 | ( 0.028) | 0.008 | 0.074 |
| 185 | 15.42 | 0.77 | 0.082 | ( 0.028) | 0.008 | 0.074 |
| 186 | 15.50 | 0.77 | 0.082 | ( 0.028) | 0.008 | 0.074 |
| 187 | 15.58 | 0.63 | 0.068 | ( 0.028) | 0.007 | 0.061 |
| 188 | 15.67 | 0.63 | 0.068 | ( 0.027) | 0.007 | 0.061 |
| 189 | 15.75 | 0.63 | 0.068 | ( 0.027) | 0.007 | 0.061 |
| 190 | 15.83 | 0.63 | 0.068 | ( 0.027) | 0.007 | 0.061 |
| 191 | 15.92 | 0.63 | 0.068 | ( 0.027) | 0.007 | 0.061 |
| 192 | 16.00 | 0.63 | 0.068 | ( 0.027) | 0.007 | 0.061 |
| 193 | 16.08 | 0.13 | 0.014 | ( 0.027) | 0.001 | 0.013 |
| 194 | 16.17 | 0.13 | 0.014 | ( 0.027) | 0.001 | 0.013 |
| 195 | 16.25 | 0.13 | 0.014 | ( 0.026) | 0.001 | 0.013 |
| 196 | 16.33 | 0.13 | 0.014 | ( 0.026) | 0.001 | 0.013 |
| 197 | 16.42 | 0.13 | 0.014 | ( 0.026) | 0.001 | 0.013 |
| 198 | 16.50 | 0.13 | 0.014 | ( 0.026) | 0.001 | 0.013 |
| 199 | 16.58 | 0.10 | 0.011 | ( 0.026) | 0.001 | 0.010 |
| 200 | 16.67 | 0.10 | 0.011 | ( 0.026) | 0.001 | 0.010 |
| 201 | 16.75 | 0.10 | 0.011 | ( 0.026) | 0.001 | 0.010 |
| 202 | 16.83 | 0.10 | 0.011 | ( 0.026) | 0.001 | 0.010 |
| 203 | 16.92 | 0.10 | 0.011 | ( 0.025) | 0.001 | 0.010 |
| 204 | 17.00 | 0.10 | 0.011 | ( 0.025) | 0.001 | 0.010 |
| 205 | 17.08 | 0.17 | 0.018 | ( 0.025) | 0.002 | 0.016 |
| 206 | 17.17 | 0.17 | 0.018 | ( 0.025) | 0.002 | 0.016 |
| 207 | 17.25 | 0.17 | 0.018 | ( 0.025) | 0.002 | 0.016 |
| 208 | 17.33 | 0.17 | 0.018 | ( 0.025) | 0.002 | 0.016 |
| 209 | 17.42 | 0.17 | 0.018 | ( 0.025) | 0.002 | 0.016 |
| 210 | 17.50 | 0.17 | 0.018 | ( 0.025) | 0.002 | 0.016 |
| 211 | 17.58 | 0.17 | 0.018 | ( 0.024) | 0.002 | 0.016 |
| 212 | 17.67 | 0.17 | 0.018 | ( 0.024) | 0.002 | 0.016 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 213 | 17.75 | 0.17 | 0.018 | ( 0.024) | 0.002 | 0.016 |
| 214 | 17.83 | 0.13 | 0.014 | ( 0.024) | 0.001 | 0.013 |
| 215 | 17.92 | 0.13 | 0.014 | ( 0.024) | 0.001 | 0.013 |
| 216 | 18.00 | 0.13 | 0.014 | ( 0.024) | 0.001 | 0.013 |
| 217 | 18.08 | 0.13 | 0.014 | ( 0.024) | 0.001 | 0.013 |
| 218 | 18.17 | 0.13 | 0.014 | ( 0.024) | 0.001 | 0.013 |
| 219 | 18.25 | 0.13 | 0.014 | ( 0.023) | 0.001 | 0.013 |
| 220 | 18.33 | 0.13 | 0.014 | ( 0.023) | 0.001 | 0.013 |
| 221 | 18.42 | 0.13 | 0.014 | ( 0.023) | 0.001 | 0.013 |
| 222 | 18.50 | 0.13 | 0.014 | ( 0.023) | 0.001 | 0.013 |
| 223 | 18.58 | 0.10 | 0.011 | ( 0.023) | 0.001 | 0.010 |
| 224 | 18.67 | 0.10 | 0.011 | ( 0.023) | 0.001 | 0.010 |
| 225 | 18.75 | 0.10 | 0.011 | ( 0.023) | 0.001 | 0.010 |
| 226 | 18.83 | 0.07 | 0.007 | ( 0.023) | 0.001 | 0.006 |
| 227 | 18.92 | 0.07 | 0.007 | ( 0.023) | 0.001 | 0.006 |
| 228 | 19.00 | 0.07 | 0.007 | ( 0.022) | 0.001 | 0.006 |
| 229 | 19.08 | 0.10 | 0.011 | ( 0.022) | 0.001 | 0.010 |
| 230 | 19.17 | 0.10 | 0.011 | ( 0.022) | 0.001 | 0.010 |
| 231 | 19.25 | 0.10 | 0.011 | ( 0.022) | 0.001 | 0.010 |
| 232 | 19.33 | 0.13 | 0.014 | ( 0.022) | 0.001 | 0.013 |
| 233 | 19.42 | 0.13 | 0.014 | ( 0.022) | 0.001 | 0.013 |
| 234 | 19.50 | 0.13 | 0.014 | ( 0.022) | 0.001 | 0.013 |
| 235 | 19.58 | 0.10 | 0.011 | ( 0.022) | 0.001 | 0.010 |
| 236 | 19.67 | 0.10 | 0.011 | ( 0.022) | 0.001 | 0.010 |
| 237 | 19.75 | 0.10 | 0.011 | ( 0.022) | 0.001 | 0.010 |
| 238 | 19.83 | 0.07 | 0.007 | ( 0.021) | 0.001 | 0.006 |
| 239 | 19.92 | 0.07 | 0.007 | ( 0.021) | 0.001 | 0.006 |
| 240 | 20.00 | 0.07 | 0.007 | ( 0.021) | 0.001 | 0.006 |
| 241 | 20.08 | 0.10 | 0.011 | ( 0.021) | 0.001 | 0.010 |
| 242 | 20.17 | 0.10 | 0.011 | ( 0.021) | 0.001 | 0.010 |
| 243 | 20.25 | 0.10 | 0.011 | ( 0.021) | 0.001 | 0.010 |
| 244 | 20.33 | 0.10 | 0.011 | ( 0.021) | 0.001 | 0.010 |
| 245 | 20.42 | 0.10 | 0.011 | ( 0.021) | 0.001 | 0.010 |
| 246 | 20.50 | 0.10 | 0.011 | ( 0.021) | 0.001 | 0.010 |
| 247 | 20.58 | 0.10 | 0.011 | ( 0.021) | 0.001 | 0.010 |
| 248 | 20.67 | 0.10 | 0.011 | ( 0.021) | 0.001 | 0.010 |
| 249 | 20.75 | 0.10 | 0.011 | ( 0.020) | 0.001 | 0.010 |
| 250 | 20.83 | 0.07 | 0.007 | ( 0.020) | 0.001 | 0.006 |
| 251 | 20.92 | 0.07 | 0.007 | ( 0.020) | 0.001 | 0.006 |
| 252 | 21.00 | 0.07 | 0.007 | ( 0.020) | 0.001 | 0.006 |
| 253 | 21.08 | 0.10 | 0.011 | ( 0.020) | 0.001 | 0.010 |
| 254 | 21.17 | 0.10 | 0.011 | ( 0.020) | 0.001 | 0.010 |
| 255 | 21.25 | 0.10 | 0.011 | ( 0.020) | 0.001 | 0.010 |
| 256 | 21.33 | 0.07 | 0.007 | ( 0.020) | 0.001 | 0.006 |
| 257 | 21.42 | 0.07 | 0.007 | ( 0.020) | 0.001 | 0.006 |
| 258 | 21.50 | 0.07 | 0.007 | ( 0.020) | 0.001 | 0.006 |
| 259 | 21.58 | 0.10 | 0.011 | ( 0.020) | 0.001 | 0.010 |
| 260 | 21.67 | 0.10 | 0.011 | ( 0.020) | 0.001 | 0.010 |
| 261 | 21.75 | 0.10 | 0.011 | ( 0.020) | 0.001 | 0.010 |
| 262 | 21.83 | 0.07 | 0.007 | ( 0.019) | 0.001 | 0.006 |
| 263 | 21.92 | 0.07 | 0.007 | ( 0.019) | 0.001 | 0.006 |
| 264 | 22.00 | 0.07 | 0.007 | ( 0.019) | 0.001 | 0.006 |
| 265 | 22.08 | 0.10 | 0.011 | ( 0.019) | 0.001 | 0.010 |
| 266 | 22.17 | 0.10 | 0.011 | ( 0.019) | 0.001 | 0.010 |
| 267 | 22.25 | 0.10 | 0.011 | ( 0.019) | 0.001 | 0.010 |
| 268 | 22.33 | 0.07 | 0.007 | ( 0.019) | 0.001 | 0.006 |
| 269 | 22.42 | 0.07 | 0.007 | ( 0.019) | 0.001 | 0.006 |
| 270 | 22.50 | 0.07 | 0.007 | ( 0.019) | 0.001 | 0.006 |
| 271 | 22.58 | 0.07 | 0.007 | ( 0.019) | 0.001 | 0.006 |
| 272 | 22.67 | 0.07 | 0.007 | ( 0.019) | 0.001 | 0.006 |
| 273 | 22.75 | 0.07 | 0.007 | ( 0.019) | 0.001 | 0.006 |
| 274 | 22.83 | 0.07 | 0.007 | ( 0.019) | 0.001 | 0.006 |
| 275 | 22.92 | 0.07 | 0.007 | ( 0.019) | 0.001 | 0.006 |
| 276 | 23.00 | 0.07 | 0.007 | ( 0.019) | 0.001 | 0.006 |
| 277 | 23.08 | 0.07 | 0.007 | ( 0.019) | 0.001 | 0.006 |
| 278 | 23.17 | 0.07 | 0.007 | ( 0.019) | 0.001 | 0.006 |
| 279 | 23.25 | 0.07 | 0.007 | ( 0.019) | 0.001 | 0.006 |
| 280 | 23.33 | 0.07 | 0.007 | ( 0.019) | 0.001 | 0.006 |
| 281 | 23.42 | 0.07 | 0.007 | ( 0.018) | 0.001 | 0.006 |
| 282 | 23.50 | 0.07 | 0.007 | ( 0.018) | 0.001 | 0.006 |
| 283 | 23.58 | 0.07 | 0.007 | ( 0.018) | 0.001 | 0.006 |
| 284 | 23.67 | 0.07 | 0.007 | ( 0.018) | 0.001 | 0.006 |
| 285 | 23.75 | 0.07 | 0.007 | ( 0.018) | 0.001 | 0.006 |
| 286 | 23.83 | 0.07 | 0.007 | ( 0.018) | 0.001 | 0.006 |
| 287 | 23.92 | 0.07 | 0.007 | ( 0.018) | 0.001 | 0.006 |
| 288 | 24.00 | 0.07 | 0.007 | ( 0.018) | 0.001 | 0.006 |
| | | (Loss Rate Not Used) | | | | |
| | Sum = | 100.0 | | | Sum = | 9.6 |

Flood volume = Effective rainfall 0.80(In)
times area 100.3(Ac.)/[(In)/(Ft.)] = 6.7(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.743(Ac.Ft)
Total rainfall = 0.89(In)
Flood volume = 291316.1 Cubic Feet
Total soil loss = 32368.5 Cubic Feet

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Storm Event 2 Effective Rainfall = 1.684(In)

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.013 | ( 0.065) | 0.001 | 0.012 |
| 2 | 0.17 | 0.07 | 0.013 | ( 0.065) | 0.001 | 0.012 |
| 3 | 0.25 | 0.07 | 0.013 | ( 0.064) | 0.001 | 0.012 |
| 4 | 0.33 | 0.10 | 0.020 | ( 0.064) | 0.002 | 0.018 |
| 5 | 0.42 | 0.10 | 0.020 | ( 0.064) | 0.002 | 0.018 |
| 6 | 0.50 | 0.10 | 0.020 | ( 0.064) | 0.002 | 0.018 |
| 7 | 0.58 | 0.10 | 0.020 | ( 0.063) | 0.002 | 0.018 |
| 8 | 0.67 | 0.10 | 0.020 | ( 0.063) | 0.002 | 0.018 |
| 9 | 0.75 | 0.10 | 0.020 | ( 0.063) | 0.002 | 0.018 |
| 10 | 0.83 | 0.13 | 0.027 | ( 0.063) | 0.003 | 0.024 |
| 11 | 0.92 | 0.13 | 0.027 | ( 0.062) | 0.003 | 0.024 |
| 12 | 1.00 | 0.13 | 0.027 | ( 0.062) | 0.003 | 0.024 |
| 13 | 1.08 | 0.10 | 0.020 | ( 0.062) | 0.002 | 0.018 |
| 14 | 1.17 | 0.10 | 0.020 | ( 0.062) | 0.002 | 0.018 |
| 15 | 1.25 | 0.10 | 0.020 | ( 0.061) | 0.002 | 0.018 |
| 16 | 1.33 | 0.10 | 0.020 | ( 0.061) | 0.002 | 0.018 |
| 17 | 1.42 | 0.10 | 0.020 | ( 0.061) | 0.002 | 0.018 |
| 18 | 1.50 | 0.10 | 0.020 | ( 0.061) | 0.002 | 0.018 |
| 19 | 1.58 | 0.10 | 0.020 | ( 0.061) | 0.002 | 0.018 |
| 20 | 1.67 | 0.10 | 0.020 | ( 0.060) | 0.002 | 0.018 |
| 21 | 1.75 | 0.10 | 0.020 | ( 0.060) | 0.002 | 0.018 |
| 22 | 1.83 | 0.13 | 0.027 | ( 0.060) | 0.003 | 0.024 |
| 23 | 1.92 | 0.13 | 0.027 | ( 0.060) | 0.003 | 0.024 |
| 24 | 2.00 | 0.13 | 0.027 | ( 0.059) | 0.003 | 0.024 |
| 25 | 2.08 | 0.13 | 0.027 | ( 0.059) | 0.003 | 0.024 |
| 26 | 2.17 | 0.13 | 0.027 | ( 0.059) | 0.003 | 0.024 |
| 27 | 2.25 | 0.13 | 0.027 | ( 0.059) | 0.003 | 0.024 |
| 28 | 2.33 | 0.13 | 0.027 | ( 0.058) | 0.003 | 0.024 |
| 29 | 2.42 | 0.13 | 0.027 | ( 0.058) | 0.003 | 0.024 |
| 30 | 2.50 | 0.13 | 0.027 | ( 0.058) | 0.003 | 0.024 |
| 31 | 2.58 | 0.17 | 0.034 | ( 0.058) | 0.003 | 0.030 |
| 32 | 2.67 | 0.17 | 0.034 | ( 0.057) | 0.003 | 0.030 |
| 33 | 2.75 | 0.17 | 0.034 | ( 0.057) | 0.003 | 0.030 |
| 34 | 2.83 | 0.17 | 0.034 | ( 0.057) | 0.003 | 0.030 |
| 35 | 2.92 | 0.17 | 0.034 | ( 0.057) | 0.003 | 0.030 |
| 36 | 3.00 | 0.17 | 0.034 | ( 0.056) | 0.003 | 0.030 |
| 37 | 3.08 | 0.17 | 0.034 | ( 0.056) | 0.003 | 0.030 |
| 38 | 3.17 | 0.17 | 0.034 | ( 0.056) | 0.003 | 0.030 |
| 39 | 3.25 | 0.17 | 0.034 | ( 0.056) | 0.003 | 0.030 |
| 40 | 3.33 | 0.17 | 0.034 | ( 0.056) | 0.003 | 0.030 |
| 41 | 3.42 | 0.17 | 0.034 | ( 0.055) | 0.003 | 0.030 |
| 42 | 3.50 | 0.17 | 0.034 | ( 0.055) | 0.003 | 0.030 |
| 43 | 3.58 | 0.17 | 0.034 | ( 0.055) | 0.003 | 0.030 |
| 44 | 3.67 | 0.17 | 0.034 | ( 0.055) | 0.003 | 0.030 |
| 45 | 3.75 | 0.17 | 0.034 | ( 0.054) | 0.003 | 0.030 |
| 46 | 3.83 | 0.20 | 0.040 | ( 0.054) | 0.004 | 0.036 |
| 47 | 3.92 | 0.20 | 0.040 | ( 0.054) | 0.004 | 0.036 |
| 48 | 4.00 | 0.20 | 0.040 | ( 0.054) | 0.004 | 0.036 |
| 49 | 4.08 | 0.20 | 0.040 | ( 0.053) | 0.004 | 0.036 |
| 50 | 4.17 | 0.20 | 0.040 | ( 0.053) | 0.004 | 0.036 |
| 51 | 4.25 | 0.20 | 0.040 | ( 0.053) | 0.004 | 0.036 |
| 52 | 4.33 | 0.23 | 0.047 | ( 0.053) | 0.005 | 0.042 |
| 53 | 4.42 | 0.23 | 0.047 | ( 0.053) | 0.005 | 0.042 |
| 54 | 4.50 | 0.23 | 0.047 | ( 0.052) | 0.005 | 0.042 |
| 55 | 4.58 | 0.23 | 0.047 | ( 0.052) | 0.005 | 0.042 |
| 56 | 4.67 | 0.23 | 0.047 | ( 0.052) | 0.005 | 0.042 |
| 57 | 4.75 | 0.23 | 0.047 | ( 0.052) | 0.005 | 0.042 |
| 58 | 4.83 | 0.27 | 0.054 | ( 0.051) | 0.005 | 0.049 |
| 59 | 4.92 | 0.27 | 0.054 | ( 0.051) | 0.005 | 0.049 |
| 60 | 5.00 | 0.27 | 0.054 | ( 0.051) | 0.005 | 0.049 |
| 61 | 5.08 | 0.20 | 0.040 | ( 0.051) | 0.004 | 0.036 |
| 62 | 5.17 | 0.20 | 0.040 | ( 0.051) | 0.004 | 0.036 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 63 | 5.25 | 0.20 | 0.040 | ( 0.050) | 0.004 | 0.036 |
| 64 | 5.33 | 0.23 | 0.047 | ( 0.050) | 0.005 | 0.042 |
| 65 | 5.42 | 0.23 | 0.047 | ( 0.050) | 0.005 | 0.042 |
| 66 | 5.50 | 0.23 | 0.047 | ( 0.050) | 0.005 | 0.042 |
| 67 | 5.58 | 0.27 | 0.054 | ( 0.049) | 0.005 | 0.049 |
| 68 | 5.67 | 0.27 | 0.054 | ( 0.049) | 0.005 | 0.049 |
| 69 | 5.75 | 0.27 | 0.054 | ( 0.049) | 0.005 | 0.049 |
| 70 | 5.83 | 0.27 | 0.054 | ( 0.049) | 0.005 | 0.049 |
| 71 | 5.92 | 0.27 | 0.054 | ( 0.049) | 0.005 | 0.049 |
| 72 | 6.00 | 0.27 | 0.054 | ( 0.048) | 0.005 | 0.049 |
| 73 | 6.08 | 0.30 | 0.061 | ( 0.048) | 0.006 | 0.055 |
| 74 | 6.17 | 0.30 | 0.061 | ( 0.048) | 0.006 | 0.055 |
| 75 | 6.25 | 0.30 | 0.061 | ( 0.048) | 0.006 | 0.055 |
| 76 | 6.33 | 0.30 | 0.061 | ( 0.048) | 0.006 | 0.055 |
| 77 | 6.42 | 0.30 | 0.061 | ( 0.047) | 0.006 | 0.055 |
| 78 | 6.50 | 0.30 | 0.061 | ( 0.047) | 0.006 | 0.055 |
| 79 | 6.58 | 0.33 | 0.067 | ( 0.047) | 0.007 | 0.061 |
| 80 | 6.67 | 0.33 | 0.067 | ( 0.047) | 0.007 | 0.061 |
| 81 | 6.75 | 0.33 | 0.067 | ( 0.046) | 0.007 | 0.061 |
| 82 | 6.83 | 0.33 | 0.067 | ( 0.046) | 0.007 | 0.061 |
| 83 | 6.92 | 0.33 | 0.067 | ( 0.046) | 0.007 | 0.061 |
| 84 | 7.00 | 0.33 | 0.067 | ( 0.046) | 0.007 | 0.061 |
| 85 | 7.08 | 0.33 | 0.067 | ( 0.046) | 0.007 | 0.061 |
| 86 | 7.17 | 0.33 | 0.067 | ( 0.045) | 0.007 | 0.061 |
| 87 | 7.25 | 0.33 | 0.067 | ( 0.045) | 0.007 | 0.061 |
| 88 | 7.33 | 0.37 | 0.074 | ( 0.045) | 0.007 | 0.067 |
| 89 | 7.42 | 0.37 | 0.074 | ( 0.045) | 0.007 | 0.067 |
| 90 | 7.50 | 0.37 | 0.074 | ( 0.045) | 0.007 | 0.067 |
| 91 | 7.58 | 0.40 | 0.081 | ( 0.044) | 0.008 | 0.073 |
| 92 | 7.67 | 0.40 | 0.081 | ( 0.044) | 0.008 | 0.073 |
| 93 | 7.75 | 0.40 | 0.081 | ( 0.044) | 0.008 | 0.073 |
| 94 | 7.83 | 0.43 | 0.088 | ( 0.044) | 0.009 | 0.079 |
| 95 | 7.92 | 0.43 | 0.088 | ( 0.044) | 0.009 | 0.079 |
| 96 | 8.00 | 0.43 | 0.088 | ( 0.043) | 0.009 | 0.079 |
| 97 | 8.08 | 0.50 | 0.101 | ( 0.043) | 0.010 | 0.091 |
| 98 | 8.17 | 0.50 | 0.101 | ( 0.043) | 0.010 | 0.091 |
| 99 | 8.25 | 0.50 | 0.101 | ( 0.043) | 0.010 | 0.091 |
| 100 | 8.33 | 0.50 | 0.101 | ( 0.043) | 0.010 | 0.091 |
| 101 | 8.42 | 0.50 | 0.101 | ( 0.042) | 0.010 | 0.091 |
| 102 | 8.50 | 0.50 | 0.101 | ( 0.042) | 0.010 | 0.091 |
| 103 | 8.58 | 0.53 | 0.108 | ( 0.042) | 0.011 | 0.097 |
| 104 | 8.67 | 0.53 | 0.108 | ( 0.042) | 0.011 | 0.097 |
| 105 | 8.75 | 0.53 | 0.108 | ( 0.042) | 0.011 | 0.097 |
| 106 | 8.83 | 0.57 | 0.115 | ( 0.041) | 0.011 | 0.103 |
| 107 | 8.92 | 0.57 | 0.115 | ( 0.041) | 0.011 | 0.103 |
| 108 | 9.00 | 0.57 | 0.115 | ( 0.041) | 0.011 | 0.103 |
| 109 | 9.08 | 0.63 | 0.128 | ( 0.041) | 0.013 | 0.115 |
| 110 | 9.17 | 0.63 | 0.128 | ( 0.041) | 0.013 | 0.115 |
| 111 | 9.25 | 0.63 | 0.128 | ( 0.040) | 0.013 | 0.115 |
| 112 | 9.33 | 0.67 | 0.135 | ( 0.040) | 0.013 | 0.121 |
| 113 | 9.42 | 0.67 | 0.135 | ( 0.040) | 0.013 | 0.121 |
| 114 | 9.50 | 0.67 | 0.135 | ( 0.040) | 0.013 | 0.121 |
| 115 | 9.58 | 0.70 | 0.141 | ( 0.040) | 0.014 | 0.127 |
| 116 | 9.67 | 0.70 | 0.141 | ( 0.039) | 0.014 | 0.127 |
| 117 | 9.75 | 0.70 | 0.141 | ( 0.039) | 0.014 | 0.127 |
| 118 | 9.83 | 0.73 | 0.148 | ( 0.039) | 0.015 | 0.133 |
| 119 | 9.92 | 0.73 | 0.148 | ( 0.039) | 0.015 | 0.133 |
| 120 | 10.00 | 0.73 | 0.148 | ( 0.039) | 0.015 | 0.133 |
| 121 | 10.08 | 0.50 | 0.101 | ( 0.039) | 0.010 | 0.091 |
| 122 | 10.17 | 0.50 | 0.101 | ( 0.038) | 0.010 | 0.091 |
| 123 | 10.25 | 0.50 | 0.101 | ( 0.038) | 0.010 | 0.091 |
| 124 | 10.33 | 0.50 | 0.101 | ( 0.038) | 0.010 | 0.091 |
| 125 | 10.42 | 0.50 | 0.101 | ( 0.038) | 0.010 | 0.091 |
| 126 | 10.50 | 0.50 | 0.101 | ( 0.038) | 0.010 | 0.091 |
| 127 | 10.58 | 0.67 | 0.135 | ( 0.037) | 0.013 | 0.121 |
| 128 | 10.67 | 0.67 | 0.135 | ( 0.037) | 0.013 | 0.121 |
| 129 | 10.75 | 0.67 | 0.135 | ( 0.037) | 0.013 | 0.121 |
| 130 | 10.83 | 0.67 | 0.135 | ( 0.037) | 0.013 | 0.121 |
| 131 | 10.92 | 0.67 | 0.135 | ( 0.037) | 0.013 | 0.121 |
| 132 | 11.00 | 0.67 | 0.135 | ( 0.036) | 0.013 | 0.121 |
| 133 | 11.08 | 0.63 | 0.128 | ( 0.036) | 0.013 | 0.115 |
| 134 | 11.17 | 0.63 | 0.128 | ( 0.036) | 0.013 | 0.115 |
| 135 | 11.25 | 0.63 | 0.128 | ( 0.036) | 0.013 | 0.115 |
| 136 | 11.33 | 0.63 | 0.128 | ( 0.036) | 0.013 | 0.115 |
| 137 | 11.42 | 0.63 | 0.128 | ( 0.036) | 0.013 | 0.115 |
| 138 | 11.50 | 0.63 | 0.128 | ( 0.035) | 0.013 | 0.115 |
| 139 | 11.58 | 0.57 | 0.115 | ( 0.035) | 0.011 | 0.103 |
| 140 | 11.67 | 0.57 | 0.115 | ( 0.035) | 0.011 | 0.103 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 141 | 11.75 | 0.57 | 0.115 | ( 0.035) | 0.011 | 0.103 |
| 142 | 11.83 | 0.60 | 0.121 | ( 0.035) | 0.012 | 0.109 |
| 143 | 11.92 | 0.60 | 0.121 | ( 0.035) | 0.012 | 0.109 |
| 144 | 12.00 | 0.60 | 0.121 | ( 0.034) | 0.012 | 0.109 |
| 145 | 12.08 | 0.83 | 0.168 | ( 0.034) | 0.017 | 0.152 |
| 146 | 12.17 | 0.83 | 0.168 | ( 0.034) | 0.017 | 0.152 |
| 147 | 12.25 | 0.83 | 0.168 | ( 0.034) | 0.017 | 0.152 |
| 148 | 12.33 | 0.87 | 0.175 | ( 0.034) | 0.018 | 0.158 |
| 149 | 12.42 | 0.87 | 0.175 | ( 0.034) | 0.018 | 0.158 |
| 150 | 12.50 | 0.87 | 0.175 | ( 0.033) | 0.018 | 0.158 |
| 151 | 12.58 | 0.93 | 0.189 | ( 0.033) | 0.019 | 0.170 |
| 152 | 12.67 | 0.93 | 0.189 | ( 0.033) | 0.019 | 0.170 |
| 153 | 12.75 | 0.93 | 0.189 | ( 0.033) | 0.019 | 0.170 |
| 154 | 12.83 | 0.97 | 0.195 | ( 0.033) | 0.020 | 0.176 |
| 155 | 12.92 | 0.97 | 0.195 | ( 0.033) | 0.020 | 0.176 |
| 156 | 13.00 | 0.97 | 0.195 | ( 0.032) | 0.020 | 0.176 |
| 157 | 13.08 | 1.13 | 0.229 | ( 0.032) | 0.023 | 0.206 |
| 158 | 13.17 | 1.13 | 0.229 | ( 0.032) | 0.023 | 0.206 |
| 159 | 13.25 | 1.13 | 0.229 | ( 0.032) | 0.023 | 0.206 |
| 160 | 13.33 | 1.13 | 0.229 | ( 0.032) | 0.023 | 0.206 |
| 161 | 13.42 | 1.13 | 0.229 | ( 0.032) | 0.023 | 0.206 |
| 162 | 13.50 | 1.13 | 0.229 | ( 0.031) | 0.023 | 0.206 |
| 163 | 13.58 | 0.77 | 0.155 | ( 0.031) | 0.015 | 0.139 |
| 164 | 13.67 | 0.77 | 0.155 | ( 0.031) | 0.015 | 0.139 |
| 165 | 13.75 | 0.77 | 0.155 | ( 0.031) | 0.015 | 0.139 |
| 166 | 13.83 | 0.77 | 0.155 | ( 0.031) | 0.015 | 0.139 |
| 167 | 13.92 | 0.77 | 0.155 | ( 0.031) | 0.015 | 0.139 |
| 168 | 14.00 | 0.77 | 0.155 | ( 0.030) | 0.015 | 0.139 |
| 169 | 14.08 | 0.90 | 0.182 | ( 0.030) | 0.018 | 0.164 |
| 170 | 14.17 | 0.90 | 0.182 | ( 0.030) | 0.018 | 0.164 |
| 171 | 14.25 | 0.90 | 0.182 | ( 0.030) | 0.018 | 0.164 |
| 172 | 14.33 | 0.87 | 0.175 | ( 0.030) | 0.018 | 0.158 |
| 173 | 14.42 | 0.87 | 0.175 | ( 0.030) | 0.018 | 0.158 |
| 174 | 14.50 | 0.87 | 0.175 | ( 0.030) | 0.018 | 0.158 |
| 175 | 14.58 | 0.87 | 0.175 | ( 0.029) | 0.018 | 0.158 |
| 176 | 14.67 | 0.87 | 0.175 | ( 0.029) | 0.018 | 0.158 |
| 177 | 14.75 | 0.87 | 0.175 | ( 0.029) | 0.018 | 0.158 |
| 178 | 14.83 | 0.83 | 0.168 | ( 0.029) | 0.017 | 0.152 |
| 179 | 14.92 | 0.83 | 0.168 | ( 0.029) | 0.017 | 0.152 |
| 180 | 15.00 | 0.83 | 0.168 | ( 0.029) | 0.017 | 0.152 |
| 181 | 15.08 | 0.80 | 0.162 | ( 0.028) | 0.016 | 0.146 |
| 182 | 15.17 | 0.80 | 0.162 | ( 0.028) | 0.016 | 0.146 |
| 183 | 15.25 | 0.80 | 0.162 | ( 0.028) | 0.016 | 0.146 |
| 184 | 15.33 | 0.77 | 0.155 | ( 0.028) | 0.015 | 0.139 |
| 185 | 15.42 | 0.77 | 0.155 | ( 0.028) | 0.015 | 0.139 |
| 186 | 15.50 | 0.77 | 0.155 | ( 0.028) | 0.015 | 0.139 |
| 187 | 15.58 | 0.63 | 0.128 | ( 0.028) | 0.013 | 0.115 |
| 188 | 15.67 | 0.63 | 0.128 | ( 0.027) | 0.013 | 0.115 |
| 189 | 15.75 | 0.63 | 0.128 | ( 0.027) | 0.013 | 0.115 |
| 190 | 15.83 | 0.63 | 0.128 | ( 0.027) | 0.013 | 0.115 |
| 191 | 15.92 | 0.63 | 0.128 | ( 0.027) | 0.013 | 0.115 |
| 192 | 16.00 | 0.63 | 0.128 | ( 0.027) | 0.013 | 0.115 |
| 193 | 16.08 | 0.13 | 0.027 | ( 0.027) | 0.003 | 0.024 |
| 194 | 16.17 | 0.13 | 0.027 | ( 0.027) | 0.003 | 0.024 |
| 195 | 16.25 | 0.13 | 0.027 | ( 0.026) | 0.003 | 0.024 |
| 196 | 16.33 | 0.13 | 0.027 | ( 0.026) | 0.003 | 0.024 |
| 197 | 16.42 | 0.13 | 0.027 | ( 0.026) | 0.003 | 0.024 |
| 198 | 16.50 | 0.13 | 0.027 | ( 0.026) | 0.003 | 0.024 |
| 199 | 16.58 | 0.10 | 0.020 | ( 0.026) | 0.002 | 0.018 |
| 200 | 16.67 | 0.10 | 0.020 | ( 0.026) | 0.002 | 0.018 |
| 201 | 16.75 | 0.10 | 0.020 | ( 0.026) | 0.002 | 0.018 |
| 202 | 16.83 | 0.10 | 0.020 | ( 0.026) | 0.002 | 0.018 |
| 203 | 16.92 | 0.10 | 0.020 | ( 0.025) | 0.002 | 0.018 |
| 204 | 17.00 | 0.10 | 0.020 | ( 0.025) | 0.002 | 0.018 |
| 205 | 17.08 | 0.17 | 0.034 | ( 0.025) | 0.003 | 0.030 |
| 206 | 17.17 | 0.17 | 0.034 | ( 0.025) | 0.003 | 0.030 |
| 207 | 17.25 | 0.17 | 0.034 | ( 0.025) | 0.003 | 0.030 |
| 208 | 17.33 | 0.17 | 0.034 | ( 0.025) | 0.003 | 0.030 |
| 209 | 17.42 | 0.17 | 0.034 | ( 0.025) | 0.003 | 0.030 |
| 210 | 17.50 | 0.17 | 0.034 | ( 0.025) | 0.003 | 0.030 |
| 211 | 17.58 | 0.17 | 0.034 | ( 0.024) | 0.003 | 0.030 |
| 212 | 17.67 | 0.17 | 0.034 | ( 0.024) | 0.003 | 0.030 |
| 213 | 17.75 | 0.17 | 0.034 | ( 0.024) | 0.003 | 0.030 |
| 214 | 17.83 | 0.13 | 0.027 | ( 0.024) | 0.003 | 0.024 |
| 215 | 17.92 | 0.13 | 0.027 | ( 0.024) | 0.003 | 0.024 |
| 216 | 18.00 | 0.13 | 0.027 | ( 0.024) | 0.003 | 0.024 |
| 217 | 18.08 | 0.13 | 0.027 | ( 0.024) | 0.003 | 0.024 |
| 218 | 18.17 | 0.13 | 0.027 | ( 0.024) | 0.003 | 0.024 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 219 | 18.25 | 0.13 | 0.027 | ( 0.023) | 0.003 | 0.024 |
| 220 | 18.33 | 0.13 | 0.027 | ( 0.023) | 0.003 | 0.024 |
| 221 | 18.42 | 0.13 | 0.027 | ( 0.023) | 0.003 | 0.024 |
| 222 | 18.50 | 0.13 | 0.027 | ( 0.023) | 0.003 | 0.024 |
| 223 | 18.58 | 0.10 | 0.020 | ( 0.023) | 0.002 | 0.018 |
| 224 | 18.67 | 0.10 | 0.020 | ( 0.023) | 0.002 | 0.018 |
| 225 | 18.75 | 0.10 | 0.020 | ( 0.023) | 0.002 | 0.018 |
| 226 | 18.83 | 0.07 | 0.013 | ( 0.023) | 0.001 | 0.012 |
| 227 | 18.92 | 0.07 | 0.013 | ( 0.023) | 0.001 | 0.012 |
| 228 | 19.00 | 0.07 | 0.013 | ( 0.022) | 0.001 | 0.012 |
| 229 | 19.08 | 0.10 | 0.020 | ( 0.022) | 0.002 | 0.018 |
| 230 | 19.17 | 0.10 | 0.020 | ( 0.022) | 0.002 | 0.018 |
| 231 | 19.25 | 0.10 | 0.020 | ( 0.022) | 0.002 | 0.018 |
| 232 | 19.33 | 0.13 | 0.027 | ( 0.022) | 0.003 | 0.024 |
| 233 | 19.42 | 0.13 | 0.027 | ( 0.022) | 0.003 | 0.024 |
| 234 | 19.50 | 0.13 | 0.027 | ( 0.022) | 0.003 | 0.024 |
| 235 | 19.58 | 0.10 | 0.020 | ( 0.022) | 0.002 | 0.018 |
| 236 | 19.67 | 0.10 | 0.020 | ( 0.022) | 0.002 | 0.018 |
| 237 | 19.75 | 0.10 | 0.020 | ( 0.022) | 0.002 | 0.018 |
| 238 | 19.83 | 0.07 | 0.013 | ( 0.021) | 0.001 | 0.012 |
| 239 | 19.92 | 0.07 | 0.013 | ( 0.021) | 0.001 | 0.012 |
| 240 | 20.00 | 0.07 | 0.013 | ( 0.021) | 0.001 | 0.012 |
| 241 | 20.08 | 0.10 | 0.020 | ( 0.021) | 0.002 | 0.018 |
| 242 | 20.17 | 0.10 | 0.020 | ( 0.021) | 0.002 | 0.018 |
| 243 | 20.25 | 0.10 | 0.020 | ( 0.021) | 0.002 | 0.018 |
| 244 | 20.33 | 0.10 | 0.020 | ( 0.021) | 0.002 | 0.018 |
| 245 | 20.42 | 0.10 | 0.020 | ( 0.021) | 0.002 | 0.018 |
| 246 | 20.50 | 0.10 | 0.020 | ( 0.021) | 0.002 | 0.018 |
| 247 | 20.58 | 0.10 | 0.020 | ( 0.021) | 0.002 | 0.018 |
| 248 | 20.67 | 0.10 | 0.020 | ( 0.021) | 0.002 | 0.018 |
| 249 | 20.75 | 0.10 | 0.020 | ( 0.020) | 0.002 | 0.018 |
| 250 | 20.83 | 0.07 | 0.013 | ( 0.020) | 0.001 | 0.012 |
| 251 | 20.92 | 0.07 | 0.013 | ( 0.020) | 0.001 | 0.012 |
| 252 | 21.00 | 0.07 | 0.013 | ( 0.020) | 0.001 | 0.012 |
| 253 | 21.08 | 0.10 | 0.020 | ( 0.020) | 0.002 | 0.018 |
| 254 | 21.17 | 0.10 | 0.020 | ( 0.020) | 0.002 | 0.018 |
| 255 | 21.25 | 0.10 | 0.020 | ( 0.020) | 0.002 | 0.018 |
| 256 | 21.33 | 0.07 | 0.013 | ( 0.020) | 0.001 | 0.012 |
| 257 | 21.42 | 0.07 | 0.013 | ( 0.020) | 0.001 | 0.012 |
| 258 | 21.50 | 0.07 | 0.013 | ( 0.020) | 0.001 | 0.012 |
| 259 | 21.58 | 0.10 | 0.020 | ( 0.020) | 0.002 | 0.018 |
| 260 | 21.67 | 0.10 | 0.020 | ( 0.020) | 0.002 | 0.018 |
| 261 | 21.75 | 0.10 | 0.020 | ( 0.020) | 0.002 | 0.018 |
| 262 | 21.83 | 0.07 | 0.013 | ( 0.019) | 0.001 | 0.012 |
| 263 | 21.92 | 0.07 | 0.013 | ( 0.019) | 0.001 | 0.012 |
| 264 | 22.00 | 0.07 | 0.013 | ( 0.019) | 0.001 | 0.012 |
| 265 | 22.08 | 0.10 | 0.020 | ( 0.019) | 0.002 | 0.018 |
| 266 | 22.17 | 0.10 | 0.020 | ( 0.019) | 0.002 | 0.018 |
| 267 | 22.25 | 0.10 | 0.020 | ( 0.019) | 0.002 | 0.018 |
| 268 | 22.33 | 0.07 | 0.013 | ( 0.019) | 0.001 | 0.012 |
| 269 | 22.42 | 0.07 | 0.013 | ( 0.019) | 0.001 | 0.012 |
| 270 | 22.50 | 0.07 | 0.013 | ( 0.019) | 0.001 | 0.012 |
| 271 | 22.58 | 0.07 | 0.013 | ( 0.019) | 0.001 | 0.012 |
| 272 | 22.67 | 0.07 | 0.013 | ( 0.019) | 0.001 | 0.012 |
| 273 | 22.75 | 0.07 | 0.013 | ( 0.019) | 0.001 | 0.012 |
| 274 | 22.83 | 0.07 | 0.013 | ( 0.019) | 0.001 | 0.012 |
| 275 | 22.92 | 0.07 | 0.013 | ( 0.019) | 0.001 | 0.012 |
| 276 | 23.00 | 0.07 | 0.013 | ( 0.019) | 0.001 | 0.012 |
| 277 | 23.08 | 0.07 | 0.013 | ( 0.019) | 0.001 | 0.012 |
| 278 | 23.17 | 0.07 | 0.013 | ( 0.019) | 0.001 | 0.012 |
| 279 | 23.25 | 0.07 | 0.013 | ( 0.019) | 0.001 | 0.012 |
| 280 | 23.33 | 0.07 | 0.013 | ( 0.019) | 0.001 | 0.012 |
| 281 | 23.42 | 0.07 | 0.013 | ( 0.018) | 0.001 | 0.012 |
| 282 | 23.50 | 0.07 | 0.013 | ( 0.018) | 0.001 | 0.012 |
| 283 | 23.58 | 0.07 | 0.013 | ( 0.018) | 0.001 | 0.012 |
| 284 | 23.67 | 0.07 | 0.013 | ( 0.018) | 0.001 | 0.012 |
| 285 | 23.75 | 0.07 | 0.013 | ( 0.018) | 0.001 | 0.012 |
| 286 | 23.83 | 0.07 | 0.013 | ( 0.018) | 0.001 | 0.012 |
| 287 | 23.92 | 0.07 | 0.013 | ( 0.018) | 0.001 | 0.012 |
| 288 | 24.00 | 0.07 | 0.013 | ( 0.018) | 0.001 | 0.012 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 18.2

Flood volume = Effective rainfall 1.52(In)
times area 100.3(Ac.)/[(In)/(Ft.)] = 12.7(Ac.Ft)
Total soil loss = 0.17(In)
Total soil loss = 1.408(Ac.Ft)
Total rainfall = 1.68(In)
Flood volume = 551967.3 Cubic Feet

Total soil loss = 61329.7 Cubic Feet

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Storm Event 1 Effective Rainfall = 4.679(In)

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.037 | ( 0.065) | 0.004 | 0.034 |
| 2 | 0.17 | 0.07 | 0.037 | ( 0.065) | 0.004 | 0.034 |
| 3 | 0.25 | 0.07 | 0.037 | ( 0.064) | 0.004 | 0.034 |
| 4 | 0.33 | 0.10 | 0.056 | ( 0.064) | 0.006 | 0.051 |
| 5 | 0.42 | 0.10 | 0.056 | ( 0.064) | 0.006 | 0.051 |
| 6 | 0.50 | 0.10 | 0.056 | ( 0.064) | 0.006 | 0.051 |
| 7 | 0.58 | 0.10 | 0.056 | ( 0.063) | 0.006 | 0.051 |
| 8 | 0.67 | 0.10 | 0.056 | ( 0.063) | 0.006 | 0.051 |
| 9 | 0.75 | 0.10 | 0.056 | ( 0.063) | 0.006 | 0.051 |
| 10 | 0.83 | 0.13 | 0.075 | ( 0.063) | 0.007 | 0.067 |
| 11 | 0.92 | 0.13 | 0.075 | ( 0.062) | 0.007 | 0.067 |
| 12 | 1.00 | 0.13 | 0.075 | ( 0.062) | 0.007 | 0.067 |
| 13 | 1.08 | 0.10 | 0.056 | ( 0.062) | 0.006 | 0.051 |
| 14 | 1.17 | 0.10 | 0.056 | ( 0.062) | 0.006 | 0.051 |
| 15 | 1.25 | 0.10 | 0.056 | ( 0.061) | 0.006 | 0.051 |
| 16 | 1.33 | 0.10 | 0.056 | ( 0.061) | 0.006 | 0.051 |
| 17 | 1.42 | 0.10 | 0.056 | ( 0.061) | 0.006 | 0.051 |
| 18 | 1.50 | 0.10 | 0.056 | ( 0.061) | 0.006 | 0.051 |
| 19 | 1.58 | 0.10 | 0.056 | ( 0.061) | 0.006 | 0.051 |
| 20 | 1.67 | 0.10 | 0.056 | ( 0.060) | 0.006 | 0.051 |
| 21 | 1.75 | 0.10 | 0.056 | ( 0.060) | 0.006 | 0.051 |
| 22 | 1.83 | 0.13 | 0.075 | ( 0.060) | 0.007 | 0.067 |
| 23 | 1.92 | 0.13 | 0.075 | ( 0.060) | 0.007 | 0.067 |
| 24 | 2.00 | 0.13 | 0.075 | ( 0.059) | 0.007 | 0.067 |
| 25 | 2.08 | 0.13 | 0.075 | ( 0.059) | 0.007 | 0.067 |
| 26 | 2.17 | 0.13 | 0.075 | ( 0.059) | 0.007 | 0.067 |
| 27 | 2.25 | 0.13 | 0.075 | ( 0.059) | 0.007 | 0.067 |
| 28 | 2.33 | 0.13 | 0.075 | ( 0.058) | 0.007 | 0.067 |
| 29 | 2.42 | 0.13 | 0.075 | ( 0.058) | 0.007 | 0.067 |
| 30 | 2.50 | 0.13 | 0.075 | ( 0.058) | 0.007 | 0.067 |
| 31 | 2.58 | 0.17 | 0.094 | ( 0.058) | 0.009 | 0.084 |
| 32 | 2.67 | 0.17 | 0.094 | ( 0.057) | 0.009 | 0.084 |
| 33 | 2.75 | 0.17 | 0.094 | ( 0.057) | 0.009 | 0.084 |
| 34 | 2.83 | 0.17 | 0.094 | ( 0.057) | 0.009 | 0.084 |
| 35 | 2.92 | 0.17 | 0.094 | ( 0.057) | 0.009 | 0.084 |
| 36 | 3.00 | 0.17 | 0.094 | ( 0.056) | 0.009 | 0.084 |
| 37 | 3.08 | 0.17 | 0.094 | ( 0.056) | 0.009 | 0.084 |
| 38 | 3.17 | 0.17 | 0.094 | ( 0.056) | 0.009 | 0.084 |
| 39 | 3.25 | 0.17 | 0.094 | ( 0.056) | 0.009 | 0.084 |
| 40 | 3.33 | 0.17 | 0.094 | ( 0.056) | 0.009 | 0.084 |
| 41 | 3.42 | 0.17 | 0.094 | ( 0.055) | 0.009 | 0.084 |
| 42 | 3.50 | 0.17 | 0.094 | ( 0.055) | 0.009 | 0.084 |
| 43 | 3.58 | 0.17 | 0.094 | ( 0.055) | 0.009 | 0.084 |
| 44 | 3.67 | 0.17 | 0.094 | ( 0.055) | 0.009 | 0.084 |
| 45 | 3.75 | 0.17 | 0.094 | ( 0.054) | 0.009 | 0.084 |
| 46 | 3.83 | 0.20 | 0.112 | ( 0.054) | 0.011 | 0.101 |
| 47 | 3.92 | 0.20 | 0.112 | ( 0.054) | 0.011 | 0.101 |
| 48 | 4.00 | 0.20 | 0.112 | ( 0.054) | 0.011 | 0.101 |
| 49 | 4.08 | 0.20 | 0.112 | ( 0.053) | 0.011 | 0.101 |
| 50 | 4.17 | 0.20 | 0.112 | ( 0.053) | 0.011 | 0.101 |
| 51 | 4.25 | 0.20 | 0.112 | ( 0.053) | 0.011 | 0.101 |
| 52 | 4.33 | 0.23 | 0.131 | ( 0.053) | 0.013 | 0.118 |
| 53 | 4.42 | 0.23 | 0.131 | ( 0.053) | 0.013 | 0.118 |
| 54 | 4.50 | 0.23 | 0.131 | ( 0.052) | 0.013 | 0.118 |
| 55 | 4.58 | 0.23 | 0.131 | ( 0.052) | 0.013 | 0.118 |
| 56 | 4.67 | 0.23 | 0.131 | ( 0.052) | 0.013 | 0.118 |
| 57 | 4.75 | 0.23 | 0.131 | ( 0.052) | 0.013 | 0.118 |
| 58 | 4.83 | 0.27 | 0.150 | ( 0.051) | 0.015 | 0.135 |
| 59 | 4.92 | 0.27 | 0.150 | ( 0.051) | 0.015 | 0.135 |
| 60 | 5.00 | 0.27 | 0.150 | ( 0.051) | 0.015 | 0.135 |
| 61 | 5.08 | 0.20 | 0.112 | ( 0.051) | 0.011 | 0.101 |
| 62 | 5.17 | 0.20 | 0.112 | ( 0.051) | 0.011 | 0.101 |
| 63 | 5.25 | 0.20 | 0.112 | ( 0.050) | 0.011 | 0.101 |
| 64 | 5.33 | 0.23 | 0.131 | ( 0.050) | 0.013 | 0.118 |
| 65 | 5.42 | 0.23 | 0.131 | ( 0.050) | 0.013 | 0.118 |
| 66 | 5.50 | 0.23 | 0.131 | ( 0.050) | 0.013 | 0.118 |
| 67 | 5.58 | 0.27 | 0.150 | ( 0.049) | 0.015 | 0.135 |
| 68 | 5.67 | 0.27 | 0.150 | ( 0.049) | 0.015 | 0.135 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 69 | 5.75 | 0.27 | 0.150 | ( 0.049) | 0.015 | 0.135 |
| 70 | 5.83 | 0.27 | 0.150 | ( 0.049) | 0.015 | 0.135 |
| 71 | 5.92 | 0.27 | 0.150 | ( 0.049) | 0.015 | 0.135 |
| 72 | 6.00 | 0.27 | 0.150 | ( 0.048) | 0.015 | 0.135 |
| 73 | 6.08 | 0.30 | 0.168 | ( 0.048) | 0.017 | 0.152 |
| 74 | 6.17 | 0.30 | 0.168 | ( 0.048) | 0.017 | 0.152 |
| 75 | 6.25 | 0.30 | 0.168 | ( 0.048) | 0.017 | 0.152 |
| 76 | 6.33 | 0.30 | 0.168 | ( 0.048) | 0.017 | 0.152 |
| 77 | 6.42 | 0.30 | 0.168 | ( 0.047) | 0.017 | 0.152 |
| 78 | 6.50 | 0.30 | 0.168 | ( 0.047) | 0.017 | 0.152 |
| 79 | 6.58 | 0.33 | 0.187 | ( 0.047) | 0.019 | 0.168 |
| 80 | 6.67 | 0.33 | 0.187 | ( 0.047) | 0.019 | 0.168 |
| 81 | 6.75 | 0.33 | 0.187 | ( 0.046) | 0.019 | 0.168 |
| 82 | 6.83 | 0.33 | 0.187 | ( 0.046) | 0.019 | 0.168 |
| 83 | 6.92 | 0.33 | 0.187 | ( 0.046) | 0.019 | 0.168 |
| 84 | 7.00 | 0.33 | 0.187 | ( 0.046) | 0.019 | 0.168 |
| 85 | 7.08 | 0.33 | 0.187 | ( 0.046) | 0.019 | 0.168 |
| 86 | 7.17 | 0.33 | 0.187 | ( 0.045) | 0.019 | 0.168 |
| 87 | 7.25 | 0.33 | 0.187 | ( 0.045) | 0.019 | 0.168 |
| 88 | 7.33 | 0.37 | 0.206 | ( 0.045) | 0.021 | 0.185 |
| 89 | 7.42 | 0.37 | 0.206 | ( 0.045) | 0.021 | 0.185 |
| 90 | 7.50 | 0.37 | 0.206 | ( 0.045) | 0.021 | 0.185 |
| 91 | 7.58 | 0.40 | 0.225 | ( 0.044) | 0.022 | 0.202 |
| 92 | 7.67 | 0.40 | 0.225 | ( 0.044) | 0.022 | 0.202 |
| 93 | 7.75 | 0.40 | 0.225 | ( 0.044) | 0.022 | 0.202 |
| 94 | 7.83 | 0.43 | 0.243 | ( 0.044) | 0.024 | 0.219 |
| 95 | 7.92 | 0.43 | 0.243 | ( 0.044) | 0.024 | 0.219 |
| 96 | 8.00 | 0.43 | 0.243 | ( 0.043) | 0.024 | 0.219 |
| 97 | 8.08 | 0.50 | 0.281 | ( 0.043) | 0.028 | 0.253 |
| 98 | 8.17 | 0.50 | 0.281 | ( 0.043) | 0.028 | 0.253 |
| 99 | 8.25 | 0.50 | 0.281 | ( 0.043) | 0.028 | 0.253 |
| 100 | 8.33 | 0.50 | 0.281 | ( 0.043) | 0.028 | 0.253 |
| 101 | 8.42 | 0.50 | 0.281 | ( 0.042) | 0.028 | 0.253 |
| 102 | 8.50 | 0.50 | 0.281 | ( 0.042) | 0.028 | 0.253 |
| 103 | 8.58 | 0.53 | 0.299 | ( 0.042) | 0.030 | 0.270 |
| 104 | 8.67 | 0.53 | 0.299 | ( 0.042) | 0.030 | 0.270 |
| 105 | 8.75 | 0.53 | 0.299 | ( 0.042) | 0.030 | 0.270 |
| 106 | 8.83 | 0.57 | 0.318 | ( 0.041) | 0.032 | 0.286 |
| 107 | 8.92 | 0.57 | 0.318 | ( 0.041) | 0.032 | 0.286 |
| 108 | 9.00 | 0.57 | 0.318 | ( 0.041) | 0.032 | 0.286 |
| 109 | 9.08 | 0.63 | 0.356 | ( 0.041) | 0.036 | 0.320 |
| 110 | 9.17 | 0.63 | 0.356 | ( 0.041) | 0.036 | 0.320 |
| 111 | 9.25 | 0.63 | 0.356 | ( 0.040) | 0.036 | 0.320 |
| 112 | 9.33 | 0.67 | 0.374 | ( 0.040) | 0.037 | 0.337 |
| 113 | 9.42 | 0.67 | 0.374 | ( 0.040) | 0.037 | 0.337 |
| 114 | 9.50 | 0.67 | 0.374 | ( 0.040) | 0.037 | 0.337 |
| 115 | 9.58 | 0.70 | 0.393 | ( 0.040) | 0.039 | 0.354 |
| 116 | 9.67 | 0.70 | 0.393 | ( 0.039) | 0.039 | 0.354 |
| 117 | 9.75 | 0.70 | 0.393 | 0.039 | ( 0.039) | 0.354 |
| 118 | 9.83 | 0.73 | 0.412 | 0.039 | ( 0.041) | 0.373 |
| 119 | 9.92 | 0.73 | 0.412 | 0.039 | ( 0.041) | 0.373 |
| 120 | 10.00 | 0.73 | 0.412 | 0.039 | ( 0.041) | 0.373 |
| 121 | 10.08 | 0.50 | 0.281 | ( 0.039) | 0.028 | 0.253 |
| 122 | 10.17 | 0.50 | 0.281 | ( 0.038) | 0.028 | 0.253 |
| 123 | 10.25 | 0.50 | 0.281 | ( 0.038) | 0.028 | 0.253 |
| 124 | 10.33 | 0.50 | 0.281 | ( 0.038) | 0.028 | 0.253 |
| 125 | 10.42 | 0.50 | 0.281 | ( 0.038) | 0.028 | 0.253 |
| 126 | 10.50 | 0.50 | 0.281 | ( 0.038) | 0.028 | 0.253 |
| 127 | 10.58 | 0.67 | 0.374 | 0.037 | ( 0.037) | 0.337 |
| 128 | 10.67 | 0.67 | 0.374 | 0.037 | ( 0.037) | 0.337 |
| 129 | 10.75 | 0.67 | 0.374 | 0.037 | ( 0.037) | 0.337 |
| 130 | 10.83 | 0.67 | 0.374 | 0.037 | ( 0.037) | 0.337 |
| 131 | 10.92 | 0.67 | 0.374 | 0.037 | ( 0.037) | 0.338 |
| 132 | 11.00 | 0.67 | 0.374 | 0.036 | ( 0.037) | 0.338 |
| 133 | 11.08 | 0.63 | 0.356 | ( 0.036) | 0.036 | 0.320 |
| 134 | 11.17 | 0.63 | 0.356 | ( 0.036) | 0.036 | 0.320 |
| 135 | 11.25 | 0.63 | 0.356 | ( 0.036) | 0.036 | 0.320 |
| 136 | 11.33 | 0.63 | 0.356 | ( 0.036) | 0.036 | 0.320 |
| 137 | 11.42 | 0.63 | 0.356 | ( 0.036) | 0.036 | 0.320 |
| 138 | 11.50 | 0.63 | 0.356 | 0.035 | ( 0.036) | 0.320 |
| 139 | 11.58 | 0.57 | 0.318 | ( 0.035) | 0.032 | 0.286 |
| 140 | 11.67 | 0.57 | 0.318 | ( 0.035) | 0.032 | 0.286 |
| 141 | 11.75 | 0.57 | 0.318 | ( 0.035) | 0.032 | 0.286 |
| 142 | 11.83 | 0.60 | 0.337 | ( 0.035) | 0.034 | 0.303 |
| 143 | 11.92 | 0.60 | 0.337 | ( 0.035) | 0.034 | 0.303 |
| 144 | 12.00 | 0.60 | 0.337 | ( 0.034) | 0.034 | 0.303 |
| 145 | 12.08 | 0.83 | 0.468 | 0.034 | ( 0.047) | 0.434 |
| 146 | 12.17 | 0.83 | 0.468 | 0.034 | ( 0.047) | 0.434 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 147 | 12.25 | 0.83 | 0.468 | 0.034 | ( 0.047) | 0.434 |
| 148 | 12.33 | 0.87 | 0.487 | 0.034 | ( 0.049) | 0.453 |
| 149 | 12.42 | 0.87 | 0.487 | 0.034 | ( 0.049) | 0.453 |
| 150 | 12.50 | 0.87 | 0.487 | 0.033 | ( 0.049) | 0.453 |
| 151 | 12.58 | 0.93 | 0.524 | 0.033 | ( 0.052) | 0.491 |
| 152 | 12.67 | 0.93 | 0.524 | 0.033 | ( 0.052) | 0.491 |
| 153 | 12.75 | 0.93 | 0.524 | 0.033 | ( 0.052) | 0.491 |
| 154 | 12.83 | 0.97 | 0.543 | 0.033 | ( 0.054) | 0.510 |
| 155 | 12.92 | 0.97 | 0.543 | 0.033 | ( 0.054) | 0.510 |
| 156 | 13.00 | 0.97 | 0.543 | 0.032 | ( 0.054) | 0.510 |
| 157 | 13.08 | 1.13 | 0.636 | 0.032 | ( 0.064) | 0.604 |
| 158 | 13.17 | 1.13 | 0.636 | 0.032 | ( 0.064) | 0.604 |
| 159 | 13.25 | 1.13 | 0.636 | 0.032 | ( 0.064) | 0.604 |
| 160 | 13.33 | 1.13 | 0.636 | 0.032 | ( 0.064) | 0.605 |
| 161 | 13.42 | 1.13 | 0.636 | 0.032 | ( 0.064) | 0.605 |
| 162 | 13.50 | 1.13 | 0.636 | 0.031 | ( 0.064) | 0.605 |
| 163 | 13.58 | 0.77 | 0.430 | 0.031 | ( 0.043) | 0.399 |
| 164 | 13.67 | 0.77 | 0.430 | 0.031 | ( 0.043) | 0.399 |
| 165 | 13.75 | 0.77 | 0.430 | 0.031 | ( 0.043) | 0.400 |
| 166 | 13.83 | 0.77 | 0.430 | 0.031 | ( 0.043) | 0.400 |
| 167 | 13.92 | 0.77 | 0.430 | 0.031 | ( 0.043) | 0.400 |
| 168 | 14.00 | 0.77 | 0.430 | 0.030 | ( 0.043) | 0.400 |
| 169 | 14.08 | 0.90 | 0.505 | 0.030 | ( 0.051) | 0.475 |
| 170 | 14.17 | 0.90 | 0.505 | 0.030 | ( 0.051) | 0.475 |
| 171 | 14.25 | 0.90 | 0.505 | 0.030 | ( 0.051) | 0.475 |
| 172 | 14.33 | 0.87 | 0.487 | 0.030 | ( 0.049) | 0.457 |
| 173 | 14.42 | 0.87 | 0.487 | 0.030 | ( 0.049) | 0.457 |
| 174 | 14.50 | 0.87 | 0.487 | 0.030 | ( 0.049) | 0.457 |
| 175 | 14.58 | 0.87 | 0.487 | 0.029 | ( 0.049) | 0.457 |
| 176 | 14.67 | 0.87 | 0.487 | 0.029 | ( 0.049) | 0.457 |
| 177 | 14.75 | 0.87 | 0.487 | 0.029 | ( 0.049) | 0.458 |
| 178 | 14.83 | 0.83 | 0.468 | 0.029 | ( 0.047) | 0.439 |
| 179 | 14.92 | 0.83 | 0.468 | 0.029 | ( 0.047) | 0.439 |
| 180 | 15.00 | 0.83 | 0.468 | 0.029 | ( 0.047) | 0.439 |
| 181 | 15.08 | 0.80 | 0.449 | 0.028 | ( 0.045) | 0.421 |
| 182 | 15.17 | 0.80 | 0.449 | 0.028 | ( 0.045) | 0.421 |
| 183 | 15.25 | 0.80 | 0.449 | 0.028 | ( 0.045) | 0.421 |
| 184 | 15.33 | 0.77 | 0.430 | 0.028 | ( 0.043) | 0.402 |
| 185 | 15.42 | 0.77 | 0.430 | 0.028 | ( 0.043) | 0.403 |
| 186 | 15.50 | 0.77 | 0.430 | 0.028 | ( 0.043) | 0.403 |
| 187 | 15.58 | 0.63 | 0.356 | 0.028 | ( 0.036) | 0.328 |
| 188 | 15.67 | 0.63 | 0.356 | 0.027 | ( 0.036) | 0.328 |
| 189 | 15.75 | 0.63 | 0.356 | 0.027 | ( 0.036) | 0.328 |
| 190 | 15.83 | 0.63 | 0.356 | 0.027 | ( 0.036) | 0.328 |
| 191 | 15.92 | 0.63 | 0.356 | 0.027 | ( 0.036) | 0.329 |
| 192 | 16.00 | 0.63 | 0.356 | 0.027 | ( 0.036) | 0.329 |
| 193 | 16.08 | 0.13 | 0.075 | ( 0.027) | 0.007 | 0.067 |
| 194 | 16.17 | 0.13 | 0.075 | ( 0.027) | 0.007 | 0.067 |
| 195 | 16.25 | 0.13 | 0.075 | ( 0.026) | 0.007 | 0.067 |
| 196 | 16.33 | 0.13 | 0.075 | ( 0.026) | 0.007 | 0.067 |
| 197 | 16.42 | 0.13 | 0.075 | ( 0.026) | 0.007 | 0.067 |
| 198 | 16.50 | 0.13 | 0.075 | ( 0.026) | 0.007 | 0.067 |
| 199 | 16.58 | 0.10 | 0.056 | ( 0.026) | 0.006 | 0.051 |
| 200 | 16.67 | 0.10 | 0.056 | ( 0.026) | 0.006 | 0.051 |
| 201 | 16.75 | 0.10 | 0.056 | ( 0.026) | 0.006 | 0.051 |
| 202 | 16.83 | 0.10 | 0.056 | ( 0.026) | 0.006 | 0.051 |
| 203 | 16.92 | 0.10 | 0.056 | ( 0.025) | 0.006 | 0.051 |
| 204 | 17.00 | 0.10 | 0.056 | ( 0.025) | 0.006 | 0.051 |
| 205 | 17.08 | 0.17 | 0.094 | ( 0.025) | 0.009 | 0.084 |
| 206 | 17.17 | 0.17 | 0.094 | ( 0.025) | 0.009 | 0.084 |
| 207 | 17.25 | 0.17 | 0.094 | ( 0.025) | 0.009 | 0.084 |
| 208 | 17.33 | 0.17 | 0.094 | ( 0.025) | 0.009 | 0.084 |
| 209 | 17.42 | 0.17 | 0.094 | ( 0.025) | 0.009 | 0.084 |
| 210 | 17.50 | 0.17 | 0.094 | ( 0.025) | 0.009 | 0.084 |
| 211 | 17.58 | 0.17 | 0.094 | ( 0.024) | 0.009 | 0.084 |
| 212 | 17.67 | 0.17 | 0.094 | ( 0.024) | 0.009 | 0.084 |
| 213 | 17.75 | 0.17 | 0.094 | ( 0.024) | 0.009 | 0.084 |
| 214 | 17.83 | 0.13 | 0.075 | ( 0.024) | 0.007 | 0.067 |
| 215 | 17.92 | 0.13 | 0.075 | ( 0.024) | 0.007 | 0.067 |
| 216 | 18.00 | 0.13 | 0.075 | ( 0.024) | 0.007 | 0.067 |
| 217 | 18.08 | 0.13 | 0.075 | ( 0.024) | 0.007 | 0.067 |
| 218 | 18.17 | 0.13 | 0.075 | ( 0.024) | 0.007 | 0.067 |
| 219 | 18.25 | 0.13 | 0.075 | ( 0.023) | 0.007 | 0.067 |
| 220 | 18.33 | 0.13 | 0.075 | ( 0.023) | 0.007 | 0.067 |
| 221 | 18.42 | 0.13 | 0.075 | ( 0.023) | 0.007 | 0.067 |
| 222 | 18.50 | 0.13 | 0.075 | ( 0.023) | 0.007 | 0.067 |
| 223 | 18.58 | 0.10 | 0.056 | ( 0.023) | 0.006 | 0.051 |
| 224 | 18.67 | 0.10 | 0.056 | ( 0.023) | 0.006 | 0.051 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 225 | 18.75 | 0.10 | 0.056 | ( 0.023) | 0.006 | 0.051 |
| 226 | 18.83 | 0.07 | 0.037 | ( 0.023) | 0.004 | 0.034 |
| 227 | 18.92 | 0.07 | 0.037 | ( 0.023) | 0.004 | 0.034 |
| 228 | 19.00 | 0.07 | 0.037 | ( 0.022) | 0.004 | 0.034 |
| 229 | 19.08 | 0.10 | 0.056 | ( 0.022) | 0.006 | 0.051 |
| 230 | 19.17 | 0.10 | 0.056 | ( 0.022) | 0.006 | 0.051 |
| 231 | 19.25 | 0.10 | 0.056 | ( 0.022) | 0.006 | 0.051 |
| 232 | 19.33 | 0.13 | 0.075 | ( 0.022) | 0.007 | 0.067 |
| 233 | 19.42 | 0.13 | 0.075 | ( 0.022) | 0.007 | 0.067 |
| 234 | 19.50 | 0.13 | 0.075 | ( 0.022) | 0.007 | 0.067 |
| 235 | 19.58 | 0.10 | 0.056 | ( 0.022) | 0.006 | 0.051 |
| 236 | 19.67 | 0.10 | 0.056 | ( 0.022) | 0.006 | 0.051 |
| 237 | 19.75 | 0.10 | 0.056 | ( 0.022) | 0.006 | 0.051 |
| 238 | 19.83 | 0.07 | 0.037 | ( 0.021) | 0.004 | 0.034 |
| 239 | 19.92 | 0.07 | 0.037 | ( 0.021) | 0.004 | 0.034 |
| 240 | 20.00 | 0.07 | 0.037 | ( 0.021) | 0.004 | 0.034 |
| 241 | 20.08 | 0.10 | 0.056 | ( 0.021) | 0.006 | 0.051 |
| 242 | 20.17 | 0.10 | 0.056 | ( 0.021) | 0.006 | 0.051 |
| 243 | 20.25 | 0.10 | 0.056 | ( 0.021) | 0.006 | 0.051 |
| 244 | 20.33 | 0.10 | 0.056 | ( 0.021) | 0.006 | 0.051 |
| 245 | 20.42 | 0.10 | 0.056 | ( 0.021) | 0.006 | 0.051 |
| 246 | 20.50 | 0.10 | 0.056 | ( 0.021) | 0.006 | 0.051 |
| 247 | 20.58 | 0.10 | 0.056 | ( 0.021) | 0.006 | 0.051 |
| 248 | 20.67 | 0.10 | 0.056 | ( 0.021) | 0.006 | 0.051 |
| 249 | 20.75 | 0.10 | 0.056 | ( 0.020) | 0.006 | 0.051 |
| 250 | 20.83 | 0.07 | 0.037 | ( 0.020) | 0.004 | 0.034 |
| 251 | 20.92 | 0.07 | 0.037 | ( 0.020) | 0.004 | 0.034 |
| 252 | 21.00 | 0.07 | 0.037 | ( 0.020) | 0.004 | 0.034 |
| 253 | 21.08 | 0.10 | 0.056 | ( 0.020) | 0.006 | 0.051 |
| 254 | 21.17 | 0.10 | 0.056 | ( 0.020) | 0.006 | 0.051 |
| 255 | 21.25 | 0.10 | 0.056 | ( 0.020) | 0.006 | 0.051 |
| 256 | 21.33 | 0.07 | 0.037 | ( 0.020) | 0.004 | 0.034 |
| 257 | 21.42 | 0.07 | 0.037 | ( 0.020) | 0.004 | 0.034 |
| 258 | 21.50 | 0.07 | 0.037 | ( 0.020) | 0.004 | 0.034 |
| 259 | 21.58 | 0.10 | 0.056 | ( 0.020) | 0.006 | 0.051 |
| 260 | 21.67 | 0.10 | 0.056 | ( 0.020) | 0.006 | 0.051 |
| 261 | 21.75 | 0.10 | 0.056 | ( 0.020) | 0.006 | 0.051 |
| 262 | 21.83 | 0.07 | 0.037 | ( 0.019) | 0.004 | 0.034 |
| 263 | 21.92 | 0.07 | 0.037 | ( 0.019) | 0.004 | 0.034 |
| 264 | 22.00 | 0.07 | 0.037 | ( 0.019) | 0.004 | 0.034 |
| 265 | 22.08 | 0.10 | 0.056 | ( 0.019) | 0.006 | 0.051 |
| 266 | 22.17 | 0.10 | 0.056 | ( 0.019) | 0.006 | 0.051 |
| 267 | 22.25 | 0.10 | 0.056 | ( 0.019) | 0.006 | 0.051 |
| 268 | 22.33 | 0.07 | 0.037 | ( 0.019) | 0.004 | 0.034 |
| 269 | 22.42 | 0.07 | 0.037 | ( 0.019) | 0.004 | 0.034 |
| 270 | 22.50 | 0.07 | 0.037 | ( 0.019) | 0.004 | 0.034 |
| 271 | 22.58 | 0.07 | 0.037 | ( 0.019) | 0.004 | 0.034 |
| 272 | 22.67 | 0.07 | 0.037 | ( 0.019) | 0.004 | 0.034 |
| 273 | 22.75 | 0.07 | 0.037 | ( 0.019) | 0.004 | 0.034 |
| 274 | 22.83 | 0.07 | 0.037 | ( 0.019) | 0.004 | 0.034 |
| 275 | 22.92 | 0.07 | 0.037 | ( 0.019) | 0.004 | 0.034 |
| 276 | 23.00 | 0.07 | 0.037 | ( 0.019) | 0.004 | 0.034 |
| 277 | 23.08 | 0.07 | 0.037 | ( 0.019) | 0.004 | 0.034 |
| 278 | 23.17 | 0.07 | 0.037 | ( 0.019) | 0.004 | 0.034 |
| 279 | 23.25 | 0.07 | 0.037 | ( 0.019) | 0.004 | 0.034 |
| 280 | 23.33 | 0.07 | 0.037 | ( 0.019) | 0.004 | 0.034 |
| 281 | 23.42 | 0.07 | 0.037 | ( 0.018) | 0.004 | 0.034 |
| 282 | 23.50 | 0.07 | 0.037 | ( 0.018) | 0.004 | 0.034 |
| 283 | 23.58 | 0.07 | 0.037 | ( 0.018) | 0.004 | 0.034 |
| 284 | 23.67 | 0.07 | 0.037 | ( 0.018) | 0.004 | 0.034 |
| 285 | 23.75 | 0.07 | 0.037 | ( 0.018) | 0.004 | 0.034 |
| 286 | 23.83 | 0.07 | 0.037 | ( 0.018) | 0.004 | 0.034 |
| 287 | 23.92 | 0.07 | 0.037 | ( 0.018) | 0.004 | 0.034 |
| 288 | 24.00 | 0.07 | 0.037 | ( 0.018) | 0.004 | 0.034 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 51.4 |

Flood volume = Effective rainfall 4.28(In)
times area 100.3(Ac.)/[(In)/(Ft.)] = 35.8(Ac.Ft)
Total soil loss = 0.40(In)
Total soil loss = 3.314(Ac.Ft)
Total rainfall = 4.68(In)
Flood volume = 1559255.2 Cubic Feet
Total soil loss = 144347.5 Cubic Feet

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Peak flow rate of this hydrograph = 61.093(CFS)

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TOTAL OF: 5 24 - H O U R S T O R M E V E N T S

R u n o f f  H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 17.5 | 35.0 | 52.5 | 70.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0003 | 0.05 | Q | | | | |
| 0+10 | 0.0020 | 0.24 | Q | | | | |
| 0+15 | 0.0040 | 0.30 | Q | | | | |
| 0+20 | 0.0064 | 0.35 | Q | | | | |
| 0+25 | 0.0096 | 0.45 | Q | | | | |
| 0+30 | 0.0129 | 0.49 | Q | | | | |
| 0+35 | 0.0164 | 0.50 | Q | | | | |
| 0+40 | 0.0199 | 0.51 | Q | | | | |
| 0+45 | 0.0234 | 0.51 | Q | | | | |
| 0+50 | 0.0271 | 0.53 | Q | | | | |
| 0+55 | 0.0314 | 0.63 | Q | | | | |
| 1+ 0 | 0.0360 | 0.66 | Q | | | | |
| 1+ 5 | 0.0405 | 0.65 | Q | | | | |
| 1+10 | 0.0443 | 0.56 | Q | | | | |
| 1+15 | 0.0480 | 0.53 | Q | | | | |
| 1+20 | 0.0515 | 0.52 | Q | | | | |
| 1+25 | 0.0551 | 0.51 | Q | | | | |
| 1+30 | 0.0586 | 0.51 | Q | | | | |
| 1+35 | 0.0621 | 0.51 | Q | | | | |
| 1+40 | 0.0656 | 0.51 | Q | | | | |
| 1+45 | 0.0692 | 0.51 | Q | | | | |
| 1+50 | 0.0728 | 0.53 | Q | | | | |
| 1+55 | 0.0772 | 0.63 | Q | | | | |
| 2+ 0 | 0.0817 | 0.66 | Q | | | | |
| 2+ 5 | 0.0864 | 0.67 | Q | | | | |
| 2+10 | 0.0911 | 0.68 | Q | | | | |
| 2+15 | 0.0957 | 0.68 | Q | | | | |
| 2+20 | 0.1004 | 0.68 | Q | | | | |
| 2+25 | 0.1051 | 0.68 | Q | | | | |
| 2+30 | 0.1098 | 0.68 | Q | | | | |
| 2+35 | 0.1147 | 0.71 | Q | | | | |
| 2+40 | 0.1202 | 0.80 | Q | | | | |
| 2+45 | 0.1259 | 0.83 | Q | | | | |
| 2+50 | 0.1317 | 0.84 | Q | | | | |
| 2+55 | 0.1376 | 0.85 | Q | | | | |
| 3+ 0 | 0.1434 | 0.85 | Q | | | | |
| 3+ 5 | 0.1493 | 0.85 | Q | | | | |
| 3+10 | 0.1552 | 0.85 | Q | | | | |
| 3+15 | 0.1610 | 0.85 | Q | | | | |
| 3+20 | 0.1669 | 0.85 | Q | | | | |
| 3+25 | 0.1728 | 0.85 | Q | | | | |
| 3+30 | 0.1786 | 0.85 | Q | | | | |
| 3+35 | 0.1845 | 0.85 | Q | | | | |
| 3+40 | 0.1904 | 0.85 | Q | | | | |
| 3+45 | 0.1962 | 0.85 | Q | | | | |
| 3+50 | 0.2023 | 0.88 | Q | | | | |
| 3+55 | 0.2089 | 0.97 | Q | | | | |
| 4+ 0 | 0.2158 | 1.00 | Q | | | | |
| 4+ 5 | 0.2228 | 1.01 | Q | | | | |
| 4+10 | 0.2299 | 1.02 | Q | | | | |
| 4+15 | 0.2369 | 1.02 | Q | | | | |
| 4+20 | 0.2441 | 1.05 | Q | | | | |
| 4+25 | 0.2519 | 1.14 | Q | | | | |
| 4+30 | 0.2600 | 1.17 | Q | | | | |
| 4+35 | 0.2682 | 1.19 | Q | | | | |
| 4+40 | 0.2764 | 1.19 | Q | | | | |
| 4+45 | 0.2846 | 1.19 | Q | | | | |
| 4+50 | 0.2929 | 1.22 | Q | | | | |
| 4+55 | 0.3020 | 1.31 | Q | | | | |
| 5+ 0 | 0.3112 | 1.34 | Q | | | | |
| 5+ 5 | 0.3202 | 1.31 | Q | | | | |
| 5+10 | 0.3280 | 1.12 | Q | | | | |
| 5+15 | 0.3353 | 1.06 | Q | | | | |
| 5+20 | 0.3426 | 1.06 | Q | | | | |
| 5+25 | 0.3505 | 1.15 | Q | | | | |
| 5+30 | 0.3586 | 1.17 | Q | | | | |
| 5+35 | 0.3669 | 1.21 | Q | | | | |
| 5+40 | 0.3759 | 1.31 | Q | | | | |
| 5+45 | 0.3851 | 1.34 | Q | | | | |
| 5+50 | 0.3945 | 1.36 | Q | | | | |
| 5+55 | 0.4038 | 1.36 | Q | | | | |

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|---|---|---|---|---|---|---|---|
| 6+ 0 | 0.4132 | 1.36 | Q | | | | |
| 6+ 5 | 0.4228 | 1.39 | Q | | | | |
| 6+10 | 0.4330 | 1.48 | Q | | | | |
| 6+15 | 0.4434 | 1.51 | Q | | | | |
| 6+20 | 0.4539 | 1.53 | Q | | | | |
| 6+25 | 0.4644 | 1.53 | Q | | | | |
| 6+30 | 0.4750 | 1.53 | Q | | | | |
| 6+35 | 0.4857 | 1.56 | Q | | | | |
| 6+40 | 0.4971 | 1.65 | Q | | | | |
| 6+45 | 0.5087 | 1.68 | Q | | | | |
| 6+50 | 0.5204 | 1.70 | Q | | | | |
| 6+55 | 0.5321 | 1.70 | Q | | | | |
| 7+ 0 | 0.5438 | 1.70 | Q | | | | |
| 7+ 5 | 0.5555 | 1.70 | Q | | | | |
| 7+10 | 0.5673 | 1.70 | Q | | | | |
| 7+15 | 0.5790 | 1.70 | Q | | | | |
| 7+20 | 0.5909 | 1.73 | Q | | | | |
| 7+25 | 0.6034 | 1.82 | VQ | | | | |
| 7+30 | 0.6162 | 1.85 | VQ | | | | |
| 7+35 | 0.6292 | 1.89 | VQ | | | | |
| 7+40 | 0.6429 | 1.99 | VQ | | | | |
| 7+45 | 0.6569 | 2.02 | VQ | | | | |
| 7+50 | 0.6711 | 2.06 | VQ | | | | |
| 7+55 | 0.6859 | 2.16 | VQ | | | | |
| 8+ 0 | 0.7010 | 2.19 | VQ | | | | |
| 8+ 5 | 0.7166 | 2.25 | VQ | | | | |
| 8+10 | 0.7334 | 2.45 | VQ | | | | |
| 8+15 | 0.7508 | 2.51 | VQ | | | | |
| 8+20 | 0.7682 | 2.54 | VQ | | | | |
| 8+25 | 0.7858 | 2.55 | VQ | | | | |
| 8+30 | 0.8034 | 2.55 | VQ | | | | |
| 8+35 | 0.8212 | 2.58 | VQ | | | | |
| 8+40 | 0.8396 | 2.67 | VQ | | | | |
| 8+45 | 0.8582 | 2.71 | VQ | | | | |
| 8+50 | 0.8771 | 2.74 | VQ | | | | |
| 8+55 | 0.8967 | 2.84 | VQ | | | | |
| 9+ 0 | 0.9165 | 2.87 | VQ | | | | |
| 9+ 5 | 0.9367 | 2.94 | VQ | | | | |
| 9+10 | 0.9582 | 3.13 | VQ | | | | |
| 9+15 | 0.9802 | 3.20 | VQ | | | | |
| 9+20 | 1.0026 | 3.25 | VQ | | | | |
| 9+25 | 1.0257 | 3.35 | VQ | | | | |
| 9+30 | 1.0490 | 3.38 | VQ | | | | |
| 9+35 | 1.0726 | 3.42 | VQ | | | | |
| 9+40 | 1.0968 | 3.52 | V Q | | | | |
| 9+45 | 1.1213 | 3.56 | V Q | | | | |
| 9+50 | 1.1461 | 3.59 | V Q | | | | |
| 9+55 | 1.1715 | 3.69 | V Q | | | | |
| 10+ 0 | 1.1972 | 3.73 | V Q | | | | |
| 10+ 5 | 1.2218 | 3.57 | V Q | | | | |
| 10+10 | 1.2419 | 2.92 | VQ | | | | |
| 10+15 | 1.2604 | 2.69 | VQ | | | | |
| 10+20 | 1.2784 | 2.61 | VQ | | | | |
| 10+25 | 1.2961 | 2.57 | VQ | | | | |
| 10+30 | 1.3138 | 2.56 | VQ | | | | |
| 10+35 | 1.3322 | 2.68 | VQ | | | | |
| 10+40 | 1.3539 | 3.15 | VQ | | | | |
| 10+45 | 1.3766 | 3.31 | VQ | | | | |
| 10+50 | 1.3998 | 3.37 | VQ | | | | |
| 10+55 | 1.4232 | 3.39 | VQ | | | | |
| 11+ 0 | 1.4466 | 3.40 | VQ | | | | |
| 11+ 5 | 1.4699 | 3.38 | VQ | | | | |
| 11+10 | 1.4926 | 3.29 | VQ | | | | |
| 11+15 | 1.5150 | 3.26 | VQ | | | | |
| 11+20 | 1.5374 | 3.24 | VQ | | | | |
| 11+25 | 1.5597 | 3.24 | VQ | | | | |
| 11+30 | 1.5820 | 3.24 | VQ | | | | |
| 11+35 | 1.6039 | 3.19 | \|Q | | | | |
| 11+40 | 1.6246 | 3.00 | \|Q | | | | |
| 11+45 | 1.6448 | 2.94 | \|Q | | | | |
| 11+50 | 1.6650 | 2.93 | \|Q | | | | |
| 11+55 | 1.6858 | 3.02 | \|Q | | | | |
| 12+ 0 | 1.7068 | 3.05 | \|Q | | | | |
| 12+ 5 | 1.7290 | 3.23 | \|Q | | | | |
| 12+10 | 1.7559 | 3.89 | \|VQ | | | | |
| 12+15 | 1.7842 | 4.12 | \|VQ | | | | |
| 12+20 | 1.8134 | 4.23 | \|VQ | | | | |
| 12+25 | 1.8434 | 4.36 | \|VQ | | | | |

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|---|---|---|---|---|---|---|---|
| 12+30 | 1.8737 | 4.40 | \|VQ | \| | \| | \| | \| |
| 12+35 | 1.9044 | 4.47 | \|VQ | \| | \| | \| | \| |
| 12+40 | 1.9366 | 4.66 | \|VQ | \| | \| | \| | \| |
| 12+45 | 1.9691 | 4.73 | \|VQ | \| | \| | \| | \| |
| 12+50 | 2.0020 | 4.78 | \|VQ | \| | \| | \| | \| |
| 12+55 | 2.0357 | 4.88 | \|VQ | \| | \| | \| | \| |
| 13+ 0 | 2.0695 | 4.92 | \|VQ | \| | \| | \| | \| |
| 13+ 5 | 2.1043 | 5.05 | \|VQ | \| | \| | \| | \| |
| 13+10 | 2.1424 | 5.53 | \|V Q | \| | \| | \| | \| |
| 13+15 | 2.1816 | 5.69 | \|V Q | \| | \| | \| | \| |
| 13+20 | 2.2212 | 5.76 | \|V Q | \| | \| | \| | \| |
| 13+25 | 2.2610 | 5.78 | \|V Q | \| | \| | \| | \| |
| 13+30 | 2.3009 | 5.79 | \|V Q | \| | \| | \| | \| |
| 13+35 | 2.3390 | 5.53 | \|V Q | \| | \| | \| | \| |
| 13+40 | 2.3699 | 4.49 | \|VQ | \| | \| | \| | \| |
| 13+45 | 2.3984 | 4.14 | \|VQ | \| | \| | \| | \| |
| 13+50 | 2.4259 | 4.00 | \|VQ | \| | \| | \| | \| |
| 13+55 | 2.4531 | 3.95 | \|VQ | \| | \| | \| | \| |
| 14+ 0 | 2.4802 | 3.93 | \|VQ | \| | \| | \| | \| |
| 14+ 5 | 2.5079 | 4.02 | \|VQ | \| | \| | \| | \| |
| 14+10 | 2.5381 | 4.39 | \|VQ | \| | \| | \| | \| |
| 14+15 | 2.5692 | 4.52 | \|VQ | \| | \| | \| | \| |
| 14+20 | 2.6006 | 4.55 | \|VQ | \| | \| | \| | \| |
| 14+25 | 2.6313 | 4.47 | \|VQ | \| | \| | \| | \| |
| 14+30 | 2.6620 | 4.44 | \|VQ | \| | \| | \| | \| |
| 14+35 | 2.6925 | 4.44 | \|VQ | \| | \| | \| | \| |
| 14+40 | 2.7230 | 4.43 | \|VQ | \| | \| | \| | \| |
| 14+45 | 2.7535 | 4.43 | \|VQ | \| | \| | \| | \| |
| 14+50 | 2.7839 | 4.41 | \|VQ | \| | \| | \| | \| |
| 14+55 | 2.8136 | 4.31 | \|VQ | \| | \| | \| | \| |
| 15+ 0 | 2.8430 | 4.28 | \|VQ | \| | \| | \| | \| |
| 15+ 5 | 2.8723 | 4.24 | \|VQ | \| | \| | \| | \| |
| 15+10 | 2.9008 | 4.14 | \|VQ | \| | \| | \| | \| |
| 15+15 | 2.9291 | 4.11 | \|VQ | \| | \| | \| | \| |
| 15+20 | 2.9572 | 4.07 | \|VQ | \| | \| | \| | \| |
| 15+25 | 2.9845 | 3.97 | \|VQ | \| | \| | \| | \| |
| 15+30 | 3.0116 | 3.94 | \|VQ | \| | \| | \| | \| |
| 15+35 | 3.0380 | 3.83 | \|VQ | \| | \| | \| | \| |
| 15+40 | 3.0618 | 3.45 | \|Q | \| | \| | \| | \| |
| 15+45 | 3.0846 | 3.32 | \|Q | \| | \| | \| | \| |
| 15+50 | 3.1071 | 3.27 | \|Q | \| | \| | \| | \| |
| 15+55 | 3.1295 | 3.25 | \|Q | \| | \| | \| | \| |
| 16+ 0 | 3.1518 | 3.24 | \|Q | \| | \| | \| | \| |
| 16+ 5 | 3.1717 | 2.88 | \|Q | \| | \| | \| | \| |
| 16+10 | 3.1817 | 1.46 | QV | \| | \| | \| | \| |
| 16+15 | 3.1885 | 0.98 | QV | \| | \| | \| | \| |
| 16+20 | 3.1939 | 0.79 | QV | \| | \| | \| | \| |
| 16+25 | 3.1989 | 0.72 | Q V | \| | \| | \| | \| |
| 16+30 | 3.2037 | 0.70 | Q V | \| | \| | \| | \| |
| 16+35 | 3.2083 | 0.66 | Q V | \| | \| | \| | \| |
| 16+40 | 3.2122 | 0.56 | Q V | \| | \| | \| | \| |
| 16+45 | 3.2158 | 0.53 | Q V | \| | \| | \| | \| |
| 16+50 | 3.2194 | 0.52 | Q V | \| | \| | \| | \| |
| 16+55 | 3.2229 | 0.51 | Q V | \| | \| | \| | \| |
| 17+ 0 | 3.2265 | 0.51 | Q V | \| | \| | \| | \| |
| 17+ 5 | 3.2303 | 0.56 | Q V | \| | \| | \| | \| |
| 17+10 | 3.2355 | 0.75 | Q V | \| | \| | \| | \| |
| 17+15 | 3.2410 | 0.81 | Q V | \| | \| | \| | \| |
| 17+20 | 3.2468 | 0.84 | Q V | \| | \| | \| | \| |
| 17+25 | 3.2526 | 0.85 | Q V | \| | \| | \| | \| |
| 17+30 | 3.2585 | 0.85 | Q V | \| | \| | \| | \| |
| 17+35 | 3.2644 | 0.85 | Q V | \| | \| | \| | \| |
| 17+40 | 3.2702 | 0.85 | Q V | \| | \| | \| | \| |
| 17+45 | 3.2761 | 0.85 | Q V | \| | \| | \| | \| |
| 17+50 | 3.2818 | 0.83 | Q V | \| | \| | \| | \| |
| 17+55 | 3.2868 | 0.73 | Q V | \| | \| | \| | \| |
| 18+ 0 | 3.2917 | 0.70 | Q V | \| | \| | \| | \| |
| 18+ 5 | 3.2964 | 0.69 | Q V | \| | \| | \| | \| |
| 18+10 | 3.3011 | 0.68 | Q V | \| | \| | \| | \| |
| 18+15 | 3.3058 | 0.68 | Q V | \| | \| | \| | \| |
| 18+20 | 3.3105 | 0.68 | Q V | \| | \| | \| | \| |
| 18+25 | 3.3152 | 0.68 | Q V | \| | \| | \| | \| |
| 18+30 | 3.3199 | 0.68 | Q V | \| | \| | \| | \| |
| 18+35 | 3.3244 | 0.66 | Q V | \| | \| | \| | \| |
| 18+40 | 3.3283 | 0.56 | Q V | \| | \| | \| | \| |
| 18+45 | 3.3320 | 0.53 | Q V | \| | \| | \| | \| |
| 18+50 | 3.3354 | 0.49 | Q V | \| | \| | \| | \| |
| 18+55 | 3.3381 | 0.40 | Q V | \| | \| | \| | \| |

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|---|---|---|---|---|---|---|---|
| 19+ 0 | 3.3406 | 0.36 | Q | V | | | |
| 19+ 5 | 3.3432 | 0.37 | Q | V | | | |
| 19+10 | 3.3463 | 0.46 | Q | V | | | |
| 19+15 | 3.3497 | 0.49 | Q | V | | | |
| 19+20 | 3.3534 | 0.53 | Q | V | | | |
| 19+25 | 3.3577 | 0.63 | Q | V | | | |
| 19+30 | 3.3622 | 0.66 | Q | V | | | |
| 19+35 | 3.3667 | 0.65 | Q | V | | | |
| 19+40 | 3.3706 | 0.56 | Q | V | | | |
| 19+45 | 3.3742 | 0.53 | Q | V | | | |
| 19+50 | 3.3776 | 0.49 | Q | V | | | |
| 19+55 | 3.3803 | 0.40 | Q | V | | | |
| 20+ 0 | 3.3828 | 0.36 | Q | V | | | |
| 20+ 5 | 3.3854 | 0.37 | Q | V | | | |
| 20+10 | 3.3886 | 0.46 | Q | V | | | |
| 20+15 | 3.3920 | 0.49 | Q | V | | | |
| 20+20 | 3.3954 | 0.50 | Q | V | | | |
| 20+25 | 3.3989 | 0.51 | Q | V | | | |
| 20+30 | 3.4025 | 0.51 | Q | V | | | |
| 20+35 | 3.4060 | 0.51 | Q | V | | | |
| 20+40 | 3.4095 | 0.51 | Q | V | | | |
| 20+45 | 3.4130 | 0.51 | Q | V | | | |
| 20+50 | 3.4164 | 0.49 | Q | V | | | |
| 20+55 | 3.4191 | 0.39 | Q | V | | | |
| 21+ 0 | 3.4216 | 0.36 | Q | V | | | |
| 21+ 5 | 3.4241 | 0.37 | Q | V | | | |
| 21+10 | 3.4273 | 0.46 | Q | V | | | |
| 21+15 | 3.4307 | 0.49 | Q | V | | | |
| 21+20 | 3.4340 | 0.48 | Q | V | | | |
| 21+25 | 3.4367 | 0.39 | Q | V | | | |
| 21+30 | 3.4392 | 0.36 | Q | V | | | |
| 21+35 | 3.4417 | 0.37 | Q | V | | | |
| 21+40 | 3.4449 | 0.46 | Q | V | | | |
| 21+45 | 3.4483 | 0.49 | Q | V | | | |
| 21+50 | 3.4516 | 0.48 | Q | V | | | |
| 21+55 | 3.4543 | 0.39 | Q | V | | | |
| 22+ 0 | 3.4568 | 0.36 | Q | V | | | |
| 22+ 5 | 3.4593 | 0.37 | Q | V | | | |
| 22+10 | 3.4625 | 0.46 | Q | V | | | |
| 22+15 | 3.4659 | 0.49 | Q | V | | | |
| 22+20 | 3.4692 | 0.48 | Q | V | | | |
| 22+25 | 3.4719 | 0.39 | Q | V | | | |
| 22+30 | 3.4744 | 0.36 | Q | V | | | |
| 22+35 | 3.4767 | 0.35 | Q | V | | | |
| 22+40 | 3.4791 | 0.34 | Q | V | | | |
| 22+45 | 3.4815 | 0.34 | Q | V | | | |
| 22+50 | 3.4838 | 0.34 | Q | V | | | |
| 22+55 | 3.4862 | 0.34 | Q | V | | | |
| 23+ 0 | 3.4885 | 0.34 | Q | V | | | |
| 23+ 5 | 3.4909 | 0.34 | Q | V | | | |
| 23+10 | 3.4932 | 0.34 | Q | V | | | |
| 23+15 | 3.4956 | 0.34 | Q | V | | | |
| 23+20 | 3.4979 | 0.34 | Q | V | | | |
| 23+25 | 3.5002 | 0.34 | Q | V | | | |
| 23+30 | 3.5026 | 0.34 | Q | V | | | |
| 23+35 | 3.5049 | 0.34 | Q | V | | | |
| 23+40 | 3.5073 | 0.34 | Q | V | | | |
| 23+45 | 3.5096 | 0.34 | Q | V | | | |
| 23+50 | 3.5120 | 0.34 | Q | V | | | |
| 23+55 | 3.5143 | 0.34 | Q | V | | | |
| 24+ 0 | 3.5167 | 0.34 | Q | V | | | |
| 24+ 5 | 3.5172 | 0.07 | Q | V | | | |
| 24+10 | 3.5196 | 0.36 | Q | V | | | |
| 24+15 | 3.5227 | 0.45 | Q | V | | | |
| 24+20 | 3.5263 | 0.53 | Q | V | | | |
| 24+25 | 3.5310 | 0.68 | Q | V | | | |
| 24+30 | 3.5361 | 0.73 | Q | V | | | |
| 24+35 | 3.5413 | 0.76 | Q | V | | | |
| 24+40 | 3.5465 | 0.76 | Q | V | | | |
| 24+45 | 3.5518 | 0.76 | Q | V | | | |
| 24+50 | 3.5573 | 0.80 | Q | V | | | |
| 24+55 | 3.5638 | 0.94 | Q | V | | | |
| 25+ 0 | 3.5706 | 0.99 | Q | V | | | |
| 25+ 5 | 3.5774 | 0.98 | Q | V | | | |
| 25+10 | 3.5831 | 0.84 | Q | V | | | |
| 25+15 | 3.5886 | 0.79 | Q | V | | | |
| 25+20 | 3.5940 | 0.78 | Q | V | | | |
| 25+25 | 3.5993 | 0.77 | Q | V | | | |

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|---|---|---|---|---|---|---|
| 25+30 | 3.6046 | 0.77 | Q V | \| | \| | \| |
| 25+35 | 3.6099 | 0.77 | Q V | \| | \| | \| |
| 25+40 | 3.6151 | 0.77 | Q V | \| | \| | \| |
| 25+45 | 3.6204 | 0.77 | Q V | \| | \| | \| |
| 25+50 | 3.6259 | 0.80 | Q V | \| | \| | \| |
| 25+55 | 3.6324 | 0.94 | Q V | \| | \| | \| |
| 26+ 0 | 3.6393 | 0.99 | Q V | \| | \| | \| |
| 26+ 5 | 3.6462 | 1.01 | Q V | \| | \| | \| |
| 26+10 | 3.6533 | 1.02 | Q V | \| | \| | \| |
| 26+15 | 3.6603 | 1.02 | Q V | \| | \| | \| |
| 26+20 | 3.6673 | 1.02 | Q V | \| | \| | \| |
| 26+25 | 3.6744 | 1.02 | Q V | \| | \| | \| |
| 26+30 | 3.6814 | 1.02 | Q V | \| | \| | \| |
| 26+35 | 3.6887 | 1.06 | Q V | \| | \| | \| |
| 26+40 | 3.6969 | 1.20 | Q V | \| | \| | \| |
| 26+45 | 3.7055 | 1.25 | Q V | \| | \| | \| |
| 26+50 | 3.7143 | 1.27 | Q V | \| | \| | \| |
| 26+55 | 3.7230 | 1.27 | Q V | \| | \| | \| |
| 27+ 0 | 3.7318 | 1.28 | Q V | \| | \| | \| |
| 27+ 5 | 3.7406 | 1.28 | Q V | \| | \| | \| |
| 27+10 | 3.7494 | 1.28 | Q V | \| | \| | \| |
| 27+15 | 3.7582 | 1.28 | Q V | \| | \| | \| |
| 27+20 | 3.7670 | 1.28 | Q V | \| | \| | \| |
| 27+25 | 3.7758 | 1.28 | Q V | \| | \| | \| |
| 27+30 | 3.7846 | 1.28 | Q V | \| | \| | \| |
| 27+35 | 3.7934 | 1.28 | Q V | \| | \| | \| |
| 27+40 | 3.8022 | 1.28 | Q V | \| | \| | \| |
| 27+45 | 3.8110 | 1.28 | Q V | \| | \| | \| |
| 27+50 | 3.8201 | 1.31 | Q V | \| | \| | \| |
| 27+55 | 3.8301 | 1.46 | Q V | \| | \| | \| |
| 28+ 0 | 3.8404 | 1.50 | Q V | \| | \| | \| |
| 28+ 5 | 3.8509 | 1.52 | Q V | \| | \| | \| |
| 28+10 | 3.8614 | 1.53 | Q V | \| | \| | \| |
| 28+15 | 3.8720 | 1.53 | Q V | \| | \| | \| |
| 28+20 | 3.8828 | 1.57 | Q V | \| | \| | \| |
| 28+25 | 3.8946 | 1.71 | Q V | \| | \| | \| |
| 28+30 | 3.9067 | 1.76 | \|QV | \| | \| | \| |
| 28+35 | 3.9189 | 1.78 | \|QV | \| | \| | \| |
| 28+40 | 3.9312 | 1.78 | \|QV | \| | \| | \| |
| 28+45 | 3.9435 | 1.79 | \|QV | \| | \| | \| |
| 28+50 | 3.9561 | 1.82 | \|QV | \| | \| | \| |
| 28+55 | 3.9696 | 1.97 | \|QV | \| | \| | \| |
| 29+ 0 | 3.9835 | 2.01 | \|QV | \| | \| | \| |
| 29+ 5 | 3.9970 | 1.96 | \|QV | \| | \| | \| |
| 29+10 | 4.0086 | 1.69 | Q V | \| | \| | \| |
| 29+15 | 4.0196 | 1.59 | Q V | \| | \| | \| |
| 29+20 | 4.0305 | 1.59 | Q V | \| | \| | \| |
| 29+25 | 4.0424 | 1.72 | Q V | \| | \| | \| |
| 29+30 | 4.0545 | 1.76 | \|QV | \| | \| | \| |
| 29+35 | 4.0670 | 1.81 | \|QV | \| | \| | \| |
| 29+40 | 4.0805 | 1.96 | \|QV | \| | \| | \| |
| 29+45 | 4.0944 | 2.01 | \|QV | \| | \| | \| |
| 29+50 | 4.1084 | 2.03 | \|QV | \| | \| | \| |
| 29+55 | 4.1224 | 2.04 | \|QV | \| | \| | \| |
| 30+ 0 | 4.1365 | 2.04 | \|QV | \| | \| | \| |
| 30+ 5 | 4.1508 | 2.08 | \|QV | \| | \| | \| |
| 30+10 | 4.1661 | 2.22 | \|QV | \| | \| | \| |
| 30+15 | 4.1818 | 2.27 | \|QV | \| | \| | \| |
| 30+20 | 4.1975 | 2.29 | \|QV | \| | \| | \| |
| 30+25 | 4.2133 | 2.30 | \|QV | \| | \| | \| |
| 30+30 | 4.2292 | 2.30 | \|QV | \| | \| | \| |
| 30+35 | 4.2452 | 2.34 | \|QV | \| | \| | \| |
| 30+40 | 4.2623 | 2.48 | \|QV | \| | \| | \| |
| 30+45 | 4.2797 | 2.53 | \|QV | \| | \| | \| |
| 30+50 | 4.2972 | 2.54 | \|QV | \| | \| | \| |
| 30+55 | 4.3148 | 2.55 | \|QV | \| | \| | \| |
| 31+ 0 | 4.3324 | 2.55 | \|QV | \| | \| | \| |
| 31+ 5 | 4.3500 | 2.56 | \|QV | \| | \| | \| |
| 31+10 | 4.3676 | 2.56 | \|QV | \| | \| | \| |
| 31+15 | 4.3852 | 2.56 | \|QV | \| | \| | \| |
| 31+20 | 4.4030 | 2.59 | \|QV | \| | \| | \| |
| 31+25 | 4.4218 | 2.73 | \|QV | \| | \| | \| |
| 31+30 | 4.4410 | 2.78 | \|QV | \| | \| | \| |
| 31+35 | 4.4605 | 2.84 | \|QV | \| | \| | \| |
| 31+40 | 4.4811 | 2.98 | \|QV | \| | \| | \| |
| 31+45 | 4.5020 | 3.03 | \|QV | \| | \| | \| |
| 31+50 | 4.5233 | 3.09 | \|QV | \| | \| | \| |
| 31+55 | 4.5456 | 3.24 | \|QV | \| | \| | \| |

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|---|---|---|---|---|---|---|
| 32+ 0 | 4.5682 | 3.29 | QV | | | |
| 32+ 5 | 4.5915 | 3.38 | QV | | | |
| 32+10 | 4.6168 | 3.67 | Q | | | |
| 32+15 | 4.6428 | 3.77 | Q | | | |
| 32+20 | 4.6690 | 3.81 | Q | | | |
| 32+25 | 4.6954 | 3.82 | Q | | | |
| 32+30 | 4.7218 | 3.83 | Q | | | |
| 32+35 | 4.7484 | 3.87 | Q | | | |
| 32+40 | 4.7760 | 4.01 | Q | | | |
| 32+45 | 4.8040 | 4.06 | QV | | | |
| 32+50 | 4.8323 | 4.11 | QV | | | |
| 32+55 | 4.8617 | 4.26 | QV | | | |
| 33+ 0 | 4.8914 | 4.31 | QV | | | |
| 33+ 5 | 4.9217 | 4.40 | QV | | | |
| 33+10 | 4.9540 | 4.70 | QV | | | |
| 33+15 | 4.9870 | 4.79 | QV | | | |
| 33+20 | 5.0206 | 4.87 | QV | | | |
| 33+25 | 5.0552 | 5.02 | QV | | | |
| 33+30 | 5.0901 | 5.08 | QV | | | |
| 33+35 | 5.1255 | 5.13 | QV | | | |
| 33+40 | 5.1619 | 5.28 | Q | | | |
| 33+45 | 5.1986 | 5.33 | Q | | | |
| 33+50 | 5.2358 | 5.39 | Q | | | |
| 33+55 | 5.2739 | 5.54 | Q | | | |
| 34+ 0 | 5.3124 | 5.59 | Q | | | |
| 34+ 5 | 5.3493 | 5.36 | Q | | | |
| 34+10 | 5.3795 | 4.37 | QV | | | |
| 34+15 | 5.4073 | 4.04 | QV | | | |
| 34+20 | 5.4342 | 3.91 | QV | | | |
| 34+25 | 5.4608 | 3.86 | QV | | | |
| 34+30 | 5.4873 | 3.85 | QV | | | |
| 34+35 | 5.5149 | 4.01 | QV | | | |
| 34+40 | 5.5475 | 4.72 | QV | | | |
| 34+45 | 5.5816 | 4.96 | QV | | | |
| 34+50 | 5.6164 | 5.06 | QV | | | |
| 34+55 | 5.6515 | 5.09 | QV | | | |
| 35+ 0 | 5.6866 | 5.10 | QV | | | |
| 35+ 5 | 5.7216 | 5.07 | QV | | | |
| 35+10 | 5.7556 | 4.93 | QV | | | |
| 35+15 | 5.7892 | 4.89 | QV | | | |
| 35+20 | 5.8227 | 4.87 | QV | | | |
| 35+25 | 5.8562 | 4.86 | QV | | | |
| 35+30 | 5.8896 | 4.86 | QV | | | |
| 35+35 | 5.9226 | 4.78 | QV | | | |
| 35+40 | 5.9536 | 4.50 | QV | | | |
| 35+45 | 5.9839 | 4.40 | QV | | | |
| 35+50 | 6.0142 | 4.40 | QV | | | |
| 35+55 | 6.0454 | 4.53 | QV | | | |
| 36+ 0 | 6.0769 | 4.57 | QV | | | |
| 36+ 5 | 6.1102 | 4.84 | QV | | | |
| 36+10 | 6.1505 | 5.84 | Q | | | |
| 36+15 | 6.1930 | 6.18 | Q | | | |
| 36+20 | 6.2367 | 6.35 | Q | | | |
| 36+25 | 6.2817 | 6.54 | Q | | | |
| 36+30 | 6.3272 | 6.60 | Q | | | |
| 36+35 | 6.3733 | 6.70 | Q | | | |
| 36+40 | 6.4215 | 7.00 | QV | | | |
| 36+45 | 6.4704 | 7.09 | Q | | | |
| 36+50 | 6.5197 | 7.17 | Q | | | |
| 36+55 | 6.5702 | 7.32 | Q | | | |
| 37+ 0 | 6.6210 | 7.38 | Q | | | |
| 37+ 5 | 6.6732 | 7.58 | Q | | | |
| 37+10 | 6.7303 | 8.29 | Q | | | |
| 37+15 | 6.7891 | 8.54 | Q | | | |
| 37+20 | 6.8485 | 8.63 | Q | | | |
| 37+25 | 6.9082 | 8.67 | Q | | | |
| 37+30 | 6.9680 | 8.68 | Q | | | |
| 37+35 | 7.0251 | 8.30 | Q | | | |
| 37+40 | 7.0715 | 6.73 | QV | | | |
| 37+45 | 7.1143 | 6.21 | QV | | | |
| 37+50 | 7.1556 | 6.00 | QV | | | |
| 37+55 | 7.1964 | 5.92 | QV | | | |
| 38+ 0 | 7.2370 | 5.90 | QV | | | |
| 38+ 5 | 7.2785 | 6.02 | QV | | | |
| 38+10 | 7.3238 | 6.59 | QV | | | |
| 38+15 | 7.3705 | 6.78 | QV | | | |
| 38+20 | 7.4175 | 6.82 | QV | | | |
| 38+25 | 7.4637 | 6.71 | QV | | | |

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|---|---|---|---|---|---|---|---|
| 38+30 | 7.5096 | 6.67 | \| QV | \| | \| | \| | \| |
| 38+35 | 7.5554 | 6.65 | \| QV | \| | \| | \| | \| |
| 38+40 | 7.6012 | 6.65 | \| QV | \| | \| | \| | \| |
| 38+45 | 7.6470 | 6.65 | \| QV | \| | \| | \| | \| |
| 38+50 | 7.6925 | 6.61 | \| QV | \| | \| | \| | \| |
| 38+55 | 7.7370 | 6.47 | \| QV | \| | \| | \| | \| |
| 39+ 0 | 7.7812 | 6.42 | \| QV | \| | \| | \| | \| |
| 39+ 5 | 7.8251 | 6.36 | \| QV | \| | \| | \| | \| |
| 39+10 | 7.8679 | 6.22 | \| QV | \| | \| | \| | \| |
| 39+15 | 7.9103 | 6.17 | \| QV | \| | \| | \| | \| |
| 39+20 | 7.9524 | 6.11 | \| QV | \| | \| | \| | \| |
| 39+25 | 7.9934 | 5.96 | \| Q V | \| | \| | \| | \| |
| 39+30 | 8.0341 | 5.91 | \| Q V | \| | \| | \| | \| |
| 39+35 | 8.0737 | 5.75 | \| Q V | \| | \| | \| | \| |
| 39+40 | 8.1093 | 5.17 | \| Q V | \| | \| | \| | \| |
| 39+45 | 8.1436 | 4.98 | \| Q V | \| | \| | \| | \| |
| 39+50 | 8.1774 | 4.90 | \| Q V | \| | \| | \| | \| |
| 39+55 | 8.2109 | 4.87 | \| Q V | \| | \| | \| | \| |
| 40+ 0 | 8.2444 | 4.86 | \| Q V | \| | \| | \| | \| |
| 40+ 5 | 8.2742 | 4.32 | \| Q V | \| | \| | \| | \| |
| 40+10 | 8.2893 | 2.19 | \|Q V | \| | \| | \| | \| |
| 40+15 | 8.2994 | 1.47 | Q V | \| | \| | \| | \| |
| 40+20 | 8.3076 | 1.18 | Q V | \| | \| | \| | \| |
| 40+25 | 8.3150 | 1.08 | Q V | \| | \| | \| | \| |
| 40+30 | 8.3223 | 1.05 | Q V | \| | \| | \| | \| |
| 40+35 | 8.3291 | 0.99 | Q V | \| | \| | \| | \| |
| 40+40 | 8.3349 | 0.84 | Q V | \| | \| | \| | \| |
| 40+45 | 8.3404 | 0.80 | Q V | \| | \| | \| | \| |
| 40+50 | 8.3458 | 0.78 | Q V | \| | \| | \| | \| |
| 40+55 | 8.3511 | 0.77 | Q V | \| | \| | \| | \| |
| 41+ 0 | 8.3564 | 0.77 | Q V | \| | \| | \| | \| |
| 41+ 5 | 8.3621 | 0.84 | Q V | \| | \| | \| | \| |
| 41+10 | 8.3699 | 1.12 | Q V | \| | \| | \| | \| |
| 41+15 | 8.3782 | 1.22 | Q V | \| | \| | \| | \| |
| 41+20 | 8.3869 | 1.26 | Q V | \| | \| | \| | \| |
| 41+25 | 8.3956 | 1.27 | Q V | \| | \| | \| | \| |
| 41+30 | 8.4044 | 1.27 | Q V | \| | \| | \| | \| |
| 41+35 | 8.4132 | 1.28 | Q V | \| | \| | \| | \| |
| 41+40 | 8.4220 | 1.28 | Q V | \| | \| | \| | \| |
| 41+45 | 8.4308 | 1.28 | Q V | \| | \| | \| | \| |
| 41+50 | 8.4394 | 1.24 | Q V | \| | \| | \| | \| |
| 41+55 | 8.4469 | 1.10 | Q V | \| | \| | \| | \| |
| 42+ 0 | 8.4542 | 1.05 | Q V | \| | \| | \| | \| |
| 42+ 5 | 8.4613 | 1.03 | Q V | \| | \| | \| | \| |
| 42+10 | 8.4684 | 1.03 | Q V | \| | \| | \| | \| |
| 42+15 | 8.4754 | 1.02 | Q V | \| | \| | \| | \| |
| 42+20 | 8.4825 | 1.02 | Q V | \| | \| | \| | \| |
| 42+25 | 8.4895 | 1.02 | Q V | \| | \| | \| | \| |
| 42+30 | 8.4965 | 1.02 | Q V | \| | \| | \| | \| |
| 42+35 | 8.5033 | 0.99 | Q V | \| | \| | \| | \| |
| 42+40 | 8.5091 | 0.84 | Q V | \| | \| | \| | \| |
| 42+45 | 8.5146 | 0.80 | Q V | \| | \| | \| | \| |
| 42+50 | 8.5197 | 0.74 | Q V | \| | \| | \| | \| |
| 42+55 | 8.5238 | 0.59 | Q V | \| | \| | \| | \| |
| 43+ 0 | 8.5276 | 0.54 | Q V | \| | \| | \| | \| |
| 43+ 5 | 8.5314 | 0.56 | Q V | \| | \| | \| | \| |
| 43+10 | 8.5362 | 0.69 | Q V | \| | \| | \| | \| |
| 43+15 | 8.5413 | 0.74 | Q V | \| | \| | \| | \| |
| 43+20 | 8.5467 | 0.79 | Q V | \| | \| | \| | \| |
| 43+25 | 8.5532 | 0.94 | Q V | \| | \| | \| | \| |
| 43+30 | 8.5600 | 0.99 | Q V | \| | \| | \| | \| |
| 43+35 | 8.5667 | 0.98 | Q V | \| | \| | \| | \| |
| 43+40 | 8.5725 | 0.84 | Q V | \| | \| | \| | \| |
| 43+45 | 8.5780 | 0.79 | Q V | \| | \| | \| | \| |
| 43+50 | 8.5831 | 0.74 | Q V | \| | \| | \| | \| |
| 43+55 | 8.5872 | 0.59 | Q V | \| | \| | \| | \| |
| 44+ 0 | 8.5909 | 0.54 | Q V | \| | \| | \| | \| |
| 44+ 5 | 8.5948 | 0.56 | Q V | \| | \| | \| | \| |
| 44+10 | 8.5995 | 0.69 | Q V | \| | \| | \| | \| |
| 44+15 | 8.6046 | 0.74 | Q V | \| | \| | \| | \| |
| 44+20 | 8.6098 | 0.76 | Q V | \| | \| | \| | \| |
| 44+25 | 8.6151 | 0.76 | Q V | \| | \| | \| | \| |
| 44+30 | 8.6203 | 0.76 | Q V | \| | \| | \| | \| |
| 44+35 | 8.6256 | 0.77 | Q V | \| | \| | \| | \| |
| 44+40 | 8.6309 | 0.77 | Q V | \| | \| | \| | \| |
| 44+45 | 8.6362 | 0.77 | Q V | \| | \| | \| | \| |
| 44+50 | 8.6412 | 0.73 | Q V | \| | \| | \| | \| |
| 44+55 | 8.6453 | 0.59 | Q V | \| | \| | \| | \| |

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|---|---|---|---|---|---|---|---|---|
| 45+ 0 | 8.6490 | 0.54 | Q | V | | | | |
| 45+ 5 | 8.6528 | 0.56 | Q | V | | | | |
| 45+10 | 8.6576 | 0.69 | Q | V | | | | |
| 45+15 | 8.6627 | 0.74 | Q | V | | | | |
| 45+20 | 8.6677 | 0.72 | Q | V | | | | |
| 45+25 | 8.6717 | 0.58 | Q | V | | | | |
| 45+30 | 8.6754 | 0.54 | Q | V | | | | |
| 45+35 | 8.6792 | 0.56 | Q | V | | | | |
| 45+40 | 8.6840 | 0.69 | Q | V | | | | |
| 45+45 | 8.6891 | 0.74 | Q | V | | | | |
| 45+50 | 8.6941 | 0.72 | Q | V | | | | |
| 45+55 | 8.6981 | 0.58 | Q | V | | | | |
| 46+ 0 | 8.7018 | 0.54 | Q | V | | | | |
| 46+ 5 | 8.7056 | 0.56 | Q | V | | | | |
| 46+10 | 8.7104 | 0.69 | Q | V | | | | |
| 46+15 | 8.7155 | 0.74 | Q | V | | | | |
| 46+20 | 8.7205 | 0.72 | Q | V | | | | |
| 46+25 | 8.7245 | 0.58 | Q | V | | | | |
| 46+30 | 8.7282 | 0.54 | Q | V | | | | |
| 46+35 | 8.7318 | 0.52 | Q | V | | | | |
| 46+40 | 8.7353 | 0.52 | Q | V | | | | |
| 46+45 | 8.7389 | 0.51 | Q | V | | | | |
| 46+50 | 8.7424 | 0.51 | Q | V | | | | |
| 46+55 | 8.7459 | 0.51 | Q | V | | | | |
| 47+ 0 | 8.7494 | 0.51 | Q | V | | | | |
| 47+ 5 | 8.7530 | 0.51 | Q | V | | | | |
| 47+10 | 8.7565 | 0.51 | Q | V | | | | |
| 47+15 | 8.7600 | 0.51 | Q | V | | | | |
| 47+20 | 8.7635 | 0.51 | Q | V | | | | |
| 47+25 | 8.7670 | 0.51 | Q | V | | | | |
| 47+30 | 8.7706 | 0.51 | Q | V | | | | |
| 47+35 | 8.7741 | 0.51 | Q | V | | | | |
| 47+40 | 8.7776 | 0.51 | Q | V | | | | |
| 47+45 | 8.7811 | 0.51 | Q | V | | | | |
| 47+50 | 8.7846 | 0.51 | Q | V | | | | |
| 47+55 | 8.7882 | 0.51 | Q | V | | | | |
| 48+ 0 | 8.7917 | 0.51 | Q | V | | | | |
| 48+ 5 | 8.7923 | 0.09 | Q | V | | | | |
| 48+10 | 8.7954 | 0.45 | Q | V | | | | |
| 48+15 | 8.7993 | 0.57 | Q | V | | | | |
| 48+20 | 8.8039 | 0.67 | Q | V | | | | |
| 48+25 | 8.8098 | 0.86 | Q | V | | | | |
| 48+30 | 8.8162 | 0.93 | Q | V | | | | |
| 48+35 | 8.8228 | 0.96 | Q | V | | | | |
| 48+40 | 8.8295 | 0.97 | Q | V | | | | |
| 48+45 | 8.8361 | 0.97 | Q | V | | | | |
| 48+50 | 8.8431 | 1.02 | Q | V | | | | |
| 48+55 | 8.8514 | 1.20 | Q | V | | | | |
| 49+ 0 | 8.8600 | 1.26 | Q | V | | | | |
| 49+ 5 | 8.8685 | 1.24 | Q | V | | | | |
| 49+10 | 8.8759 | 1.06 | Q | V | | | | |
| 49+15 | 8.8828 | 1.01 | Q | V | | | | |
| 49+20 | 8.8896 | 0.98 | Q | V | | | | |
| 49+25 | 8.8963 | 0.98 | Q | V | | | | |
| 49+30 | 8.9030 | 0.97 | Q | V | | | | |
| 49+35 | 8.9097 | 0.97 | Q | V | | | | |
| 49+40 | 8.9164 | 0.97 | Q | V | | | | |
| 49+45 | 8.9231 | 0.97 | Q | V | | | | |
| 49+50 | 8.9301 | 1.02 | Q | V | | | | |
| 49+55 | 8.9383 | 1.20 | Q | V | | | | |
| 50+ 0 | 8.9470 | 1.26 | Q | V | | | | |
| 50+ 5 | 8.9558 | 1.28 | Q | V | | | | |
| 50+10 | 8.9647 | 1.29 | Q | V | | | | |
| 50+15 | 8.9736 | 1.29 | Q | V | | | | |
| 50+20 | 8.9825 | 1.29 | Q | V | | | | |
| 50+25 | 8.9914 | 1.29 | Q | V | | | | |
| 50+30 | 9.0003 | 1.29 | Q | V | | | | |
| 50+35 | 9.0096 | 1.34 | Q | V | | | | |
| 50+40 | 9.0200 | 1.52 | Q | V | | | | |
| 50+45 | 9.0309 | 1.58 | Q | V | | | | |
| 50+50 | 9.0420 | 1.60 | Q | V | | | | |
| 50+55 | 9.0531 | 1.61 | Q | V | | | | |
| 51+ 0 | 9.0642 | 1.62 | Q | V | | | | |
| 51+ 5 | 9.0753 | 1.62 | Q | V | | | | |
| 51+10 | 9.0865 | 1.62 | Q | V | | | | |
| 51+15 | 9.0976 | 1.62 | Q | V | | | | |
| 51+20 | 9.1088 | 1.62 | Q | V | | | | |
| 51+25 | 9.1199 | 1.62 | Q | V | | | | |

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51+30       9.1311      1.62  Q    V    |           |           |           |
51+35       9.1422      1.62  Q    V    |           |           |           |
51+40       9.1534      1.62  Q    V    |           |           |           |
51+45       9.1645      1.62  Q    V    |           |           |           |
51+50       9.1760      1.66  Q    V    |           |           |           |
51+55       9.1887      1.84  |Q   V    |           |           |           |
52+ 0       9.2018      1.90  |Q   V    |           |           |           |
52+ 5       9.2151      1.93  |Q   V    |           |           |           |
52+10       9.2284      1.94  |Q   V    |           |           |           |
52+15       9.2418      1.94  |Q   V    |           |           |           |
52+20       9.2554      1.99  |Q   V    |           |           |           |
52+25       9.2704      2.17  |Q   V    |           |           |           |
52+30       9.2857      2.23  |Q   V    |           |           |           |
52+35       9.3012      2.25  |Q   V    |           |           |           |
52+40       9.3168      2.26  |Q   V    |           |           |           |
52+45       9.3324      2.26  |Q   V    |           |           |           |
52+50       9.3483      2.31  |Q   V    |           |           |           |
52+55       9.3654      2.49  |Q   V    |           |           |           |
53+ 0       9.3830      2.55  |Q   V    |           |           |           |
53+ 5       9.4001      2.49  |Q   V    |           |           |           |
53+10       9.4148      2.13  |Q   V    |           |           |           |
53+15       9.4287      2.02  |Q   V    |           |           |           |
53+20       9.4426      2.01  |Q   V    |           |           |           |
53+25       9.4576      2.18  |Q   V    |           |           |           |
53+30       9.4729      2.23  |Q   V    |           |           |           |
53+35       9.4888      2.30  |Q   V    |           |           |           |
53+40       9.5059      2.49  |Q   V    |           |           |           |
53+45       9.5234      2.55  |Q   V    |           |           |           |
53+50       9.5412      2.58  |Q   V    |           |           |           |
53+55       9.5590      2.58  |Q   V    |           |           |           |
54+ 0       9.5768      2.59  |Q   V    |           |           |           |
54+ 5       9.5949      2.63  |Q    V   |           |           |           |
54+10       9.6143      2.81  |Q    V   |           |           |           |
54+15       9.6341      2.87  |Q    V   |           |           |           |
54+20       9.6541      2.90  |Q    V   |           |           |           |
54+25       9.6741      2.91  |Q    V   |           |           |           |
54+30       9.6942      2.91  |Q    V   |           |           |           |
54+35       9.7145      2.96  |Q    V   |           |           |           |
54+40       9.7362      3.14  |Q    V   |           |           |           |
54+45       9.7582      3.20  |Q    V   |           |           |           |
54+50       9.7804      3.22  |Q    V   |           |           |           |
54+55       9.8026      3.23  |Q    V   |           |           |           |
55+ 0       9.8249      3.23  |Q    V   |           |           |           |
55+ 5       9.8472      3.24  |Q    V   |           |           |           |
55+10       9.8695      3.24  |Q    V   |           |           |           |
55+15       9.8918      3.24  |Q    V   |           |           |           |
55+20       9.9144      3.28  |Q    V   |           |           |           |
55+25       9.9382      3.46  |Q    V   |           |           |           |
55+30       9.9625      3.52  | Q   V   |           |           |           |
55+35       9.9872      3.59  | Q   V   |           |           |           |
55+40      10.0133      3.78  | Q   V   |           |           |           |
55+45      10.0397      3.84  | Q   V   |           |           |           |
55+50      10.0667      3.92  | Q   V   |           |           |           |
55+55      10.0950      4.10  | Q   V   |           |           |           |
56+ 0      10.1237      4.17  | Q   V   |           |           |           |
56+ 5      10.1532      4.28  | Q   V   |           |           |           |
56+10      10.1852      4.65  | Q   V   |           |           |           |
56+15      10.2181      4.78  | Q   V   |           |           |           |
56+20      10.2513      4.83  | Q   V   |           |           |           |
56+25      10.2847      4.84  | Q   V   |           |           |           |
56+30      10.3181      4.85  | Q   V   |           |           |           |
56+35      10.3519      4.90  | Q   V   |           |           |           |
56+40      10.3869      5.08  | Q   V   |           |           |           |
56+45      10.4223      5.14  | Q   V   |           |           |           |
56+50      10.4581      5.21  | Q   V   |           |           |           |
56+55      10.4953      5.40  |  Q  V   |           |           |           |
57+ 0      10.5329      5.46  |  Q  V   |           |           |           |
57+ 5      10.5714      5.58  |  Q  V   |           |           |           |
57+10      10.6123      5.95  |  Q  V   |           |           |           |
57+15      10.6541      6.07  |  Q  V   |           |           |           |
57+20      10.6966      6.17  |  Q  V   |           |           |           |
57+25      10.7404      6.36  |  Q  V   |           |           |           |
57+30      10.7847      6.43  |  Q  V   |           |           |           |
57+35      10.8295      6.50  |  Q  V   |           |           |           |
57+40      10.8756      6.69  |  Q  V   |           |           |           |
57+45      10.9222      6.76  |  Q  V   |           |           |           |
57+50      10.9692      6.83  |  Q  V   |           |           |           |
57+55      11.0175      7.02  |   Q V   |           |           |           |
```

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 58+ 0 | 11.0663 | 7.08 | Q V | | | | |
| 58+ 5 | 11.1130 | 6.79 | Q V | | | | |
| 58+10 | 11.1512 | 5.54 | Q V | | | | |
| 58+15 | 11.1865 | 5.12 | Q V | | | | |
| 58+20 | 11.2206 | 4.95 | Q V | | | | |
| 58+25 | 11.2543 | 4.89 | Q V | | | | |
| 58+30 | 11.2878 | 4.87 | Q V | | | | |
| 58+35 | 11.3228 | 5.08 | Q V | | | | |
| 58+40 | 11.3640 | 5.98 | Q V | | | | |
| 58+45 | 11.4073 | 6.28 | Q V | | | | |
| 58+50 | 11.4514 | 6.41 | Q V | | | | |
| 58+55 | 11.4958 | 6.45 | Q V | | | | |
| 59+ 0 | 11.5403 | 6.46 | Q V | | | | |
| 59+ 5 | 11.5846 | 6.43 | Q V | | | | |
| 59+10 | 11.6276 | 6.25 | Q V | | | | |
| 59+15 | 11.6702 | 6.19 | Q V | | | | |
| 59+20 | 11.7127 | 6.16 | Q V | | | | |
| 59+25 | 11.7551 | 6.16 | Q V | | | | |
| 59+30 | 11.7974 | 6.15 | Q V | | | | |
| 59+35 | 11.8392 | 6.06 | Q V | | | | |
| 59+40 | 11.8784 | 5.70 | Q V | | | | |
| 59+45 | 11.9168 | 5.58 | Q V | | | | |
| 59+50 | 11.9552 | 5.57 | Q V | | | | |
| 59+55 | 11.9948 | 5.74 | Q V | | | | |
| 60+ 0 | 12.0347 | 5.79 | Q V | | | | |
| 60+ 5 | 12.0769 | 6.13 | Q V | | | | |
| 60+10 | 12.1278 | 7.40 | Q V | | | | |
| 60+15 | 12.1817 | 7.82 | Q V | | | | |
| 60+20 | 12.2370 | 8.04 | Q V | | | | |
| 60+25 | 12.2941 | 8.28 | Q V | | | | |
| 60+30 | 12.3517 | 8.36 | Q V | | | | |
| 60+35 | 12.4101 | 8.49 | Q V | | | | |
| 60+40 | 12.4711 | 8.86 | Q V | | | | |
| 60+45 | 12.5330 | 8.98 | Q V | | | | |
| 60+50 | 12.5956 | 9.08 | Q V | | | | |
| 60+55 | 12.6595 | 9.28 | Q V | | | | |
| 61+ 0 | 12.7238 | 9.34 | Q V | | | | |
| 61+ 5 | 12.7899 | 9.60 | Q V | | | | |
| 61+10 | 12.8623 | 10.51 | Q V | | | | |
| 61+15 | 12.9367 | 10.81 | Q V | | | | |
| 61+20 | 13.0121 | 10.94 | Q V | | | | |
| 61+25 | 13.0877 | 10.98 | Q V | | | | |
| 61+30 | 13.1634 | 10.99 | Q V | | | | |
| 61+35 | 13.2357 | 10.51 | Q V | | | | |
| 61+40 | 13.2945 | 8.53 | Q V | | | | |
| 61+45 | 13.3487 | 7.87 | Q V | | | | |
| 61+50 | 13.4010 | 7.59 | Q V | | | | |
| 61+55 | 13.4526 | 7.50 | Q V | | | | |
| 62+ 0 | 13.5041 | 7.47 | Q V | | | | |
| 62+ 5 | 13.5566 | 7.63 | Q V | | | | |
| 62+10 | 13.6141 | 8.34 | Q V | | | | |
| 62+15 | 13.6732 | 8.59 | Q V | | | | |
| 62+20 | 13.7327 | 8.64 | Q V | | | | |
| 62+25 | 13.7912 | 8.49 | Q V | | | | |
| 62+30 | 13.8494 | 8.44 | Q V | | | | |
| 62+35 | 13.9074 | 8.43 | Q V | | | | |
| 62+40 | 13.9654 | 8.42 | Q V | | | | |
| 62+45 | 14.0234 | 8.42 | Q V | | | | |
| 62+50 | 14.0811 | 8.37 | Q V | | | | |
| 62+55 | 14.1375 | 8.19 | Q V | | | | |
| 63+ 0 | 14.1935 | 8.13 | Q V | | | | |
| 63+ 5 | 14.2490 | 8.06 | Q V | | | | |
| 63+10 | 14.3032 | 7.87 | Q V | | | | |
| 63+15 | 14.3570 | 7.81 | Q V | | | | |
| 63+20 | 14.4103 | 7.74 | Q V | | | | |
| 63+25 | 14.4623 | 7.55 | Q V | | | | |
| 63+30 | 14.5138 | 7.49 | Q V | | | | |
| 63+35 | 14.5639 | 7.28 | Q V | | | | |
| 63+40 | 14.6090 | 6.55 | Q V | | | | |
| 63+45 | 14.6525 | 6.31 | Q V | | | | |
| 63+50 | 14.6952 | 6.21 | Q V | | | | |
| 63+55 | 14.7377 | 6.17 | Q V | | | | |
| 64+ 0 | 14.7801 | 6.16 | Q V | | | | |
| 64+ 5 | 14.8178 | 5.48 | Q V | | | | |
| 64+10 | 14.8370 | 2.78 | Q V | | | | |
| 64+15 | 14.8498 | 1.87 | Q V | | | | |
| 64+20 | 14.8601 | 1.50 | Q V | | | | |
| 64+25 | 14.8696 | 1.37 | Q V | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 64+30 | 14.8788 | 1.33 | Q | V | | | |
| 64+35 | 14.8874 | 1.26 | Q | V | | | |
| 64+40 | 14.8948 | 1.07 | Q | V | | | |
| 64+45 | 14.9017 | 1.01 | Q | V | | | |
| 64+50 | 14.9085 | 0.98 | Q | V | | | |
| 64+55 | 14.9152 | 0.98 | Q | V | | | |
| 65+ 0 | 14.9219 | 0.97 | Q | V | | | |
| 65+ 5 | 14.9293 | 1.06 | Q | V | | | |
| 65+10 | 14.9390 | 1.42 | Q | V | | | |
| 65+15 | 14.9497 | 1.54 | Q | V | | | |
| 65+20 | 14.9606 | 1.59 | Q | V | | | |
| 65+25 | 14.9717 | 1.61 | Q | V | | | |
| 65+30 | 14.9828 | 1.61 | Q | V | | | |
| 65+35 | 14.9939 | 1.62 | Q | V | | | |
| 65+40 | 15.0051 | 1.62 | Q | V | | | |
| 65+45 | 15.0162 | 1.62 | Q | V | | | |
| 65+50 | 15.0271 | 1.57 | Q | V | | | |
| 65+55 | 15.0367 | 1.39 | Q | V | | | |
| 66+ 0 | 15.0459 | 1.33 | Q | V | | | |
| 66+ 5 | 15.0549 | 1.31 | Q | V | | | |
| 66+10 | 15.0638 | 1.30 | Q | V | | | |
| 66+15 | 15.0728 | 1.30 | Q | V | | | |
| 66+20 | 15.0817 | 1.30 | Q | V | | | |
| 66+25 | 15.0906 | 1.29 | Q | V | | | |
| 66+30 | 15.0995 | 1.29 | Q | V | | | |
| 66+35 | 15.1081 | 1.25 | Q | V | | | |
| 66+40 | 15.1155 | 1.07 | Q | V | | | |
| 66+45 | 15.1224 | 1.01 | Q | V | | | |
| 66+50 | 15.1289 | 0.94 | Q | V | | | |
| 66+55 | 15.1341 | 0.75 | Q | V | | | |
| 67+ 0 | 15.1388 | 0.69 | Q | V | | | |
| 67+ 5 | 15.1437 | 0.71 | Q | V | | | |
| 67+10 | 15.1497 | 0.88 | Q | V | | | |
| 67+15 | 15.1562 | 0.94 | Q | V | | | |
| 67+20 | 15.1631 | 1.00 | Q | V | | | |
| 67+25 | 15.1713 | 1.19 | Q | V | | | |
| 67+30 | 15.1799 | 1.25 | Q | V | | | |
| 67+35 | 15.1884 | 1.24 | Q | V | | | |
| 67+40 | 15.1958 | 1.06 | Q | V | | | |
| 67+45 | 15.2027 | 1.01 | Q | V | | | |
| 67+50 | 15.2092 | 0.94 | Q | V | | | |
| 67+55 | 15.2143 | 0.75 | Q | V | | | |
| 68+ 0 | 15.2191 | 0.69 | Q | V | | | |
| 68+ 5 | 15.2239 | 0.71 | Q | V | | | |
| 68+10 | 15.2300 | 0.88 | Q | V | | | |
| 68+15 | 15.2364 | 0.94 | Q | V | | | |
| 68+20 | 15.2430 | 0.96 | Q | V | | | |
| 68+25 | 15.2497 | 0.97 | Q | V | | | |
| 68+30 | 15.2563 | 0.97 | Q | V | | | |
| 68+35 | 15.2630 | 0.97 | Q | V | | | |
| 68+40 | 15.2697 | 0.97 | Q | V | | | |
| 68+45 | 15.2764 | 0.97 | Q | V | | | |
| 68+50 | 15.2828 | 0.93 | Q | V | | | |
| 68+55 | 15.2879 | 0.75 | Q | V | | | |
| 69+ 0 | 15.2926 | 0.69 | Q | V | | | |
| 69+ 5 | 15.2975 | 0.71 | Q | V | | | |
| 69+10 | 15.3035 | 0.88 | Q | V | | | |
| 69+15 | 15.3100 | 0.94 | Q | V | | | |
| 69+20 | 15.3163 | 0.91 | Q | V | | | |
| 69+25 | 15.3214 | 0.74 | Q | V | | | |
| 69+30 | 15.3261 | 0.68 | Q | V | | | |
| 69+35 | 15.3309 | 0.71 | Q | V | | | |
| 69+40 | 15.3370 | 0.88 | Q | V | | | |
| 69+45 | 15.3434 | 0.94 | Q | V | | | |
| 69+50 | 15.3497 | 0.91 | Q | V | | | |
| 69+55 | 15.3548 | 0.74 | Q | V | | | |
| 70+ 0 | 15.3595 | 0.68 | Q | V | | | |
| 70+ 5 | 15.3644 | 0.71 | Q | V | | | |
| 70+10 | 15.3704 | 0.88 | Q | V | | | |
| 70+15 | 15.3769 | 0.94 | Q | V | | | |
| 70+20 | 15.3831 | 0.91 | Q | V | | | |
| 70+25 | 15.3882 | 0.74 | Q | V | | | |
| 70+30 | 15.3930 | 0.68 | Q | V | | | |
| 70+35 | 15.3975 | 0.66 | Q | V | | | |
| 70+40 | 15.4020 | 0.65 | Q | V | | | |
| 70+45 | 15.4065 | 0.65 | Q | V | | | |
| 70+50 | 15.4109 | 0.65 | Q | V | | | |
| 70+55 | 15.4154 | 0.65 | Q | V | | | |

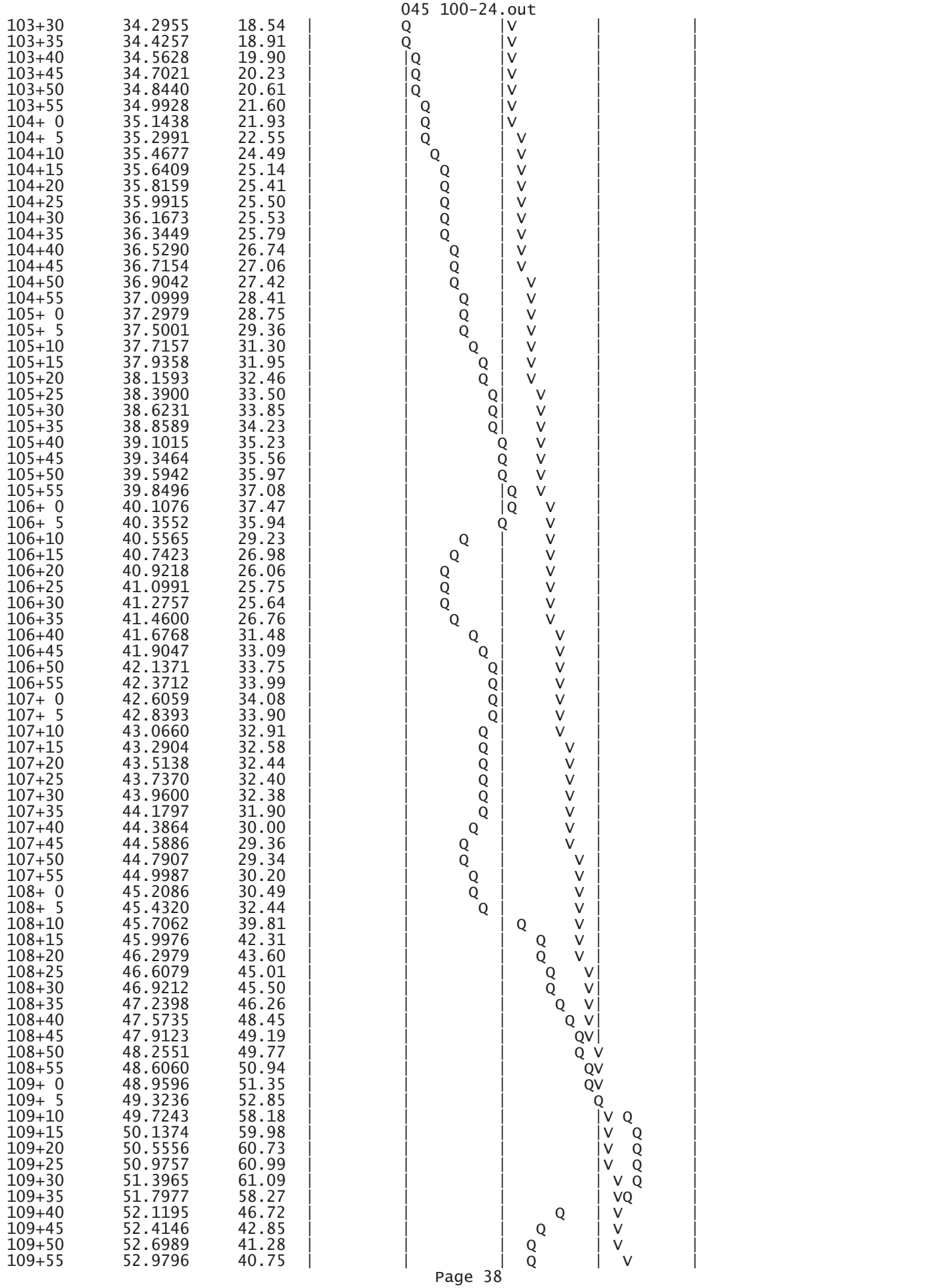
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71+ 0      15.4198      0.65  Q        V|          |          |          |
71+ 5      15.4243      0.65  Q        V|          |          |          |
71+10      15.4288      0.65  Q        V|          |          |          |
71+15      15.4332      0.65  Q        V|          |          |          |
71+20      15.4377      0.65  Q        V|          |          |          |
71+25      15.4421      0.65  Q        V|          |          |          |
71+30      15.4466      0.65  Q        V|          |          |          |
71+35      15.4511      0.65  Q        V|          |          |          |
71+40      15.4555      0.65  Q        V|          |          |          |
71+45      15.4600      0.65  Q        V|          |          |          |
71+50      15.4644      0.65  Q        V|          |          |          |
71+55      15.4689      0.65  Q        V|          |          |          |
72+ 0      15.4734      0.65  Q        V|          |          |          |
72+ 5      15.4745      0.17  Q        V|          |          |          |
72+10      15.4804      0.85  Q        V|          |          |          |
72+15      15.4878      1.08  Q        V|          |          |          |
72+20      15.4965      1.26  Q        V|          |          |          |
72+25      15.5078      1.63  Q        V|          |          |          |
72+30      15.5199      1.76  |Q       V|          |          |          |
72+35      15.5324      1.81  |Q       V|          |          |          |
72+40      15.5450      1.83  |Q       V|          |          |          |
72+45      15.5576      1.84  |Q       V|          |          |          |
72+50      15.5709      1.92  |Q       V|          |          |          |
72+55      15.5865      2.27  |Q       V|          |          |          |
73+ 0      15.6029      2.38  |Q       V|          |          |          |
73+ 5      15.6190      2.34  |Q       V|          |          |          |
73+10      15.6329      2.02  |Q       V|          |          |          |
73+15      15.6460      1.91  |Q       V|          |          |          |
73+20      15.6589      1.86  |Q       V|          |          |          |
73+25      15.6716      1.85  |Q       V|          |          |          |
73+30      15.6843      1.84  |Q       V|          |          |          |
73+35      15.6970      1.84  |Q       V|          |          |          |
73+40      15.7097      1.84  |Q       V|          |          |          |
73+45      15.7223      1.84  |Q       V|          |          |          |
73+50      15.7356      1.93  |Q       V|          |          |          |
73+55      15.7512      2.27  |Q       V|          |          |          |
74+ 0      15.7676      2.38  |Q       V|          |          |          |
74+ 5      15.7843      2.43  |Q       V|          |          |          |
74+10      15.8011      2.44  |Q       V|          |          |          |
74+15      15.8180      2.45  |Q       V|          |          |          |
74+20      15.8349      2.45  |Q       V|          |          |          |
74+25      15.8518      2.45  |Q       V|          |          |          |
74+30      15.8687      2.45  |Q       V|          |          |          |
74+35      15.8862      2.54  |Q       V|          |          |          |
74+40      15.9060      2.88  |Q       V|          |          |          |
74+45      15.9266      2.99  |Q       V|          |          |          |
74+50      15.9476      3.04  |Q       V|          |          |          |
74+55      15.9686      3.06  |Q       V|          |          |          |
75+ 0      15.9897      3.06  |Q        V          |          |          |
75+ 5      16.0108      3.07  |Q        V          |          |          |
75+10      16.0319      3.07  |Q        V          |          |          |
75+15      16.0531      3.07  |Q        V          |          |          |
75+20      16.0742      3.07  |Q        V          |          |          |
75+25      16.0953      3.07  |Q        V          |          |          |
75+30      16.1164      3.07  |Q        V          |          |          |
75+35      16.1375      3.07  |Q        V          |          |          |
75+40      16.1586      3.07  |Q        V          |          |          |
75+45      16.1798      3.07  |Q        V          |          |          |
75+50      16.2015      3.15  |Q        V          |          |          |
75+55      16.2255      3.49  |Q        V          |          |          |
76+ 0      16.2504      3.61  | Q       V          |          |          |
76+ 5      16.2755      3.65  | Q       V          |          |          |
76+10      16.3008      3.67  | Q       V          |          |          |
76+15      16.3261      3.68  | Q       V          |          |          |
76+20      16.3520      3.76  | Q       V          |          |          |
76+25      16.3803      4.11  | Q       V          |          |          |
76+30      16.4094      4.22  | Q       V          |          |          |
76+35      16.4388      4.27  | Q       V          |          |          |
76+40      16.4683      4.28  | Q       V          |          |          |
76+45      16.4978      4.29  | Q       V          |          |          |
76+50      16.5280      4.38  | Q       V          |          |          |
76+55      16.5605      4.72  | Q       V          |          |          |
77+ 0      16.5938      4.83  | Q       V          |          |          |
77+ 5      16.6262      4.71  | Q       V          |          |          |
77+10      16.6540      4.04  | Q       V          |          |          |
77+15      16.6804      3.82  | Q       V          |          |          |
77+20      16.7066      3.82  | Q       V          |          |          |
77+25      16.7351      4.13  | Q       V          |          |          |
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77+30      16.7642      4.23  | Q       V          |          |          |
77+35      16.7942      4.35  | Q       V          |          |          |
77+40      16.8266      4.71  | Q       V          |          |          |
77+45      16.8599      4.83  | Q       V          |          |          |
77+50      16.8935      4.88  | Q       V          |          |          |
77+55      16.9272      4.90  | Q       V          |          |          |
78+ 0      16.9610      4.90  | Q       V          |          |          |
78+ 5      16.9953      4.99  | Q       V          |          |          |
78+10      17.0321      5.33  |  Q      V          |          |          |
78+15      17.0696      5.45  |  Q      V          |          |          |
78+20      17.1074      5.49  |  Q      V          |          |          |
78+25      17.1454      5.51  |  Q      V          |          |          |
78+30      17.1833      5.52  |  Q      V          |          |          |
78+35      17.2219      5.60  |  Q      V          |          |          |
78+40      17.2629      5.95  |  Q      V          |          |          |
78+45      17.3046      6.06  |  Q      V          |          |          |
78+50      17.3467      6.11  |  Q      V          |          |          |
78+55      17.3889      6.12  |  Q      V          |          |          |
79+ 0      17.4311      6.13  |  Q      V          |          |          |
79+ 5      17.4733      6.13  |  Q      V          |          |          |
79+10      17.5155      6.13  |  Q      V          |          |          |
79+15      17.5578      6.13  |  Q      V          |          |          |
79+20      17.6006      6.22  |  Q      |V         |          |          |
79+25      17.6458      6.56  |  Q      |V         |          |          |
79+30      17.6917      6.67  |  Q      |V         |          |          |
79+35      17.7386      6.81  |  Q      |V         |          |          |
79+40      17.7879      7.16  |   Q     |V         |          |          |
79+45      17.8381      7.28  |   Q     |V         |          |          |
79+50      17.8892      7.42  |   Q     |V         |          |          |
79+55      17.9427      7.78  |   Q     |V         |          |          |
80+ 0      17.9971      7.90  |   Q     |V         |          |          |
80+ 5      18.0530      8.12  |   Q     |V         |          |          |
80+10      18.1137      8.82  |    Q    |V         |          |          |
80+15      18.1761      9.05  |    Q    |V         |          |          |
80+20      18.2390      9.15  |    Q    |V         |          |          |
80+25      18.3023      9.18  |    Q    |V         |          |          |
80+30      18.3656      9.19  |    Q    |V         |          |          |
80+35      18.4295      9.28  |    Q    |V         |          |          |
80+40      18.4958      9.63  |    Q    |V         |          |          |
80+45      18.5629      9.74  |    Q    |V         |          |          |
80+50      18.6309      9.87  |    Q    |V         |          |          |
80+55      18.7013     10.23  |    Q    |V         |          |          |
81+ 0      18.7726     10.35  |    Q    |V         |          |          |
81+ 5      18.8454     10.57  |     Q   |V         |          |          |
81+10      18.9230     11.27  |     Q   |V         |          |          |
81+15      19.0022     11.50  |     Q   |V         |          |          |
81+20      19.0827     11.69  |     Q   |V         |          |          |
81+25      19.1657     12.06  |     Q   |V         |          |          |
81+30      19.2497     12.18  |     Q   | V        |          |          |
81+35      19.3345     12.32  |      Q  | V        |          |          |
81+40      19.4219     12.68  |      Q  | V        |          |          |
81+45      19.5101     12.80  |      Q  | V        |          |          |
81+50      19.5992     12.94  |      Q  | V        |          |          |
81+55      19.6907     13.30  |      Q  | V        |          |          |
82+ 0      19.7831     13.42  |      Q  | V        |          |          |
82+ 5      19.8717     12.87  |      Q  | V        |          |          |
82+10      19.9440     10.50  |    Q    | V        |          |          |
82+15      20.0109      9.70  |    Q    | V        |          |          |
82+20      20.0755      9.38  |    Q    | V        |          |          |
82+25      20.1393      9.27  |    Q    | V        |          |          |
82+30      20.2029      9.23  |    Q    | V        |          |          |
82+35      20.2692      9.63  |    Q    | V        |          |          |
82+40      20.3472     11.33  |     Q   | V        |          |          |
82+45      20.4292     11.90  |     Q   | V        |          |          |
82+50      20.5128     12.14  |     Q   | V        |          |          |
82+55      20.5969     12.22  |     Q   | V        |          |          |
83+ 0      20.6813     12.24  |     Q   | V        |          |          |
83+ 5      20.7651     12.18  |     Q   | V        |          |          |
83+10      20.8467     11.84  |     Q   |  V       |          |          |
83+15      20.9274     11.73  |     Q   |  V       |          |          |
83+20      21.0078     11.68  |     Q   |  V       |          |          |
83+25      21.0882     11.66  |     Q   |  V       |          |          |
83+30      21.1685     11.66  |     Q   |  V       |          |          |
83+35      21.2475     11.48  |     Q   |  V       |          |          |
83+40      21.3219     10.80  |     Q   |  V       |          |          |
83+45      21.3947     10.57  |     Q   |  V       |          |          |
83+50      21.4675     10.56  |     Q   |  V       |          |          |
83+55      21.5423     10.87  |     Q   |  V       |          |          |
```

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84+ 0      21.6179     10.98  |     Q    |  V       |          |          |
84+ 5      21.6979     11.61  |     Q    |  V       |          |          |
84+10      21.7944     14.01  |       Q  |  V       |          |          |
84+15      21.8965     14.82  |       Q  |  V       |          |          |
84+20      22.0014     15.24  |       Q  |  V       |          |          |
84+25      22.1095     15.69  |       Q  |  V       |          |          |
84+30      22.2186     15.84  |        Q |  V       |          |          |
84+35      22.3294     16.08  |        Q |  V       |          |          |
84+40      22.4450     16.79  |        Q |   V      |          |          |
84+45      22.5622     17.02  |        Q |   V      |          |          |
84+50      22.6807     17.21  |        Q |   V      |          |          |
84+55      22.8018     17.58  |         Q|   V      |          |          |
85+ 0      22.9237     17.70  |         Q|   V      |          |          |
85+ 5      23.0490     18.18  |         Q|   V      |          |          |
85+10      23.1861     19.91  |          |Q  V      |          |          |
85+15      23.3271     20.49  |          |Q  V      |          |          |
85+20      23.4698     20.72  |          |Q  V      |          |          |
85+25      23.6131     20.80  |          |Q  V      |          |          |
85+30      23.7566     20.83  |          |Q  V      |          |          |
85+35      23.8937     19.91  |          |Q  V      |          |          |
85+40      24.0050     16.16  |        Q |    V     |          |          |
85+45      24.1076     14.90  |       Q  |    V     |          |          |
85+50      24.2067     14.39  |       Q  |    V     |          |          |
85+55      24.3046     14.21  |       Q  |    V     |          |          |
86+ 0      24.4021     14.16  |       Q  |    V     |          |          |
86+ 5      24.5017     14.46  |       Q  |    V     |          |          |
86+10      24.6106     15.81  |        Q |    V     |          |          |
86+15      24.7226     16.27  |        Q |    V     |          |          |
86+20      24.8354     16.37  |        Q |    V     |          |          |
86+25      24.9462     16.09  |        Q |    V     |          |          |
86+30      25.0564     16.00  |        Q |    V     |          |          |
86+35      25.1664     15.97  |        Q |    V     |          |          |
86+40      25.2763     15.96  |        Q |    V     |          |          |
86+45      25.3861     15.95  |        Q |    V     |          |          |
86+50      25.4953     15.86  |        Q |    V     |          |          |
86+55      25.6022     15.52  |       Q  |     V    |          |          |
87+ 0      25.7083     15.40  |       Q  |     V    |          |          |
87+ 5      25.8135     15.27  |       Q  |     V    |          |          |
87+10      25.9162     14.92  |       Q  |     V    |          |          |
87+15      26.0181     14.80  |       Q  |     V    |          |          |
87+20      26.1191     14.66  |       Q  |     V    |          |          |
87+25      26.2176     14.30  |       Q  |     V    |          |          |
87+30      26.3153     14.18  |       Q  |     V    |          |          |
87+35      26.4103     13.79  |      Q   |     V    |          |          |
87+40      26.4957     12.41  |      Q   |     V    |          |          |
87+45      26.5780     11.95  |     Q    |     V    |          |          |
87+50      26.6590     11.76  |     Q    |     V    |          |          |
87+55      26.7395     11.69  |     Q    |     V    |          |          |
88+ 0      26.8199     11.67  |     Q    |     V    |          |          |
88+ 5      26.8913     10.38  |    Q     |     V    |          |          |
88+10      26.9276      5.26  |  Q       |     V    |          |          |
88+15      26.9519      3.54  | Q        |     V    |          |          |
88+20      26.9715      2.84  |Q         |     V    |          |          |
88+25      26.9894      2.60  |Q         |     V    |          |          |
88+30      27.0068      2.52  |Q         |     V    |          |          |
88+35      27.0232      2.38  |Q         |     V    |          |          |
88+40      27.0371      2.03  |Q         |     V    |          |          |
88+45      27.0503      1.91  |Q         |     V    |          |          |
88+50      27.0632      1.87  |Q         |     V    |          |          |
88+55      27.0759      1.85  |Q         |     V    |          |          |
89+ 0      27.0886      1.84  |Q         |     V    |          |          |
89+ 5      27.1024      2.01  |Q         |     V    |          |          |
89+10      27.1210      2.69  |Q         |     V    |          |          |
89+15      27.1411      2.92  |Q         |     V    |          |          |
89+20      27.1619      3.01  |Q         |     V    |          |          |
89+25      27.1829      3.05  |Q         |      V   |          |          |
89+30      27.2039      3.06  |Q         |      V   |          |          |
89+35      27.2250      3.06  |Q         |      V   |          |          |
89+40      27.2461      3.07  |Q         |      V   |          |          |
89+45      27.2673      3.07  |Q         |      V   |          |          |
89+50      27.2878      2.98  |Q         |      V   |          |          |
89+55      27.3060      2.64  |Q         |      V   |          |          |
90+ 0      27.3234      2.53  |Q         |      V   |          |          |
90+ 5      27.3404      2.48  |Q         |      V   |          |          |
90+10      27.3574      2.46  |Q         |      V   |          |          |
90+15      27.3743      2.46  |Q         |      V   |          |          |
90+20      27.3912      2.45  |Q         |      V   |          |          |
90+25      27.4081      2.45  |Q         |      V   |          |          |
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90+30      27.4250      2.45  |Q       |      V  |          |          |
90+35      27.4413      2.37  |Q       |      V  |          |          |
90+40      27.4553      2.03  |Q       |      V  |          |          |
90+45      27.4685      1.91  |Q       |      V  |          |          |
90+50      27.4807      1.78  |Q       |      V  |          |          |
90+55      27.4905      1.42  Q        |      V  |          |          |
91+ 0      27.4995      1.30  Q        |      V  |          |          |
91+ 5      27.5087      1.34  Q        |      V  |          |          |
91+10      27.5202      1.66  Q        |      V  |          |          |
91+15      27.5324      1.77  |Q       |      V  |          |          |
91+20      27.5455      1.90  |Q       |      V  |          |          |
91+25      27.5610      2.26  |Q       |      V  |          |          |
91+30      27.5774      2.38  |Q       |      V  |          |          |
91+35      27.5935      2.34  |Q       |      V  |          |          |
91+40      27.6074      2.02  |Q       |      V  |          |          |
91+45      27.6205      1.91  |Q       |      V  |          |          |
91+50      27.6328      1.78  |Q       |      V  |          |          |
91+55      27.6426      1.42  Q        |      V  |          |          |
92+ 0      27.6516      1.30  Q        |      V  |          |          |
92+ 5      27.6608      1.34  Q        |      V  |          |          |
92+10      27.6722      1.66  Q        |      V  |          |          |
92+15      27.6844      1.77  |Q       |      V  |          |          |
92+20      27.6969      1.82  |Q       |      V  |          |          |
92+25      27.7095      1.83  |Q       |      V  |          |          |
92+30      27.7222      1.84  |Q       |      V  |          |          |
92+35      27.7348      1.84  |Q       |      V  |          |          |
92+40      27.7475      1.84  |Q       |      V  |          |          |
92+45      27.7602      1.84  |Q       |      V  |          |          |
92+50      27.7723      1.75  |Q       |      V  |          |          |
92+55      27.7820      1.41  Q        |      V  |          |          |
93+ 0      27.7910      1.30  Q        |      V  |          |          |
93+ 5      27.8002      1.34  Q        |      V  |          |          |
93+10      27.8116      1.66  Q        |      V  |          |          |
93+15      27.8238      1.77  |Q       |      V  |          |          |
93+20      27.8357      1.73  Q        |      V  |          |          |
93+25      27.8454      1.40  Q        |      V  |          |          |
93+30      27.8543      1.29  Q        |      V  |          |          |
93+35      27.8635      1.34  Q        |      V  |          |          |
93+40      27.8750      1.66  Q        |      V  |          |          |
93+45      27.8872      1.77  |Q       |      V  |          |          |
93+50      27.8991      1.73  Q        |      V  |          |          |
93+55      27.9088      1.40  Q        |      V  |          |          |
94+ 0      27.9177      1.29  Q        |      V  |          |          |
94+ 5      27.9269      1.34  Q        |      V  |          |          |
94+10      27.9383      1.66  Q        |      V  |          |          |
94+15      27.9505      1.77  |Q       |      V  |          |          |
94+20      27.9624      1.73  Q        |      V  |          |          |
94+25      27.9721      1.40  Q        |      V  |          |          |
94+30      27.9810      1.29  Q        |      V  |          |          |
94+35      27.9897      1.25  Q        |      V  |          |          |
94+40      27.9982      1.24  Q        |      V  |          |          |
94+45      28.0066      1.23  Q        |      V  |          |          |
94+50      28.0151      1.23  Q        |      V  |          |          |
94+55      28.0235      1.23  Q        |      V  |          |          |
95+ 0      28.0320      1.23  Q        |      V  |          |          |
95+ 5      28.0404      1.23  Q        |      V  |          |          |
95+10      28.0489      1.23  Q        |      V  |          |          |
95+15      28.0573      1.23  Q        |      V  |          |          |
95+20      28.0658      1.23  Q        |      V  |          |          |
95+25      28.0742      1.23  Q        |      V  |          |          |
95+30      28.0827      1.23  Q        |      V  |          |          |
95+35      28.0911      1.23  Q        |      V  |          |          |
95+40      28.0996      1.23  Q        |      V  |          |          |
95+45      28.1080      1.23  Q        |      V  |          |          |
95+50      28.1165      1.23  Q        |      V  |          |          |
95+55      28.1249      1.23  Q        |      V  |          |          |
96+ 0      28.1334      1.23  Q        |      V  |          |          |
96+ 5      28.1366      0.47  Q        |      V  |          |          |
96+10      28.1529      2.37  |Q       |      V  |          |          |
96+15      28.1736      3.00  |Q       |      V  |          |          |
96+20      28.1977      3.50  | Q      |      V  |          |          |
96+25      28.2290      4.54  | Q      |      V  |          |          |
96+30      28.2626      4.88  | Q      |      V  |          |          |
96+35      28.2973      5.03  | Q      |      V  |          |          |
96+40      28.3323      5.08  | Q      |      V  |          |          |
96+45      28.3674      5.10  | Q      |      V  |          |          |
96+50      28.4042      5.35  |  Q     |      V  |          |          |
96+55      28.4476      6.29  |  Q     |      V  |          |          |
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 97+ 0      28.4931      6.61  |  Q       |       V  |          |          |
 97+ 5      28.5379      6.51  |  Q       |       V  |          |          |
 97+10      28.5765      5.60  |  Q       |       V  |          |          |
 97+15      28.6130      5.30  |  Q       |       V  |          |          |
 97+20      28.6487      5.18  | Q        |       V  |          |          |
 97+25      28.6841      5.14  | Q        |       V  |          |          |
 97+30      28.7194      5.12  | Q        |       V  |          |          |
 97+35      28.7546      5.11  | Q        |       V  |          |          |
 97+40      28.7898      5.11  | Q        |        V |          |          |
 97+45      28.8250      5.11  | Q        |        V |          |          |
 97+50      28.8618      5.35  |  Q       |        V |          |          |
 97+55      28.9052      6.29  |  Q       |        V |          |          |
 98+ 0      28.9507      6.61  |  Q       |        V |          |          |
 98+ 5      28.9972      6.74  |  Q       |        V |          |          |
 98+10      29.0439      6.79  |  Q       |        V |          |          |
 98+15      29.0907      6.80  |  Q       |        V |          |          |
 98+20      29.1377      6.81  |  Q       |        V |          |          |
 98+25      29.1846      6.81  |  Q       |        V |          |          |
 98+30      29.2315      6.81  |  Q       |        V |          |          |
 98+35      29.2801      7.05  |   Q      |        V |          |          |
 98+40      29.3352      8.00  |   Q      |        V |          |          |
 98+45      29.3924      8.32  |   Q      |        V |          |          |
 98+50      29.4506      8.45  |   Q      |        V |          |          |
 98+55      29.5091      8.49  |   Q      |        V |          |          |
 99+ 0      29.5677      8.51  |   Q      |        V |          |          |
 99+ 5      29.6263      8.52  |   Q      |        V |          |          |
 99+10      29.6850      8.52  |   Q      |        V |          |          |
 99+15      29.7436      8.52  |   Q      |        V |          |          |
 99+20      29.8023      8.52  |   Q      |        V |          |          |
 99+25      29.8610      8.52  |   Q      |        V |          |          |
 99+30      29.9196      8.52  |   Q      |        V |          |          |
 99+35      29.9783      8.52  |   Q      |        V |          |          |
 99+40      30.0370      8.52  |   Q      |        V |          |          |
 99+45      30.0956      8.52  |   Q      |        V |          |          |
 99+50      30.1559      8.76  |    Q     |        V |          |          |
 99+55      30.2227      9.70  |    Q     |        V |          |          |
100+ 0      30.2918     10.02  |    Q     |        V |          |          |
100+ 5      30.3617     10.15  |    Q     |        V |          |          |
100+10      30.4319     10.19  |    Q     |         V|          |          |
100+15      30.5022     10.21  |    Q     |         V|          |          |
100+20      30.5742     10.46  |    Q     |         V|          |          |
100+25      30.6527     11.41  |     Q    |         V|          |          |
100+30      30.7335     11.72  |     Q    |         V|          |          |
100+35      30.8151     11.85  |     Q    |         V|          |          |
100+40      30.8971     11.90  |     Q    |         V|          |          |
100+45      30.9791     11.91  |     Q    |         V|          |          |
100+50      31.0629     12.16  |     Q    |         V|          |          |
100+55      31.1531     13.11  |      Q   |         V|          |          |
101+ 0      31.2456     13.43  |      Q   |         V|          |          |
101+ 5      31.3357     13.08  |      Q   |         V|          |          |
101+10      31.4131     11.23  |     Q    |         V|          |          |
101+15      31.4862     10.61  |     Q    |         V|          |          |
101+20      31.5592     10.60  |     Q    |         V|          |          |
101+25      31.6381     11.46  |     Q    |         V|          |          |
101+30      31.7190     11.75  |     Q    |         V|          |          |
101+35      31.8023     12.10  |     Q    |         V|          |          |
101+40      31.8924     13.08  |      Q   |         V|          |          |
101+45      31.9848     13.42  |      Q   |          V          |          |
101+50      32.0781     13.55  |      Q   |          V          |          |
101+55      32.1718     13.60  |      Q   |          V          |          |
102+ 0      32.2656     13.62  |      Q   |          V          |          |
102+ 5      32.3611     13.86  |      Q   |          V          |          |
102+10      32.4631     14.81  |       Q  |          V          |          |
102+15      32.5673     15.13  |       Q  |          V          |          |
102+20      32.6724     15.26  |       Q  |          V          |          |
102+25      32.7778     15.31  |       Q  |          V          |          |
102+30      32.8833     15.32  |       Q  |          V          |          |
102+35      32.9905     15.57  |       Q  |          V          |          |
102+40      33.1043     16.52  |        Q |          V          |          |
102+45      33.2202     16.83  |        Q |          V          |          |
102+50      33.3371     16.96  |        Q |          V          |          |
102+55      33.4542     17.01  |        Q |          V          |          |
103+ 0      33.5714     17.02  |        Q |          |V         |          |
103+ 5      33.6888     17.03  |        Q |          |V         |          |
103+10      33.8061     17.04  |        Q |          |V         |          |
103+15      33.9234     17.04  |        Q |          |V         |          |
103+20      34.0424     17.27  |        Q |          |V         |          |
103+25      34.1679     18.22  |         Q          |V         |          |
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|---|---|---|---|
| 103+30 | 34.2955 | 18.54 | |
| 103+35 | 34.4257 | 18.91 | |
| 103+40 | 34.5628 | 19.90 | |
| 103+45 | 34.7021 | 20.23 | |
| 103+50 | 34.8440 | 20.61 | |
| 103+55 | 34.9928 | 21.60 | |
| 104+ 0 | 35.1438 | 21.93 | |
| 104+ 5 | 35.2991 | 22.55 | |
| 104+10 | 35.4677 | 24.49 | |
| 104+15 | 35.6409 | 25.14 | |
| 104+20 | 35.8159 | 25.41 | |
| 104+25 | 35.9915 | 25.50 | |
| 104+30 | 36.1673 | 25.53 | |
| 104+35 | 36.3449 | 25.79 | |
| 104+40 | 36.5290 | 26.74 | |
| 104+45 | 36.7154 | 27.06 | |
| 104+50 | 36.9042 | 27.42 | |
| 104+55 | 37.0999 | 28.41 | |
| 105+ 0 | 37.2979 | 28.75 | |
| 105+ 5 | 37.5001 | 29.36 | |
| 105+10 | 37.7157 | 31.30 | |
| 105+15 | 37.9358 | 31.95 | |
| 105+20 | 38.1593 | 32.46 | |
| 105+25 | 38.3900 | 33.50 | |
| 105+30 | 38.6231 | 33.85 | |
| 105+35 | 38.8589 | 34.23 | |
| 105+40 | 39.1015 | 35.23 | |
| 105+45 | 39.3464 | 35.56 | |
| 105+50 | 39.5942 | 35.97 | |
| 105+55 | 39.8496 | 37.08 | |
| 106+ 0 | 40.1076 | 37.47 | |
| 106+ 5 | 40.3552 | 35.94 | |
| 106+10 | 40.5565 | 29.23 | |
| 106+15 | 40.7423 | 26.98 | |
| 106+20 | 40.9218 | 26.06 | |
| 106+25 | 41.0991 | 25.75 | |
| 106+30 | 41.2757 | 25.64 | |
| 106+35 | 41.4600 | 26.76 | |
| 106+40 | 41.6768 | 31.48 | |
| 106+45 | 41.9047 | 33.09 | |
| 106+50 | 42.1371 | 33.75 | |
| 106+55 | 42.3712 | 33.99 | |
| 107+ 0 | 42.6059 | 34.08 | |
| 107+ 5 | 42.8393 | 33.90 | |
| 107+10 | 43.0660 | 32.91 | |
| 107+15 | 43.2904 | 32.58 | |
| 107+20 | 43.5138 | 32.44 | |
| 107+25 | 43.7370 | 32.40 | |
| 107+30 | 43.9600 | 32.38 | |
| 107+35 | 44.1797 | 31.90 | |
| 107+40 | 44.3864 | 30.00 | |
| 107+45 | 44.5886 | 29.36 | |
| 107+50 | 44.7907 | 29.34 | |
| 107+55 | 44.9987 | 30.20 | |
| 108+ 0 | 45.2086 | 30.49 | |
| 108+ 5 | 45.4320 | 32.44 | |
| 108+10 | 45.7062 | 39.81 | |
| 108+15 | 45.9976 | 42.31 | |
| 108+20 | 46.2979 | 43.60 | |
| 108+25 | 46.6079 | 45.01 | |
| 108+30 | 46.9212 | 45.50 | |
| 108+35 | 47.2398 | 46.26 | |
| 108+40 | 47.5735 | 48.45 | |
| 108+45 | 47.9123 | 49.19 | |
| 108+50 | 48.2551 | 49.77 | |
| 108+55 | 48.6060 | 50.94 | |
| 109+ 0 | 48.9596 | 51.35 | |
| 109+ 5 | 49.3236 | 52.85 | |
| 109+10 | 49.7243 | 58.18 | |
| 109+15 | 50.1374 | 59.98 | |
| 109+20 | 50.5556 | 60.73 | |
| 109+25 | 50.9757 | 60.99 | |
| 109+30 | 51.3965 | 61.09 | |
| 109+35 | 51.7977 | 58.27 | |
| 109+40 | 52.1195 | 46.72 | |
| 109+45 | 52.4146 | 42.85 | |
| 109+50 | 52.6989 | 41.28 | |
| 109+55 | 52.9796 | 40.75 | |

```
110+ 0      53.2591     40.59  |           |           |  Q        |  V        |
110+ 5      53.5452     41.54  |           |           |  Q        |  V        |
110+10      53.8602     45.73  |           |           |     Q     |  V        |
110+15      54.1850     47.16  |           |           |     Q     |  V        |
110+20      54.5120     47.49  |           |           |       Q   |   V       |
110+25      54.8333     46.65  |           |           |     Q     |   V       |
110+30      55.1527     46.38  |           |           |     Q     |   V       |
110+35      55.4716     46.29  |           |           |     Q     |   V       |
110+40      55.7902     46.27  |           |           |     Q     |   V       |
110+45      56.1089     46.27  |           |           |     Q     |    V      |
110+50      56.4258     46.01  |           |           |     Q     |    V      |
110+55      56.7355     44.97  |           |           |    Q      |    V      |
111+ 0      57.0429     44.63  |           |           |    Q      |    V      |
111+ 5      57.3475     44.24  |           |           |    Q      |    V      |
111+10      57.6447     43.15  |           |           |   Q       |     V     |
111+15      57.9395     42.80  |           |           |   Q       |     V     |
111+20      58.2314     42.39  |           |           |   Q       |     V     |
111+25      58.5159     41.30  |           |           |  Q        |     V     |
111+30      58.7979     40.95  |           |           |  Q        |     V     |
111+35      59.0717     39.75  |           |           | Q         |     V     |
111+40      59.3162     35.51  |           |          Q|           |      V    |
111+45      59.5510     34.09  |           |          Q|           |      V    |
111+50      59.7819     33.52  |           |          Q|           |      V    |
111+55      60.0114     33.33  |           |          Q|           |      V    |
112+ 0      60.2406     33.28  |           |          Q|           |      V    |
112+ 5      60.4443     29.57  |           |       Q   |           |      V    |
112+10      60.5467     14.87  |         Q |           |           |      V    |
112+15      60.6151      9.93  |      Q    |           |           |      V    |
112+20      60.6697      7.93  |    Q      |           |           |      V    |
112+25      60.7195      7.24  |    Q      |           |           |      V    |
112+30      60.7678      7.01  |    Q      |           |           |       V   |
112+35      60.8134      6.62  |  Q        |           |           |       V   |
112+40      60.8522      5.63  |  Q        |           |           |       V   |
112+45      60.8887      5.31  |  Q        |           |           |       V   |
112+50      60.9244      5.18  | Q         |           |           |       V   |
112+55      60.9598      5.14  | Q         |           |           |       V   |
113+ 0      60.9951      5.12  | Q         |           |           |       V   |
113+ 5      61.0336      5.59  |  Q        |           |           |       V   |
113+10      61.0851      7.48  |    Q      |           |           |       V   |
113+15      61.1410      8.12  |    Q      |           |           |       V   |
113+20      61.1987      8.37  |    Q      |           |           |       V   |
113+25      61.2570      8.46  |    Q      |           |           |       V   |
113+30      61.3154      8.49  |    Q      |           |           |       V   |
113+35      61.3741      8.51  |    Q      |           |           |       V   |
113+40      61.4327      8.52  |    Q      |           |           |       V   |
113+45      61.4914      8.52  |    Q      |           |           |       V   |
113+50      61.5484      8.28  |    Q      |           |           |       V   |
113+55      61.5989      7.33  |    Q      |           |           |       V   |
114+ 0      61.6473      7.02  |    Q      |           |           |       V   |
114+ 5      61.6947      6.89  |  Q        |           |           |       V   |
114+10      61.7418      6.84  |  Q        |           |           |       V   |
114+15      61.7888      6.83  |  Q        |           |           |       V   |
114+20      61.8358      6.82  |  Q        |           |           |       V   |
114+25      61.8827      6.81  |  Q        |           |           |       V   |
114+30      61.9296      6.81  |  Q        |           |           |       V   |
114+35      61.9749      6.58  |  Q        |           |           |       V   |
114+40      62.0137      5.63  |  Q        |           |           |       V   |
114+45      62.0503      5.31  |  Q        |           |           |       V   |
114+50      62.0843      4.95  | Q         |           |           |       V   |
114+55      62.1116      3.95  | Q         |           |           |       V   |
115+ 0      62.1365      3.62  | Q         |           |           |       V   |
115+ 5      62.1621      3.72  | Q         |           |           |       V   |
115+10      62.1939      4.62  | Q         |           |           |       V   |
115+15      62.2278      4.92  | Q         |           |           |       V   |
115+20      62.2642      5.28  |  Q        |           |           |       V   |
115+25      62.3074      6.27  |  Q        |           |           |       V   |
115+30      62.3528      6.60  |  Q        |           |           |        V  |
115+35      62.3976      6.50  |  Q        |           |           |        V  |
115+40      62.4362      5.60  |  Q        |           |           |        V  |
115+45      62.4727      5.30  |  Q        |           |           |        V  |
115+50      62.5067      4.94  | Q         |           |           |        V  |
115+55      62.5340      3.95  | Q         |           |           |        V  |
116+ 0      62.5589      3.62  | Q         |           |           |        V  |
116+ 5      62.5845      3.72  | Q         |           |           |        V  |
116+10      62.6163      4.62  | Q         |           |           |        V  |
116+15      62.6502      4.92  | Q         |           |           |        V  |
116+20      62.6849      5.04  | Q         |           |           |        V  |
116+25      62.7199      5.08  | Q         |           |           |        V  |
```

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 116+30 | 62.7551 | 5.10 | Q | \| | \| | \| | V\| |
| 116+35 | 62.7902 | 5.11 | Q | \| | \| | \| | V\| |
| 116+40 | 62.8254 | 5.11 | Q | \| | \| | \| | V\| |
| 116+45 | 62.8606 | 5.11 | Q | \| | \| | \| | V\| |
| 116+50 | 62.8942 | 4.87 | Q | \| | \| | \| | V\| |
| 116+55 | 62.9212 | 3.93 | Q | \| | \| | \| | V\| |
| 117+ 0 | 62.9461 | 3.61 | Q | \| | \| | \| | V\| |
| 117+ 5 | 62.9717 | 3.72 | Q | \| | \| | \| | V\| |
| 117+10 | 63.0035 | 4.62 | Q | \| | \| | \| | V\| |
| 117+15 | 63.0374 | 4.92 | Q | \| | \| | \| | V\| |
| 117+20 | 63.0705 | 4.80 | Q | \| | \| | \| | V\| |
| 117+25 | 63.0973 | 3.90 | Q | \| | \| | \| | V\| |
| 117+30 | 63.1221 | 3.60 | Q | \| | \| | \| | V\| |
| 117+35 | 63.1477 | 3.71 | Q | \| | \| | \| | V\| |
| 117+40 | 63.1795 | 4.62 | Q | \| | \| | \| | V\| |
| 117+45 | 63.2134 | 4.92 | Q | \| | \| | \| | V\| |
| 117+50 | 63.2465 | 4.80 | Q | \| | \| | \| | V\| |
| 117+55 | 63.2733 | 3.90 | Q | \| | \| | \| | V\| |
| 118+ 0 | 63.2981 | 3.60 | Q | \| | \| | \| | V\| |
| 118+ 5 | 63.3237 | 3.71 | Q | \| | \| | \| | V\| |
| 118+10 | 63.3555 | 4.62 | Q | \| | \| | \| | V\| |
| 118+15 | 63.3894 | 4.92 | Q | \| | \| | \| | V\| |
| 118+20 | 63.4225 | 4.80 | Q | \| | \| | \| | V\| |
| 118+25 | 63.4493 | 3.90 | Q | \| | \| | \| | V\| |
| 118+30 | 63.4741 | 3.60 | Q | \| | \| | \| | V\| |
| 118+35 | 63.4980 | 3.48 | \|Q | \| | \| | \| | V\| |
| 118+40 | 63.5217 | 3.43 | \|Q | \| | \| | \| | V\| |
| 118+45 | 63.5452 | 3.42 | \|Q | \| | \| | \| | V\| |
| 118+50 | 63.5687 | 3.41 | \|Q | \| | \| | \| | V\| |
| 118+55 | 63.5922 | 3.41 | \|Q | \| | \| | \| | V\| |
| 119+ 0 | 63.6157 | 3.41 | \|Q | \| | \| | \| | V\| |
| 119+ 5 | 63.6391 | 3.41 | \|Q | \| | \| | \| | V\| |
| 119+10 | 63.6626 | 3.41 | \|Q | \| | \| | \| | V\| |
| 119+15 | 63.6861 | 3.41 | \|Q | \| | \| | \| | V\| |
| 119+20 | 63.7095 | 3.41 | \|Q | \| | \| | \| | V\| |
| 119+25 | 63.7330 | 3.41 | \|Q | \| | \| | \| | V\| |
| 119+30 | 63.7564 | 3.41 | \|Q | \| | \| | \| | V\| |
| 119+35 | 63.7799 | 3.41 | \|Q | \| | \| | \| | V\| |
| 119+40 | 63.8034 | 3.41 | \|Q | \| | \| | \| | V\| |
| 119+45 | 63.8268 | 3.41 | \|Q | \| | \| | \| | V\| |
| 119+50 | 63.8503 | 3.41 | \|Q | \| | \| | \| | V\| |
| 119+55 | 63.8738 | 3.41 | \|Q | \| | \| | \| | V\| |
| 120+ 0 | 63.8972 | 3.41 | \|Q | \| | \| | \| | V\| |
| 120+ 5 | 63.9174 | 2.93 | \|Q | \| | \| | \| | V\| |
| 120+10 | 63.9246 | 1.04 | Q | \| | \| | \| | V\| |
| 120+15 | 63.9274 | 0.40 | Q | \| | \| | \| | V\| |
| 120+20 | 63.9284 | 0.14 | Q | \| | \| | \| | V\| |
| 120+25 | 63.9287 | 0.05 | Q | \| | \| | \| | V\| |
| 120+30 | 63.9289 | 0.02 | Q | \| | \| | \| | V\| |
| 120+35 | 63.9289 | 0.01 | Q | \| | \| | \| | V\| |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 04/30/18 File: EX461100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 46
100-YEAR, 5-DAY STORM EVENT
BY: JDN, DATE: 01-09-18

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Drainage Area = 31.00(Ac.) = 0.048 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 31.00(Ac.) = 0.048 Sq. Mi.
Length along longest watercourse = 2008.00(Ft.)
Length along longest watercourse measured to centroid = 1122.00(Ft.)
Length along longest watercourse = 0.380 Mi.
Length along longest watercourse measured to centroid = 0.212 Mi.
Difference in elevation = 198.00(Ft.)
Slope along watercourse = 520.6375 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.098 Hr.
Lag time = 5.90 Min.
25% of lag time = 1.48 Min.
40% of lag time = 2.36 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 31.00 | 0.50 | 15.50 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 31.00 | 1.20 | 37.20 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.97 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 31.000 | 93.00 | 0.012 |

Total Area Entered = 31.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 93.0 | 97.2 | 0.036 | 0.012 | 0.036 | 1.000 | 0.036 |
| | | | | | Sum (F) = | 0.036 |

Area averaged mean soil loss (F) (In/Hr) = 0.036

Minimum soil loss rate ((In/Hr)) = 0.018
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.100

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Slope of intensity-duration curve for a 1 hour storm =0.5000

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U n i t H y d r o g r a p h
FOOTHILL S-Curve

---

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 84.691 | 10.011 | 3.128 |
| 2 | 0.167 | 169.381 | 51.059 | 15.952 |
| 3 | 0.250 | 254.072 | 22.666 | 7.081 |
| 4 | 0.333 | 338.763 | 9.177 | 2.867 |
| 5 | 0.417 | 423.453 | 4.308 | 1.346 |
| 6 | 0.500 | 508.144 | 1.428 | 0.446 |
| 7 | 0.583 | 592.835 | 0.677 | 0.211 |
| 8 | 0.667 | 677.525 | 0.506 | 0.158 |
| 9 | 0.750 | 762.216 | 0.169 | 0.053 |
| | | | Sum = 100.000 | Sum= 31.242 |

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Storm Event 5 Effective Rainfall = 0.120(In)

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.060 | ( 0.036) | 0.006 | 0.054 |
| 2 | 0.17 | 4.30 | 0.062 | ( 0.036) | 0.006 | 0.056 |
| 3 | 0.25 | 5.00 | 0.072 | ( 0.036) | 0.007 | 0.065 |
| 4 | 0.33 | 5.00 | 0.072 | ( 0.036) | 0.007 | 0.065 |
| 5 | 0.42 | 5.80 | 0.083 | ( 0.036) | 0.008 | 0.075 |
| 6 | 0.50 | 6.50 | 0.094 | ( 0.036) | 0.009 | 0.084 |
| 7 | 0.58 | 7.40 | 0.107 | ( 0.036) | 0.011 | 0.096 |
| 8 | 0.67 | 8.60 | 0.124 | ( 0.036) | 0.012 | 0.111 |
| 9 | 0.75 | 12.30 | 0.177 | ( 0.036) | 0.018 | 0.159 |
| 10 | 0.83 | 29.10 | 0.419 | 0.036 | ( 0.042) | 0.383 |
| 11 | 0.92 | 6.80 | 0.098 | ( 0.036) | 0.010 | 0.088 |
| 12 | 1.00 | 5.00 | 0.072 | ( 0.036) | 0.007 | 0.065 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 1.3 |

Flood volume = Effective rainfall 0.11(In)
times area 31.0(Ac.)/[(In)/(Ft.)] = 0.3(Ac.Ft)
Total soil loss = 0.01(In)
Total soil loss = 0.030(Ac.Ft)
Total rainfall = 0.12(In)
Flood volume = 12205.1 Cubic Feet
Total soil loss = 1294.7 Cubic Feet

---

Storm Event 4 Effective Rainfall = 0.180(In)

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.091 | ( 0.036) | 0.009 | 0.082 |
| 2 | 0.17 | 4.30 | 0.093 | ( 0.036) | 0.009 | 0.084 |
| 3 | 0.25 | 5.00 | 0.108 | ( 0.036) | 0.011 | 0.097 |
| 4 | 0.33 | 5.00 | 0.108 | ( 0.036) | 0.011 | 0.097 |
| 5 | 0.42 | 5.80 | 0.125 | ( 0.036) | 0.013 | 0.113 |
| 6 | 0.50 | 6.50 | 0.140 | ( 0.036) | 0.014 | 0.126 |
| 7 | 0.58 | 7.40 | 0.160 | ( 0.036) | 0.016 | 0.144 |
| 8 | 0.67 | 8.60 | 0.186 | ( 0.036) | 0.019 | 0.167 |
| 9 | 0.75 | 12.30 | 0.266 | ( 0.036) | 0.027 | 0.239 |
| 10 | 0.83 | 29.10 | 0.628 | 0.036 | ( 0.063) | 0.592 |
| 11 | 0.92 | 6.80 | 0.147 | ( 0.036) | 0.015 | 0.132 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12 | 1.00 | 5.00 | 0.108 | ( 0.036) | 0.011 | | 0.097 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 2.0

Flood volume = Effective rainfall 0.16(In)
times area 31.0(Ac.)/[(In)/(Ft.)] = 0.4(Ac.Ft)
Total soil loss = 0.02(In)
Total soil loss = 0.041(Ac.Ft)
Total rainfall = 0.18(In)
Flood volume = 18476.4 Cubic Feet
Total soil loss = 1773.3 Cubic Feet

---

Storm Event 3 Effective Rainfall = 0.228(In)

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.115 | ( 0.036) | | 0.011 | 0.103 |
| 2 | 0.17 | 4.30 | 0.118 | ( 0.036) | | 0.012 | 0.106 |
| 3 | 0.25 | 5.00 | 0.137 | ( 0.036) | | 0.014 | 0.123 |
| 4 | 0.33 | 5.00 | 0.137 | ( 0.036) | | 0.014 | 0.123 |
| 5 | 0.42 | 5.80 | 0.159 | ( 0.036) | | 0.016 | 0.143 |
| 6 | 0.50 | 6.50 | 0.178 | ( 0.036) | | 0.018 | 0.160 |
| 7 | 0.58 | 7.40 | 0.202 | ( 0.036) | | 0.020 | 0.182 |
| 8 | 0.67 | 8.60 | 0.235 | ( 0.036) | | 0.024 | 0.212 |
| 9 | 0.75 | 12.30 | 0.336 | ( 0.036) | | 0.034 | 0.303 |
| 10 | 0.83 | 29.10 | 0.796 | 0.036 | ( 0.080) | | 0.760 |
| 11 | 0.92 | 6.80 | 0.186 | ( 0.036) | | 0.019 | 0.167 |
| 12 | 1.00 | 5.00 | 0.137 | ( 0.036) | | 0.014 | 0.123 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 2.5

Flood volume = Effective rainfall 0.21(In)
times area 31.0(Ac.)/[(In)/(Ft.)] = 0.5(Ac.Ft)
Total soil loss = 0.02(In)
Total soil loss = 0.049(Ac.Ft)
Total rainfall = 0.23(In)
Flood volume = 23493.5 Cubic Feet
Total soil loss = 2156.1 Cubic Feet

---

Storm Event 2 Effective Rainfall = 0.432(In)

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.218 | ( 0.036) | | 0.022 | 0.196 |
| 2 | 0.17 | 4.30 | 0.223 | ( 0.036) | | 0.022 | 0.201 |
| 3 | 0.25 | 5.00 | 0.259 | ( 0.036) | | 0.026 | 0.233 |
| 4 | 0.33 | 5.00 | 0.259 | ( 0.036) | | 0.026 | 0.233 |
| 5 | 0.42 | 5.80 | 0.301 | ( 0.036) | | 0.030 | 0.271 |
| 6 | 0.50 | 6.50 | 0.337 | ( 0.036) | | 0.034 | 0.303 |
| 7 | 0.58 | 7.40 | 0.384 | 0.036 | ( 0.038) | | 0.348 |
| 8 | 0.67 | 8.60 | 0.446 | 0.036 | ( 0.045) | | 0.410 |
| 9 | 0.75 | 12.30 | 0.637 | 0.036 | ( 0.064) | | 0.601 |
| 10 | 0.83 | 29.10 | 1.508 | 0.036 | ( 0.151) | | 1.472 |
| 11 | 0.92 | 6.80 | 0.352 | ( 0.036) | | 0.035 | 0.317 |
| 12 | 1.00 | 5.00 | 0.259 | ( 0.036) | | 0.026 | 0.233 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 4.8

Flood volume = Effective rainfall 0.40(In)
times area 31.0(Ac.)/[(In)/(Ft.)] = 1.0(Ac.Ft)
Total soil loss = 0.03(In)
Total soil loss = 0.079(Ac.Ft)
Total rainfall = 0.43(In)
Flood volume = 45178.7 Cubic Feet
Total soil loss = 3420.6 Cubic Feet

---

Storm Event 1 Effective Rainfall = 1.200(In)

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time | Pattern | Storm Rain | Loss rate(In./Hr) | Effective |
|---|---|---|---|---|---|

| | (Hr.) | Percent | (In/Hr) | Max | Low | (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 4.20 | 0.605 | 0.036 | ( 0.060) | 0.569 |
| 2 | 0.17 | 4.30 | 0.619 | 0.036 | ( 0.062) | 0.583 |
| 3 | 0.25 | 5.00 | 0.720 | 0.036 | ( 0.072) | 0.684 |
| 4 | 0.33 | 5.00 | 0.720 | 0.036 | ( 0.072) | 0.684 |
| 5 | 0.42 | 5.80 | 0.835 | 0.036 | ( 0.083) | 0.799 |
| 6 | 0.50 | 6.50 | 0.936 | 0.036 | ( 0.094) | 0.900 |
| 7 | 0.58 | 7.40 | 1.065 | 0.036 | ( 0.107) | 1.029 |
| 8 | 0.67 | 8.60 | 1.238 | 0.036 | ( 0.124) | 1.202 |
| 9 | 0.75 | 12.30 | 1.771 | 0.036 | ( 0.177) | 1.735 |
| 10 | 0.83 | 29.10 | 4.189 | 0.036 | ( 0.419) | 4.153 |
| 11 | 0.92 | 6.80 | 0.979 | 0.036 | ( 0.098) | 0.943 |
| 12 | 1.00 | 5.00 | 0.720 | 0.036 | ( 0.072) | 0.684 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 14.0

Flood volume = Effective rainfall 1.16(In)
times area 31.0(Ac.)/[(In)/(Ft.)] = 3.0(Ac.Ft)
Total soil loss = 0.04(In)
Total soil loss = 0.093(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 130947.3 Cubic Feet
Total soil loss = 4050.7 Cubic Feet

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Peak flow rate of this hydrograph = 87.076(CFS)

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TOTAL OF: 5 1 - H O U R S T O R M E V E N T S
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 22.5 | 45.0 | 67.5 | 90.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0012 | 0.17 | Q | | | | |
| 0+10 | 0.0084 | 1.04 | Q | | | | |
| 0+15 | 0.0185 | 1.48 | Q | | | | |
| 0+20 | 0.0308 | 1.79 | Q | | | | |
| 0+25 | 0.0443 | 1.96 | Q | | | | |
| 0+30 | 0.0595 | 2.21 | Q | | | | |
| 0+35 | 0.0767 | 2.49 | VQ | | | | |
| 0+40 | 0.0961 | 2.83 | VQ | | | | |
| 0+45 | 0.1192 | 3.35 | VQ | | | | |
| 0+50 | 0.1535 | 4.98 | \|VQ | | | | |
| 0+55 | 0.2089 | 8.03 | \|V Q | | | | |
| 1+ 0 | 0.2433 | 5.00 | \|VQ | | | | |
| 1+ 5 | 0.2451 | 0.26 | QV | | | | |
| 1+10 | 0.2559 | 1.56 | Q V | | | | |
| 1+15 | 0.2711 | 2.22 | Q V | | | | |
| 1+20 | 0.2896 | 2.68 | \|QV | | | | |
| 1+25 | 0.3098 | 2.94 | \|QV | | | | |
| 1+30 | 0.3326 | 3.31 | \|QV | | | | |
| 1+35 | 0.3583 | 3.73 | \|QV | | | | |
| 1+40 | 0.3875 | 4.24 | \|Q V | | | | |
| 1+45 | 0.4222 | 5.03 | \| QV | | | | |
| 1+50 | 0.4740 | 7.53 | \| Q | | | | |
| 1+55 | 0.5590 | 12.34 | \| VQ | | | | |
| 2+ 0 | 0.6115 | 7.63 | \| QV | | | | |
| 2+ 5 | 0.6138 | 0.32 | Q V | | | | |
| 2+10 | 0.6274 | 1.98 | Q V | | | | |
| 2+15 | 0.6468 | 2.81 | \|Q V | | | | |
| 2+20 | 0.6701 | 3.40 | \|Q V | | | | |
| 2+25 | 0.6958 | 3.73 | \|Q V | | | | |
| 2+30 | 0.7247 | 4.19 | \|Q V | | | | |
| 2+35 | 0.7572 | 4.72 | \| Q V | | | | |
| 2+40 | 0.7942 | 5.37 | \| Q V | | | | |
| 2+45 | 0.8381 | 6.37 | \| Q V | | | | |
| 2+50 | 0.9040 | 9.56 | \| Q V | | | | |
| 2+55 | 1.0126 | 15.78 | \| QV | | | | |
| 3+ 0 | 1.0797 | 9.74 | \| Q V | | | | |
| 3+ 5 | 1.0839 | 0.61 | Q V | | | | |
| 3+10 | 1.1098 | 3.75 | \|Q V | | | | |
| 3+15 | 1.1464 | 5.32 | \| Q V | | | | |
| 3+20 | 1.1907 | 6.43 | \| Q V | | | | |
| 3+25 | 1.2393 | 7.06 | \| Q V | | | | |
| 3+30 | 1.2941 | 7.95 | \| Q V | | | | |
| 3+35 | 1.3558 | 8.96 | \| Q V | | | | |
| 3+40 | 1.4263 | 10.24 | \| Q \|V | | | | |

```
    3+45       1.5111     12.31  |    Q     | V        |          |          |
    3+50       1.6401     18.73  |       Q  |  V       |          |          |
    3+55       1.8511     30.63  |          |  QV      |          |          |
    4+ 0       1.9804     18.77  |       Q  |    V     |          |          |
    4+ 5       1.9926      1.78  Q          |     V    |          |          |
    4+10       2.0677     10.90  |   Q      |      V   |          |          |
    4+15       2.1743     15.47  |     Q    |       V  |          |          |
    4+20       2.3038     18.82  |       Q  |        V |          |          |
    4+25       2.4464     20.70  |         Q|         V|          |          |
    4+30       2.6076     23.41  |          Q          V          |          |
    4+35       2.7902     26.50  |          |Q         | V        |          |
    4+40       2.9988     30.30  |          |  Q       |   V      |          |
    4+45       3.2477     36.13  |          |     Q    |     V    |          |
    4+50       3.6196     54.00  |          |          |   Q    V|          |
    4+55       4.2193     87.08  |          |          |          |  V    Q  |
    5+ 0       4.5913     54.02  |          |          |   Q      |     V    |
    5+ 5       4.8171     32.78  |          |    Q     |          |       V  |
    5+10       4.9162     14.38  |      Q   |          |          |         V|
    5+15       4.9554      5.70  | Q        |          |          |         V|
    5+20       4.9730      2.56  |Q         |          |          |         V|
    5+25       4.9816      1.25  Q          |          |          |         V|
    5+30       4.9852      0.51  Q          |          |          |         V|
    5+35       4.9863      0.16  Q          |          |          |         V|
    5+40       4.9865      0.04  Q          |          |          |          V
-------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 04/30/18 File: EX463100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 46
100-YEAR, 5-DAY STORM EVENT
BY: JDN, DATE: 01-09-18

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Drainage Area = 31.00(Ac.) = 0.048 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 31.00(Ac.) = 0.048 Sq. Mi.
Length along longest watercourse = 2008.00(Ft.)
Length along longest watercourse measured to centroid = 1122.00(Ft.)
Length along longest watercourse = 0.380 Mi.
Length along longest watercourse measured to centroid = 0.212 Mi.
Difference in elevation = 198.00(Ft.)
Slope along watercourse = 520.6375 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.098 Hr.
Lag time = 5.90 Min.
25% of lag time = 1.48 Min.
40% of lag time = 2.36 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 31.00 | 0.80 | 24.80 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 31.00 | 1.81 | 56.11 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.810(In)

Point rain (area averaged) = 1.810(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.810(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 31.000 | 93.00 | 0.012 |

Total Area Entered = 31.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 93.0 | 97.2 | 0.036 | 0.012 | 0.036 | 1.000 | 0.036 |
| | | | | | Sum (F) = | 0.036 |

Area averaged mean soil loss (F) (In/Hr) = 0.036

Minimum soil loss rate ((In/Hr)) = 0.018
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.100

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 84.691 | 10.011 | 3.128 |
| 2 | 0.167 | 169.381 | 51.059 | 15.952 |
| 3 | 0.250 | 254.072 | 22.666 | 7.081 |
| 4 | 0.333 | 338.763 | 9.177 | 2.867 |
| 5 | 0.417 | 423.453 | 4.308 | 1.346 |
| 6 | 0.500 | 508.144 | 1.428 | 0.446 |
| 7 | 0.583 | 592.835 | 0.677 | 0.211 |
| 8 | 0.667 | 677.525 | 0.506 | 0.158 |
| 9 | 0.750 | 762.216 | 0.169 | 0.053 |
| | | | Sum = 100.000 | Sum= 31.242 |

Storm Event 5 Effective Rainfall = 0.181(In)

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.028 | ( 0.036) | 0.003 | 0.025 |
| 2 | 0.17 | 1.30 | 0.028 | ( 0.036) | 0.003 | 0.025 |
| 3 | 0.25 | 1.10 | 0.024 | ( 0.036) | 0.002 | 0.021 |
| 4 | 0.33 | 1.50 | 0.033 | ( 0.036) | 0.003 | 0.029 |
| 5 | 0.42 | 1.50 | 0.033 | ( 0.036) | 0.003 | 0.029 |
| 6 | 0.50 | 1.80 | 0.039 | ( 0.036) | 0.004 | 0.035 |
| 7 | 0.58 | 1.50 | 0.033 | ( 0.036) | 0.003 | 0.029 |
| 8 | 0.67 | 1.80 | 0.039 | ( 0.036) | 0.004 | 0.035 |
| 9 | 0.75 | 1.80 | 0.039 | ( 0.036) | 0.004 | 0.035 |
| 10 | 0.83 | 1.50 | 0.033 | ( 0.036) | 0.003 | 0.029 |
| 11 | 0.92 | 1.60 | 0.035 | ( 0.036) | 0.003 | 0.031 |
| 12 | 1.00 | 1.80 | 0.039 | ( 0.036) | 0.004 | 0.035 |
| 13 | 1.08 | 2.20 | 0.048 | ( 0.036) | 0.005 | 0.043 |
| 14 | 1.17 | 2.20 | 0.048 | ( 0.036) | 0.005 | 0.043 |
| 15 | 1.25 | 2.20 | 0.048 | ( 0.036) | 0.005 | 0.043 |
| 16 | 1.33 | 2.00 | 0.043 | ( 0.036) | 0.004 | 0.039 |
| 17 | 1.42 | 2.60 | 0.056 | ( 0.036) | 0.006 | 0.051 |
| 18 | 1.50 | 2.70 | 0.059 | ( 0.036) | 0.006 | 0.053 |
| 19 | 1.58 | 2.40 | 0.052 | ( 0.036) | 0.005 | 0.047 |
| 20 | 1.67 | 2.70 | 0.059 | ( 0.036) | 0.006 | 0.053 |
| 21 | 1.75 | 3.30 | 0.072 | ( 0.036) | 0.007 | 0.064 |
| 22 | 1.83 | 3.10 | 0.067 | ( 0.036) | 0.007 | 0.061 |
| 23 | 1.92 | 2.90 | 0.063 | ( 0.036) | 0.006 | 0.057 |
| 24 | 2.00 | 3.00 | 0.065 | ( 0.036) | 0.007 | 0.059 |
| 25 | 2.08 | 3.10 | 0.067 | ( 0.036) | 0.007 | 0.061 |
| 26 | 2.17 | 4.20 | 0.091 | ( 0.036) | 0.009 | 0.082 |
| 27 | 2.25 | 5.00 | 0.109 | ( 0.036) | 0.011 | 0.098 |
| 28 | 2.33 | 3.50 | 0.076 | ( 0.036) | 0.008 | 0.068 |
| 29 | 2.42 | 6.80 | 0.148 | ( 0.036) | 0.015 | 0.133 |
| 30 | 2.50 | 7.30 | 0.159 | ( 0.036) | 0.016 | 0.143 |
| 31 | 2.58 | 8.20 | 0.178 | ( 0.036) | 0.018 | 0.160 |
| 32 | 2.67 | 5.90 | 0.128 | ( 0.036) | 0.013 | 0.115 |
| 33 | 2.75 | 2.00 | 0.043 | ( 0.036) | 0.004 | 0.039 |
| 34 | 2.83 | 1.80 | 0.039 | ( 0.036) | 0.004 | 0.035 |
| 35 | 2.92 | 1.80 | 0.039 | ( 0.036) | 0.004 | 0.035 |
| 36 | 3.00 | 0.60 | 0.013 | ( 0.036) | 0.001 | 0.012 |
| | | (Loss Rate Not Used) | | | |
| Sum = | | 100.0 | | | Sum = 2.0 |

Flood volume = Effective rainfall 0.16(In)
times area 31.0(Ac.)/[(In)/(Ft.)] = 0.4(Ac.Ft)
Total soil loss = 0.02(In)
Total soil loss = 0.047(Ac.Ft)
Total rainfall = 0.18(In)

Flood volume = 18328.7 Cubic Feet
Total soil loss = 2036.5 Cubic Feet

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Storm Event 4 Effective Rainfall = 0.271(In)

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.042 | ( 0.036) | 0.004 | 0.038 |
| 2 | 0.17 | 1.30 | 0.042 | ( 0.036) | 0.004 | 0.038 |
| 3 | 0.25 | 1.10 | 0.036 | ( 0.036) | 0.004 | 0.032 |
| 4 | 0.33 | 1.50 | 0.049 | ( 0.036) | 0.005 | 0.044 |
| 5 | 0.42 | 1.50 | 0.049 | ( 0.036) | 0.005 | 0.044 |
| 6 | 0.50 | 1.80 | 0.059 | ( 0.036) | 0.006 | 0.053 |
| 7 | 0.58 | 1.50 | 0.049 | ( 0.036) | 0.005 | 0.044 |
| 8 | 0.67 | 1.80 | 0.059 | ( 0.036) | 0.006 | 0.053 |
| 9 | 0.75 | 1.80 | 0.059 | ( 0.036) | 0.006 | 0.053 |
| 10 | 0.83 | 1.50 | 0.049 | ( 0.036) | 0.005 | 0.044 |
| 11 | 0.92 | 1.60 | 0.052 | ( 0.036) | 0.005 | 0.047 |
| 12 | 1.00 | 1.80 | 0.059 | ( 0.036) | 0.006 | 0.053 |
| 13 | 1.08 | 2.20 | 0.072 | ( 0.036) | 0.007 | 0.064 |
| 14 | 1.17 | 2.20 | 0.072 | ( 0.036) | 0.007 | 0.064 |
| 15 | 1.25 | 2.20 | 0.072 | ( 0.036) | 0.007 | 0.064 |
| 16 | 1.33 | 2.00 | 0.065 | ( 0.036) | 0.007 | 0.059 |
| 17 | 1.42 | 2.60 | 0.085 | ( 0.036) | 0.008 | 0.076 |
| 18 | 1.50 | 2.70 | 0.088 | ( 0.036) | 0.009 | 0.079 |
| 19 | 1.58 | 2.40 | 0.078 | ( 0.036) | 0.008 | 0.070 |
| 20 | 1.67 | 2.70 | 0.088 | ( 0.036) | 0.009 | 0.079 |
| 21 | 1.75 | 3.30 | 0.107 | ( 0.036) | 0.011 | 0.097 |
| 22 | 1.83 | 3.10 | 0.101 | ( 0.036) | 0.010 | 0.091 |
| 23 | 1.92 | 2.90 | 0.094 | ( 0.036) | 0.009 | 0.085 |
| 24 | 2.00 | 3.00 | 0.098 | ( 0.036) | 0.010 | 0.088 |
| 25 | 2.08 | 3.10 | 0.101 | ( 0.036) | 0.010 | 0.091 |
| 26 | 2.17 | 4.20 | 0.137 | ( 0.036) | 0.014 | 0.123 |
| 27 | 2.25 | 5.00 | 0.163 | ( 0.036) | 0.016 | 0.147 |
| 28 | 2.33 | 3.50 | 0.114 | ( 0.036) | 0.011 | 0.103 |
| 29 | 2.42 | 6.80 | 0.222 | ( 0.036) | 0.022 | 0.199 |
| 30 | 2.50 | 7.30 | 0.238 | ( 0.036) | 0.024 | 0.214 |
| 31 | 2.58 | 8.20 | 0.267 | ( 0.036) | 0.027 | 0.240 |
| 32 | 2.67 | 5.90 | 0.192 | ( 0.036) | 0.019 | 0.173 |
| 33 | 2.75 | 2.00 | 0.065 | ( 0.036) | 0.007 | 0.059 |
| 34 | 2.83 | 1.80 | 0.059 | ( 0.036) | 0.006 | 0.053 |
| 35 | 2.92 | 1.80 | 0.059 | ( 0.036) | 0.006 | 0.053 |
| 36 | 3.00 | 0.60 | 0.020 | ( 0.036) | 0.002 | 0.018 |
| | | (Loss Rate Not Used) | | | | |
| Sum = | | 100.0 | | | Sum = | 2.9 |

Flood volume = Effective rainfall 0.24(In)
times area 31.0(Ac.)/[(In)/(Ft.)] = 0.6(Ac.Ft)
Total soil loss = 0.03(In)
Total soil loss = 0.070(Ac.Ft)
Total rainfall = 0.27(In)
Flood volume = 27493.0 Cubic Feet
Total soil loss = 3054.8 Cubic Feet

---

Storm Event 3 Effective Rainfall = 0.344(In)

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.054 | ( 0.036) | 0.005 | 0.048 |
| 2 | 0.17 | 1.30 | 0.054 | ( 0.036) | 0.005 | 0.048 |
| 3 | 0.25 | 1.10 | 0.045 | ( 0.036) | 0.005 | 0.041 |
| 4 | 0.33 | 1.50 | 0.062 | ( 0.036) | 0.006 | 0.056 |
| 5 | 0.42 | 1.50 | 0.062 | ( 0.036) | 0.006 | 0.056 |
| 6 | 0.50 | 1.80 | 0.074 | ( 0.036) | 0.007 | 0.067 |
| 7 | 0.58 | 1.50 | 0.062 | ( 0.036) | 0.006 | 0.056 |
| 8 | 0.67 | 1.80 | 0.074 | ( 0.036) | 0.007 | 0.067 |
| 9 | 0.75 | 1.80 | 0.074 | ( 0.036) | 0.007 | 0.067 |
| 10 | 0.83 | 1.50 | 0.062 | ( 0.036) | 0.006 | 0.056 |
| 11 | 0.92 | 1.60 | 0.066 | ( 0.036) | 0.007 | 0.059 |
| 12 | 1.00 | 1.80 | 0.074 | ( 0.036) | 0.007 | 0.067 |
| 13 | 1.08 | 2.20 | 0.091 | ( 0.036) | 0.009 | 0.082 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 14 | 1.17 | 2.20 | 0.091 | ( 0.036) | 0.009 | 0.082 |
| 15 | 1.25 | 2.20 | 0.091 | ( 0.036) | 0.009 | 0.082 |
| 16 | 1.33 | 2.00 | 0.083 | ( 0.036) | 0.008 | 0.074 |
| 17 | 1.42 | 2.60 | 0.107 | ( 0.036) | 0.011 | 0.097 |
| 18 | 1.50 | 2.70 | 0.111 | ( 0.036) | 0.011 | 0.100 |
| 19 | 1.58 | 2.40 | 0.099 | ( 0.036) | 0.010 | 0.089 |
| 20 | 1.67 | 2.70 | 0.111 | ( 0.036) | 0.011 | 0.100 |
| 21 | 1.75 | 3.30 | 0.136 | ( 0.036) | 0.014 | 0.123 |
| 22 | 1.83 | 3.10 | 0.128 | ( 0.036) | 0.013 | 0.115 |
| 23 | 1.92 | 2.90 | 0.120 | ( 0.036) | 0.012 | 0.108 |
| 24 | 2.00 | 3.00 | 0.124 | ( 0.036) | 0.012 | 0.111 |
| 25 | 2.08 | 3.10 | 0.128 | ( 0.036) | 0.013 | 0.115 |
| 26 | 2.17 | 4.20 | 0.173 | ( 0.036) | 0.017 | 0.156 |
| 27 | 2.25 | 5.00 | 0.206 | ( 0.036) | 0.021 | 0.186 |
| 28 | 2.33 | 3.50 | 0.144 | ( 0.036) | 0.014 | 0.130 |
| 29 | 2.42 | 6.80 | 0.281 | ( 0.036) | 0.028 | 0.253 |
| 30 | 2.50 | 7.30 | 0.301 | ( 0.036) | 0.030 | 0.271 |
| 31 | 2.58 | 8.20 | 0.338 | ( 0.036) | 0.034 | 0.305 |
| 32 | 2.67 | 5.90 | 0.243 | ( 0.036) | 0.024 | 0.219 |
| 33 | 2.75 | 2.00 | 0.083 | ( 0.036) | 0.008 | 0.074 |
| 34 | 2.83 | 1.80 | 0.074 | ( 0.036) | 0.007 | 0.067 |
| 35 | 2.92 | 1.80 | 0.074 | ( 0.036) | 0.007 | 0.067 |
| 36 | 3.00 | 0.60 | 0.025 | ( 0.036) | 0.002 | 0.022 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 3.7

Flood volume = Effective rainfall 0.31(In)
times area 31.0(Ac.)/[(In)/(Ft.)] = 0.8(Ac.Ft)
Total soil loss = 0.03(In)
Total soil loss = 0.089(Ac.Ft)
Total rainfall = 0.34(In)
Flood volume = 34824.4 Cubic Feet
Total soil loss = 3869.4 Cubic Feet

---

Storm Event 2 Effective Rainfall = 0.652(In)

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 1.30 | 0.102 | ( 0.036) | 0.010 | 0.091 |
| 2 | 0.17 | 1.30 | 0.102 | ( 0.036) | 0.010 | 0.091 |
| 3 | 0.25 | 1.10 | 0.086 | ( 0.036) | 0.009 | 0.077 |
| 4 | 0.33 | 1.50 | 0.117 | ( 0.036) | 0.012 | 0.106 |
| 5 | 0.42 | 1.50 | 0.117 | ( 0.036) | 0.012 | 0.106 |
| 6 | 0.50 | 1.80 | 0.141 | ( 0.036) | 0.014 | 0.127 |
| 7 | 0.58 | 1.50 | 0.117 | ( 0.036) | 0.012 | 0.106 |
| 8 | 0.67 | 1.80 | 0.141 | ( 0.036) | 0.014 | 0.127 |
| 9 | 0.75 | 1.80 | 0.141 | ( 0.036) | 0.014 | 0.127 |
| 10 | 0.83 | 1.50 | 0.117 | ( 0.036) | 0.012 | 0.106 |
| 11 | 0.92 | 1.60 | 0.125 | ( 0.036) | 0.013 | 0.113 |
| 12 | 1.00 | 1.80 | 0.141 | ( 0.036) | 0.014 | 0.127 |
| 13 | 1.08 | 2.20 | 0.172 | ( 0.036) | 0.017 | 0.155 |
| 14 | 1.17 | 2.20 | 0.172 | ( 0.036) | 0.017 | 0.155 |
| 15 | 1.25 | 2.20 | 0.172 | ( 0.036) | 0.017 | 0.155 |
| 16 | 1.33 | 2.00 | 0.156 | ( 0.036) | 0.016 | 0.141 |
| 17 | 1.42 | 2.60 | 0.203 | ( 0.036) | 0.020 | 0.183 |
| 18 | 1.50 | 2.70 | 0.211 | ( 0.036) | 0.021 | 0.190 |
| 19 | 1.58 | 2.40 | 0.188 | ( 0.036) | 0.019 | 0.169 |
| 20 | 1.67 | 2.70 | 0.211 | ( 0.036) | 0.021 | 0.190 |
| 21 | 1.75 | 3.30 | 0.258 | ( 0.036) | 0.026 | 0.232 |
| 22 | 1.83 | 3.10 | 0.242 | ( 0.036) | 0.024 | 0.218 |
| 23 | 1.92 | 2.90 | 0.227 | ( 0.036) | 0.023 | 0.204 |
| 24 | 2.00 | 3.00 | 0.235 | ( 0.036) | 0.023 | 0.211 |
| 25 | 2.08 | 3.10 | 0.242 | ( 0.036) | 0.024 | 0.218 |
| 26 | 2.17 | 4.20 | 0.328 | ( 0.036) | 0.033 | 0.296 |
| 27 | 2.25 | 5.00 | 0.391 | 0.036 | ( 0.039) | 0.355 |
| 28 | 2.33 | 3.50 | 0.274 | ( 0.036) | 0.027 | 0.246 |
| 29 | 2.42 | 6.80 | 0.532 | 0.036 | ( 0.053) | 0.496 |
| 30 | 2.50 | 7.30 | 0.571 | 0.036 | ( 0.057) | 0.535 |
| 31 | 2.58 | 8.20 | 0.641 | 0.036 | ( 0.064) | 0.605 |
| 32 | 2.67 | 5.90 | 0.461 | 0.036 | ( 0.046) | 0.425 |
| 33 | 2.75 | 2.00 | 0.156 | ( 0.036) | 0.016 | 0.141 |
| 34 | 2.83 | 1.80 | 0.141 | ( 0.036) | 0.014 | 0.127 |
| 35 | 2.92 | 1.80 | 0.141 | ( 0.036) | 0.014 | 0.127 |
| 36 | 3.00 | 0.60 | 0.047 | ( 0.036) | 0.005 | 0.042 |

(Loss Rate Not Used)

```
    Sum =     100.0                                    Sum =     7.1
       Flood volume = Effective rainfall      0.59(In)
        times area      31.0(Ac.)/[(In)/(Ft.)] =       1.5(Ac.Ft)
       Total soil loss =      0.06(In)
       Total soil loss =     0.151(Ac.Ft)
       Total rainfall =      0.65(In)
       Flood volume =       66729.4 Cubic Feet
       Total soil loss =        6585.2 Cubic Feet
---------------------------------------------------------------------
          Storm Event 1   Effective Rainfall =   1.810(In)
---------------------------------------------------------------------

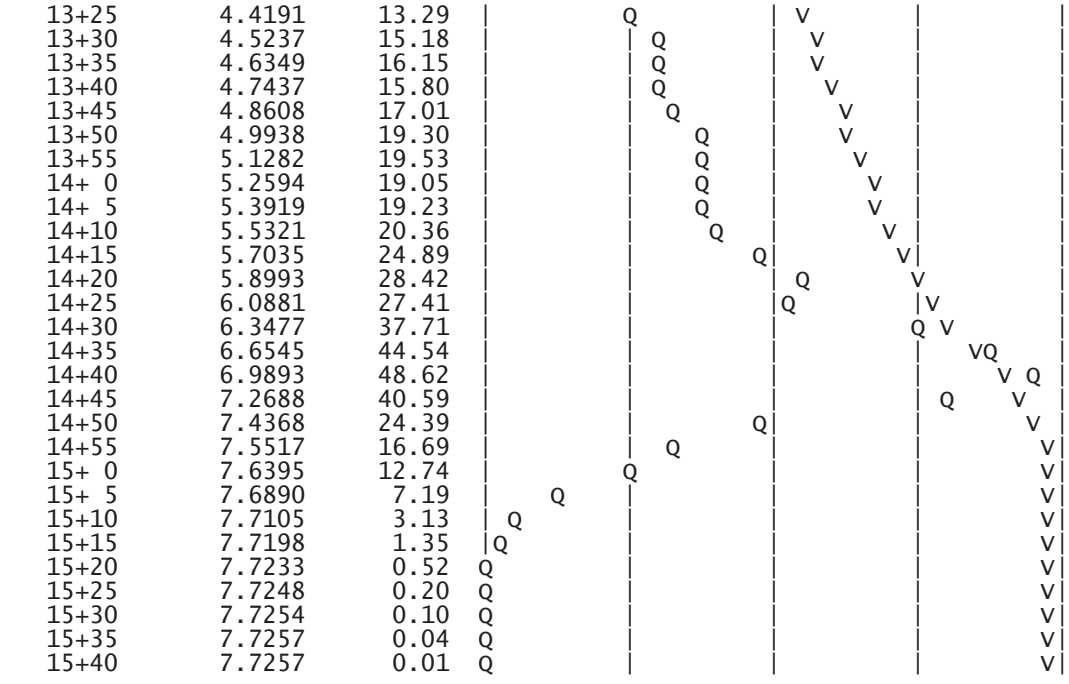
 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max    |   Low        (In/Hr)
    1   0.08     1.30      0.282       (  0.036)       0.028        0.254
    2   0.17     1.30      0.282       (  0.036)       0.028        0.254
    3   0.25     1.10      0.239       (  0.036)       0.024        0.215
    4   0.33     1.50      0.326       (  0.036)       0.033        0.293
    5   0.42     1.50      0.326       (  0.036)       0.033        0.293
    6   0.50     1.80      0.391          0.036    (  0.039)        0.355
    7   0.58     1.50      0.326       (  0.036)       0.033        0.293
    8   0.67     1.80      0.391          0.036    (  0.039)        0.355
    9   0.75     1.80      0.391          0.036    (  0.039)        0.355
   10   0.83     1.50      0.326       (  0.036)       0.033        0.293
   11   0.92     1.60      0.347       (  0.036)       0.035        0.313
   12   1.00     1.80      0.391          0.036    (  0.039)        0.355
   13   1.08     2.20      0.478          0.036    (  0.048)        0.442
   14   1.17     2.20      0.478          0.036    (  0.048)        0.442
   15   1.25     2.20      0.478          0.036    (  0.048)        0.442
   16   1.33     2.00      0.434          0.036    (  0.043)        0.398
   17   1.42     2.60      0.565          0.036    (  0.056)        0.529
   18   1.50     2.70      0.586          0.036    (  0.059)        0.550
   19   1.58     2.40      0.521          0.036    (  0.052)        0.485
   20   1.67     2.70      0.586          0.036    (  0.059)        0.550
   21   1.75     3.30      0.717          0.036    (  0.072)        0.681
   22   1.83     3.10      0.673          0.036    (  0.067)        0.637
   23   1.92     2.90      0.630          0.036    (  0.063)        0.594
   24   2.00     3.00      0.652          0.036    (  0.065)        0.616
   25   2.08     3.10      0.673          0.036    (  0.067)        0.637
   26   2.17     4.20      0.912          0.036    (  0.091)        0.876
   27   2.25     5.00      1.086          0.036    (  0.109)        1.050
   28   2.33     3.50      0.760          0.036    (  0.076)        0.724
   29   2.42     6.80      1.477          0.036    (  0.148)        1.441
   30   2.50     7.30      1.585          0.036    (  0.159)        1.549
   31   2.58     8.20      1.781          0.036    (  0.178)        1.745
   32   2.67     5.90      1.281          0.036    (  0.128)        1.245
   33   2.75     2.00      0.434          0.036    (  0.043)        0.398
   34   2.83     1.80      0.391          0.036    (  0.039)        0.355
   35   2.92     1.80      0.391          0.036    (  0.039)        0.355
   36   3.00     0.60      0.130       (  0.036)       0.013        0.117
              (Loss Rate Not Used)
    Sum =     100.0                                    Sum =    20.5
       Flood volume = Effective rainfall      1.71(In)
        times area      31.0(Ac.)/[(In)/(Ft.)] =       4.4(Ac.Ft)
       Total soil loss =      0.10(In)
       Total soil loss =     0.265(Ac.Ft)
       Total rainfall =      1.81(In)
       Flood volume =      192114.0 Cubic Feet
       Total soil loss =       11537.6 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =     48.616(CFS)
       ---------------------------------------------------------------------
       +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
         TOTAL OF: 5       3 - H O U R    S T O R M  E V E N T S
                        R u n o f f      H y d r o g r a p h
       ---------------------------------------------------------------------
                    Hydrograph in   5   Minute intervals ((CFS))

       ---------------------------------------------------------------------
  Time(h+m) Volume Ac.Ft   Q(CFS)  0       12.5      25.0      37.5      50.0
  ------------------------------------------------------------------------
    0+ 5       0.0005      0.08  Q         |         |         |         |
    0+10       0.0039      0.49  Q         |         |         |         |
    0+15       0.0084      0.65  Q         |         |         |         |
    0+20       0.0131      0.69  Q         |         |         |         |
```

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 0+25 | 0.0188 | 0.82 | Q | \| | \| | \| | \| |
| 0+30 | 0.0249 | 0.89 | Q | \| | \| | \| | \| |
| 0+35 | 0.0317 | 0.99 | Q | \| | \| | \| | \| |
| 0+40 | 0.0384 | 0.97 | Q | \| | \| | \| | \| |
| 0+45 | 0.0456 | 1.04 | Q | \| | \| | \| | \| |
| 0+50 | 0.0529 | 1.06 | Q | \| | \| | \| | \| |
| 0+55 | 0.0597 | 0.98 | Q | \| | \| | \| | \| |
| 1+ 0 | 0.0665 | 0.99 | Q | \| | \| | \| | \| |
| 1+ 5 | 0.0739 | 1.08 | Q | \| | \| | \| | \| |
| 1+10 | 0.0824 | 1.23 | Q | \| | \| | \| | \| |
| 1+15 | 0.0913 | 1.30 | VQ | \| | \| | \| | \| |
| 1+20 | 0.1003 | 1.31 | VQ | \| | \| | \| | \| |
| 1+25 | 0.1093 | 1.30 | VQ | \| | \| | \| | \| |
| 1+30 | 0.1194 | 1.47 | VQ | \| | \| | \| | \| |
| 1+35 | 0.1301 | 1.55 | VQ | \| | \| | \| | \| |
| 1+40 | 0.1406 | 1.52 | VQ | \| | \| | \| | \| |
| 1+45 | 0.1518 | 1.63 | VQ | \| | \| | \| | \| |
| 1+50 | 0.1645 | 1.84 | VQ | \| | \| | \| | \| |
| 1+55 | 0.1773 | 1.86 | VQ | \| | \| | \| | \| |
| 2+ 0 | 0.1898 | 1.82 | VQ | \| | \| | \| | \| |
| 2+ 5 | 0.2024 | 1.83 | \|Q | \| | \| | \| | \| |
| 2+10 | 0.2157 | 1.93 | \|Q | \| | \| | \| | \| |
| 2+15 | 0.2318 | 2.34 | \|Q | \| | \| | \| | \| |
| 2+20 | 0.2502 | 2.66 | \|VQ | \| | \| | \| | \| |
| 2+25 | 0.2678 | 2.57 | \|VQ | \| | \| | \| | \| |
| 2+30 | 0.2919 | 3.49 | \|VQ | \| | \| | \| | \| |
| 2+35 | 0.3202 | 4.11 | \|V Q | \| | \| | \| | \| |
| 2+40 | 0.3510 | 4.48 | \|V Q | \| | \| | \| | \| |
| 2+45 | 0.3769 | 3.75 | \|V Q | \| | \| | \| | \| |
| 2+50 | 0.3927 | 2.30 | \|QV | \| | \| | \| | \| |
| 2+55 | 0.4038 | 1.60 | \|QV | \| | \| | \| | \| |
| 3+ 0 | 0.4123 | 1.24 | Q V | \| | \| | \| | \| |
| 3+ 5 | 0.4131 | 0.12 | Q V | \| | \| | \| | \| |
| 3+10 | 0.4181 | 0.73 | Q V | \| | \| | \| | \| |
| 3+15 | 0.4249 | 0.98 | Q V | \| | \| | \| | \| |
| 3+20 | 0.4320 | 1.03 | Q V | \| | \| | \| | \| |
| 3+25 | 0.4404 | 1.23 | Q V | \| | \| | \| | \| |
| 3+30 | 0.4497 | 1.34 | \|QV | \| | \| | \| | \| |
| 3+35 | 0.4599 | 1.49 | \|QV | \| | \| | \| | \| |
| 3+40 | 0.4699 | 1.45 | \|QV | \| | \| | \| | \| |
| 3+45 | 0.4807 | 1.56 | \|QV | \| | \| | \| | \| |
| 3+50 | 0.4916 | 1.59 | \|QV | \| | \| | \| | \| |
| 3+55 | 0.5018 | 1.47 | \|QV | \| | \| | \| | \| |
| 4+ 0 | 0.5120 | 1.49 | \|QV | \| | \| | \| | \| |
| 4+ 5 | 0.5232 | 1.62 | \|QV | \| | \| | \| | \| |
| 4+10 | 0.5359 | 1.84 | \|QV | \| | \| | \| | \| |
| 4+15 | 0.5493 | 1.94 | \|QV | \| | \| | \| | \| |
| 4+20 | 0.5628 | 1.97 | \|QV | \| | \| | \| | \| |
| 4+25 | 0.5762 | 1.95 | \|QV | \| | \| | \| | \| |
| 4+30 | 0.5914 | 2.20 | \|Q V | \| | \| | \| | \| |
| 4+35 | 0.6074 | 2.33 | \|Q V | \| | \| | \| | \| |
| 4+40 | 0.6232 | 2.28 | \|Q V | \| | \| | \| | \| |
| 4+45 | 0.6400 | 2.45 | \|Q V | \| | \| | \| | \| |
| 4+50 | 0.6590 | 2.76 | \| QV | \| | \| | \| | \| |
| 4+55 | 0.6782 | 2.79 | \| QV | \| | \| | \| | \| |
| 5+ 0 | 0.6970 | 2.72 | \| QV | \| | \| | \| | \| |
| 5+ 5 | 0.7159 | 2.75 | \| QV | \| | \| | \| | \| |
| 5+10 | 0.7359 | 2.90 | \| QV | \| | \| | \| | \| |
| 5+15 | 0.7601 | 3.51 | \| QV | \| | \| | \| | \| |
| 5+20 | 0.7875 | 3.99 | \|  QV | \| | \| | \| | \| |
| 5+25 | 0.8141 | 3.85 | \|  QV | \| | \| | \| | \| |
| 5+30 | 0.8502 | 5.24 | \|  Q | \| | \| | \| | \| |
| 5+35 | 0.8926 | 6.16 | \|  Q | \| | \| | \| | \| |
| 5+40 | 0.9389 | 6.72 | \|  VQ | \| | \| | \| | \| |
| 5+45 | 0.9777 | 5.63 | \|  QV | \| | \| | \| | \| |
| 5+50 | 1.0014 | 3.44 | \| Q  V | \| | \| | \| | \| |
| 5+55 | 1.0179 | 2.40 | \|Q  V | \| | \| | \| | \| |
| 6+ 0 | 1.0308 | 1.86 | \|Q  V | \| | \| | \| | \| |
| 6+ 5 | 1.0318 | 0.15 | Q  V | \| | \| | \| | \| |
| 6+10 | 1.0382 | 0.92 | Q  V | \| | \| | \| | \| |
| 6+15 | 1.0467 | 1.24 | Q  V | \| | \| | \| | \| |
| 6+20 | 1.0557 | 1.31 | \|Q  V | \| | \| | \| | \| |
| 6+25 | 1.0664 | 1.56 | \|Q  V | \| | \| | \| | \| |
| 6+30 | 1.0781 | 1.70 | \|Q  V | \| | \| | \| | \| |
| 6+35 | 1.0911 | 1.88 | \|Q  V | \| | \| | \| | \| |
| 6+40 | 1.1038 | 1.84 | \|Q  V | \| | \| | \| | \| |
| 6+45 | 1.1174 | 1.98 | \|Q  V | \| | \| | \| | \| |
| 6+50 | 1.1312 | 2.01 | \|Q  V | \| | \| | \| | \| |

```
 6+55       1.1441      1.87  |Q   V    |          |          |          |
 7+ 0       1.1571      1.88  |Q   V    |          |          |          |
 7+ 5       1.1712      2.05  |Q    V   |          |          |          |
 7+10       1.1873      2.33  |Q    V   |          |          |          |
 7+15       1.2042      2.46  |Q    V   |          |          |          |
 7+20       1.2214      2.49  |Q    V   |          |          |          |
 7+25       1.2384      2.47  |Q    V   |          |          |          |
 7+30       1.2576      2.79  | Q   V   |          |          |          |
 7+35       1.2779      2.95  | Q   V   |          |          |          |
 7+40       1.2979      2.89  | Q   V   |          |          |          |
 7+45       1.3192      3.10  | Q   V   |          |          |          |
 7+50       1.3433      3.49  | Q   V   |          |          |          |
 7+55       1.3676      3.53  | Q    V  |          |          |          |
 8+ 0       1.3913      3.45  | Q    V  |          |          |          |
 8+ 5       1.4153      3.48  | Q    V  |          |          |          |
 8+10       1.4406      3.67  | Q    V  |          |          |          |
 8+15       1.4713      4.45  |  Q   V  |          |          |          |
 8+20       1.5061      5.05  |   Q  V  |          |          |          |
 8+25       1.5397      4.88  |  Q   V  |          |          |          |
 8+30       1.5854      6.64  |    Q  V |          |          |          |
 8+35       1.6392      7.81  |     Q V |          |          |          |
 8+40       1.6978      8.51  |     Q V |          |          |          |
 8+45       1.7469      7.13  |    Q   V|          |          |          |
 8+50       1.7769      4.36  |  Q     V|          |          |          |
 8+55       1.7979      3.05  | Q      V|          |          |          |
 9+ 0       1.8141      2.36  |Q       V|          |          |          |
 9+ 5       1.8161      0.29  Q        V|          |          |          |
 9+10       1.8281      1.75  |Q       V|          |          |          |
 9+15       1.8443      2.35  |Q       V|          |          |          |
 9+20       1.8614      2.48  |Q       V|          |          |          |
 9+25       1.8817      2.95  | Q      V|          |          |          |
 9+30       1.9038      3.21  | Q      V|          |          |          |
 9+35       1.9284      3.57  | Q      V|          |          |          |
 9+40       1.9524      3.49  | Q       V          |          |          |
 9+45       1.9783      3.75  |  Q      V          |          |          |
 9+50       2.0045      3.81  |  Q      V          |          |          |
 9+55       2.0289      3.54  | Q       V          |          |          |
10+ 0       2.0535      3.57  | Q       V          |          |          |
10+ 5       2.0802      3.88  |  Q      V          |          |          |
10+10       2.1107      4.42  |  Q      V          |          |          |
10+15       2.1428      4.67  |  Q      |V         |          |          |
10+20       2.1753      4.72  |  Q      |V         |          |          |
10+25       2.2075      4.67  |  Q      |V         |          |          |
10+30       2.2439      5.28  |   Q     |V         |          |          |
10+35       2.2824      5.60  |   Q     |V         |          |          |
10+40       2.3202      5.48  |   Q     | V        |          |          |
10+45       2.3607      5.87  |   Q     | V        |          |          |
10+50       2.4063      6.62  |    Q    | V        |          |          |
10+55       2.4523      6.69  |    Q    | V        |          |          |
11+ 0       2.4974      6.54  |    Q    | V        |          |          |
11+ 5       2.5428      6.60  |    Q    |  V       |          |          |
11+10       2.5907      6.96  |    Q    |  V       |          |          |
11+15       2.6488      8.44  |     Q   |  V       |          |          |
11+20       2.7151      9.62  |      Q  |   V      |          |          |
11+25       2.7793      9.32  |      Q  |   V      |          |          |
11+30       2.8684     12.93  |         Q   V      |          |          |
11+35       2.9741     15.35  |         | Q  V     |          |          |
11+40       3.0897     16.80  |         |  Q V     |          |          |
11+45       3.1859     13.96  |         |Q    V    |          |          |
11+50       3.2441      8.46  |      Q  |     V    |          |          |
11+55       3.2844      5.85  |   Q     |      V   |          |          |
12+ 0       3.3154      4.50  |  Q      |      V   |          |          |
12+ 5       3.3209      0.80  Q         |      V   |          |          |
12+10       3.3543      4.85  |  Q      |      V   |          |          |
12+15       3.3992      6.53  |    Q    |      V   |          |          |
12+20       3.4466      6.88  |    Q    |      V   |          |          |
12+25       3.5030      8.19  |     Q   |       V  |          |          |
12+30       3.5646      8.94  |      Q  |       V  |          |          |
12+35       3.6332      9.96  |      Q  |       V  |          |          |
12+40       3.7002      9.73  |      Q  |        V |          |          |
12+45       3.7725     10.49  |       Q |        V |          |          |
12+50       3.8458     10.66  |       Q |        V |          |          |
12+55       3.9138      9.86  |      Q  |         V|          |          |
13+ 0       3.9822      9.94  |      Q  |         V|          |          |
13+ 5       4.0571     10.87  |       Q |          |V         |          |
13+10       4.1435     12.54  |         Q          |V         |          |
13+15       4.2349     13.28  |         Q          |V         |          |
13+20       4.3276     13.45  |         Q          | V        |          |
```



| | | | |
|---|---|---|---|
| 13+25 | 4.4191 | 13.29 | |
| 13+30 | 4.5237 | 15.18 | |
| 13+35 | 4.6349 | 16.15 | |
| 13+40 | 4.7437 | 15.80 | |
| 13+45 | 4.8608 | 17.01 | |
| 13+50 | 4.9938 | 19.30 | |
| 13+55 | 5.1282 | 19.53 | |
| 14+ 0 | 5.2594 | 19.05 | |
| 14+ 5 | 5.3919 | 19.23 | |
| 14+10 | 5.5321 | 20.36 | |
| 14+15 | 5.7035 | 24.89 | |
| 14+20 | 5.8993 | 28.42 | |
| 14+25 | 6.0881 | 27.41 | |
| 14+30 | 6.3477 | 37.71 | |
| 14+35 | 6.6545 | 44.54 | |
| 14+40 | 6.9893 | 48.62 | |
| 14+45 | 7.2688 | 40.59 | |
| 14+50 | 7.4368 | 24.39 | |
| 14+55 | 7.5517 | 16.69 | |
| 15+ 0 | 7.6395 | 12.74 | |
| 15+ 5 | 7.6890 | 7.19 | |
| 15+10 | 7.7105 | 3.13 | |
| 15+15 | 7.7198 | 1.35 | |
| 15+20 | 7.7233 | 0.52 | |
| 15+25 | 7.7248 | 0.20 | |
| 15+30 | 7.7254 | 0.10 | |
| 15+35 | 7.7257 | 0.04 | |
| 15+40 | 7.7257 | 0.01 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 04/30/18 File: EX466100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 46
100-YEAR, 5-DAY STORM EVENT
BY: JDN, DATE: 01-09-18

---

Drainage Area = 31.00(Ac.) = 0.048 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 31.00(Ac.) = 0.048 Sq. Mi.
Length along longest watercourse = 2008.00(Ft.)
Length along longest watercourse measured to centroid = 1122.00(Ft.)
Length along longest watercourse = 0.380 Mi.
Length along longest watercourse measured to centroid = 0.212 Mi.
Difference in elevation = 198.00(Ft.)
Slope along watercourse = 520.6375 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.098 Hr.
Lag time = 5.90 Min.
25% of lag time = 1.48 Min.
40% of lag time = 2.36 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 31.00 | 1.15 | 35.65 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 31.00 | 2.50 | 77.50 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.150(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 31.000 | 93.00 | 0.012 |

Total Area Entered = 31.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 93.0 | 97.2 | 0.036 | 0.012 | 0.036 | 1.000 | 0.036 |
| | | | | | Sum (F) = | 0.036 |

Area averaged mean soil loss (F) (In/Hr) = 0.036

Minimum soil loss rate ((In/Hr)) = 0.018
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.100

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|---|
| 1 | 0.083 | 84.691 | 10.011 | 3.128 |
| 2 | 0.167 | 169.381 | 51.059 | 15.952 |
| 3 | 0.250 | 254.072 | 22.666 | 7.081 |
| 4 | 0.333 | 338.763 | 9.177 | 2.867 |
| 5 | 0.417 | 423.453 | 4.308 | 1.346 |
| 6 | 0.500 | 508.144 | 1.428 | 0.446 |
| 7 | 0.583 | 592.835 | 0.677 | 0.211 |
| 8 | 0.667 | 677.525 | 0.506 | 0.158 |
| 9 | 0.750 | 762.216 | 0.169 | 0.053 |
| | | | Sum = 100.000 | Sum= 31.242 |

Storm Event 5 Effective Rainfall = 0.250(In)

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.015 | ( 0.036) | 0.001 | 0.013 |
| 2 | 0.17 | 0.60 | 0.018 | ( 0.036) | 0.002 | 0.016 |
| 3 | 0.25 | 0.60 | 0.018 | ( 0.036) | 0.002 | 0.016 |
| 4 | 0.33 | 0.60 | 0.018 | ( 0.036) | 0.002 | 0.016 |
| 5 | 0.42 | 0.60 | 0.018 | ( 0.036) | 0.002 | 0.016 |
| 6 | 0.50 | 0.70 | 0.021 | ( 0.036) | 0.002 | 0.019 |
| 7 | 0.58 | 0.70 | 0.021 | ( 0.036) | 0.002 | 0.019 |
| 8 | 0.67 | 0.70 | 0.021 | ( 0.036) | 0.002 | 0.019 |
| 9 | 0.75 | 0.70 | 0.021 | ( 0.036) | 0.002 | 0.019 |
| 10 | 0.83 | 0.70 | 0.021 | ( 0.036) | 0.002 | 0.019 |
| 11 | 0.92 | 0.70 | 0.021 | ( 0.036) | 0.002 | 0.019 |
| 12 | 1.00 | 0.80 | 0.024 | ( 0.036) | 0.002 | 0.022 |
| 13 | 1.08 | 0.80 | 0.024 | ( 0.036) | 0.002 | 0.022 |
| 14 | 1.17 | 0.80 | 0.024 | ( 0.036) | 0.002 | 0.022 |
| 15 | 1.25 | 0.80 | 0.024 | ( 0.036) | 0.002 | 0.022 |
| 16 | 1.33 | 0.80 | 0.024 | ( 0.036) | 0.002 | 0.022 |
| 17 | 1.42 | 0.80 | 0.024 | ( 0.036) | 0.002 | 0.022 |
| 18 | 1.50 | 0.80 | 0.024 | ( 0.036) | 0.002 | 0.022 |
| 19 | 1.58 | 0.80 | 0.024 | ( 0.036) | 0.002 | 0.022 |
| 20 | 1.67 | 0.80 | 0.024 | ( 0.036) | 0.002 | 0.022 |
| 21 | 1.75 | 0.80 | 0.024 | ( 0.036) | 0.002 | 0.022 |
| 22 | 1.83 | 0.80 | 0.024 | ( 0.036) | 0.002 | 0.022 |
| 23 | 1.92 | 0.80 | 0.024 | ( 0.036) | 0.002 | 0.022 |
| 24 | 2.00 | 0.90 | 0.027 | ( 0.036) | 0.003 | 0.024 |
| 25 | 2.08 | 0.80 | 0.024 | ( 0.036) | 0.002 | 0.022 |
| 26 | 2.17 | 0.90 | 0.027 | ( 0.036) | 0.003 | 0.024 |
| 27 | 2.25 | 0.90 | 0.027 | ( 0.036) | 0.003 | 0.024 |
| 28 | 2.33 | 0.90 | 0.027 | ( 0.036) | 0.003 | 0.024 |
| 29 | 2.42 | 0.90 | 0.027 | ( 0.036) | 0.003 | 0.024 |
| 30 | 2.50 | 0.90 | 0.027 | ( 0.036) | 0.003 | 0.024 |
| 31 | 2.58 | 0.90 | 0.027 | ( 0.036) | 0.003 | 0.024 |
| 32 | 2.67 | 0.90 | 0.027 | ( 0.036) | 0.003 | 0.024 |
| 33 | 2.75 | 1.00 | 0.030 | ( 0.036) | 0.003 | 0.027 |
| 34 | 2.83 | 1.00 | 0.030 | ( 0.036) | 0.003 | 0.027 |
| 35 | 2.92 | 1.00 | 0.030 | ( 0.036) | 0.003 | 0.027 |
| 36 | 3.00 | 1.00 | 0.030 | ( 0.036) | 0.003 | 0.027 |
| 37 | 3.08 | 1.00 | 0.030 | ( 0.036) | 0.003 | 0.027 |
| 38 | 3.17 | 1.10 | 0.033 | ( 0.036) | 0.003 | 0.030 |
| 39 | 3.25 | 1.10 | 0.033 | ( 0.036) | 0.003 | 0.030 |
| 40 | 3.33 | 1.10 | 0.033 | ( 0.036) | 0.003 | 0.030 |
| 41 | 3.42 | 1.20 | 0.036 | ( 0.036) | 0.004 | 0.032 |
| 42 | 3.50 | 1.30 | 0.039 | ( 0.036) | 0.004 | 0.035 |
| 43 | 3.58 | 1.40 | 0.042 | ( 0.036) | 0.004 | 0.038 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 44 | 3.67 | 1.40 | 0.042 | ( 0.036) | 0.004 | 0.038 |
| 45 | 3.75 | 1.50 | 0.045 | ( 0.036) | 0.004 | 0.040 |
| 46 | 3.83 | 1.50 | 0.045 | ( 0.036) | 0.004 | 0.040 |
| 47 | 3.92 | 1.60 | 0.048 | ( 0.036) | 0.005 | 0.043 |
| 48 | 4.00 | 1.60 | 0.048 | ( 0.036) | 0.005 | 0.043 |
| 49 | 4.08 | 1.70 | 0.051 | ( 0.036) | 0.005 | 0.046 |
| 50 | 4.17 | 1.80 | 0.054 | ( 0.036) | 0.005 | 0.049 |
| 51 | 4.25 | 1.90 | 0.057 | ( 0.036) | 0.006 | 0.051 |
| 52 | 4.33 | 2.00 | 0.060 | ( 0.036) | 0.006 | 0.054 |
| 53 | 4.42 | 2.10 | 0.063 | ( 0.036) | 0.006 | 0.057 |
| 54 | 4.50 | 2.10 | 0.063 | ( 0.036) | 0.006 | 0.057 |
| 55 | 4.58 | 2.20 | 0.066 | ( 0.036) | 0.007 | 0.059 |
| 56 | 4.67 | 2.30 | 0.069 | ( 0.036) | 0.007 | 0.062 |
| 57 | 4.75 | 2.40 | 0.072 | ( 0.036) | 0.007 | 0.065 |
| 58 | 4.83 | 2.40 | 0.072 | ( 0.036) | 0.007 | 0.065 |
| 59 | 4.92 | 2.50 | 0.075 | ( 0.036) | 0.007 | 0.067 |
| 60 | 5.00 | 2.60 | 0.078 | ( 0.036) | 0.008 | 0.070 |
| 61 | 5.08 | 3.10 | 0.093 | ( 0.036) | 0.009 | 0.084 |
| 62 | 5.17 | 3.60 | 0.108 | ( 0.036) | 0.011 | 0.097 |
| 63 | 5.25 | 3.90 | 0.117 | ( 0.036) | 0.012 | 0.105 |
| 64 | 5.33 | 4.20 | 0.126 | ( 0.036) | 0.013 | 0.113 |
| 65 | 5.42 | 4.70 | 0.141 | ( 0.036) | 0.014 | 0.127 |
| 66 | 5.50 | 5.60 | 0.168 | ( 0.036) | 0.017 | 0.151 |
| 67 | 5.58 | 1.90 | 0.057 | ( 0.036) | 0.006 | 0.051 |
| 68 | 5.67 | 0.90 | 0.027 | ( 0.036) | 0.003 | 0.024 |
| 69 | 5.75 | 0.60 | 0.018 | ( 0.036) | 0.002 | 0.016 |
| 70 | 5.83 | 0.50 | 0.015 | ( 0.036) | 0.001 | 0.013 |
| 71 | 5.92 | 0.30 | 0.009 | ( 0.036) | 0.001 | 0.008 |
| 72 | 6.00 | 0.20 | 0.006 | ( 0.036) | 0.001 | 0.005 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 2.7

Flood volume = Effective rainfall 0.22(In)
times area 31.0(Ac.)/[(In)/(Ft.)] = 0.6(Ac.Ft)
Total soil loss = 0.02(In)
Total soil loss = 0.065(Ac.Ft)
Total rainfall = 0.25(In)
Flood volume = 25316.6 Cubic Feet
Total soil loss = 2813.0 Cubic Feet

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Storm Event 4 Effective Rainfall = 0.375(In)

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.022 | ( 0.036) | 0.002 | 0.020 |
| 2 | 0.17 | 0.60 | 0.027 | ( 0.036) | 0.003 | 0.024 |
| 3 | 0.25 | 0.60 | 0.027 | ( 0.036) | 0.003 | 0.024 |
| 4 | 0.33 | 0.60 | 0.027 | ( 0.036) | 0.003 | 0.024 |
| 5 | 0.42 | 0.60 | 0.027 | ( 0.036) | 0.003 | 0.024 |
| 6 | 0.50 | 0.70 | 0.031 | ( 0.036) | 0.003 | 0.028 |
| 7 | 0.58 | 0.70 | 0.031 | ( 0.036) | 0.003 | 0.028 |
| 8 | 0.67 | 0.70 | 0.031 | ( 0.036) | 0.003 | 0.028 |
| 9 | 0.75 | 0.70 | 0.031 | ( 0.036) | 0.003 | 0.028 |
| 10 | 0.83 | 0.70 | 0.031 | ( 0.036) | 0.003 | 0.028 |
| 11 | 0.92 | 0.70 | 0.031 | ( 0.036) | 0.003 | 0.028 |
| 12 | 1.00 | 0.80 | 0.036 | ( 0.036) | 0.004 | 0.032 |
| 13 | 1.08 | 0.80 | 0.036 | ( 0.036) | 0.004 | 0.032 |
| 14 | 1.17 | 0.80 | 0.036 | ( 0.036) | 0.004 | 0.032 |
| 15 | 1.25 | 0.80 | 0.036 | ( 0.036) | 0.004 | 0.032 |
| 16 | 1.33 | 0.80 | 0.036 | ( 0.036) | 0.004 | 0.032 |
| 17 | 1.42 | 0.80 | 0.036 | ( 0.036) | 0.004 | 0.032 |
| 18 | 1.50 | 0.80 | 0.036 | ( 0.036) | 0.004 | 0.032 |
| 19 | 1.58 | 0.80 | 0.036 | ( 0.036) | 0.004 | 0.032 |
| 20 | 1.67 | 0.80 | 0.036 | ( 0.036) | 0.004 | 0.032 |
| 21 | 1.75 | 0.80 | 0.036 | ( 0.036) | 0.004 | 0.032 |
| 22 | 1.83 | 0.80 | 0.036 | ( 0.036) | 0.004 | 0.032 |
| 23 | 1.92 | 0.80 | 0.036 | ( 0.036) | 0.004 | 0.032 |
| 24 | 2.00 | 0.90 | 0.040 | ( 0.036) | 0.004 | 0.036 |
| 25 | 2.08 | 0.80 | 0.036 | ( 0.036) | 0.004 | 0.032 |
| 26 | 2.17 | 0.90 | 0.040 | ( 0.036) | 0.004 | 0.036 |
| 27 | 2.25 | 0.90 | 0.040 | ( 0.036) | 0.004 | 0.036 |
| 28 | 2.33 | 0.90 | 0.040 | ( 0.036) | 0.004 | 0.036 |
| 29 | 2.42 | 0.90 | 0.040 | ( 0.036) | 0.004 | 0.036 |
| 30 | 2.50 | 0.90 | 0.040 | ( 0.036) | 0.004 | 0.036 |
| 31 | 2.58 | 0.90 | 0.040 | ( 0.036) | 0.004 | 0.036 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 32 | 2.67 | 0.90 | 0.040 | ( 0.036) | 0.004 | 0.036 |
| 33 | 2.75 | 1.00 | 0.045 | ( 0.036) | 0.004 | 0.040 |
| 34 | 2.83 | 1.00 | 0.045 | ( 0.036) | 0.004 | 0.040 |
| 35 | 2.92 | 1.00 | 0.045 | ( 0.036) | 0.004 | 0.040 |
| 36 | 3.00 | 1.00 | 0.045 | ( 0.036) | 0.004 | 0.040 |
| 37 | 3.08 | 1.00 | 0.045 | ( 0.036) | 0.004 | 0.040 |
| 38 | 3.17 | 1.10 | 0.049 | ( 0.036) | 0.005 | 0.045 |
| 39 | 3.25 | 1.10 | 0.049 | ( 0.036) | 0.005 | 0.045 |
| 40 | 3.33 | 1.10 | 0.049 | ( 0.036) | 0.005 | 0.045 |
| 41 | 3.42 | 1.20 | 0.054 | ( 0.036) | 0.005 | 0.049 |
| 42 | 3.50 | 1.30 | 0.058 | ( 0.036) | 0.006 | 0.053 |
| 43 | 3.58 | 1.40 | 0.063 | ( 0.036) | 0.006 | 0.057 |
| 44 | 3.67 | 1.40 | 0.063 | ( 0.036) | 0.006 | 0.057 |
| 45 | 3.75 | 1.50 | 0.067 | ( 0.036) | 0.007 | 0.061 |
| 46 | 3.83 | 1.50 | 0.067 | ( 0.036) | 0.007 | 0.061 |
| 47 | 3.92 | 1.60 | 0.072 | ( 0.036) | 0.007 | 0.065 |
| 48 | 4.00 | 1.60 | 0.072 | ( 0.036) | 0.007 | 0.065 |
| 49 | 4.08 | 1.70 | 0.076 | ( 0.036) | 0.008 | 0.069 |
| 50 | 4.17 | 1.80 | 0.081 | ( 0.036) | 0.008 | 0.073 |
| 51 | 4.25 | 1.90 | 0.085 | ( 0.036) | 0.009 | 0.077 |
| 52 | 4.33 | 2.00 | 0.090 | ( 0.036) | 0.009 | 0.081 |
| 53 | 4.42 | 2.10 | 0.094 | ( 0.036) | 0.009 | 0.085 |
| 54 | 4.50 | 2.10 | 0.094 | ( 0.036) | 0.009 | 0.085 |
| 55 | 4.58 | 2.20 | 0.099 | ( 0.036) | 0.010 | 0.089 |
| 56 | 4.67 | 2.30 | 0.103 | ( 0.036) | 0.010 | 0.093 |
| 57 | 4.75 | 2.40 | 0.108 | ( 0.036) | 0.011 | 0.097 |
| 58 | 4.83 | 2.40 | 0.108 | ( 0.036) | 0.011 | 0.097 |
| 59 | 4.92 | 2.50 | 0.112 | ( 0.036) | 0.011 | 0.101 |
| 60 | 5.00 | 2.60 | 0.117 | ( 0.036) | 0.012 | 0.105 |
| 61 | 5.08 | 3.10 | 0.139 | ( 0.036) | 0.014 | 0.126 |
| 62 | 5.17 | 3.60 | 0.162 | ( 0.036) | 0.016 | 0.146 |
| 63 | 5.25 | 3.90 | 0.175 | ( 0.036) | 0.018 | 0.158 |
| 64 | 5.33 | 4.20 | 0.189 | ( 0.036) | 0.019 | 0.170 |
| 65 | 5.42 | 4.70 | 0.211 | ( 0.036) | 0.021 | 0.190 |
| 66 | 5.50 | 5.60 | 0.252 | ( 0.036) | 0.025 | 0.227 |
| 67 | 5.58 | 1.90 | 0.085 | ( 0.036) | 0.009 | 0.077 |
| 68 | 5.67 | 0.90 | 0.040 | ( 0.036) | 0.004 | 0.036 |
| 69 | 5.75 | 0.60 | 0.027 | ( 0.036) | 0.003 | 0.024 |
| 70 | 5.83 | 0.50 | 0.022 | ( 0.036) | 0.002 | 0.020 |
| 71 | 5.92 | 0.30 | 0.013 | ( 0.036) | 0.001 | 0.012 |
| 72 | 6.00 | 0.20 | 0.009 | ( 0.036) | 0.001 | 0.008 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 4.0

Flood volume = Effective rainfall 0.34(In)
times area 31.0(Ac.)/[(In)/(Ft.)] = 0.9(Ac.Ft)
Total soil loss = 0.04(In)
Total soil loss = 0.097(Ac.Ft)
Total rainfall = 0.37(In)
Flood volume = 37974.8 Cubic Feet
Total soil loss = 4219.4 Cubic Feet

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Storm Event 3 Effective Rainfall = 0.475(In)

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.028 | ( 0.036) | 0.003 | 0.026 |
| 2 | 0.17 | 0.60 | 0.034 | ( 0.036) | 0.003 | 0.031 |
| 3 | 0.25 | 0.60 | 0.034 | ( 0.036) | 0.003 | 0.031 |
| 4 | 0.33 | 0.60 | 0.034 | ( 0.036) | 0.003 | 0.031 |
| 5 | 0.42 | 0.60 | 0.034 | ( 0.036) | 0.003 | 0.031 |
| 6 | 0.50 | 0.70 | 0.040 | ( 0.036) | 0.004 | 0.036 |
| 7 | 0.58 | 0.70 | 0.040 | ( 0.036) | 0.004 | 0.036 |
| 8 | 0.67 | 0.70 | 0.040 | ( 0.036) | 0.004 | 0.036 |
| 9 | 0.75 | 0.70 | 0.040 | ( 0.036) | 0.004 | 0.036 |
| 10 | 0.83 | 0.70 | 0.040 | ( 0.036) | 0.004 | 0.036 |
| 11 | 0.92 | 0.70 | 0.040 | ( 0.036) | 0.004 | 0.036 |
| 12 | 1.00 | 0.80 | 0.046 | ( 0.036) | 0.005 | 0.041 |
| 13 | 1.08 | 0.80 | 0.046 | ( 0.036) | 0.005 | 0.041 |
| 14 | 1.17 | 0.80 | 0.046 | ( 0.036) | 0.005 | 0.041 |
| 15 | 1.25 | 0.80 | 0.046 | ( 0.036) | 0.005 | 0.041 |
| 16 | 1.33 | 0.80 | 0.046 | ( 0.036) | 0.005 | 0.041 |
| 17 | 1.42 | 0.80 | 0.046 | ( 0.036) | 0.005 | 0.041 |
| 18 | 1.50 | 0.80 | 0.046 | ( 0.036) | 0.005 | 0.041 |
| 19 | 1.58 | 0.80 | 0.046 | ( 0.036) | 0.005 | 0.041 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 20 | 1.67 | 0.80 | 0.046 | ( 0.036) | 0.005 | 0.041 |
| 21 | 1.75 | 0.80 | 0.046 | ( 0.036) | 0.005 | 0.041 |
| 22 | 1.83 | 0.80 | 0.046 | ( 0.036) | 0.005 | 0.041 |
| 23 | 1.92 | 0.80 | 0.046 | ( 0.036) | 0.005 | 0.041 |
| 24 | 2.00 | 0.90 | 0.051 | ( 0.036) | 0.005 | 0.046 |
| 25 | 2.08 | 0.80 | 0.046 | ( 0.036) | 0.005 | 0.041 |
| 26 | 2.17 | 0.90 | 0.051 | ( 0.036) | 0.005 | 0.046 |
| 27 | 2.25 | 0.90 | 0.051 | ( 0.036) | 0.005 | 0.046 |
| 28 | 2.33 | 0.90 | 0.051 | ( 0.036) | 0.005 | 0.046 |
| 29 | 2.42 | 0.90 | 0.051 | ( 0.036) | 0.005 | 0.046 |
| 30 | 2.50 | 0.90 | 0.051 | ( 0.036) | 0.005 | 0.046 |
| 31 | 2.58 | 0.90 | 0.051 | ( 0.036) | 0.005 | 0.046 |
| 32 | 2.67 | 0.90 | 0.051 | ( 0.036) | 0.005 | 0.046 |
| 33 | 2.75 | 1.00 | 0.057 | ( 0.036) | 0.006 | 0.051 |
| 34 | 2.83 | 1.00 | 0.057 | ( 0.036) | 0.006 | 0.051 |
| 35 | 2.92 | 1.00 | 0.057 | ( 0.036) | 0.006 | 0.051 |
| 36 | 3.00 | 1.00 | 0.057 | ( 0.036) | 0.006 | 0.051 |
| 37 | 3.08 | 1.00 | 0.057 | ( 0.036) | 0.006 | 0.051 |
| 38 | 3.17 | 1.10 | 0.063 | ( 0.036) | 0.006 | 0.056 |
| 39 | 3.25 | 1.10 | 0.063 | ( 0.036) | 0.006 | 0.056 |
| 40 | 3.33 | 1.10 | 0.063 | ( 0.036) | 0.006 | 0.056 |
| 41 | 3.42 | 1.20 | 0.068 | ( 0.036) | 0.007 | 0.062 |
| 42 | 3.50 | 1.30 | 0.074 | ( 0.036) | 0.007 | 0.067 |
| 43 | 3.58 | 1.40 | 0.080 | ( 0.036) | 0.008 | 0.072 |
| 44 | 3.67 | 1.40 | 0.080 | ( 0.036) | 0.008 | 0.072 |
| 45 | 3.75 | 1.50 | 0.085 | ( 0.036) | 0.009 | 0.077 |
| 46 | 3.83 | 1.50 | 0.085 | ( 0.036) | 0.009 | 0.077 |
| 47 | 3.92 | 1.60 | 0.091 | ( 0.036) | 0.009 | 0.082 |
| 48 | 4.00 | 1.60 | 0.091 | ( 0.036) | 0.009 | 0.082 |
| 49 | 4.08 | 1.70 | 0.097 | ( 0.036) | 0.010 | 0.087 |
| 50 | 4.17 | 1.80 | 0.103 | ( 0.036) | 0.010 | 0.092 |
| 51 | 4.25 | 1.90 | 0.108 | ( 0.036) | 0.011 | 0.097 |
| 52 | 4.33 | 2.00 | 0.114 | ( 0.036) | 0.011 | 0.103 |
| 53 | 4.42 | 2.10 | 0.120 | ( 0.036) | 0.012 | 0.108 |
| 54 | 4.50 | 2.10 | 0.120 | ( 0.036) | 0.012 | 0.108 |
| 55 | 4.58 | 2.20 | 0.125 | ( 0.036) | 0.013 | 0.113 |
| 56 | 4.67 | 2.30 | 0.131 | ( 0.036) | 0.013 | 0.118 |
| 57 | 4.75 | 2.40 | 0.137 | ( 0.036) | 0.014 | 0.123 |
| 58 | 4.83 | 2.40 | 0.137 | ( 0.036) | 0.014 | 0.123 |
| 59 | 4.92 | 2.50 | 0.142 | ( 0.036) | 0.014 | 0.128 |
| 60 | 5.00 | 2.60 | 0.148 | ( 0.036) | 0.015 | 0.133 |
| 61 | 5.08 | 3.10 | 0.177 | ( 0.036) | 0.018 | 0.159 |
| 62 | 5.17 | 3.60 | 0.205 | ( 0.036) | 0.021 | 0.185 |
| 63 | 5.25 | 3.90 | 0.222 | ( 0.036) | 0.022 | 0.200 |
| 64 | 5.33 | 4.20 | 0.239 | ( 0.036) | 0.024 | 0.215 |
| 65 | 5.42 | 4.70 | 0.268 | ( 0.036) | 0.027 | 0.241 |
| 66 | 5.50 | 5.60 | 0.319 | ( 0.036) | 0.032 | 0.287 |
| 67 | 5.58 | 1.90 | 0.108 | ( 0.036) | 0.011 | 0.097 |
| 68 | 5.67 | 0.90 | 0.051 | ( 0.036) | 0.005 | 0.046 |
| 69 | 5.75 | 0.60 | 0.034 | ( 0.036) | 0.003 | 0.031 |
| 70 | 5.83 | 0.50 | 0.028 | ( 0.036) | 0.003 | 0.026 |
| 71 | 5.92 | 0.30 | 0.017 | ( 0.036) | 0.002 | 0.015 |
| 72 | 6.00 | 0.20 | 0.011 | ( 0.036) | 0.001 | 0.010 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 5.1

Flood volume = Effective rainfall 0.43(In)
times area 31.0(Ac.)/[(In)/(Ft.)] = 1.1(Ac.Ft)
Total soil loss = 0.05(In)
Total soil loss = 0.123(Ac.Ft)
Total rainfall = 0.47(In)
Flood volume = 48101.4 Cubic Feet
Total soil loss = 5344.6 Cubic Feet

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Storm Event 2 Effective Rainfall = 0.900(In)

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.054 | ( 0.036) | 0.005 | 0.049 |
| 2 | 0.17 | 0.60 | 0.065 | ( 0.036) | 0.006 | 0.058 |
| 3 | 0.25 | 0.60 | 0.065 | ( 0.036) | 0.006 | 0.058 |
| 4 | 0.33 | 0.60 | 0.065 | ( 0.036) | 0.006 | 0.058 |
| 5 | 0.42 | 0.60 | 0.065 | ( 0.036) | 0.006 | 0.058 |
| 6 | 0.50 | 0.70 | 0.076 | ( 0.036) | 0.008 | 0.068 |
| 7 | 0.58 | 0.70 | 0.076 | ( 0.036) | 0.008 | 0.068 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 8 | 0.67 | 0.70 | 0.076 | ( 0.036) | 0.008 | 0.068 |
| 9 | 0.75 | 0.70 | 0.076 | ( 0.036) | 0.008 | 0.068 |
| 10 | 0.83 | 0.70 | 0.076 | ( 0.036) | 0.008 | 0.068 |
| 11 | 0.92 | 0.70 | 0.076 | ( 0.036) | 0.008 | 0.068 |
| 12 | 1.00 | 0.80 | 0.086 | ( 0.036) | 0.009 | 0.078 |
| 13 | 1.08 | 0.80 | 0.086 | ( 0.036) | 0.009 | 0.078 |
| 14 | 1.17 | 0.80 | 0.086 | ( 0.036) | 0.009 | 0.078 |
| 15 | 1.25 | 0.80 | 0.086 | ( 0.036) | 0.009 | 0.078 |
| 16 | 1.33 | 0.80 | 0.086 | ( 0.036) | 0.009 | 0.078 |
| 17 | 1.42 | 0.80 | 0.086 | ( 0.036) | 0.009 | 0.078 |
| 18 | 1.50 | 0.80 | 0.086 | ( 0.036) | 0.009 | 0.078 |
| 19 | 1.58 | 0.80 | 0.086 | ( 0.036) | 0.009 | 0.078 |
| 20 | 1.67 | 0.80 | 0.086 | ( 0.036) | 0.009 | 0.078 |
| 21 | 1.75 | 0.80 | 0.086 | ( 0.036) | 0.009 | 0.078 |
| 22 | 1.83 | 0.80 | 0.086 | ( 0.036) | 0.009 | 0.078 |
| 23 | 1.92 | 0.80 | 0.086 | ( 0.036) | 0.009 | 0.078 |
| 24 | 2.00 | 0.90 | 0.097 | ( 0.036) | 0.010 | 0.087 |
| 25 | 2.08 | 0.80 | 0.086 | ( 0.036) | 0.009 | 0.078 |
| 26 | 2.17 | 0.90 | 0.097 | ( 0.036) | 0.010 | 0.087 |
| 27 | 2.25 | 0.90 | 0.097 | ( 0.036) | 0.010 | 0.087 |
| 28 | 2.33 | 0.90 | 0.097 | ( 0.036) | 0.010 | 0.087 |
| 29 | 2.42 | 0.90 | 0.097 | ( 0.036) | 0.010 | 0.087 |
| 30 | 2.50 | 0.90 | 0.097 | ( 0.036) | 0.010 | 0.087 |
| 31 | 2.58 | 0.90 | 0.097 | ( 0.036) | 0.010 | 0.087 |
| 32 | 2.67 | 0.90 | 0.097 | ( 0.036) | 0.010 | 0.087 |
| 33 | 2.75 | 1.00 | 0.108 | ( 0.036) | 0.011 | 0.097 |
| 34 | 2.83 | 1.00 | 0.108 | ( 0.036) | 0.011 | 0.097 |
| 35 | 2.92 | 1.00 | 0.108 | ( 0.036) | 0.011 | 0.097 |
| 36 | 3.00 | 1.00 | 0.108 | ( 0.036) | 0.011 | 0.097 |
| 37 | 3.08 | 1.00 | 0.108 | ( 0.036) | 0.011 | 0.097 |
| 38 | 3.17 | 1.10 | 0.119 | ( 0.036) | 0.012 | 0.107 |
| 39 | 3.25 | 1.10 | 0.119 | ( 0.036) | 0.012 | 0.107 |
| 40 | 3.33 | 1.10 | 0.119 | ( 0.036) | 0.012 | 0.107 |
| 41 | 3.42 | 1.20 | 0.130 | ( 0.036) | 0.013 | 0.117 |
| 42 | 3.50 | 1.30 | 0.140 | ( 0.036) | 0.014 | 0.126 |
| 43 | 3.58 | 1.40 | 0.151 | ( 0.036) | 0.015 | 0.136 |
| 44 | 3.67 | 1.40 | 0.151 | ( 0.036) | 0.015 | 0.136 |
| 45 | 3.75 | 1.50 | 0.162 | ( 0.036) | 0.016 | 0.146 |
| 46 | 3.83 | 1.50 | 0.162 | ( 0.036) | 0.016 | 0.146 |
| 47 | 3.92 | 1.60 | 0.173 | ( 0.036) | 0.017 | 0.156 |
| 48 | 4.00 | 1.60 | 0.173 | ( 0.036) | 0.017 | 0.156 |
| 49 | 4.08 | 1.70 | 0.184 | ( 0.036) | 0.018 | 0.165 |
| 50 | 4.17 | 1.80 | 0.194 | ( 0.036) | 0.019 | 0.175 |
| 51 | 4.25 | 1.90 | 0.205 | ( 0.036) | 0.021 | 0.185 |
| 52 | 4.33 | 2.00 | 0.216 | ( 0.036) | 0.022 | 0.194 |
| 53 | 4.42 | 2.10 | 0.227 | ( 0.036) | 0.023 | 0.204 |
| 54 | 4.50 | 2.10 | 0.227 | ( 0.036) | 0.023 | 0.204 |
| 55 | 4.58 | 2.20 | 0.238 | ( 0.036) | 0.024 | 0.214 |
| 56 | 4.67 | 2.30 | 0.248 | ( 0.036) | 0.025 | 0.224 |
| 57 | 4.75 | 2.40 | 0.259 | ( 0.036) | 0.026 | 0.233 |
| 58 | 4.83 | 2.40 | 0.259 | ( 0.036) | 0.026 | 0.233 |
| 59 | 4.92 | 2.50 | 0.270 | ( 0.036) | 0.027 | 0.243 |
| 60 | 5.00 | 2.60 | 0.281 | ( 0.036) | 0.028 | 0.253 |
| 61 | 5.08 | 3.10 | 0.335 | ( 0.036) | 0.033 | 0.301 |
| 62 | 5.17 | 3.60 | 0.389 | 0.036 | ( 0.039) | 0.353 |
| 63 | 5.25 | 3.90 | 0.421 | 0.036 | ( 0.042) | 0.385 |
| 64 | 5.33 | 4.20 | 0.454 | 0.036 | ( 0.045) | 0.418 |
| 65 | 5.42 | 4.70 | 0.508 | 0.036 | ( 0.051) | 0.472 |
| 66 | 5.50 | 5.60 | 0.605 | 0.036 | ( 0.060) | 0.569 |
| 67 | 5.58 | 1.90 | 0.205 | ( 0.036) | 0.021 | 0.185 |
| 68 | 5.67 | 0.90 | 0.097 | ( 0.036) | 0.010 | 0.087 |
| 69 | 5.75 | 0.60 | 0.065 | ( 0.036) | 0.006 | 0.058 |
| 70 | 5.83 | 0.50 | 0.054 | ( 0.036) | 0.005 | 0.049 |
| 71 | 5.92 | 0.30 | 0.032 | ( 0.036) | 0.003 | 0.029 |
| 72 | 6.00 | 0.20 | 0.022 | ( 0.036) | 0.002 | 0.019 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 9.8

Flood volume = Effective rainfall 0.81(In)
times area 31.0(Ac.)/[(In)/(Ft.)] = 2.1(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.220(Ac.Ft)
Total rainfall = 0.90(In)
Flood volume = 91679.6 Cubic Feet
Total soil loss = 9586.6 Cubic Feet

---

Storm Event 1 Effective Rainfall = 2.500(In)

---

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.50 | 0.150 | ( 0.036) | 0.015 | 0.135 |
| 2 | 0.17 | 0.60 | 0.180 | ( 0.036) | 0.018 | 0.162 |
| 3 | 0.25 | 0.60 | 0.180 | ( 0.036) | 0.018 | 0.162 |
| 4 | 0.33 | 0.60 | 0.180 | ( 0.036) | 0.018 | 0.162 |
| 5 | 0.42 | 0.60 | 0.180 | ( 0.036) | 0.018 | 0.162 |
| 6 | 0.50 | 0.70 | 0.210 | ( 0.036) | 0.021 | 0.189 |
| 7 | 0.58 | 0.70 | 0.210 | ( 0.036) | 0.021 | 0.189 |
| 8 | 0.67 | 0.70 | 0.210 | ( 0.036) | 0.021 | 0.189 |
| 9 | 0.75 | 0.70 | 0.210 | ( 0.036) | 0.021 | 0.189 |
| 10 | 0.83 | 0.70 | 0.210 | ( 0.036) | 0.021 | 0.189 |
| 11 | 0.92 | 0.70 | 0.210 | ( 0.036) | 0.021 | 0.189 |
| 12 | 1.00 | 0.80 | 0.240 | ( 0.036) | 0.024 | 0.216 |
| 13 | 1.08 | 0.80 | 0.240 | ( 0.036) | 0.024 | 0.216 |
| 14 | 1.17 | 0.80 | 0.240 | ( 0.036) | 0.024 | 0.216 |
| 15 | 1.25 | 0.80 | 0.240 | ( 0.036) | 0.024 | 0.216 |
| 16 | 1.33 | 0.80 | 0.240 | ( 0.036) | 0.024 | 0.216 |
| 17 | 1.42 | 0.80 | 0.240 | ( 0.036) | 0.024 | 0.216 |
| 18 | 1.50 | 0.80 | 0.240 | ( 0.036) | 0.024 | 0.216 |
| 19 | 1.58 | 0.80 | 0.240 | ( 0.036) | 0.024 | 0.216 |
| 20 | 1.67 | 0.80 | 0.240 | ( 0.036) | 0.024 | 0.216 |
| 21 | 1.75 | 0.80 | 0.240 | ( 0.036) | 0.024 | 0.216 |
| 22 | 1.83 | 0.80 | 0.240 | ( 0.036) | 0.024 | 0.216 |
| 23 | 1.92 | 0.80 | 0.240 | ( 0.036) | 0.024 | 0.216 |
| 24 | 2.00 | 0.90 | 0.270 | ( 0.036) | 0.027 | 0.243 |
| 25 | 2.08 | 0.80 | 0.240 | ( 0.036) | 0.024 | 0.216 |
| 26 | 2.17 | 0.90 | 0.270 | ( 0.036) | 0.027 | 0.243 |
| 27 | 2.25 | 0.90 | 0.270 | ( 0.036) | 0.027 | 0.243 |
| 28 | 2.33 | 0.90 | 0.270 | ( 0.036) | 0.027 | 0.243 |
| 29 | 2.42 | 0.90 | 0.270 | ( 0.036) | 0.027 | 0.243 |
| 30 | 2.50 | 0.90 | 0.270 | ( 0.036) | 0.027 | 0.243 |
| 31 | 2.58 | 0.90 | 0.270 | ( 0.036) | 0.027 | 0.243 |
| 32 | 2.67 | 0.90 | 0.270 | ( 0.036) | 0.027 | 0.243 |
| 33 | 2.75 | 1.00 | 0.300 | ( 0.036) | 0.030 | 0.270 |
| 34 | 2.83 | 1.00 | 0.300 | ( 0.036) | 0.030 | 0.270 |
| 35 | 2.92 | 1.00 | 0.300 | ( 0.036) | 0.030 | 0.270 |
| 36 | 3.00 | 1.00 | 0.300 | ( 0.036) | 0.030 | 0.270 |
| 37 | 3.08 | 1.00 | 0.300 | ( 0.036) | 0.030 | 0.270 |
| 38 | 3.17 | 1.10 | 0.330 | ( 0.036) | 0.033 | 0.297 |
| 39 | 3.25 | 1.10 | 0.330 | ( 0.036) | 0.033 | 0.297 |
| 40 | 3.33 | 1.10 | 0.330 | ( 0.036) | 0.033 | 0.297 |
| 41 | 3.42 | 1.20 | 0.360 | ( 0.036) | 0.036 | 0.324 |
| 42 | 3.50 | 1.30 | 0.390 | 0.036 | ( 0.039) | 0.354 |
| 43 | 3.58 | 1.40 | 0.420 | 0.036 | ( 0.042) | 0.384 |
| 44 | 3.67 | 1.40 | 0.420 | 0.036 | ( 0.042) | 0.384 |
| 45 | 3.75 | 1.50 | 0.450 | 0.036 | ( 0.045) | 0.414 |
| 46 | 3.83 | 1.50 | 0.450 | 0.036 | ( 0.045) | 0.414 |
| 47 | 3.92 | 1.60 | 0.480 | 0.036 | ( 0.048) | 0.444 |
| 48 | 4.00 | 1.60 | 0.480 | 0.036 | ( 0.048) | 0.444 |
| 49 | 4.08 | 1.70 | 0.510 | 0.036 | ( 0.051) | 0.474 |
| 50 | 4.17 | 1.80 | 0.540 | 0.036 | ( 0.054) | 0.504 |
| 51 | 4.25 | 1.90 | 0.570 | 0.036 | ( 0.057) | 0.534 |
| 52 | 4.33 | 2.00 | 0.600 | 0.036 | ( 0.060) | 0.564 |
| 53 | 4.42 | 2.10 | 0.630 | 0.036 | ( 0.063) | 0.594 |
| 54 | 4.50 | 2.10 | 0.630 | 0.036 | ( 0.063) | 0.594 |
| 55 | 4.58 | 2.20 | 0.660 | 0.036 | ( 0.066) | 0.624 |
| 56 | 4.67 | 2.30 | 0.690 | 0.036 | ( 0.069) | 0.654 |
| 57 | 4.75 | 2.40 | 0.720 | 0.036 | ( 0.072) | 0.684 |
| 58 | 4.83 | 2.40 | 0.720 | 0.036 | ( 0.072) | 0.684 |
| 59 | 4.92 | 2.50 | 0.750 | 0.036 | ( 0.075) | 0.714 |
| 60 | 5.00 | 2.60 | 0.780 | 0.036 | ( 0.078) | 0.744 |
| 61 | 5.08 | 3.10 | 0.930 | 0.036 | ( 0.093) | 0.894 |
| 62 | 5.17 | 3.60 | 1.080 | 0.036 | ( 0.108) | 1.044 |
| 63 | 5.25 | 3.90 | 1.170 | 0.036 | ( 0.117) | 1.134 |
| 64 | 5.33 | 4.20 | 1.260 | 0.036 | ( 0.126) | 1.224 |
| 65 | 5.42 | 4.70 | 1.410 | 0.036 | ( 0.141) | 1.374 |
| 66 | 5.50 | 5.60 | 1.680 | 0.036 | ( 0.168) | 1.644 |
| 67 | 5.58 | 1.90 | 0.570 | 0.036 | ( 0.057) | 0.534 |
| 68 | 5.67 | 0.90 | 0.270 | ( 0.036) | 0.027 | 0.243 |
| 69 | 5.75 | 0.60 | 0.180 | ( 0.036) | 0.018 | 0.162 |
| 70 | 5.83 | 0.50 | 0.150 | ( 0.036) | 0.015 | 0.135 |
| 71 | 5.92 | 0.30 | 0.090 | ( 0.036) | 0.009 | 0.081 |
| 72 | 6.00 | 0.20 | 0.060 | ( 0.036) | 0.006 | 0.054 |

(Loss Rate Not Used)

```
 Sum =     100.0                                    Sum =    28.0
    Flood volume = Effective rainfall      2.33(In)
     times area      31.0(Ac.)/[(In)/(Ft.)] =       6.0(Ac.Ft)
    Total soil loss =      0.17(In)
    Total soil loss =     0.438(Ac.Ft)
    Total rainfall =      2.50(In)
    Flood volume =      262194.9 Cubic Feet
    Total soil loss =       19100.1 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =     43.488(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
      TOTAL OF: 5       6 - H O U R    S T O R M  E V E N T S
                   R u n o f f      H y d r o g r a p h
    ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0       12.5      25.0      37.5      50.0
-------------------------------------------------------------------------
  0+ 5       0.0003      0.04  Q          |         |         |         |
  0+10       0.0021      0.27  Q          |         |         |         |
  0+15       0.0049      0.40  Q          |         |         |         |
  0+20       0.0081      0.46  Q          |         |         |         |
  0+25       0.0115      0.49  Q          |         |         |         |
  0+30       0.0150      0.51  Q          |         |         |         |
  0+35       0.0188      0.55  Q          |         |         |         |
  0+40       0.0227      0.58  Q          |         |         |         |
  0+45       0.0268      0.58  Q          |         |         |         |
  0+50       0.0308      0.59  Q          |         |         |         |
  0+55       0.0349      0.59  Q          |         |         |         |
  1+ 0       0.0390      0.60  Q          |         |         |         |
  1+ 5       0.0434      0.64  Q          |         |         |         |
  1+10       0.0480      0.66  Q          |         |         |         |
  1+15       0.0526      0.67  Q          |         |         |         |
  1+20       0.0572      0.67  Q          |         |         |         |
  1+25       0.0619      0.67  Q          |         |         |         |
  1+30       0.0665      0.67  Q          |         |         |         |
  1+35       0.0711      0.67  Q          |         |         |         |
  1+40       0.0758      0.68  Q          |         |         |         |
  1+45       0.0804      0.68  Q          |         |         |         |
  1+50       0.0851      0.68  Q          |         |         |         |
  1+55       0.0897      0.68  Q          |         |         |         |
  2+ 0       0.0945      0.68  Q          |         |         |         |
  2+ 5       0.0994      0.72  Q          |         |         |         |
  2+10       0.1042      0.70  Q          |         |         |         |
  2+15       0.1093      0.73  Q          |         |         |         |
  2+20       0.1145      0.75  Q          |         |         |         |
  2+25       0.1197      0.75  Q          |         |         |         |
  2+30       0.1249      0.76  Q          |         |         |         |
  2+35       0.1301      0.76  Q          |         |         |         |
  2+40       0.1353      0.76  Q          |         |         |         |
  2+45       0.1406      0.77  Q          |         |         |         |
  2+50       0.1462      0.81  Q          |         |         |         |
  2+55       0.1519      0.83  Q          |         |         |         |
  3+ 0       0.1577      0.84  Q          |         |         |         |
  3+ 5       0.1635      0.84  Q          |         |         |         |
  3+10       0.1693      0.85  Q          |         |         |         |
  3+15       0.1755      0.89  Q          |         |         |         |
  3+20       0.1818      0.91  Q          |         |         |         |
  3+25       0.1882      0.93  Q          |         |         |         |
  3+30       0.1950      0.99  Q          |         |         |         |
  3+35       0.2023      1.06  Q          |         |         |         |
  3+40       0.2101      1.13  Q          |         |         |         |
  3+45       0.2181      1.17  Q          |         |         |         |
  3+50       0.2265      1.22  Q          |         |         |         |
  3+55       0.2352      1.26  VQ         |         |         |         |
  4+ 0       0.2442      1.31  VQ         |         |         |         |
  4+ 5       0.2534      1.34  VQ         |         |         |         |
  4+10       0.2631      1.40  VQ         |         |         |         |
  4+15       0.2733      1.48  |Q         |         |         |         |
  4+20       0.2840      1.56  |Q         |         |         |         |
  4+25       0.2953      1.64  |Q         |         |         |         |
  4+30       0.3071      1.72  |Q         |         |         |         |
  4+35       0.3192      1.76  |Q         |         |         |         |
  4+40       0.3318      1.82  |Q         |         |         |         |
  4+45       0.3449      1.90  |Q         |         |         |         |
  4+50       0.3584      1.97  |Q         |         |         |         |
```

| | | | | | | |
|---|---|---|---|---|---|---|
| 4+55 | 0.3723 | 2.01 | \|Q | \| | \| | \| |
| 5+ 0 | 0.3866 | 2.08 | \|Q | \| | \| | \| |
| 5+ 5 | 0.4016 | 2.19 | \|Q | \| | \| | \| |
| 5+10 | 0.4187 | 2.47 | \|Q | \| | \| | \| |
| 5+15 | 0.4381 | 2.82 | \|VQ | \| | \| | \| |
| 5+20 | 0.4595 | 3.12 | \|VQ | \| | \| | \| |
| 5+25 | 0.4830 | 3.40 | \|VQ | \| | \| | \| |
| 5+30 | 0.5092 | 3.80 | \|V Q | \| | \| | \| |
| 5+35 | 0.5368 | 4.02 | \| VQ | \| | \| | \| |
| 5+40 | 0.5545 | 2.57 | \| Q | \| | \| | \| |
| 5+45 | 0.5648 | 1.50 | \|QV | \| | \| | \| |
| 5+50 | 0.5712 | 0.93 | Q V | \| | \| | \| |
| 5+55 | 0.5754 | 0.61 | Q V | \| | \| | \| |
| 6+ 0 | 0.5782 | 0.40 | Q V | \| | \| | \| |
| 6+ 5 | 0.5786 | 0.06 | Q V | \| | \| | \| |
| 6+10 | 0.5814 | 0.40 | Q V | \| | \| | \| |
| 6+15 | 0.5856 | 0.61 | Q V | \| | \| | \| |
| 6+20 | 0.5903 | 0.69 | Q V | \| | \| | \| |
| 6+25 | 0.5954 | 0.73 | Q V | \| | \| | \| |
| 6+30 | 0.6006 | 0.76 | Q V | \| | \| | \| |
| 6+35 | 0.6063 | 0.83 | Q V | \| | \| | \| |
| 6+40 | 0.6123 | 0.86 | Q V | \| | \| | \| |
| 6+45 | 0.6183 | 0.88 | Q V | \| | \| | \| |
| 6+50 | 0.6244 | 0.88 | Q V | \| | \| | \| |
| 6+55 | 0.6305 | 0.88 | Q V | \| | \| | \| |
| 7+ 0 | 0.6367 | 0.90 | Q V | \| | \| | \| |
| 7+ 5 | 0.6433 | 0.96 | Q V | \| | \| | \| |
| 7+10 | 0.6501 | 0.99 | Q V | \| | \| | \| |
| 7+15 | 0.6571 | 1.00 | Q V | \| | \| | \| |
| 7+20 | 0.6640 | 1.01 | Q V | \| | \| | \| |
| 7+25 | 0.6710 | 1.01 | Q V | \| | \| | \| |
| 7+30 | 0.6779 | 1.01 | Q V | \| | \| | \| |
| 7+35 | 0.6849 | 1.01 | Q V | \| | \| | \| |
| 7+40 | 0.6919 | 1.01 | Q V | \| | \| | \| |
| 7+45 | 0.6989 | 1.01 | Q V | \| | \| | \| |
| 7+50 | 0.7058 | 1.01 | Q V | \| | \| | \| |
| 7+55 | 0.7128 | 1.01 | Q V | \| | \| | \| |
| 8+ 0 | 0.7199 | 1.03 | Q V | \| | \| | \| |
| 8+ 5 | 0.7273 | 1.08 | Q V | \| | \| | \| |
| 8+10 | 0.7345 | 1.05 | Q V | \| | \| | \| |
| 8+15 | 0.7421 | 1.10 | Q V | \| | \| | \| |
| 8+20 | 0.7499 | 1.12 | Q V | \| | \| | \| |
| 8+25 | 0.7577 | 1.13 | Q V | \| | \| | \| |
| 8+30 | 0.7655 | 1.14 | Q V | \| | \| | \| |
| 8+35 | 0.7733 | 1.14 | Q V | \| | \| | \| |
| 8+40 | 0.7812 | 1.14 | Q V | \| | \| | \| |
| 8+45 | 0.7891 | 1.15 | Q V | \| | \| | \| |
| 8+50 | 0.7975 | 1.22 | Q V | \| | \| | \| |
| 8+55 | 0.8061 | 1.25 | Q  V | \| | \| | \| |
| 9+ 0 | 0.8147 | 1.26 | \|Q V | \| | \| | \| |
| 9+ 5 | 0.8234 | 1.26 | \|Q V | \| | \| | \| |
| 9+10 | 0.8322 | 1.28 | \|Q V | \| | \| | \| |
| 9+15 | 0.8415 | 1.34 | \|Q V | \| | \| | \| |
| 9+20 | 0.8509 | 1.37 | \|Q V | \| | \| | \| |
| 9+25 | 0.8605 | 1.40 | \|Q V | \| | \| | \| |
| 9+30 | 0.8707 | 1.48 | \|Q V | \| | \| | \| |
| 9+35 | 0.8816 | 1.59 | \|Q V | \| | \| | \| |
| 9+40 | 0.8933 | 1.69 | \|Q V | \| | \| | \| |
| 9+45 | 0.9053 | 1.75 | \|Q V | \| | \| | \| |
| 9+50 | 0.9180 | 1.84 | \|Q V | \| | \| | \| |
| 9+55 | 0.9310 | 1.88 | \|Q V | \| | \| | \| |
| 10+ 0 | 0.9445 | 1.96 | \|Q V | \| | \| | \| |
| 10+ 5 | 0.9584 | 2.01 | \|Q V | \| | \| | \| |
| 10+10 | 0.9728 | 2.10 | \|Q V | \| | \| | \| |
| 10+15 | 0.9881 | 2.22 | \|Q V | \| | \| | \| |
| 10+20 | 1.0042 | 2.34 | \|Q V | \| | \| | \| |
| 10+25 | 1.0212 | 2.46 | \|Q V | \| | \| | \| |
| 10+30 | 1.0389 | 2.57 | \| QV | \| | \| | \| |
| 10+35 | 1.0570 | 2.64 | \| QV | \| | \| | \| |
| 10+40 | 1.0759 | 2.73 | \| Q V | \| | \| | \| |
| 10+45 | 1.0955 | 2.85 | \| Q V | \| | \| | \| |
| 10+50 | 1.1158 | 2.96 | \| Q V | \| | \| | \| |
| 10+55 | 1.1366 | 3.02 | \| Q V | \| | \| | \| |
| 11+ 0 | 1.1580 | 3.11 | \| Q V | \| | \| | \| |
| 11+ 5 | 1.1806 | 3.28 | \| Q V | \| | \| | \| |
| 11+10 | 1.2062 | 3.71 | \| Q V | \| | \| | \| |
| 11+15 | 1.2353 | 4.23 | \|  QV | \| | \| | \| |
| 11+20 | 1.2675 | 4.67 | \|  QV | \| | \| | \| |

```
11+25       1.3027      5.11  |   Q     |           |           |           |
11+30       1.3419      5.70  |   QV    |           |           |           |
11+35       1.3834      6.02  |   QV    |           |           |           |
11+40       1.4099      3.85  |  Q V    |           |           |           |
11+45       1.4254      2.25  |Q   V    |           |           |           |
11+50       1.4350      1.39  |Q   V    |           |           |           |
11+55       1.4413      0.92  Q    V    |           |           |           |
12+ 0       1.4455      0.60  Q    V    |           |           |           |
12+ 5       1.4460      0.08  Q    V    |           |           |           |
12+10       1.4495      0.51  Q    V    |           |           |           |
12+15       1.4548      0.77  Q    V    |           |           |           |
12+20       1.4608      0.88  Q    V    |           |           |           |
12+25       1.4672      0.93  Q    V    |           |           |           |
12+30       1.4739      0.96  Q    V    |           |           |           |
12+35       1.4811      1.05  Q    V    |           |           |           |
12+40       1.4886      1.09  Q    V    |           |           |           |
12+45       1.4963      1.11  Q    V    |           |           |           |
12+50       1.5040      1.12  Q    V    |           |           |           |
12+55       1.5117      1.12  Q    V    |           |           |           |
13+ 0       1.5195      1.14  Q    V    |           |           |           |
13+ 5       1.5279      1.22  Q    V    |           |           |           |
13+10       1.5366      1.26  |Q   V    |           |           |           |
13+15       1.5454      1.27  |Q   V    |           |           |           |
13+20       1.5542      1.28  |Q   V    |           |           |           |
13+25       1.5630      1.28  |Q   V    |           |           |           |
13+30       1.5718      1.28  |Q   V    |           |           |           |
13+35       1.5806      1.28  |Q   V    |           |           |           |
13+40       1.5895      1.28  |Q   V    |           |           |           |
13+45       1.5983      1.28  |Q   V    |           |           |           |
13+50       1.6071      1.28  |Q    V   |           |           |           |
13+55       1.6160      1.28  |Q    V   |           |           |           |
14+ 0       1.6249      1.30  |Q    V   |           |           |           |
14+ 5       1.6343      1.36  |Q    V   |           |           |           |
14+10       1.6435      1.34  |Q    V   |           |           |           |
14+15       1.6531      1.40  |Q    V   |           |           |           |
14+20       1.6629      1.42  |Q    V   |           |           |           |
14+25       1.6728      1.43  |Q    V   |           |           |           |
14+30       1.6827      1.44  |Q    V   |           |           |           |
14+35       1.6926      1.44  |Q    V   |           |           |           |
14+40       1.7026      1.44  |Q    V   |           |           |           |
14+45       1.7126      1.46  |Q    V   |           |           |           |
14+50       1.7232      1.54  |Q    V   |           |           |           |
14+55       1.7341      1.58  |Q    V   |           |           |           |
15+ 0       1.7451      1.59  |Q    V   |           |           |           |
15+ 5       1.7561      1.60  |Q    V   |           |           |           |
15+10       1.7672      1.62  |Q    V   |           |           |           |
15+15       1.7789      1.70  |Q    V   |           |           |           |
15+20       1.7909      1.74  |Q    V   |           |           |           |
15+25       1.8031      1.77  |Q    V   |           |           |           |
15+30       1.8160      1.87  |Q    V   |           |           |           |
15+35       1.8298      2.01  |Q    V   |           |           |           |
15+40       1.8446      2.14  |Q    V   |           |           |           |
15+45       1.8599      2.22  |Q    V   |           |           |           |
15+50       1.8759      2.32  |Q     V  |           |           |           |
15+55       1.8923      2.39  |Q     V  |           |           |           |
16+ 0       1.9094      2.49  |Q     V  |           |           |           |
16+ 5       1.9270      2.55  | Q    V  |           |           |           |
16+10       1.9454      2.67  | Q    V  |           |           |           |
16+15       1.9647      2.81  | Q    V  |           |           |           |
16+20       1.9851      2.96  | Q    V  |           |           |           |
16+25       2.0066      3.12  | Q    V  |           |           |           |
16+30       2.0290      3.26  | Q    V  |           |           |           |
16+35       2.0520      3.34  | Q    V  |           |           |           |
16+40       2.0758      3.46  | Q    V  |           |           |           |
16+45       2.1007      3.61  | Q    V  |           |           |           |
16+50       2.1265      3.74  | Q    V  |           |           |           |
16+55       2.1528      3.82  |  Q    V  |           |           |           |
17+ 0       2.1800      3.94  |  Q    V  |           |           |           |
17+ 5       2.2086      4.15  |  Q    V  |           |           |           |
17+10       2.2409      4.70  |  Q    V  |           |           |           |
17+15       2.2778      5.36  |   Q   V  |           |           |           |
17+20       2.3186      5.92  |   Q   V  |           |           |           |
17+25       2.3631      6.47  |    Q  V  |           |           |           |
17+30       2.4129      7.22  |    Q   V|           |           |           |
17+35       2.4654      7.63  |     Q  V|           |           |           |
17+40       2.4990      4.88  |  Q     V|           |           |           |
17+45       2.5186      2.85  | Q      V|           |           |           |
17+50       2.5307      1.76  |Q       V|           |           |           |
```

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17+55       2.5387      1.16  Q        V|         |         |         |
18+ 0       2.5440      0.76  Q        V|         |         |         |
18+ 5       2.5451      0.15  Q        V|         |         |         |
18+10       2.5516      0.96  Q        V|         |         |         |
18+15       2.5617      1.46  |Q       V|         |         |         |
18+20       2.5732      1.67  |Q       V|         |         |         |
18+25       2.5853      1.76  |Q       V|         |         |         |
18+30       2.5978      1.82  |Q       V|         |         |         |
18+35       2.6116      1.99  |Q       V|         |         |         |
18+40       2.6258      2.07  |Q       V|         |         |         |
18+45       2.6403      2.10  |Q       V|         |         |         |
18+50       2.6549      2.12  |Q       V|         |         |         |
18+55       2.6695      2.12  |Q        V         |         |         |
19+ 0       2.6844      2.15  |Q        V         |         |         |
19+ 5       2.7003      2.31  |Q        V         |         |         |
19+10       2.7167      2.38  |Q        V         |         |         |
19+15       2.7333      2.41  |Q        V         |         |         |
19+20       2.7500      2.42  |Q        V         |         |         |
19+25       2.7667      2.43  |Q        V         |         |         |
19+30       2.7834      2.43  |Q        V         |         |         |
19+35       2.8001      2.43  |Q        V         |         |         |
19+40       2.8169      2.43  |Q        V         |         |         |
19+45       2.8336      2.43  |Q        V         |         |         |
19+50       2.8504      2.43  |Q        V         |         |         |
19+55       2.8671      2.43  |Q        V         |         |         |
20+ 0       2.8840      2.46  |Q        V         |         |         |
20+ 5       2.9018      2.59  | Q       V         |         |         |
20+10       2.9193      2.53  | Q       V         |         |         |
20+15       2.9375      2.64  | Q       |V        |         |         |
20+20       2.9561      2.70  | Q       |V        |         |         |
20+25       2.9748      2.72  | Q       |V        |         |         |
20+30       2.9936      2.73  | Q       |V        |         |         |
20+35       3.0124      2.73  | Q       |V        |         |         |
20+40       3.0312      2.73  | Q       |V        |         |         |
20+45       3.0502      2.76  | Q       |V        |         |         |
20+50       3.0703      2.92  | Q       |V        |         |         |
20+55       3.0909      2.99  | Q       |V        |         |         |
21+ 0       3.1117      3.02  | Q       |V        |         |         |
21+ 5       3.1326      3.03  | Q       |V        |         |         |
21+10       3.1537      3.06  | Q       |V        |         |         |
21+15       3.1758      3.22  | Q       |V        |         |         |
21+20       3.1985      3.29  | Q       | V       |         |         |
21+25       3.2216      3.35  | Q       | V       |         |         |
21+30       3.2460      3.55  | Q       | V       |         |         |
21+35       3.2723      3.81  |  Q      | V       |         |         |
21+40       3.3002      4.06  |  Q      | V       |         |         |
21+45       3.3292      4.20  |  Q      | V       |         |         |
21+50       3.3595      4.40  |  Q      | V       |         |         |
21+55       3.3907      4.52  |  Q      | V       |         |         |
22+ 0       3.4231      4.71  |  Q      | V       |         |         |
22+ 5       3.4564      4.83  |  Q      | V       |         |         |
22+10       3.4912      5.05  |   Q     |  V      |         |         |
22+15       3.5278      5.32  |   Q     |  V      |         |         |
22+20       3.5665      5.61  |   Q     |  V      |         |         |
22+25       3.6071      5.91  |   Q     |  V      |         |         |
22+30       3.6497      6.18  |   Q     |  V      |         |         |
22+35       3.6933      6.32  |    Q    |  V      |         |         |
22+40       3.7384      6.56  |    Q    |   V     |         |         |
22+45       3.7855      6.83  |    Q    |   V     |         |         |
22+50       3.8344      7.10  |    Q    |   V     |         |         |
22+55       3.8842      7.24  |    Q    |   V     |         |         |
23+ 0       3.9357      7.47  |    Q    |   V     |         |         |
23+ 5       3.9899      7.87  |     Q   |   V     |         |         |
23+10       4.0512      8.91  |      Q  |    V    |         |         |
23+15       4.1216     10.22  |       Q |    V    |         |         |
23+20       4.1999     11.36  |        Q|    V    |         |         |
23+25       4.2860     12.50  |        Q|     V   |         |         |
23+30       4.3830     14.08  |         |Q    V   |         |         |
23+35       4.4862     14.99  |         |Q    V   |         |         |
23+40       4.5514      9.47  |      Q  |      V  |         |         |
23+45       4.5893      5.49  |   Q     |      V  |         |         |
23+50       4.6125      3.38  | Q       |      V  |         |         |
23+55       4.6278      2.22  |Q        |      V  |         |         |
24+ 0       4.6378      1.45  |Q        |      V  |         |         |
24+ 5       4.6407      0.42  Q         |      V  |         |         |
24+10       4.6591      2.66  | Q       |      V  |         |         |
24+15       4.6869      4.05  |  Q      |      V  |         |         |
24+20       4.7188      4.63  |  Q      |      V  |         |         |
```

| | | | |
|---|---|---|---|
| 24+25 | 4.7525 | 4.89 | |
| 24+30 | 4.7874 | 5.07 | |
| 24+35 | 4.8255 | 5.54 | |
| 24+40 | 4.8651 | 5.76 | |
| 24+45 | 4.9054 | 5.85 | |
| 24+50 | 4.9459 | 5.88 | |
| 24+55 | 4.9865 | 5.90 | |
| 25+ 0 | 5.0278 | 5.99 | |
| 25+ 5 | 5.0720 | 6.42 | |
| 25+10 | 5.1175 | 6.61 | |
| 25+15 | 5.1636 | 6.69 | |
| 25+20 | 5.2100 | 6.73 | |
| 25+25 | 5.2564 | 6.74 | |
| 25+30 | 5.3028 | 6.75 | |
| 25+35 | 5.3493 | 6.75 | |
| 25+40 | 5.3958 | 6.75 | |
| 25+45 | 5.4423 | 6.75 | |
| 25+50 | 5.4888 | 6.75 | |
| 25+55 | 5.5353 | 6.75 | |
| 26+ 0 | 5.5824 | 6.84 | |
| 26+ 5 | 5.6318 | 7.18 | |
| 26+10 | 5.6802 | 7.03 | |
| 26+15 | 5.7308 | 7.34 | |
| 26+20 | 5.7824 | 7.49 | |
| 26+25 | 5.8344 | 7.55 | |
| 26+30 | 5.8866 | 7.58 | |
| 26+35 | 5.9388 | 7.59 | |
| 26+40 | 5.9911 | 7.59 | |
| 26+45 | 6.0440 | 7.68 | |
| 26+50 | 6.0998 | 8.11 | |
| 26+55 | 6.1570 | 8.30 | |
| 27+ 0 | 6.2147 | 8.38 | |
| 27+ 5 | 6.2727 | 8.42 | |
| 27+10 | 6.3313 | 8.51 | |
| 27+15 | 6.3929 | 8.95 | |
| 27+20 | 6.4559 | 9.14 | |
| 27+25 | 6.5200 | 9.31 | |
| 27+30 | 6.5880 | 9.87 | |
| 27+35 | 6.6613 | 10.64 | |
| 27+40 | 6.7399 | 11.42 | |
| 27+45 | 6.8216 | 11.85 | |
| 27+50 | 6.9074 | 12.47 | |
| 27+55 | 6.9958 | 12.84 | |
| 28+ 0 | 7.0883 | 13.43 | |
| 28+ 5 | 7.1832 | 13.78 | |
| 28+10 | 7.2828 | 14.46 | |
| 28+15 | 7.3882 | 15.30 | |
| 28+20 | 7.4997 | 16.19 | |
| 28+25 | 7.6175 | 17.11 | |
| 28+30 | 7.7410 | 17.94 | |
| 28+35 | 7.8677 | 18.40 | |
| 28+40 | 7.9994 | 19.12 | |
| 28+45 | 8.1369 | 19.97 | |
| 28+50 | 8.2800 | 20.77 | |
| 28+55 | 8.4261 | 21.22 | |
| 29+ 0 | 8.5772 | 21.94 | |
| 29+ 5 | 8.7367 | 23.16 | |
| 29+10 | 8.9182 | 26.35 | |
| 29+15 | 9.1263 | 30.22 | |
| 29+20 | 9.3570 | 33.49 | |
| 29+25 | 9.6097 | 36.69 | |
| 29+30 | 9.8928 | 41.11 | |
| 29+35 | 10.1923 | 43.49 | |
| 29+40 | 10.3812 | 27.43 | |
| 29+45 | 10.4895 | 15.73 | |
| 29+50 | 10.5555 | 9.58 | |
| 29+55 | 10.5986 | 6.25 | |
| 30+ 0 | 10.6266 | 4.08 | |
| 30+ 5 | 10.6445 | 2.60 | |
| 30+10 | 10.6520 | 1.09 | |
| 30+15 | 10.6550 | 0.43 | |
| 30+20 | 10.6562 | 0.18 | |
| 30+25 | 10.6567 | 0.07 | |
| 30+30 | 10.6569 | 0.03 | |
| 30+35 | 10.6570 | 0.01 | |
| 30+40 | 10.6570 | 0.00 | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 04/30/18 File: EX4624100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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174469 - CHANDLER GILMAN SPRINGS - RIVERSIDE COUNTY, CA
DEVELOPED CONDITIONS AREA 46
100-YEAR, 5-DAY STORM EVENT
BY: JDN, DATE: 01-09-18

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Drainage Area = 31.00(Ac.) = 0.048 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 31.00(Ac.) = 0.048 Sq. Mi.
Length along longest watercourse = 2008.00(Ft.)
Length along longest watercourse measured to centroid = 1122.00(Ft.)
Length along longest watercourse = 0.380 Mi.
Length along longest watercourse measured to centroid = 0.212 Mi.
Difference in elevation = 198.00(Ft.)
Slope along watercourse = 520.6375 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.098 Hr.
Lag time = 5.90 Min.
25% of lag time = 1.48 Min.
40% of lag time = 2.36 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 31.00 | 1.80 | 55.80 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 31.00 | 4.69 | 145.39 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 4.690(In)

Point rain (area averaged) = 4.690(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 4.690(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|
| 31.000 | 93.00 | 0.012 |

Total Area Entered = 31.00(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 93.0 | 97.2 | 0.036 | 0.012 | 0.036 | 1.000 | 0.036 |
| | | | | | Sum (F) = | 0.036 |

Area averaged mean soil loss (F) (In/Hr) = 0.036

Minimum soil loss rate ((In/Hr)) = 0.018
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.100

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

| Unit time period (hrs) | Time % of lag | Distribution Graph % | Unit Hydrograph (CFS) |
|---|---|---|---|
| 1 0.083 | 84.691 | 10.011 | 3.128 |
| 2 0.167 | 169.381 | 51.059 | 15.952 |
| 3 0.250 | 254.072 | 22.666 | 7.081 |
| 4 0.333 | 338.763 | 9.177 | 2.867 |
| 5 0.417 | 423.453 | 4.308 | 1.346 |
| 6 0.500 | 508.144 | 1.428 | 0.446 |
| 7 0.583 | 592.835 | 0.677 | 0.211 |
| 8 0.667 | 677.525 | 0.506 | 0.158 |
| 9 0.750 | 762.216 | 0.169 | 0.053 |
| | | Sum = 100.000 | Sum= 31.242 |

Storm Event 5 Effective Rainfall = 0.469(In)

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.004 | ( 0.064) | 0.000 | 0.003 |
| 2 | 0.17 | 0.07 | 0.004 | ( 0.064) | 0.000 | 0.003 |
| 3 | 0.25 | 0.07 | 0.004 | ( 0.063) | 0.000 | 0.003 |
| 4 | 0.33 | 0.10 | 0.006 | ( 0.063) | 0.001 | 0.005 |
| 5 | 0.42 | 0.10 | 0.006 | ( 0.063) | 0.001 | 0.005 |
| 6 | 0.50 | 0.10 | 0.006 | ( 0.063) | 0.001 | 0.005 |
| 7 | 0.58 | 0.10 | 0.006 | ( 0.062) | 0.001 | 0.005 |
| 8 | 0.67 | 0.10 | 0.006 | ( 0.062) | 0.001 | 0.005 |
| 9 | 0.75 | 0.10 | 0.006 | ( 0.062) | 0.001 | 0.005 |
| 10 | 0.83 | 0.13 | 0.008 | ( 0.062) | 0.001 | 0.007 |
| 11 | 0.92 | 0.13 | 0.008 | ( 0.061) | 0.001 | 0.007 |
| 12 | 1.00 | 0.13 | 0.008 | ( 0.061) | 0.001 | 0.007 |
| 13 | 1.08 | 0.10 | 0.006 | ( 0.061) | 0.001 | 0.005 |
| 14 | 1.17 | 0.10 | 0.006 | ( 0.061) | 0.001 | 0.005 |
| 15 | 1.25 | 0.10 | 0.006 | ( 0.060) | 0.001 | 0.005 |
| 16 | 1.33 | 0.10 | 0.006 | ( 0.060) | 0.001 | 0.005 |
| 17 | 1.42 | 0.10 | 0.006 | ( 0.060) | 0.001 | 0.005 |
| 18 | 1.50 | 0.10 | 0.006 | ( 0.060) | 0.001 | 0.005 |
| 19 | 1.58 | 0.10 | 0.006 | ( 0.059) | 0.001 | 0.005 |
| 20 | 1.67 | 0.10 | 0.006 | ( 0.059) | 0.001 | 0.005 |
| 21 | 1.75 | 0.10 | 0.006 | ( 0.059) | 0.001 | 0.005 |
| 22 | 1.83 | 0.13 | 0.008 | ( 0.059) | 0.001 | 0.007 |
| 23 | 1.92 | 0.13 | 0.008 | ( 0.058) | 0.001 | 0.007 |
| 24 | 2.00 | 0.13 | 0.008 | ( 0.058) | 0.001 | 0.007 |
| 25 | 2.08 | 0.13 | 0.008 | ( 0.058) | 0.001 | 0.007 |
| 26 | 2.17 | 0.13 | 0.008 | ( 0.058) | 0.001 | 0.007 |
| 27 | 2.25 | 0.13 | 0.008 | ( 0.058) | 0.001 | 0.007 |
| 28 | 2.33 | 0.13 | 0.008 | ( 0.057) | 0.001 | 0.007 |
| 29 | 2.42 | 0.13 | 0.008 | ( 0.057) | 0.001 | 0.007 |
| 30 | 2.50 | 0.13 | 0.008 | ( 0.057) | 0.001 | 0.007 |
| 31 | 2.58 | 0.17 | 0.009 | ( 0.057) | 0.001 | 0.008 |
| 32 | 2.67 | 0.17 | 0.009 | ( 0.056) | 0.001 | 0.008 |
| 33 | 2.75 | 0.17 | 0.009 | ( 0.056) | 0.001 | 0.008 |
| 34 | 2.83 | 0.17 | 0.009 | ( 0.056) | 0.001 | 0.008 |
| 35 | 2.92 | 0.17 | 0.009 | ( 0.056) | 0.001 | 0.008 |
| 36 | 3.00 | 0.17 | 0.009 | ( 0.055) | 0.001 | 0.008 |
| 37 | 3.08 | 0.17 | 0.009 | ( 0.055) | 0.001 | 0.008 |
| 38 | 3.17 | 0.17 | 0.009 | ( 0.055) | 0.001 | 0.008 |
| 39 | 3.25 | 0.17 | 0.009 | ( 0.055) | 0.001 | 0.008 |
| 40 | 3.33 | 0.17 | 0.009 | ( 0.055) | 0.001 | 0.008 |
| 41 | 3.42 | 0.17 | 0.009 | ( 0.054) | 0.001 | 0.008 |
| 42 | 3.50 | 0.17 | 0.009 | ( 0.054) | 0.001 | 0.008 |
| 43 | 3.58 | 0.17 | 0.009 | ( 0.054) | 0.001 | 0.008 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 44 | 3.67 | 0.17 | 0.009 | ( 0.054) | 0.001 | 0.008 |
| 45 | 3.75 | 0.17 | 0.009 | ( 0.053) | 0.001 | 0.008 |
| 46 | 3.83 | 0.20 | 0.011 | ( 0.053) | 0.001 | 0.010 |
| 47 | 3.92 | 0.20 | 0.011 | ( 0.053) | 0.001 | 0.010 |
| 48 | 4.00 | 0.20 | 0.011 | ( 0.053) | 0.001 | 0.010 |
| 49 | 4.08 | 0.20 | 0.011 | ( 0.053) | 0.001 | 0.010 |
| 50 | 4.17 | 0.20 | 0.011 | ( 0.052) | 0.001 | 0.010 |
| 51 | 4.25 | 0.20 | 0.011 | ( 0.052) | 0.001 | 0.010 |
| 52 | 4.33 | 0.23 | 0.013 | ( 0.052) | 0.001 | 0.012 |
| 53 | 4.42 | 0.23 | 0.013 | ( 0.052) | 0.001 | 0.012 |
| 54 | 4.50 | 0.23 | 0.013 | ( 0.051) | 0.001 | 0.012 |
| 55 | 4.58 | 0.23 | 0.013 | ( 0.051) | 0.001 | 0.012 |
| 56 | 4.67 | 0.23 | 0.013 | ( 0.051) | 0.001 | 0.012 |
| 57 | 4.75 | 0.23 | 0.013 | ( 0.051) | 0.001 | 0.012 |
| 58 | 4.83 | 0.27 | 0.015 | ( 0.051) | 0.002 | 0.014 |
| 59 | 4.92 | 0.27 | 0.015 | ( 0.050) | 0.002 | 0.014 |
| 60 | 5.00 | 0.27 | 0.015 | ( 0.050) | 0.002 | 0.014 |
| 61 | 5.08 | 0.20 | 0.011 | ( 0.050) | 0.001 | 0.010 |
| 62 | 5.17 | 0.20 | 0.011 | ( 0.050) | 0.001 | 0.010 |
| 63 | 5.25 | 0.20 | 0.011 | ( 0.049) | 0.001 | 0.010 |
| 64 | 5.33 | 0.23 | 0.013 | ( 0.049) | 0.001 | 0.012 |
| 65 | 5.42 | 0.23 | 0.013 | ( 0.049) | 0.001 | 0.012 |
| 66 | 5.50 | 0.23 | 0.013 | ( 0.049) | 0.001 | 0.012 |
| 67 | 5.58 | 0.27 | 0.015 | ( 0.049) | 0.002 | 0.014 |
| 68 | 5.67 | 0.27 | 0.015 | ( 0.048) | 0.002 | 0.014 |
| 69 | 5.75 | 0.27 | 0.015 | ( 0.048) | 0.002 | 0.014 |
| 70 | 5.83 | 0.27 | 0.015 | ( 0.048) | 0.002 | 0.014 |
| 71 | 5.92 | 0.27 | 0.015 | ( 0.048) | 0.002 | 0.014 |
| 72 | 6.00 | 0.27 | 0.015 | ( 0.048) | 0.002 | 0.014 |
| 73 | 6.08 | 0.30 | 0.017 | ( 0.047) | 0.002 | 0.015 |
| 74 | 6.17 | 0.30 | 0.017 | ( 0.047) | 0.002 | 0.015 |
| 75 | 6.25 | 0.30 | 0.017 | ( 0.047) | 0.002 | 0.015 |
| 76 | 6.33 | 0.30 | 0.017 | ( 0.047) | 0.002 | 0.015 |
| 77 | 6.42 | 0.30 | 0.017 | ( 0.046) | 0.002 | 0.015 |
| 78 | 6.50 | 0.30 | 0.017 | ( 0.046) | 0.002 | 0.015 |
| 79 | 6.58 | 0.33 | 0.019 | ( 0.046) | 0.002 | 0.017 |
| 80 | 6.67 | 0.33 | 0.019 | ( 0.046) | 0.002 | 0.017 |
| 81 | 6.75 | 0.33 | 0.019 | ( 0.046) | 0.002 | 0.017 |
| 82 | 6.83 | 0.33 | 0.019 | ( 0.045) | 0.002 | 0.017 |
| 83 | 6.92 | 0.33 | 0.019 | ( 0.045) | 0.002 | 0.017 |
| 84 | 7.00 | 0.33 | 0.019 | ( 0.045) | 0.002 | 0.017 |
| 85 | 7.08 | 0.33 | 0.019 | ( 0.045) | 0.002 | 0.017 |
| 86 | 7.17 | 0.33 | 0.019 | ( 0.045) | 0.002 | 0.017 |
| 87 | 7.25 | 0.33 | 0.019 | ( 0.044) | 0.002 | 0.017 |
| 88 | 7.33 | 0.37 | 0.021 | ( 0.044) | 0.002 | 0.019 |
| 89 | 7.42 | 0.37 | 0.021 | ( 0.044) | 0.002 | 0.019 |
| 90 | 7.50 | 0.37 | 0.021 | ( 0.044) | 0.002 | 0.019 |
| 91 | 7.58 | 0.40 | 0.023 | ( 0.044) | 0.002 | 0.020 |
| 92 | 7.67 | 0.40 | 0.023 | ( 0.043) | 0.002 | 0.020 |
| 93 | 7.75 | 0.40 | 0.023 | ( 0.043) | 0.002 | 0.020 |
| 94 | 7.83 | 0.43 | 0.024 | ( 0.043) | 0.002 | 0.022 |
| 95 | 7.92 | 0.43 | 0.024 | ( 0.043) | 0.002 | 0.022 |
| 96 | 8.00 | 0.43 | 0.024 | ( 0.043) | 0.002 | 0.022 |
| 97 | 8.08 | 0.50 | 0.028 | ( 0.042) | 0.003 | 0.025 |
| 98 | 8.17 | 0.50 | 0.028 | ( 0.042) | 0.003 | 0.025 |
| 99 | 8.25 | 0.50 | 0.028 | ( 0.042) | 0.003 | 0.025 |
| 100 | 8.33 | 0.50 | 0.028 | ( 0.042) | 0.003 | 0.025 |
| 101 | 8.42 | 0.50 | 0.028 | ( 0.042) | 0.003 | 0.025 |
| 102 | 8.50 | 0.50 | 0.028 | ( 0.041) | 0.003 | 0.025 |
| 103 | 8.58 | 0.53 | 0.030 | ( 0.041) | 0.003 | 0.027 |
| 104 | 8.67 | 0.53 | 0.030 | ( 0.041) | 0.003 | 0.027 |
| 105 | 8.75 | 0.53 | 0.030 | ( 0.041) | 0.003 | 0.027 |
| 106 | 8.83 | 0.57 | 0.032 | ( 0.041) | 0.003 | 0.029 |
| 107 | 8.92 | 0.57 | 0.032 | ( 0.040) | 0.003 | 0.029 |
| 108 | 9.00 | 0.57 | 0.032 | ( 0.040) | 0.003 | 0.029 |
| 109 | 9.08 | 0.63 | 0.036 | ( 0.040) | 0.004 | 0.032 |
| 110 | 9.17 | 0.63 | 0.036 | ( 0.040) | 0.004 | 0.032 |
| 111 | 9.25 | 0.63 | 0.036 | ( 0.040) | 0.004 | 0.032 |
| 112 | 9.33 | 0.67 | 0.038 | ( 0.040) | 0.004 | 0.034 |
| 113 | 9.42 | 0.67 | 0.038 | ( 0.039) | 0.004 | 0.034 |
| 114 | 9.50 | 0.67 | 0.038 | ( 0.039) | 0.004 | 0.034 |
| 115 | 9.58 | 0.70 | 0.039 | ( 0.039) | 0.004 | 0.035 |
| 116 | 9.67 | 0.70 | 0.039 | ( 0.039) | 0.004 | 0.035 |
| 117 | 9.75 | 0.70 | 0.039 | ( 0.039) | 0.004 | 0.035 |
| 118 | 9.83 | 0.73 | 0.041 | ( 0.038) | 0.004 | 0.037 |
| 119 | 9.92 | 0.73 | 0.041 | ( 0.038) | 0.004 | 0.037 |
| 120 | 10.00 | 0.73 | 0.041 | ( 0.038) | 0.004 | 0.037 |
| 121 | 10.08 | 0.50 | 0.028 | ( 0.038) | 0.003 | 0.025 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 122 | 10.17 | 0.50 | 0.028 | ( 0.038) | 0.003 | 0.025 |
| 123 | 10.25 | 0.50 | 0.028 | ( 0.037) | 0.003 | 0.025 |
| 124 | 10.33 | 0.50 | 0.028 | ( 0.037) | 0.003 | 0.025 |
| 125 | 10.42 | 0.50 | 0.028 | ( 0.037) | 0.003 | 0.025 |
| 126 | 10.50 | 0.50 | 0.028 | ( 0.037) | 0.003 | 0.025 |
| 127 | 10.58 | 0.67 | 0.038 | ( 0.037) | 0.004 | 0.034 |
| 128 | 10.67 | 0.67 | 0.038 | ( 0.037) | 0.004 | 0.034 |
| 129 | 10.75 | 0.67 | 0.038 | ( 0.036) | 0.004 | 0.034 |
| 130 | 10.83 | 0.67 | 0.038 | ( 0.036) | 0.004 | 0.034 |
| 131 | 10.92 | 0.67 | 0.038 | ( 0.036) | 0.004 | 0.034 |
| 132 | 11.00 | 0.67 | 0.038 | ( 0.036) | 0.004 | 0.034 |
| 133 | 11.08 | 0.63 | 0.036 | ( 0.036) | 0.004 | 0.032 |
| 134 | 11.17 | 0.63 | 0.036 | ( 0.035) | 0.004 | 0.032 |
| 135 | 11.25 | 0.63 | 0.036 | ( 0.035) | 0.004 | 0.032 |
| 136 | 11.33 | 0.63 | 0.036 | ( 0.035) | 0.004 | 0.032 |
| 137 | 11.42 | 0.63 | 0.036 | ( 0.035) | 0.004 | 0.032 |
| 138 | 11.50 | 0.63 | 0.036 | ( 0.035) | 0.004 | 0.032 |
| 139 | 11.58 | 0.57 | 0.032 | ( 0.035) | 0.003 | 0.029 |
| 140 | 11.67 | 0.57 | 0.032 | ( 0.034) | 0.003 | 0.029 |
| 141 | 11.75 | 0.57 | 0.032 | ( 0.034) | 0.003 | 0.029 |
| 142 | 11.83 | 0.60 | 0.034 | ( 0.034) | 0.003 | 0.030 |
| 143 | 11.92 | 0.60 | 0.034 | ( 0.034) | 0.003 | 0.030 |
| 144 | 12.00 | 0.60 | 0.034 | ( 0.034) | 0.003 | 0.030 |
| 145 | 12.08 | 0.83 | 0.047 | ( 0.034) | 0.005 | 0.042 |
| 146 | 12.17 | 0.83 | 0.047 | ( 0.033) | 0.005 | 0.042 |
| 147 | 12.25 | 0.83 | 0.047 | ( 0.033) | 0.005 | 0.042 |
| 148 | 12.33 | 0.87 | 0.049 | ( 0.033) | 0.005 | 0.044 |
| 149 | 12.42 | 0.87 | 0.049 | ( 0.033) | 0.005 | 0.044 |
| 150 | 12.50 | 0.87 | 0.049 | ( 0.033) | 0.005 | 0.044 |
| 151 | 12.58 | 0.93 | 0.053 | ( 0.033) | 0.005 | 0.047 |
| 152 | 12.67 | 0.93 | 0.053 | ( 0.032) | 0.005 | 0.047 |
| 153 | 12.75 | 0.93 | 0.053 | ( 0.032) | 0.005 | 0.047 |
| 154 | 12.83 | 0.97 | 0.054 | ( 0.032) | 0.005 | 0.049 |
| 155 | 12.92 | 0.97 | 0.054 | ( 0.032) | 0.005 | 0.049 |
| 156 | 13.00 | 0.97 | 0.054 | ( 0.032) | 0.005 | 0.049 |
| 157 | 13.08 | 1.13 | 0.064 | ( 0.032) | 0.006 | 0.057 |
| 158 | 13.17 | 1.13 | 0.064 | ( 0.031) | 0.006 | 0.057 |
| 159 | 13.25 | 1.13 | 0.064 | ( 0.031) | 0.006 | 0.057 |
| 160 | 13.33 | 1.13 | 0.064 | ( 0.031) | 0.006 | 0.057 |
| 161 | 13.42 | 1.13 | 0.064 | ( 0.031) | 0.006 | 0.057 |
| 162 | 13.50 | 1.13 | 0.064 | ( 0.031) | 0.006 | 0.057 |
| 163 | 13.58 | 0.77 | 0.043 | ( 0.031) | 0.004 | 0.039 |
| 164 | 13.67 | 0.77 | 0.043 | ( 0.031) | 0.004 | 0.039 |
| 165 | 13.75 | 0.77 | 0.043 | ( 0.030) | 0.004 | 0.039 |
| 166 | 13.83 | 0.77 | 0.043 | ( 0.030) | 0.004 | 0.039 |
| 167 | 13.92 | 0.77 | 0.043 | ( 0.030) | 0.004 | 0.039 |
| 168 | 14.00 | 0.77 | 0.043 | ( 0.030) | 0.004 | 0.039 |
| 169 | 14.08 | 0.90 | 0.051 | ( 0.030) | 0.005 | 0.046 |
| 170 | 14.17 | 0.90 | 0.051 | ( 0.030) | 0.005 | 0.046 |
| 171 | 14.25 | 0.90 | 0.051 | ( 0.029) | 0.005 | 0.046 |
| 172 | 14.33 | 0.87 | 0.049 | ( 0.029) | 0.005 | 0.044 |
| 173 | 14.42 | 0.87 | 0.049 | ( 0.029) | 0.005 | 0.044 |
| 174 | 14.50 | 0.87 | 0.049 | ( 0.029) | 0.005 | 0.044 |
| 175 | 14.58 | 0.87 | 0.049 | ( 0.029) | 0.005 | 0.044 |
| 176 | 14.67 | 0.87 | 0.049 | ( 0.029) | 0.005 | 0.044 |
| 177 | 14.75 | 0.87 | 0.049 | ( 0.029) | 0.005 | 0.044 |
| 178 | 14.83 | 0.83 | 0.047 | ( 0.028) | 0.005 | 0.042 |
| 179 | 14.92 | 0.83 | 0.047 | ( 0.028) | 0.005 | 0.042 |
| 180 | 15.00 | 0.83 | 0.047 | ( 0.028) | 0.005 | 0.042 |
| 181 | 15.08 | 0.80 | 0.045 | ( 0.028) | 0.005 | 0.041 |
| 182 | 15.17 | 0.80 | 0.045 | ( 0.028) | 0.005 | 0.041 |
| 183 | 15.25 | 0.80 | 0.045 | ( 0.028) | 0.005 | 0.041 |
| 184 | 15.33 | 0.77 | 0.043 | ( 0.028) | 0.004 | 0.039 |
| 185 | 15.42 | 0.77 | 0.043 | ( 0.027) | 0.004 | 0.039 |
| 186 | 15.50 | 0.77 | 0.043 | ( 0.027) | 0.004 | 0.039 |
| 187 | 15.58 | 0.63 | 0.036 | ( 0.027) | 0.004 | 0.032 |
| 188 | 15.67 | 0.63 | 0.036 | ( 0.027) | 0.004 | 0.032 |
| 189 | 15.75 | 0.63 | 0.036 | ( 0.027) | 0.004 | 0.032 |
| 190 | 15.83 | 0.63 | 0.036 | ( 0.027) | 0.004 | 0.032 |
| 191 | 15.92 | 0.63 | 0.036 | ( 0.027) | 0.004 | 0.032 |
| 192 | 16.00 | 0.63 | 0.036 | ( 0.026) | 0.004 | 0.032 |
| 193 | 16.08 | 0.13 | 0.008 | ( 0.026) | 0.001 | 0.007 |
| 194 | 16.17 | 0.13 | 0.008 | ( 0.026) | 0.001 | 0.007 |
| 195 | 16.25 | 0.13 | 0.008 | ( 0.026) | 0.001 | 0.007 |
| 196 | 16.33 | 0.13 | 0.008 | ( 0.026) | 0.001 | 0.007 |
| 197 | 16.42 | 0.13 | 0.008 | ( 0.026) | 0.001 | 0.007 |
| 198 | 16.50 | 0.13 | 0.008 | ( 0.026) | 0.001 | 0.007 |
| 199 | 16.58 | 0.10 | 0.006 | ( 0.026) | 0.001 | 0.005 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 200 | 16.67 | 0.10 | 0.006 | ( 0.025) | 0.001 | 0.005 |
| 201 | 16.75 | 0.10 | 0.006 | ( 0.025) | 0.001 | 0.005 |
| 202 | 16.83 | 0.10 | 0.006 | ( 0.025) | 0.001 | 0.005 |
| 203 | 16.92 | 0.10 | 0.006 | ( 0.025) | 0.001 | 0.005 |
| 204 | 17.00 | 0.10 | 0.006 | ( 0.025) | 0.001 | 0.005 |
| 205 | 17.08 | 0.17 | 0.009 | ( 0.025) | 0.001 | 0.008 |
| 206 | 17.17 | 0.17 | 0.009 | ( 0.025) | 0.001 | 0.008 |
| 207 | 17.25 | 0.17 | 0.009 | ( 0.024) | 0.001 | 0.008 |
| 208 | 17.33 | 0.17 | 0.009 | ( 0.024) | 0.001 | 0.008 |
| 209 | 17.42 | 0.17 | 0.009 | ( 0.024) | 0.001 | 0.008 |
| 210 | 17.50 | 0.17 | 0.009 | ( 0.024) | 0.001 | 0.008 |
| 211 | 17.58 | 0.17 | 0.009 | ( 0.024) | 0.001 | 0.008 |
| 212 | 17.67 | 0.17 | 0.009 | ( 0.024) | 0.001 | 0.008 |
| 213 | 17.75 | 0.17 | 0.009 | ( 0.024) | 0.001 | 0.008 |
| 214 | 17.83 | 0.13 | 0.008 | ( 0.024) | 0.001 | 0.007 |
| 215 | 17.92 | 0.13 | 0.008 | ( 0.024) | 0.001 | 0.007 |
| 216 | 18.00 | 0.13 | 0.008 | ( 0.023) | 0.001 | 0.007 |
| 217 | 18.08 | 0.13 | 0.008 | ( 0.023) | 0.001 | 0.007 |
| 218 | 18.17 | 0.13 | 0.008 | ( 0.023) | 0.001 | 0.007 |
| 219 | 18.25 | 0.13 | 0.008 | ( 0.023) | 0.001 | 0.007 |
| 220 | 18.33 | 0.13 | 0.008 | ( 0.023) | 0.001 | 0.007 |
| 221 | 18.42 | 0.13 | 0.008 | ( 0.023) | 0.001 | 0.007 |
| 222 | 18.50 | 0.13 | 0.008 | ( 0.023) | 0.001 | 0.007 |
| 223 | 18.58 | 0.10 | 0.006 | ( 0.023) | 0.001 | 0.005 |
| 224 | 18.67 | 0.10 | 0.006 | ( 0.023) | 0.001 | 0.005 |
| 225 | 18.75 | 0.10 | 0.006 | ( 0.022) | 0.001 | 0.005 |
| 226 | 18.83 | 0.07 | 0.004 | ( 0.022) | 0.000 | 0.003 |
| 227 | 18.92 | 0.07 | 0.004 | ( 0.022) | 0.000 | 0.003 |
| 228 | 19.00 | 0.07 | 0.004 | ( 0.022) | 0.000 | 0.003 |
| 229 | 19.08 | 0.10 | 0.006 | ( 0.022) | 0.001 | 0.005 |
| 230 | 19.17 | 0.10 | 0.006 | ( 0.022) | 0.001 | 0.005 |
| 231 | 19.25 | 0.10 | 0.006 | ( 0.022) | 0.001 | 0.005 |
| 232 | 19.33 | 0.13 | 0.008 | ( 0.022) | 0.001 | 0.007 |
| 233 | 19.42 | 0.13 | 0.008 | ( 0.022) | 0.001 | 0.007 |
| 234 | 19.50 | 0.13 | 0.008 | ( 0.021) | 0.001 | 0.007 |
| 235 | 19.58 | 0.10 | 0.006 | ( 0.021) | 0.001 | 0.005 |
| 236 | 19.67 | 0.10 | 0.006 | ( 0.021) | 0.001 | 0.005 |
| 237 | 19.75 | 0.10 | 0.006 | ( 0.021) | 0.001 | 0.005 |
| 238 | 19.83 | 0.07 | 0.004 | ( 0.021) | 0.000 | 0.003 |
| 239 | 19.92 | 0.07 | 0.004 | ( 0.021) | 0.000 | 0.003 |
| 240 | 20.00 | 0.07 | 0.004 | ( 0.021) | 0.000 | 0.003 |
| 241 | 20.08 | 0.10 | 0.006 | ( 0.021) | 0.001 | 0.005 |
| 242 | 20.17 | 0.10 | 0.006 | ( 0.021) | 0.001 | 0.005 |
| 243 | 20.25 | 0.10 | 0.006 | ( 0.021) | 0.001 | 0.005 |
| 244 | 20.33 | 0.10 | 0.006 | ( 0.021) | 0.001 | 0.005 |
| 245 | 20.42 | 0.10 | 0.006 | ( 0.020) | 0.001 | 0.005 |
| 246 | 20.50 | 0.10 | 0.006 | ( 0.020) | 0.001 | 0.005 |
| 247 | 20.58 | 0.10 | 0.006 | ( 0.020) | 0.001 | 0.005 |
| 248 | 20.67 | 0.10 | 0.006 | ( 0.020) | 0.001 | 0.005 |
| 249 | 20.75 | 0.10 | 0.006 | ( 0.020) | 0.001 | 0.005 |
| 250 | 20.83 | 0.07 | 0.004 | ( 0.020) | 0.000 | 0.003 |
| 251 | 20.92 | 0.07 | 0.004 | ( 0.020) | 0.000 | 0.003 |
| 252 | 21.00 | 0.07 | 0.004 | ( 0.020) | 0.000 | 0.003 |
| 253 | 21.08 | 0.10 | 0.006 | ( 0.020) | 0.001 | 0.005 |
| 254 | 21.17 | 0.10 | 0.006 | ( 0.020) | 0.001 | 0.005 |
| 255 | 21.25 | 0.10 | 0.006 | ( 0.020) | 0.001 | 0.005 |
| 256 | 21.33 | 0.07 | 0.004 | ( 0.020) | 0.000 | 0.003 |
| 257 | 21.42 | 0.07 | 0.004 | ( 0.019) | 0.000 | 0.003 |
| 258 | 21.50 | 0.07 | 0.004 | ( 0.019) | 0.000 | 0.003 |
| 259 | 21.58 | 0.10 | 0.006 | ( 0.019) | 0.001 | 0.005 |
| 260 | 21.67 | 0.10 | 0.006 | ( 0.019) | 0.001 | 0.005 |
| 261 | 21.75 | 0.10 | 0.006 | ( 0.019) | 0.001 | 0.005 |
| 262 | 21.83 | 0.07 | 0.004 | ( 0.019) | 0.000 | 0.003 |
| 263 | 21.92 | 0.07 | 0.004 | ( 0.019) | 0.000 | 0.003 |
| 264 | 22.00 | 0.07 | 0.004 | ( 0.019) | 0.000 | 0.003 |
| 265 | 22.08 | 0.10 | 0.006 | ( 0.019) | 0.001 | 0.005 |
| 266 | 22.17 | 0.10 | 0.006 | ( 0.019) | 0.001 | 0.005 |
| 267 | 22.25 | 0.10 | 0.006 | ( 0.019) | 0.001 | 0.005 |
| 268 | 22.33 | 0.07 | 0.004 | ( 0.019) | 0.000 | 0.003 |
| 269 | 22.42 | 0.07 | 0.004 | ( 0.019) | 0.000 | 0.003 |
| 270 | 22.50 | 0.07 | 0.004 | ( 0.019) | 0.000 | 0.003 |
| 271 | 22.58 | 0.07 | 0.004 | ( 0.019) | 0.000 | 0.003 |
| 272 | 22.67 | 0.07 | 0.004 | ( 0.019) | 0.000 | 0.003 |
| 273 | 22.75 | 0.07 | 0.004 | ( 0.018) | 0.000 | 0.003 |
| 274 | 22.83 | 0.07 | 0.004 | ( 0.018) | 0.000 | 0.003 |
| 275 | 22.92 | 0.07 | 0.004 | ( 0.018) | 0.000 | 0.003 |
| 276 | 23.00 | 0.07 | 0.004 | ( 0.018) | 0.000 | 0.003 |
| 277 | 23.08 | 0.07 | 0.004 | ( 0.018) | 0.000 | 0.003 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 278 | 23.17 | 0.07 | 0.004 | ( 0.018) | 0.000 | 0.003 |
| 279 | 23.25 | 0.07 | 0.004 | ( 0.018) | 0.000 | 0.003 |
| 280 | 23.33 | 0.07 | 0.004 | ( 0.018) | 0.000 | 0.003 |
| 281 | 23.42 | 0.07 | 0.004 | ( 0.018) | 0.000 | 0.003 |
| 282 | 23.50 | 0.07 | 0.004 | ( 0.018) | 0.000 | 0.003 |
| 283 | 23.58 | 0.07 | 0.004 | ( 0.018) | 0.000 | 0.003 |
| 284 | 23.67 | 0.07 | 0.004 | ( 0.018) | 0.000 | 0.003 |
| 285 | 23.75 | 0.07 | 0.004 | ( 0.018) | 0.000 | 0.003 |
| 286 | 23.83 | 0.07 | 0.004 | ( 0.018) | 0.000 | 0.003 |
| 287 | 23.92 | 0.07 | 0.004 | ( 0.018) | 0.000 | 0.003 |
| 288 | 24.00 | 0.07 | 0.004 | ( 0.018) | 0.000 | 0.003 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 5.1

Flood volume = Effective rainfall 0.42(In)
times area 31.0(Ac.)/[(In)/(Ft.)] = 1.1(Ac.Ft)
Total soil loss = 0.05(In)
Total soil loss = 0.121(Ac.Ft)
Total rainfall = 0.47(In)
Flood volume = 47496.0 Cubic Feet
Total soil loss = 5277.3 Cubic Feet

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Storm Event 4 Effective Rainfall = 0.703(In)

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.006 | ( 0.064) | 0.001 | 0.005 |
| 2 | 0.17 | 0.07 | 0.006 | ( 0.064) | 0.001 | 0.005 |
| 3 | 0.25 | 0.07 | 0.006 | ( 0.063) | 0.001 | 0.005 |
| 4 | 0.33 | 0.10 | 0.008 | ( 0.063) | 0.001 | 0.008 |
| 5 | 0.42 | 0.10 | 0.008 | ( 0.063) | 0.001 | 0.008 |
| 6 | 0.50 | 0.10 | 0.008 | ( 0.063) | 0.001 | 0.008 |
| 7 | 0.58 | 0.10 | 0.008 | ( 0.062) | 0.001 | 0.008 |
| 8 | 0.67 | 0.10 | 0.008 | ( 0.062) | 0.001 | 0.008 |
| 9 | 0.75 | 0.10 | 0.008 | ( 0.062) | 0.001 | 0.008 |
| 10 | 0.83 | 0.13 | 0.011 | ( 0.062) | 0.001 | 0.010 |
| 11 | 0.92 | 0.13 | 0.011 | ( 0.061) | 0.001 | 0.010 |
| 12 | 1.00 | 0.13 | 0.011 | ( 0.061) | 0.001 | 0.010 |
| 13 | 1.08 | 0.10 | 0.008 | ( 0.061) | 0.001 | 0.008 |
| 14 | 1.17 | 0.10 | 0.008 | ( 0.061) | 0.001 | 0.008 |
| 15 | 1.25 | 0.10 | 0.008 | ( 0.060) | 0.001 | 0.008 |
| 16 | 1.33 | 0.10 | 0.008 | ( 0.060) | 0.001 | 0.008 |
| 17 | 1.42 | 0.10 | 0.008 | ( 0.060) | 0.001 | 0.008 |
| 18 | 1.50 | 0.10 | 0.008 | ( 0.060) | 0.001 | 0.008 |
| 19 | 1.58 | 0.10 | 0.008 | ( 0.059) | 0.001 | 0.008 |
| 20 | 1.67 | 0.10 | 0.008 | ( 0.059) | 0.001 | 0.008 |
| 21 | 1.75 | 0.10 | 0.008 | ( 0.059) | 0.001 | 0.008 |
| 22 | 1.83 | 0.13 | 0.011 | ( 0.059) | 0.001 | 0.010 |
| 23 | 1.92 | 0.13 | 0.011 | ( 0.058) | 0.001 | 0.010 |
| 24 | 2.00 | 0.13 | 0.011 | ( 0.058) | 0.001 | 0.010 |
| 25 | 2.08 | 0.13 | 0.011 | ( 0.058) | 0.001 | 0.010 |
| 26 | 2.17 | 0.13 | 0.011 | ( 0.058) | 0.001 | 0.010 |
| 27 | 2.25 | 0.13 | 0.011 | ( 0.058) | 0.001 | 0.010 |
| 28 | 2.33 | 0.13 | 0.011 | ( 0.057) | 0.001 | 0.010 |
| 29 | 2.42 | 0.13 | 0.011 | ( 0.057) | 0.001 | 0.010 |
| 30 | 2.50 | 0.13 | 0.011 | ( 0.057) | 0.001 | 0.010 |
| 31 | 2.58 | 0.17 | 0.014 | ( 0.057) | 0.001 | 0.013 |
| 32 | 2.67 | 0.17 | 0.014 | ( 0.056) | 0.001 | 0.013 |
| 33 | 2.75 | 0.17 | 0.014 | ( 0.056) | 0.001 | 0.013 |
| 34 | 2.83 | 0.17 | 0.014 | ( 0.056) | 0.001 | 0.013 |
| 35 | 2.92 | 0.17 | 0.014 | ( 0.056) | 0.001 | 0.013 |
| 36 | 3.00 | 0.17 | 0.014 | ( 0.055) | 0.001 | 0.013 |
| 37 | 3.08 | 0.17 | 0.014 | ( 0.055) | 0.001 | 0.013 |
| 38 | 3.17 | 0.17 | 0.014 | ( 0.055) | 0.001 | 0.013 |
| 39 | 3.25 | 0.17 | 0.014 | ( 0.055) | 0.001 | 0.013 |
| 40 | 3.33 | 0.17 | 0.014 | ( 0.055) | 0.001 | 0.013 |
| 41 | 3.42 | 0.17 | 0.014 | ( 0.054) | 0.001 | 0.013 |
| 42 | 3.50 | 0.17 | 0.014 | ( 0.054) | 0.001 | 0.013 |
| 43 | 3.58 | 0.17 | 0.014 | ( 0.054) | 0.001 | 0.013 |
| 44 | 3.67 | 0.17 | 0.014 | ( 0.054) | 0.001 | 0.013 |
| 45 | 3.75 | 0.17 | 0.014 | ( 0.053) | 0.001 | 0.013 |
| 46 | 3.83 | 0.20 | 0.017 | ( 0.053) | 0.002 | 0.015 |
| 47 | 3.92 | 0.20 | 0.017 | ( 0.053) | 0.002 | 0.015 |
| 48 | 4.00 | 0.20 | 0.017 | ( 0.053) | 0.002 | 0.015 |
| 49 | 4.08 | 0.20 | 0.017 | ( 0.053) | 0.002 | 0.015 |

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|---|---|---|---|---|---|---|
| 50 | 4.17 | 0.20 | 0.017 | ( 0.052) | 0.002 | 0.015 |
| 51 | 4.25 | 0.20 | 0.017 | ( 0.052) | 0.002 | 0.015 |
| 52 | 4.33 | 0.23 | 0.020 | ( 0.052) | 0.002 | 0.018 |
| 53 | 4.42 | 0.23 | 0.020 | ( 0.052) | 0.002 | 0.018 |
| 54 | 4.50 | 0.23 | 0.020 | ( 0.051) | 0.002 | 0.018 |
| 55 | 4.58 | 0.23 | 0.020 | ( 0.051) | 0.002 | 0.018 |
| 56 | 4.67 | 0.23 | 0.020 | ( 0.051) | 0.002 | 0.018 |
| 57 | 4.75 | 0.23 | 0.020 | ( 0.051) | 0.002 | 0.018 |
| 58 | 4.83 | 0.27 | 0.023 | ( 0.051) | 0.002 | 0.020 |
| 59 | 4.92 | 0.27 | 0.023 | ( 0.050) | 0.002 | 0.020 |
| 60 | 5.00 | 0.27 | 0.023 | ( 0.050) | 0.002 | 0.020 |
| 61 | 5.08 | 0.20 | 0.017 | ( 0.050) | 0.002 | 0.015 |
| 62 | 5.17 | 0.20 | 0.017 | ( 0.050) | 0.002 | 0.015 |
| 63 | 5.25 | 0.20 | 0.017 | ( 0.049) | 0.002 | 0.015 |
| 64 | 5.33 | 0.23 | 0.020 | ( 0.049) | 0.002 | 0.018 |
| 65 | 5.42 | 0.23 | 0.020 | ( 0.049) | 0.002 | 0.018 |
| 66 | 5.50 | 0.23 | 0.020 | ( 0.049) | 0.002 | 0.018 |
| 67 | 5.58 | 0.27 | 0.023 | ( 0.049) | 0.002 | 0.020 |
| 68 | 5.67 | 0.27 | 0.023 | ( 0.048) | 0.002 | 0.020 |
| 69 | 5.75 | 0.27 | 0.023 | ( 0.048) | 0.002 | 0.020 |
| 70 | 5.83 | 0.27 | 0.023 | ( 0.048) | 0.002 | 0.020 |
| 71 | 5.92 | 0.27 | 0.023 | ( 0.048) | 0.002 | 0.020 |
| 72 | 6.00 | 0.27 | 0.023 | ( 0.048) | 0.002 | 0.020 |
| 73 | 6.08 | 0.30 | 0.025 | ( 0.047) | 0.003 | 0.023 |
| 74 | 6.17 | 0.30 | 0.025 | ( 0.047) | 0.003 | 0.023 |
| 75 | 6.25 | 0.30 | 0.025 | ( 0.047) | 0.003 | 0.023 |
| 76 | 6.33 | 0.30 | 0.025 | ( 0.047) | 0.003 | 0.023 |
| 77 | 6.42 | 0.30 | 0.025 | ( 0.046) | 0.003 | 0.023 |
| 78 | 6.50 | 0.30 | 0.025 | ( 0.046) | 0.003 | 0.023 |
| 79 | 6.58 | 0.33 | 0.028 | ( 0.046) | 0.003 | 0.025 |
| 80 | 6.67 | 0.33 | 0.028 | ( 0.046) | 0.003 | 0.025 |
| 81 | 6.75 | 0.33 | 0.028 | ( 0.046) | 0.003 | 0.025 |
| 82 | 6.83 | 0.33 | 0.028 | ( 0.045) | 0.003 | 0.025 |
| 83 | 6.92 | 0.33 | 0.028 | ( 0.045) | 0.003 | 0.025 |
| 84 | 7.00 | 0.33 | 0.028 | ( 0.045) | 0.003 | 0.025 |
| 85 | 7.08 | 0.33 | 0.028 | ( 0.045) | 0.003 | 0.025 |
| 86 | 7.17 | 0.33 | 0.028 | ( 0.045) | 0.003 | 0.025 |
| 87 | 7.25 | 0.33 | 0.028 | ( 0.044) | 0.003 | 0.025 |
| 88 | 7.33 | 0.37 | 0.031 | ( 0.044) | 0.003 | 0.028 |
| 89 | 7.42 | 0.37 | 0.031 | ( 0.044) | 0.003 | 0.028 |
| 90 | 7.50 | 0.37 | 0.031 | ( 0.044) | 0.003 | 0.028 |
| 91 | 7.58 | 0.40 | 0.034 | ( 0.044) | 0.003 | 0.030 |
| 92 | 7.67 | 0.40 | 0.034 | ( 0.043) | 0.003 | 0.030 |
| 93 | 7.75 | 0.40 | 0.034 | ( 0.043) | 0.003 | 0.030 |
| 94 | 7.83 | 0.43 | 0.037 | ( 0.043) | 0.004 | 0.033 |
| 95 | 7.92 | 0.43 | 0.037 | ( 0.043) | 0.004 | 0.033 |
| 96 | 8.00 | 0.43 | 0.037 | ( 0.043) | 0.004 | 0.033 |
| 97 | 8.08 | 0.50 | 0.042 | ( 0.042) | 0.004 | 0.038 |
| 98 | 8.17 | 0.50 | 0.042 | ( 0.042) | 0.004 | 0.038 |
| 99 | 8.25 | 0.50 | 0.042 | ( 0.042) | 0.004 | 0.038 |
| 100 | 8.33 | 0.50 | 0.042 | ( 0.042) | 0.004 | 0.038 |
| 101 | 8.42 | 0.50 | 0.042 | ( 0.042) | 0.004 | 0.038 |
| 102 | 8.50 | 0.50 | 0.042 | ( 0.041) | 0.004 | 0.038 |
| 103 | 8.58 | 0.53 | 0.045 | ( 0.041) | 0.005 | 0.041 |
| 104 | 8.67 | 0.53 | 0.045 | ( 0.041) | 0.005 | 0.041 |
| 105 | 8.75 | 0.53 | 0.045 | ( 0.041) | 0.005 | 0.041 |
| 106 | 8.83 | 0.57 | 0.048 | ( 0.041) | 0.005 | 0.043 |
| 107 | 8.92 | 0.57 | 0.048 | ( 0.040) | 0.005 | 0.043 |
| 108 | 9.00 | 0.57 | 0.048 | ( 0.040) | 0.005 | 0.043 |
| 109 | 9.08 | 0.63 | 0.053 | ( 0.040) | 0.005 | 0.048 |
| 110 | 9.17 | 0.63 | 0.053 | ( 0.040) | 0.005 | 0.048 |
| 111 | 9.25 | 0.63 | 0.053 | ( 0.040) | 0.005 | 0.048 |
| 112 | 9.33 | 0.67 | 0.056 | ( 0.040) | 0.006 | 0.051 |
| 113 | 9.42 | 0.67 | 0.056 | ( 0.039) | 0.006 | 0.051 |
| 114 | 9.50 | 0.67 | 0.056 | ( 0.039) | 0.006 | 0.051 |
| 115 | 9.58 | 0.70 | 0.059 | ( 0.039) | 0.006 | 0.053 |
| 116 | 9.67 | 0.70 | 0.059 | ( 0.039) | 0.006 | 0.053 |
| 117 | 9.75 | 0.70 | 0.059 | ( 0.039) | 0.006 | 0.053 |
| 118 | 9.83 | 0.73 | 0.062 | ( 0.038) | 0.006 | 0.056 |
| 119 | 9.92 | 0.73 | 0.062 | ( 0.038) | 0.006 | 0.056 |
| 120 | 10.00 | 0.73 | 0.062 | ( 0.038) | 0.006 | 0.056 |
| 121 | 10.08 | 0.50 | 0.042 | ( 0.038) | 0.004 | 0.038 |
| 122 | 10.17 | 0.50 | 0.042 | ( 0.038) | 0.004 | 0.038 |
| 123 | 10.25 | 0.50 | 0.042 | ( 0.037) | 0.004 | 0.038 |
| 124 | 10.33 | 0.50 | 0.042 | ( 0.037) | 0.004 | 0.038 |
| 125 | 10.42 | 0.50 | 0.042 | ( 0.037) | 0.004 | 0.038 |
| 126 | 10.50 | 0.50 | 0.042 | ( 0.037) | 0.004 | 0.038 |
| 127 | 10.58 | 0.67 | 0.056 | ( 0.037) | 0.006 | 0.051 |

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|---|---|---|---|---|---|---|
| 128 | 10.67 | 0.67 | 0.056 | ( 0.037) | 0.006 | 0.051 |
| 129 | 10.75 | 0.67 | 0.056 | ( 0.036) | 0.006 | 0.051 |
| 130 | 10.83 | 0.67 | 0.056 | ( 0.036) | 0.006 | 0.051 |
| 131 | 10.92 | 0.67 | 0.056 | ( 0.036) | 0.006 | 0.051 |
| 132 | 11.00 | 0.67 | 0.056 | ( 0.036) | 0.006 | 0.051 |
| 133 | 11.08 | 0.63 | 0.053 | ( 0.036) | 0.005 | 0.048 |
| 134 | 11.17 | 0.63 | 0.053 | ( 0.035) | 0.005 | 0.048 |
| 135 | 11.25 | 0.63 | 0.053 | ( 0.035) | 0.005 | 0.048 |
| 136 | 11.33 | 0.63 | 0.053 | ( 0.035) | 0.005 | 0.048 |
| 137 | 11.42 | 0.63 | 0.053 | ( 0.035) | 0.005 | 0.048 |
| 138 | 11.50 | 0.63 | 0.053 | ( 0.035) | 0.005 | 0.048 |
| 139 | 11.58 | 0.57 | 0.048 | ( 0.035) | 0.005 | 0.043 |
| 140 | 11.67 | 0.57 | 0.048 | ( 0.034) | 0.005 | 0.043 |
| 141 | 11.75 | 0.57 | 0.048 | ( 0.034) | 0.005 | 0.043 |
| 142 | 11.83 | 0.60 | 0.051 | ( 0.034) | 0.005 | 0.046 |
| 143 | 11.92 | 0.60 | 0.051 | ( 0.034) | 0.005 | 0.046 |
| 144 | 12.00 | 0.60 | 0.051 | ( 0.034) | 0.005 | 0.046 |
| 145 | 12.08 | 0.83 | 0.070 | ( 0.034) | 0.007 | 0.063 |
| 146 | 12.17 | 0.83 | 0.070 | ( 0.033) | 0.007 | 0.063 |
| 147 | 12.25 | 0.83 | 0.070 | ( 0.033) | 0.007 | 0.063 |
| 148 | 12.33 | 0.87 | 0.073 | ( 0.033) | 0.007 | 0.066 |
| 149 | 12.42 | 0.87 | 0.073 | ( 0.033) | 0.007 | 0.066 |
| 150 | 12.50 | 0.87 | 0.073 | ( 0.033) | 0.007 | 0.066 |
| 151 | 12.58 | 0.93 | 0.079 | ( 0.033) | 0.008 | 0.071 |
| 152 | 12.67 | 0.93 | 0.079 | ( 0.032) | 0.008 | 0.071 |
| 153 | 12.75 | 0.93 | 0.079 | ( 0.032) | 0.008 | 0.071 |
| 154 | 12.83 | 0.97 | 0.082 | ( 0.032) | 0.008 | 0.073 |
| 155 | 12.92 | 0.97 | 0.082 | ( 0.032) | 0.008 | 0.073 |
| 156 | 13.00 | 0.97 | 0.082 | ( 0.032) | 0.008 | 0.073 |
| 157 | 13.08 | 1.13 | 0.096 | ( 0.032) | 0.010 | 0.086 |
| 158 | 13.17 | 1.13 | 0.096 | ( 0.031) | 0.010 | 0.086 |
| 159 | 13.25 | 1.13 | 0.096 | ( 0.031) | 0.010 | 0.086 |
| 160 | 13.33 | 1.13 | 0.096 | ( 0.031) | 0.010 | 0.086 |
| 161 | 13.42 | 1.13 | 0.096 | ( 0.031) | 0.010 | 0.086 |
| 162 | 13.50 | 1.13 | 0.096 | ( 0.031) | 0.010 | 0.086 |
| 163 | 13.58 | 0.77 | 0.065 | ( 0.031) | 0.006 | 0.058 |
| 164 | 13.67 | 0.77 | 0.065 | ( 0.031) | 0.006 | 0.058 |
| 165 | 13.75 | 0.77 | 0.065 | ( 0.030) | 0.006 | 0.058 |
| 166 | 13.83 | 0.77 | 0.065 | ( 0.030) | 0.006 | 0.058 |
| 167 | 13.92 | 0.77 | 0.065 | ( 0.030) | 0.006 | 0.058 |
| 168 | 14.00 | 0.77 | 0.065 | ( 0.030) | 0.006 | 0.058 |
| 169 | 14.08 | 0.90 | 0.076 | ( 0.030) | 0.008 | 0.068 |
| 170 | 14.17 | 0.90 | 0.076 | ( 0.030) | 0.008 | 0.068 |
| 171 | 14.25 | 0.90 | 0.076 | ( 0.029) | 0.008 | 0.068 |
| 172 | 14.33 | 0.87 | 0.073 | ( 0.029) | 0.007 | 0.066 |
| 173 | 14.42 | 0.87 | 0.073 | ( 0.029) | 0.007 | 0.066 |
| 174 | 14.50 | 0.87 | 0.073 | ( 0.029) | 0.007 | 0.066 |
| 175 | 14.58 | 0.87 | 0.073 | ( 0.029) | 0.007 | 0.066 |
| 176 | 14.67 | 0.87 | 0.073 | ( 0.029) | 0.007 | 0.066 |
| 177 | 14.75 | 0.87 | 0.073 | ( 0.029) | 0.007 | 0.066 |
| 178 | 14.83 | 0.83 | 0.070 | ( 0.028) | 0.007 | 0.063 |
| 179 | 14.92 | 0.83 | 0.070 | ( 0.028) | 0.007 | 0.063 |
| 180 | 15.00 | 0.83 | 0.070 | ( 0.028) | 0.007 | 0.063 |
| 181 | 15.08 | 0.80 | 0.068 | ( 0.028) | 0.007 | 0.061 |
| 182 | 15.17 | 0.80 | 0.068 | ( 0.028) | 0.007 | 0.061 |
| 183 | 15.25 | 0.80 | 0.068 | ( 0.028) | 0.007 | 0.061 |
| 184 | 15.33 | 0.77 | 0.065 | ( 0.028) | 0.006 | 0.058 |
| 185 | 15.42 | 0.77 | 0.065 | ( 0.027) | 0.006 | 0.058 |
| 186 | 15.50 | 0.77 | 0.065 | ( 0.027) | 0.006 | 0.058 |
| 187 | 15.58 | 0.63 | 0.053 | ( 0.027) | 0.005 | 0.048 |
| 188 | 15.67 | 0.63 | 0.053 | ( 0.027) | 0.005 | 0.048 |
| 189 | 15.75 | 0.63 | 0.053 | ( 0.027) | 0.005 | 0.048 |
| 190 | 15.83 | 0.63 | 0.053 | ( 0.027) | 0.005 | 0.048 |
| 191 | 15.92 | 0.63 | 0.053 | ( 0.027) | 0.005 | 0.048 |
| 192 | 16.00 | 0.63 | 0.053 | ( 0.026) | 0.005 | 0.048 |
| 193 | 16.08 | 0.13 | 0.011 | ( 0.026) | 0.001 | 0.010 |
| 194 | 16.17 | 0.13 | 0.011 | ( 0.026) | 0.001 | 0.010 |
| 195 | 16.25 | 0.13 | 0.011 | ( 0.026) | 0.001 | 0.010 |
| 196 | 16.33 | 0.13 | 0.011 | ( 0.026) | 0.001 | 0.010 |
| 197 | 16.42 | 0.13 | 0.011 | ( 0.026) | 0.001 | 0.010 |
| 198 | 16.50 | 0.13 | 0.011 | ( 0.026) | 0.001 | 0.010 |
| 199 | 16.58 | 0.10 | 0.008 | ( 0.026) | 0.001 | 0.008 |
| 200 | 16.67 | 0.10 | 0.008 | ( 0.025) | 0.001 | 0.008 |
| 201 | 16.75 | 0.10 | 0.008 | ( 0.025) | 0.001 | 0.008 |
| 202 | 16.83 | 0.10 | 0.008 | ( 0.025) | 0.001 | 0.008 |
| 203 | 16.92 | 0.10 | 0.008 | ( 0.025) | 0.001 | 0.008 |
| 204 | 17.00 | 0.10 | 0.008 | ( 0.025) | 0.001 | 0.008 |
| 205 | 17.08 | 0.17 | 0.014 | ( 0.025) | 0.001 | 0.013 |

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|---|---|---|---|---|---|---|
| 206 | 17.17 | 0.17 | 0.014 | ( 0.025) | 0.001 | 0.013 |
| 207 | 17.25 | 0.17 | 0.014 | ( 0.024) | 0.001 | 0.013 |
| 208 | 17.33 | 0.17 | 0.014 | ( 0.024) | 0.001 | 0.013 |
| 209 | 17.42 | 0.17 | 0.014 | ( 0.024) | 0.001 | 0.013 |
| 210 | 17.50 | 0.17 | 0.014 | ( 0.024) | 0.001 | 0.013 |
| 211 | 17.58 | 0.17 | 0.014 | ( 0.024) | 0.001 | 0.013 |
| 212 | 17.67 | 0.17 | 0.014 | ( 0.024) | 0.001 | 0.013 |
| 213 | 17.75 | 0.17 | 0.014 | ( 0.024) | 0.001 | 0.013 |
| 214 | 17.83 | 0.13 | 0.011 | ( 0.024) | 0.001 | 0.010 |
| 215 | 17.92 | 0.13 | 0.011 | ( 0.024) | 0.001 | 0.010 |
| 216 | 18.00 | 0.13 | 0.011 | ( 0.023) | 0.001 | 0.010 |
| 217 | 18.08 | 0.13 | 0.011 | ( 0.023) | 0.001 | 0.010 |
| 218 | 18.17 | 0.13 | 0.011 | ( 0.023) | 0.001 | 0.010 |
| 219 | 18.25 | 0.13 | 0.011 | ( 0.023) | 0.001 | 0.010 |
| 220 | 18.33 | 0.13 | 0.011 | ( 0.023) | 0.001 | 0.010 |
| 221 | 18.42 | 0.13 | 0.011 | ( 0.023) | 0.001 | 0.010 |
| 222 | 18.50 | 0.13 | 0.011 | ( 0.023) | 0.001 | 0.010 |
| 223 | 18.58 | 0.10 | 0.008 | ( 0.023) | 0.001 | 0.008 |
| 224 | 18.67 | 0.10 | 0.008 | ( 0.023) | 0.001 | 0.008 |
| 225 | 18.75 | 0.10 | 0.008 | ( 0.022) | 0.001 | 0.008 |
| 226 | 18.83 | 0.07 | 0.006 | ( 0.022) | 0.001 | 0.005 |
| 227 | 18.92 | 0.07 | 0.006 | ( 0.022) | 0.001 | 0.005 |
| 228 | 19.00 | 0.07 | 0.006 | ( 0.022) | 0.001 | 0.005 |
| 229 | 19.08 | 0.10 | 0.008 | ( 0.022) | 0.001 | 0.008 |
| 230 | 19.17 | 0.10 | 0.008 | ( 0.022) | 0.001 | 0.008 |
| 231 | 19.25 | 0.10 | 0.008 | ( 0.022) | 0.001 | 0.008 |
| 232 | 19.33 | 0.13 | 0.011 | ( 0.022) | 0.001 | 0.010 |
| 233 | 19.42 | 0.13 | 0.011 | ( 0.022) | 0.001 | 0.010 |
| 234 | 19.50 | 0.13 | 0.011 | ( 0.021) | 0.001 | 0.010 |
| 235 | 19.58 | 0.10 | 0.008 | ( 0.021) | 0.001 | 0.008 |
| 236 | 19.67 | 0.10 | 0.008 | ( 0.021) | 0.001 | 0.008 |
| 237 | 19.75 | 0.10 | 0.008 | ( 0.021) | 0.001 | 0.008 |
| 238 | 19.83 | 0.07 | 0.006 | ( 0.021) | 0.001 | 0.005 |
| 239 | 19.92 | 0.07 | 0.006 | ( 0.021) | 0.001 | 0.005 |
| 240 | 20.00 | 0.07 | 0.006 | ( 0.021) | 0.001 | 0.005 |
| 241 | 20.08 | 0.10 | 0.008 | ( 0.021) | 0.001 | 0.008 |
| 242 | 20.17 | 0.10 | 0.008 | ( 0.021) | 0.001 | 0.008 |
| 243 | 20.25 | 0.10 | 0.008 | ( 0.021) | 0.001 | 0.008 |
| 244 | 20.33 | 0.10 | 0.008 | ( 0.021) | 0.001 | 0.008 |
| 245 | 20.42 | 0.10 | 0.008 | ( 0.020) | 0.001 | 0.008 |
| 246 | 20.50 | 0.10 | 0.008 | ( 0.020) | 0.001 | 0.008 |
| 247 | 20.58 | 0.10 | 0.008 | ( 0.020) | 0.001 | 0.008 |
| 248 | 20.67 | 0.10 | 0.008 | ( 0.020) | 0.001 | 0.008 |
| 249 | 20.75 | 0.10 | 0.008 | ( 0.020) | 0.001 | 0.008 |
| 250 | 20.83 | 0.07 | 0.006 | ( 0.020) | 0.001 | 0.005 |
| 251 | 20.92 | 0.07 | 0.006 | ( 0.020) | 0.001 | 0.005 |
| 252 | 21.00 | 0.07 | 0.006 | ( 0.020) | 0.001 | 0.005 |
| 253 | 21.08 | 0.10 | 0.008 | ( 0.020) | 0.001 | 0.008 |
| 254 | 21.17 | 0.10 | 0.008 | ( 0.020) | 0.001 | 0.008 |
| 255 | 21.25 | 0.10 | 0.008 | ( 0.020) | 0.001 | 0.008 |
| 256 | 21.33 | 0.07 | 0.006 | ( 0.020) | 0.001 | 0.005 |
| 257 | 21.42 | 0.07 | 0.006 | ( 0.019) | 0.001 | 0.005 |
| 258 | 21.50 | 0.07 | 0.006 | ( 0.019) | 0.001 | 0.005 |
| 259 | 21.58 | 0.10 | 0.008 | ( 0.019) | 0.001 | 0.008 |
| 260 | 21.67 | 0.10 | 0.008 | ( 0.019) | 0.001 | 0.008 |
| 261 | 21.75 | 0.10 | 0.008 | ( 0.019) | 0.001 | 0.008 |
| 262 | 21.83 | 0.07 | 0.006 | ( 0.019) | 0.001 | 0.005 |
| 263 | 21.92 | 0.07 | 0.006 | ( 0.019) | 0.001 | 0.005 |
| 264 | 22.00 | 0.07 | 0.006 | ( 0.019) | 0.001 | 0.005 |
| 265 | 22.08 | 0.10 | 0.008 | ( 0.019) | 0.001 | 0.008 |
| 266 | 22.17 | 0.10 | 0.008 | ( 0.019) | 0.001 | 0.008 |
| 267 | 22.25 | 0.10 | 0.008 | ( 0.019) | 0.001 | 0.008 |
| 268 | 22.33 | 0.07 | 0.006 | ( 0.019) | 0.001 | 0.005 |
| 269 | 22.42 | 0.07 | 0.006 | ( 0.019) | 0.001 | 0.005 |
| 270 | 22.50 | 0.07 | 0.006 | ( 0.019) | 0.001 | 0.005 |
| 271 | 22.58 | 0.07 | 0.006 | ( 0.019) | 0.001 | 0.005 |
| 272 | 22.67 | 0.07 | 0.006 | ( 0.019) | 0.001 | 0.005 |
| 273 | 22.75 | 0.07 | 0.006 | ( 0.018) | 0.001 | 0.005 |
| 274 | 22.83 | 0.07 | 0.006 | ( 0.018) | 0.001 | 0.005 |
| 275 | 22.92 | 0.07 | 0.006 | ( 0.018) | 0.001 | 0.005 |
| 276 | 23.00 | 0.07 | 0.006 | ( 0.018) | 0.001 | 0.005 |
| 277 | 23.08 | 0.07 | 0.006 | ( 0.018) | 0.001 | 0.005 |
| 278 | 23.17 | 0.07 | 0.006 | ( 0.018) | 0.001 | 0.005 |
| 279 | 23.25 | 0.07 | 0.006 | ( 0.018) | 0.001 | 0.005 |
| 280 | 23.33 | 0.07 | 0.006 | ( 0.018) | 0.001 | 0.005 |
| 281 | 23.42 | 0.07 | 0.006 | ( 0.018) | 0.001 | 0.005 |
| 282 | 23.50 | 0.07 | 0.006 | ( 0.018) | 0.001 | 0.005 |
| 283 | 23.58 | 0.07 | 0.006 | ( 0.018) | 0.001 | 0.005 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 284 | 23.67 | 0.07 | 0.006 | ( 0.018) | 0.001 | 0.005 |
| 285 | 23.75 | 0.07 | 0.006 | ( 0.018) | 0.001 | 0.005 |
| 286 | 23.83 | 0.07 | 0.006 | ( 0.018) | 0.001 | 0.005 |
| 287 | 23.92 | 0.07 | 0.006 | ( 0.018) | 0.001 | 0.005 |
| 288 | 24.00 | 0.07 | 0.006 | ( 0.018) | 0.001 | 0.005 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 7.6

Flood volume = Effective rainfall 0.63(In)
times area 31.0(Ac.)/[(In)/(Ft.)] = 1.6(Ac.Ft)
Total soil loss = 0.07(In)
Total soil loss = 0.182(Ac.Ft)
Total rainfall = 0.70(In)
Flood volume = 71244.1 Cubic Feet
Total soil loss = 7916.0 Cubic Feet

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Storm Event 3 Effective Rainfall = 0.891(In)

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.007 | ( 0.064) | 0.001 | 0.006 |
| 2 | 0.17 | 0.07 | 0.007 | ( 0.064) | 0.001 | 0.006 |
| 3 | 0.25 | 0.07 | 0.007 | ( 0.063) | 0.001 | 0.006 |
| 4 | 0.33 | 0.10 | 0.011 | ( 0.063) | 0.001 | 0.010 |
| 5 | 0.42 | 0.10 | 0.011 | ( 0.063) | 0.001 | 0.010 |
| 6 | 0.50 | 0.10 | 0.011 | ( 0.063) | 0.001 | 0.010 |
| 7 | 0.58 | 0.10 | 0.011 | ( 0.062) | 0.001 | 0.010 |
| 8 | 0.67 | 0.10 | 0.011 | ( 0.062) | 0.001 | 0.010 |
| 9 | 0.75 | 0.10 | 0.011 | ( 0.062) | 0.001 | 0.010 |
| 10 | 0.83 | 0.13 | 0.014 | ( 0.062) | 0.001 | 0.013 |
| 11 | 0.92 | 0.13 | 0.014 | ( 0.061) | 0.001 | 0.013 |
| 12 | 1.00 | 0.13 | 0.014 | ( 0.061) | 0.001 | 0.013 |
| 13 | 1.08 | 0.10 | 0.011 | ( 0.061) | 0.001 | 0.010 |
| 14 | 1.17 | 0.10 | 0.011 | ( 0.061) | 0.001 | 0.010 |
| 15 | 1.25 | 0.10 | 0.011 | ( 0.060) | 0.001 | 0.010 |
| 16 | 1.33 | 0.10 | 0.011 | ( 0.060) | 0.001 | 0.010 |
| 17 | 1.42 | 0.10 | 0.011 | ( 0.060) | 0.001 | 0.010 |
| 18 | 1.50 | 0.10 | 0.011 | ( 0.060) | 0.001 | 0.010 |
| 19 | 1.58 | 0.10 | 0.011 | ( 0.059) | 0.001 | 0.010 |
| 20 | 1.67 | 0.10 | 0.011 | ( 0.059) | 0.001 | 0.010 |
| 21 | 1.75 | 0.10 | 0.011 | ( 0.059) | 0.001 | 0.010 |
| 22 | 1.83 | 0.13 | 0.014 | ( 0.059) | 0.001 | 0.013 |
| 23 | 1.92 | 0.13 | 0.014 | ( 0.058) | 0.001 | 0.013 |
| 24 | 2.00 | 0.13 | 0.014 | ( 0.058) | 0.001 | 0.013 |
| 25 | 2.08 | 0.13 | 0.014 | ( 0.058) | 0.001 | 0.013 |
| 26 | 2.17 | 0.13 | 0.014 | ( 0.058) | 0.001 | 0.013 |
| 27 | 2.25 | 0.13 | 0.014 | ( 0.058) | 0.001 | 0.013 |
| 28 | 2.33 | 0.13 | 0.014 | ( 0.057) | 0.001 | 0.013 |
| 29 | 2.42 | 0.13 | 0.014 | ( 0.057) | 0.001 | 0.013 |
| 30 | 2.50 | 0.13 | 0.014 | ( 0.057) | 0.001 | 0.013 |
| 31 | 2.58 | 0.17 | 0.018 | ( 0.057) | 0.002 | 0.016 |
| 32 | 2.67 | 0.17 | 0.018 | ( 0.056) | 0.002 | 0.016 |
| 33 | 2.75 | 0.17 | 0.018 | ( 0.056) | 0.002 | 0.016 |
| 34 | 2.83 | 0.17 | 0.018 | ( 0.056) | 0.002 | 0.016 |
| 35 | 2.92 | 0.17 | 0.018 | ( 0.056) | 0.002 | 0.016 |
| 36 | 3.00 | 0.17 | 0.018 | ( 0.055) | 0.002 | 0.016 |
| 37 | 3.08 | 0.17 | 0.018 | ( 0.055) | 0.002 | 0.016 |
| 38 | 3.17 | 0.17 | 0.018 | ( 0.055) | 0.002 | 0.016 |
| 39 | 3.25 | 0.17 | 0.018 | ( 0.055) | 0.002 | 0.016 |
| 40 | 3.33 | 0.17 | 0.018 | ( 0.055) | 0.002 | 0.016 |
| 41 | 3.42 | 0.17 | 0.018 | ( 0.054) | 0.002 | 0.016 |
| 42 | 3.50 | 0.17 | 0.018 | ( 0.054) | 0.002 | 0.016 |
| 43 | 3.58 | 0.17 | 0.018 | ( 0.054) | 0.002 | 0.016 |
| 44 | 3.67 | 0.17 | 0.018 | ( 0.054) | 0.002 | 0.016 |
| 45 | 3.75 | 0.17 | 0.018 | ( 0.053) | 0.002 | 0.016 |
| 46 | 3.83 | 0.20 | 0.021 | ( 0.053) | 0.002 | 0.019 |
| 47 | 3.92 | 0.20 | 0.021 | ( 0.053) | 0.002 | 0.019 |
| 48 | 4.00 | 0.20 | 0.021 | ( 0.053) | 0.002 | 0.019 |
| 49 | 4.08 | 0.20 | 0.021 | ( 0.053) | 0.002 | 0.019 |
| 50 | 4.17 | 0.20 | 0.021 | ( 0.052) | 0.002 | 0.019 |
| 51 | 4.25 | 0.20 | 0.021 | ( 0.052) | 0.002 | 0.019 |
| 52 | 4.33 | 0.23 | 0.025 | ( 0.052) | 0.002 | 0.022 |
| 53 | 4.42 | 0.23 | 0.025 | ( 0.052) | 0.002 | 0.022 |
| 54 | 4.50 | 0.23 | 0.025 | ( 0.051) | 0.002 | 0.022 |
| 55 | 4.58 | 0.23 | 0.025 | ( 0.051) | 0.002 | 0.022 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 56 | 4.67 | 0.23 | 0.025 | ( 0.051) | 0.002 | 0.022 |
| 57 | 4.75 | 0.23 | 0.025 | ( 0.051) | 0.002 | 0.022 |
| 58 | 4.83 | 0.27 | 0.029 | ( 0.051) | 0.003 | 0.026 |
| 59 | 4.92 | 0.27 | 0.029 | ( 0.050) | 0.003 | 0.026 |
| 60 | 5.00 | 0.27 | 0.029 | ( 0.050) | 0.003 | 0.026 |
| 61 | 5.08 | 0.20 | 0.021 | ( 0.050) | 0.002 | 0.019 |
| 62 | 5.17 | 0.20 | 0.021 | ( 0.050) | 0.002 | 0.019 |
| 63 | 5.25 | 0.20 | 0.021 | ( 0.049) | 0.002 | 0.019 |
| 64 | 5.33 | 0.23 | 0.025 | ( 0.049) | 0.002 | 0.022 |
| 65 | 5.42 | 0.23 | 0.025 | ( 0.049) | 0.002 | 0.022 |
| 66 | 5.50 | 0.23 | 0.025 | ( 0.049) | 0.002 | 0.022 |
| 67 | 5.58 | 0.27 | 0.029 | ( 0.049) | 0.003 | 0.026 |
| 68 | 5.67 | 0.27 | 0.029 | ( 0.048) | 0.003 | 0.026 |
| 69 | 5.75 | 0.27 | 0.029 | ( 0.048) | 0.003 | 0.026 |
| 70 | 5.83 | 0.27 | 0.029 | ( 0.048) | 0.003 | 0.026 |
| 71 | 5.92 | 0.27 | 0.029 | ( 0.048) | 0.003 | 0.026 |
| 72 | 6.00 | 0.27 | 0.029 | ( 0.048) | 0.003 | 0.026 |
| 73 | 6.08 | 0.30 | 0.032 | ( 0.047) | 0.003 | 0.029 |
| 74 | 6.17 | 0.30 | 0.032 | ( 0.047) | 0.003 | 0.029 |
| 75 | 6.25 | 0.30 | 0.032 | ( 0.047) | 0.003 | 0.029 |
| 76 | 6.33 | 0.30 | 0.032 | ( 0.047) | 0.003 | 0.029 |
| 77 | 6.42 | 0.30 | 0.032 | ( 0.046) | 0.003 | 0.029 |
| 78 | 6.50 | 0.30 | 0.032 | ( 0.046) | 0.003 | 0.029 |
| 79 | 6.58 | 0.33 | 0.036 | ( 0.046) | 0.004 | 0.032 |
| 80 | 6.67 | 0.33 | 0.036 | ( 0.046) | 0.004 | 0.032 |
| 81 | 6.75 | 0.33 | 0.036 | ( 0.046) | 0.004 | 0.032 |
| 82 | 6.83 | 0.33 | 0.036 | ( 0.045) | 0.004 | 0.032 |
| 83 | 6.92 | 0.33 | 0.036 | ( 0.045) | 0.004 | 0.032 |
| 84 | 7.00 | 0.33 | 0.036 | ( 0.045) | 0.004 | 0.032 |
| 85 | 7.08 | 0.33 | 0.036 | ( 0.045) | 0.004 | 0.032 |
| 86 | 7.17 | 0.33 | 0.036 | ( 0.045) | 0.004 | 0.032 |
| 87 | 7.25 | 0.33 | 0.036 | ( 0.044) | 0.004 | 0.032 |
| 88 | 7.33 | 0.37 | 0.039 | ( 0.044) | 0.004 | 0.035 |
| 89 | 7.42 | 0.37 | 0.039 | ( 0.044) | 0.004 | 0.035 |
| 90 | 7.50 | 0.37 | 0.039 | ( 0.044) | 0.004 | 0.035 |
| 91 | 7.58 | 0.40 | 0.043 | ( 0.044) | 0.004 | 0.038 |
| 92 | 7.67 | 0.40 | 0.043 | ( 0.043) | 0.004 | 0.038 |
| 93 | 7.75 | 0.40 | 0.043 | ( 0.043) | 0.004 | 0.038 |
| 94 | 7.83 | 0.43 | 0.046 | ( 0.043) | 0.005 | 0.042 |
| 95 | 7.92 | 0.43 | 0.046 | ( 0.043) | 0.005 | 0.042 |
| 96 | 8.00 | 0.43 | 0.046 | ( 0.043) | 0.005 | 0.042 |
| 97 | 8.08 | 0.50 | 0.053 | ( 0.042) | 0.005 | 0.048 |
| 98 | 8.17 | 0.50 | 0.053 | ( 0.042) | 0.005 | 0.048 |
| 99 | 8.25 | 0.50 | 0.053 | ( 0.042) | 0.005 | 0.048 |
| 100 | 8.33 | 0.50 | 0.053 | ( 0.042) | 0.005 | 0.048 |
| 101 | 8.42 | 0.50 | 0.053 | ( 0.042) | 0.005 | 0.048 |
| 102 | 8.50 | 0.50 | 0.053 | ( 0.041) | 0.005 | 0.048 |
| 103 | 8.58 | 0.53 | 0.057 | ( 0.041) | 0.006 | 0.051 |
| 104 | 8.67 | 0.53 | 0.057 | ( 0.041) | 0.006 | 0.051 |
| 105 | 8.75 | 0.53 | 0.057 | ( 0.041) | 0.006 | 0.051 |
| 106 | 8.83 | 0.57 | 0.061 | ( 0.041) | 0.006 | 0.055 |
| 107 | 8.92 | 0.57 | 0.061 | ( 0.040) | 0.006 | 0.055 |
| 108 | 9.00 | 0.57 | 0.061 | ( 0.040) | 0.006 | 0.055 |
| 109 | 9.08 | 0.63 | 0.068 | ( 0.040) | 0.007 | 0.061 |
| 110 | 9.17 | 0.63 | 0.068 | ( 0.040) | 0.007 | 0.061 |
| 111 | 9.25 | 0.63 | 0.068 | ( 0.040) | 0.007 | 0.061 |
| 112 | 9.33 | 0.67 | 0.071 | ( 0.040) | 0.007 | 0.064 |
| 113 | 9.42 | 0.67 | 0.071 | ( 0.039) | 0.007 | 0.064 |
| 114 | 9.50 | 0.67 | 0.071 | ( 0.039) | 0.007 | 0.064 |
| 115 | 9.58 | 0.70 | 0.075 | ( 0.039) | 0.007 | 0.067 |
| 116 | 9.67 | 0.70 | 0.075 | ( 0.039) | 0.007 | 0.067 |
| 117 | 9.75 | 0.70 | 0.075 | ( 0.039) | 0.007 | 0.067 |
| 118 | 9.83 | 0.73 | 0.078 | ( 0.038) | 0.008 | 0.071 |
| 119 | 9.92 | 0.73 | 0.078 | ( 0.038) | 0.008 | 0.071 |
| 120 | 10.00 | 0.73 | 0.078 | ( 0.038) | 0.008 | 0.071 |
| 121 | 10.08 | 0.50 | 0.053 | ( 0.038) | 0.005 | 0.048 |
| 122 | 10.17 | 0.50 | 0.053 | ( 0.038) | 0.005 | 0.048 |
| 123 | 10.25 | 0.50 | 0.053 | ( 0.037) | 0.005 | 0.048 |
| 124 | 10.33 | 0.50 | 0.053 | ( 0.037) | 0.005 | 0.048 |
| 125 | 10.42 | 0.50 | 0.053 | ( 0.037) | 0.005 | 0.048 |
| 126 | 10.50 | 0.50 | 0.053 | ( 0.037) | 0.005 | 0.048 |
| 127 | 10.58 | 0.67 | 0.071 | ( 0.037) | 0.007 | 0.064 |
| 128 | 10.67 | 0.67 | 0.071 | ( 0.037) | 0.007 | 0.064 |
| 129 | 10.75 | 0.67 | 0.071 | ( 0.036) | 0.007 | 0.064 |
| 130 | 10.83 | 0.67 | 0.071 | ( 0.036) | 0.007 | 0.064 |
| 131 | 10.92 | 0.67 | 0.071 | ( 0.036) | 0.007 | 0.064 |
| 132 | 11.00 | 0.67 | 0.071 | ( 0.036) | 0.007 | 0.064 |
| 133 | 11.08 | 0.63 | 0.068 | ( 0.036) | 0.007 | 0.061 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 134 | 11.17 | 0.63 | 0.068 | ( 0.035) | 0.007 | 0.061 |
| 135 | 11.25 | 0.63 | 0.068 | ( 0.035) | 0.007 | 0.061 |
| 136 | 11.33 | 0.63 | 0.068 | ( 0.035) | 0.007 | 0.061 |
| 137 | 11.42 | 0.63 | 0.068 | ( 0.035) | 0.007 | 0.061 |
| 138 | 11.50 | 0.63 | 0.068 | ( 0.035) | 0.007 | 0.061 |
| 139 | 11.58 | 0.57 | 0.061 | ( 0.035) | 0.006 | 0.055 |
| 140 | 11.67 | 0.57 | 0.061 | ( 0.034) | 0.006 | 0.055 |
| 141 | 11.75 | 0.57 | 0.061 | ( 0.034) | 0.006 | 0.055 |
| 142 | 11.83 | 0.60 | 0.064 | ( 0.034) | 0.006 | 0.058 |
| 143 | 11.92 | 0.60 | 0.064 | ( 0.034) | 0.006 | 0.058 |
| 144 | 12.00 | 0.60 | 0.064 | ( 0.034) | 0.006 | 0.058 |
| 145 | 12.08 | 0.83 | 0.089 | ( 0.034) | 0.009 | 0.080 |
| 146 | 12.17 | 0.83 | 0.089 | ( 0.033) | 0.009 | 0.080 |
| 147 | 12.25 | 0.83 | 0.089 | ( 0.033) | 0.009 | 0.080 |
| 148 | 12.33 | 0.87 | 0.093 | ( 0.033) | 0.009 | 0.083 |
| 149 | 12.42 | 0.87 | 0.093 | ( 0.033) | 0.009 | 0.083 |
| 150 | 12.50 | 0.87 | 0.093 | ( 0.033) | 0.009 | 0.083 |
| 151 | 12.58 | 0.93 | 0.100 | ( 0.033) | 0.010 | 0.090 |
| 152 | 12.67 | 0.93 | 0.100 | ( 0.032) | 0.010 | 0.090 |
| 153 | 12.75 | 0.93 | 0.100 | ( 0.032) | 0.010 | 0.090 |
| 154 | 12.83 | 0.97 | 0.103 | ( 0.032) | 0.010 | 0.093 |
| 155 | 12.92 | 0.97 | 0.103 | ( 0.032) | 0.010 | 0.093 |
| 156 | 13.00 | 0.97 | 0.103 | ( 0.032) | 0.010 | 0.093 |
| 157 | 13.08 | 1.13 | 0.121 | ( 0.032) | 0.012 | 0.109 |
| 158 | 13.17 | 1.13 | 0.121 | ( 0.031) | 0.012 | 0.109 |
| 159 | 13.25 | 1.13 | 0.121 | ( 0.031) | 0.012 | 0.109 |
| 160 | 13.33 | 1.13 | 0.121 | ( 0.031) | 0.012 | 0.109 |
| 161 | 13.42 | 1.13 | 0.121 | ( 0.031) | 0.012 | 0.109 |
| 162 | 13.50 | 1.13 | 0.121 | ( 0.031) | 0.012 | 0.109 |
| 163 | 13.58 | 0.77 | 0.082 | ( 0.031) | 0.008 | 0.074 |
| 164 | 13.67 | 0.77 | 0.082 | ( 0.031) | 0.008 | 0.074 |
| 165 | 13.75 | 0.77 | 0.082 | ( 0.030) | 0.008 | 0.074 |
| 166 | 13.83 | 0.77 | 0.082 | ( 0.030) | 0.008 | 0.074 |
| 167 | 13.92 | 0.77 | 0.082 | ( 0.030) | 0.008 | 0.074 |
| 168 | 14.00 | 0.77 | 0.082 | ( 0.030) | 0.008 | 0.074 |
| 169 | 14.08 | 0.90 | 0.096 | ( 0.030) | 0.010 | 0.087 |
| 170 | 14.17 | 0.90 | 0.096 | ( 0.030) | 0.010 | 0.087 |
| 171 | 14.25 | 0.90 | 0.096 | ( 0.029) | 0.010 | 0.087 |
| 172 | 14.33 | 0.87 | 0.093 | ( 0.029) | 0.009 | 0.083 |
| 173 | 14.42 | 0.87 | 0.093 | ( 0.029) | 0.009 | 0.083 |
| 174 | 14.50 | 0.87 | 0.093 | ( 0.029) | 0.009 | 0.083 |
| 175 | 14.58 | 0.87 | 0.093 | ( 0.029) | 0.009 | 0.083 |
| 176 | 14.67 | 0.87 | 0.093 | ( 0.029) | 0.009 | 0.083 |
| 177 | 14.75 | 0.87 | 0.093 | ( 0.029) | 0.009 | 0.083 |
| 178 | 14.83 | 0.83 | 0.089 | ( 0.028) | 0.009 | 0.080 |
| 179 | 14.92 | 0.83 | 0.089 | ( 0.028) | 0.009 | 0.080 |
| 180 | 15.00 | 0.83 | 0.089 | ( 0.028) | 0.009 | 0.080 |
| 181 | 15.08 | 0.80 | 0.086 | ( 0.028) | 0.009 | 0.077 |
| 182 | 15.17 | 0.80 | 0.086 | ( 0.028) | 0.009 | 0.077 |
| 183 | 15.25 | 0.80 | 0.086 | ( 0.028) | 0.009 | 0.077 |
| 184 | 15.33 | 0.77 | 0.082 | ( 0.028) | 0.008 | 0.074 |
| 185 | 15.42 | 0.77 | 0.082 | ( 0.027) | 0.008 | 0.074 |
| 186 | 15.50 | 0.77 | 0.082 | ( 0.027) | 0.008 | 0.074 |
| 187 | 15.58 | 0.63 | 0.068 | ( 0.027) | 0.007 | 0.061 |
| 188 | 15.67 | 0.63 | 0.068 | ( 0.027) | 0.007 | 0.061 |
| 189 | 15.75 | 0.63 | 0.068 | ( 0.027) | 0.007 | 0.061 |
| 190 | 15.83 | 0.63 | 0.068 | ( 0.027) | 0.007 | 0.061 |
| 191 | 15.92 | 0.63 | 0.068 | ( 0.027) | 0.007 | 0.061 |
| 192 | 16.00 | 0.63 | 0.068 | ( 0.026) | 0.007 | 0.061 |
| 193 | 16.08 | 0.13 | 0.014 | ( 0.026) | 0.001 | 0.013 |
| 194 | 16.17 | 0.13 | 0.014 | ( 0.026) | 0.001 | 0.013 |
| 195 | 16.25 | 0.13 | 0.014 | ( 0.026) | 0.001 | 0.013 |
| 196 | 16.33 | 0.13 | 0.014 | ( 0.026) | 0.001 | 0.013 |
| 197 | 16.42 | 0.13 | 0.014 | ( 0.026) | 0.001 | 0.013 |
| 198 | 16.50 | 0.13 | 0.014 | ( 0.026) | 0.001 | 0.013 |
| 199 | 16.58 | 0.10 | 0.011 | ( 0.026) | 0.001 | 0.010 |
| 200 | 16.67 | 0.10 | 0.011 | ( 0.025) | 0.001 | 0.010 |
| 201 | 16.75 | 0.10 | 0.011 | ( 0.025) | 0.001 | 0.010 |
| 202 | 16.83 | 0.10 | 0.011 | ( 0.025) | 0.001 | 0.010 |
| 203 | 16.92 | 0.10 | 0.011 | ( 0.025) | 0.001 | 0.010 |
| 204 | 17.00 | 0.10 | 0.011 | ( 0.025) | 0.001 | 0.010 |
| 205 | 17.08 | 0.17 | 0.018 | ( 0.025) | 0.002 | 0.016 |
| 206 | 17.17 | 0.17 | 0.018 | ( 0.025) | 0.002 | 0.016 |
| 207 | 17.25 | 0.17 | 0.018 | ( 0.024) | 0.002 | 0.016 |
| 208 | 17.33 | 0.17 | 0.018 | ( 0.024) | 0.002 | 0.016 |
| 209 | 17.42 | 0.17 | 0.018 | ( 0.024) | 0.002 | 0.016 |
| 210 | 17.50 | 0.17 | 0.018 | ( 0.024) | 0.002 | 0.016 |
| 211 | 17.58 | 0.17 | 0.018 | ( 0.024) | 0.002 | 0.016 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 212 | 17.67 | 0.17 | 0.018 | ( 0.024) | 0.002 | 0.016 |
| 213 | 17.75 | 0.17 | 0.018 | ( 0.024) | 0.002 | 0.016 |
| 214 | 17.83 | 0.13 | 0.014 | ( 0.024) | 0.001 | 0.013 |
| 215 | 17.92 | 0.13 | 0.014 | ( 0.024) | 0.001 | 0.013 |
| 216 | 18.00 | 0.13 | 0.014 | ( 0.023) | 0.001 | 0.013 |
| 217 | 18.08 | 0.13 | 0.014 | ( 0.023) | 0.001 | 0.013 |
| 218 | 18.17 | 0.13 | 0.014 | ( 0.023) | 0.001 | 0.013 |
| 219 | 18.25 | 0.13 | 0.014 | ( 0.023) | 0.001 | 0.013 |
| 220 | 18.33 | 0.13 | 0.014 | ( 0.023) | 0.001 | 0.013 |
| 221 | 18.42 | 0.13 | 0.014 | ( 0.023) | 0.001 | 0.013 |
| 222 | 18.50 | 0.13 | 0.014 | ( 0.023) | 0.001 | 0.013 |
| 223 | 18.58 | 0.10 | 0.011 | ( 0.023) | 0.001 | 0.010 |
| 224 | 18.67 | 0.10 | 0.011 | ( 0.023) | 0.001 | 0.010 |
| 225 | 18.75 | 0.10 | 0.011 | ( 0.022) | 0.001 | 0.010 |
| 226 | 18.83 | 0.07 | 0.007 | ( 0.022) | 0.001 | 0.006 |
| 227 | 18.92 | 0.07 | 0.007 | ( 0.022) | 0.001 | 0.006 |
| 228 | 19.00 | 0.07 | 0.007 | ( 0.022) | 0.001 | 0.006 |
| 229 | 19.08 | 0.10 | 0.011 | ( 0.022) | 0.001 | 0.010 |
| 230 | 19.17 | 0.10 | 0.011 | ( 0.022) | 0.001 | 0.010 |
| 231 | 19.25 | 0.10 | 0.011 | ( 0.022) | 0.001 | 0.010 |
| 232 | 19.33 | 0.13 | 0.014 | ( 0.022) | 0.001 | 0.013 |
| 233 | 19.42 | 0.13 | 0.014 | ( 0.022) | 0.001 | 0.013 |
| 234 | 19.50 | 0.13 | 0.014 | ( 0.021) | 0.001 | 0.013 |
| 235 | 19.58 | 0.10 | 0.011 | ( 0.021) | 0.001 | 0.010 |
| 236 | 19.67 | 0.10 | 0.011 | ( 0.021) | 0.001 | 0.010 |
| 237 | 19.75 | 0.10 | 0.011 | ( 0.021) | 0.001 | 0.010 |
| 238 | 19.83 | 0.07 | 0.007 | ( 0.021) | 0.001 | 0.006 |
| 239 | 19.92 | 0.07 | 0.007 | ( 0.021) | 0.001 | 0.006 |
| 240 | 20.00 | 0.07 | 0.007 | ( 0.021) | 0.001 | 0.006 |
| 241 | 20.08 | 0.10 | 0.011 | ( 0.021) | 0.001 | 0.010 |
| 242 | 20.17 | 0.10 | 0.011 | ( 0.021) | 0.001 | 0.010 |
| 243 | 20.25 | 0.10 | 0.011 | ( 0.021) | 0.001 | 0.010 |
| 244 | 20.33 | 0.10 | 0.011 | ( 0.021) | 0.001 | 0.010 |
| 245 | 20.42 | 0.10 | 0.011 | ( 0.020) | 0.001 | 0.010 |
| 246 | 20.50 | 0.10 | 0.011 | ( 0.020) | 0.001 | 0.010 |
| 247 | 20.58 | 0.10 | 0.011 | ( 0.020) | 0.001 | 0.010 |
| 248 | 20.67 | 0.10 | 0.011 | ( 0.020) | 0.001 | 0.010 |
| 249 | 20.75 | 0.10 | 0.011 | ( 0.020) | 0.001 | 0.010 |
| 250 | 20.83 | 0.07 | 0.007 | ( 0.020) | 0.001 | 0.006 |
| 251 | 20.92 | 0.07 | 0.007 | ( 0.020) | 0.001 | 0.006 |
| 252 | 21.00 | 0.07 | 0.007 | ( 0.020) | 0.001 | 0.006 |
| 253 | 21.08 | 0.10 | 0.011 | ( 0.020) | 0.001 | 0.010 |
| 254 | 21.17 | 0.10 | 0.011 | ( 0.020) | 0.001 | 0.010 |
| 255 | 21.25 | 0.10 | 0.011 | ( 0.020) | 0.001 | 0.010 |
| 256 | 21.33 | 0.07 | 0.007 | ( 0.020) | 0.001 | 0.006 |
| 257 | 21.42 | 0.07 | 0.007 | ( 0.019) | 0.001 | 0.006 |
| 258 | 21.50 | 0.07 | 0.007 | ( 0.019) | 0.001 | 0.006 |
| 259 | 21.58 | 0.10 | 0.011 | ( 0.019) | 0.001 | 0.010 |
| 260 | 21.67 | 0.10 | 0.011 | ( 0.019) | 0.001 | 0.010 |
| 261 | 21.75 | 0.10 | 0.011 | ( 0.019) | 0.001 | 0.010 |
| 262 | 21.83 | 0.07 | 0.007 | ( 0.019) | 0.001 | 0.006 |
| 263 | 21.92 | 0.07 | 0.007 | ( 0.019) | 0.001 | 0.006 |
| 264 | 22.00 | 0.07 | 0.007 | ( 0.019) | 0.001 | 0.006 |
| 265 | 22.08 | 0.10 | 0.011 | ( 0.019) | 0.001 | 0.010 |
| 266 | 22.17 | 0.10 | 0.011 | ( 0.019) | 0.001 | 0.010 |
| 267 | 22.25 | 0.10 | 0.011 | ( 0.019) | 0.001 | 0.010 |
| 268 | 22.33 | 0.07 | 0.007 | ( 0.019) | 0.001 | 0.006 |
| 269 | 22.42 | 0.07 | 0.007 | ( 0.019) | 0.001 | 0.006 |
| 270 | 22.50 | 0.07 | 0.007 | ( 0.019) | 0.001 | 0.006 |
| 271 | 22.58 | 0.07 | 0.007 | ( 0.019) | 0.001 | 0.006 |
| 272 | 22.67 | 0.07 | 0.007 | ( 0.019) | 0.001 | 0.006 |
| 273 | 22.75 | 0.07 | 0.007 | ( 0.018) | 0.001 | 0.006 |
| 274 | 22.83 | 0.07 | 0.007 | ( 0.018) | 0.001 | 0.006 |
| 275 | 22.92 | 0.07 | 0.007 | ( 0.018) | 0.001 | 0.006 |
| 276 | 23.00 | 0.07 | 0.007 | ( 0.018) | 0.001 | 0.006 |
| 277 | 23.08 | 0.07 | 0.007 | ( 0.018) | 0.001 | 0.006 |
| 278 | 23.17 | 0.07 | 0.007 | ( 0.018) | 0.001 | 0.006 |
| 279 | 23.25 | 0.07 | 0.007 | ( 0.018) | 0.001 | 0.006 |
| 280 | 23.33 | 0.07 | 0.007 | ( 0.018) | 0.001 | 0.006 |
| 281 | 23.42 | 0.07 | 0.007 | ( 0.018) | 0.001 | 0.006 |
| 282 | 23.50 | 0.07 | 0.007 | ( 0.018) | 0.001 | 0.006 |
| 283 | 23.58 | 0.07 | 0.007 | ( 0.018) | 0.001 | 0.006 |
| 284 | 23.67 | 0.07 | 0.007 | ( 0.018) | 0.001 | 0.006 |
| 285 | 23.75 | 0.07 | 0.007 | ( 0.018) | 0.001 | 0.006 |
| 286 | 23.83 | 0.07 | 0.007 | ( 0.018) | 0.001 | 0.006 |
| 287 | 23.92 | 0.07 | 0.007 | ( 0.018) | 0.001 | 0.006 |
| 288 | 24.00 | 0.07 | 0.007 | ( 0.018) | 0.001 | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 9.6

Flood volume = Effective rainfall 0.80(In)
times area 31.0(Ac.)/[(In)/(Ft.)] = 2.1(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.230(Ac.Ft)
Total rainfall = 0.89(In)
Flood volume = 90242.5 Cubic Feet
Total soil loss = 10026.9 Cubic Feet

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Storm Event 2 Effective Rainfall = 1.688(In)

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.014 | ( 0.064) | 0.001 | 0.012 |
| 2 | 0.17 | 0.07 | 0.014 | ( 0.064) | 0.001 | 0.012 |
| 3 | 0.25 | 0.07 | 0.014 | ( 0.063) | 0.001 | 0.012 |
| 4 | 0.33 | 0.10 | 0.020 | ( 0.063) | 0.002 | 0.018 |
| 5 | 0.42 | 0.10 | 0.020 | ( 0.063) | 0.002 | 0.018 |
| 6 | 0.50 | 0.10 | 0.020 | ( 0.063) | 0.002 | 0.018 |
| 7 | 0.58 | 0.10 | 0.020 | ( 0.062) | 0.002 | 0.018 |
| 8 | 0.67 | 0.10 | 0.020 | ( 0.062) | 0.002 | 0.018 |
| 9 | 0.75 | 0.10 | 0.020 | ( 0.062) | 0.002 | 0.018 |
| 10 | 0.83 | 0.13 | 0.027 | ( 0.062) | 0.003 | 0.024 |
| 11 | 0.92 | 0.13 | 0.027 | ( 0.061) | 0.003 | 0.024 |
| 12 | 1.00 | 0.13 | 0.027 | ( 0.061) | 0.003 | 0.024 |
| 13 | 1.08 | 0.10 | 0.020 | ( 0.061) | 0.002 | 0.018 |
| 14 | 1.17 | 0.10 | 0.020 | ( 0.061) | 0.002 | 0.018 |
| 15 | 1.25 | 0.10 | 0.020 | ( 0.060) | 0.002 | 0.018 |
| 16 | 1.33 | 0.10 | 0.020 | ( 0.060) | 0.002 | 0.018 |
| 17 | 1.42 | 0.10 | 0.020 | ( 0.060) | 0.002 | 0.018 |
| 18 | 1.50 | 0.10 | 0.020 | ( 0.060) | 0.002 | 0.018 |
| 19 | 1.58 | 0.10 | 0.020 | ( 0.059) | 0.002 | 0.018 |
| 20 | 1.67 | 0.10 | 0.020 | ( 0.059) | 0.002 | 0.018 |
| 21 | 1.75 | 0.10 | 0.020 | ( 0.059) | 0.002 | 0.018 |
| 22 | 1.83 | 0.13 | 0.027 | ( 0.059) | 0.003 | 0.024 |
| 23 | 1.92 | 0.13 | 0.027 | ( 0.058) | 0.003 | 0.024 |
| 24 | 2.00 | 0.13 | 0.027 | ( 0.058) | 0.003 | 0.024 |
| 25 | 2.08 | 0.13 | 0.027 | ( 0.058) | 0.003 | 0.024 |
| 26 | 2.17 | 0.13 | 0.027 | ( 0.058) | 0.003 | 0.024 |
| 27 | 2.25 | 0.13 | 0.027 | ( 0.058) | 0.003 | 0.024 |
| 28 | 2.33 | 0.13 | 0.027 | ( 0.057) | 0.003 | 0.024 |
| 29 | 2.42 | 0.13 | 0.027 | ( 0.057) | 0.003 | 0.024 |
| 30 | 2.50 | 0.13 | 0.027 | ( 0.057) | 0.003 | 0.024 |
| 31 | 2.58 | 0.17 | 0.034 | ( 0.057) | 0.003 | 0.030 |
| 32 | 2.67 | 0.17 | 0.034 | ( 0.056) | 0.003 | 0.030 |
| 33 | 2.75 | 0.17 | 0.034 | ( 0.056) | 0.003 | 0.030 |
| 34 | 2.83 | 0.17 | 0.034 | ( 0.056) | 0.003 | 0.030 |
| 35 | 2.92 | 0.17 | 0.034 | ( 0.056) | 0.003 | 0.030 |
| 36 | 3.00 | 0.17 | 0.034 | ( 0.055) | 0.003 | 0.030 |
| 37 | 3.08 | 0.17 | 0.034 | ( 0.055) | 0.003 | 0.030 |
| 38 | 3.17 | 0.17 | 0.034 | ( 0.055) | 0.003 | 0.030 |
| 39 | 3.25 | 0.17 | 0.034 | ( 0.055) | 0.003 | 0.030 |
| 40 | 3.33 | 0.17 | 0.034 | ( 0.055) | 0.003 | 0.030 |
| 41 | 3.42 | 0.17 | 0.034 | ( 0.054) | 0.003 | 0.030 |
| 42 | 3.50 | 0.17 | 0.034 | ( 0.054) | 0.003 | 0.030 |
| 43 | 3.58 | 0.17 | 0.034 | ( 0.054) | 0.003 | 0.030 |
| 44 | 3.67 | 0.17 | 0.034 | ( 0.054) | 0.003 | 0.030 |
| 45 | 3.75 | 0.17 | 0.034 | ( 0.053) | 0.003 | 0.030 |
| 46 | 3.83 | 0.20 | 0.041 | ( 0.053) | 0.004 | 0.036 |
| 47 | 3.92 | 0.20 | 0.041 | ( 0.053) | 0.004 | 0.036 |
| 48 | 4.00 | 0.20 | 0.041 | ( 0.053) | 0.004 | 0.036 |
| 49 | 4.08 | 0.20 | 0.041 | ( 0.053) | 0.004 | 0.036 |
| 50 | 4.17 | 0.20 | 0.041 | ( 0.052) | 0.004 | 0.036 |
| 51 | 4.25 | 0.20 | 0.041 | ( 0.052) | 0.004 | 0.036 |
| 52 | 4.33 | 0.23 | 0.047 | ( 0.052) | 0.005 | 0.043 |
| 53 | 4.42 | 0.23 | 0.047 | ( 0.052) | 0.005 | 0.043 |
| 54 | 4.50 | 0.23 | 0.047 | ( 0.051) | 0.005 | 0.043 |
| 55 | 4.58 | 0.23 | 0.047 | ( 0.051) | 0.005 | 0.043 |
| 56 | 4.67 | 0.23 | 0.047 | ( 0.051) | 0.005 | 0.043 |
| 57 | 4.75 | 0.23 | 0.047 | ( 0.051) | 0.005 | 0.043 |
| 58 | 4.83 | 0.27 | 0.054 | ( 0.051) | 0.005 | 0.049 |
| 59 | 4.92 | 0.27 | 0.054 | ( 0.050) | 0.005 | 0.049 |
| 60 | 5.00 | 0.27 | 0.054 | ( 0.050) | 0.005 | 0.049 |
| 61 | 5.08 | 0.20 | 0.041 | ( 0.050) | 0.004 | 0.036 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 62 | 5.17 | 0.20 | 0.041 | ( 0.050) | 0.004 | 0.036 |
| 63 | 5.25 | 0.20 | 0.041 | ( 0.049) | 0.004 | 0.036 |
| 64 | 5.33 | 0.23 | 0.047 | ( 0.049) | 0.005 | 0.043 |
| 65 | 5.42 | 0.23 | 0.047 | ( 0.049) | 0.005 | 0.043 |
| 66 | 5.50 | 0.23 | 0.047 | ( 0.049) | 0.005 | 0.043 |
| 67 | 5.58 | 0.27 | 0.054 | ( 0.049) | 0.005 | 0.049 |
| 68 | 5.67 | 0.27 | 0.054 | ( 0.048) | 0.005 | 0.049 |
| 69 | 5.75 | 0.27 | 0.054 | ( 0.048) | 0.005 | 0.049 |
| 70 | 5.83 | 0.27 | 0.054 | ( 0.048) | 0.005 | 0.049 |
| 71 | 5.92 | 0.27 | 0.054 | ( 0.048) | 0.005 | 0.049 |
| 72 | 6.00 | 0.27 | 0.054 | ( 0.048) | 0.005 | 0.049 |
| 73 | 6.08 | 0.30 | 0.061 | ( 0.047) | 0.006 | 0.055 |
| 74 | 6.17 | 0.30 | 0.061 | ( 0.047) | 0.006 | 0.055 |
| 75 | 6.25 | 0.30 | 0.061 | ( 0.047) | 0.006 | 0.055 |
| 76 | 6.33 | 0.30 | 0.061 | ( 0.047) | 0.006 | 0.055 |
| 77 | 6.42 | 0.30 | 0.061 | ( 0.046) | 0.006 | 0.055 |
| 78 | 6.50 | 0.30 | 0.061 | ( 0.046) | 0.006 | 0.055 |
| 79 | 6.58 | 0.33 | 0.068 | ( 0.046) | 0.007 | 0.061 |
| 80 | 6.67 | 0.33 | 0.068 | ( 0.046) | 0.007 | 0.061 |
| 81 | 6.75 | 0.33 | 0.068 | ( 0.046) | 0.007 | 0.061 |
| 82 | 6.83 | 0.33 | 0.068 | ( 0.045) | 0.007 | 0.061 |
| 83 | 6.92 | 0.33 | 0.068 | ( 0.045) | 0.007 | 0.061 |
| 84 | 7.00 | 0.33 | 0.068 | ( 0.045) | 0.007 | 0.061 |
| 85 | 7.08 | 0.33 | 0.068 | ( 0.045) | 0.007 | 0.061 |
| 86 | 7.17 | 0.33 | 0.068 | ( 0.045) | 0.007 | 0.061 |
| 87 | 7.25 | 0.33 | 0.068 | ( 0.044) | 0.007 | 0.061 |
| 88 | 7.33 | 0.37 | 0.074 | ( 0.044) | 0.007 | 0.067 |
| 89 | 7.42 | 0.37 | 0.074 | ( 0.044) | 0.007 | 0.067 |
| 90 | 7.50 | 0.37 | 0.074 | ( 0.044) | 0.007 | 0.067 |
| 91 | 7.58 | 0.40 | 0.081 | ( 0.044) | 0.008 | 0.073 |
| 92 | 7.67 | 0.40 | 0.081 | ( 0.043) | 0.008 | 0.073 |
| 93 | 7.75 | 0.40 | 0.081 | ( 0.043) | 0.008 | 0.073 |
| 94 | 7.83 | 0.43 | 0.088 | ( 0.043) | 0.009 | 0.079 |
| 95 | 7.92 | 0.43 | 0.088 | ( 0.043) | 0.009 | 0.079 |
| 96 | 8.00 | 0.43 | 0.088 | ( 0.043) | 0.009 | 0.079 |
| 97 | 8.08 | 0.50 | 0.101 | ( 0.042) | 0.010 | 0.091 |
| 98 | 8.17 | 0.50 | 0.101 | ( 0.042) | 0.010 | 0.091 |
| 99 | 8.25 | 0.50 | 0.101 | ( 0.042) | 0.010 | 0.091 |
| 100 | 8.33 | 0.50 | 0.101 | ( 0.042) | 0.010 | 0.091 |
| 101 | 8.42 | 0.50 | 0.101 | ( 0.042) | 0.010 | 0.091 |
| 102 | 8.50 | 0.50 | 0.101 | ( 0.041) | 0.010 | 0.091 |
| 103 | 8.58 | 0.53 | 0.108 | ( 0.041) | 0.011 | 0.097 |
| 104 | 8.67 | 0.53 | 0.108 | ( 0.041) | 0.011 | 0.097 |
| 105 | 8.75 | 0.53 | 0.108 | ( 0.041) | 0.011 | 0.097 |
| 106 | 8.83 | 0.57 | 0.115 | ( 0.041) | 0.011 | 0.103 |
| 107 | 8.92 | 0.57 | 0.115 | ( 0.040) | 0.011 | 0.103 |
| 108 | 9.00 | 0.57 | 0.115 | ( 0.040) | 0.011 | 0.103 |
| 109 | 9.08 | 0.63 | 0.128 | ( 0.040) | 0.013 | 0.115 |
| 110 | 9.17 | 0.63 | 0.128 | ( 0.040) | 0.013 | 0.115 |
| 111 | 9.25 | 0.63 | 0.128 | ( 0.040) | 0.013 | 0.115 |
| 112 | 9.33 | 0.67 | 0.135 | ( 0.040) | 0.014 | 0.122 |
| 113 | 9.42 | 0.67 | 0.135 | ( 0.039) | 0.014 | 0.122 |
| 114 | 9.50 | 0.67 | 0.135 | ( 0.039) | 0.014 | 0.122 |
| 115 | 9.58 | 0.70 | 0.142 | ( 0.039) | 0.014 | 0.128 |
| 116 | 9.67 | 0.70 | 0.142 | ( 0.039) | 0.014 | 0.128 |
| 117 | 9.75 | 0.70 | 0.142 | ( 0.039) | 0.014 | 0.128 |
| 118 | 9.83 | 0.73 | 0.149 | ( 0.038) | 0.015 | 0.134 |
| 119 | 9.92 | 0.73 | 0.149 | ( 0.038) | 0.015 | 0.134 |
| 120 | 10.00 | 0.73 | 0.149 | ( 0.038) | 0.015 | 0.134 |
| 121 | 10.08 | 0.50 | 0.101 | ( 0.038) | 0.010 | 0.091 |
| 122 | 10.17 | 0.50 | 0.101 | ( 0.038) | 0.010 | 0.091 |
| 123 | 10.25 | 0.50 | 0.101 | ( 0.037) | 0.010 | 0.091 |
| 124 | 10.33 | 0.50 | 0.101 | ( 0.037) | 0.010 | 0.091 |
| 125 | 10.42 | 0.50 | 0.101 | ( 0.037) | 0.010 | 0.091 |
| 126 | 10.50 | 0.50 | 0.101 | ( 0.037) | 0.010 | 0.091 |
| 127 | 10.58 | 0.67 | 0.135 | ( 0.037) | 0.014 | 0.122 |
| 128 | 10.67 | 0.67 | 0.135 | ( 0.037) | 0.014 | 0.122 |
| 129 | 10.75 | 0.67 | 0.135 | ( 0.036) | 0.014 | 0.122 |
| 130 | 10.83 | 0.67 | 0.135 | ( 0.036) | 0.014 | 0.122 |
| 131 | 10.92 | 0.67 | 0.135 | ( 0.036) | 0.014 | 0.122 |
| 132 | 11.00 | 0.67 | 0.135 | ( 0.036) | 0.014 | 0.122 |
| 133 | 11.08 | 0.63 | 0.128 | ( 0.036) | 0.013 | 0.115 |
| 134 | 11.17 | 0.63 | 0.128 | ( 0.035) | 0.013 | 0.115 |
| 135 | 11.25 | 0.63 | 0.128 | ( 0.035) | 0.013 | 0.115 |
| 136 | 11.33 | 0.63 | 0.128 | ( 0.035) | 0.013 | 0.115 |
| 137 | 11.42 | 0.63 | 0.128 | ( 0.035) | 0.013 | 0.115 |
| 138 | 11.50 | 0.63 | 0.128 | ( 0.035) | 0.013 | 0.115 |
| 139 | 11.58 | 0.57 | 0.115 | ( 0.035) | 0.011 | 0.103 |

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|---|---|---|---|---|---|---|
| 140 | 11.67 | 0.57 | 0.115 | ( 0.034) | 0.011 | 0.103 |
| 141 | 11.75 | 0.57 | 0.115 | ( 0.034) | 0.011 | 0.103 |
| 142 | 11.83 | 0.60 | 0.122 | ( 0.034) | 0.012 | 0.109 |
| 143 | 11.92 | 0.60 | 0.122 | ( 0.034) | 0.012 | 0.109 |
| 144 | 12.00 | 0.60 | 0.122 | ( 0.034) | 0.012 | 0.109 |
| 145 | 12.08 | 0.83 | 0.169 | ( 0.034) | 0.017 | 0.152 |
| 146 | 12.17 | 0.83 | 0.169 | ( 0.033) | 0.017 | 0.152 |
| 147 | 12.25 | 0.83 | 0.169 | ( 0.033) | 0.017 | 0.152 |
| 148 | 12.33 | 0.87 | 0.176 | ( 0.033) | 0.018 | 0.158 |
| 149 | 12.42 | 0.87 | 0.176 | ( 0.033) | 0.018 | 0.158 |
| 150 | 12.50 | 0.87 | 0.176 | ( 0.033) | 0.018 | 0.158 |
| 151 | 12.58 | 0.93 | 0.189 | ( 0.033) | 0.019 | 0.170 |
| 152 | 12.67 | 0.93 | 0.189 | ( 0.032) | 0.019 | 0.170 |
| 153 | 12.75 | 0.93 | 0.189 | ( 0.032) | 0.019 | 0.170 |
| 154 | 12.83 | 0.97 | 0.196 | ( 0.032) | 0.020 | 0.176 |
| 155 | 12.92 | 0.97 | 0.196 | ( 0.032) | 0.020 | 0.176 |
| 156 | 13.00 | 0.97 | 0.196 | ( 0.032) | 0.020 | 0.176 |
| 157 | 13.08 | 1.13 | 0.230 | ( 0.032) | 0.023 | 0.207 |
| 158 | 13.17 | 1.13 | 0.230 | ( 0.031) | 0.023 | 0.207 |
| 159 | 13.25 | 1.13 | 0.230 | ( 0.031) | 0.023 | 0.207 |
| 160 | 13.33 | 1.13 | 0.230 | ( 0.031) | 0.023 | 0.207 |
| 161 | 13.42 | 1.13 | 0.230 | ( 0.031) | 0.023 | 0.207 |
| 162 | 13.50 | 1.13 | 0.230 | ( 0.031) | 0.023 | 0.207 |
| 163 | 13.58 | 0.77 | 0.155 | ( 0.031) | 0.016 | 0.140 |
| 164 | 13.67 | 0.77 | 0.155 | ( 0.031) | 0.016 | 0.140 |
| 165 | 13.75 | 0.77 | 0.155 | ( 0.030) | 0.016 | 0.140 |
| 166 | 13.83 | 0.77 | 0.155 | ( 0.030) | 0.016 | 0.140 |
| 167 | 13.92 | 0.77 | 0.155 | ( 0.030) | 0.016 | 0.140 |
| 168 | 14.00 | 0.77 | 0.155 | ( 0.030) | 0.016 | 0.140 |
| 169 | 14.08 | 0.90 | 0.182 | ( 0.030) | 0.018 | 0.164 |
| 170 | 14.17 | 0.90 | 0.182 | ( 0.030) | 0.018 | 0.164 |
| 171 | 14.25 | 0.90 | 0.182 | ( 0.029) | 0.018 | 0.164 |
| 172 | 14.33 | 0.87 | 0.176 | ( 0.029) | 0.018 | 0.158 |
| 173 | 14.42 | 0.87 | 0.176 | ( 0.029) | 0.018 | 0.158 |
| 174 | 14.50 | 0.87 | 0.176 | ( 0.029) | 0.018 | 0.158 |
| 175 | 14.58 | 0.87 | 0.176 | ( 0.029) | 0.018 | 0.158 |
| 176 | 14.67 | 0.87 | 0.176 | ( 0.029) | 0.018 | 0.158 |
| 177 | 14.75 | 0.87 | 0.176 | ( 0.029) | 0.018 | 0.158 |
| 178 | 14.83 | 0.83 | 0.169 | ( 0.028) | 0.017 | 0.152 |
| 179 | 14.92 | 0.83 | 0.169 | ( 0.028) | 0.017 | 0.152 |
| 180 | 15.00 | 0.83 | 0.169 | ( 0.028) | 0.017 | 0.152 |
| 181 | 15.08 | 0.80 | 0.162 | ( 0.028) | 0.016 | 0.146 |
| 182 | 15.17 | 0.80 | 0.162 | ( 0.028) | 0.016 | 0.146 |
| 183 | 15.25 | 0.80 | 0.162 | ( 0.028) | 0.016 | 0.146 |
| 184 | 15.33 | 0.77 | 0.155 | ( 0.028) | 0.016 | 0.140 |
| 185 | 15.42 | 0.77 | 0.155 | ( 0.027) | 0.016 | 0.140 |
| 186 | 15.50 | 0.77 | 0.155 | ( 0.027) | 0.016 | 0.140 |
| 187 | 15.58 | 0.63 | 0.128 | ( 0.027) | 0.013 | 0.115 |
| 188 | 15.67 | 0.63 | 0.128 | ( 0.027) | 0.013 | 0.115 |
| 189 | 15.75 | 0.63 | 0.128 | ( 0.027) | 0.013 | 0.115 |
| 190 | 15.83 | 0.63 | 0.128 | ( 0.027) | 0.013 | 0.115 |
| 191 | 15.92 | 0.63 | 0.128 | ( 0.027) | 0.013 | 0.115 |
| 192 | 16.00 | 0.63 | 0.128 | ( 0.026) | 0.013 | 0.115 |
| 193 | 16.08 | 0.13 | 0.027 | ( 0.026) | 0.003 | 0.024 |
| 194 | 16.17 | 0.13 | 0.027 | ( 0.026) | 0.003 | 0.024 |
| 195 | 16.25 | 0.13 | 0.027 | ( 0.026) | 0.003 | 0.024 |
| 196 | 16.33 | 0.13 | 0.027 | ( 0.026) | 0.003 | 0.024 |
| 197 | 16.42 | 0.13 | 0.027 | ( 0.026) | 0.003 | 0.024 |
| 198 | 16.50 | 0.13 | 0.027 | ( 0.026) | 0.003 | 0.024 |
| 199 | 16.58 | 0.10 | 0.020 | ( 0.026) | 0.002 | 0.018 |
| 200 | 16.67 | 0.10 | 0.020 | ( 0.025) | 0.002 | 0.018 |
| 201 | 16.75 | 0.10 | 0.020 | ( 0.025) | 0.002 | 0.018 |
| 202 | 16.83 | 0.10 | 0.020 | ( 0.025) | 0.002 | 0.018 |
| 203 | 16.92 | 0.10 | 0.020 | ( 0.025) | 0.002 | 0.018 |
| 204 | 17.00 | 0.10 | 0.020 | ( 0.025) | 0.002 | 0.018 |
| 205 | 17.08 | 0.17 | 0.034 | ( 0.025) | 0.003 | 0.030 |
| 206 | 17.17 | 0.17 | 0.034 | ( 0.025) | 0.003 | 0.030 |
| 207 | 17.25 | 0.17 | 0.034 | ( 0.024) | 0.003 | 0.030 |
| 208 | 17.33 | 0.17 | 0.034 | ( 0.024) | 0.003 | 0.030 |
| 209 | 17.42 | 0.17 | 0.034 | ( 0.024) | 0.003 | 0.030 |
| 210 | 17.50 | 0.17 | 0.034 | ( 0.024) | 0.003 | 0.030 |
| 211 | 17.58 | 0.17 | 0.034 | ( 0.024) | 0.003 | 0.030 |
| 212 | 17.67 | 0.17 | 0.034 | ( 0.024) | 0.003 | 0.030 |
| 213 | 17.75 | 0.17 | 0.034 | ( 0.024) | 0.003 | 0.030 |
| 214 | 17.83 | 0.13 | 0.027 | ( 0.024) | 0.003 | 0.024 |
| 215 | 17.92 | 0.13 | 0.027 | ( 0.024) | 0.003 | 0.024 |
| 216 | 18.00 | 0.13 | 0.027 | ( 0.023) | 0.003 | 0.024 |
| 217 | 18.08 | 0.13 | 0.027 | ( 0.023) | 0.003 | 0.024 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 218 | 18.17 | 0.13 | 0.027 | ( 0.023) | 0.003 | 0.024 |
| 219 | 18.25 | 0.13 | 0.027 | ( 0.023) | 0.003 | 0.024 |
| 220 | 18.33 | 0.13 | 0.027 | ( 0.023) | 0.003 | 0.024 |
| 221 | 18.42 | 0.13 | 0.027 | ( 0.023) | 0.003 | 0.024 |
| 222 | 18.50 | 0.13 | 0.027 | ( 0.023) | 0.003 | 0.024 |
| 223 | 18.58 | 0.10 | 0.020 | ( 0.023) | 0.002 | 0.018 |
| 224 | 18.67 | 0.10 | 0.020 | ( 0.023) | 0.002 | 0.018 |
| 225 | 18.75 | 0.10 | 0.020 | ( 0.022) | 0.002 | 0.018 |
| 226 | 18.83 | 0.07 | 0.014 | ( 0.022) | 0.001 | 0.012 |
| 227 | 18.92 | 0.07 | 0.014 | ( 0.022) | 0.001 | 0.012 |
| 228 | 19.00 | 0.07 | 0.014 | ( 0.022) | 0.001 | 0.012 |
| 229 | 19.08 | 0.10 | 0.020 | ( 0.022) | 0.002 | 0.018 |
| 230 | 19.17 | 0.10 | 0.020 | ( 0.022) | 0.002 | 0.018 |
| 231 | 19.25 | 0.10 | 0.020 | ( 0.022) | 0.002 | 0.018 |
| 232 | 19.33 | 0.13 | 0.027 | ( 0.022) | 0.003 | 0.024 |
| 233 | 19.42 | 0.13 | 0.027 | ( 0.022) | 0.003 | 0.024 |
| 234 | 19.50 | 0.13 | 0.027 | ( 0.021) | 0.003 | 0.024 |
| 235 | 19.58 | 0.10 | 0.020 | ( 0.021) | 0.002 | 0.018 |
| 236 | 19.67 | 0.10 | 0.020 | ( 0.021) | 0.002 | 0.018 |
| 237 | 19.75 | 0.10 | 0.020 | ( 0.021) | 0.002 | 0.018 |
| 238 | 19.83 | 0.07 | 0.014 | ( 0.021) | 0.001 | 0.012 |
| 239 | 19.92 | 0.07 | 0.014 | ( 0.021) | 0.001 | 0.012 |
| 240 | 20.00 | 0.07 | 0.014 | ( 0.021) | 0.001 | 0.012 |
| 241 | 20.08 | 0.10 | 0.020 | ( 0.021) | 0.002 | 0.018 |
| 242 | 20.17 | 0.10 | 0.020 | ( 0.021) | 0.002 | 0.018 |
| 243 | 20.25 | 0.10 | 0.020 | ( 0.021) | 0.002 | 0.018 |
| 244 | 20.33 | 0.10 | 0.020 | ( 0.021) | 0.002 | 0.018 |
| 245 | 20.42 | 0.10 | 0.020 | ( 0.020) | 0.002 | 0.018 |
| 246 | 20.50 | 0.10 | 0.020 | ( 0.020) | 0.002 | 0.018 |
| 247 | 20.58 | 0.10 | 0.020 | ( 0.020) | 0.002 | 0.018 |
| 248 | 20.67 | 0.10 | 0.020 | ( 0.020) | 0.002 | 0.018 |
| 249 | 20.75 | 0.10 | 0.020 | ( 0.020) | 0.002 | 0.018 |
| 250 | 20.83 | 0.07 | 0.014 | ( 0.020) | 0.001 | 0.012 |
| 251 | 20.92 | 0.07 | 0.014 | ( 0.020) | 0.001 | 0.012 |
| 252 | 21.00 | 0.07 | 0.014 | ( 0.020) | 0.001 | 0.012 |
| 253 | 21.08 | 0.10 | 0.020 | ( 0.020) | 0.002 | 0.018 |
| 254 | 21.17 | 0.10 | 0.020 | ( 0.020) | 0.002 | 0.018 |
| 255 | 21.25 | 0.10 | 0.020 | ( 0.020) | 0.002 | 0.018 |
| 256 | 21.33 | 0.07 | 0.014 | ( 0.020) | 0.001 | 0.012 |
| 257 | 21.42 | 0.07 | 0.014 | ( 0.019) | 0.001 | 0.012 |
| 258 | 21.50 | 0.07 | 0.014 | ( 0.019) | 0.001 | 0.012 |
| 259 | 21.58 | 0.10 | 0.020 | ( 0.019) | 0.002 | 0.018 |
| 260 | 21.67 | 0.10 | 0.020 | ( 0.019) | 0.002 | 0.018 |
| 261 | 21.75 | 0.10 | 0.020 | ( 0.019) | 0.002 | 0.018 |
| 262 | 21.83 | 0.07 | 0.014 | ( 0.019) | 0.001 | 0.012 |
| 263 | 21.92 | 0.07 | 0.014 | ( 0.019) | 0.001 | 0.012 |
| 264 | 22.00 | 0.07 | 0.014 | ( 0.019) | 0.001 | 0.012 |
| 265 | 22.08 | 0.10 | 0.020 | ( 0.019) | 0.002 | 0.018 |
| 266 | 22.17 | 0.10 | 0.020 | ( 0.019) | 0.002 | 0.018 |
| 267 | 22.25 | 0.10 | 0.020 | ( 0.019) | 0.002 | 0.018 |
| 268 | 22.33 | 0.07 | 0.014 | ( 0.019) | 0.001 | 0.012 |
| 269 | 22.42 | 0.07 | 0.014 | ( 0.019) | 0.001 | 0.012 |
| 270 | 22.50 | 0.07 | 0.014 | ( 0.019) | 0.001 | 0.012 |
| 271 | 22.58 | 0.07 | 0.014 | ( 0.019) | 0.001 | 0.012 |
| 272 | 22.67 | 0.07 | 0.014 | ( 0.019) | 0.001 | 0.012 |
| 273 | 22.75 | 0.07 | 0.014 | ( 0.018) | 0.001 | 0.012 |
| 274 | 22.83 | 0.07 | 0.014 | ( 0.018) | 0.001 | 0.012 |
| 275 | 22.92 | 0.07 | 0.014 | ( 0.018) | 0.001 | 0.012 |
| 276 | 23.00 | 0.07 | 0.014 | ( 0.018) | 0.001 | 0.012 |
| 277 | 23.08 | 0.07 | 0.014 | ( 0.018) | 0.001 | 0.012 |
| 278 | 23.17 | 0.07 | 0.014 | ( 0.018) | 0.001 | 0.012 |
| 279 | 23.25 | 0.07 | 0.014 | ( 0.018) | 0.001 | 0.012 |
| 280 | 23.33 | 0.07 | 0.014 | ( 0.018) | 0.001 | 0.012 |
| 281 | 23.42 | 0.07 | 0.014 | ( 0.018) | 0.001 | 0.012 |
| 282 | 23.50 | 0.07 | 0.014 | ( 0.018) | 0.001 | 0.012 |
| 283 | 23.58 | 0.07 | 0.014 | ( 0.018) | 0.001 | 0.012 |
| 284 | 23.67 | 0.07 | 0.014 | ( 0.018) | 0.001 | 0.012 |
| 285 | 23.75 | 0.07 | 0.014 | ( 0.018) | 0.001 | 0.012 |
| 286 | 23.83 | 0.07 | 0.014 | ( 0.018) | 0.001 | 0.012 |
| 287 | 23.92 | 0.07 | 0.014 | ( 0.018) | 0.001 | 0.012 |
| 288 | 24.00 | 0.07 | 0.014 | ( 0.018) | 0.001 | 0.012 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 18.2

Flood volume = Effective rainfall 1.52(In)
times area 31.0(Ac.)/[(In)/(Ft.)] = 3.9(Ac.Ft)
Total soil loss = 0.17(In)
Total soil loss = 0.436(Ac.Ft)
Total rainfall = 1.69(In)

Flood volume = 170985.7 Cubic Feet
Total soil loss = 18998.4 Cubic Feet

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Storm Event 1 Effective Rainfall = 4.690(In)

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.038 | ( 0.064) | 0.004 | 0.034 |
| 2 | 0.17 | 0.07 | 0.038 | ( 0.064) | 0.004 | 0.034 |
| 3 | 0.25 | 0.07 | 0.038 | ( 0.063) | 0.004 | 0.034 |
| 4 | 0.33 | 0.10 | 0.056 | ( 0.063) | 0.006 | 0.051 |
| 5 | 0.42 | 0.10 | 0.056 | ( 0.063) | 0.006 | 0.051 |
| 6 | 0.50 | 0.10 | 0.056 | ( 0.063) | 0.006 | 0.051 |
| 7 | 0.58 | 0.10 | 0.056 | ( 0.062) | 0.006 | 0.051 |
| 8 | 0.67 | 0.10 | 0.056 | ( 0.062) | 0.006 | 0.051 |
| 9 | 0.75 | 0.10 | 0.056 | ( 0.062) | 0.006 | 0.051 |
| 10 | 0.83 | 0.13 | 0.075 | ( 0.062) | 0.008 | 0.068 |
| 11 | 0.92 | 0.13 | 0.075 | ( 0.061) | 0.008 | 0.068 |
| 12 | 1.00 | 0.13 | 0.075 | ( 0.061) | 0.008 | 0.068 |
| 13 | 1.08 | 0.10 | 0.056 | ( 0.061) | 0.006 | 0.051 |
| 14 | 1.17 | 0.10 | 0.056 | ( 0.061) | 0.006 | 0.051 |
| 15 | 1.25 | 0.10 | 0.056 | ( 0.060) | 0.006 | 0.051 |
| 16 | 1.33 | 0.10 | 0.056 | ( 0.060) | 0.006 | 0.051 |
| 17 | 1.42 | 0.10 | 0.056 | ( 0.060) | 0.006 | 0.051 |
| 18 | 1.50 | 0.10 | 0.056 | ( 0.060) | 0.006 | 0.051 |
| 19 | 1.58 | 0.10 | 0.056 | ( 0.059) | 0.006 | 0.051 |
| 20 | 1.67 | 0.10 | 0.056 | ( 0.059) | 0.006 | 0.051 |
| 21 | 1.75 | 0.10 | 0.056 | ( 0.059) | 0.006 | 0.051 |
| 22 | 1.83 | 0.13 | 0.075 | ( 0.059) | 0.008 | 0.068 |
| 23 | 1.92 | 0.13 | 0.075 | ( 0.058) | 0.008 | 0.068 |
| 24 | 2.00 | 0.13 | 0.075 | ( 0.058) | 0.008 | 0.068 |
| 25 | 2.08 | 0.13 | 0.075 | ( 0.058) | 0.008 | 0.068 |
| 26 | 2.17 | 0.13 | 0.075 | ( 0.058) | 0.008 | 0.068 |
| 27 | 2.25 | 0.13 | 0.075 | ( 0.058) | 0.008 | 0.068 |
| 28 | 2.33 | 0.13 | 0.075 | ( 0.057) | 0.008 | 0.068 |
| 29 | 2.42 | 0.13 | 0.075 | ( 0.057) | 0.008 | 0.068 |
| 30 | 2.50 | 0.13 | 0.075 | ( 0.057) | 0.008 | 0.068 |
| 31 | 2.58 | 0.17 | 0.094 | ( 0.057) | 0.009 | 0.084 |
| 32 | 2.67 | 0.17 | 0.094 | ( 0.056) | 0.009 | 0.084 |
| 33 | 2.75 | 0.17 | 0.094 | ( 0.056) | 0.009 | 0.084 |
| 34 | 2.83 | 0.17 | 0.094 | ( 0.056) | 0.009 | 0.084 |
| 35 | 2.92 | 0.17 | 0.094 | ( 0.056) | 0.009 | 0.084 |
| 36 | 3.00 | 0.17 | 0.094 | ( 0.055) | 0.009 | 0.084 |
| 37 | 3.08 | 0.17 | 0.094 | ( 0.055) | 0.009 | 0.084 |
| 38 | 3.17 | 0.17 | 0.094 | ( 0.055) | 0.009 | 0.084 |
| 39 | 3.25 | 0.17 | 0.094 | ( 0.055) | 0.009 | 0.084 |
| 40 | 3.33 | 0.17 | 0.094 | ( 0.055) | 0.009 | 0.084 |
| 41 | 3.42 | 0.17 | 0.094 | ( 0.054) | 0.009 | 0.084 |
| 42 | 3.50 | 0.17 | 0.094 | ( 0.054) | 0.009 | 0.084 |
| 43 | 3.58 | 0.17 | 0.094 | ( 0.054) | 0.009 | 0.084 |
| 44 | 3.67 | 0.17 | 0.094 | ( 0.054) | 0.009 | 0.084 |
| 45 | 3.75 | 0.17 | 0.094 | ( 0.053) | 0.009 | 0.084 |
| 46 | 3.83 | 0.20 | 0.113 | ( 0.053) | 0.011 | 0.101 |
| 47 | 3.92 | 0.20 | 0.113 | ( 0.053) | 0.011 | 0.101 |
| 48 | 4.00 | 0.20 | 0.113 | ( 0.053) | 0.011 | 0.101 |
| 49 | 4.08 | 0.20 | 0.113 | ( 0.053) | 0.011 | 0.101 |
| 50 | 4.17 | 0.20 | 0.113 | ( 0.052) | 0.011 | 0.101 |
| 51 | 4.25 | 0.20 | 0.113 | ( 0.052) | 0.011 | 0.101 |
| 52 | 4.33 | 0.23 | 0.131 | ( 0.052) | 0.013 | 0.118 |
| 53 | 4.42 | 0.23 | 0.131 | ( 0.052) | 0.013 | 0.118 |
| 54 | 4.50 | 0.23 | 0.131 | ( 0.051) | 0.013 | 0.118 |
| 55 | 4.58 | 0.23 | 0.131 | ( 0.051) | 0.013 | 0.118 |
| 56 | 4.67 | 0.23 | 0.131 | ( 0.051) | 0.013 | 0.118 |
| 57 | 4.75 | 0.23 | 0.131 | ( 0.051) | 0.013 | 0.118 |
| 58 | 4.83 | 0.27 | 0.150 | ( 0.051) | 0.015 | 0.135 |
| 59 | 4.92 | 0.27 | 0.150 | ( 0.050) | 0.015 | 0.135 |
| 60 | 5.00 | 0.27 | 0.150 | ( 0.050) | 0.015 | 0.135 |
| 61 | 5.08 | 0.20 | 0.113 | ( 0.050) | 0.011 | 0.101 |
| 62 | 5.17 | 0.20 | 0.113 | ( 0.050) | 0.011 | 0.101 |
| 63 | 5.25 | 0.20 | 0.113 | ( 0.049) | 0.011 | 0.101 |
| 64 | 5.33 | 0.23 | 0.131 | ( 0.049) | 0.013 | 0.118 |
| 65 | 5.42 | 0.23 | 0.131 | ( 0.049) | 0.013 | 0.118 |
| 66 | 5.50 | 0.23 | 0.131 | ( 0.049) | 0.013 | 0.118 |
| 67 | 5.58 | 0.27 | 0.150 | ( 0.049) | 0.015 | 0.135 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 68 | 5.67 | 0.27 | 0.150 | ( | 0.048) | 0.015 | | 0.135 |
| 69 | 5.75 | 0.27 | 0.150 | ( | 0.048) | 0.015 | | 0.135 |
| 70 | 5.83 | 0.27 | 0.150 | ( | 0.048) | 0.015 | | 0.135 |
| 71 | 5.92 | 0.27 | 0.150 | ( | 0.048) | 0.015 | | 0.135 |
| 72 | 6.00 | 0.27 | 0.150 | ( | 0.048) | 0.015 | | 0.135 |
| 73 | 6.08 | 0.30 | 0.169 | ( | 0.047) | 0.017 | | 0.152 |
| 74 | 6.17 | 0.30 | 0.169 | ( | 0.047) | 0.017 | | 0.152 |
| 75 | 6.25 | 0.30 | 0.169 | ( | 0.047) | 0.017 | | 0.152 |
| 76 | 6.33 | 0.30 | 0.169 | ( | 0.047) | 0.017 | | 0.152 |
| 77 | 6.42 | 0.30 | 0.169 | ( | 0.046) | 0.017 | | 0.152 |
| 78 | 6.50 | 0.30 | 0.169 | ( | 0.046) | 0.017 | | 0.152 |
| 79 | 6.58 | 0.33 | 0.188 | ( | 0.046) | 0.019 | | 0.169 |
| 80 | 6.67 | 0.33 | 0.188 | ( | 0.046) | 0.019 | | 0.169 |
| 81 | 6.75 | 0.33 | 0.188 | ( | 0.046) | 0.019 | | 0.169 |
| 82 | 6.83 | 0.33 | 0.188 | ( | 0.045) | 0.019 | | 0.169 |
| 83 | 6.92 | 0.33 | 0.188 | ( | 0.045) | 0.019 | | 0.169 |
| 84 | 7.00 | 0.33 | 0.188 | ( | 0.045) | 0.019 | | 0.169 |
| 85 | 7.08 | 0.33 | 0.188 | ( | 0.045) | 0.019 | | 0.169 |
| 86 | 7.17 | 0.33 | 0.188 | ( | 0.045) | 0.019 | | 0.169 |
| 87 | 7.25 | 0.33 | 0.188 | ( | 0.044) | 0.019 | | 0.169 |
| 88 | 7.33 | 0.37 | 0.206 | ( | 0.044) | 0.021 | | 0.186 |
| 89 | 7.42 | 0.37 | 0.206 | ( | 0.044) | 0.021 | | 0.186 |
| 90 | 7.50 | 0.37 | 0.206 | ( | 0.044) | 0.021 | | 0.186 |
| 91 | 7.58 | 0.40 | 0.225 | ( | 0.044) | 0.023 | | 0.203 |
| 92 | 7.67 | 0.40 | 0.225 | ( | 0.043) | 0.023 | | 0.203 |
| 93 | 7.75 | 0.40 | 0.225 | ( | 0.043) | 0.023 | | 0.203 |
| 94 | 7.83 | 0.43 | 0.244 | ( | 0.043) | 0.024 | | 0.219 |
| 95 | 7.92 | 0.43 | 0.244 | ( | 0.043) | 0.024 | | 0.219 |
| 96 | 8.00 | 0.43 | 0.244 | ( | 0.043) | 0.024 | | 0.219 |
| 97 | 8.08 | 0.50 | 0.281 | ( | 0.042) | 0.028 | | 0.253 |
| 98 | 8.17 | 0.50 | 0.281 | ( | 0.042) | 0.028 | | 0.253 |
| 99 | 8.25 | 0.50 | 0.281 | ( | 0.042) | 0.028 | | 0.253 |
| 100 | 8.33 | 0.50 | 0.281 | ( | 0.042) | 0.028 | | 0.253 |
| 101 | 8.42 | 0.50 | 0.281 | ( | 0.042) | 0.028 | | 0.253 |
| 102 | 8.50 | 0.50 | 0.281 | ( | 0.041) | 0.028 | | 0.253 |
| 103 | 8.58 | 0.53 | 0.300 | ( | 0.041) | 0.030 | | 0.270 |
| 104 | 8.67 | 0.53 | 0.300 | ( | 0.041) | 0.030 | | 0.270 |
| 105 | 8.75 | 0.53 | 0.300 | ( | 0.041) | 0.030 | | 0.270 |
| 106 | 8.83 | 0.57 | 0.319 | ( | 0.041) | 0.032 | | 0.287 |
| 107 | 8.92 | 0.57 | 0.319 | ( | 0.040) | 0.032 | | 0.287 |
| 108 | 9.00 | 0.57 | 0.319 | ( | 0.040) | 0.032 | | 0.287 |
| 109 | 9.08 | 0.63 | 0.356 | ( | 0.040) | 0.036 | | 0.321 |
| 110 | 9.17 | 0.63 | 0.356 | ( | 0.040) | 0.036 | | 0.321 |
| 111 | 9.25 | 0.63 | 0.356 | ( | 0.040) | 0.036 | | 0.321 |
| 112 | 9.33 | 0.67 | 0.375 | ( | 0.040) | 0.038 | | 0.338 |
| 113 | 9.42 | 0.67 | 0.375 | ( | 0.039) | 0.038 | | 0.338 |
| 114 | 9.50 | 0.67 | 0.375 | ( | 0.039) | 0.038 | | 0.338 |
| 115 | 9.58 | 0.70 | 0.394 | | 0.039 | ( 0.039) | | 0.355 |
| 116 | 9.67 | 0.70 | 0.394 | | 0.039 | ( 0.039) | | 0.355 |
| 117 | 9.75 | 0.70 | 0.394 | | 0.039 | ( 0.039) | | 0.355 |
| 118 | 9.83 | 0.73 | 0.413 | | 0.038 | ( 0.041) | | 0.374 |
| 119 | 9.92 | 0.73 | 0.413 | | 0.038 | ( 0.041) | | 0.374 |
| 120 | 10.00 | 0.73 | 0.413 | | 0.038 | ( 0.041) | | 0.375 |
| 121 | 10.08 | 0.50 | 0.281 | ( | 0.038) | 0.028 | | 0.253 |
| 122 | 10.17 | 0.50 | 0.281 | ( | 0.038) | 0.028 | | 0.253 |
| 123 | 10.25 | 0.50 | 0.281 | ( | 0.037) | 0.028 | | 0.253 |
| 124 | 10.33 | 0.50 | 0.281 | ( | 0.037) | 0.028 | | 0.253 |
| 125 | 10.42 | 0.50 | 0.281 | ( | 0.037) | 0.028 | | 0.253 |
| 126 | 10.50 | 0.50 | 0.281 | ( | 0.037) | 0.028 | | 0.253 |
| 127 | 10.58 | 0.67 | 0.375 | | 0.037 | ( 0.038) | | 0.338 |
| 128 | 10.67 | 0.67 | 0.375 | | 0.037 | ( 0.038) | | 0.339 |
| 129 | 10.75 | 0.67 | 0.375 | | 0.036 | ( 0.038) | | 0.339 |
| 130 | 10.83 | 0.67 | 0.375 | | 0.036 | ( 0.038) | | 0.339 |
| 131 | 10.92 | 0.67 | 0.375 | | 0.036 | ( 0.038) | | 0.339 |
| 132 | 11.00 | 0.67 | 0.375 | | 0.036 | ( 0.038) | | 0.339 |
| 133 | 11.08 | 0.63 | 0.356 | ( | 0.036) | 0.036 | | 0.321 |
| 134 | 11.17 | 0.63 | 0.356 | | 0.035 | ( 0.036) | | 0.321 |
| 135 | 11.25 | 0.63 | 0.356 | | 0.035 | ( 0.036) | | 0.321 |
| 136 | 11.33 | 0.63 | 0.356 | | 0.035 | ( 0.036) | | 0.321 |
| 137 | 11.42 | 0.63 | 0.356 | | 0.035 | ( 0.036) | | 0.321 |
| 138 | 11.50 | 0.63 | 0.356 | | 0.035 | ( 0.036) | | 0.322 |
| 139 | 11.58 | 0.57 | 0.319 | ( | 0.035) | 0.032 | | 0.287 |
| 140 | 11.67 | 0.57 | 0.319 | ( | 0.034) | 0.032 | | 0.287 |
| 141 | 11.75 | 0.57 | 0.319 | ( | 0.034) | 0.032 | | 0.287 |
| 142 | 11.83 | 0.60 | 0.338 | ( | 0.034) | 0.034 | | 0.304 |
| 143 | 11.92 | 0.60 | 0.338 | ( | 0.034) | 0.034 | | 0.304 |
| 144 | 12.00 | 0.60 | 0.338 | ( | 0.034) | 0.034 | | 0.304 |
| 145 | 12.08 | 0.83 | 0.469 | | 0.034 | ( 0.047) | | 0.435 |

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|---|---|---|---|---|---|---|
| 146 | 12.17 | 0.83 | 0.469 | 0.033 | ( 0.047) | 0.436 |
| 147 | 12.25 | 0.83 | 0.469 | 0.033 | ( 0.047) | 0.436 |
| 148 | 12.33 | 0.87 | 0.488 | 0.033 | ( 0.049) | 0.455 |
| 149 | 12.42 | 0.87 | 0.488 | 0.033 | ( 0.049) | 0.455 |
| 150 | 12.50 | 0.87 | 0.488 | 0.033 | ( 0.049) | 0.455 |
| 151 | 12.58 | 0.93 | 0.525 | 0.033 | ( 0.053) | 0.493 |
| 152 | 12.67 | 0.93 | 0.525 | 0.032 | ( 0.053) | 0.493 |
| 153 | 12.75 | 0.93 | 0.525 | 0.032 | ( 0.053) | 0.493 |
| 154 | 12.83 | 0.97 | 0.544 | 0.032 | ( 0.054) | 0.512 |
| 155 | 12.92 | 0.97 | 0.544 | 0.032 | ( 0.054) | 0.512 |
| 156 | 13.00 | 0.97 | 0.544 | 0.032 | ( 0.054) | 0.512 |
| 157 | 13.08 | 1.13 | 0.638 | 0.032 | ( 0.064) | 0.606 |
| 158 | 13.17 | 1.13 | 0.638 | 0.031 | ( 0.064) | 0.606 |
| 159 | 13.25 | 1.13 | 0.638 | 0.031 | ( 0.064) | 0.606 |
| 160 | 13.33 | 1.13 | 0.638 | 0.031 | ( 0.064) | 0.607 |
| 161 | 13.42 | 1.13 | 0.638 | 0.031 | ( 0.064) | 0.607 |
| 162 | 13.50 | 1.13 | 0.638 | 0.031 | ( 0.064) | 0.607 |
| 163 | 13.58 | 0.77 | 0.431 | 0.031 | ( 0.043) | 0.401 |
| 164 | 13.67 | 0.77 | 0.431 | 0.031 | ( 0.043) | 0.401 |
| 165 | 13.75 | 0.77 | 0.431 | 0.030 | ( 0.043) | 0.401 |
| 166 | 13.83 | 0.77 | 0.431 | 0.030 | ( 0.043) | 0.401 |
| 167 | 13.92 | 0.77 | 0.431 | 0.030 | ( 0.043) | 0.401 |
| 168 | 14.00 | 0.77 | 0.431 | 0.030 | ( 0.043) | 0.402 |
| 169 | 14.08 | 0.90 | 0.506 | 0.030 | ( 0.051) | 0.477 |
| 170 | 14.17 | 0.90 | 0.506 | 0.030 | ( 0.051) | 0.477 |
| 171 | 14.25 | 0.90 | 0.506 | 0.029 | ( 0.051) | 0.477 |
| 172 | 14.33 | 0.87 | 0.488 | 0.029 | ( 0.049) | 0.458 |
| 173 | 14.42 | 0.87 | 0.488 | 0.029 | ( 0.049) | 0.459 |
| 174 | 14.50 | 0.87 | 0.488 | 0.029 | ( 0.049) | 0.459 |
| 175 | 14.58 | 0.87 | 0.488 | 0.029 | ( 0.049) | 0.459 |
| 176 | 14.67 | 0.87 | 0.488 | 0.029 | ( 0.049) | 0.459 |
| 177 | 14.75 | 0.87 | 0.488 | 0.029 | ( 0.049) | 0.459 |
| 178 | 14.83 | 0.83 | 0.469 | 0.028 | ( 0.047) | 0.441 |
| 179 | 14.92 | 0.83 | 0.469 | 0.028 | ( 0.047) | 0.441 |
| 180 | 15.00 | 0.83 | 0.469 | 0.028 | ( 0.047) | 0.441 |
| 181 | 15.08 | 0.80 | 0.450 | 0.028 | ( 0.045) | 0.422 |
| 182 | 15.17 | 0.80 | 0.450 | 0.028 | ( 0.045) | 0.422 |
| 183 | 15.25 | 0.80 | 0.450 | 0.028 | ( 0.045) | 0.423 |
| 184 | 15.33 | 0.77 | 0.431 | 0.028 | ( 0.043) | 0.404 |
| 185 | 15.42 | 0.77 | 0.431 | 0.027 | ( 0.043) | 0.404 |
| 186 | 15.50 | 0.77 | 0.431 | 0.027 | ( 0.043) | 0.404 |
| 187 | 15.58 | 0.63 | 0.356 | 0.027 | ( 0.036) | 0.329 |
| 188 | 15.67 | 0.63 | 0.356 | 0.027 | ( 0.036) | 0.329 |
| 189 | 15.75 | 0.63 | 0.356 | 0.027 | ( 0.036) | 0.330 |
| 190 | 15.83 | 0.63 | 0.356 | 0.027 | ( 0.036) | 0.330 |
| 191 | 15.92 | 0.63 | 0.356 | 0.027 | ( 0.036) | 0.330 |
| 192 | 16.00 | 0.63 | 0.356 | 0.026 | ( 0.036) | 0.330 |
| 193 | 16.08 | 0.13 | 0.075 | ( 0.026) | 0.008 | 0.068 |
| 194 | 16.17 | 0.13 | 0.075 | ( 0.026) | 0.008 | 0.068 |
| 195 | 16.25 | 0.13 | 0.075 | ( 0.026) | 0.008 | 0.068 |
| 196 | 16.33 | 0.13 | 0.075 | ( 0.026) | 0.008 | 0.068 |
| 197 | 16.42 | 0.13 | 0.075 | ( 0.026) | 0.008 | 0.068 |
| 198 | 16.50 | 0.13 | 0.075 | ( 0.026) | 0.008 | 0.068 |
| 199 | 16.58 | 0.10 | 0.056 | ( 0.026) | 0.006 | 0.051 |
| 200 | 16.67 | 0.10 | 0.056 | ( 0.025) | 0.006 | 0.051 |
| 201 | 16.75 | 0.10 | 0.056 | ( 0.025) | 0.006 | 0.051 |
| 202 | 16.83 | 0.10 | 0.056 | ( 0.025) | 0.006 | 0.051 |
| 203 | 16.92 | 0.10 | 0.056 | ( 0.025) | 0.006 | 0.051 |
| 204 | 17.00 | 0.10 | 0.056 | ( 0.025) | 0.006 | 0.051 |
| 205 | 17.08 | 0.17 | 0.094 | ( 0.025) | 0.009 | 0.084 |
| 206 | 17.17 | 0.17 | 0.094 | ( 0.025) | 0.009 | 0.084 |
| 207 | 17.25 | 0.17 | 0.094 | ( 0.024) | 0.009 | 0.084 |
| 208 | 17.33 | 0.17 | 0.094 | ( 0.024) | 0.009 | 0.084 |
| 209 | 17.42 | 0.17 | 0.094 | ( 0.024) | 0.009 | 0.084 |
| 210 | 17.50 | 0.17 | 0.094 | ( 0.024) | 0.009 | 0.084 |
| 211 | 17.58 | 0.17 | 0.094 | ( 0.024) | 0.009 | 0.084 |
| 212 | 17.67 | 0.17 | 0.094 | ( 0.024) | 0.009 | 0.084 |
| 213 | 17.75 | 0.17 | 0.094 | ( 0.024) | 0.009 | 0.084 |
| 214 | 17.83 | 0.13 | 0.075 | ( 0.024) | 0.008 | 0.068 |
| 215 | 17.92 | 0.13 | 0.075 | ( 0.024) | 0.008 | 0.068 |
| 216 | 18.00 | 0.13 | 0.075 | ( 0.023) | 0.008 | 0.068 |
| 217 | 18.08 | 0.13 | 0.075 | ( 0.023) | 0.008 | 0.068 |
| 218 | 18.17 | 0.13 | 0.075 | ( 0.023) | 0.008 | 0.068 |
| 219 | 18.25 | 0.13 | 0.075 | ( 0.023) | 0.008 | 0.068 |
| 220 | 18.33 | 0.13 | 0.075 | ( 0.023) | 0.008 | 0.068 |
| 221 | 18.42 | 0.13 | 0.075 | ( 0.023) | 0.008 | 0.068 |
| 222 | 18.50 | 0.13 | 0.075 | ( 0.023) | 0.008 | 0.068 |
| 223 | 18.58 | 0.10 | 0.056 | ( 0.023) | 0.006 | 0.051 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 224 | 18.67 | 0.10 | 0.056 | ( 0.023) | 0.006 | 0.051 |
| 225 | 18.75 | 0.10 | 0.056 | ( 0.022) | 0.006 | 0.051 |
| 226 | 18.83 | 0.07 | 0.038 | ( 0.022) | 0.004 | 0.034 |
| 227 | 18.92 | 0.07 | 0.038 | ( 0.022) | 0.004 | 0.034 |
| 228 | 19.00 | 0.07 | 0.038 | ( 0.022) | 0.004 | 0.034 |
| 229 | 19.08 | 0.10 | 0.056 | ( 0.022) | 0.006 | 0.051 |
| 230 | 19.17 | 0.10 | 0.056 | ( 0.022) | 0.006 | 0.051 |
| 231 | 19.25 | 0.10 | 0.056 | ( 0.022) | 0.006 | 0.051 |
| 232 | 19.33 | 0.13 | 0.075 | ( 0.022) | 0.008 | 0.068 |
| 233 | 19.42 | 0.13 | 0.075 | ( 0.022) | 0.008 | 0.068 |
| 234 | 19.50 | 0.13 | 0.075 | ( 0.021) | 0.008 | 0.068 |
| 235 | 19.58 | 0.10 | 0.056 | ( 0.021) | 0.006 | 0.051 |
| 236 | 19.67 | 0.10 | 0.056 | ( 0.021) | 0.006 | 0.051 |
| 237 | 19.75 | 0.10 | 0.056 | ( 0.021) | 0.006 | 0.051 |
| 238 | 19.83 | 0.07 | 0.038 | ( 0.021) | 0.004 | 0.034 |
| 239 | 19.92 | 0.07 | 0.038 | ( 0.021) | 0.004 | 0.034 |
| 240 | 20.00 | 0.07 | 0.038 | ( 0.021) | 0.004 | 0.034 |
| 241 | 20.08 | 0.10 | 0.056 | ( 0.021) | 0.006 | 0.051 |
| 242 | 20.17 | 0.10 | 0.056 | ( 0.021) | 0.006 | 0.051 |
| 243 | 20.25 | 0.10 | 0.056 | ( 0.021) | 0.006 | 0.051 |
| 244 | 20.33 | 0.10 | 0.056 | ( 0.021) | 0.006 | 0.051 |
| 245 | 20.42 | 0.10 | 0.056 | ( 0.020) | 0.006 | 0.051 |
| 246 | 20.50 | 0.10 | 0.056 | ( 0.020) | 0.006 | 0.051 |
| 247 | 20.58 | 0.10 | 0.056 | ( 0.020) | 0.006 | 0.051 |
| 248 | 20.67 | 0.10 | 0.056 | ( 0.020) | 0.006 | 0.051 |
| 249 | 20.75 | 0.10 | 0.056 | ( 0.020) | 0.006 | 0.051 |
| 250 | 20.83 | 0.07 | 0.038 | ( 0.020) | 0.004 | 0.034 |
| 251 | 20.92 | 0.07 | 0.038 | ( 0.020) | 0.004 | 0.034 |
| 252 | 21.00 | 0.07 | 0.038 | ( 0.020) | 0.004 | 0.034 |
| 253 | 21.08 | 0.10 | 0.056 | ( 0.020) | 0.006 | 0.051 |
| 254 | 21.17 | 0.10 | 0.056 | ( 0.020) | 0.006 | 0.051 |
| 255 | 21.25 | 0.10 | 0.056 | ( 0.020) | 0.006 | 0.051 |
| 256 | 21.33 | 0.07 | 0.038 | ( 0.020) | 0.004 | 0.034 |
| 257 | 21.42 | 0.07 | 0.038 | ( 0.019) | 0.004 | 0.034 |
| 258 | 21.50 | 0.07 | 0.038 | ( 0.019) | 0.004 | 0.034 |
| 259 | 21.58 | 0.10 | 0.056 | ( 0.019) | 0.006 | 0.051 |
| 260 | 21.67 | 0.10 | 0.056 | ( 0.019) | 0.006 | 0.051 |
| 261 | 21.75 | 0.10 | 0.056 | ( 0.019) | 0.006 | 0.051 |
| 262 | 21.83 | 0.07 | 0.038 | ( 0.019) | 0.004 | 0.034 |
| 263 | 21.92 | 0.07 | 0.038 | ( 0.019) | 0.004 | 0.034 |
| 264 | 22.00 | 0.07 | 0.038 | ( 0.019) | 0.004 | 0.034 |
| 265 | 22.08 | 0.10 | 0.056 | ( 0.019) | 0.006 | 0.051 |
| 266 | 22.17 | 0.10 | 0.056 | ( 0.019) | 0.006 | 0.051 |
| 267 | 22.25 | 0.10 | 0.056 | ( 0.019) | 0.006 | 0.051 |
| 268 | 22.33 | 0.07 | 0.038 | ( 0.019) | 0.004 | 0.034 |
| 269 | 22.42 | 0.07 | 0.038 | ( 0.019) | 0.004 | 0.034 |
| 270 | 22.50 | 0.07 | 0.038 | ( 0.019) | 0.004 | 0.034 |
| 271 | 22.58 | 0.07 | 0.038 | ( 0.019) | 0.004 | 0.034 |
| 272 | 22.67 | 0.07 | 0.038 | ( 0.019) | 0.004 | 0.034 |
| 273 | 22.75 | 0.07 | 0.038 | ( 0.018) | 0.004 | 0.034 |
| 274 | 22.83 | 0.07 | 0.038 | ( 0.018) | 0.004 | 0.034 |
| 275 | 22.92 | 0.07 | 0.038 | ( 0.018) | 0.004 | 0.034 |
| 276 | 23.00 | 0.07 | 0.038 | ( 0.018) | 0.004 | 0.034 |
| 277 | 23.08 | 0.07 | 0.038 | ( 0.018) | 0.004 | 0.034 |
| 278 | 23.17 | 0.07 | 0.038 | ( 0.018) | 0.004 | 0.034 |
| 279 | 23.25 | 0.07 | 0.038 | ( 0.018) | 0.004 | 0.034 |
| 280 | 23.33 | 0.07 | 0.038 | ( 0.018) | 0.004 | 0.034 |
| 281 | 23.42 | 0.07 | 0.038 | ( 0.018) | 0.004 | 0.034 |
| 282 | 23.50 | 0.07 | 0.038 | ( 0.018) | 0.004 | 0.034 |
| 283 | 23.58 | 0.07 | 0.038 | ( 0.018) | 0.004 | 0.034 |
| 284 | 23.67 | 0.07 | 0.038 | ( 0.018) | 0.004 | 0.034 |
| 285 | 23.75 | 0.07 | 0.038 | ( 0.018) | 0.004 | 0.034 |
| 286 | 23.83 | 0.07 | 0.038 | ( 0.018) | 0.004 | 0.034 |
| 287 | 23.92 | 0.07 | 0.038 | ( 0.018) | 0.004 | 0.034 |
| 288 | 24.00 | 0.07 | 0.038 | ( 0.018) | 0.004 | 0.034 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 51.5

Flood volume = Effective rainfall 4.30(In)
times area 31.0(Ac.)/[(In)/(Ft.)] = 11.1(Ac.Ft)
Total soil loss = 0.39(In)
Total soil loss = 1.018(Ac.Ft)
Total rainfall = 4.69(In)
Flood volume = 483391.9 Cubic Feet
Total soil loss = 44341.9 Cubic Feet

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Peak flow rate of this hydrograph = 18.925(CFS)

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TOTAL OF: 5 24 - H O U R S T O R M E V E N T S

R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 5.0 | 10.0 | 15.0 | 20.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0001 | 0.01 | Q | | | | |
| 0+10 | 0.0005 | 0.06 | Q | | | | |
| 0+15 | 0.0011 | 0.09 | Q | | | | |
| 0+20 | 0.0018 | 0.10 | Q | | | | |
| 0+25 | 0.0028 | 0.13 | Q | | | | |
| 0+30 | 0.0038 | 0.15 | Q | | | | |
| 0+35 | 0.0048 | 0.15 | Q | | | | |
| 0+40 | 0.0059 | 0.16 | Q | | | | |
| 0+45 | 0.0070 | 0.16 | Q | | | | |
| 0+50 | 0.0081 | 0.16 | Q | | | | |
| 0+55 | 0.0094 | 0.19 | Q | | | | |
| 1+ 0 | 0.0108 | 0.20 | Q | | | | |
| 1+ 5 | 0.0122 | 0.20 | Q | | | | |
| 1+10 | 0.0135 | 0.18 | Q | | | | |
| 1+15 | 0.0146 | 0.17 | Q | | | | |
| 1+20 | 0.0157 | 0.16 | Q | | | | |
| 1+25 | 0.0168 | 0.16 | Q | | | | |
| 1+30 | 0.0179 | 0.16 | Q | | | | |
| 1+35 | 0.0190 | 0.16 | Q | | | | |
| 1+40 | 0.0201 | 0.16 | Q | | | | |
| 1+45 | 0.0212 | 0.16 | Q | | | | |
| 1+50 | 0.0223 | 0.16 | Q | | | | |
| 1+55 | 0.0236 | 0.19 | Q | | | | |
| 2+ 0 | 0.0250 | 0.20 | Q | | | | |
| 2+ 5 | 0.0264 | 0.21 | Q | | | | |
| 2+10 | 0.0279 | 0.21 | Q | | | | |
| 2+15 | 0.0293 | 0.21 | Q | | | | |
| 2+20 | 0.0308 | 0.21 | Q | | | | |
| 2+25 | 0.0322 | 0.21 | Q | | | | |
| 2+30 | 0.0337 | 0.21 | Q | | | | |
| 2+35 | 0.0352 | 0.22 | Q | | | | |
| 2+40 | 0.0369 | 0.24 | Q | | | | |
| 2+45 | 0.0386 | 0.26 | Q | | | | |
| 2+50 | 0.0404 | 0.26 | Q | | | | |
| 2+55 | 0.0422 | 0.26 | Q | | | | |
| 3+ 0 | 0.0440 | 0.26 | Q | | | | |
| 3+ 5 | 0.0458 | 0.26 | Q | | | | |
| 3+10 | 0.0477 | 0.26 | Q | | | | |
| 3+15 | 0.0495 | 0.26 | Q | | | | |
| 3+20 | 0.0513 | 0.26 | Q | | | | |
| 3+25 | 0.0531 | 0.26 | Q | | | | |
| 3+30 | 0.0549 | 0.26 | Q | | | | |
| 3+35 | 0.0567 | 0.26 | Q | | | | |
| 3+40 | 0.0586 | 0.26 | Q | | | | |
| 3+45 | 0.0604 | 0.26 | Q | | | | |
| 3+50 | 0.0622 | 0.27 | Q | | | | |
| 3+55 | 0.0643 | 0.30 | Q | | | | |
| 4+ 0 | 0.0664 | 0.31 | Q | | | | |
| 4+ 5 | 0.0686 | 0.31 | Q | | | | |
| 4+10 | 0.0707 | 0.32 | Q | | | | |
| 4+15 | 0.0729 | 0.32 | Q | | | | |
| 4+20 | 0.0751 | 0.32 | Q | | | | |
| 4+25 | 0.0775 | 0.35 | Q | | | | |
| 4+30 | 0.0800 | 0.36 | Q | | | | |
| 4+35 | 0.0825 | 0.37 | Q | | | | |
| 4+40 | 0.0851 | 0.37 | Q | | | | |
| 4+45 | 0.0876 | 0.37 | Q | | | | |
| 4+50 | 0.0902 | 0.37 | Q | | | | |
| 4+55 | 0.0929 | 0.40 | Q | | | | |
| 5+ 0 | 0.0958 | 0.41 | Q | | | | |
| 5+ 5 | 0.0986 | 0.41 | Q | | | | |
| 5+10 | 0.1010 | 0.36 | Q | | | | |
| 5+15 | 0.1033 | 0.33 | Q | | | | |
| 5+20 | 0.1056 | 0.33 | Q | | | | |
| 5+25 | 0.1080 | 0.35 | Q | | | | |
| 5+30 | 0.1105 | 0.36 | Q | | | | |
| 5+35 | 0.1131 | 0.37 | Q | | | | |
| 5+40 | 0.1158 | 0.40 | Q | | | | |
| 5+45 | 0.1187 | 0.41 | Q | | | | |
| 5+50 | 0.1216 | 0.42 | Q | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 5+55 | 0.1245 | 0.42 | Q | | | | |
| 6+ 0 | 0.1274 | 0.42 | Q | | | | |
| 6+ 5 | 0.1303 | 0.43 | Q | | | | |
| 6+10 | 0.1334 | 0.45 | Q | | | | |
| 6+15 | 0.1366 | 0.47 | Q | | | | |
| 6+20 | 0.1399 | 0.47 | Q | | | | |
| 6+25 | 0.1432 | 0.47 | Q | | | | |
| 6+30 | 0.1464 | 0.47 | Q | | | | |
| 6+35 | 0.1497 | 0.48 | Q | | | | |
| 6+40 | 0.1532 | 0.51 | VQ | | | | |
| 6+45 | 0.1568 | 0.52 | VQ | | | | |
| 6+50 | 0.1604 | 0.52 | VQ | | | | |
| 6+55 | 0.1640 | 0.53 | VQ | | | | |
| 7+ 0 | 0.1677 | 0.53 | VQ | | | | |
| 7+ 5 | 0.1713 | 0.53 | VQ | | | | |
| 7+10 | 0.1749 | 0.53 | VQ | | | | |
| 7+15 | 0.1786 | 0.53 | VQ | | | | |
| 7+20 | 0.1822 | 0.53 | VQ | | | | |
| 7+25 | 0.1861 | 0.56 | VQ | | | | |
| 7+30 | 0.1900 | 0.57 | VQ | | | | |
| 7+35 | 0.1940 | 0.58 | VQ | | | | |
| 7+40 | 0.1982 | 0.61 | VQ | | | | |
| 7+45 | 0.2025 | 0.62 | VQ | | | | |
| 7+50 | 0.2069 | 0.63 | VQ | | | | |
| 7+55 | 0.2115 | 0.66 | VQ | | | | |
| 8+ 0 | 0.2161 | 0.68 | VQ | | | | |
| 8+ 5 | 0.2209 | 0.69 | VQ | | | | |
| 8+10 | 0.2261 | 0.75 | VQ | | | | |
| 8+15 | 0.2314 | 0.77 | VQ | | | | |
| 8+20 | 0.2368 | 0.78 | VQ | | | | |
| 8+25 | 0.2422 | 0.79 | VQ | | | | |
| 8+30 | 0.2477 | 0.79 | VQ | | | | |
| 8+35 | 0.2532 | 0.80 | VQ | | | | |
| 8+40 | 0.2588 | 0.82 | VQ | | | | |
| 8+45 | 0.2646 | 0.84 | VQ | | | | |
| 8+50 | 0.2704 | 0.85 | VQ | | | | |
| 8+55 | 0.2764 | 0.88 | VQ | | | | |
| 9+ 0 | 0.2825 | 0.89 | VQ | | | | |
| 9+ 5 | 0.2888 | 0.90 | VQ | | | | |
| 9+10 | 0.2954 | 0.96 | VQ | | | | |
| 9+15 | 0.3022 | 0.98 | VQ | | | | |
| 9+20 | 0.3091 | 1.00 | V Q | | | | |
| 9+25 | 0.3162 | 1.03 | V Q | | | | |
| 9+30 | 0.3234 | 1.05 | V Q | | | | |
| 9+35 | 0.3306 | 1.06 | V Q | | | | |
| 9+40 | 0.3381 | 1.09 | V Q | | | | |
| 9+45 | 0.3457 | 1.10 | V Q | | | | |
| 9+50 | 0.3533 | 1.11 | V Q | | | | |
| 9+55 | 0.3612 | 1.14 | V Q | | | | |
| 10+ 0 | 0.3691 | 1.15 | V Q | | | | |
| 10+ 5 | 0.3768 | 1.12 | V Q | | | | |
| 10+10 | 0.3832 | 0.93 | VQ | | | | |
| 10+15 | 0.3891 | 0.85 | VQ | | | | |
| 10+20 | 0.3947 | 0.82 | VQ | | | | |
| 10+25 | 0.4003 | 0.80 | VQ | | | | |
| 10+30 | 0.4057 | 0.80 | VQ | | | | |
| 10+35 | 0.4114 | 0.82 | VQ | | | | |
| 10+40 | 0.4180 | 0.95 | VQ | | | | |
| 10+45 | 0.4249 | 1.01 | V Q | | | | |
| 10+50 | 0.4321 | 1.04 | V Q | | | | |
| 10+55 | 0.4393 | 1.05 | V Q | | | | |
| 11+ 0 | 0.4465 | 1.05 | V Q | | | | |
| 11+ 5 | 0.4538 | 1.05 | V Q | | | | |
| 11+10 | 0.4608 | 1.02 | V Q | | | | |
| 11+15 | 0.4678 | 1.01 | V Q | | | | |
| 11+20 | 0.4747 | 1.01 | V Q | | | | |
| 11+25 | 0.4816 | 1.00 | V Q | | | | |
| 11+30 | 0.4885 | 1.00 | V Q | | | | |
| 11+35 | 0.4954 | 0.99 | \|Q | | | | |
| 11+40 | 0.5018 | 0.94 | \|Q | | | | |
| 11+45 | 0.5081 | 0.91 | \|Q | | | | |
| 11+50 | 0.5144 | 0.91 | \|Q | | | | |
| 11+55 | 0.5208 | 0.93 | \|Q | | | | |
| 12+ 0 | 0.5273 | 0.94 | \|Q | | | | |
| 12+ 5 | 0.5341 | 0.98 | \|Q | | | | |
| 12+10 | 0.5422 | 1.17 | \|VQ | | | | |
| 12+15 | 0.5508 | 1.26 | \|VQ | | | | |
| 12+20 | 0.5598 | 1.30 | \|VQ | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12+25 | 0.5690 | 1.34 | \|VQ | \| | \| | \| | \| |
| 12+30 | 0.5784 | 1.36 | \|VQ | \| | \| | \| | \| |
| 12+35 | 0.5878 | 1.38 | \|VQ | \| | \| | \| | \| |
| 12+40 | 0.5977 | 1.43 | \|VQ | \| | \| | \| | \| |
| 12+45 | 0.6078 | 1.46 | \|VQ | \| | \| | \| | \| |
| 12+50 | 0.6179 | 1.48 | \|VQ | \| | \| | \| | \| |
| 12+55 | 0.6283 | 1.51 | \|V Q | \| | \| | \| | \| |
| 13+ 0 | 0.6388 | 1.52 | \|V Q | \| | \| | \| | \| |
| 13+ 5 | 0.6495 | 1.55 | \|V Q | \| | \| | \| | \| |
| 13+10 | 0.6611 | 1.69 | \|V Q | \| | \| | \| | \| |
| 13+15 | 0.6732 | 1.75 | \|V Q | \| | \| | \| | \| |
| 13+20 | 0.6854 | 1.78 | \|V Q | \| | \| | \| | \| |
| 13+25 | 0.6977 | 1.79 | \|V Q | \| | \| | \| | \| |
| 13+30 | 0.7100 | 1.79 | \|V Q | \| | \| | \| | \| |
| 13+35 | 0.7220 | 1.73 | \|V Q | \| | \| | \| | \| |
| 13+40 | 0.7319 | 1.44 | \|VQ | \| | \| | \| | \| |
| 13+45 | 0.7409 | 1.31 | \|VQ | \| | \| | \| | \| |
| 13+50 | 0.7495 | 1.25 | \|VQ | \| | \| | \| | \| |
| 13+55 | 0.7580 | 1.23 | \|VQ | \| | \| | \| | \| |
| 14+ 0 | 0.7664 | 1.22 | \|VQ | \| | \| | \| | \| |
| 14+ 5 | 0.7750 | 1.24 | \|VQ | \| | \| | \| | \| |
| 14+10 | 0.7842 | 1.34 | \|VQ | \| | \| | \| | \| |
| 14+15 | 0.7938 | 1.39 | \|VQ | \| | \| | \| | \| |
| 14+20 | 0.8035 | 1.40 | \|VQ | \| | \| | \| | \| |
| 14+25 | 0.8130 | 1.39 | \|VQ | \| | \| | \| | \| |
| 14+30 | 0.8225 | 1.38 | \|VQ | \| | \| | \| | \| |
| 14+35 | 0.8320 | 1.37 | \|VQ | \| | \| | \| | \| |
| 14+40 | 0.8414 | 1.37 | \|VQ | \| | \| | \| | \| |
| 14+45 | 0.8509 | 1.37 | \|VQ | \| | \| | \| | \| |
| 14+50 | 0.8603 | 1.37 | \|VQ | \| | \| | \| | \| |
| 14+55 | 0.8695 | 1.34 | \|VQ | \| | \| | \| | \| |
| 15+ 0 | 0.8787 | 1.33 | \|VQ | \| | \| | \| | \| |
| 15+ 5 | 0.8877 | 1.32 | \|VQ | \| | \| | \| | \| |
| 15+10 | 0.8966 | 1.29 | \|VQ | \| | \| | \| | \| |
| 15+15 | 0.9054 | 1.28 | \|VQ | \| | \| | \| | \| |
| 15+20 | 0.9141 | 1.27 | \|VQ | \| | \| | \| | \| |
| 15+25 | 0.9226 | 1.24 | \|VQ | \| | \| | \| | \| |
| 15+30 | 0.9311 | 1.22 | \|VQ | \| | \| | \| | \| |
| 15+35 | 0.9393 | 1.20 | \|VQ | \| | \| | \| | \| |
| 15+40 | 0.9468 | 1.09 | \|VQ | \| | \| | \| | \| |
| 15+45 | 0.9539 | 1.04 | \|VQ | \| | \| | \| | \| |
| 15+50 | 0.9609 | 1.02 | \|VQ | \| | \| | \| | \| |
| 15+55 | 0.9679 | 1.01 | \|VQ | \| | \| | \| | \| |
| 16+ 0 | 0.9748 | 1.01 | \|VQ | \| | \| | \| | \| |
| 16+ 5 | 0.9812 | 0.92 | \|Q | \| | \| | \| | \| |
| 16+10 | 0.9848 | 0.52 | \|Q | \| | \| | \| | \| |
| 16+15 | 0.9871 | 0.34 | QV | \| | \| | \| | \| |
| 16+20 | 0.9889 | 0.27 | QV | \| | \| | \| | \| |
| 16+25 | 0.9905 | 0.23 | Q V | \| | \| | \| | \| |
| 16+30 | 0.9921 | 0.22 | Q V | \| | \| | \| | \| |
| 16+35 | 0.9935 | 0.21 | Q V | \| | \| | \| | \| |
| 16+40 | 0.9948 | 0.18 | Q V | \| | \| | \| | \| |
| 16+45 | 0.9959 | 0.17 | Q V | \| | \| | \| | \| |
| 16+50 | 0.9970 | 0.16 | Q V | \| | \| | \| | \| |
| 16+55 | 0.9981 | 0.16 | Q V | \| | \| | \| | \| |
| 17+ 0 | 0.9992 | 0.16 | Q V | \| | \| | \| | \| |
| 17+ 5 | 1.0004 | 0.17 | Q V | \| | \| | \| | \| |
| 17+10 | 1.0019 | 0.22 | Q V | \| | \| | \| | \| |
| 17+15 | 1.0036 | 0.25 | Q V | \| | \| | \| | \| |
| 17+20 | 1.0054 | 0.26 | Q V | \| | \| | \| | \| |
| 17+25 | 1.0072 | 0.26 | Q V | \| | \| | \| | \| |
| 17+30 | 1.0090 | 0.26 | Q V | \| | \| | \| | \| |
| 17+35 | 1.0108 | 0.26 | Q V | \| | \| | \| | \| |
| 17+40 | 1.0126 | 0.26 | Q V | \| | \| | \| | \| |
| 17+45 | 1.0144 | 0.26 | Q V | \| | \| | \| | \| |
| 17+50 | 1.0162 | 0.26 | Q V | \| | \| | \| | \| |
| 17+55 | 1.0178 | 0.23 | Q V | \| | \| | \| | \| |
| 18+ 0 | 1.0193 | 0.22 | Q V | \| | \| | \| | \| |
| 18+ 5 | 1.0208 | 0.21 | Q V | \| | \| | \| | \| |
| 18+10 | 1.0223 | 0.21 | Q V | \| | \| | \| | \| |
| 18+15 | 1.0237 | 0.21 | Q V | \| | \| | \| | \| |
| 18+20 | 1.0252 | 0.21 | Q V | \| | \| | \| | \| |
| 18+25 | 1.0266 | 0.21 | Q V | \| | \| | \| | \| |
| 18+30 | 1.0281 | 0.21 | Q V | \| | \| | \| | \| |
| 18+35 | 1.0295 | 0.21 | Q V | \| | \| | \| | \| |
| 18+40 | 1.0308 | 0.18 | Q V | \| | \| | \| | \| |
| 18+45 | 1.0319 | 0.17 | Q V | \| | \| | \| | \| |
| 18+50 | 1.0330 | 0.16 | Q V | \| | \| | \| | \| |

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|---|---|---|---|---|---|---|---|
| 18+55 | 1.0339 | 0.13 | Q | V | | | |
| 19+ 0 | 1.0347 | 0.11 | Q | V | | | |
| 19+ 5 | 1.0354 | 0.11 | Q | V | | | |
| 19+10 | 1.0364 | 0.14 | Q | V | | | |
| 19+15 | 1.0374 | 0.15 | Q | V | | | |
| 19+20 | 1.0385 | 0.16 | Q | V | | | |
| 19+25 | 1.0398 | 0.19 | Q | V | | | |
| 19+30 | 1.0412 | 0.20 | Q | V | | | |
| 19+35 | 1.0426 | 0.20 | Q | V | | | |
| 19+40 | 1.0438 | 0.18 | Q | V | | | |
| 19+45 | 1.0450 | 0.17 | Q | V | | | |
| 19+50 | 1.0461 | 0.16 | Q | V | | | |
| 19+55 | 1.0469 | 0.13 | Q | V | | | |
| 20+ 0 | 1.0477 | 0.11 | Q | V | | | |
| 20+ 5 | 1.0485 | 0.11 | Q | V | | | |
| 20+10 | 1.0495 | 0.14 | Q | V | | | |
| 20+15 | 1.0505 | 0.15 | Q | V | | | |
| 20+20 | 1.0516 | 0.15 | Q | V | | | |
| 20+25 | 1.0527 | 0.16 | Q | V | | | |
| 20+30 | 1.0538 | 0.16 | Q | V | | | |
| 20+35 | 1.0548 | 0.16 | Q | V | | | |
| 20+40 | 1.0559 | 0.16 | Q | V | | | |
| 20+45 | 1.0570 | 0.16 | Q | V | | | |
| 20+50 | 1.0581 | 0.15 | Q | V | | | |
| 20+55 | 1.0589 | 0.13 | Q | V | | | |
| 21+ 0 | 1.0597 | 0.11 | Q | V | | | |
| 21+ 5 | 1.0605 | 0.11 | Q | V | | | |
| 21+10 | 1.0615 | 0.14 | Q | V | | | |
| 21+15 | 1.0625 | 0.15 | Q | V | | | |
| 21+20 | 1.0635 | 0.15 | Q | V | | | |
| 21+25 | 1.0644 | 0.12 | Q | V | | | |
| 21+30 | 1.0652 | 0.11 | Q | V | | | |
| 21+35 | 1.0660 | 0.11 | Q | V | | | |
| 21+40 | 1.0669 | 0.14 | Q | V | | | |
| 21+45 | 1.0680 | 0.15 | Q | V | | | |
| 21+50 | 1.0690 | 0.15 | Q | V | | | |
| 21+55 | 1.0699 | 0.12 | Q | V | | | |
| 22+ 0 | 1.0706 | 0.11 | Q | V | | | |
| 22+ 5 | 1.0714 | 0.11 | Q | V | | | |
| 22+10 | 1.0724 | 0.14 | Q | V | | | |
| 22+15 | 1.0734 | 0.15 | Q | V | | | |
| 22+20 | 1.0745 | 0.15 | Q | V | | | |
| 22+25 | 1.0753 | 0.12 | Q | V | | | |
| 22+30 | 1.0761 | 0.11 | Q | V | | | |
| 22+35 | 1.0768 | 0.11 | Q | V | | | |
| 22+40 | 1.0776 | 0.11 | Q | V | | | |
| 22+45 | 1.0783 | 0.11 | Q | V | | | |
| 22+50 | 1.0790 | 0.11 | Q | V | | | |
| 22+55 | 1.0798 | 0.11 | Q | V | | | |
| 23+ 0 | 1.0805 | 0.11 | Q | V | | | |
| 23+ 5 | 1.0812 | 0.11 | Q | V | | | |
| 23+10 | 1.0819 | 0.11 | Q | V | | | |
| 23+15 | 1.0827 | 0.11 | Q | V | | | |
| 23+20 | 1.0834 | 0.11 | Q | V | | | |
| 23+25 | 1.0841 | 0.11 | Q | V | | | |
| 23+30 | 1.0849 | 0.11 | Q | V | | | |
| 23+35 | 1.0856 | 0.11 | Q | V | | | |
| 23+40 | 1.0863 | 0.11 | Q | V | | | |
| 23+45 | 1.0870 | 0.11 | Q | V | | | |
| 23+50 | 1.0878 | 0.11 | Q | V | | | |
| 23+55 | 1.0885 | 0.11 | Q | V | | | |
| 24+ 0 | 1.0892 | 0.11 | Q | V | | | |
| 24+ 5 | 1.0893 | 0.02 | Q | V | | | |
| 24+10 | 1.0900 | 0.10 | Q | V | | | |
| 24+15 | 1.0909 | 0.13 | Q | V | | | |
| 24+20 | 1.0920 | 0.16 | Q | V | | | |
| 24+25 | 1.0934 | 0.20 | Q | V | | | |
| 24+30 | 1.0949 | 0.22 | Q | V | | | |
| 24+35 | 1.0965 | 0.23 | Q | V | | | |
| 24+40 | 1.0981 | 0.24 | Q | V | | | |
| 24+45 | 1.0997 | 0.24 | Q | V | | | |
| 24+50 | 1.1014 | 0.24 | Q | V | | | |
| 24+55 | 1.1034 | 0.29 | Q | V | | | |
| 25+ 0 | 1.1055 | 0.30 | Q | V | | | |
| 25+ 5 | 1.1076 | 0.30 | Q | V | | | |
| 25+10 | 1.1094 | 0.27 | Q | V | | | |
| 25+15 | 1.1111 | 0.25 | Q | V | | | |
| 25+20 | 1.1128 | 0.24 | Q | V | | | |

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|---|---|---|---|---|---|---|---|
| 25+25 | 1.1144 | 0.24 | Q V | \| | \| | \| | \| |
| 25+30 | 1.1161 | 0.24 | Q V | \| | \| | \| | \| |
| 25+35 | 1.1177 | 0.24 | Q V | \| | \| | \| | \| |
| 25+40 | 1.1194 | 0.24 | Q V | \| | \| | \| | \| |
| 25+45 | 1.1210 | 0.24 | Q V | \| | \| | \| | \| |
| 25+50 | 1.1227 | 0.25 | Q V | \| | \| | \| | \| |
| 25+55 | 1.1246 | 0.29 | Q V | \| | \| | \| | \| |
| 26+ 0 | 1.1267 | 0.30 | Q V | \| | \| | \| | \| |
| 26+ 5 | 1.1289 | 0.31 | Q V | \| | \| | \| | \| |
| 26+10 | 1.1310 | 0.31 | Q V | \| | \| | \| | \| |
| 26+15 | 1.1332 | 0.32 | Q V | \| | \| | \| | \| |
| 26+20 | 1.1354 | 0.32 | Q V | \| | \| | \| | \| |
| 26+25 | 1.1376 | 0.32 | Q V | \| | \| | \| | \| |
| 26+30 | 1.1398 | 0.32 | Q V | \| | \| | \| | \| |
| 26+35 | 1.1420 | 0.32 | Q V | \| | \| | \| | \| |
| 26+40 | 1.1445 | 0.36 | Q V | \| | \| | \| | \| |
| 26+45 | 1.1471 | 0.38 | Q V | \| | \| | \| | \| |
| 26+50 | 1.1498 | 0.39 | Q V | \| | \| | \| | \| |
| 26+55 | 1.1525 | 0.39 | Q V | \| | \| | \| | \| |
| 27+ 0 | 1.1553 | 0.39 | Q V | \| | \| | \| | \| |
| 27+ 5 | 1.1580 | 0.40 | Q V | \| | \| | \| | \| |
| 27+10 | 1.1607 | 0.40 | Q V | \| | \| | \| | \| |
| 27+15 | 1.1634 | 0.40 | Q V | \| | \| | \| | \| |
| 27+20 | 1.1662 | 0.40 | Q V | \| | \| | \| | \| |
| 27+25 | 1.1689 | 0.40 | Q V | \| | \| | \| | \| |
| 27+30 | 1.1716 | 0.40 | Q V | \| | \| | \| | \| |
| 27+35 | 1.1743 | 0.40 | Q V | \| | \| | \| | \| |
| 27+40 | 1.1771 | 0.40 | Q V | \| | \| | \| | \| |
| 27+45 | 1.1798 | 0.40 | Q V | \| | \| | \| | \| |
| 27+50 | 1.1826 | 0.40 | Q V | \| | \| | \| | \| |
| 27+55 | 1.1856 | 0.44 | Q V | \| | \| | \| | \| |
| 28+ 0 | 1.1888 | 0.46 | Q V | \| | \| | \| | \| |
| 28+ 5 | 1.1920 | 0.47 | Q V | \| | \| | \| | \| |
| 28+10 | 1.1953 | 0.47 | Q V | \| | \| | \| | \| |
| 28+15 | 1.1986 | 0.47 | Q V | \| | \| | \| | \| |
| 28+20 | 1.2019 | 0.48 | Q V | \| | \| | \| | \| |
| 28+25 | 1.2055 | 0.52 | \|QV | \| | \| | \| | \| |
| 28+30 | 1.2092 | 0.54 | \|QV | \| | \| | \| | \| |
| 28+35 | 1.2130 | 0.55 | \|QV | \| | \| | \| | \| |
| 28+40 | 1.2168 | 0.55 | \|QV | \| | \| | \| | \| |
| 28+45 | 1.2206 | 0.55 | \|QV | \| | \| | \| | \| |
| 28+50 | 1.2245 | 0.56 | \|QV | \| | \| | \| | \| |
| 28+55 | 1.2286 | 0.60 | \|QV | \| | \| | \| | \| |
| 29+ 0 | 1.2329 | 0.62 | \|QV | \| | \| | \| | \| |
| 29+ 5 | 1.2371 | 0.61 | \|QV | \| | \| | \| | \| |
| 29+10 | 1.2408 | 0.53 | \|QV | \| | \| | \| | \| |
| 29+15 | 1.2442 | 0.50 | Q V | \| | \| | \| | \| |
| 29+20 | 1.2476 | 0.49 | Q V | \| | \| | \| | \| |
| 29+25 | 1.2513 | 0.53 | \|QV | \| | \| | \| | \| |
| 29+30 | 1.2550 | 0.54 | \|QV | \| | \| | \| | \| |
| 29+35 | 1.2588 | 0.56 | \|QV | \| | \| | \| | \| |
| 29+40 | 1.2630 | 0.60 | \|QV | \| | \| | \| | \| |
| 29+45 | 1.2672 | 0.62 | \|QV | \| | \| | \| | \| |
| 29+50 | 1.2716 | 0.63 | \|QV | \| | \| | \| | \| |
| 29+55 | 1.2759 | 0.63 | \|QV | \| | \| | \| | \| |
| 30+ 0 | 1.2803 | 0.63 | \|QV | \| | \| | \| | \| |
| 30+ 5 | 1.2847 | 0.64 | \|QV | \| | \| | \| | \| |
| 30+10 | 1.2894 | 0.68 | \|QV | \| | \| | \| | \| |
| 30+15 | 1.2942 | 0.70 | \|QV | \| | \| | \| | \| |
| 30+20 | 1.2991 | 0.71 | \|QV | \| | \| | \| | \| |
| 30+25 | 1.3039 | 0.71 | \|QV | \| | \| | \| | \| |
| 30+30 | 1.3088 | 0.71 | \|QV | \| | \| | \| | \| |
| 30+35 | 1.3138 | 0.72 | \|QV | \| | \| | \| | \| |
| 30+40 | 1.3190 | 0.76 | \|QV | \| | \| | \| | \| |
| 30+45 | 1.3244 | 0.78 | \|QV | \| | \| | \| | \| |
| 30+50 | 1.3298 | 0.79 | \|QV | \| | \| | \| | \| |
| 30+55 | 1.3353 | 0.79 | \|QV | \| | \| | \| | \| |
| 31+ 0 | 1.3407 | 0.79 | \|QV | \| | \| | \| | \| |
| 31+ 5 | 1.3461 | 0.79 | \|QV | \| | \| | \| | \| |
| 31+10 | 1.3516 | 0.79 | \|QV | \| | \| | \| | \| |
| 31+15 | 1.3570 | 0.79 | \|QV | \| | \| | \| | \| |
| 31+20 | 1.3626 | 0.80 | \|QV | \| | \| | \| | \| |
| 31+25 | 1.3683 | 0.84 | \|QV | \| | \| | \| | \| |
| 31+30 | 1.3742 | 0.86 | \|QV | \| | \| | \| | \| |
| 31+35 | 1.3803 | 0.87 | \|QV | \| | \| | \| | \| |
| 31+40 | 1.3866 | 0.92 | \|QV | \| | \| | \| | \| |
| 31+45 | 1.3930 | 0.94 | \|QV | \| | \| | \| | \| |
| 31+50 | 1.3996 | 0.95 | \|QV | \| | \| | \| | \| |

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|---|---|---|---|---|---|---|---|
| 31+55 | 1.4064 | 1.00 | QV | | | | |
| 32+ 0 | 1.4134 | 1.02 | Q | | | | |
| 32+ 5 | 1.4206 | 1.04 | Q | | | | |
| 32+10 | 1.4283 | 1.12 | Q | | | | |
| 32+15 | 1.4363 | 1.16 | Q | | | | |
| 32+20 | 1.4444 | 1.18 | Q | | | | |
| 32+25 | 1.4526 | 1.18 | Q | | | | |
| 32+30 | 1.4607 | 1.19 | Q | | | | |
| 32+35 | 1.4689 | 1.19 | Q | | | | |
| 32+40 | 1.4775 | 1.24 | Q | | | | |
| 32+45 | 1.4861 | 1.25 | QV | | | | |
| 32+50 | 1.4948 | 1.27 | QV | | | | |
| 32+55 | 1.5039 | 1.31 | QV | | | | |
| 33+ 0 | 1.5130 | 1.33 | QV | | | | |
| 33+ 5 | 1.5224 | 1.36 | QV | | | | |
| 33+10 | 1.5323 | 1.44 | QV | | | | |
| 33+15 | 1.5425 | 1.48 | QV | | | | |
| 33+20 | 1.5528 | 1.50 | Q | | | | |
| 33+25 | 1.5635 | 1.55 | Q | | | | |
| 33+30 | 1.5743 | 1.57 | Q | | | | |
| 33+35 | 1.5852 | 1.58 | Q | | | | |
| 33+40 | 1.5964 | 1.63 | Q | | | | |
| 33+45 | 1.6077 | 1.65 | Q | | | | |
| 33+50 | 1.6192 | 1.66 | Q | | | | |
| 33+55 | 1.6310 | 1.71 | Q | | | | |
| 34+ 0 | 1.6429 | 1.73 | Q | | | | |
| 34+ 5 | 1.6544 | 1.68 | Q | | | | |
| 34+10 | 1.6641 | 1.40 | QV | | | | |
| 34+15 | 1.6729 | 1.28 | QV | | | | |
| 34+20 | 1.6813 | 1.23 | QV | | | | |
| 34+25 | 1.6896 | 1.20 | QV | | | | |
| 34+30 | 1.6978 | 1.19 | QV | | | | |
| 34+35 | 1.7063 | 1.23 | QV | | | | |
| 34+40 | 1.7162 | 1.43 | QV | | | | |
| 34+45 | 1.7266 | 1.52 | Q | | | | |
| 34+50 | 1.7373 | 1.56 | Q | | | | |
| 34+55 | 1.7482 | 1.57 | Q | | | | |
| 35+ 0 | 1.7590 | 1.58 | Q | | | | |
| 35+ 5 | 1.7698 | 1.57 | Q | | | | |
| 35+10 | 1.7804 | 1.53 | Q | | | | |
| 35+15 | 1.7909 | 1.52 | Q | | | | |
| 35+20 | 1.8013 | 1.51 | Q | | | | |
| 35+25 | 1.8116 | 1.51 | Q | | | | |
| 35+30 | 1.8220 | 1.51 | Q | | | | |
| 35+35 | 1.8323 | 1.49 | QV | | | | |
| 35+40 | 1.8419 | 1.41 | QV | | | | |
| 35+45 | 1.8514 | 1.37 | QV | | | | |
| 35+50 | 1.8608 | 1.36 | QV | | | | |
| 35+55 | 1.8704 | 1.40 | QV | | | | |
| 36+ 0 | 1.8802 | 1.41 | QV | | | | |
| 36+ 5 | 1.8903 | 1.48 | QV | | | | |
| 36+10 | 1.9025 | 1.76 | Q | | | | |
| 36+15 | 1.9155 | 1.89 | Q | | | | |
| 36+20 | 1.9289 | 1.95 | Q | | | | |
| 36+25 | 1.9427 | 2.01 | VQ | | | | |
| 36+30 | 1.9568 | 2.04 | VQ | | | | |
| 36+35 | 1.9710 | 2.06 | VQ | | | | |
| 36+40 | 1.9858 | 2.15 | Q | | | | |
| 36+45 | 2.0009 | 2.19 | Q | | | | |
| 36+50 | 2.0161 | 2.21 | Q | | | | |
| 36+55 | 2.0317 | 2.26 | Q | | | | |
| 37+ 0 | 2.0474 | 2.28 | Q | | | | |
| 37+ 5 | 2.0634 | 2.33 | Q | | | | |
| 37+10 | 2.0809 | 2.53 | VQ | | | | |
| 37+15 | 2.0990 | 2.63 | VQ | | | | |
| 37+20 | 2.1173 | 2.66 | VQ | | | | |
| 37+25 | 2.1358 | 2.68 | VQ | | | | |
| 37+30 | 2.1543 | 2.69 | VQ | | | | |
| 37+35 | 2.1722 | 2.60 | VQ | | | | |
| 37+40 | 2.1871 | 2.16 | Q | | | | |
| 37+45 | 2.2006 | 1.96 | QV | | | | |
| 37+50 | 2.2135 | 1.88 | QV | | | | |
| 37+55 | 2.2262 | 1.84 | QV | | | | |
| 38+ 0 | 2.2389 | 1.83 | QV | | | | |
| 38+ 5 | 2.2517 | 1.86 | QV | | | | |
| 38+10 | 2.2655 | 2.02 | Q | | | | |
| 38+15 | 2.2799 | 2.09 | Q | | | | |
| 38+20 | 2.2944 | 2.11 | Q | | | | |

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|---|---|---|---|---|---|---|---|
| 38+25 | 2.3087 | 2.08 | \| Q | \| | \| | \| | \| |
| 38+30 | 2.3230 | 2.07 | \| Q | \| | \| | \| | \| |
| 38+35 | 2.3372 | 2.06 | \| Q | \| | \| | \| | \| |
| 38+40 | 2.3514 | 2.06 | \| Q | \| | \| | \| | \| |
| 38+45 | 2.3655 | 2.06 | \| Q | \| | \| | \| | \| |
| 38+50 | 2.3797 | 2.05 | \| Q | \| | \| | \| | \| |
| 38+55 | 2.3935 | 2.01 | \| Q | \| | \| | \| | \| |
| 39+ 0 | 2.4072 | 1.99 | \| QV | \| | \| | \| | \| |
| 39+ 5 | 2.4208 | 1.98 | \| QV | \| | \| | \| | \| |
| 39+10 | 2.4341 | 1.93 | \| QV | \| | \| | \| | \| |
| 39+15 | 2.4473 | 1.91 | \| QV | \| | \| | \| | \| |
| 39+20 | 2.4604 | 1.90 | \| QV | \| | \| | \| | \| |
| 39+25 | 2.4732 | 1.85 | \| QV | \| | \| | \| | \| |
| 39+30 | 2.4858 | 1.83 | \| Q V | \| | \| | \| | \| |
| 39+35 | 2.4982 | 1.80 | \| Q V | \| | \| | \| | \| |
| 39+40 | 2.5094 | 1.63 | \| Q V | \| | \| | \| | \| |
| 39+45 | 2.5201 | 1.56 | \| Q V | \| | \| | \| | \| |
| 39+50 | 2.5306 | 1.53 | \| Q V | \| | \| | \| | \| |
| 39+55 | 2.5410 | 1.51 | \| Q V | \| | \| | \| | \| |
| 40+ 0 | 2.5514 | 1.51 | \| Q V | \| | \| | \| | \| |
| 40+ 5 | 2.5610 | 1.39 | \| Q V | \| | \| | \| | \| |
| 40+10 | 2.5664 | 0.78 | \|Q V | \| | \| | \| | \| |
| 40+15 | 2.5699 | 0.51 | \|Q V | \| | \| | \| | \| |
| 40+20 | 2.5726 | 0.40 | Q V | \| | \| | \| | \| |
| 40+25 | 2.5750 | 0.35 | Q V | \| | \| | \| | \| |
| 40+30 | 2.5773 | 0.33 | Q V | \| | \| | \| | \| |
| 40+35 | 2.5795 | 0.32 | Q V | \| | \| | \| | \| |
| 40+40 | 2.5814 | 0.27 | Q V | \| | \| | \| | \| |
| 40+45 | 2.5831 | 0.25 | Q V | \| | \| | \| | \| |
| 40+50 | 2.5848 | 0.24 | Q V | \| | \| | \| | \| |
| 40+55 | 2.5864 | 0.24 | Q V | \| | \| | \| | \| |
| 41+ 0 | 2.5881 | 0.24 | Q V | \| | \| | \| | \| |
| 41+ 5 | 2.5898 | 0.25 | Q V | \| | \| | \| | \| |
| 41+10 | 2.5921 | 0.33 | Q V | \| | \| | \| | \| |
| 41+15 | 2.5947 | 0.37 | Q V | \| | \| | \| | \| |
| 41+20 | 2.5973 | 0.38 | Q V | \| | \| | \| | \| |
| 41+25 | 2.6000 | 0.39 | Q V | \| | \| | \| | \| |
| 41+30 | 2.6027 | 0.39 | Q V | \| | \| | \| | \| |
| 41+35 | 2.6054 | 0.39 | Q V | \| | \| | \| | \| |
| 41+40 | 2.6082 | 0.40 | Q V | \| | \| | \| | \| |
| 41+45 | 2.6109 | 0.40 | Q V | \| | \| | \| | \| |
| 41+50 | 2.6136 | 0.39 | Q V | \| | \| | \| | \| |
| 41+55 | 2.6160 | 0.35 | Q V | \| | \| | \| | \| |
| 42+ 0 | 2.6182 | 0.33 | Q V | \| | \| | \| | \| |
| 42+ 5 | 2.6204 | 0.32 | Q V | \| | \| | \| | \| |
| 42+10 | 2.6226 | 0.32 | Q V | \| | \| | \| | \| |
| 42+15 | 2.6248 | 0.32 | Q V | \| | \| | \| | \| |
| 42+20 | 2.6270 | 0.32 | Q V | \| | \| | \| | \| |
| 42+25 | 2.6292 | 0.32 | Q V | \| | \| | \| | \| |
| 42+30 | 2.6314 | 0.32 | Q V | \| | \| | \| | \| |
| 42+35 | 2.6335 | 0.31 | Q V | \| | \| | \| | \| |
| 42+40 | 2.6353 | 0.27 | Q V | \| | \| | \| | \| |
| 42+45 | 2.6371 | 0.25 | Q V | \| | \| | \| | \| |
| 42+50 | 2.6387 | 0.24 | Q V | \| | \| | \| | \| |
| 42+55 | 2.6400 | 0.19 | Q V | \| | \| | \| | \| |
| 43+ 0 | 2.6412 | 0.17 | Q V | \| | \| | \| | \| |
| 43+ 5 | 2.6424 | 0.17 | Q V | \| | \| | \| | \| |
| 43+10 | 2.6438 | 0.21 | Q V | \| | \| | \| | \| |
| 43+15 | 2.6454 | 0.23 | Q V | \| | \| | \| | \| |
| 43+20 | 2.6470 | 0.24 | Q V | \| | \| | \| | \| |
| 43+25 | 2.6490 | 0.28 | Q V | \| | \| | \| | \| |
| 43+30 | 2.6511 | 0.30 | Q V | \| | \| | \| | \| |
| 43+35 | 2.6532 | 0.30 | Q V | \| | \| | \| | \| |
| 43+40 | 2.6550 | 0.27 | Q V | \| | \| | \| | \| |
| 43+45 | 2.6567 | 0.25 | Q V | \| | \| | \| | \| |
| 43+50 | 2.6583 | 0.23 | Q V | \| | \| | \| | \| |
| 43+55 | 2.6596 | 0.19 | Q V | \| | \| | \| | \| |
| 44+ 0 | 2.6608 | 0.17 | Q V | \| | \| | \| | \| |
| 44+ 5 | 2.6620 | 0.17 | Q V | \| | \| | \| | \| |
| 44+10 | 2.6634 | 0.21 | Q V | \| | \| | \| | \| |
| 44+15 | 2.6650 | 0.23 | Q V | \| | \| | \| | \| |
| 44+20 | 2.6666 | 0.23 | Q V | \| | \| | \| | \| |
| 44+25 | 2.6682 | 0.24 | Q V | \| | \| | \| | \| |
| 44+30 | 2.6698 | 0.24 | Q V | \| | \| | \| | \| |
| 44+35 | 2.6715 | 0.24 | Q V | \| | \| | \| | \| |
| 44+40 | 2.6731 | 0.24 | Q V | \| | \| | \| | \| |
| 44+45 | 2.6748 | 0.24 | Q V | \| | \| | \| | \| |
| 44+50 | 2.6763 | 0.23 | Q V | \| | \| | \| | \| |

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|---|---|---|---|---|---|---|---|---|
| 44+55 | 2.6776 | 0.19 | Q | V | | | | |
| 45+ 0 | 2.6788 | 0.17 | Q | V | | | | |
| 45+ 5 | 2.6800 | 0.17 | Q | V | | | | |
| 45+10 | 2.6814 | 0.21 | Q | V | | | | |
| 45+15 | 2.6830 | 0.23 | Q | V | | | | |
| 45+20 | 2.6845 | 0.22 | Q | V | | | | |
| 45+25 | 2.6858 | 0.19 | Q | V | | | | |
| 45+30 | 2.6870 | 0.17 | Q | V | | | | |
| 45+35 | 2.6882 | 0.17 | Q | V | | | | |
| 45+40 | 2.6896 | 0.21 | Q | V | | | | |
| 45+45 | 2.6912 | 0.23 | Q | V | | | | |
| 45+50 | 2.6927 | 0.22 | Q | V | | | | |
| 45+55 | 2.6940 | 0.19 | Q | V | | | | |
| 46+ 0 | 2.6952 | 0.17 | Q | V | | | | |
| 46+ 5 | 2.6964 | 0.17 | Q | V | | | | |
| 46+10 | 2.6978 | 0.21 | Q | V | | | | |
| 46+15 | 2.6993 | 0.23 | Q | V | | | | |
| 46+20 | 2.7009 | 0.22 | Q | V | | | | |
| 46+25 | 2.7022 | 0.19 | Q | V | | | | |
| 46+30 | 2.7034 | 0.17 | Q | V | | | | |
| 46+35 | 2.7045 | 0.16 | Q | V | | | | |
| 46+40 | 2.7056 | 0.16 | Q | V | | | | |
| 46+45 | 2.7067 | 0.16 | Q | V | | | | |
| 46+50 | 2.7078 | 0.16 | Q | V | | | | |
| 46+55 | 2.7089 | 0.16 | Q | V | | | | |
| 47+ 0 | 2.7100 | 0.16 | Q | V | | | | |
| 47+ 5 | 2.7110 | 0.16 | Q | V | | | | |
| 47+10 | 2.7121 | 0.16 | Q | V | | | | |
| 47+15 | 2.7132 | 0.16 | Q | V | | | | |
| 47+20 | 2.7143 | 0.16 | Q | V | | | | |
| 47+25 | 2.7154 | 0.16 | Q | V | | | | |
| 47+30 | 2.7165 | 0.16 | Q | V | | | | |
| 47+35 | 2.7176 | 0.16 | Q | V | | | | |
| 47+40 | 2.7187 | 0.16 | Q | V | | | | |
| 47+45 | 2.7198 | 0.16 | Q | V | | | | |
| 47+50 | 2.7209 | 0.16 | Q | V | | | | |
| 47+55 | 2.7219 | 0.16 | Q | V | | | | |
| 48+ 0 | 2.7230 | 0.16 | Q | V | | | | |
| 48+ 5 | 2.7232 | 0.02 | Q | V | | | | |
| 48+10 | 2.7240 | 0.12 | Q | V | | | | |
| 48+15 | 2.7252 | 0.17 | Q | V | | | | |
| 48+20 | 2.7265 | 0.20 | Q | V | | | | |
| 48+25 | 2.7283 | 0.26 | Q | V | | | | |
| 48+30 | 2.7302 | 0.28 | Q | V | | | | |
| 48+35 | 2.7322 | 0.29 | Q | V | | | | |
| 48+40 | 2.7343 | 0.30 | Q | V | | | | |
| 48+45 | 2.7364 | 0.30 | Q | V | | | | |
| 48+50 | 2.7385 | 0.31 | Q | V | | | | |
| 48+55 | 2.7410 | 0.36 | Q | V | | | | |
| 49+ 0 | 2.7436 | 0.38 | Q | V | | | | |
| 49+ 5 | 2.7463 | 0.38 | Q | V | | | | |
| 49+10 | 2.7486 | 0.34 | Q | V | | | | |
| 49+15 | 2.7508 | 0.32 | Q | V | | | | |
| 49+20 | 2.7529 | 0.31 | Q | V | | | | |
| 49+25 | 2.7550 | 0.30 | Q | V | | | | |
| 49+30 | 2.7571 | 0.30 | Q | V | | | | |
| 49+35 | 2.7591 | 0.30 | Q | V | | | | |
| 49+40 | 2.7612 | 0.30 | Q | V | | | | |
| 49+45 | 2.7633 | 0.30 | Q | V | | | | |
| 49+50 | 2.7654 | 0.31 | Q | V | | | | |
| 49+55 | 2.7679 | 0.36 | Q | V | | | | |
| 50+ 0 | 2.7706 | 0.38 | Q | V | | | | |
| 50+ 5 | 2.7733 | 0.39 | Q | V | | | | |
| 50+10 | 2.7760 | 0.40 | Q | V | | | | |
| 50+15 | 2.7788 | 0.40 | Q | V | | | | |
| 50+20 | 2.7815 | 0.40 | Q | V | | | | |
| 50+25 | 2.7843 | 0.40 | Q | V | | | | |
| 50+30 | 2.7871 | 0.40 | Q | V | | | | |
| 50+35 | 2.7899 | 0.41 | Q | V | | | | |
| 50+40 | 2.7931 | 0.46 | Q | V | | | | |
| 50+45 | 2.7964 | 0.49 | Q | V | | | | |
| 50+50 | 2.7998 | 0.49 | Q | V | | | | |
| 50+55 | 2.8033 | 0.50 | Q | V | | | | |
| 51+ 0 | 2.8067 | 0.50 | Q | V | | | | |
| 51+ 5 | 2.8101 | 0.50 | \|Q | V | | | | |
| 51+10 | 2.8136 | 0.50 | \|Q | V | | | | |
| 51+15 | 2.8171 | 0.50 | \|Q | V | | | | |
| 51+20 | 2.8205 | 0.50 | \|Q | V | | | | |

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|---|---|---|---|---|---|---|---|
| 51+25 | 2.8240 | 0.50 | \|Q V | \| | \| | \| | \| |
| 51+30 | 2.8274 | 0.50 | \|Q V | \| | \| | \| | \| |
| 51+35 | 2.8309 | 0.50 | \|Q V | \| | \| | \| | \| |
| 51+40 | 2.8343 | 0.50 | \|Q V | \| | \| | \| | \| |
| 51+45 | 2.8378 | 0.50 | \|Q V | \| | \| | \| | \| |
| 51+50 | 2.8413 | 0.51 | \|Q V | \| | \| | \| | \| |
| 51+55 | 2.8452 | 0.56 | \|Q V | \| | \| | \| | \| |
| 52+ 0 | 2.8492 | 0.59 | \|Q V | \| | \| | \| | \| |
| 52+ 5 | 2.8533 | 0.59 | \|Q V | \| | \| | \| | \| |
| 52+10 | 2.8574 | 0.60 | \|Q V | \| | \| | \| | \| |
| 52+15 | 2.8615 | 0.60 | \|Q V | \| | \| | \| | \| |
| 52+20 | 2.8658 | 0.61 | \|Q V | \| | \| | \| | \| |
| 52+25 | 2.8703 | 0.66 | \|Q V | \| | \| | \| | \| |
| 52+30 | 2.8750 | 0.69 | \|Q V | \| | \| | \| | \| |
| 52+35 | 2.8798 | 0.69 | \|Q V | \| | \| | \| | \| |
| 52+40 | 2.8846 | 0.70 | \|Q V | \| | \| | \| | \| |
| 52+45 | 2.8895 | 0.70 | \|Q V | \| | \| | \| | \| |
| 52+50 | 2.8944 | 0.71 | \|Q V | \| | \| | \| | \| |
| 52+55 | 2.8996 | 0.76 | \|Q V | \| | \| | \| | \| |
| 53+ 0 | 2.9050 | 0.79 | \|Q V | \| | \| | \| | \| |
| 53+ 5 | 2.9104 | 0.77 | \|Q V | \| | \| | \| | \| |
| 53+10 | 2.9150 | 0.68 | \|Q V | \| | \| | \| | \| |
| 53+15 | 2.9194 | 0.63 | \|Q V | \| | \| | \| | \| |
| 53+20 | 2.9237 | 0.63 | \|Q V | \| | \| | \| | \| |
| 53+25 | 2.9283 | 0.67 | \|Q V | \| | \| | \| | \| |
| 53+30 | 2.9330 | 0.69 | \|Q V | \| | \| | \| | \| |
| 53+35 | 2.9379 | 0.71 | \|Q V | \| | \| | \| | \| |
| 53+40 | 2.9431 | 0.76 | \|Q V | \| | \| | \| | \| |
| 53+45 | 2.9485 | 0.78 | \|Q V | \| | \| | \| | \| |
| 53+50 | 2.9540 | 0.79 | \|Q V | \| | \| | \| | \| |
| 53+55 | 2.9595 | 0.80 | \|Q V | \| | \| | \| | \| |
| 54+ 0 | 2.9650 | 0.80 | \|Q V | \| | \| | \| | \| |
| 54+ 5 | 2.9706 | 0.81 | \|Q V | \| | \| | \| | \| |
| 54+10 | 2.9766 | 0.86 | \|Q V | \| | \| | \| | \| |
| 54+15 | 2.9827 | 0.89 | \|Q V | \| | \| | \| | \| |
| 54+20 | 2.9888 | 0.90 | \|Q V | \| | \| | \| | \| |
| 54+25 | 2.9950 | 0.90 | \|Q V | \| | \| | \| | \| |
| 54+30 | 3.0012 | 0.90 | \|Q V | \| | \| | \| | \| |
| 54+35 | 3.0075 | 0.91 | \|Q V | \| | \| | \| | \| |
| 54+40 | 3.0142 | 0.96 | \|Q V | \| | \| | \| | \| |
| 54+45 | 3.0209 | 0.99 | \|Q V | \| | \| | \| | \| |
| 54+50 | 3.0278 | 1.00 | \|Q V | \| | \| | \| | \| |
| 54+55 | 3.0347 | 1.00 | \|Q V | \| | \| | \| | \| |
| 55+ 0 | 3.0416 | 1.00 | \| Q V | \| | \| | \| | \| |
| 55+ 5 | 3.0485 | 1.00 | \| Q V | \| | \| | \| | \| |
| 55+10 | 3.0554 | 1.00 | \| Q V | \| | \| | \| | \| |
| 55+15 | 3.0623 | 1.00 | \| Q V | \| | \| | \| | \| |
| 55+20 | 3.0693 | 1.01 | \| Q V | \| | \| | \| | \| |
| 55+25 | 3.0766 | 1.06 | \| Q V | \| | \| | \| | \| |
| 55+30 | 3.0841 | 1.09 | \| Q V | \| | \| | \| | \| |
| 55+35 | 3.0917 | 1.11 | \| Q V | \| | \| | \| | \| |
| 55+40 | 3.0997 | 1.16 | \| Q V | \| | \| | \| | \| |
| 55+45 | 3.1079 | 1.19 | \| Q V | \| | \| | \| | \| |
| 55+50 | 3.1162 | 1.21 | \| Q V | \| | \| | \| | \| |
| 55+55 | 3.1249 | 1.26 | \| Q V | \| | \| | \| | \| |
| 56+ 0 | 3.1337 | 1.29 | \| Q V | \| | \| | \| | \| |
| 56+ 5 | 3.1428 | 1.32 | \| Q V | \| | \| | \| | \| |
| 56+10 | 3.1526 | 1.42 | \| Q V | \| | \| | \| | \| |
| 56+15 | 3.1627 | 1.47 | \| Q V | \| | \| | \| | \| |
| 56+20 | 3.1729 | 1.49 | \| Q V | \| | \| | \| | \| |
| 56+25 | 3.1833 | 1.50 | \| Q V | \| | \| | \| | \| |
| 56+30 | 3.1936 | 1.50 | \| Q V | \| | \| | \| | \| |
| 56+35 | 3.2040 | 1.51 | \| Q V | \| | \| | \| | \| |
| 56+40 | 3.2148 | 1.56 | \| Q V | \| | \| | \| | \| |
| 56+45 | 3.2257 | 1.59 | \| Q V | \| | \| | \| | \| |
| 56+50 | 3.2368 | 1.61 | \| Q V | \| | \| | \| | \| |
| 56+55 | 3.2483 | 1.66 | \| Q V | \| | \| | \| | \| |
| 57+ 0 | 3.2599 | 1.69 | \| Q V | \| | \| | \| | \| |
| 57+ 5 | 3.2717 | 1.72 | \| Q V | \| | \| | \| | \| |
| 57+10 | 3.2843 | 1.82 | \| Q V | \| | \| | \| | \| |
| 57+15 | 3.2972 | 1.87 | \| Q V | \| | \| | \| | \| |
| 57+20 | 3.3102 | 1.90 | \| Q V | \| | \| | \| | \| |
| 57+25 | 3.3237 | 1.96 | \| Q V | \| | \| | \| | \| |
| 57+30 | 3.3374 | 1.99 | \| Q V | \| | \| | \| | \| |
| 57+35 | 3.3512 | 2.01 | \| Q V | \| | \| | \| | \| |
| 57+40 | 3.3655 | 2.06 | \| Q V | \| | \| | \| | \| |
| 57+45 | 3.3798 | 2.09 | \| Q V | \| | \| | \| | \| |
| 57+50 | 3.3944 | 2.11 | \| Q V | \| | \| | \| | \| |

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|---|---|---|---|---|---|---|---|
| 57+55 | 3.4093 | 2.16 | \| Q V \| | \| | \| | \| |
| 58+ 0 | 3.4243 | 2.19 | \| Q V \| | \| | \| | \| |
| 58+ 5 | 3.4390 | 2.13 | \| Q V \| | \| | \| | \| |
| 58+10 | 3.4512 | 1.77 | \| Q V \| | \| | \| | \| |
| 58+15 | 3.4623 | 1.62 | \| Q V \| | \| | \| | \| |
| 58+20 | 3.4730 | 1.55 | \| Q V \| | \| | \| | \| |
| 58+25 | 3.4835 | 1.52 | \| Q V \| | \| | \| | \| |
| 58+30 | 3.4939 | 1.51 | \| Q V \| | \| | \| | \| |
| 58+35 | 3.5047 | 1.56 | \| Q V \| | \| | \| | \| |
| 58+40 | 3.5172 | 1.81 | \| Q V \| | \| | \| | \| |
| 58+45 | 3.5304 | 1.92 | \| Q V \| | \| | \| | \| |
| 58+50 | 3.5440 | 1.97 | \| Q V \| | \| | \| | \| |
| 58+55 | 3.5577 | 1.99 | \| Q V \| | \| | \| | \| |
| 59+ 0 | 3.5715 | 2.00 | \| Q V \| | \| | \| | \| |
| 59+ 5 | 3.5852 | 1.99 | \| Q V \| | \| | \| | \| |
| 59+10 | 3.5986 | 1.94 | \| Q V \| | \| | \| | \| |
| 59+15 | 3.6118 | 1.92 | \| Q V \| | \| | \| | \| |
| 59+20 | 3.6250 | 1.91 | \| Q V \| | \| | \| | \| |
| 59+25 | 3.6381 | 1.91 | \| Q V \| | \| | \| | \| |
| 59+30 | 3.6512 | 1.91 | \| Q V \| | \| | \| | \| |
| 59+35 | 3.6642 | 1.89 | \| Q V \| | \| | \| | \| |
| 59+40 | 3.6765 | 1.78 | \| Q V \| | \| | \| | \| |
| 59+45 | 3.6885 | 1.74 | \| Q V \| | \| | \| | \| |
| 59+50 | 3.7004 | 1.73 | \| Q V \| | \| | \| | \| |
| 59+55 | 3.7126 | 1.77 | \| Q V \| | \| | \| | \| |
| 60+ 0 | 3.7249 | 1.79 | \| Q V \| | \| | \| | \| |
| 60+ 5 | 3.7378 | 1.87 | \| Q V \| | \| | \| | \| |
| 60+10 | 3.7531 | 2.23 | \| Q V \| | \| | \| | \| |
| 60+15 | 3.7696 | 2.39 | \| Q V \| | \| | \| | \| |
| 60+20 | 3.7866 | 2.47 | \| Q V \| | \| | \| | \| |
| 60+25 | 3.8041 | 2.55 | \| Q V \| | \| | \| | \| |
| 60+30 | 3.8219 | 2.58 | \| Q V \| | \| | \| | \| |
| 60+35 | 3.8399 | 2.62 | \| Q V \| | \| | \| | \| |
| 60+40 | 3.8587 | 2.73 | \| Q V \| | \| | \| | \| |
| 60+45 | 3.8778 | 2.77 | \| Q V \| | \| | \| | \| |
| 60+50 | 3.8971 | 2.80 | \| Q V \| | \| | \| | \| |
| 60+55 | 3.9168 | 2.86 | \| Q V \| | \| | \| | \| |
| 61+ 0 | 3.9367 | 2.89 | \| Q V \| | \| | \| | \| |
| 61+ 5 | 3.9570 | 2.95 | \| Q V \| | \| | \| | \| |
| 61+10 | 3.9792 | 3.21 | \| Q V \| | \| | \| | \| |
| 61+15 | 4.0021 | 3.33 | \| Q V \| | \| | \| | \| |
| 61+20 | 4.0253 | 3.37 | \| Q V \| | \| | \| | \| |
| 61+25 | 4.0487 | 3.40 | \| Q V \| | \| | \| | \| |
| 61+30 | 4.0721 | 3.40 | \| Q V \| | \| | \| | \| |
| 61+35 | 4.0948 | 3.30 | \| Q V \| | \| | \| | \| |
| 61+40 | 4.1136 | 2.73 | \| Q V \| | \| | \| | \| |
| 61+45 | 4.1308 | 2.49 | \| Q V \| | \| | \| | \| |
| 61+50 | 4.1472 | 2.38 | \| Q V \| | \| | \| | \| |
| 61+55 | 4.1633 | 2.34 | \| Q V \| | \| | \| | \| |
| 62+ 0 | 4.1793 | 2.32 | \| Q V \| | \| | \| | \| |
| 62+ 5 | 4.1955 | 2.35 | \| Q V \| | \| | \| | \| |
| 62+10 | 4.2130 | 2.55 | \| Q V \| | \| | \| | \| |
| 62+15 | 4.2312 | 2.64 | \| Q V \| | \| | \| | \| |
| 62+20 | 4.2496 | 2.67 | \| Q V \| | \| | \| | \| |
| 62+25 | 4.2678 | 2.63 | \| Q V \| | \| | \| | \| |
| 62+30 | 4.2858 | 2.62 | \| Q V \| | \| | \| | \| |
| 62+35 | 4.3038 | 2.61 | \| Q V \| | \| | \| | \| |
| 62+40 | 4.3218 | 2.61 | \| Q V \| | \| | \| | \| |
| 62+45 | 4.3397 | 2.61 | \| Q V \| | \| | \| | \| |
| 62+50 | 4.3576 | 2.60 | \| Q V \| | \| | \| | \| |
| 62+55 | 4.3751 | 2.55 | \| Q V \| | \| | \| | \| |
| 63+ 0 | 4.3925 | 2.52 | \| Q V \| | \| | \| | \| |
| 63+ 5 | 4.4098 | 2.50 | \| Q V \| | \| | \| | \| |
| 63+10 | 4.4266 | 2.45 | \| Q V \| | \| | \| | \| |
| 63+15 | 4.4433 | 2.42 | \| Q V \| | \| | \| | \| |
| 63+20 | 4.4599 | 2.40 | \| Q V\| | \| | \| | \| |
| 63+25 | 4.4760 | 2.35 | \| Q V\| | \| | \| | \| |
| 63+30 | 4.4921 | 2.32 | \| Q V\| | \| | \| | \| |
| 63+35 | 4.5077 | 2.27 | \| Q V\| | \| | \| | \| |
| 63+40 | 4.5219 | 2.06 | \| Q V\| | \| | \| | \| |
| 63+45 | 4.5355 | 1.97 | \| Q V\| | \| | \| | \| |
| 63+50 | 4.5488 | 1.93 | \| Q V\| | \| | \| | \| |
| 63+55 | 4.5620 | 1.92 | \| Q V\| | \| | \| | \| |
| 64+ 0 | 4.5752 | 1.91 | \| Q V\| | \| | \| | \| |
| 64+ 5 | 4.5873 | 1.76 | \| Q V\| | \| | \| | \| |
| 64+10 | 4.5941 | 0.99 | \|Q V\| | \| | \| | \| |
| 64+15 | 4.5985 | 0.65 | \|Q V\| | \| | \| | \| |
| 64+20 | 4.6020 | 0.51 | \|Q V\| | \| | \| | \| |

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|---|---|---|---|---|---|---|---|
| 64+25 | 4.6051 | 0.44 | Q | V\| | \| | \| | \| |
| 64+30 | 4.6080 | 0.42 | Q | V\| | \| | \| | \| |
| 64+35 | 4.6107 | 0.40 | Q | V\| | \| | \| | \| |
| 64+40 | 4.6131 | 0.34 | Q | V\| | \| | \| | \| |
| 64+45 | 4.6153 | 0.32 | Q | V\| | \| | \| | \| |
| 64+50 | 4.6174 | 0.31 | Q | V\| | \| | \| | \| |
| 64+55 | 4.6195 | 0.30 | Q | V\| | \| | \| | \| |
| 65+ 0 | 4.6216 | 0.30 | Q | V\| | \| | \| | \| |
| 65+ 5 | 4.6238 | 0.32 | Q | V\| | \| | \| | \| |
| 65+10 | 4.6267 | 0.42 | Q | V\| | \| | \| | \| |
| 65+15 | 4.6299 | 0.47 | Q | V\| | \| | \| | \| |
| 65+20 | 4.6333 | 0.49 | Q | V\| | \| | \| | \| |
| 65+25 | 4.6367 | 0.50 | Q | V\| | \| | \| | \| |
| 65+30 | 4.6401 | 0.50 | Q | V\| | \| | \| | \| |
| 65+35 | 4.6436 | 0.50 | Q | V\| | \| | \| | \| |
| 65+40 | 4.6470 | 0.50 | \|Q | V\| | \| | \| | \| |
| 65+45 | 4.6505 | 0.50 | \|Q | V\| | \| | \| | \| |
| 65+50 | 4.6539 | 0.49 | Q | V\| | \| | \| | \| |
| 65+55 | 4.6569 | 0.44 | Q | V\| | \| | \| | \| |
| 66+ 0 | 4.6598 | 0.42 | Q | V\| | \| | \| | \| |
| 66+ 5 | 4.6626 | 0.41 | Q | V\| | \| | \| | \| |
| 66+10 | 4.6654 | 0.40 | Q | V\| | \| | \| | \| |
| 66+15 | 4.6681 | 0.40 | Q | V\| | \| | \| | \| |
| 66+20 | 4.6709 | 0.40 | Q | V\| | \| | \| | \| |
| 66+25 | 4.6737 | 0.40 | Q | V\| | \| | \| | \| |
| 66+30 | 4.6764 | 0.40 | Q | V\| | \| | \| | \| |
| 66+35 | 4.6791 | 0.39 | Q | V\| | \| | \| | \| |
| 66+40 | 4.6815 | 0.34 | Q | V\| | \| | \| | \| |
| 66+45 | 4.6837 | 0.32 | Q | V\| | \| | \| | \| |
| 66+50 | 4.6857 | 0.30 | Q | V\| | \| | \| | \| |
| 66+55 | 4.6874 | 0.24 | Q | V\| | \| | \| | \| |
| 67+ 0 | 4.6889 | 0.22 | Q | V\| | \| | \| | \| |
| 67+ 5 | 4.6904 | 0.22 | Q | V\| | \| | \| | \| |
| 67+10 | 4.6922 | 0.26 | Q | V\| | \| | \| | \| |
| 67+15 | 4.6942 | 0.29 | Q | V\| | \| | \| | \| |
| 67+20 | 4.6963 | 0.30 | Q | V\| | \| | \| | \| |
| 67+25 | 4.6987 | 0.36 | Q | V\| | \| | \| | \| |
| 67+30 | 4.7014 | 0.38 | Q | V\| | \| | \| | \| |
| 67+35 | 4.7040 | 0.38 | Q | V\| | \| | \| | \| |
| 67+40 | 4.7063 | 0.34 | Q | V\| | \| | \| | \| |
| 67+45 | 4.7085 | 0.32 | Q | V\| | \| | \| | \| |
| 67+50 | 4.7106 | 0.30 | Q | V\| | \| | \| | \| |
| 67+55 | 4.7122 | 0.24 | Q | V\| | \| | \| | \| |
| 68+ 0 | 4.7137 | 0.22 | Q | V\| | \| | \| | \| |
| 68+ 5 | 4.7152 | 0.22 | Q | V\| | \| | \| | \| |
| 68+10 | 4.7171 | 0.26 | Q | V\| | \| | \| | \| |
| 68+15 | 4.7190 | 0.29 | Q | V\| | \| | \| | \| |
| 68+20 | 4.7211 | 0.29 | Q | V\| | \| | \| | \| |
| 68+25 | 4.7231 | 0.30 | Q | V\| | \| | \| | \| |
| 68+30 | 4.7252 | 0.30 | Q | V\| | \| | \| | \| |
| 68+35 | 4.7272 | 0.30 | Q | V\| | \| | \| | \| |
| 68+40 | 4.7293 | 0.30 | Q | V\| | \| | \| | \| |
| 68+45 | 4.7314 | 0.30 | Q | V\| | \| | \| | \| |
| 68+50 | 4.7334 | 0.29 | Q | V\| | \| | \| | \| |
| 68+55 | 4.7350 | 0.24 | Q | V\| | \| | \| | \| |
| 69+ 0 | 4.7365 | 0.22 | Q | V\| | \| | \| | \| |
| 69+ 5 | 4.7380 | 0.22 | Q | V\| | \| | \| | \| |
| 69+10 | 4.7399 | 0.26 | Q | V\| | \| | \| | \| |
| 69+15 | 4.7418 | 0.29 | Q | V\| | \| | \| | \| |
| 69+20 | 4.7438 | 0.28 | Q | V\| | \| | \| | \| |
| 69+25 | 4.7454 | 0.24 | Q | V\| | \| | \| | \| |
| 69+30 | 4.7469 | 0.22 | Q | V\| | \| | \| | \| |
| 69+35 | 4.7484 | 0.22 | Q | V\| | \| | \| | \| |
| 69+40 | 4.7502 | 0.26 | Q | V\| | \| | \| | \| |
| 69+45 | 4.7522 | 0.29 | Q | V\| | \| | \| | \| |
| 69+50 | 4.7541 | 0.28 | Q | V\| | \| | \| | \| |
| 69+55 | 4.7558 | 0.24 | Q | V\| | \| | \| | \| |
| 70+ 0 | 4.7573 | 0.22 | Q | V\| | \| | \| | \| |
| 70+ 5 | 4.7587 | 0.22 | Q | V\| | \| | \| | \| |
| 70+10 | 4.7606 | 0.26 | Q | V\| | \| | \| | \| |
| 70+15 | 4.7625 | 0.29 | Q | V\| | \| | \| | \| |
| 70+20 | 4.7645 | 0.28 | Q | V\| | \| | \| | \| |
| 70+25 | 4.7661 | 0.24 | Q | V\| | \| | \| | \| |
| 70+30 | 4.7676 | 0.22 | Q | V\| | \| | \| | \| |
| 70+35 | 4.7690 | 0.21 | Q | V\| | \| | \| | \| |
| 70+40 | 4.7704 | 0.20 | Q | V\| | \| | \| | \| |
| 70+45 | 4.7718 | 0.20 | Q | V\| | \| | \| | \| |
| 70+50 | 4.7732 | 0.20 | Q | V\| | \| | \| | \| |

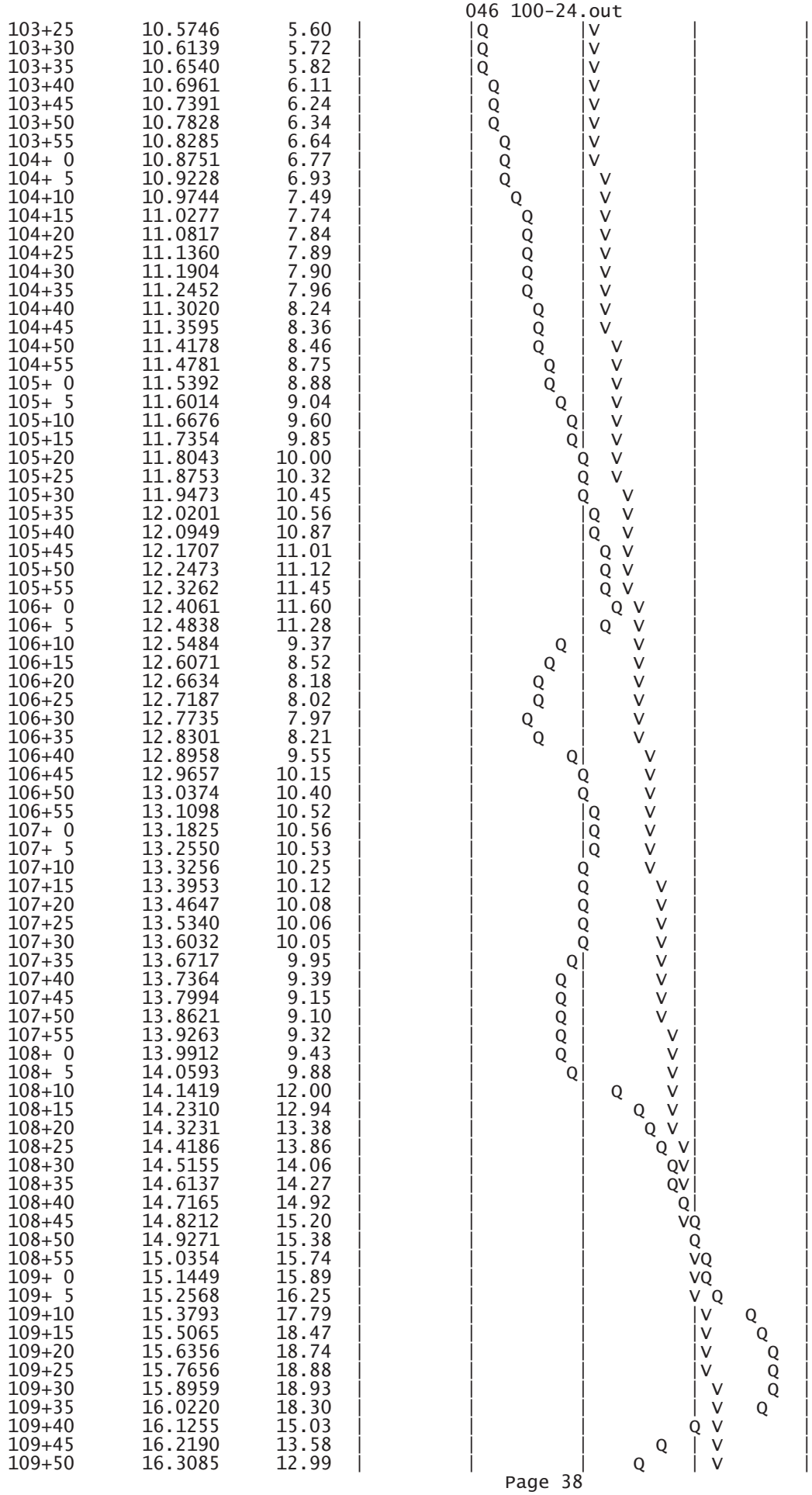
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70+55       4.7746      0.20  Q        V|          |          |          |
71+ 0       4.7760      0.20  Q        V|          |          |          |
71+ 5       4.7774      0.20  Q        V|          |          |          |
71+10       4.7787      0.20  Q        V|          |          |          |
71+15       4.7801      0.20  Q        V|          |          |          |
71+20       4.7815      0.20  Q        V|          |          |          |
71+25       4.7829      0.20  Q        V|          |          |          |
71+30       4.7843      0.20  Q        V|          |          |          |
71+35       4.7856      0.20  Q        V|          |          |          |
71+40       4.7870      0.20  Q        V|          |          |          |
71+45       4.7884      0.20  Q        V|          |          |          |
71+50       4.7898      0.20  Q        V|          |          |          |
71+55       4.7912      0.20  Q        V|          |          |          |
72+ 0       4.7926      0.20  Q        V|          |          |          |
72+ 5       4.7928      0.04  Q        V|          |          |          |
72+10       4.7944      0.23  Q        V|          |          |          |
72+15       4.7966      0.32  Q        V|          |          |          |
72+20       4.7992      0.37  Q        V|          |          |          |
72+25       4.8025      0.49  Q        V|          |          |          |
72+30       4.8062      0.53  |Q       V|          |          |          |
72+35       4.8100      0.55  |Q       V|          |          |          |
72+40       4.8139      0.56  |Q       V|          |          |          |
72+45       4.8178      0.57  |Q       V|          |          |          |
72+50       4.8218      0.59  |Q       V|          |          |          |
72+55       4.8266      0.69  |Q       V|          |          |          |
73+ 0       4.8316      0.73  |Q       V|          |          |          |
73+ 5       4.8366      0.73  |Q       V|          |          |          |
73+10       4.8410      0.64  |Q       V|          |          |          |
73+15       4.8451      0.60  |Q       V|          |          |          |
73+20       4.8491      0.58  |Q       V|          |          |          |
73+25       4.8531      0.57  |Q       V|          |          |          |
73+30       4.8570      0.57  |Q       V|          |          |          |
73+35       4.8610      0.57  |Q       V|          |          |          |
73+40       4.8649      0.57  |Q       V|          |          |          |
73+45       4.8688      0.57  |Q       V|          |          |          |
73+50       4.8729      0.59  |Q       V|          |          |          |
73+55       4.8776      0.69  |Q       V|          |          |          |
74+ 0       4.8826      0.73  |Q       V|          |          |          |
74+ 5       4.8878      0.75  |Q       V|          |          |          |
74+10       4.8929      0.75  |Q       V|          |          |          |
74+15       4.8982      0.76  |Q       V|          |          |          |
74+20       4.9034      0.76  |Q       V|          |          |          |
74+25       4.9086      0.76  |Q       V|          |          |          |
74+30       4.9139      0.76  |Q       V|          |          |          |
74+35       4.9192      0.78  |Q       V|          |          |          |
74+40       4.9253      0.88  |Q       V|          |          |          |
74+45       4.9316      0.92  |Q       V|          |          |          |
74+50       4.9380      0.94  |Q       V|          |          |          |
74+55       4.9445      0.94  |Q       V|          |          |          |
75+ 0       4.9511      0.95  |Q       V|          |          |          |
75+ 5       4.9576      0.95  |Q        V          |          |          |
75+10       4.9641      0.95  |Q        V          |          |          |
75+15       4.9707      0.95  |Q        V          |          |          |
75+20       4.9772      0.95  |Q        V          |          |          |
75+25       4.9838      0.95  |Q        V          |          |          |
75+30       4.9903      0.95  |Q        V          |          |          |
75+35       4.9968      0.95  |Q        V          |          |          |
75+40       5.0034      0.95  |Q        V          |          |          |
75+45       5.0099      0.95  |Q        V          |          |          |
75+50       5.0166      0.97  |Q        V          |          |          |
75+55       5.0239      1.07  | Q       V          |          |          |
76+ 0       5.0316      1.11  | Q       V          |          |          |
76+ 5       5.0393      1.13  | Q       V          |          |          |
76+10       5.0472      1.13  | Q       V          |          |          |
76+15       5.0550      1.14  | Q       V          |          |          |
76+20       5.0630      1.16  | Q       V          |          |          |
76+25       5.0716      1.26  | Q       V          |          |          |
76+30       5.0806      1.30  | Q       V          |          |          |
76+35       5.0896      1.32  | Q       V          |          |          |
76+40       5.0987      1.32  | Q       V          |          |          |
76+45       5.1079      1.33  | Q       V          |          |          |
76+50       5.1172      1.35  | Q       V          |          |          |
76+55       5.1271      1.45  | Q       V          |          |          |
77+ 0       5.1374      1.49  | Q       V          |          |          |
77+ 5       5.1475      1.47  | Q       V          |          |          |
77+10       5.1563      1.28  | Q       V          |          |          |
77+15       5.1646      1.20  | Q       V          |          |          |
77+20       5.1727      1.18  | Q       V          |          |          |
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77+25       5.1815      1.27  | Q       V          |          |          |
77+30       5.1904      1.30  | Q       V          |          |          |
77+35       5.1997      1.34  | Q       V          |          |          |
77+40       5.2096      1.44  | Q       V          |          |          |
77+45       5.2198      1.49  | Q       V          |          |          |
77+50       5.2302      1.51  |  Q      V          |          |          |
77+55       5.2406      1.51  |  Q      V          |          |          |
78+ 0       5.2511      1.52  |  Q      V          |          |          |
78+ 5       5.2617      1.54  |  Q      V          |          |          |
78+10       5.2729      1.64  |  Q      V          |          |          |
78+15       5.2845      1.68  |  Q      V          |          |          |
78+20       5.2962      1.70  |  Q      V          |          |          |
78+25       5.3079      1.70  |  Q      V          |          |          |
78+30       5.3197      1.71  |  Q      V          |          |          |
78+35       5.3316      1.73  |  Q      V          |          |          |
78+40       5.3441      1.83  |  Q      V          |          |          |
78+45       5.3570      1.87  |  Q      V          |          |          |
78+50       5.3700      1.89  |  Q      V          |          |          |
78+55       5.3830      1.89  |  Q      V          |          |          |
79+ 0       5.3961      1.90  |  Q      V          |          |          |
79+ 5       5.4092      1.90  |  Q      V          |          |          |
79+10       5.4223      1.90  |  Q      V          |          |          |
79+15       5.4353      1.90  |  Q      V          |          |          |
79+20       5.4486      1.92  |  Q      |V         |          |          |
79+25       5.4624      2.02  |   Q     |V         |          |          |
79+30       5.4766      2.06  |   Q     |V         |          |          |
79+35       5.4911      2.10  |   Q     |V         |          |          |
79+40       5.5062      2.20  |   Q     |V         |          |          |
79+45       5.5217      2.25  |   Q     |V         |          |          |
79+50       5.5374      2.28  |   Q     |V         |          |          |
79+55       5.5539      2.39  |   Q     |V         |          |          |
80+ 0       5.5707      2.44  |   Q     |V         |          |          |
80+ 5       5.5878      2.49  |   Q     |V         |          |          |
80+10       5.6064      2.70  |    Q    |V         |          |          |
80+15       5.6256      2.79  |    Q    |V         |          |          |
80+20       5.6450      2.82  |    Q    |V         |          |          |
80+25       5.6646      2.84  |    Q    |V         |          |          |
80+30       5.6842      2.84  |    Q    |V         |          |          |
80+35       5.7039      2.87  |    Q    |V         |          |          |
80+40       5.7243      2.97  |    Q    |V         |          |          |
80+45       5.7450      3.01  |     Q   |V         |          |          |
80+50       5.7660      3.05  |     Q   |V         |          |          |
80+55       5.7877      3.15  |     Q   |V         |          |          |
81+ 0       5.8097      3.20  |     Q   |V         |          |          |
81+ 5       5.8321      3.25  |     Q   |V         |          |          |
81+10       5.8559      3.46  |     Q   |V         |          |          |
81+15       5.8803      3.55  |      Q  |V         |          |          |
81+20       5.9051      3.60  |      Q  |V         |          |          |
81+25       5.9307      3.71  |      Q  |V         |          |          |
81+30       5.9566      3.76  |      Q  | V        |          |          |
81+35       5.9828      3.80  |      Q  | V        |          |          |
81+40       6.0098      3.91  |      Q  | V        |          |          |
81+45       6.0370      3.96  |      Q  | V        |          |          |
81+50       6.0645      3.99  |      Q  | V        |          |          |
81+55       6.0928      4.10  |       Q | V        |          |          |
82+ 0       6.1213      4.15  |       Q | V        |          |          |
82+ 5       6.1491      4.03  |       Q | V        |          |          |
82+10       6.1722      3.36  |     Q   | V        |          |          |
82+15       6.1933      3.06  |     Q   | V        |          |          |
82+20       6.2136      2.94  |    Q    | V        |          |          |
82+25       6.2335      2.89  |    Q    | V        |          |          |
82+30       6.2532      2.87  |    Q    | V        |          |          |
82+35       6.2736      2.95  |    Q    | V        |          |          |
82+40       6.2972      3.43  |     Q   | V        |          |          |
82+45       6.3223      3.65  |      Q  | V        |          |          |
82+50       6.3480      3.73  |      Q  | V        |          |          |
82+55       6.3740      3.77  |      Q  | V        |          |          |
83+ 0       6.4001      3.79  |      Q  | V        |          |          |
83+ 5       6.4261      3.77  |      Q  | V        |          |          |
83+10       6.4514      3.68  |      Q  |  V       |          |          |
83+15       6.4765      3.64  |      Q  |  V       |          |          |
83+20       6.5015      3.62  |      Q  |  V       |          |          |
83+25       6.5264      3.61  |      Q  |  V       |          |          |
83+30       6.5512      3.61  |      Q  |  V       |          |          |
83+35       6.5758      3.57  |      Q  |  V       |          |          |
83+40       6.5991      3.38  |     Q   |  V       |          |          |
83+45       6.6218      3.29  |     Q   |  V       |          |          |
83+50       6.6443      3.28  |     Q   |  V       |          |          |
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83+55       6.6674      3.36  |     Q    |  V       |          |          |
84+ 0       6.6908      3.39  |     Q    |  V       |          |          |
84+ 5       6.7152      3.54  |      Q   |  V       |          |          |
84+10       6.7443      4.23  |       Q  |  V       |          |          |
84+15       6.7755      4.53  |         Q|  V       |          |          |
84+20       6.8077      4.67  |         Q|  V       |          |          |
84+25       6.8410      4.83  |         Q|  V       |          |          |
84+30       6.8746      4.89  |         Q|  V       |          |          |
84+35       6.9088      4.96  |         Q|  V       |          |          |
84+40       6.9443      5.16  |          Q   V       |          |          |
84+45       6.9805      5.26  |          Q   V       |          |          |
84+50       7.0171      5.31  |          Q   V       |          |          |
84+55       7.0545      5.42  |          Q   V       |          |          |
85+ 0       7.0922      5.47  |          Q   V       |          |          |
85+ 5       7.1307      5.59  |          |Q  V       |          |          |
85+10       7.1726      6.08  |          | Q V       |          |          |
85+15       7.2160      6.30  |          | Q V       |          |          |
85+20       7.2600      6.39  |          | Q V       |          |          |
85+25       7.3043      6.43  |          | Q V       |          |          |
85+30       7.3487      6.45  |          | Q V       |          |          |
85+35       7.3917      6.24  |          | Q V       |          |          |
85+40       7.4274      5.18  |          Q   V       |          |          |
85+45       7.4598      4.71  |         Q|    V      |          |          |
85+50       7.4909      4.52  |         Q|    V      |          |          |
85+55       7.5214      4.43  |        Q |    V      |          |          |
86+ 0       7.5517      4.40  |        Q |    V      |          |          |
86+ 5       7.5824      4.46  |        Q |    V      |          |          |
86+10       7.6157      4.84  |         Q|    V      |          |          |
86+15       7.6502      5.01  |          Q    V      |          |          |
86+20       7.6850      5.06  |          Q    V      |          |          |
86+25       7.7194      4.99  |         Q|    V      |          |          |
86+30       7.7536      4.96  |         Q|    V      |          |          |
86+35       7.7876      4.95  |         Q|    V      |          |          |
86+40       7.8217      4.94  |         Q|    V      |          |          |
86+45       7.8557      4.94  |         Q|    V      |          |          |
86+50       7.8896      4.92  |         Q|    V      |          |          |
86+55       7.9228      4.82  |         Q|    V      |          |          |
87+ 0       7.9558      4.78  |         Q|     V     |          |          |
87+ 5       7.9884      4.74  |         Q|     V     |          |          |
87+10       8.0204      4.64  |         Q|     V     |          |          |
87+15       8.0520      4.59  |         Q|     V     |          |          |
87+20       8.0834      4.56  |         Q|     V     |          |          |
87+25       8.1140      4.45  |        Q |     V     |          |          |
87+30       8.1444      4.40  |        Q |     V     |          |          |
87+35       8.1740      4.31  |        Q |     V     |          |          |
87+40       8.2010      3.91  |       Q  |     V     |          |          |
87+45       8.2267      3.74  |       Q  |     V     |          |          |
87+50       8.2519      3.66  |       Q  |     V     |          |          |
87+55       8.2769      3.63  |       Q  |     V     |          |          |
88+ 0       8.3019      3.62  |       Q  |     V     |          |          |
88+ 5       8.3248      3.33  |      Q   |     V     |          |          |
88+10       8.3377      1.87  |  Q       |     V     |          |          |
88+15       8.3461      1.22  | Q        |     V     |          |          |
88+20       8.3527      0.96  |Q         |     V     |          |          |
88+25       8.3585      0.84  |Q         |     V     |          |          |
88+30       8.3640      0.80  |Q         |     V     |          |          |
88+35       8.3693      0.76  |Q         |     V     |          |          |
88+40       8.3737      0.65  |Q         |     V     |          |          |
88+45       8.3779      0.60  |Q         |     V     |          |          |
88+50       8.3819      0.58  |Q         |     V     |          |          |
88+55       8.3858      0.58  |Q         |     V     |          |          |
89+ 0       8.3898      0.57  |Q         |     V     |          |          |
89+ 5       8.3940      0.61  |Q         |     V     |          |          |
89+10       8.3995      0.80  |Q         |     V     |          |          |
89+15       8.4056      0.89  |Q         |     V     |          |          |
89+20       8.4120      0.92  |Q         |     V     |          |          |
89+25       8.4184      0.94  |Q         |     V     |          |          |
89+30       8.4250      0.94  |Q         |      V    |          |          |
89+35       8.4315      0.95  |Q         |      V    |          |          |
89+40       8.4380      0.95  |Q         |      V    |          |          |
89+45       8.4446      0.95  |Q         |      V    |          |          |
89+50       8.4510      0.93  |Q         |      V    |          |          |
89+55       8.4567      0.83  |Q         |      V    |          |          |
90+ 0       8.4622      0.79  |Q         |      V    |          |          |
90+ 5       8.4675      0.77  |Q         |      V    |          |          |
90+10       8.4728      0.77  |Q         |      V    |          |          |
90+15       8.4780      0.76  |Q         |      V    |          |          |
90+20       8.4833      0.76  |Q         |       V   |          |          |
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|---|---|---|---|---|---|---|---|
| 90+25 | 8.4885 | 0.76 | \|Q | \| V | \| | \| | |
| 90+30 | 8.4937 | 0.76 | \|Q | \| V | \| | \| | |
| 90+35 | 8.4988 | 0.74 | \|Q | \| V | \| | \| | |
| 90+40 | 8.5033 | 0.64 | \|Q | \| V | \| | \| | |
| 90+45 | 8.5074 | 0.60 | \|Q | \| V | \| | \| | |
| 90+50 | 8.5113 | 0.56 | \|Q | \| V | \| | \| | |
| 90+55 | 8.5144 | 0.46 | Q | \| V | \| | \| | |
| 91+ 0 | 8.5173 | 0.41 | Q | \| V | \| | \| | |
| 91+ 5 | 8.5201 | 0.41 | Q | \| V | \| | \| | |
| 91+10 | 8.5236 | 0.50 | \|Q | \| V | \| | \| | |
| 91+15 | 8.5273 | 0.54 | \|Q | \| V | \| | \| | |
| 91+20 | 8.5313 | 0.58 | \|Q | \| V | \| | \| | |
| 91+25 | 8.5360 | 0.68 | \|Q | \| V | \| | \| | |
| 91+30 | 8.5410 | 0.73 | \|Q | \| V | \| | \| | |
| 91+35 | 8.5460 | 0.73 | \|Q | \| V | \| | \| | |
| 91+40 | 8.5504 | 0.64 | \|Q | \| V | \| | \| | |
| 91+45 | 8.5545 | 0.60 | \|Q | \| V | \| | \| | |
| 91+50 | 8.5584 | 0.56 | \|Q | \| V | \| | \| | |
| 91+55 | 8.5616 | 0.46 | Q | \| V | \| | \| | |
| 92+ 0 | 8.5644 | 0.41 | Q | \| V | \| | \| | |
| 92+ 5 | 8.5672 | 0.41 | Q | \| V | \| | \| | |
| 92+10 | 8.5707 | 0.50 | \|Q | \| V | \| | \| | |
| 92+15 | 8.5744 | 0.54 | \|Q | \| V | \| | \| | |
| 92+20 | 8.5783 | 0.56 | \|Q | \| V | \| | \| | |
| 92+25 | 8.5822 | 0.56 | \|Q | \| V | \| | \| | |
| 92+30 | 8.5861 | 0.57 | \|Q | \| V | \| | \| | |
| 92+35 | 8.5900 | 0.57 | \|Q | \| V | \| | \| | |
| 92+40 | 8.5939 | 0.57 | \|Q | \| V | \| | \| | |
| 92+45 | 8.5978 | 0.57 | \|Q | \| V | \| | \| | |
| 92+50 | 8.6016 | 0.55 | \|Q | \| V | \| | \| | |
| 92+55 | 8.6048 | 0.45 | Q | \| V | \| | \| | |
| 93+ 0 | 8.6076 | 0.41 | Q | \| V | \| | \| | |
| 93+ 5 | 8.6104 | 0.41 | Q | \| V | \| | \| | |
| 93+10 | 8.6139 | 0.50 | \|Q | \| V | \| | \| | |
| 93+15 | 8.6176 | 0.54 | \|Q | \| V | \| | \| | |
| 93+20 | 8.6213 | 0.54 | \|Q | \| V | \| | \| | |
| 93+25 | 8.6244 | 0.45 | Q | \| V | \| | \| | |
| 93+30 | 8.6272 | 0.41 | Q | \| V | \| | \| | |
| 93+35 | 8.6301 | 0.41 | Q | \| V | \| | \| | |
| 93+40 | 8.6335 | 0.50 | \|Q | \| V | \| | \| | |
| 93+45 | 8.6372 | 0.54 | \|Q | \| V | \| | \| | |
| 93+50 | 8.6409 | 0.54 | \|Q | \| V | \| | \| | |
| 93+55 | 8.6440 | 0.45 | Q | \| V | \| | \| | |
| 94+ 0 | 8.6469 | 0.41 | Q | \| V | \| | \| | |
| 94+ 5 | 8.6497 | 0.41 | Q | \| V | \| | \| | |
| 94+10 | 8.6531 | 0.50 | \|Q | \| V | \| | \| | |
| 94+15 | 8.6569 | 0.54 | \|Q | \| V | \| | \| | |
| 94+20 | 8.6606 | 0.54 | \|Q | \| V | \| | \| | |
| 94+25 | 8.6637 | 0.45 | Q | \| V | \| | \| | |
| 94+30 | 8.6665 | 0.41 | Q | \| V | \| | \| | |
| 94+35 | 8.6692 | 0.39 | Q | \| V | \| | \| | |
| 94+40 | 8.6718 | 0.38 | Q | \| V | \| | \| | |
| 94+45 | 8.6745 | 0.38 | Q | \| V | \| | \| | |
| 94+50 | 8.6771 | 0.38 | Q | \| V | \| | \| | |
| 94+55 | 8.6797 | 0.38 | Q | \| V | \| | \| | |
| 95+ 0 | 8.6823 | 0.38 | Q | \| V | \| | \| | |
| 95+ 5 | 8.6849 | 0.38 | Q | \| V | \| | \| | |
| 95+10 | 8.6876 | 0.38 | Q | \| V | \| | \| | |
| 95+15 | 8.6902 | 0.38 | Q | \| V | \| | \| | |
| 95+20 | 8.6928 | 0.38 | Q | \| V | \| | \| | |
| 95+25 | 8.6954 | 0.38 | Q | \| V | \| | \| | |
| 95+30 | 8.6980 | 0.38 | Q | \| V | \| | \| | |
| 95+35 | 8.7006 | 0.38 | Q | \| V | \| | \| | |
| 95+40 | 8.7033 | 0.38 | Q | \| V | \| | \| | |
| 95+45 | 8.7059 | 0.38 | Q | \| V | \| | \| | |
| 95+50 | 8.7085 | 0.38 | Q | \| V | \| | \| | |
| 95+55 | 8.7111 | 0.38 | Q | \| V | \| | \| | |
| 96+ 0 | 8.7137 | 0.38 | Q | \| V | \| | \| | |
| 96+ 5 | 8.7145 | 0.11 | Q | \| V | \| | \| | |
| 96+10 | 8.7189 | 0.64 | \|Q | \| V | \| | \| | |
| 96+15 | 8.7250 | 0.88 | \|Q | \| V | \| | \| | |
| 96+20 | 8.7321 | 1.03 | \| Q | \| V | \| | \| | |
| 96+25 | 8.7414 | 1.35 | \| Q | \| V | \| | \| | |
| 96+30 | 8.7516 | 1.48 | \| Q | \| V | \| | \| | |
| 96+35 | 8.7622 | 1.54 | \|  Q | \| V | \| | \| | |
| 96+40 | 8.7730 | 1.57 | \|  Q | \| V | \| | \| | |
| 96+45 | 8.7838 | 1.58 | \|  Q | \| V | \| | \| | |
| 96+50 | 8.7951 | 1.63 | \|  Q | \| V | \| | \| | |

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 96+55       8.8082      1.90  |  Q       |       V  |          |          |
 97+ 0       8.8221      2.03  |   Q      |       V  |          |          |
 97+ 5       8.8361      2.02  |   Q      |       V  |          |          |
 97+10       8.8483      1.77  |  Q       |       V  |          |          |
 97+15       8.8597      1.66  |  Q       |       V  |          |          |
 97+20       8.8709      1.62  |  Q       |       V  |          |          |
 97+25       8.8819      1.60  |  Q       |       V  |          |          |
 97+30       8.8928      1.59  |  Q       |       V  |          |          |
 97+35       8.9037      1.59  |  Q       |       V  |          |          |
 97+40       8.9147      1.58  |  Q       |       V  |          |          |
 97+45       8.9256      1.58  |  Q       |        V |          |          |
 97+50       8.9368      1.64  |  Q       |        V |          |          |
 97+55       8.9499      1.91  |  Q       |        V |          |          |
 98+ 0       8.9639      2.03  |   Q      |        V |          |          |
 98+ 5       8.9782      2.07  |   Q      |        V |          |          |
 98+10       8.9926      2.10  |   Q      |        V |          |          |
 98+15       9.0071      2.10  |   Q      |        V |          |          |
 98+20       9.0216      2.11  |   Q      |        V |          |          |
 98+25       9.0361      2.11  |   Q      |        V |          |          |
 98+30       9.0507      2.11  |   Q      |        V |          |          |
 98+35       9.0656      2.16  |   Q      |        V |          |          |
 98+40       9.0823      2.43  |   Q      |        V |          |          |
 98+45       9.0999      2.55  |    Q     |        V |          |          |
 98+50       9.1178      2.60  |    Q     |        V |          |          |
 98+55       9.1359      2.62  |    Q     |        V |          |          |
 99+ 0       9.1540      2.63  |    Q     |        V |          |          |
 99+ 5       9.1722      2.64  |    Q     |        V |          |          |
 99+10       9.1904      2.64  |    Q     |        V |          |          |
 99+15       9.2085      2.64  |    Q     |        V |          |          |
 99+20       9.2267      2.64  |    Q     |        V |          |          |
 99+25       9.2449      2.64  |    Q     |        V |          |          |
 99+30       9.2630      2.64  |    Q     |        V |          |          |
 99+35       9.2812      2.64  |    Q     |        V |          |          |
 99+40       9.2994      2.64  |    Q     |        V |          |          |
 99+45       9.3176      2.64  |    Q     |        V |          |          |
 99+50       9.3361      2.69  |    Q     |        V |          |          |
 99+55       9.3565      2.96  |    Q     |        V |          |          |
100+ 0       9.3777      3.08  |     Q    |        V |          |          |
100+ 5       9.3993      3.13  |     Q    |        V |          |          |
100+10       9.4210      3.15  |     Q    |         V|          |          |
100+15       9.4427      3.16  |     Q    |         V|          |          |
100+20       9.4649      3.22  |     Q    |         V|          |          |
100+25       9.4889      3.49  |     Q    |         V|          |          |
100+30       9.5137      3.61  |      Q   |         V|          |          |
100+35       9.5389      3.66  |      Q   |         V|          |          |
100+40       9.5643      3.68  |      Q   |         V|          |          |
100+45       9.5897      3.69  |      Q   |         V|          |          |
100+50       9.6154      3.74  |      Q   |         V|          |          |
100+55       9.6431      4.02  |       Q  |         V|          |          |
101+ 0       9.6716      4.14  |       Q  |         V|          |          |
101+ 5       9.6997      4.08  |       Q  |         V|          |          |
101+10       9.7242      3.56  |      Q   |         V|          |          |
101+15       9.7471      3.33  |     Q    |         V|          |          |
101+20       9.7698      3.29  |     Q    |         V|          |          |
101+25       9.7940      3.52  |      Q   |         V|          |          |
101+30       9.8190      3.62  |      Q   |         V|          |          |
101+35       9.8446      3.72  |      Q   |         V|          |          |
101+40       9.8721      4.00  |       Q  |         V|          |          |
101+45       9.9006      4.13  |       Q  |         V|          |          |
101+50       9.9294      4.18  |       Q  |          V          |          |
101+55       9.9583      4.21  |       Q  |          V          |          |
102+ 0       9.9874      4.21  |       Q  |          V          |          |
102+ 5      10.0168      4.27  |       Q  |          V          |          |
102+10      10.0481      4.54  |        Q |          V          |          |
102+15      10.0802      4.66  |        Q |          V          |          |
102+20      10.1126      4.71  |        Q |          V          |          |
102+25      10.1453      4.73  |        Q |          V          |          |
102+30      10.1779      4.74  |        Q |          V          |          |
102+35      10.2110      4.80  |        Q |          V          |          |
102+40      10.2459      5.07  |         Q|          V          |          |
102+45      10.2816      5.19  |         Q|          V          |          |
102+50      10.3177      5.24  |         Q|          V          |          |
102+55      10.3540      5.26  |         Q|          V          |          |
103+ 0      10.3903      5.27  |         Q|          V          |          |
103+ 5      10.4266      5.27  |         Q|          |V         |          |
103+10      10.4629      5.28  |         Q|          |V         |          |
103+15      10.4993      5.28  |         Q|          |V         |          |
103+20      10.5360      5.33  |         Q|          |V         |          |
```



| | | | |
|---|---|---|---|
| 103+25 | 10.5746 | 5.60 | |
| 103+30 | 10.6139 | 5.72 | |
| 103+35 | 10.6540 | 5.82 | |
| 103+40 | 10.6961 | 6.11 | |
| 103+45 | 10.7391 | 6.24 | |
| 103+50 | 10.7828 | 6.34 | |
| 103+55 | 10.8285 | 6.64 | |
| 104+ 0 | 10.8751 | 6.77 | |
| 104+ 5 | 10.9228 | 6.93 | |
| 104+10 | 10.9744 | 7.49 | |
| 104+15 | 11.0277 | 7.74 | |
| 104+20 | 11.0817 | 7.84 | |
| 104+25 | 11.1360 | 7.89 | |
| 104+30 | 11.1904 | 7.90 | |
| 104+35 | 11.2452 | 7.96 | |
| 104+40 | 11.3020 | 8.24 | |
| 104+45 | 11.3595 | 8.36 | |
| 104+50 | 11.4178 | 8.46 | |
| 104+55 | 11.4781 | 8.75 | |
| 105+ 0 | 11.5392 | 8.88 | |
| 105+ 5 | 11.6014 | 9.04 | |
| 105+10 | 11.6676 | 9.60 | |
| 105+15 | 11.7354 | 9.85 | |
| 105+20 | 11.8043 | 10.00 | |
| 105+25 | 11.8753 | 10.32 | |
| 105+30 | 11.9473 | 10.45 | |
| 105+35 | 12.0201 | 10.56 | |
| 105+40 | 12.0949 | 10.87 | |
| 105+45 | 12.1707 | 11.01 | |
| 105+50 | 12.2473 | 11.12 | |
| 105+55 | 12.3262 | 11.45 | |
| 106+ 0 | 12.4061 | 11.60 | |
| 106+ 5 | 12.4838 | 11.28 | |
| 106+10 | 12.5484 | 9.37 | |
| 106+15 | 12.6071 | 8.52 | |
| 106+20 | 12.6634 | 8.18 | |
| 106+25 | 12.7187 | 8.02 | |
| 106+30 | 12.7735 | 7.97 | |
| 106+35 | 12.8301 | 8.21 | |
| 106+40 | 12.8958 | 9.55 | |
| 106+45 | 12.9657 | 10.15 | |
| 106+50 | 13.0374 | 10.40 | |
| 106+55 | 13.1098 | 10.52 | |
| 107+ 0 | 13.1825 | 10.56 | |
| 107+ 5 | 13.2550 | 10.53 | |
| 107+10 | 13.3256 | 10.25 | |
| 107+15 | 13.3953 | 10.12 | |
| 107+20 | 13.4647 | 10.08 | |
| 107+25 | 13.5340 | 10.06 | |
| 107+30 | 13.6032 | 10.05 | |
| 107+35 | 13.6717 | 9.95 | |
| 107+40 | 13.7364 | 9.39 | |
| 107+45 | 13.7994 | 9.15 | |
| 107+50 | 13.8621 | 9.10 | |
| 107+55 | 13.9263 | 9.32 | |
| 108+ 0 | 13.9912 | 9.43 | |
| 108+ 5 | 14.0593 | 9.88 | |
| 108+10 | 14.1419 | 12.00 | |
| 108+15 | 14.2310 | 12.94 | |
| 108+20 | 14.3231 | 13.38 | |
| 108+25 | 14.4186 | 13.86 | |
| 108+30 | 14.5155 | 14.06 | |
| 108+35 | 14.6137 | 14.27 | |
| 108+40 | 14.7165 | 14.92 | |
| 108+45 | 14.8212 | 15.20 | |
| 108+50 | 14.9271 | 15.38 | |
| 108+55 | 15.0354 | 15.74 | |
| 109+ 0 | 15.1449 | 15.89 | |
| 109+ 5 | 15.2568 | 16.25 | |
| 109+10 | 15.3793 | 17.79 | |
| 109+15 | 15.5065 | 18.47 | |
| 109+20 | 15.6356 | 18.74 | |
| 109+25 | 15.7656 | 18.88 | |
| 109+30 | 15.8959 | 18.93 | |
| 109+35 | 16.0220 | 18.30 | |
| 109+40 | 16.1255 | 15.03 | |
| 109+45 | 16.2190 | 13.58 | |
| 109+50 | 16.3085 | 12.99 | |

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109+55      16.3961     12.72  |          |          |     Q     |  V        |
110+ 0      16.4831     12.63  |          |          |     Q     |  V        |
110+ 5      16.5714     12.83  |          |          |     Q     |  V        |
110+10      16.6678     14.00  |          |          |       Q   |  V        |
110+15      16.7678     14.52  |          |          |         Q |  V        |
110+20      16.8690     14.68  |          |          |         Q |   V       |
110+25      16.9688     14.49  |          |          |        Q  |   V       |
110+30      17.0679     14.40  |          |          |        Q  |   V       |
110+35      17.1668     14.36  |          |          |        Q  |   V       |
110+40      17.2657     14.35  |          |          |        Q  |   V       |
110+45      17.3645     14.35  |          |          |        Q  |    V      |
110+50      17.4630     14.30  |          |          |        Q  |    V      |
110+55      17.5594     14.00  |          |          |       Q   |    V      |
111+ 0      17.6549     13.87  |          |          |       Q   |    V      |
111+ 5      17.7497     13.76  |          |          |       Q   |    V      |
111+10      17.8423     13.44  |          |          |      Q    |     V     |
111+15      17.9339     13.30  |          |          |      Q    |     V     |
111+20      18.0247     13.19  |          |          |      Q    |     V     |
111+25      18.1134     12.87  |          |          |     Q     |     V     |
111+30      18.2010     12.73  |          |          |     Q     |     V     |
111+35      18.2867     12.44  |          |          |    Q      |     V     |
111+40      18.3640     11.22  |          |          |  Q        |      V    |
111+45      18.4376     10.68  |          |          | Q         |      V    |
111+50      18.5097     10.47  |          |          Q           |      V    |
111+55      18.5811     10.37  |          |          Q           |      V    |
112+ 0      18.6523     10.34  |          |          Q           |      V    |
112+ 5      18.7178      9.51  |          |         Q            |      V    |
112+10      18.7543      5.31  |        Q |                      |      V    |
112+15      18.7781      3.44  |      Q   |                      |      V    |
112+20      18.7966      2.69  |    Q     |                      |      V    |
112+25      18.8127      2.34  |   Q      |                      |      V    |
112+30      18.8280      2.22  |   Q      |                      |       V   |
112+35      18.8426      2.11  |   Q      |                      |       V   |
112+40      18.8550      1.80  |  Q       |                      |       V   |
112+45      18.8665      1.67  |  Q       |                      |       V   |
112+50      18.8777      1.62  |  Q       |                      |       V   |
112+55      18.8887      1.60  |  Q       |                      |       V   |
113+ 0      18.8996      1.59  |  Q       |                      |       V   |
113+ 5      18.9113      1.69  |  Q       |                      |       V   |
113+10      18.9266      2.23  |   Q      |                      |       V   |
113+15      18.9436      2.47  |   Q      |                      |       V   |
113+20      18.9613      2.56  |    Q     |                      |       V   |
113+25      18.9792      2.61  |    Q     |                      |       V   |
113+30      18.9973      2.62  |    Q     |                      |       V   |
113+35      19.0154      2.63  |    Q     |                      |       V   |
113+40      19.0336      2.64  |    Q     |                      |       V   |
113+45      19.0518      2.64  |    Q     |                      |       V   |
113+50      19.0696      2.59  |    Q     |                      |       V   |
113+55      19.0855      2.32  |   Q      |                      |       V   |
114+ 0      19.1007      2.20  |   Q      |                      |       V   |
114+ 5      19.1154      2.15  |   Q      |                      |       V   |
114+10      19.1301      2.13  |   Q      |                      |       V   |
114+15      19.1447      2.12  |   Q      |                      |       V   |
114+20      19.1592      2.11  |   Q      |                      |       V   |
114+25      19.1738      2.11  |   Q      |                      |       V   |
114+30      19.1883      2.11  |   Q      |                      |       V   |
114+35      19.2025      2.06  |   Q      |                      |       V   |
114+40      19.2148      1.79  |  Q       |                      |       V   |
114+45      19.2263      1.67  |  Q       |                      |       V   |
114+50      19.2371      1.57  |  Q       |                      |       V   |
114+55      19.2459      1.28  | Q        |                      |       V   |
115+ 0      19.2538      1.15  | Q        |                      |       V   |
115+ 5      19.2617      1.15  | Q        |                      |       V   |
115+10      19.2713      1.39  | Q        |                      |       V   |
115+15      19.2817      1.50  |  Q       |                      |       V   |
115+20      19.2927      1.60  |  Q       |                      |       V   |
115+25      19.3057      1.89  |  Q       |                      |       V   |
115+30      19.3196      2.02  |   Q      |                      |        V  |
115+35      19.3335      2.02  |   Q      |                      |        V  |
115+40      19.3457      1.77  |  Q       |                      |        V  |
115+45      19.3572      1.66  |  Q       |                      |        V  |
115+50      19.3680      1.56  |  Q       |                      |        V  |
115+55      19.3767      1.27  | Q        |                      |        V  |
116+ 0      19.3846      1.15  | Q        |                      |        V  |
116+ 5      19.3926      1.15  | Q        |                      |        V  |
116+10      19.4022      1.39  | Q        |                      |        V  |
116+15      19.4125      1.50  |  Q       |                      |        V  |
116+20      19.4232      1.55  |  Q       |                      |        V  |
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 116+25      19.4340      1.57  |   Q       |           |           |          V|
 116+30      19.4448      1.58  |   Q       |           |           |          V|
 116+35      19.4557      1.58  |   Q       |           |           |          V|
 116+40      19.4666      1.58  |   Q       |           |           |          V|
 116+45      19.4775      1.58  |   Q       |           |           |          V|
 116+50      19.4881      1.53  |   Q       |           |           |          V|
 116+55      19.4968      1.26  | Q         |           |           |          V|
 117+ 0      19.5046      1.14  | Q         |           |           |          V|
 117+ 5      19.5125      1.15  | Q         |           |           |          V|
 117+10      19.5221      1.39  | Q         |           |           |          V|
 117+15      19.5325      1.50  |   Q       |           |           |          V|
 117+20      19.5428      1.50  | Q         |           |           |          V|
 117+25      19.5513      1.25  | Q         |           |           |          V|
 117+30      19.5592      1.13  | Q         |           |           |          V|
 117+35      19.5670      1.14  | Q         |           |           |          V|
 117+40      19.5766      1.39  | Q         |           |           |          V|
 117+45      19.5870      1.50  |   Q       |           |           |          V|
 117+50      19.5973      1.50  | Q         |           |           |          V|
 117+55      19.6059      1.25  | Q         |           |           |          V|
 118+ 0      19.6137      1.13  | Q         |           |           |          V|
 118+ 5      19.6215      1.14  | Q         |           |           |          V|
 118+10      19.6311      1.39  | Q         |           |           |          V|
 118+15      19.6415      1.50  |   Q       |           |           |          V|
 118+20      19.6518      1.50  | Q         |           |           |          V|
 118+25      19.6604      1.25  | Q         |           |           |          V|
 118+30      19.6682      1.13  | Q         |           |           |          V|
 118+35      19.6757      1.09  | Q         |           |           |          V|
 118+40      19.6831      1.07  | Q         |           |           |          V|
 118+45      19.6904      1.06  | Q         |           |           |          V|
 118+50      19.6977      1.06  | Q         |           |           |          V|
 118+55      19.7049      1.06  | Q         |           |           |          V|
 119+ 0      19.7122      1.06  | Q         |           |           |          V|
 119+ 5      19.7195      1.06  | Q         |           |           |          V|
 119+10      19.7268      1.06  | Q         |           |           |          V|
 119+15      19.7340      1.06  | Q         |           |           |          V|
 119+20      19.7413      1.06  | Q         |           |           |          V|
 119+25      19.7486      1.06  | Q         |           |           |          V|
 119+30      19.7558      1.06  | Q         |           |           |          V|
 119+35      19.7631      1.06  | Q         |           |           |          V|
 119+40      19.7704      1.06  | Q         |           |           |          V|
 119+45      19.7776      1.06  | Q         |           |           |          V|
 119+50      19.7849      1.06  | Q         |           |           |          V|
 119+55      19.7922      1.06  | Q         |           |           |          V|
 120+ 0      19.7994      1.06  | Q         |           |           |          V|
 120+ 5      19.8060      0.95  |Q          |           |           |          V|
 120+10      19.8088      0.41  Q           |           |           |          V|
 120+15      19.8100      0.17  Q           |           |           |          V|
 120+20      19.8105      0.07  Q           |           |           |          V|
 120+25      19.8107      0.03  Q           |           |           |          V|
 120+30      19.8108      0.01  Q           |           |           |          V|
 120+35      19.8109      0.01  Q           |           |           |          V|
 120+40      19.8109      0.00  Q           |           |           |           V
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```